# Archaeological excavations at 1 Queens Road (Handford House, now 'Handford Place'), Colchester, Essex 2003 and 2004-2005

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on behalf of Vaughan and Blyth (Construction) Ltd



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> CAT project ref.: 03/1a NGR: TL 9858 2475 (c) Colchester and Ipswich Museums accession code: 2003.5



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CAT Report 323 May 2010

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## 1 Summary

Excavations were carried out in 2003-5 during the construction of a small housing development on the site of the demolished Handford House, 1 Queens Road, Colchester, Essex. The development site lies within an area of dense Roman burials located to the west of the town and to the south of the main Roman road leading to London. Inhumation and cremation burials have been recorded previously in the vicinity. Following the evaluation in 2002, excavations at the Handford House site produced results which are augmenting and extending our knowledge of early Roman burial practices and beliefs.

The excavation revealed 68 burials in total, consisting of nine inhumation burials (excluding bone from three further inarticulated inhumations), two busta and 57 other cremation burials (seven of which did not contain cremated bone but have been classified as disturbed cremation burials). One possible pyre-debris deposit without cremated bone was also recorded. The two busta are the first burials of this type to be found in Colchester. The excavation consisted of the foundation trenches and service-trenches which equated to approximately 10% of the 68 m x 65 m site. It is estimated that an open area excavation of the entire site would have exposed approximately 680 burials.

Of the 57 cremation burials, 35 were definitely urned, either in a ceramic or glass vessel or in a wooden jewellery box. At least three of the cremation burials contained pots which had been deliberately broken, post cremation, as did one bustum. In two examples, parts of broken pots had been placed to cover lamps, which is good evidence for the lamps having been lit before the graves were backfilled. Twenty of the cremation burials contained one or more ancillary vessels alongside the urn/box, for example, dishes, flagons and small beakers. These may have held food and drink. Between 11 and 15 cremation burials contained deliberately-deposited pyre debris in the pit fill. The debris consisted of small fragments of cremated bone, charcoal and artefacts such as melted glass phials, burnt pottery, nails from wooden boxes, lamps, coins, jewellery, a bone needle, a bone die and hobnails. This material was burnt with the body on the pyre and deliberately buried with the cremated human remains.

One of the urned cremation burials was deposited in a large Dressel 20 amphora. Subsequent excavation of its contents revealed a flagon, the neck of the amphora, the cremation urn, a lamp and a dish. Another cremation burial featured a large but broken Brockley Hill amphora which may have contained the cremation urn.

Several cremation and inhumation burials and one bustum produced butchered animal bone and fish bones suggestive of grave goods or the remains of graveside feasting. A Roman rubbish-pit containing butchered animal bones may also represent the remains of graveside feasting.

The environmental report shows little or no evidence for the deliberate deposition of plant materials on the pyre as offerings to the deceased. Although wood probably formed the main component of the pyres, subsidiary fuels almost certainly included gorse, bean 'straw', broom, bracken, dried grasses and grassland herbs.

The limited excavation did not show any particular groupings to the cremation burials except for a general thinning out of burials in the north-western corner.

The earliest cremations are mid 1st to 2nd century in date and some are definitely pre-Boudican. The cremation cemetery appears to have been in continuous use till the 3rd or 4th century.

The southern side of the site featured areas of metalling which may represent a Roman road aligned east to west. The nature of the excavation made it difficult to ascertain whether it was a continuous cambered road, a hollow way or several discrete gravelled areas.

Nine adult inhumations (graves) were excavated, all of which were in the northern part of the site. No two burials were the same; the bodies were buried in different positions and on different alignments, and only two bodies had been definitely placed in coffins. One body (male) had been buried wearing a shale armlet. Another (male) was buried wearing hobnail shoes. Apart from being Roman, there is no conclusive dating evidence from most of the inhumations except for three which contained pottery dating them to some time between the mid 2nd to 4th centuries. Two inhumations did contain 1st- to 2nd-century pottery, but this may derive from earlier cremation burials. The shale armlet may either be Late Iron Age/early Roman or late Roman. Therefore it is not possible to say whether the two burial practices of cremation and inhumation were being carried out concurrently or whether all the inhumations post-date the cremations.

Study of the human bone shows that those interred had a normal range of pathologies and injuries and that there was nothing unusual in their stature, mortality rates or ratios of male to female. Study of the teeth showed that their diet was rich in carbohydrates, which is normal for the Roman period.

The evidence from the glass vessels, small finds, the iconography on the lamps and coins, and the methods of cremation suggests that, in its earliest phases, the burial ground was closely associated with the inhabitants of the Roman colony with their wholly Romanised life-style, rather than the Romano-British (native) population living in the surrounding area. Busta are often associated with military centres and it is a burial rite which is likely to have been brought over from the Continent.

Burial in the cemetery ceased before the end of the Roman period when the site was used as a source for gravel. There was very little evidence of activity on the site from later periods. In the 19th century, various large trenches up to 1 m deep were dug which removed some of the cremation burials and disturbed several inhumation burials. It is possible that this was the work of antiquarian George Joslin who lived opposite Handford House.

## 2 Introduction (Figs 1-5)

- 2.1 This is the archive report on an archaeological excavation on the site of the former Handford House (now 'Handford Place'), 1 Queens Road, Colchester, Essex. The work was carried out by the Colchester Archaeological Trust (CAT) between the 20th February 2003 and the 12th January 2005, and it was necessitated by a planning application (no F/COL/02/1330) to demolish Handford House and erect twelve apartments and four semi-detached houses (Plots 1-16) on the site. The main part of the excavation was carried out between February and June 2003 while foundations and service-trenches were being dug. Subsequent excavations were carried out as and when soakaways and other trenches were dug, between July 2003 and January 2005. The work was funded by Vaughan and Blyth (Construction) Ltd.
- **2.2** This report follows a written scheme of investigation (WSI) prepared by CAT and approved by the Colchester Borough Council Archaeology Officer (CBCAO).
- **2.3** The 68 m x 65 m site is located at the corner of Beverley Road and Queens Road. It lies approximately 1 km west of the town centre, south of Lexden Road, at National Grid Reference TL 9858 2475 (c).
- **2.4** The site was formerly occupied by Handford House and its garden. This Victorian property was most recently used as an old people's residential home but suffered serious fire damage in 2001. The site is fairly level, lying at approximately 36 m OD, and surrounded by a hedge with trees. The drift geology is glacial sands and gravels.
- 2.5 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 (CIM 2008a) and Guidelines on the preparation and transfer of archaeological archives to Colchester and Ipswich Museums (CIM 2008b), and the Institute for Archaeologists' Standard and guidance for archaeological excavation (IfA 2008a) and Standard and guidance for the collection, documentation, conservation and research of archaeological materials (IfA 2008b). The guidance contained in the documents Management of research projects in the historic environment (MoRPHE), 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.

# **3** Archaeological background (Fig 2)

**3.1** The development site lies within what Hull termed the 'West Cemetery' (Hull 1958, 253-4). This slightly misleading term refers to an area to the west of the walled town which was largely occupied by Roman burial plots. Roman cemetery areas were in use over a long time span and included inhumation and cremation burials. Roman cemetery areas have been recorded to the south of the town stretching from The

Avenue east to Butt Road and the Abbey Field. Large numbers of Roman burials were excavated in the 19th century, notably by George Joslin and John Taylor who amassed large collections of antiquities. Tile tombs, lead and stone coffins, and other built tombs as well as ordinary urned cremations have been found all over the area, especially along the line of the main Roman road leading to the walled town of Colchester from London. A detailed description and discussion of Colchester's Roman cemeteries can be found in Hull 1958 and, more recently, in *CAR* **9** (pp 257-75).

- 3.2 Many Roman burials have been recorded from Beverley Road, including some spectacular and well-preserved funerary monuments (*CAR* 9, 259-60). Most of these were excavated by Joslin in the vicinity of his house at 10 Beverley Road (Urban Archaeological Database or UAD no 907). In 1866, he discovered the so-called 'child's grave' in the garden of 10 Beverley Road which is directly opposite the development site. This contained an unusual collection of pipeclay figurines (UAD no 990; Essex Historic Environment Record or EHER no 11850). Joslin's other finds include the tombstone of the Roman centurion Facilis found in 1868 (UAD no 992; EHER no 11857). In the garden of 1 Queens Road itself, two Roman cremation burials and other remains have been recorded although their precise find spots may be erroneous (UAD nos 1001 and 1003). In September 2002, CAT undertook an evaluation by trial-trenching at the Handford House site which produced one *in situ* cremation burial and other cremation burials, all disturbed by 19th-century trench-digging (CAT Report 210).
- **3.3** The Monson map of Colchester of 1848 shows the site as undeveloped. The plot of land was part of the Beverley Lodge estate and was a paddock up until 1859 when it was sold off and Gafwell House was built there (James Fawn pers comm). Beverley Road was built in *c* 1860. From that time, houses were built along it, as can be seen on the 1st edition Ordnance Survey map of 1876. Gafwell House was later re-named Handford House. There is no evidence of the site ever having been arable land, ie it was never ploughed.

# 4 Aim

The aim of the archaeological work was to 'preserve by record' those archaeological remains which would otherwise be destroyed by the development.

# 5 Methodology (Figs 3-4, Plates 2-3)

- **5.1** The excavation ran concurrently with the demolition of Handford House and the groundworks for the new development (Plates 2-3). The footings, service-trenches, soakaways and garden-wall pads of the new development were excavated archaeologically. The topsoil was removed by a mechanical excavator with a toothless ditching bucket, under archaeological supervision and control. Therefore 'ground-level' in this report refers to reduced ground-level. The rest of the material was then excavated by hand until archaeological horizons or natural layers were reached. Approximately 10% of the site was excavated. Foundation trenches and service-trenches were 600 mm wide.
- **5.2** Individual records of layers and features were entered on CAT pro-forma record sheets.
- **5.3** Plans of cremation and inhumation burials were made at a scale of 1:10. Plans of pyres and some cremation burials were made at 1:1. Plans of other features were made at 1:20 or 1:50 as appropriate. Section drawings of features and layers were made at a scale of 1:10.
- **5.4** Finds were registered on CAT record sheets and assigned finds numbers and small finds numbers according to context. Finds were washed, marked and bagged according to context.
- **5.5** Colour photographs of the site and of features were taken with a digital camera and a slide camera.
- **5.6** Metal-detecting was carried out on the spoil heaps and some trenches where accessible.

**5.7** The following abbreviations are used throughout the report: F = feature, L= layer, T = trench, S = soakaway, SF = Small Find; finds numbers are in brackets.



Plate 2: the site during excavation, view north-east.



Plate 3: the site during excavation, view west, looking towards 21 West Lodge Road.

### 6 Results

### 6.1 Roman features

Roman features were sealed by post-Roman and modern topsoil (L1 and L2). They were cut into a Roman horizon (L3, L9, L40, L42, L43, L46, L47) and/or the underlying natural sand and gravel (L4). The Roman horizon was a yellowish brown silty loam, with a variable stone content, being quite gravelly in places. This could be redeposited cover loam.

### 6.1.1 Burials (Figs 3 and 5, Graph 1)

In total, 68 burials were exposed, consisting of nine inhumation burials (excluding bone from three further disarticulated inhumations), 57 cremation burials including

four double burials (50 of the cremation burials contained cremated bone and at least four may be pyre-debris dumps), and two *busta*. One pyre-debris dump without cremated bone was also recorded. The inhumation burials were all concentrated in the north/north-eastern part of the site and lay at between 0.63 m and 1.1 m below ground-level. Two of the inhumations were interred in coffins. Cremation burials were scattered fairly uniformly throughout the site at between 0.3 m and 1 m below ground-level, but generally at a shallower depth than the inhumation burials. Disturbance had been caused by what may have been 19th-century archaeological excavations, which must have removed many more cremation burials but had largely left the more deeply buried inhumation burials *in situ*. There would also have been some disturbance to burials caused by the excavation and construction of the cellar to Handford House in the centre of the site and the construction of the vinery in the garden.

Note: 'double' cremation burials are cremation burials with the remains of bones from two individuals mixed together (in this case within the same urn) as opposed to 'dual' cremation burials which are instances of individuals interred in separate urns within the same grave (Barber & Bowsher 2000, 109-110).

# Graph 1: showing levels above Ordnance Datum of the top and bottom of Roman burials and other features.

(Only the cremation burials where the height of the urn or the top of the cut is known, or can be estimated, are shown.)



#### height in m AOD

### Inhumation burials

Note: inhumation burials were given grave numbers, ie Grave 1-Grave 9. The full bone report for the inhumations can be found in section 7.7.

### Inhumation burial F1 (Grave 1), T2 (Fig 7, Fig 75)

A badly-preserved skeleton of a young/middle-aged male lay in a supine position in a grave cut which was aligned north-east to south-west with the head to the northeast. The top of the grave cut was 1 m below ground-level at 34.66 m OD. All that survived was the skull, one arm bone and part of a leg. The lower half of the skeleton had been cut away by a modern pipe trench. There were nineteen coffin nails, indicating that the individual had been interred in a coffin. An almost complete flagon of 1st- to 2nd-century date was found 20 cm above the skull. The pot possibly came from an earlier cremation burial which had been cut through by the inhumation. Alternatively, the flagon could have been placed on top of the coffin, but in that case one would expect it to be found on the skull rather than 20 cm above. There was no separate cut for the flagon. As well as the flagon, there were a few sherds of other Roman pottery, dating to the 1st-2nd/3rd century, including two burnt samian sherds. There was also a fragment of slag (finds no 30).

F1.1 (1), Fig 75, an almost complete flagon, although neck and top missing (broken by machining), in white/cream oxidised ware (Fabric DJ), 1st-2nd century.

F1.2 (various finds numbers), 19 iron coffin nails. Complete nails vary from 45 to 75 mm long, but, as coffin nails tend to be all much the same length, and the majority of complete nails from this grave cluster between 65 and 75 mm, the smallest one may be residual (see Table 1 below).

SF	Finds	Description	Length
	no		(in mm)
-	3	3 (1 complete but head damaged); 1 shank fragment	65, 45, 30; 21
-	13	1, complete	67
-	23	2 (1 complete)	45, 10
-	24	2 nail heads	-
-	28	1	34
-	29	1	31
-	31	1, clenched; 1 shank fragment	36; 17
-	35	2 shank fragments	29, 41
-	36	1 shank fragment	38
-	37	1	26
180	38	1	31
-	39	1, complete	75
-	40	1, complete	70
-	41	1	32

Table	1 · iron	coffin na	ils from F	1 incomplete	unless	stated otherwise
Table	1. 11011	commina		i, incomplete	, unicaa	stated otherwise.

# Inhumation burial F31 (Grave 2), T8 (Fig 7, Fig 75)

A skeleton of a middle-aged/old male lay in a flexed position on his side, in a pit with no evidence of a coffin. The grave was aligned roughly east-west with the head end to the south-west. The top of the grave was 1 m below ground-level at 34.58 m OD. The grave had been cut by a post-medieval pit (F39). The only articulated parts of the skeleton to survive were the right leg and foot. The leg was to the north-east. Skull fragments and fragments of all major limb bones and pelvis were present in F39 and almost definitely derive from F31. Other parts of the skull were found in a nearby modern feature (F8). The individual's remains show signs of osteophytosis, osteoarthritis, Schmorl's nodes and tuberculosis. The skull was very thick. Cranial anomalies indicate a relationship to the individual buried in F154. The grave and F39 contained fragments of butchered mammal bone, possibly cattle, none of which appeared to be burnt (finds nos 108, 105, 113, 120). Three nails and three hobnails may be residual from disturbed cremations (F31.1). Dating evidence from F31 comes from sherds of early 2nd- to 3rd-century or later pottery (Fabric GB). However, late 3rd- to 4th-century pottery (Fabric CH) found in F39 probably derive from F31. A possible Roman pottery counter (SF 12 (127)) was found in F39 but probably

derived from F31. Other finds are all listed under F31 (below); F31.2 are from either F31 or F39 while F31.1 may be from other disturbed cremations.

F31.1 (83, 109, 110, 111), 3 iron nails and 3 hobnails, maximum length 60 mm.

F31.2 (84, 107, 119, 121), Fig 75, fragments of Roman pottery in F31 and F39:
4 rim sherds of BB1: black-burnished ware category 1 (Fabric GA) Cam 279C (Fig 75); 3 sherds Fabric GX (Cam 268 & Cam 280/281); 1 sherd Fabric HZ; 1 sherd Fabric WA; 1 sherd Fabric GB (Cam 40B); 1 sherd Fabric KX (Cam 37/38); 1 sherd Fabric CH; sherds Fabric UR *terra nigra* platter; 1 sherd of samian Fabric BA (Drag 45 mortarium); 1 sherd Fabric TY(TE) Nene Valley mortarium; sherds of Fabric EA Nene Valley colour-coat; sherd of Fabric CZ, early-mid 3rd-4th century, possibly late 3rd-4th century.

### Inhumation burial F40 (Grave 3), T7/T8 (Fig 7)

The skeleton of an adult, possibly a female, lay in a supine position in a possible grave cut. The grave was 1 m below ground-level at 34.64 m OD. It was aligned north-south with the head end to the south. The upper and lower body had been truncated by modern features. Fragments of pelvis, both upper leg bones and a few finger bones survived. Two fragments of Roman grey ware pottery (Fabric GX) came from the grave fill. No coffin nails were retrieved.

### Inhumation burial F119 (Grave 4), T21 (Fig 7, Fig 94 and Plate 4)

A fairly complete skeleton of a young/middle-aged male lay in a supine position, aligned north-east to south-west, with the head to the north-east. The individual was wearing a shale armlet on the left arm at the time of burial. The left foot showed a crush fracture and there was also evidence of a possible fracture to the lower right leg, osteoarthritis and some cranial anomalies. The skull and top vertebrae were slightly higher up than the rest of the body, suggesting that the body may have been placed directly in the pit without a coffin. The top of the pit was 630 mm below ground-level at 35.15 m OD. There were three iron nails with tips or heads missing, all probably residual. Two unidentifiable mammal bones were present in the fill. No pottery was retrieved from the burial.

F119.1 (642), SF 94, Fig 94, a large plain oval shale armlet of more or less D-shaped section. Minimum internal diameter 75 mm. maximum 84 mm: thickness 8 mm, height 14 mm. The shale armlet was worn on the left upper humerus of the young/middle-aged adult male in this burial. Shale armlets first occur in the Bronze Age, but the first main phase of exploitation of the Kimmeridge shale beds dates to the Early Iron Age and the second to the Late Iron Age and Roman periods. The latter is so broad a time-span that dating individual plain armlets is rarely possible, and no successful dated typology has yet been established (Lawson 1976, 242, 248). However, in general, Roman armlets tend to be smaller, both in diameter and section, than their Iron Age predecessors, and, at an average diameter of about 60 mm, were a suitable size for slipping over the hand and wearing on the wrist and forearm (Wheeler 1943, 311; Lawson 1976, 248). They were usually, although not exclusively, worn by women (Cool 2002, 41). Although a few large-diameter armlets have been recovered from Roman contexts in Britain, the practice of wearing an armlet on the upper arm is generally a male characteristic, particularly in the Late Iron Age, when large-diameter arm-rings occur in male graves and small-diameter armlets in female graves; a local example is that of the 'warrior burial' at the Stanway Quarry site, Colchester which contained a copper-alloy arm-ring 87 mm in diameter (eg Bellows 1881, 137-41, fig 9; Hawkes & Dunning 1930, fig 31, 2; Lawson 1976, 250 no 19; Crummy et al 2007, 178-80). While inhumations are rare in south-east Britain at the end of the Late Iron Age and in the early Roman period, they do occasionally occur (for example, Dean & Hammerson 1980; Stead & Rigby 1989, 81), and the possibility should therefore be considered that this inhumation dates to the immediately post-conquest period. A later date cannot, however, be excluded, as a late 3rd- to 4th-century male from London was buried with a decorated shale armlet 82 mm in diameter found beneath but not on his left arm (Barber & Bowsher 2000, 221-2, B673.4). F119.2 (no finds nos), 2 identifiable mammal bones, 7g.

F119.3 (660, 672, 673), 3 iron nails, residual.



Plate 4: inhumation burial F119, with a shale armlet worn by the deceased at burial, view north-east.

Inhumation burial F154 (Grave 5), T61 (Fig 7, Fig 75)

A fragmentary skeleton of a middle-aged/old individual, probably a male, lay flexed on its side. Most of the skull was missing but some was found in the modern feature which had cut the burial (F155). The grave was aligned north-south, with the head to the north-north-west. There was evidence of Schmorl's nodes and osteophytosis on the spine. The skull was very thick like the individual's skull in F31. Osteoarthritis was in evidence on the lower arm and wrist.

The body had been placed in a pit without a coffin. The top of the surviving grave cut was 850 mm below ground-level at 34.84 m OD. The pit seemed to be deliberately shaped in order to place the body in a sleeping position. A large sherd of a 1st- to early 2nd-century small jar lay behind the vertebrae. The unlikely position of the jar suggests that it is residual within the fill rather than a grave good. Possibly it derives from a cremation burial which may have been cut through by the inhumation.

F154.1 (792, 842), Fig 75, 1 large sherd of small jar, Cam 266 (Fabric GX), 1st-early 2nd century.

### Inhumation burial F158 (Grave 6), T60 (Fig 7)

A few fragmentary adult foot bones were observed in a cut in the side of the servicetrench. The bones of the right lower leg were seen in section. The foot end of the burial was to the south-east. The rest of the grave was under the boundary wall and it was decided not to excavate it. No nails or grave goods were retrieved. The top of the cut was 1.15 m below ground-level at 34.54 m OD.

### Inhumation burial F159 (Grave 7), T63 (Fig 7)

Fragments of skull of a young person, unsexed, were found. The rest of the skeleton did not survive. The body was placed in a rectangular grave cut containing at least 14 coffin nails, mainly located at what was the foot end, and therefore the individual had probably been placed in a coffin. The top of the grave cut was 1 m below ground-level at 34.74 m OD. The grave was aligned roughly east-west, with the head to the east-north-east. There was one sherd of oxidised white/cream ware (Fabric DJ) and one sherd of Nene Valley colour-coat pottery (Fabric EA), both dated mid 3rd-4th century, from the fill (F159.2).

- F159.1 (various finds numbers), 14 iron coffin nails, maximum length 45 mm (see Table 2 below).
- F159.2 (858), 1 sherd of oxidised white/cream ware (Fabric DJ) and 1 sherd of Nene Valley colour-coat pottery (Fabric EA), both dated mid 3rd-4th century, 5g.

### Table 2: coffin nails from F159. (All surviving heads are flat and round, and some are quite thick.)

Finds	Description	Lengths
no		(in mm)
856	1 shank fragment	13
857	1 shank fragment, slightly bent	43
866	1, incomplete	29
867	1, incomplete	26
868	1, complete, in 2 pieces	45
869	1, incomplete, in 2 pieces	32
870	2 shank fragments	38, 39
873	1 shank fragment	20
874	1 shank fragment	21
875	1, incomplete; 1 shank fragment	14, 17
876	1, complete	34
879	1, incomplete	23
882	1, incomplete	35

### Inhumation burial F171 (Grave 8), T62/T66 (Fig 7, Plate 5)

This grave contained the almost complete skeleton of a male aged 25-30 years. The head was missing, but parts of a skull and lower mandible were found in the fill of a modern trench above F171 (L36), which probably derive from this inhumation. There was no evidence of decapitation. The grave was aligned east-west, with the head end to the west. The individual was buried wearing hobnailed shoes which were still clearly visible as the oxides from the nails had leached into the surrounding soil and hardened it. Both tibia were slightly bent. There were two structural nails on the ribs which are probably residual. The cut was rectangular and wide, and the base of the cut was not completely flat, both of which details, with the lack of coffin nails, indicate that the person was not buried in a coffin. One fragment of femur from a juvenile horse had been placed with the body, but broke in two on excavation. This bone bore a chop mark on the shaft which suggests that the animal may have been used for food. No pottery was retrieved from the grave. The top of the cut was 1 m below ground-level at 34.76 m OD.

- F171.1 (897), SF 110, Plate 5, over 160 hobnails from nailed footwear. The average length of loose nails was 13 mm. Iron hobnails from footwear were recovered from each foot. Both groups were distorted but enough of the original layout remained to show that they conformed to Rhodes' Type C nailing pattern, with a line of nails around the outside edge and further lines filling in the central area (Rhodes 1980, 107). A minimum of 80 hobnails was on each shoe.
- F171.2 (919), 2 fragments of femur from juvenile horse; the larger one with chop mark.



Plate 5: inhumation burial F171, with hobnailed shoes worn by the deceased at burial, view east.

### Inhumation burial F208 (Grave 9), T120 (Fig 7, Fig 75)

The jumbled remains of a middle-aged/old individual, probably female, lay in a barely distinguishable cut, the top of which was 1 m below ground-level at 34.48 m OD. Mixed in with the human bone was animal bone and fragments of an almost complete but broken grey ware jar, plus one iron object. The skeleton was fragmentary and consisted of parts of the skull, the mandible, lower halves of both humeri, upper right ulna, lower right femur, upper left femur and shaft, and fragments of tibia shafts. The disturbance is likely to have been caused by the digging of 19th-century feature F151. It is unclear, however, how the bone became so jumbled up.

F208.1 (1191), Fig 75, an almost complete, although broken, grey ware jar Cam 268 (Fabric GX), early/mid 2nd to late 3rd/early 4th century.

F208.2 (1191), SF 279, 1 iron object. F208.3 (1191), 1 cattle metacarpal, chopped.

### Remains of other possible inhumations

### F46. T14

Fragments of a large adult pair of tibia and fibula shafts – probably one individual – were found in this modern feature which is thought to be part of a 19th-century excavation trench.

### L2/L3, T5

Fragments of distal right femur and proximal tibia and a fragment of pelvis were retrieved from this layer. The bones are from a young adult.

### L20, T33

An abraded fragment of adult skull was found within a modern layer. It is probably male. L20 may be part of modern trench F64, which is thought to be part of a 19th-century excavation trench.

### Busta

Bustum F47, T15 (Figs 8-9, Plate 6)

This was a pit, 2.1 m long (1.8 m long at the base of the pit), 650-700 mm wide (550-600 mm wide at the base of the pit), and 250 mm deep, showing reddish scorching of the natural sand and gravel around the top edges. It was aligned north-west to south-east. The upper 200 mm of fill consisted of a dark yellowish brown silty loam with common burnt flint and stone and small amounts of cremated bone, charcoal flecks and a scatter of iron nails. The lower 50 mm of fill consisted of very blackened

soil with charcoal, and this contained the main concentration of cremated bone. The bones were lying in roughly anatomical order with the head end to the south-east and a burnt coin near the head end which presumably had been placed in the mouth or on one eye of the deceased. The total weight of the cremated human bone was 1,368.0g, which is not enough bone to be considered complete (see section 7.6). The bone indicates that the individual was a middle-aged male. All the bone was well preserved with no signs of abrasion. There were many large pieces, the maximum bone fragment size being 77 mm. Some bone showed some degeneration and evidence of slight osteophytosis of the spine.

The rest of the bone (and the remains of the pyre) may have been removed during ground reduction in the past. This conclusion is supported by a nearby cremation burial (F45) which contains an urn, the base of which is 130 mm higher than the top of the cut for F47, meaning that F47 must have been at least this amount higher up originally (see Graph 1). One flint blade fragment which is Neolithic in date and two other flint fragments (see section 7.11) were found residually within the feature. Melted glass from a vessel which had been placed on the pyre was present in the fill. The coin was a burnt and illegible copper-alloy *as* of early Roman date. The only other copper-alloy items were five small amorphous scorched fragments.

The majority of the objects from F47 are iron nails, varying in length from 18 to 70 mm. Although the 18 mm-long example may be a hobnail, there are two others which are not much larger (21 mm, 25 mm) but which are too large for hobnails. There is a group ranging from 40 to 49 mm, but the majority are between 60 and 70 mm. Two of the shorter nails (finds no 1155) are corroded together at right-angles as if they came from the corner of a box. Interestingly, most of the pottery fragments were unburnt. The pottery and coin give a likely 2nd- to earlier 3rd-century date for this *bustum*.

F47.1 (209), SF 32, a coin, illegible as, burnt, mid 1st-early 2nd century.

- F47.2 (244), SF 247, 5 small fragments of scorched copper alloy, the largest 8.5 by 5.5 mm.
- F47.3 (various finds numbers), 149 iron nails, most incomplete plus two corroded together (see Table 3 below).
- F47.4 (514), 1 very small melted fragment of colourless glass, melted on the pyre.
- F47.5 (204), a few sherds/fragments of 2nd- to earlier 3rd-century pottery. This consisted of: one sherd of samian, probably East Gaulish (Trier) samian (Fabric BA (EG)) of form Dragendorf 31 or 31R and dated later 2nd-earlier 3rd century; 1 sherd probably of black-burnished ware category 2 (BB2; Fabric GB) and of early 2nd- to mid-late 3rdcentury date; and a small quantity of grey ware sherds (Fabric GX), two of which have been burnt or scorched.



Plate 6: bustum F47, view east.

SF	Finds	Description	Lengths
	no		(in mm)
-	103	1, tip only missing	61
-	194	1, bent	32
-	195	1; 1 shank fragment	23; 20
-	196	1	24
-	203	1 shank fragment	38
211	205	4; 4 shank fragments	longest = 19
-	205	1; 4 shank fragments	40, 34, 31, 29, 15
-	219	1	46
-	227	1. complete	60
-	228	1: 1 shank tip (possibly together = 1 complete nail)	45
			19
-	229	1 shank fragment	21
-	230	1 shank fragment	24
261	244	2 shank fragments	7
		2 oname nagmonto	19
260	245	3 <sup>.</sup> 12 shank fragments	21 15 14 longest
		o, ona agonto	shank fragment 25
263	246	2	14 15
-	247	2 the smaller is complete	26, 19
259	248	2 shank fragments	14 25
	321	1	38
<u> </u>	322	1 complete	00
	322	1 shank fragment bent	30 (approx)
	324	1 complete (2bobnail)	
	324	1, complete (Flobilali)	27
-	325	1 tin only missing	Z1 54
-	320	1, up only missing	<u>04</u>
-	400	1, complete	62
-	400	1, complete	03
-	407	1, complete	40
-	408	I, complete	48
-	469		54
-	470	2, complete	64, 56
-	4/1	1, complete	55
-	472	1, complete	65
-	475	1	43
-	476	1 shank fragment	36
-	480	1; 1 shank fragment	36; 43
-	481	2, complete, shanks crossed	60, 42
-	482	1, clenched	44 (clenched)
-	483	1, complete	17
-	484	1	31
-	485	1, complete, clenched	60
-	489	1	37
-	490	1, complete	59
-	492	1, complete	25
-	493	1, complete	51
-	494	1, complete, curved	55
-	499	1, complete	65
-	500	1, complete	70
-	501	1, tip only missing	45
-	502	1 shank fragment, clenched	40
-	503	1	39
-	504	1	47
-	505	1, complete, shank bent into hook	49 (bent)
-	506	1	36
-	507	1	28
169	508	1 shank fragment	17
-	509	1. complete, bent	40 (bent)
-	510	1	29
1			20

# Table 3: nails and shank fragments from F47, incomplete unless stated otherwise.

CAT Report 323: Archaeological excavations at 1 Queens Road (Handford House, now 'Handford Place'), Colchester, Essex: 2003 and 2004-2005

-	511	1	46
-	512	1	45
-	513	1	27
272	514	small flakes of iron only	-
-	514	3	41, 35, 33
271	515	1 + 2 heads; 7 shank fragments	13; longest shank
	545		
-	515	2; 2 shank fragments	25, 20, 21, 20
203	516	2 shank fragments	14, 21
216	516	6; 12 shank fragments	longest = 29
270	517	2; 10 shank fragments	11, 18; longest
			shank fragment 30
-	521	1	37
-	523	1, complete, bent	43 (bent)
-	529	1	35
-	530	1; 1 shank fragment	29 (bent); 24
-	531	1, complete	21
-	532	1	30
-	1155	4 (two complete, two almost so); 1 shank	pair = 44
		fragment. Two are corroded together at right-	(clenched), 45; 54,
		angles, probably from the corner of a box; the tip	51:36
		of one is clenched, the tip of the other is missing	,
L	ļ		ļ

Bustum F134,T50 (Figs 10-11, Figs 94-96, Plates 7a-7b)

This was an oval pit, 1.35 m long (600 mm long at base), 900 mm wide (550 mm at base) and 400 mm deep. The natural sand and gravel around the top edges of the feature on the western, northern and north-eastern sides were scorched red. The upper 200 mm of the fill was grey brown sandy loam with abundant burnt stone and a small amount of charcoal flecks and iron nails. The lower 200 mm was very dark grey, almost black loam with common charcoal flecks, some small stones and hobnails. Most of the cremated bone was in this lower fill and concentrated in the south-western part of it. Also in this area was a large unburnt smashed flagon within the upper fill, a copper-alloy coin, a copper-alloy mirror and a copper-alloy spoon. The total weight of cremated human bone was 1,818.4g, which is enough bone to be considered complete (see section 7.6).

The overall impression of the bone was that there was one individual (a probable middle-aged female), although some of the skull bone suggested a second (incomplete) individual, a male. The human bone specialist considers it to be an unusual form of unurned cremation burial; however, there was evidence of burning around the pit and it was deeper and larger than most cremation burial-pits, suggesting that it had served as a vent under the pyre (although it was not as long as the body which had been burnt on the pyre). The jumbled nature of the bone indicates that, instead of the whole pyre collapsing into the pit and being left *in situ* (like F47), there was some pushing of the bone and pyre debris into the pit after cremation. 153g of cattle bone (metatarsals from a short-horned Dexter) and one fish vertebra were mixed with the cremated bone (F134.8).

The mirror did not show signs of burning and therefore must have been placed in the pit after cremation. There was cremated bone below and above the mirror. The spoon and the smashed flagon had probably also been added after the cremation. The spoon was probably an item of female toilette. The coin showed evidence of burning and had been placed on the pyre, probably in the mouth or on one eye of the deceased. Animal bone (cow and fish) may be the remains of graveside feasting or food placed on the pyre or in the pit for the deceased. The other primary deposits consisted of at least 46 hobnails from nailed footwear and a large quantity of structural nails. As in F47 and other burial features, the complete nails vary in size from 30 to 70 mm, with most at the upper end of the range. There was also a small quantity of other pottery sherds. This *bustum* dates from the late 1st (after AD 81) to early 2nd centuries.

F134.1 (691, 692, 693, 813), SF 219, SF 220, SF 231a and SF 223a, at least 46 hobnails. F134.2 (various finds numbers), 158 iron nails, mainly incomplete, maximum length 70 mm (see Table 4 below).

- F134.3 (804), SF 106, a coin of Domitian, *as*, showing evidence of burning; reverse is emperor standing left, probably holding palladium on right hand, legend illegible. Date AD 81.
- F134.4 (690), SF 95, Fig 94, a copper-alloy spoon, in four fragments; the very tip of the handle is missing. The bowl is of the early Roman round form (*CAR* **2**, 68, Type 1). Length 84 mm, bowl diameter 21 mm.
- F134.5 (805), SF 107, Figs 95-96, a handled speculum mirror of Lloyd-Morgan's group Gc (Lloyd-Morgan 1981, 37, 41-2), in fragments, dating to the second half of the 1st century. The reflecting side is decorated with groups of three small ring-and-dot motifs set at regular intervals around the edge. The rear face is very slightly concave and is covered with spin marks. It has bands of deeper turned concentric circles at the centre and towards the edge. The handle is of single loop form, with square terminal knob, side arms and pointed disc support. The rear face shows two points of attachment for the handle. A triangular scar from the support lies at a point where the edge is slightly flattened, and there is a second scar close to a lump of solder. The first is probably the original point of attachment, the second a repair. Diameter 115 mm, length of handle 107.5 mm.
- F134.6 (679), fragments of a large ring-necked flagon, unburnt, Cam 155, 1st to earlymid 2nd century.
- F134.7 (813), small quantity of pottery sherds, mainly of buff oxidised ware (Fabric DJ), of which two or three are slightly greyish and may have been burnt, dated 1st-2nd/?3rd century and possibly from a second flagon. Also sherds of grey ware (Fabric GX), Roman.
- F134.8 (692, 813), animal bone, mainly cattle metatarsals, showing cut-marks and evidence of gnawing, 153g; also 1 fish vertebra.



Plate 7a: *bustum* F134, with mirror and coin, view south-west.



Plate 7b: *bustum* F134, with mirror and coin, close-up view south-west.

SF	Finds	Description	Lengths (in mm)
	no		
-	661	1	30
-	662	1 shank fragment	30
-	665	1	27
-	677	1, complete	30
-	678	1 shank fragment	34
-	682	1, complete	50
231b	691	14; 19 shank fragments, some possibly	longest 21; shank frag-
	710		ments range from 5 to 25
-	712	1 abank fragmant	20
-	713	1 snank tragment	41
-	716		51
-	720	1	28
-	726		21
-	782	1, complete	48
-	/84	1	47
-	789	1, complete	70
-	797	1, complete, clenched	64
-	799	1	29
-	800	1 shank fragment	28
-	802	1	41
-	803	1	30
-	807	1, complete, bent	51 (bent)
-	808	1; 2 shank fragments	35; 16, 18
269	811	1 head; 4 shank fragments	- ; 13, 15, 15, 18
223b	813	24; 57 shank fragments, some possibly	range from 7 to 33; shank
		from hobnails	fragments range from 12 to
-	847	1; 4 shank fragments	21; 16, 22, 25, 26
-	1158	6; 5 shank fragments	14, 15, 33 (bent), 44, 57
		_	(tip only missing), 86 (tip
			only missing); 10, 27, 33,
			53 (bent), 61

Table	4: nails	from	F134.	incom	plete	unless	stated	otherwise.
labic	<b>T</b> . Hallo	II OIII I	г то <del>т</del> ,	meoni	picto	unicaa	Stateu	011101 1130.

**Cremation burials** (all urns contained cremated bone unless otherwise stated) *Urned cremation burial F15, T11* (Fig 12, Fig 76)

An almost complete large grey ware jar (F15.1) used as a cremation urn had been placed in the centre of a small circular pit; the jar was slightly damaged during

excavation. The jar has a distorted rim and is possibly a kiln waster or second. There was also an oxidised ware lid (F15.2) which had fallen into the urn. The weight of human bone in the urn was 1,270.7g. The deceased was a middle-aged or old individual, probably male.

F15.1 (47), Fig 76, an almost complete large grey ware storage jar, Cam 270B (Fabric GX), used as cremation urn, 1st-2nd/3rd century.

F15.2 (1115, 1123), Fig 76, a lid of *CAR* **10**, Type 163 (lid flat or domed with upward-hooked rim; oxidised ware Fabric DJ) used to cover urn, 1st-2nd century.

Cremation burial F19, T11 (Fig 13, Fig 76, Fig 88)

This was a cremation burial with pyre debris, badly truncated by gas-pipe trench F18 and with no cut definitely visible. Primary deposits, burnt on the pyre, were hobnails (F19.9), a melted glass unguent bottle (F19.10), and fragments of a picture lamp which showed signs of burning and which is pre-Flavian and probably pre-Boudican. There were fragments from three *tazze* (ceramic incense burners) from F18 and F19 (F19.1-F19.3), showing signs of burning. It is not clear whether the *tazze* were burnt from being on the pyre or from burning incense after the cremation. There were fragments of at least five other ceramic vessels (unburnt and probably broken prior to burial), including a flagon (F19.8), a Lyon ware cup (F19.6) and a grey ware jar (F19.7), but it is not clear which, if any, was the urn. The fill also included two fragments of a pipeclay base of an *aedicula* (a statuette of a deity, probably included in the burial as a protective image; F19.4). Three juvenile pig bones (F19.11) also came from the fill (see Appendix 5). Cremated bone was scattered and amounted to 379g (including F18). The bone is of an adult male. This cremation burial may have been unurned or urned and its date, based on the lamp and aedicula, is AD 44-60/61.

F19.1 (58, 67), Fig 76, a *tazza* incense burner in fragments, Cam 198 (Fabric FJ), 1stearly/mid 2nd century.

- F19.2 (54, 56), Fig 76, a *tazza* in fragments, Cam 198 (Fabric FJ), 1st-early/mid 2nd century.
- F19.3 (56, 67), Fig 76, fragments from *tazza* bowl base, Cam 198 (Fabric DJ), 1st-2nd century.
- F19.4 (71), SF 8, Fig 88, 2 fragments of a pipeclay *aedicula*, with traces of red paint on the outer faces of one piece.

a) Front/side fragment, with flecks of red on the side and a red-painted stripe, defined by grooves, representing a column or pilaster on the front. The front is slightly recessed. The surfaces both appear to have an underlying wash of pale brown, although this may be discoloured by weathering. The inner surfaces are rough and finger-marked. Height 38.5 mm, width at front 22 mm, width at side 24 mm. b) Front/side fragment, with traces of a pale brown wash. All the surfaces are smooth and intended to be visible, and one is slightly recessed.

- F19.5 (54, 65), SF 7 and SF 148, Fig 88, 3 fragments from the wall, shoulder and discus edge of a Lyon ware picture lamp, pre-Flavian and probably pre-Boudican. Very fine greenish-buff fabric with worn brownish-green slip; Further fragments of this lamp came from gas-pipe trench F18, which cut through F19.
- F19.6 (54), SF 148, fragments of a Lyon ware cup, Cam 62 (Fabric EB), pre-Flavian.
- F19.7 (54, 58), fragments from a grey ware jar, Roman.
- F19.8 (54, 69, 67), fragments from a flagon or flagons, possibly more than one pot represented; Fabric DJ, 1st-2nd century (not illustrated).
- F19.9 (68, 54, 55), SF 205, 34 hobnails or hobnail shanks, 13 iron hobnails and 6 hobnail fragments. Greatest length 23 mm.
- F19.10 (57, 66, 68), ŠF 160 and SF 157, melted glass. One piece (66) from a tubular unguent bottle; blue/green; base fragment, with side curving into slightly flattened base. Surfaces slightly dulled; possibly heat affected. Present height 12 mm.
- F19.11 (68), 3 juvenile pig bones, 4g.

### Cremation burial F36, T13 (Fig 88)

Cremated bone and (possibly deliberately) smashed pottery lay in a pit. The burial was cut by modern or late post-medieval pit F34. Both features contained 1st- to 2nd-century pottery, including sherds of flagon (F36.1) and burnt samian (F36.2), as well as hobnails (F36.3), a heat-affected ring (F36.4) probably deriving from a

jewellery box, and a lump of melted glass (F36.5). There was 51g of cremated human bone (including that from F34) which derived from an adult, probably female. It is not known whether this was an urned or unurned cremation burial.

F36.1 (93), sherds of a ring-necked flagon (Fabric DJ), 1st-2nd century.

F36.2 (93), 1 sherd of South Gaulish samian dish, Dragendorf 15/17, burnt, 1st century.

F36.3 (93, 94), SF 204, 6 iron hobnails and six hobnail fragments, average length 14 mm.

- F36.4 (94), SF 246, Fig 88, 1 fragment of heat-affected copper-alloy ring of grooved section as SF 70 in F120; rings of this type usually derive from jewellery boxes. Length 21 mm, section 3.5 mm in diameter.
- F36.5 (91), 1 lump of melted glass, probably from a tubular unguent bottle which melted on the pyre, 8g.

### Urned cremation burial F41, Soakaway 2 (Fig 14, Fig 76)

A flagon (F41.1) used as a cremation urn, with the neck and handle missing, lay on its side in a circular pit. There was a very small area of blackened soil on the north side of the flagon. A small amount of cremated bone came from inside the flagon and from the fill of the feature. The total weight of cremated human bone was 166.8g. Four nails (F41.2) were present in the fill, and one of the nails may derive from a jewellery box. Thirteen hobnails were also present (F41.3). One small yellow/green unburnt glass body fragment of probable 1st- to 2nd-century date may be a chance inclusion in the pit fill. The bone appears to be from two individuals; an adult, and a few fragments from a child aged 8-12 years, but the child's bones may be accidental inclusions from previous use of the pyre.

F41.1 (128, 129, 140), Fig 76, body and base of neck of flagon which had been used as cremation urn (Fabric DJ), 1st-2nd century.

F41.2 (128, 129, 140), SF 206 and SF 207, 3 structural iron nails, flat-headed, max length 23 mm, plus 1 fragment of nail head; 1 nail possibly from a box similar to the one in F120.

F41.3 (129), SF 206, 8 hobnails and 5 fragments.

F41.4 (129), 1 small yellow/green glass body fragment, unburnt, ?1st-2nd century.

# Urned double cremation burial F42, Soakaway 1

### (Fig 15, Fig 76, Figs 88-89, Fig 102, Plate 1)

This was a circular pit containing a complete grey ware jar used as a cremation urn (F42.1); a small bowl (F42.2), complete but with part of the rim missing; a complete flagon (F42.3); and one sherd of a large flagon (F42.4) covering the base of a beaker, which was lying on its side (F42.5). The pottery dates to the 1st to 2nd century; more specifically, some can be dated to the 1st to early 2nd century. The sherd of flagon F42.4 and the beaker had been carefully placed to cover a complete picture lamp (F42.6; Plate 1 - see front cover). The lamp is Central Gaulish, dating to the second half of the 1st century, probably pre-Boudican. The fact that the two pot sherds had been carefully arranged to create a cavity over the lamp strongly suggests that the lamp was lit before the pit was backfilled. The lamp design is of a lion attacking a crocodile and has funerary associations; the scene can be interpreted as the dangers of the afterlife (a crocodile) being warded off by an attacking lion. One half of an illegible copper-alloy ?1st-century coin (F42.7) came from near the centre of the pit. It provides a direct link to the adjacent cremation F53, which contained the matching half of the coin. The coin had not been burnt on the pyre but had been placed in the cremation pit with the lamp and the pottery vessels. A small fragment of a sandstone hone (F42.8) may be a deposit or residual.

Charcoally pyre debris with cremated bone had been placed next to the pots, to the south-west. Many hobnails (F42.9), structural nails (F42.10), and two small fragments of resolidified metal, probably lead (F42.18), plus one melted glass unguent bottle (F42.11) and other unrecognisable melted glass fragments (F42.12-F42.14), lay within the pyre debris surrounding the pots. The main urn had not been placed on the bottom of the pit; a few centimetres of soil had been placed underneath it. There were fragments of unburnt mammal bone with the cremated bone on the eastern side of the pots.

The urn contained a glass cup (F42.17) and another tubular glass unguent bottle (F42.16), both complete and unburnt, as well as a melted tubular glass unguent bottle (F42.15). The cup is a Hofheim type, a mid 1st-century form which was going

out of use in the AD 70s. The distinct kick in the centre of the base might hint that it was in use during the later part of the life-span of the type; certainly this base form does not occur in town-centre sites in Colchester in pre-Boudican contexts. This cup is the only certain example ever to have been recovered from a grave in Britain. The way in which glass drinking vessels are normally not included in grave contexts suggests that the individual buried in F42 was of some special status. The cup was placed upright in the urn. The bottle was on its side. The cup and unguent bottles date the funeral to no later than AD 75-85. The lamp and coin indicate a date of AD 44-60/61, which also corresponds with the date of the tubular unguent bottle.

The urn (F42.1) was the only vessel to contain cremated bone. The total amount of cremated human bone from the urn and pit fill was 370.7g. The bone comes from two children, one aged 5-6 and the other aged 12+.

A connection has been suggested between F42, F44, F53 and F142 based on the use of gorse as a fuel (see section 7.9). The bone from the four burials shows that all four individuals were under 18 years of age but, apart from that, the bone does not show any relationship between the individuals. All four burials are dated to the mid or second half of the 1st century; however, F42 and F53 are linked by being adjacent and by each containing one half of the same coin. This may well be evidence of a family relationship between the two.

F42.1 (136), Fig 76, a complete grey ware jar, Cam 266 (Fabric GX) used as cremation urn, 1st to early 2nd century.

- F42.2 (153), Fig 76, a small bowl Cam 221 (Fabric GX), complete but with part of the rim missing, 1st-early 2nd century.
- F42.3 (137), Fig 76, a complete ring-necked flagon, Cam 155 (Fabric DJ), Claudio-Neronian to early Antonine.
- F42.4 (138), 1 sherd of a large whiteware flagon (Fabric DJ), 1st-2nd century.
- F42.5 (148), Fig 76, base of beaker, Cam 108 (Fabric GX), 1st-early 2nd century.
- F42.6 (171), SF 26, Fig 88, a complete picture lamp of Loeschcke Type IV (in Loeschcke 1919). The raised base is slightly uneven but otherwise this is a well-made lamp. The buff fabric is covered by a reddish-orange slip which has almost completely worn off on the top of the lamp. The wick hole shows no signs of burning but the lamp may have been deposited in the grave lit. The discus shows a lion attacking a crocodile, with both animals facing to the left. The only other example known from Britain was found in London (Bailey 1988, 84, Q1518), but the design on the London example is much more blurred, while details of the bodies of both animals can be distinguished on the Colchester lamp. The lamp is Central Gaulish; second half of the 1st century, probably pre-Boudican. Length 87 mm, width 60 mm, height 21 mm.
- F42.7 (177), SF 244, Fig 88, half of a copper-alloy coin, an *as*, fits F53.9; obv and rev worn with no details of design visible; one side marked by heavy scoring, unburnt, 1st century.
- F42.8 (283), SF 177, Fig 89, 1 small fragment of a sandstone hone, worn smooth on one face and the two long edges. The underside and short edges, although rough, are slightly abraded. Length 48.5, width 23 mm, thickness 8.5 mm. Possibly residual.
- F42.9 (various finds numbers and small find numbers), 65 hobnails.
- F42.10 (various finds numbers), 11 or more structural nails.
- F42.11 (141), SF 13, Fig 102, 1 melted glass tubular unguent bottle; complete and now broken into two pieces. Out-turned rim edge, probably sheared; cylindrical neck; tubular reservoir. Heat affected and twisted. Length approx 66 mm, rim diameter 15 mm, maximum body diameter 17 mm.
- F42.12 (147, 177), SF 16, 1 melted blue/green glass lump and 4 melted blue/green glass fragments.
- F42.13 (136), 1 melted blue/green glass lump.
- F42.14 (132), 1 small blue/green glass body fragment not showing any sign of burning.
- F42.15 (1570), SF 7, Fig 102, tubular unguent bottle inside urn; blue/green; rim and neck fragment; now melted and flat. Out-bent rim, probably with sheared edge; cylindrical neck. Present height 29 mm, rim diameter 17 mm, dated no later than AD 75-85.
- F42.16 (1096), SF 129, Fig 102, a complete tubular glass unguent bottle inside urn; blue/green. Out-bent asymmetrical rim, edge sheared; tooled constriction with tubular reservoir; rounded base. Height 71 mm, rim diameter 17 x 16 mm, maximum body diameter 16 mm, dated no later than AD 75-85.
- F42.17 (1095), SF 128, Fig 102, a glass Hofheim-type cup inside urn; blue/green; complete but cracked. In-bent rim, edge cracked off and ground; convex-curved body; small pointed kick in centre of base. Wide wheel-cut channel below rim with abraded band on either side; narrow abraded band on greatest circumference of lower body.

Height 64 mm, rim diameter 60 mm, base diameter 28 mm, mid 1st-century. F42.18 (136), 2 small fragments of resolidified metal, probably lead, 1g.

Urned cremation burial F44, T14 (Fig 16, Fig 77, Fig 101)

A complete but cracked grey ware bowl (F44.1) used as a cremation urn had been placed in the centre of a circular pit. Hobnails and nails (F44.5 and F44.6), sherds of the base of a flagon (F44.3) and heat-discoloured sherds from a probable flagon F44.2) were all present within the pit fill. The urn and flagon/s are 1st-2nd century in date. The fill of the urn and the fill of the feature contained some cremated bone, and there was some charcoal in the fill of the feature. A coin to the south of the urn dates from the reign of Titus, AD 69-79. The coin (F44.4) was unburnt and very little worn, giving a close date for this burial. The total amount of cremated human bone was 220.3g, which came from a young child.

F44.1 (182), Fig 77, a complete grey ware bowl, Cam 218 (Fabric GX) used as cremation urn, 1st-early 2nd century.

F44.2 (179), small quantity of base and body sherds probably from a flagon (Fabric DJ); sherds may be partly heat discoloured, 1st-2nd century.

F44.3 (181), small quantity of sherds from a ring-necked flagon, probably form Cam 154/155 (Fabric DJ), Claudio-Neronian.

F44.4 (166), SF 23, Fig 101, a coin, *as* of Titus, dated AD 79-81; reverse is Spes. F44.5 (178, 182), SF 210, at least 21 hobnails.

F44.6 (180, 178), at least 1 nail.

### *Cremation burial F45, T17* (Fig 17, Fig 77, Fig 89)

Fragments of a flagon which was lying on its side (F45.1) within a barely discernible circular cut. The top of the flagon was only 300 mm below ground-level. The flagon did not contain cremated bone and there was only a small amount of bone from the fill. The feature could be either an urned or unurned cremation burial. Two hobnails (F45.4), four very small amorphous slag-like fragments (F45.5), a fragment of unburnt Roman light green glass (F45.6; see section 7.5) and a fragment of a burnt bone bead (F45.3) were in the pit fill. There was a small patch of charcoal in the fill of the feature. The top of the feature had been truncated by post-medieval or modern activity, evidenced by post-medieval tile, clay pipe and coal. Three sherds of a Roman dish (F45.2) also came from the fill of the feature. The burnt bone bead and the glass body fragment were found in a soil sample. The total amount of cremated human bone was 4g.

F45.1 (164), handle and base of a flagon (Fabric DJ), 1st-2nd century.

F45.2 (165), Fig 77, 3 rim sherds of a dish, Cam 8 (Fabric UR), Claudio-Neronian.

F45.3 (175), SF 287, Fig 89, 1 burnt bone bead.

F45.4 (175), SF 264, 2 hobnails.

F45.5 (175), 2 very small amorphous slag-like fragments.

F45.6 (175), 1 body fragment of light green glass.

### Urned cremation burial F53, soakaway 1

(Figs 18-21, Fig 77, Figs 88-89, Figs 102-103, Plate 8)

This was a circular pit next to F42 containing a complete jar used as a cremation urn (F53.1) and covered by a large body sherd of a Brockley Hill flagon serving as a lid (F53.2). Another sherd of the same flagon had been placed over the neck of the flagon which was standing upright, next to the urn. This flagon neck had been placed over the flame end of a picture lamp (F53.8), thereby creating a cavity to protect the flame, similar to that found in F42. The lamp depicted a stave dancer with a large phallus, an image which would have been chosen to protect the deceased person in the afterlife. The lamp dates to the second half of the 1st century and is probably pre-Boudican. To the north of the urn was a complete *terra nigra*-type dish (F53.3), lying on its side against the side of the pit.

The upper fill of the feature consisted of 200 mm of greyish brown sandy silt (to just below the rim of the cremation urn). Underneath this was very charcoally pyre debris with frequent fragments of cremated bone. This continued to the base of the feature and contained burnt pot sherds (F53.4-F53.7; some almost melted on the pyre), three copper-alloy pellets (F53.16), iron nails (F53.14) and hobnails (F53.17), vitrified clay (F53.18), and part of a bone needle (F53.15), the head of which was later found within the urn. Half a coin (F53.9, the other half to that found in F42) was

mixed in with the pyre debris but was not burnt and so had probably been deposited as a grave good.

Inside the urn were three complete glass vessels (F53.10-F53.12). All have elements which suggest that they are of mid 1st-century date. A date in the decade before the Boudican revolt seems most appropriate for this grave, although some of the grave goods could equally date to the years immediately after that event. Further fragments of the Brockley Hill flagon were present inside the urn (F53.2) which had presumably fallen in (Figs 20-21).

The total amount of cremated human bone from the burial was 368g. The bones are those of a child aged probably between 3 and 5 years. The date of this burial is likely to be the second half of the 1st century.

- F53.1 (199), Fig 77, a complete jar, Cam 266, used as cremation urn, pierced base (Fabric GX), 1st-early 2nd century.
- F53.2 (197, 198, 200, 211, 1104, 1107, 1108, 1109), Fig 77, several large sherds from a collared flagon, including the neck, Brockley Hill, Cam 140 (Fabric FJ), Claudio-Neronian. Sherds found in the pit fill and inside the urn (F53.1); one sherd used as a lid.
- F53.3 (240), Fig 77, a complete *terra nigra*-type dish with central stamp, Cam 16/30 (Fabric UR), Claudian-early Flavian. The stamp is poorly defined and not legible.
- F53.4 (276, 280), Fig 77, burnt, almost melted grey ware jar sherds, Cam 266 (Fabric GX), 1st-early 2nd century.
- F53.5 (280), 2 sherds of a burnt ring-necked flagon, Cam 154 (Fabric DJ), Claudian.
- F53.6 (215, 280), burnt sherds from a beaker, Cam 108 (Fabric GX), 1st-early 2nd century.
- F53.7 (208, 214, 224, 261, 267, 1122, 1107, 1108), small quantity of other sherds from fill of pit and inside the urn, some burnt, Fabrics DJ, GX, DZ & FJ. Sherds dated probably 1st-early 2nd century.
- F53.8 (201), SF 33, Fig 89, an almost complete picture lamp of Loeschcke Type IV, with only the discus slightly damaged. The lamp has a base ring. The wick hole shows no signs of burning but the lamp may have been deposited in the grave lit. The discus design depicts a grotesque stave dancer facing to the left. The ground is indicated by a horizontal line and the dancer holds staves in his raised left hand. The end of his right arm and part of his head are lost. The large phallus and short stature of the dancer are typical of Roman grotesques. The closest parallel known comes from Glanum, near St-Rémyde-Provence, France (Bémont 2002, 80, pl 15, 162). Only two other lamps with stave dancers are known from Britain (Eckardt 2002a, 376, nos 695 & 2319). The example from Oxford shows a stave dancer in a boat (Bailey 1980, Q1363), while the unpublished lamp from Silchester (2319) shows a taller figure walking right. Both these examples are, however, recorded on Loeschcke Type VIII lamps. Creamy-buff fabric with light brown slip, probably Central Gaulish; second half of the 1st century, probably pre-Boudican. Length 90 mm, width 62 mm, height 22 mm.
- F53.9 (277), SF 38, Fig 88, half of a very worn and illegible, probably 1st-century copper-alloy coin. Heavy scoring on one face was probably made with a chisel in an effort to break the coin in half. The other half of the coin was found in the adjacent burial F42 (F42.7).
- F53.10 (1097), SF 130, Fig 102, a complete conical glass flask inside urn; blue/green. Narrow triangular rim; cylindrical neck; slightly convex-curved conical body; flat base. Height 46 mm, rim diameter 30 mm, maximum body diameter 75 mm, base diameter approx 35 mm. Mid 1st-century date. The rim has a very small triangular profile. In the Colchester town-centre sites, nearly half of the flask rim fragments with this profile were found in pre-Boudican contexts (*CAR* 8, 164). It is the rim form found on two flasks from one of the cremation burials found at the Sheepen site, for which a Neronian date seems most likely (Charlesworth 1985, mf 1:A8 nos b and c). Both of the blue/green flasks in the famous figurine grave at Colchester also have this rim formation, although with slightly more bulbous bodies (Eckardt 1999, 74, fig 7 nos 37/1139 and 38/1140 NB in neither case is the rim formation drawn accurately in these illustrations).
- F53.11 (1110), SF 132, Fig 102, a tall conical glass unguent bottle inside urn. Blue green. Rim broken off but otherwise complete. Out-bent rim, edge sheared; cylindrical neck tooled at base; slightly expanding straight side; very shallow concave base. Height 146 mm; rim diameter 28 mm, maximum body diameter 44 mm. It differs only from a tubular unguent bottle in that it has a flattened rather than rounded base. It would have been in use at the same time as the tubular form. A very similar one, for example, came from a mid 1st-century cremation burial at Little Alie Street, London (RCHME 1928, 159, fig 65 no 28). The tall conical form seems less common than the tubular one, but that may just be because of the larger capacity. A

very similar example to this one has been found in Colchester before, presumably also from a grave, although it is now without provenance other than the fact that it formed part of the Joslin collection (Colchester and Ipswich Museums JOS 299). This one (F53.11) was found with the main part of the vessel in spit 4 and the rim in spit 7, suggesting that the vessel was placed in the urn after it was broken. Presumably the contents were used during the interment ceremonies, possibly poured over the burnt bones.

- F53.12 (1102, 1103), SF 133, Fig 103, a complete conical glass flask inside urn; blue/green; complete but with one fragment of rim and neck detached. Narrow rim, out-bent horizontally and edge sheared; cylindrical neck; slightly convex-curved conical body; very slightly concave base. Height 95 mm, rim diameter 21 mm, maximum body diameter 49 mm, base diameter approx 28 mm. The rim consists merely of a small horizontally out-turned edge. This was a very rare rim form amongst the material from Colchester town-centre sites, and the only example was found in a context which dated from the mid 1st century to the early 3rd century (*CAR* **8**, 163 no 1261). It was suggested that it should be regarded as being a variant of the rim finish on a tubular unguent bottle; the discovery of this flask in association with F53.11 and F53.10, both undoubted mid 1st-century flasks, shows that this is indeed the case.
- F53.13 (199), 1 melted blue/green glass fragment in spit 5 inside urn. Weight less than 1g.
- F53.14 (various finds numbers), 60 nails. Complete nails vary in length from 39 to 56 mm but there is also a 65 mm-long shank fragment from a much longer nail (see Table 5 below).
- F53.15 (199, 267), SF 285, SF 286, Fig 89, shaft and head of a bone needle, probably part of the same object.
- F53.16 (224, 242, 268), SFs 36, 37, 250, 3 copper-alloy pellets.
- F53.17 (various finds numbers and SF numbers), 15 hobnails.
- F53.18 (267), 6 small fragments of vitrified clay; 1 may be a vessel sherd and 1 may be from a lamp, 1.3g.



Plate 8: cremation burial F53 with lamp, overhead view north-north-west.

Table 5: iron nails from F53, incomplete unless stated otherwise.

SF	Finds	Description	Lengths
	no		(in mm)
-	202	1, clenched close to end	42
258	208	2 shank fragments	8, 14
-	212	1, tip only missing, clenched close to end	54
-	213	1, complete; 1 shank fragment	44; 18

213b	224	1; 15 shank fragments, some may be from	19; range from 7 to
-	231	1. tip only missing	41
-	232	1, tip only missing	52
-	233	1 shank fragment, clenched	65
-	234	1	55
-	238	1, complete, clenched	39
-	239	1, bent	28
-	240	1 (also flakes of iron from environmental	27
		sampling)	
-	241	1	21
-	243	1, complete	44
-	250	1, clenched	29
-	251	1	33
-	252	1, complete; 2 shank fragments; 1 nail head	39; 21, 26; -
-	255	1, complete	56
-	256	1, complete	53
-	257	1	28
-	258	1, complete	51
-	259	1, tip only missing, clenched near end	46
-	260	1	41
-	265	1, complete, clenched	37
-	266	1	30
214b	267	10 shank fragments, some may be from	range from 7 to 26
		hobnails	
-	269	1, tip only missing, clenched near end	31
-	274	1 shank fragment, bent	24
-	275	1, bent	30
-	278	1 shank fragment	32
266	279	1	8

### Urned cremation burial F59, T23 (Fig 22, Fig 78)

This feature consisted of a scatter of broken pottery of 1st- to 2nd-century date including a jar used as a cremation urn (F59.1), a lid (F59.4) and the base of a flagon (F59.2), plus cremated bone and two hobnail fragments. The cut was not visible. Later disturbance was evidenced by peg-tile at the same level as the bone. The total amount of cremated human bone was 247.4g which was from an adult male.

F59.1 (287), fragments of a grey ware jar which had been used as cremation urn (Fabric GX), 1st-2nd century.

F59.2 (288), Fig 78, fragments of the lower part of a flagon (Fabric DJ), 1st-2nd century. F59.3 (287, 290), 2 hobnail fragments.

F59.4 (287), other sherds (all Fabric GX), including a ?lid, 1st-2nd century.

### Cremation burial F60, T25 (Fig 23, Fig 78)

This consisted of an almost-complete jar or bowl (F60.1) possibly used as a cremation urn, with the bottom three-quarters complete and the rim in fragments, plus fragments of a plain beaker (F60.2), both 1st to early 2nd century. No cut was discernible and no cremated bone was observed, indicating that the pot had been displaced from its original position by some sort of ground movement. Post-medieval pottery, clay pipe and tile were found at the same level.

F60.1 (291), Fig 78, an almost complete jar or bowl (Fabric GX) possibly used as cremation urn, 1st to early 2nd century.

F60.2 (291), fragments of a plain beaker, Cam 108 (Fabric GX), 1st-early 2nd century.

### Cremation burial F83, T30/T35

Occasional fragments of Roman pottery (F83.1) plus one unidentified piece of tile and cremated bone were found in the fill of a circular pit. The total amount of cremated human bone was 11.6g. This could be either an unurned cremation burial or a pyre-debris deposit, but the lack of charcoal in the fill makes it more likely to be a cremation burial. F83.1 (345), very small quantity of small fragments of grey ware (Fabric GX) and oxidised coarse pottery (Fabric DJ), 11.2g, 1st-2nd/3rd century.

### Cremation burial F84, T35 (Fig 24)

This burial, possibly unurned, consisted of a spread of cremated bone within topsoil L1 and subsoil L16, but with no discernible cut. The burial appeared to have been disturbed, possibly as a result of modern gardening. The total amount of bone was not recorded.

### Cremation burial F85, T27 (Fig 25, Fig 89)

A charcoally patch with uncertain edges, contained 27.1g of cremated bone. The feature had been cut into by modern trench F91 and was heavily disturbed. There was no trace of a cremation urn, suggesting that it was an unurned burial, although there was a small quantity of sherds in the fill (F85.2). A few fragments of unidentified tile (one of which was burnt) and two fragments of tile *imbrices* were found within the charcoally patch. Fragments of a lamp (F85.1), probably of early 2nd-century date, give a date for this burial.

- F85.1 (340), Fig 89, a lamp in fragments. This is a crudely-made lamp of unusual form, probably intended to imitate a factory lamp. It has a circular body with the beginnings of a shoulder ring and an applied handle with a central groove. The nozzle is very large but the diagnostic upper surface does not survive. Pinkish-grey fabric with frequent large inclusions, almost certainly a London product; similar 'derived factory lamps' are known from London (Eckardt 2002a, 193-9). Probably of early 2nd-century AD date. Width 53 mm, height 23 mm.
- Fig 85.2 (341), small quantity of grey ware (Fabric GX). This includes sherds from a bowl of form Cam 218, 1st-early 2nd century.

### Urned cremation burial F87, T35 (Fig 26, Fig 78)

A jar of black-burnished ware category 2 (BB2), which was used as a cremation urn (F87.1), was found in a circular pit, lying on its side. The jar was almost complete but parts of the sides had previously broken off and were embedded in the fill of the pit. The rim was sliced off during hand-excavation. Cremated bone had spilled out of the jar where it was broken. The jar contained a small amount of cremated bone plus one *tazza* fragment (F87.3). There were two fragments of a cream-coloured pot (F87.2) to the north-east of the jar. The jar is dated probably early-mid 2nd to late 2nd/early 3rd century. The total amount of cremated human bone was 266.5g and it comes from an unsexed adult.

F87.1 (394, 431), Fig 78, an almost complete Cam 278 jar in black-burnished ware category 2 (BB2; Fabric GB), probably early-mid 2nd to late 2nd/early 3rd century, used as cremation urn. The jar would have been originally decorated with a burnished lattice or vertical stripe/line pattern, but no trace of this pattern now remains. The pot is discoloured (reddened) by heat on one side, and was either burnt or scorched before breakage or is a kiln second.

F87.2 (419), 2 fragments of a cream-coloured pot, Fabric DJ, ?1st-2nd century. F87.3 (431), 1 fragment of *tazza* (Cam 198) within urn, 1st-2nd century.

### Cremation burial F88, T37 (Fig 27)

This burial consisted of a scatter of pottery from at least five different vessels including two different amphoras, a flagon and a grey ware jar. There was no sign of a cut. The sherds came from L23 and had been displaced from their original position. Some pot sherds were upright. 8g of cremated bone came from the surrounding L23 (finds no 377). The pottery is mainly dated to the 1st-2nd century, although interestingly there are sherds from a mid-late 3rd- to 4th-century pot. The feature had been disturbed, perhaps as a result of modern gardening.

F88 (381, 378, 382), fragments of a flagon in white ware (Fabric DJ), 1st-2nd century.
(382, 380, 381), amphora body sherds (380 = AJ amphora, Dressel 2-4?; 381 = AA amphora), 1st-early 2nd century.

(382), sherds from a jar, Cam 279C, black-burnished ware category 1 (BB1; Fabric GA), early-mid 3rd-4th century.

(382 and 378), grey ware sherds (Fabric GX), Roman.

(378), a Lyon ware cup or beaker (Fabric EB), pre-Flavian.

### Cremation burial F93, T36/37 (Fig 28)

Pot scatter was recorded within a feature of uncertain edges, consisting mainly of one large narrow-necked grey ware jar (F93.1), probably used as a cremation urn, dated to the mid to late 2nd to 4th century. The feature appeared to be in the line of a metalled Roman road (F43). The pot may have been deliberately smashed but it was also subjected to some later disturbance. 5.4g of human cremated bone was found in the feature fill, from an unsexed adult. Three flint-tempered Middle Bronze Age Deverel-Rimbury sherds were also recovered from the feature, dated 1,400-1,200 BC. They may be chance inclusions.

F93.1 (361, 591, 370), sherds from a large narrow-necked grey ware storage jar Cam 280 (Fabric GX), probably used as cremation urn, mid to late 2nd-4th century, plus a few other grey ware (Fabric GX) sherds, possibly all part of the same pot (not illustrated).

### Cremation burial F101/F107, T38 (Fig 29, Fig 90)

F101 was recorded as a scatter of pottery (F107.1), charcoal and cremated bone within topsoil L1. Included in the scatter was a copper-alloy box fitting (F107.2), probably from a jewellery box which had been placed on the pyre, plus a glass bead (F107.3). On further excavation, a cut for a pit was revealed below F101 (F107), containing fragments of 1st- to 2nd-century pottery (F107.1). The finds from within the topsoil are likely to have been moved from F107 by modern gardening. The burial had then been cut through by post-medieval pit F105. The total amount of cremated human bone was 4g, from an unsexed adult. The feature is listed as an urned or probable urned cremation burial in the report on the cremated human bone (section 7.6), but it could also have been unurned.

- F107.1 (408, 409, 414, 427), small quantity of pottery sherds (Fabric DJ and Fabric GX). Deriving from F101, F105 and F107. Includes one *terra nigra* eggshell ware sherd (Fabric UR(E)), pre-Flavian; a very small quantity of sherds from a bowl of form Cam 218 (Fabric GX), dated 1st-early 2nd century; and sherds from a flagon (Fabric DJ), dated 1st-2nd century.
- F107.2 (410), SF 62, 1 heat-affected copper-alloy curved fragment of irregular grooved section, probably part of a ring-handle of a box. Length 18 mm, width 4.5 mm. Weight 1.5g.
- F107.3 (411), SF 63, Fig 90, 1 fragment of a bead of cobalt blue glass with two eyes of white around blue marvered into the surface. One eye stands a little proud of the surface, showing that the blue centre was added to the matrix as well as the white ring. The fragment is in two pieces, and the recent breaks are very jagged, while those formed in antiquity are remarkably smooth and have a slight rebate on each outer edge. The bead may have been broken and deliberately smoothed, or perhaps these unusual characteristics were caused by its having been split by heat. Diameter 32.5 mm, length 23 mm. The type belongs to Guido's class 3 (although on most examples the eyes are marvered flush with the bead's surface), which may be of Gaulish origin and which dates to the early Roman period in Britain (Guido 1978, 49-50).
- F107.4 (414), SF 233, 1 fragment of Mayen lava from a quernstone found in F105, therefore probably deriving from F107. The grinding surface is smooth. Maximum dimensions 56 by 61 mm, 31 mm thick.

### Urned cremation burial F102, T43 (Fig 30, Fig 78)

A jar (F102.1) was used a cremation urn, placed in an oval pit. The jar is complete except for the rim. There were also some sherds of a bead-rimmed jar (F102.2). A small amount of cremated bone was recorded at the base of the pit but the weight was not recorded. The total amount of cremated human bone inside the urn was 61.1g, from a child of 2 to 3 years.

- F102.1 (430), Fig 78, a complete jar, rim broken off, Cam 328 (Fabric GB), used as cremation urn, *c* AD 130-180/200.
- F102.2 (430), sherds of a bead-rimmed jar, Cam 328 (Fabric KX), early 2nd-late 2nd/early 3rd century.

Urned cremation burial F103, T38 (Fig 31, Fig 79)

This consisted of a complete grey ware jar (F103.1; dated mid 2nd-late 3rd/early 4th century) used as a cremation urn, in a circular pit, surrounded by 19 nails (F103.2). The nails may be from a box or from a wooden covering. Three fragments of melted blue/green glass (F103.3) were found inside the urn. The total amount of cremated human bone was 914.8g (all from within the urn). The bone is of a middle-aged person, probably female. The burial was adjacent to F108 and the two may be associated.

F103.1 (458), Fig 79, a complete grey ware jar Cam 268 (Fabric GX) used as cremation urn, early/mid 2nd to late 3rd/early 4th century.

F103.2 (various finds numbers), 19 nails, the complete ones range in length from 39 mm to 75 mm (see Table 6 below).

F103.3 (458), 3 melted blue/green glass fragments from inside the urn.

Finds	Description	Lengths
no		(in mm)
422	1, complete; 1 nail head	66; -
429	1 shank fragment	28
433	1	34
434	1	36
435	1	40
444	1, complete	75
445	1 shank fragment	40
446	2	22, 17
448	1	41
449	1 shank fragment	44
453	2, both complete, smaller one clenched	60, 39
455	1 shank fragment	61
456	1	30
458	1, complete	42
464	1, complete	42
558	1, complete	60

### Table 6: iron nails from F103, incomplete unless stated otherwise.

### Cremation burial F108, T38 (Fig 31, Fig 79)

This feature was next to and appeared to be cut by F103. A small complete jar (F108.1) and a small necked flask or flagon (F108.2) were placed at opposite ends of an oval pit; the jar was on its side. There was only a small amount (0.4g) of bone from the pit fill and this may not be burnt. No cremated bone came from within either vessel, and therefore this feature is classed as a probable unurned cremation burial (although it is listed as urned in the report on the cremated human bone; see section 7.6). Alternatively it may be that F103 and F108 are the same burial and that pots F108.1 and F108.2 are ancillary vessels to the urn in F103. All three of these vessels were surrounded by nails (F108.3 and F103.2). Those nails surrounding the jar (F108.1) are structural nails and may be from a wooden storage box placed in the pit after cremation. This box is similar to that found in F126. The pottery dates this cremation burial to the early 2nd-late 2nd/early 3rd century.

F108.1 (487), Fig 79, a small complete bead-rimmed jar, Cam 328 (Fabric GB), early 2nd-late 2nd/early 3rd century.

F108.2 (562), Fig 79, a small flask or flagon with pear-shaped body, rim missing (Fabric DJ), 1st-2nd century.

F108.3 (various finds numbers), 13 nails, plus nail shanks, some of which may be hobnails (see Table 7 below).

### Table 7: nails from cremation burial F108, incomplete unless stated otherwise.

SF	Finds no	Description	Lengths (in mm)
-	424	2 shank fragments	11, 9
-	432	1, tip only missing	76

-	457	1	43
-	477	2: 1 complete, 1 curved towards tip, with tip only	56, 40
		missing	
-	478	1; 1 shank fragment	28; 24
-	479	1; 3 shank fragments	14; 8, 10, 30
-	533	1, complete	62
-	534	1	43
217	584	2 shank fragments, possibly from hobnails	7.5, 11
-	559	1, complete	65
-	560	1, complete; shank bent at tip	63
-	561	1, complete, shank curved at tip	48 (bent)
-	571	1, complete	59
-	572	1, complete, clenched	51

### Cremation burial F113, T55 (Fig 32, Fig 79)

This consisted of the upper parts of two jars (F113.1 and F113.2), with one (F113.2) almost complete, lying on their sides in a possible pit. Part of pot F113.2 was also recovered from topsoil L1 above. Cremated bone was absent. The burial is thought to be an urned cremation which has been dug through and redeposited.

F113.1 (539), Fig 79, fragments of jar, Cam 279C (Fabric GA), early-mid 3rd-4th century.
F113.2 (540, 538), Fig 79, an almost complete jar although base missing, Cam 279C (Fabric GA), early-mid 3rd-4th century.

### Urned cremation burial F114, T45 (Fig 33, Fig 90)

A large flask used as a cremation urn (F114.1) was found in the centre of a circular pit, fallen on its side. The urn is cracked. The burial appeared to be in the line of the possible metalled road F117, and it was not clear whether the burial had been dug through this or whether the road had been laid afterwards and perhaps displaced the urn. The ironwork from this burial includes a single complete iron link (F114.4) from a chain with parts of the adjoining links still attached. Two penannular loops (F114.2-F114.3a) are probably also chain links. These pieces may represent a harness of some kind, but chains had so wide a variety of uses that it is impossible to be certain of the precise function of this example. There was also a fragment of iron sheet (F114.5) and nails (F114.3b, F114.3c, F114.6). The ironwork is thought to be a primary deposit, ie it was burnt on the pyre with the body.

One small fragment of glass (F114.9), some fragments of pottery (F114.8) and one retouched flint (F114.10) was found inside the urn. No cremated bone was observed in the pit fill and the total amount of cremated human bone in the urn was 1,488.1g. This was from a middle-aged or old male. It is possibly fairly complete and well preserved with particularly large fragments of torso, a large occipital crest and robust bones, showing evidence of degenerative disease and partially obliterated cranial sutures, osteoarthritis of the right hip and osteophytosis of the spine, and small exostosis of the femoral shaft. Also 47g of cremated animal bone came from inside the urn (see section 7.6).

- F114.1 (542, 1150), a large flask, Cam 231/232 (Fabric GX) used as cremation urn, 1st-late 2nd century.
- F114.2 (537), Fig 90, 1 oval penannular iron loop with the ends set at the centre of one long side, tapering and overlapping so that together they are of equal thickness to the rest of the loop. The point of one is slightly turned out. The opposite side is straight. Maximum diameter 69 mm, minimum diameter 36 mm, maximum width 18 mm.

### F114.3 (524), SF 163:

- a) Fig 90, 1 iron loop similar to F114.2 but in two fragments. Maximum diameter about 68 mm.
- b) 1 iron nail with slightly domed round head, tip only missing. Length 57.5 mm.
- c) 1 iron fragment, probably two crossing nail shank fragments. Maximum length 19 mm.
- F114.4 (495), Fig 90, 1 iron figure-of-eight chain link. At each end there is a fragment of an adjoining link. Length 45 mm.
- F114.5 (1154), SF 147, 1 fragment of iron sheet. Maximum dimensions 32 mm by 23 mm.

- F114.6 (526, 527, 542), 3 nails and small flakes of iron.
- F114.7 (1157), SF 150, 1 irregular retouched flint, Iron Age or Roman.
- F114.8 (1143), inside urn fragments of pottery including a very small quantitiy of sherds probably from a Cam 108 beaker (Fabric GX) of the 1st-early 2nd century, one sherd of Fabric DJ, and a few other grey ware sherds (Fabric GX).
- F114.9 (542), 1 small fragment of glass, blue/green, from inside the urn.

F114.10 (1157), SF 150, 1 ?retouched irregular piece of flint, ?Iron Age-Roman.

### Urned cremation burial F115, T26 (Fig 34, Fig 79)

A grey ware jar (F115.1) used as a cremation urn had been placed centrally within a circular pit. The top of the urn was caught by the bucket of the machine. Structural nails (F115.3) and abundant hobnails (F115.2) came from the fill of the pit and inside the urn. There was abundant cremated bone in the fill plus charcoal flecks, indicating that pyre debris was deliberately placed in the pit around the urn and that the deceased was burnt with their hobnailed shoes. The quantity of hobnails indicates that the shoes had a Rhodes' Type C nailing pattern (Rhodes 1980, 107), as in the inhumation F171. The date of the urn is probably 1st-early 2nd century. The total amount of cremated human bone was 1,051.5g, from a young or middle-aged female.

- F115.1 (498), Fig 79, a grey ware jar (Fabric GX) used as cremation urn; a crack from misfiring indicates that it may be a second or a waster, probably 1st-early 2nd century.
- F115.2 (various finds numbers and small finds numbers), 112 hobnails, indicating shoes with a Rhodes' Type C nailing pattern (Rhodes 1980, 107).
- F115.3 (1116, 1118, 1119, 1121, 1175, 497), 9 structural nails both in the pit fill and inside the urn, part of the pyre debris, maximum length 48 mm.

### Urned cremation burial F118, T56b (Fig 35, Fig 80)

This consisted of a grey ware jar (F118.1) used as a cremation urn, previously smashed and found within topsoil L1. There was no evidence of a cut and the urn had been previously disturbed out of its original position. Cremated bone was found within the pot and also a few fragments outside it. This burial consisted of 47.9g of human cremated bone, from an unsexed adult.

F118.1 (685), Fig 80, sherds from grey ware jar (Fabric GX) used as cremation urn, probably early-mid 2nd century or later.

### Boxed cremation burial F120, T14 (Fig 36, Fig 80, Figs 91-92)

This consisted of a circular pit with cremated bone at the base. The bone had been placed inside a small wooden box, represented by mineralised wood and metal fittings including the remains of copper-alloy rings, lock-bolt, studs, iron nails, part of the copper-alloy lock-plate and the hasp with copper-alloy and iron studs (F120.1-F120.9 and F120.12). Textile (F120.10) attached to the inside of the lock-plate also survived. The textile is plain-weave woollen cloth which may represent the box lining or derive from clothing or a bag placed within the box. The box shows signs of repairs and is likely to have been an old jewellery box. A small, complete 1st- to early 2nd-century bowl without cremated bone (F120.11) was placed within the pit, next to the box. All the cremated bone was lying on the base of the pit; in total there was 185.5g of bone, from a middle-aged female.

Wooden box, dated 1st century, pre-Flavian, including several elements:

F120.1 (550), SF 71, Fig 91, part of copper-alloy lock-plate with copper-alloy and iron studs, copper-alloy lock-bolt, copper-alloy binding strips, and fragments of wood, leather, and textile. The edges of the lock-plate are worn; maximum surviving dimensions 83.5 mm across by 60 mm high. It was attached to the box by six studs, only two of which survive complete. The rectangular hole for the hasp is on the left-hand side and measures 17 mm by 5 mm. The key-hole is an inverted L-shape, with the lower edge damaged and running into a circular hole of the same size and on the same alignment as those for the side fixing studs. Below and slightly to one side of the keyhole is a round depression, 9 mm in diameter. This appears as a raised roundel on the inner face of the plate.

At the top of the left-hand side is a domed and flanged copper-alloy stud with iron shank, and the flange edges are damaged; surviving diameter 17 mm. An iron shank from a similar stud survives at the bottom of the righthand side. A copper-alloy stud with short integral shank, probably a replacement for a missing composite stud, was fixed at the bottom of the lefthand side; diameter 18 mm, height 11 mm. The iron shank of the upper lefthand stud passes through a wooden board 11 mm thick (only the wood around the shank survives), and the end is fixed into a thin copper-alloy strip 11 mm wide and 40 mm long. The lower end of the strip is broken. On the outer face is a fragment of iron-replaced textile overlaid by wood. Fragments of a similar copper-alloy strip survive behind the right-hand side of the lock-plate; maximum surviving dimensions of largest piece 11 by 20 mm. A fragment of a wider strip, 24 by 15 mm surviving, probably ran horizontally with the bottom row of studs fixed into it. Small holes in some of the strip fragments, together with two tiny studs with convex heads, 5 mm in diameter and 5 mm long, show that the strips were fixed in position on the inside of the box before the composite studs were applied on the outside. Below is a third copper-alloy stud (F120.7) and fragments of sheet from one of these strips.

The lock-bolt, 52.5 mm long, has six square perforations for the tumblers. A single copper-alloy shank, probably a surviving tumbler, is fixed in one of the holes and is evidence that the lock mechanism had broken in antiquity. A strip of mineral-replaced textile is attached to the lock-bolt; dimensions 30 by 15 mm. A few small pieces of mineral-replaced wood lie on top of this strip.

- F120.2 (548), SF 69, Fig 91, a copper-alloy ring of complex grooved section with a small fragment, in two pieces, of the iron split-spike loop which would have attached it to the box. Internal diameter 20 mm, section diameter 4 mm.
- F120.3 (595), SF 76, Fig 91, a small copper-alloy ring of narrow lozenge-shaped section with the loop of an iron ring-headed peg attached. Traces of copperalloy sheet on the iron are from an escutcheon plate. Internal diameter of ring 18 mm, thickness 1.5 mm, height 2.5 mm. Head of ring-headed pin 6.5 mm wide, surviving length 7.5 mm.
- F120.4 (549), SF 70, Fig 91, a copper-alloy ring of complex grooved section with about half of its iron split-spike loop. There are traces of mineral-replaced wood, the grain running transversely, across the surviving spike, which is bent sharply outwards near the end. Internal diameter 21 mm, section diameter 4 mm. Length of clenched spike (if straight) 26 mm. The board thickness given by the gap between the inner edge of the loop and the bend is 14-15 mm.
- F120.5 (536), SF 72, Fig 92, a Roman copper-alloy hasp for box. Copper-alloy tongueshaped hasp, with pairs of transverse mouldings near top and bottom. The loop to slot into the lock-plate survives. The top edge is moulded to give the impression that it is hinged on an axial bar with end-knobs, but in reality it swivels on the rudimentary pin cut from sheet metal which attached it to the lid. This is clenched to give a wood thickness of about 7-8 mm, but the inner face of the lid would probably have been rebated at that point to accommodate the lock mechanism. Length 56 mm, maximum width 26.5 mm. Length of pin (bent) 15 mm.
- F120.6 (583), SF 75, Fig 92, a convex-headed copper-alloy stud, the central section missing and the shank separate. Diameter 14.5 mm, length of shank 12 mm.
- F120.7 (601), SF 249, Fig 92, a small copper-alloy stud, and two small fragments of flat sheet (not illustrated). Length of shank 7 mm.

F120.8 (601), SF 218a, tapering fragment from the base of the loop and upper part of the shank of an iron ring-headed peg or split-spike loop. Length 11 mm.

F120.9 (601), SF 256a, 1 fragment of the loop of an iron ring-headed peg or split-spike loop. Diameter 10 mm.

One of the ring-hinges and a stud on the lock-plate of the box had been replaced in antiquity and the lock mechanism had broken, indicating that the box was old when buried. The box measured at least 300 mm wide and was about 240 mm deep, much the same as similar boxes from the region (Borrill 1981, 304). The height is less easy to calculate but, given the height of the lock-plate and the hasp, must have been a minimum of 100 mm and is more likely to be closer to 150 mm. The boards used to make the box were about 11 mm thick and were fixed together by small iron nails. The plain lock-plate was positioned at the centre of the front board, held in position by six studs, with three down each side. The studs at the corners were composite, with domed and flanged copper-alloy heads and iron shanks. Only one of these now remains intact. One of the others is represented by the iron shank, and the other two are missing, but one was replaced in antiquity by a copper-alloy domed stud with integral copper-alloy shank. Another wholly copper-alloy stud (SF 75) probably came from the centre of one side.

The hasp was fixed to the lid by a simple sheet-metal pin, but it is cast to appear as if it was hinged on an axial bar. Three copper-alloy rings were fixed to the box by ring-headed pegs or split-spike loops. They lay along the back of the box, a position which shows that they formed the hinges. Rings were used as hinges on the boxes in Baldock burials 3 and 10 (Stead & Rigby 1986, 63, 75), on the box in burial 4 at
Skeleton Green (Partridge 1977, fig 26, A4; Borrill 1981, 314-15), and as both hinges and strap-holders on a box recently excavated in west Essex along the Ickleton to Matching Green natural gas-pipeline (Crummy 2003; ECC 2002b, 12). Two of the F120 rings were of complex grooved section, while the third was of Iozenge-shaped section and appears to be another repair.

- F120.10 (550), SF 71, textile attached to the inside of the box (see section 7.16). Fragments of textile associated with the lock-plate may have come from the lining of the box. It has been suggested that textile associated with other boxes was external and used to wrap them in before deposition, but others may have been lined with textile, while Reece, quoted by Philpott, has suggested that a brooch found in a box from Baldock may have been pinned to an item of dress (Saunders 1985, microfiche I:A13; Borrill 1981, 317, table 46; Philpott 1991, 13).
- F120.11 (551), Fig 80, a complete small grey ware bowl, Cam 218 (Fabric GX), 1st-early 2nd century.
- F120.12 (various finds numbers), 26 nails. The iron nails from the box are small and complete examples have narrow, more or less rectangular, heads with irregular edges; the longest measures 32 mm, the others are 27, 28 (three examples), and 29 mm long. Mineralised wood survives on all the nails and shank fragments, and on some the grain runs transversely across the upper part of the shank and parallel to the lower part. The maximum thickness of the board indicated by the transverse grain is 11 mm, which matches the board thickness shown by the wood preserved behind the lock-plate. On one nail, the grain is parallel to the full length of the shank (see Table 8 below).

no       (in mm)         -       553       1 shank, bent at tip       16       transverse         -       554       1       16       transverse         -       555       1 shank fragment       18       parallel         -       556       1 shank fragment       17       transverse         -       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1 shank fragment, bent at the tip       6       mm transverse         -       577       1 shank fragment       15       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       58	SF	Finds	Description	Lengths	Wood grain
-       553       1 shank, bent at tip       16       transverse         -       554       1       16       transverse         -       555       1 shank fragment       18       parallel         -       556       1 shank fragment       17       transverse         -       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, uncertain at upper end         -       581       1, complete       28       parallel on		no		(in mm)	
-       554       1       16       transverse         -       555       1 shank fragment       18       parallel         -       556       1 shank fragment       17       transverse         -       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower <t< td=""><td>-</td><td>553</td><td>1 shank, bent at tip</td><td>16</td><td>transverse</td></t<>	-	553	1 shank, bent at tip	16	transverse
-       555       1 shank fragment       18       parallel         -       556       1 shank fragment       17       transverse         -       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1 shank fragment, bent at the tip       14       transverse         -       577       1 shank fragment       15       transverse         -       577       1 shank fragment       15       transverse         -       577       1 shank fragment       15       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28	-	554	1	16	transverse
-       556       1 shank fragment       17       transverse         -       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1       23       transverse         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       580       1       16       transverse         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse	-	555	1 shank fragment	18	parallel
-       557       1, complete       32       11 mm transverse on upper shank, parallel on lower         -       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse       9         -       576       1       23       transverse         -       576       1       23       transverse         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       578       1 shank fragment       16       8 mm transverse on upper shank, parallel on lower         -       580       1       16       8 mm transverse on upper shank, uncertain at upper end         -       581       1, complete       28       parallel on lower         -       585       1 shank fragment       17       transverse         -       586 <t< td=""><td>-</td><td>556</td><td>1 shank fragment</td><td>17</td><td>transverse</td></t<>	-	556	1 shank fragment	17	transverse
-       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1 shank frag	-	557	1, complete	32	11 mm transverse on upper
-       573       1 shank fragment       15       transverse         -       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1       23       transverse         -       576       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       580       1       16       8 mm transverse on upper shank, uncertain at upper end         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment </td <td></td> <td></td> <td></td> <td></td> <td>shank, parallel on lower</td>					shank, parallel on lower
-       574       1, complete       28       6 mm transverse on upper shank, parallel on lower         -       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       580       1       16       transverse         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse         -       587       1 shank fragment       13.5       transverse	-	573	1 shank fragment	15	transverse
-       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       582       1 shank fragment       17       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       27       parallel       on lower         -       587       1 shank fragment       13.5       transverse </td <td>-</td> <td>574</td> <td>1, complete</td> <td>28</td> <td>6 mm transverse on upper</td>	-	574	1, complete	28	6 mm transverse on upper
-       575       1, complete       29       6 mm transverse on upper shank, parallel on lower         -       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse       5 mm transverse         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27 <td></td> <td></td> <td></td> <td></td> <td>shank, parallel on lower</td>					shank, parallel on lower
-       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse       5 mm transverse         -       586       1, complete       27       parallel on lower         -       587       1 shank fragment       10.       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transve	-	575	1, complete	29	6 mm transverse on upper
-       576       1       23       transverse         -       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       27       parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -					shank, parallel on lower
-       577       1 shank fragment, bent at the tip       14       transverse         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, uncertain at upper end         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       27       parallel         -       587       1 shank fragment       10       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       6	-	576	1	23	transverse
bent at the tip       bent at the tip         -       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       27       parallel on lower         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       11       transverse	-	577	1 shank fragment,	14	transverse
-       578       1 shank fragment       15       transverse         -       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       27       parallel on lower         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       6       transverse			bent at the tip		
-       579       1       7       transverse         -       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       6       transverse	-	578	1 shank fragment	15	transverse
-       580       1       16       8 mm transverse on upper shank, parallel on lower         -       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       13       14       transverse	-	579	1	7	transverse
-       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       6       transverse	-	580	1	16	8 mm transverse on upper
-       581       1, complete       28       parallel on lower shank, uncertain at upper end         -       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       6       transverse					shank, parallel on lower
-       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       10       3 shank fragment       10       transverse	-	581	1, complete	28	parallel on lower shank,
-       582       1       16       transverse         -       585       1 shank fragment       17       transverse         -       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       13       10       11       transverse					uncertain at upper end
-     585     1 shank fragment     17     transverse       -     586     1, complete     28     5 mm transverse on upper shank, parallel on lower       -     587     1 shank fragment     13.5     transverse       -     588     1, complete     27     parallel       -     593     1 shank fragment     10     transverse       -     594     1 shank fragment     10     transverse       -     596     1 shank fragment     6     transverse       -     596     1 shank fragment     13     10     11	-	582	1	16	transverse
-       586       1, complete       28       5 mm transverse on upper shank, parallel on lower         -       587       1 shank fragment       13.5       transverse         -       588       1, complete       27       parallel         -       593       1 shank fragment       10       transverse         -       594       1 shank fragment       10       transverse         -       596       1 shank fragment       6       transverse         -       596       1 shank fragment       13       10       transverse	-	585	1 shank fragment	17	transverse
shank, parallel on lower       -     587       1 shank fragment     13.5       -     588       1, complete     27       27     parallel       -     593       1 shank fragment     10       -     594       1 shank fragment     10       -     596       1 shank fragment     6       transverse       -     596       1 shank fragment     11       1 shank fragment     13	-	586	1, complete	28	5 mm transverse on upper
-     587     1 shank fragment     13.5     transverse       -     588     1, complete     27     parallel       -     593     1 shank fragment     10     transverse       -     594     1 shank fragment     10     transverse       -     596     1 shank fragment     6     transverse       -     596     1 shank fragment     6     transverse					shank, parallel on lower
-     588     1, complete     27     parallel       -     593     1 shank fragment     10     transverse       -     594     1 shank fragment     10     transverse       -     596     1 shank fragment     6     transverse       -     596     1 shank fragment     6     transverse	-	587	1 shank fragment	13.5	transverse
-     593     1 shank fragment     10     transverse       -     594     1 shank fragment     10     transverse       -     596     1 shank fragment     6     transverse       218b     601     3 shank fragments     13     10     11     transverse on oll shanks	-	588	1, complete	27	parallel
-     594     1 shank fragment     10     transverse       -     596     1 shank fragment     6     transverse       218b     601     3 shank fragments     13     10     11     transverse on oll shanks	-	593	1 shank fragment	10	transverse
- 596 1 shank fragment 6 transverse	-	594	1 shank fragment	10	transverse
218h 601 3 shank fragments 13 10 11 transverse on all shanks	-	596	1 shank fragment	6	transverse
	218b	601	3 shank fragments	13, 10, 11	transverse on all shanks
256b 601 1; 7 shank fragments 12; 6, 8, 10, transverse on all shanks	256b	601	1; 7 shank fragments	12; 6, 8, 10,	transverse on all shanks
11, 12, 12, 16				11, 12, 12, 16	

Cremation burial or pyre debris F123, T54 (Fig 37)

This was a small pit containing pyre debris filled by mid to light brown sandy silt. The central part contained blackened sandy silt which had leached out to the edges of the feature through root action. Some charcoal and a very small amount of cremated

bone was visible on the surface, but this did not continue throughout the fill. A small quantity of broken 1st- to 3rd-century flagon sherds (F123.1) were present within the top 100 mm of the feature fill but not at the base. Thirty-three nail shanks and one complete nail (F123.2) and burnt stone also formed part of the pyre debris. The pit was cut by pyre-debris dump F130. The bone was on the surface and not placed at the base of the pit, which could suggest that it is pyre debris rather than a deliberately-placed unurned cremation burial. The total amount of cremated bone is 9.8g and it appears to be from an infant, but the sex is not known.

- F123.1 (636, 604), quantity of sherds (115g) of Fabric DJ, probably from a flagon(s), possibly more than one pot represented, dated 1st-3rd century.
- F123.2 (636 and 604), SF 230, 33 iron nail shank fragments, 1 complete nail retains part of the head. Some may be from hobnails, but many are too long. Lengths range from 5 mm to 23 mm, except for one complete nail of 34 mm.

Urned cremation burial F126, T25 (Fig 38, Fig 92, Fig 103)

The sub-rectangular pit held a complete square mould-blown collared glass jar (F126.1) used as a cremation urn. This had been placed inside a wooden box (F126.2) of which only the nails and a few fragments of mineral-replaced wood survive. The size of the nails is much greater than those used to make jewellery boxes such as that in F120. This suggests that the F126 box was a stouter and more simply-made item, either a 'cremation coffin' or a box used for the storage of household goods. A fragment of a pebble (F126.3), possibly used as a polishing tool, is probably residual. It cannot have been inside the box, as it lay several centimetres above the floor, on the same level as the upper side of the fallen glass jar in the grave. It may, however, have been placed on the box lid. The glass jar contained cremated bone and one piece of glass which is probably a pyre deposit. The glass jar is probably Flavian to early 2nd century in date. The total amount of cremated human bone was 107.6g, from an infant aged 9-12 months, deduced from the teeth.

- F126.1 (566), SF 73, Fig 103, a complete square mould-blown glass jar used as cremation urn; blue/green; tubular collared jar, rim edge first rolled in, then out and down; square body; slightly concave base; base detail of three concentric circular mouldings with central dot. Height 162 mm, rim diameter 60 mm, base diameter 100 mm, probably Flavian to early 2nd century in date.
- F126.2 a wooden box consisting of the following elements:
- F126.2a (597), SF 78, Fig 92, from one corner of the box. 1 iron nail, in two pieces, with most of the flat round head missing. The shank of a second nail passes across it at a slight angle 10 mm below the head. Both the nail and the shank fragment are covered with traces of mineralised wood. As with SF 77 below, the grain runs transversely across the upper shank of the complete nail and parallel to the fragment, and parallel to the lower shank of the complete nail. The board thickness is 30 mm. Length of complete nail 69 mm; length of fragment 24 mm.
- F126.2b (590), SF 77, Fig 92, from one corner of the box. 1 complete iron nail with flat round head. The shank of a second nail passes across it at right angles 5 mm below the head. Both the nail and the shank fragment are covered with traces of mineralised wood, with the grain running transversely across the upper shank of the complete nail and parallel to the fragment, and parallel to the lower shank of the complete nail, giving a board thickness of 30 mm. Length of complete nail 78 mm, length of fragment 17 mm.

F126.2c (various finds numbers), 15 other nails, mainly incomplete (see Table 9 below).
F126.3 (567), SF 74, rectangular fragment of a waterworn flint pebble or tool; the upper surface is more worn than the lower and it may have been used as a polishing tool, although the sides are rough. Length 41 mm, width 17 mm, thickness 10 mm. Possibly residual.

### Table 9: nails from the box in F126, incomplete unless stated otherwise.

SF	Finds no	Description	Lengths (in mm)	Wood grain
-	589	1 shank fragment	53	parallel (lower shank)
77	590	see above		
78	597	see above		
79	598	1	10	-
80	599	1 shank fragment	19	transverse

-	608	1, complete	58	transverse on upper shank, uncertain on lower shank
-	609	1, complete	65	transverse on upper shank, parallel on lower; board thickness 30 mm
-	610	1	35	transverse (upper shank)
-	611	1, complete	76	transverse on upper shank and probably for full length of shank
85	612	1 shank fragment (burnt)	48	-
86	613	1 shank fragment (burnt)	45	-
-	622	1, complete	67	transverse for full length of shank
-	623	1, complete	82	transverse on upper shank, uncertain on lower shank
-	624	1, complete	65	transverse on upper shank, uncertain on lower shank
-	625	1, complete	81	transverse on upper shank, parallel on lower shank
91	626	1	18	-
-	637	1, tip only missing	79	transverse for full length of shank

### Urned cremation burial F128, T39 (Fig 39, Fig 80, Figs 92-93)

This consisted of an oxidised jar in a reddish fabric (F128.1) used as a cremation urn and placed in a circular pit. The top of the jar was clipped by hand-excavation. Fragments from a lid (F128.2) were retrieved from inside the urn plus iron nails (F128.3) from the pyre. Spit 6 of the urn fill contained a copper-alloy mirror (F128.4) and a complete comedy-mask picture lamp (F128.5) of late 1st- or early 2nd-century date. These latter two items were not burnt and had been placed unburnt within the urn, on top of the cremated bone. No cremated bone came from within the fill of the feature. The total amount of cremated human bone in the urn was 571.6g. The bone is mainly from an adult with a small amount from an infant. The infant bones may be accidental inclusions from a previous use of the pyre. A mackerel vertebra was found amongst the human cremated bone. The burial is of later 1st- or early 2ndcentury date.

- F128.1 (671), a large oxidised jar in a soft sandy reddish fabric (Fabric DJ), used as cremation urn, very broken up and having lost its rim, probably early Roman, 1st-early 2nd century.
- F128.2 (1141, 1153), Fig 80, fragments of lid, *CAR* **10**, Type 163 (lid flat or slightly domed with upward-hooked rim; Fabric DJ), used as a lid to the urn and found inside urn jar, 1st-2nd century.
- F128.3 (671, 1131, 1136, 1156), 8 nails or nail shanks from inside the urn, from the pyre, some may be hobnails. Maximum length 32 mm.
- F128.4 (1152), SF 146, Fig 92, a small round copper-alloy mirror found in spit 6 of the urn, probably of Lloyd-Morgan's group F, but the metal has been beaten out rather than cast. It also appears to differ from others of the group as it lacks the corrosion typical of high-tin bronze (speculum) and is most likely to be of low-tin bronze (Meeks 1995). Small round disc mirrors (but made of speculum) have been found in pre-conquest graves at King Harry Lane, St Albans but they are more often found in post-conquest contexts (Lloyd-Morgan 1977, 233, 243-51; Lloyd-Morgan 1981, 30-35; Stead & Rigby 1989, 103). Assuming this example to be contemporary with the lamp from the burial, it belongs to the later 1st or early 2nd century. The edge had been partly damaged through decay. One side is markedly polished, the other dull. There are no marks on the edge which may be evidence of a frame. Diameter 69 mm, maximum thickness 0.5 mm, thinner in places.
- F128.5 (1151), SF 145, Fig 93, a late 1st- or 2nd-century complete factory lamp of Loeschcke Type Xa, now cracked along the line of the joint between the upper and lower mould. The area around the wick hole is burnt. This example has no handle and two unpierced shoulder lugs and is decorated with a theatrical mask. The latter is flanked by two filling-/air-holes. A further small air-hole in the nozzle channel was indicated in the mould but has not been cut through. Set within multiple base rings is the maker's stamp FORTIS in relief. Even lamps bearing the same maker's stamp can be made in different production

centres as the result of either pirating or branch workshops. FORTIS is the name of a particularly prolific 'maker' with the original workshop probably active from the Vespasianic period but with many products made in provincial workshops in the late 1st and 2nd century. Twenty-six lamps with his stamp have been recorded from Britain (Eckardt 2002a, 204), of which one from Colchester is of Loeschcke Type IXc (Eckardt 2002a, 204, no 145; Bailey 1988, 168, Q1616). The decorative design of the grotesque theatrical mask with wig and open mouth occurs on two other lamps found in London and Colchester but both are of Loeschcke Type IXb (Eckardt 2002a, fig 87, 560). Cream-buff fabric with orange-brown slip, probably Gaulish. This lamp should be dated to the very late 1st century or the first half of the 2nd century. Length 97 mm, width 65 mm, height 31 mm.

### Urned cremation burial F129, T37 (Fig 40, Fig 80)

This consisted of sherds of a grey ware jar (F129.1) which had been used as a cremation urn, placed in a small pit. The base of the urn was upside down, with cremated bone underneath, indicating that the top of the urn had been truncated previously and moved. The total amount of cremated human bone was 432.2g, from a middle-aged or old person, probably female. Two nails, lengths 28 mm and 54 mm, came from the pyre.

F129.1 (629, 630), Fig 80, sherds from a grey ware jar, Cam 268 (Fabric GX) used as the cremation urn, early/mid 2nd to late 3rd/early 4th century.

# Unurned cremation burial F133, T39/T52

23.3g of cremated bone was found in a small pit without any pottery.

### Urned cremation burial F135, T34 (Fig 41, Fig 81)

This burial consisted of a badly fired jar (F135.1) which was used as a cremation urn, placed centrally in a circular pit. No cremated bone was observed in the pit fill. The total amount of cremated human bone in the urn was 1,002.7g, from a male, middle-aged or old. There was also 52g of cremated animal bone.

F135.1 (688), Fig 81, a bead-rimmed cooking pot Cam 259 (Fabric HD) used as cremation urn, almost all of pot, part of rim missing (shaved off by the machine bucket). Postfiring hole made through base, surfaces sooted, 1st century.

Urned cremation burial F137, T45/T46 (Figs 42-44, Fig 81, Fig 97, Plate 9) This consisted of a deep pit containing a complete Dressel 20 amphora (F137.1). The neck of the amphora appeared to be missing, leaving a wide opening. Two graffiti had been scratched onto the body of the amphora, next to one another. One was a probable post-firing mark resembling a tulip or leaf and stem. The other was a probable pre-firing ruler-drawn  $\Lambda$  which may denote the letter 'A' or 'V' or the number 5. Letters or numbers were often scratched on amphora to label their contents, the quantity of liquid they carried, or even the owner (Paul R Sealey pers comm). The leaf symbol is a leaf-stop (see section 7.17 for discussion of the graffiti by E W Black). After the vessel had been lifted out of the ground mechanically, its contents were excavated. The neck with its attached handles was found inside the body of the amphora, and one handle had been stamped. The neck must have fallen into the amphora and knocked over the vessels that were placed inside. In the bottom of the amphora was a complete small beaker (F137.4), an almost complete jar used as a cremation urn (F137.2) with a complete dish on top (F137.3), and a complete small flagon (F137.5) to the side of the urn. The soil inside the dish contained a small lamp (F137.6), which may have been lit inside the cavity. The lamp was upside-down to one side of the dish. It had probably been knocked over when the neck of the amphora fell inside the cavity (Fig 44). The fact that the urn had been given a lid (the dish) and that the amphora had been sealed makes it likely that the covering of the urn was as much symbolic as practical (Barber & Bowsher 2000, 109).

The total amount of cremated human bone (all within the urn) was 837.2g, from a probable female, aged 16-18 years. The factory lamp is likely to date to the very late 1st century AD; however, two of the pots are dated mid 2nd-early 3rd century, and the amphora dates to AD 125/150-175/210. The overall date of the burial is likely to be the second half of the 2nd century AD.

The amphora cremation burial appeared to be in the line of the metalled road (F117). The metalling was recorded to the west and east of the pit for the amphora but it did not survive within 700 mm of it.

The top of the cut for the pit in which the amphora was placed was 140 mm higher than where the top of the amphora would have been, so the top of the amphora cannot have been deliberately left protruding out of the ground in the Roman period.

- F137.1 (708), Fig 81, a complete Dressel 20 amphora (Fabric AJ), with stamp on handle and 2 graffiti on the body, rim form AD 125/150-175/210. The upper part (shoulder, neck and handles) had been removed as one piece to allow the cremation, together with ancillary pots (F137.2-F137.5), to be placed inside the amphora body. It was found, with the pots, inside the amphora body. The single stamp is complete and consists of a rectangular die with three letters, but it is quite abraded and the letters are not legible. A rubbing of the stamp suggests that these letters are S or B followed probably by E and then P or F, but the letters are not clear. No obvious parallels were found for the stamp in either Callender (1965) or Funari (1996). (See section 7.17 and Figs 42-43, 81 for the graffiti.)
- F137.2 (1084, 1094), Fig 81, a jar Čam 278 (Fabric KX), used as cremation urn, almost complete; may be a kiln second as the base is slightly uneven, probably mid 2nd-early 3rd century.
- F137.3 (1083), Fig 81, a complete dish Cam 40A (Fabric GB), used as lid for F137.2, early 2nd to mid-late 3rd century.
- F137.4 (1086), Fig 81, a complete small beaker, Cam 391 (Fabric CZ), early 2nd-late 2nd/early 3rd century.
- F137.5 (1085), Fig 81, a complete ring-necked flagon Cam 156 (Fabric DJ), early 2nd to early 3rd century.
- F137.6 (1106), SF 134, Fig 97, a lamp inside the dish. Complete factory lamp with a large mould-made handle and two shoulder lugs. The wick-hole area shows signs of burning. Orange-buff fabric with mica-dusting characteristic of the London pottery industry thought to have been operating *c* AD 90-130 (Davies *et al* 1994, 136-9). Typologically, this lamp is of Loeschcke Type IXb and it therefore probably dates to the very late 1st century AD. This example is unusual in that the top of the lamp is open. Another lamp with this feature but with a nozzle form which stands typologically between those of Loeschcke Types IX and X was found on the probable lamp-production site at Northgate House, London; it was associated with pottery dated to AD 140-160 (Eckardt 2002a, 86-92, fig 39, 2359). Length 85 mm, width 43 mm, height 21 mm.



Plate 9: amphora cremation burial F137, view north-west.

# Urned cremation burial F141, T94 (Fig 45, Fig 82, Fig 97)

This consisted of a storage jar used as a cremation urn (F141.1), placed centrally in a circular pit. On top of the urn was a lid (F141.4) which had partly fallen into the urn, and a broken factory lamp (F141.2) on top of the lid. The pit may have had a covering which no longer survives but which would have created a cavity for the

factory lamp to be lit, if it had been lit. Two sherds from an earlier picture lamp (F141.3) were found inside the urn. It is difficult to be certain whether the incomplete picture lamp was a deliberate primary deposit from the pyre rather than residual. It may be that this picture lamp (and that in F199) had been decorated with apotropaic images like those from F42 and F53 and its potency had been invoked by deliberate breakage at an earlier stage in the burial rite.

The urn was not placed right at the base of the pit; charcoally pyre debris had been deposited underneath and surrounding the urn. A minimum of eight hobnails or hobnail fragments represent a primary deposit of nailed footwear, but the grave also produced numerous iron shank fragments (F141.8), the smaller of which are probably also from hobnails. The other primary deposits are structural nails (F141.9) and a slag-like fragment. Cremated bone came from the pit fill and inside the urn. There was burnt samian and fragments of a ring-necked flagon (F141.6) in the fill of the feature. Inside the urn were fragments of a butt-beaker and a flagon (F141.5), as well as a possible retouched flint (F141.7). The total amount of cremated human bone was 628.3g, from a probable female, middle-aged or older.

- F141.1 (981), Fig 82, a complete storage jar, Cam 270b (Fabric GX) used as cremation urn, possible firing spall on body, 1st-2nd/3rd century. A lid had been placed over the top (see below).
- F141.2 (982), SF 137a, Fig 97, a broken but almost complete Loeschcke Type IXc factory lamp. In this type, the raised rim around the discus extends in a narrow V-shape across the nozzle and towards the flat wick-hole area. This example has three unpierced shoulder lugs, a central filling hole on the discus and a small air-hole in the nozzle channel. There are signs of burning around the wick hole and on top of the lamp. The lamp has no base rings or maker's stamp. It is of buff-white fabric with good orange slip, possibly Gaulish. In Britain, the type is most common in the late 1st and into the early 2nd century (cf Eckardt 2002a, 190). A parallel from Colchester (Bailey 1988, 168, Q 1617) has the maker's stamp VRSIO. Length 90 mm, width 61 mm, height 25 mm.
- F141.3 (982), SF 137b, 2 joining sherds from inside the urn from the wall and wall/nozzle of a picture lamp; most of the slip has worn off the creamy brown-buff fabric. Either a primary pyre deposit or residual.
- F141.4 (1114), inside urn, a fragment of a lid CAR **10**, Type 163 (lid flat or slightly domed with upward-hooked rim; Fabric DJ), 1st-2nd century.
- F141.5 (1111, 1112, 1113), inside the urn a quantity of other pottery sherds and fragments which include a small quantity of sherds from a butt-beaker (Fabric DZ), dated pre-Flavian; sherds from a small jar or beaker in oxidised ware (Fabric DJ), dated pre-Flavian (Fig 82); and sherds from a flagon (Fabric DJ), 1st-2nd century.
- F141.6 (1003, 1004), in fill of feature, small quantity of pottery sherds and fragments (Fabrics DJ, GX and FJ), and one burnt sherd of a samian cup, Drag 27, dated 1st-early 2nd century.
- F141.7 (1157), ŚF 150, inside the urn 1 irregular flint piece, possibly retouched, dating from the Iron Age or Roman period.
- F141.8 (1003, 1114, 981), SF 227 and SF 135, hobnails or hobnail fragments.
- F141.9 (various finds numbers), at least 9 nails and other shank fragments.

### Urned cremation burial F142, T58 (Fig 46, Fig 82, Fig 103)

This consisted of a complete jar (F142.1) used as a cremation urn which had been placed centrally in a circular pit. The fill contained pyre debris and was very charcoally. There was cremated bone in the fill and pieces of melted glass including two unguent bottles (mid 1st century; F142.5-F142.6). A few other grey ware sherds were present in the pit fill, some burnt or possibly wasters (142.7). Four hobnails (F142.8) from the fill of the urn and the pit represent nailed footwear. An amorphous slag-like drip also came from the pit fill. The urn contained a complete but broken ceramic lid (F142.2) and fragments of another glass unguent bottle (F142.4) dating to the mid 1st century AD, and a glass lump (F142.3). The rim and neck area of the bottle show an altered surface, and are possibly heat affected. It may have been a pyre good but, given that the degree of heat alteration is very slight, it must have been in a peripheral position if placed on the pyre. The altered surface may have been caused by its burial in contact with the hot cremated bone.

The urn and lid are 1st to 2nd or 3rd century. The total amount of cremated human bone was 915.4g, from a 16- to 18-year-old male.

- F142.1 (725), Fig 82, a complete jar, Cam 266 (Fabric GX) used as cremation urn, 1st-early 2nd century.
- F142.2 (1137, 1141), Fig 82, a complete but broken lid *CAR* **10**, Type 239 (lids with plain rounded rim; Fabric GX) (not a pot base), dated 1st-2nd/3rd century.

F142.3 (725), inside the urn - 1 melted blue/green glass lump, weight less than 1g.

- F142.4 (1138, 1139, 1140, 1141, 1161), Fig 103, inside the urn and just under the lid was one tubular glass unguent bottle, blue/green, in seven joining fragments, lacking part of rim and body. Out-bent rim, edge sheared; cylindrical neck with tooled constriction at junction with tubular reservoir; slight concavity in base; slightly heat-affected at neck. Height 90 mm, rim diameter approx 30 mm; maximum body diameter 26 mm.
- F142.5 (724), SF 101, Fig 103, in the pit fill, 1 glass unguent bottle; blue/green; rim, neck and upper body fragment. Melted and flattened. Narrow rim edge now bent out horizontally; short cylindrical neck; sides sloping out possibly from tall conical reservoir. Present height 57 mm, rim diameter approx 20 mm.
- F142.6 (722, 781, 795, 796), several melted glass fragments from the pit fill: one melted blue/green fragment, weight 1g; one melted blue/green lump, weight 1g; three melted blue/green fragments, weight 1g; 11 melted blue/green fragments ranging from fully melted to body fragments showing 'jig-saw' fractures, weight 7g.
- F142.7 (723, 725, 796), Fabric GX grey ware pottery from the pit fill and inside the urn, some from a Cam 266 jar, oxidised/heated, burnt or a waster.
- F142.8 (725, 795, 796), SF 221 and SF 222, 4 hobnails.

Urned double cremation burial F162, T63 (Figs 47-49, Fig 82, Fig 97) This was a long (1.4 m), wide (0.65 m), rectangular cut containing a jar (F162.1) used as a cremation urn, with a lid (F162.2) still in place. The rim of the urn had been deliberately removed in antiquity. A complete flagon (F162.3) had been placed to the south-west of the urn. The cut started 0.9 m below ground-level. The size and depth below ground-level of the cut resembled a grave cut for a child inhumation rather than a cremation. However, no inhumed bone was present. It is tempting to surmise that the cremation burial had been placed in a pit which was originally intended for an inhumation, especially as the feature is surrounded by other inhumations. However, the pottery and other finds suggest a 1st-century date, which is before the practice of inhumation is thought to have commenced in Colchester. The cut was orientated NE-SW and the pots were placed in the southern half. The urn contained a complete small beaker (F162.4), a melon bead (F162.6), and a copper-alloy finger-ring (F162.7), all of which had been placed on top of the cremated bone and had not been burnt in the pyre. A child's broken ivory armlet was mixed with the cremated bone at the base of the urn (F162.8; Fig 49). There was a small amount of cremated bone to the north-east of the urn which was from an older adult. The cremated bone within the urn was from both a child (aged about three years) and an adult, both unsexed. The fill of feature contained one unburnt eel vertebra (F162.11) and one chopped sheep or goat bone (F162.10) which had been burnt at a high temperature. The urn is 1st century, possibly pre-Boudican, but the beaker is 2nd century. The melon bead indicates a date in the second half of the 1st century. Nails (F162.9), some possibly hobnails, were found in the fill of the feature, and one nail was found inside the urn. The total amount of cremated human bone was 274.8q.

- F162.1 (864), Fig 82, an unusual double-cordoned jar used as cremation urn, rim removed in antiquity, dated ?1st-2nd century.
- F162.2 (863), Fig 82, a broken lid, *CAR* **10**, Type 242 (lids with squared-off rim; Fabric GX), used as lid for urn, dated ?1st-2nd/3rd century.
- F162.3 (862), Fig 82, a complete flagon, Cam 156 (Fabric DJ), 2nd century.
- F162.4 (865), Fig 82, a complete small beaker, Cam 391(Fabric CB), early 2nd-late 2nd/early 3rd century.
- F162.5 (855), small quantity of sherds of Fabric DJ, found at the base of the cut, near to the flagon, sherds dated 1st to 2nd century.

F162.6 (877), SF 108, Fig 97, 1 melon bead of turquoise frit. Maximum diameter 20 mm, length 16.5 mm, second half of 1st century.

- F162.7 (878), SF 109, Fig 97, a plain copper-alloy finger-ring of D-shaped section. Internal diameter 14.5 mm, thickness 3 mm, height 3.5 mm.
- F162.8 (1145, 1146, 1147, 1148), SF 141-SF 144, Fig 97, a child's broken ivory armlet of more or less elliptical section. Internal diameter 50 mm, section diameter 6 mm by 7.5 mm.
- F162.9 (884, 893, 1144), SF 251, SF 224, 13 nails, some structural, some possibly hobnails from fill of pit and fill of urn, maximum length 56 mm.

F162.10 (895), 1 chopped sheep or goat bone, burnt at high temperature. F162.11 (no finds no), 1 unburnt eel vertebra.

# Urned cremation burial F165, T69 (Fig 50, Fig 83)

This was a roughly circular cut with a possible further cut to the north. The main cut contained a complete jar used as a cremation urn (F165.1), lying slightly on one side. Slightly higher up and touching the urn was a complete dish (F165.2) which may have originally have been placed on top of the urn, to act as a lid. At the top of the cut was a small beaker or jar (F165.3), the rim of which had been slightly damaged. It appeared that the pit had been partially backfilled before the small jar was deposited. The urn contained iron nails and hobnails (F165.5) above the cremated bone plus pottery fragments, with the cremated bone at the base. The total amount of cremated human bone was 700.1g and this all came from inside the urn. The bone is from an unsexed adult, middle-aged or older.

F165.1 (871), Fig 83, a complete jar, Cam 268 (Fabric GX) mis-fired oxidised fabric, used as cremation urn, early/mid 2nd to late 3rd/early 4th century. F165.2 (903), Fig 83, a complete dish Cam 37A (Fabric GB), early 2nd-2nd/early 3rd century.

F165.3 (859), Fig 83, a beaker or jar with an everted rim (Fabric ?GP). The pot is two-thirds

complete and has firing spalls on the body, kiln second, dated ?late 1st to early 2nd century.

F165.4 (946), from within pit fill - small quantity of pottery sherds of Fabric GX and Fabric DJ (the sherds of Fabric DJ are probably from a flagon), Roman, ?1st-2nd/3rd century.

F165.5 (various finds numbers), iron fragments inside the urn plus 12 nails from inside the urn and from the pit fill (see Table 10 below).

SF	Finds	Description	Lengths
	no		(in mm)
-	871	2 shank fragments	26, 13
152	906	1, complete, clenched	54
-	906	1 shank fragment, clenched	36
-	907	1, complete, clenched	78
-	909	1, complete	66
-	910	1, clenched, head damaged	44
-	937	1, tip only missing	44
-	1125	1, complete, clenched	77
-	1128	1, tip only missing	56
-	1130	1	46
-	1133	1, complete, clenched	67

### Table 10: nails from F165, incomplete unless stated otherwise.

### Cremation burial F172, T29/T30

This was a spread of cremated bone and a number of grey ware sherds from a jar/bowl possibly representing a cremation urn, occurring 350 mm below groundlevel. This was observed while contractors were stripping the oversite after concrete had been poured into the foundation trenches. This feature was not excavated because it was not going to be further disturbed.

### Cremation burial F176, T72 (Fig 51)

A spread of fragments from at least three Roman pots dating mainly from the 1st/2nd to 3rd century. No cremated bone was present and no cut was visible. The jar/bowl (F176.1) is likely to be from an urned cremation burial. Peg-tile and postmedieval pottery were found with the Roman pottery and tile.

F176.1 (924), much of jar/bowl with cordon, although the rim is missing (Fabric GX), Cam 266/Cam 104, 1st to early 2nd century.

F176.2 (924, 925, 928), various sherds: one rim fragment from a platter Cam 14/28 (Fabric UR LTC), pre-Flavian; some sherds/fragments of Fabric DJ flagon; one sherd of Fabric GX; and one sherd of Fabric EA, dated mainly 1st-3rd century but 1 sherd of mid 3rd-4th century.

# Urned cremation burial F178, T76 (Fig 52, Fig 83)

This consisted of a spread of broken pottery representing a bowl (F178.1) used as a cremation urn. Most of the base was present. Sherds from a flagon (F178.2) were also present, both dating from the 1st-early 2nd century. These pots were at the base of topsoil L1 along with a few nails and hobnails (F178.3). Most of the cremated bone was at the base of the urn but some fragments were spread about above it. Further excavation of the feature revealed a small sub-rectangular cut. The feature had obviously been truncated by later activity. The total amount of cremated human bone was 751g, from a probable male, aged approximately 16 years old. This cremation showed the most structured pattern of bone collection from the site. A comparison of the bone in the spits within the urn showed an increase in the amount of skull towards the bottom of and outside the vessel; although the patterning is not particularly clear, there is a slight suggestion that the burnt bone was collected from the head end of the pyre first, working down to the feet (see section 7.6).

F178.1 (920), Fig 83, most of a bowl, Cam 218 (Fabric GX) with some of rim missing, used as cremation urn, 1st-early 2nd century.

F178.2 (921), flagon body sherds (Fabric DJ), 1st-early 2nd century.

F178.3 (920, 941, 942, 944), 3 iron hobnails and shanks from three other probable hobnails and 7 structural nails from within the urn and within the pit fill, maximum length 51 mm.

# Urned cremation burial F179, T79 (Fig 53, Fig 83)

This consisted of the base of a grey ware jar (F179.1) used as a cremation urn, and an almost complete grey ware flask (F179.2) with most of its rim missing, found within a possible oval cut. The pottery is mid 2nd-4th century. There was one hobnail from within the urn (F179.3). All of the cremated bone came from inside the urn and amounted to 237.9g. The individual is unsexed, and was middle-aged or older.

F179.1 (936), Fig 83, most of grey ware jar, Cam 268 (Fabric GX) used as cremation urn, early/mid 2nd to late 3rd/early 4th century.

F179.2 (935), Fig 83, a grey ware flask, Cam 280/281 (Fabric GX), most of rim missing but almost complete, uneven base, possibly a kiln second, mid to late 2nd-4th century.
 F179.3 (936), 1 hobnail from within urn.

# Urned cremation burial F180, T77/T78 (Fig 54, Fig 83)

This consisted of a grey ware bowl (F180.1), broken in antiquity but almost complete, which had been used as a cremation urn, and dated 1st-early 2nd century. Lying on top of the bowl was the base of another grey ware pot which had been heavily burnt, probably on the pyre (F180.2). There were sherds of pottery from other vessels to the north of the urn (F180.3 and F180.4). At least eight nails and 33 hobnails (F180.5) were present outside and inside the urn. Cremated bone was recorded above the urn. A cut only became visible further down within L40 but cremated bone and some pottery was present above it. The total amount of cremated human bone was 585.4g, most coming from inside the urn, from an adult male.

F180.1 (930), most of a grey ware bowl Cam 218 (Fabric GX) used as cremation urn, pot very broken up but almost complete, 1st-early 2nd century.

F180.2 (938), Fig 83, base of grey ware pot (Fabric GX), very burnt, 1st-early 2nd century.
F180.3 (931, 932), Fig 83, base and rim of Cam 120B (Fabric GX), 1st century.
F180.4 (932), small quantity of sherds from a flagon (Fabric DJ), 1st-2nd century, and one sherd from a beaker Cam 108 (Fabric GX), 1st-early 2nd century.

F180.5 (913, 930, 933, 934), 33 hobnails and at least 8 nails from inside and outside the urn.

### Urned cremation burial F181, T56b (Fig 55, Fig 84)

This consisted of a grey ware jar (F181.1) used as a cremation urn, which had been placed in a circular cut. The urn was almost complete but the rim had been broken off in antiquity. Some sherds of the urn were found inside it, as well as a flagon handle (F181.2). One melted glass lump probably from an unguent bottle (F181.3) was found at the bottom of the urn. The total amount of cremated human bone was

183.5g, which all came from within the urn and was from an unsexed older adult. Two fishbone fragments also came from inside the urn.

F181.1 (1105), Fig 84, all of the body and shoulder of a large grey ware jar (Fabric GX) used as cremation urn, rim missing, dated 1st-2nd century.

F181.2 (1105), flagon handle (Fabric DJ), 1st-2nd century.

F181.3 (1135), SF 194, 1 melted blue/green glass lump, 10g from spit 3 of the urn; its form is unidentifiable but the weight would be equivalent to a small unguent bottle.

### Cremation burial or pyre-debris deposit F182, T79 (Fig 56)

This consisted of cremated bone which was scattered throughout a square pit. Seventeen structural nails and 34 hobnails (F182.3-F182.4) in no particular pattern were also present in the fill. A quantity of pot sherds were mixed in with the bone, mainly from one grey ware pot (F182.2) and a flagon (F182.1) which appeared burnt (1st-2nd century). This feature could be a pyre-debris deposit; however, without any charcoal it is more likely to be a cremation burial, possibly unurned. The total amount of cremated human bone was 747.1g, from an old male.

F182.1 (970 and 972), quantity of sherds from a flagon, Cam 154/155 (Fabric DJ) possibly slightly burnt, 1st to mid-late 2nd century.

- F182.2 (970 and 972), small quantity of grey ware sherds (Fabric GX), ?1st-2nd century. F182.3 (951, 969, 972), SFs 155, 201, 225a, from the pit fill 34 hobnails or hobnail
  - fragments from footwear, considered to be primary deposits which were burnt on the pyre.
- F182.4 (various finds nos), 17 structural nails and shanks of further nails, considered to be primary deposits which were burnt on the pyre (see Table 11 below); many of these are complete and range in size from 45 to 55 mm.

SF	Finds	Description	Lengths
	no		(in mm)
225b	972	1; 5 shank fragments	10; 13, 14, 17, 24, 31
-	948	1, complete; tip of second nail corroded to head	46; 15
-	949	1; 1 shank fragment	18; 15
-	950	1, complete	45
-	952	1, complete	55
-	953	1, complete	41 (bent)
-	954	1, complete	50
-	955	1 shank fragment	28
-	956	1, complete, clenched	47
-	957	1	48
-	958	1	40
-	961	1, complete	48
-	962	1	33
-	963	1, complete	48 (slightly bent)
153	966	1; 1 shank fragment	20; 26
-	967	1	36
-	968	1 shank fragment	32

### Table 11: nails from F182, incomplete unless stated otherwise.

# Cremation burial F184, T81 (Fig 57)

This burial was represented by the base of a 1st- to early 2nd-century grey ware pot (F184.1) lying face down within post-medieval topsoil layer L38. No cremated bone and no cut were observed. This is likely to be the remains of an urned cremation burial which has been truncated and displaced from its original location.

F184.1 (964), grey ware sherds/fragments: from a jar (Fabric GX) plus one other fragment (Fabric GX), both dated ?1st-early 2nd century.

### Urned cremation burial F186, T88 (Fig 58, Fig 84)

This consists of a grey ware jar (F186.1) which had been used as a cremation urn, and placed in a circular pit, dated to the 1st to early 2nd century. The top of the urn was broken during hand-excavation but otherwise it was almost complete. There

were a few fragments of other grey ware pottery (F186.2) in the fill which could have been burnt. Cremated bone was present in the fill, mainly in the lower fill and underneath the urn. Four nails (F186.3) were also found in the pit. The total amount of cremated human bone was 195.4g, from an unsexed child, approximately 12 years of age. A comparison was made of the bone within the spits by the bone specialist which showed that there was a fairly even spread of identifiable fragments in no obvious anatomical order (see section 7.6).

F186.1 (998), Fig 84, a broken but almost complete jar, Cam 266 (Fabric GX) used as cremation urn, 1st-early 2nd century.

F186.2 (997, 998, small quantity of grey ware sherds showing signs of burning, Roman.

F186.3 (998, 999), 4 nails from the pit fill and small fragments of iron from the fill of the urn.

*Urned double cremation burial F192, T102* (Fig 59, Fig 84) This is a complete grey ware jar (F192.1) which had been used as a cremation urn and placed centrally in a pit with a small complete eggshell ware beaker just to the north of it (F192.2). Both vessels are of the 1st-early 2nd century. The beaker was not placed on the bottom of the pit but further up. The urn contained two hobnails and one complete iron nail (F192.3, possibly a large hobnail); both may be residual. The total amount of cremated human bone was 750.2g, all from inside the urn. Two adult individuals are represented, one definitely female. It is possible that F192 and F195 are the same two individuals divided between two urns, but they were placed quite far away from each other.

F192.1 (1034), Fig 84, a complete jar, Cam 266 (Fabric GX) used as cremation urn, misshapen kiln second, 1st-early 2nd century.

F192.2 (1033), Fig 84, a small complete white eggshell ware beaker with wide out-turned lip mouth, Marsh Type 11 (Marsh 1978, 144-6; Fabric DZ), dated early 2nd century. This pot type is very unusual in Colchester, although it has been classified by Marsh as his Type 11 (Marsh 1978, 144), and the illustrated pot figure 6.8, 11.1 (although rouletted) is similar in form to the pot from the Handford House site. The pots listed by Marsh occur in marbled ware, eggshell ware and mica-dusted ware. There are no examples in the Camulodunum type series or in *CAR* 10, and it appears that this pot type has not previously been recognised in Colchester. Five other examples of these pots have come from pits dated to the early 2nd century, in Southwark, London (Marsh 1978, 146).

F192.3 (1034), 2 hobnails and 1 iron nail from inside the urn.

# Urned double cremation burial F195, T107 (Fig 60, Fig 85)

This consisted of a complete grey ware jar (F195.1) used as a cremation urn, dated mid 2nd to late 3rd/early 4th century, with the lower part of a jar or bowl used as a lid (F195.2). These were placed centrally in a circular pit. No bone was observed in the pit fill. The total amount of cremated human bone within the urn was 772.5g. The bone is from two adult individuals, the older one definitely male. It is possible that F192 and F195 are the same two individuals divided between two urns, although they were placed quite far away from each other.

- F195.1 (1050), Fig 85, a complete grey ware jar Cam 268 (Fabric GX) used as cremation urn, early/mid 2nd to late 3rd/early 4th century.
- F195.2 (1051), Fig 85, lower part of a grey ware jar or bowl (Fabric GX) used as a lid, early 2nd-late 3rd/early 4th century.

# Cremation burial or pyre-debris deposit F197, T109 (Fig 61, Fig 101)

This was an irregular-shaped, shallow pit containing abundant cremated bone down nearly to the base of the feature. Charcoal flecks were recorded in the top fill including one area of dense charcoal. There was a small quantity of small Roman pot fragments (F197.1) throughout, from at least two vessels, but there were no diagnostic pieces. Several probable structural nails and one possible hobnail (F197.2) came from within the fill. These were in no particular concentrations, and therefore can probably be interpreted as pyre debris. There was also an unburnt Roman coin, an *as* of the 1st century (F197.3), and some iron slag (F197.4). F197 may be a pyre-debris deposit associated with another cremation burial rather than a

cremation burial itself. Two post-medieval or modern dress-pins are intrusive. These and two sherds of post-Roman pottery show that the feature had been partially truncated, probably by the digging of the modern concrete foundation above. The total amount of cremated human bone was 153.2g, from an adult female.

F197.1 (1060, 1067, 1076), a small quantity of Roman pottery sherds, Fabric GX and Fabric DJ, Roman.

F197.2 (1058, 1072, 1073, 1076), 10 probably structural nails, most incomplete, 1 may be a hobnail. Maximum length 48 mm.

F197.3 (1057), SF 121, Fig 101, a copper-alloy coin, an *as* of Vespasian, dated AD 70-71; reverse is *Securitas August*.

F197.4 (1076), 1 fragment of iron slag, 4g.

(1067, 1076), SF 202, SF 245, 2 post-medieval/modern small copper-alloy dress- or sewing pins which are intrusive.

### Urned cremation burial F198, T108 (Fig 62, Fig 85, Fig 101)

A complete jar (F198.1), used as a cremation urn, dated probably mid-late 2nd to early 3rd century AD, had been placed centrally in a small circular pit. The urn contained an unburnt coin, a *sestertius* (F198.2) in its upper fill, which suggests a date in the mid 2nd century for the burial, but hoard evidence demonstrates that bronze 2nd-century coins remained in circulation up to the early 4th century, and the grave may therefore be considerably later than implied by the minting date of the coin. There was also one sherd of a flagon (F198.3) inside the urn. No cremated bone was observed in the fill. The total amount of cremated human bone in the urn was 1,129g and came probably from a middle-aged or old male. A comparison was made of the bone within the spits which showed that there was a fairly even spread of identifiable fragments in no obvious anatomical order (see section 7.6).

F198.1 (1078), Fig 85, a complete jar, Cam 278 (Fabric GB, in black-burnished ware category 2 or BB2) used as cremation urn, probably mid-late 2nd to early 3rd century.

F198.2 (1098), SF 131, Fig 101, copper-alloy coin, a *sestertius* of Antoninus Pius, dated AD 143-4; reverse is Salus.

F198.3 (1099), 1 sherd of a white ware flagon, ?1st-2nd century.

Urned cremation burial F199, T108 (Fig 63, Fig 85, Figs 98-99) This was an oval pit which had two distinct fills. The northern half contained a complete 1st- to early 2nd-century jar (F199.1) used as a cremation urn, and a complete factory lamp (F199.2), dating to the last guarter of the 1st century, which had fallen to the side of the urn. The lamp would probably have been placed on top of the urn originally, perhaps on a wooden lid which no longer survives. This side of the pit also contained sherds from a second lamp, a picture lamp (F199.3, AD 49-60/1) which does not seem to have been burnt. The picture lamp sherds may be a primary deposit or may be residual. This northern half did not contain any pyre debris or cremated bone. The southern half of the pit was filled by charcoally pyre debris with cremated bone and smashed burnt fragments of a flagon (F199.4). This southern half also contained a scorched coin of Vespasian (F199.5; AD 69-79), at least one hobnail (F199.8), a bone die (F199.7), and fragments of copper-alloy fittings from a jewellery box (F199.6). The coin is scorched, but none of the box fittings appear to have been burnt. It may be that pyre debris was put inside a jewellery box before being deposited in the southern half of the pit, next to the urn, as this would account for the unburnt box fittings and the very distinct division between the fills. The total amount of cremated human bone was 704.5g, from an adult female.

F199.1 (1066), Fig 85, a complete jar, Cam 266 (Fabric GX), used as cremation urn, 1st-early 2nd century.

F199.2 (1065), SF 124, Fig 98, a large factory lamp of Loeschcke Type IXb. The tip of the nozzle is damaged and the area around the wick hole shows signs of burning. The lamp has two unpierced shoulder lugs, a filling-hole set slightly off-centre and two air-holes, one in the discus and one in the nozzle channel. Traces of knife-paring are visible on the underside of the nozzle. Orange-reddish fabric with large ?chalk inclusions. The maker's stamp is POETASPI. Phoetaspus was a North Italian producer of Loeschcke Type IX factory lamps (Bailey 1980, 100), whose output can be dated to the last quarter of the 1st century. Length 112 mm, width 79 mm, height 33 mm.

- F199.3 (1063), SF 199, Fig 99, 9 fragments originating from the wall, shoulder and discus edge of a small picture lamp, with no element of the design remaining. Probably dated to AD 49-60/1. The lamp was poorly moulded and/or worn and has a buff-white fabric with a very worn brownish slip. It is almost certainly a local Colchester product, in which case a pre-Boudican date can be suggested. The sherds may be a primary deposit or, considering the difference in date with F199.2, residual.
- F199.4 (1062, 1068), quantity of sherds and fragments from a large ring-necked flagon, Cam 155 (Fabric DJ), 1st-2nd century.
- F199.5 (1080), SF 127, a coin, an *as* of Vespasian, dated AD 69-79; reverse is Victory. The coin was scorched.
- F199.6, copper-alloy fittings from a jewellery box:
  - (1071), SF 125, Fig 99, copper-alloy ring-handle of faceted section, in two pieces. Internal diameter 16.5 mm, thickness 3 mm, height 4 mm.
    - (1069), SF 122, Fig 99, copper-alloy stud with small flat head and square-section shank. Diameter 9 mm, length 15 mm.
    - (1062), SF 192, copper-alloy stud in several tiny fragments. The centre above the shank was domed, but the other pieces are flat. Surviving length of shank 6 mm.
    - (1077), SF 126, small copper-alloy sheet fragment, possibly part of a stud head. Surviving length approximately 6 mm.
    - (1062), SF 248, small fragments of copper-alloy sheet, either part of a stud head or of a sheet-metal box fitting. Largest fragment 6 by 8 mm.
    - (1070), SF 123, thin fragment of copper-alloy sheet, in two pieces. Maximum dimensions 21 by 10 mm, 1 mm thick. Possibly part of a lock-plate or other box fitting.
- F199.7 (1064), SF 284, Fig 99, fragment of a bone die made from a long bone with the marrow cavity left as an unplugged hole. The only surviving edge is 16 mm long. The sides for 1 and 2 are identifiable, the latter from two widely-spaced double ring-and-dot motifs set in diagonally opposite corners, the former from the absence of a motif in the two surviving corners. Only one corner survives on the hollow faces, and on each face it contains a ring-and-dot. Assuming this die conformed to the Roman norm of opposite sides totalling 7, the hole must have passed through the sides for numbers 3 and 4, providing complete faces for the numbers 5 and 6, which required most motifs. Similar hollow dies with the hole passing through the 3 and 4 sides have been found on the Lion Walk and the Gilberd School sites in Colchester (CAR 2, fig 102, 2501; CAR 6, fig 6.16, 193). The latter dates to c AD 49-60/1, while the former came from a later 2nd-century context. A pair of hollow dice, each again with the hollow apparently passing through the sides for the numbers 3 and 4, were found in a grave dated to AD 30-55 at King Harry Lane, St Albans (Stead & Rigby 1989, 108, 178, fig 92, 20).
- F199.8 (1062, 1075, 1081, 1082), iron nails probably from the pyre, mainly incomplete (some may be hobnails), mainly from the southern half. Maximum length 36 mm.

### Urned cremation burial F200, T114 (Fig 64, Fig 86, Fig 99)

This was an almost complete jar (F200.1) used as a cremation urn, with some rim fragments broken loose, which had been placed in a circular pit. The jar is dated probably early-mid 2nd to late 2nd/early 3rd century. The pit fill contained charcoal flecks and staining but no cremated bone. The urn contained a small sub-square mirror (F200.2) which is fragmentary but probably complete; it is unburnt and is therefore a secondary deposit. Remains of a wooden backing survived under the mirror, above the cremated bone. A single iron nail (F200.3), apparently unburnt and with mineral-replaced wood surviving on the shank, appears also to be a secondary deposit, but the reason for its inclusion is uncertain, unless it was a token part of a larger object. The total amount of cremated human bone was 1,322.7g, including many large identifiable pieces. The bone appears to be from a male, based on the size and robustness; however, the presence of the mirror suggests a female. A study was made of the bone in each spit of the urn to compare the relative proportions of the four main skeletal areas. There was a fairly even spread of identifiable fragments in no obvious anatomical order (see section 7.6).

F200.1 (1167, 1168), Fig 86, an almost complete jar, damaged (rim broken away) after burial, Cam 278 (Fabric KX), used as cremation urn, probably early-mid 2nd to late 2nd/early 3rd century. F200.2 (1173), SF 200, Fig 99, a small sub-square/rectangular mirror, now in fragments, some very small, but presumably deposited complete. Further fragments were recovered from environmental sampling (finds nos 671 and 1168). The surfaces have patches of the distinctive corrosion of high-tin bronze (speculum). One surface is very highly polished, the other dull. The edge itself is slightly irregular, and varies from bevelled to vertical. Largest piece measures 46 by 43 mm.

This Continental-made mirror is of Lloyd-Morgan's group A, which was very popular in the 1st century AD and had an empire-wide distribution; 45 were listed from Britain in the mid 1970s. Complete examples range in size from about 65 by 70 mm to 110 by 130 mm (Lloyd-Morgan 1977, 243-52; Lloyd-Morgan 1981, 3-20).

The mirror would have been set in a lidded wooden frame or stored in a wooden box. An example from Towcester, Northamptonshire was found with the back of the frame intact (Lloyd-Morgan 1981, 3). A fragment from Hayling Island came from a Claudian context and there is an example from Southwark from a mid 1st-century female inhumation (G Soffe pers comm; Lloyd-Morgan 1980, note 7).

F200.3 (1168, 1174), inside the urn – 1 complete iron nail with slightly domed head; the shank is covered with mineral-replaced wood (unburnt), with the grain lying along and not across it. Length 40 mm. There were also flakes of iron inside the urn.

# Urned cremation burial F201, T126 (Fig 65, Fig 86)

This consisted of an almost complete jar (F201.1) used as a cremation urn and which had been placed in an oval pit, dated probably early-mid 2nd to late 2nd/early 3rd century. To the south was an almost-complete 2nd-century flagon (F201.2). The urn contained one flint trimming flake (F201.3). Cremated bone was present in both the urn and the flagon but not in the pit fill, nor was there any charcoal. The total amount of cremated human bone was 572.7g, from an adult, probably female. A comparison was made of the bone within the spits which showed that there was a fairly even spread of identifiable fragments in no obvious anatomical order (see section 7.6).

- F201.1 (1177), Fig 86, an almost complete jar Cam 278 (Fabric GB), used as cremation urn, probably early-mid 2nd to late 2nd/early 3rd century. Disfiguring mark on shoulder, possibly a kiln second.
- F201.2 (1178), Fig 86, an almost complete cup-mouth flagon, Cam 156 (Fabric DJ), 2nd century.
- F201.3 (1177), 1 flint chipping, a trimming flake, tertiary (without any cortex), undated.

### Unurned cremation burial or pyre-debris deposit F203, T126 (Fig 66) This consisted of a circular cut containing frequent cremated bone fragments throughout and some charcoal staining, plus sherds and fragments from a ring

throughout and some charcoal staining, plus sherds and fragments from a ringnecked flagon (F203.1; 1st-early 2nd century) and a Cam 266 jar (F203.2; 1st-early 2nd century) plus one other grey ware sherd. The sherds showed no signs of burning. There were over one hundred hobnails within the fill, indicating that the burial was of an adult wearing hobnailed shoes. Approximately five structural nails, which had been placed on the pyre, were also present in the fill of the pit (F203.3). The total amount of cremated human bone was 810.1g, from an unsexed adult. This feature could be pyre debris or an unurned cremation burial. The amount of cremated bone indicates a burial; however, the presence of the bone throughout the fill rather than a concentration at the bottom of the pit is more usual of pyre debris.

F203.1 (1180, 1181), sherds from a ring-necked flagon, Cam 154/155, 1st-early 2nd century. F203.2 (1180, 1181), 2 sherds from a grey ware jar, Cam 266 (Fabric GX), 1st-early 2nd century.

F203.3 (1180, 1181), 111 hobnails from nailed footwear plus approx 5 structural nails, maximum length 81 mm, are the only primary deposits. The number of hobnails recovered points to this being an adult burial with shoes with a Rhodes' Type C nailing pattern, as in the inhumation F171 (Rhodes 1980, 107).

### Cremation burial F204, T124 (Fig 67, Figs 86-87)

A cremation burial, probably originally urned, was found within a large circular cut. The fill contained charcoal staining, charcoal fragments and a small amount of cremated bone (20.9g). The main component of this burial was a large

Brockley Hill Gauloise 4 amphora (F204.2), in pieces but approximately threeguarters complete. The amphora is dated 1st to early 2nd century. There was also the base and side of a beaker decorated with circles and panels of barbotine dots (F204.1) dated AD 50-90, five sherds of oxidised ware (Fabric DJ) and two sherds of grey ware (Fabric GX; F204.3). A single complete structural nail and two nail fragments (F204.4) are presumably Roman and primary deposits. Intrusive modern pottery and a post-medieval pin in the upper fill can be explained by disturbance caused by the excavation of a modern soakaway or the foundations of Handford House. The cremated bone came from the upper and lower fill of the feature and is from an unsexed adult. The original arrangement of the burial is not known. The absence of a cremation urn (the beaker is unlikely to have held the cremated bone) and the small quantity of cremated bone suggests that the urn has been robbed. There was a possible robbing cut showing in section. Presumably the amphora was put in the ground complete and held the cremation urn and beaker. Another Gauloise 4 amphora was found in St John's Street, Colchester in 1986; it had been broken at the shoulder and inverted in the ground, covering a cremation urn (Symonds & Wade 1989, 85). The shoulder of the amphora in F204 was not complete, but what remains could have been deliberately broken.

- F204.1 (1184), Fig 86, base and side of a beaker decorated with circles and panels of barbotine dots, Cam 100 (Fabric DZ) dated AD 50-90. The form is that of the ring and dot beaker (Greene 1979) and can be dated to the Neronian-Flavian period at Colchester (*CAR* **10**, 471-2).
- F204.2 (1182, 1183), Fig 87, an almost complete amphora, although with one handle missing, Brockley Hill/Verulamium region fabric copy of Gauloise 4 type (*CAR* **10**, Type 72-74, Fabric AU), dated overall 1st-early 2nd century, but possibly pre-Flavian (*CAR* **10**, 162).
- F204.3 (1183), 5 sherds of coarse oxidised ware (Fabric DJ) and two sherds of grey ware (Fabric GX), 1st-early 2nd century.
- F204.4 (1182, 1183), 1 single complete structural nail and 2 nail fragments are presumably Roman and primary deposits, maximum length 34 mm.

# Urned cremation burial F209, S12 (T125) (Fig 68, Fig 99)

The base of a grey ware jar (F209.1), used as a cremation urn, was found 1.4 m below ground-level in a soakaway but with no definable cut. It was dated probably 1st-2nd/3rd century and was part of a cremation burial which had been cut away and redeposited, perhaps during the construction of Handford House. The urn contained cremated bone. All the finds came from within the urn: primary deposits consisted of two hobnails, one structural nail and two nail shank fragments (F209.5). A melon bead (F209.4) and a shale armlet fragment (F209.3) are unburnt secondary deposits, the latter incomplete because of the disturbance to the grave. The diameter of the armlet shows that this is the burial of a female child or infant. The melon bead probably dates to the mid 1st to early 2nd century. There was also a small quantity of pottery sherds (F209.2) inside the urn. The total amount of cremated human bone (all from with the base of the urn) is 2.1g. It is the bone of an unsexed infant, which accords with the size of the armlet.

- F209.1 (1194, 1197), base of a jar (Fabric GX) used as cremation urn, dated probably 1st-2nd/3rd century (not illustrated).
- F209.2 (1197), small quantity of pottery sherds from a bowl or beaker found inside the urn (Fabric GX), Roman.
- F209.3 (1196), SF 274, Fig 99, fragment of a small shale armlet of faceted subcircular section. Internal diameter 36 mm, thickness 4 mm, height 5 mm.
- F209.4 (1195), SF 273, Fig 99, 1 turquoise frit melon bead. A fragment of an iron nail shank is fixed by corrosion inside the thread hole. Diameter 20 mm, length 15 mm.
- F209.5 (1198, 1199, 1200, 1202), SF 276, SF 277, SF 278, 2 iron hobnails, 2 nail shank fragments and 1 complete structural nail, maximum length 40 mm.

### Possible unurned cremation in L1, T20 (finds nos 262 and 264) 193.3g of cremated human bone was found in topsoil which probably represents an unurned cremation burial moved from its original location. No cut was discernible. The bone was of an adult male.

# 6.1.2 Pyre-debris deposits

It was difficult to differentiate between unurned cremations and pyre-debris deposits. F123, F182, F197 and F203 have been listed under cremation burials but may equally be pyre-debris deposits. F130 does not contain any cremated bone and so cannot be a cremation burial, but it may be a pyre-debris deposit. There was cremated bone from other layers and features which is likely to have been redeposited from other cremations.

### *Pyre debris F130, T54* (Fig 37)

A small square pit (F130), cut by F123, contained occasional burnt stones, charcoal and rare fragments of pot (657, dated as probably 1st-2nd century), ceramic building material and septaria. No cremated bone was observed.

# 6.1.3 Pit containing animal bone

F205 (S11) and F193 (S8) on the northern side of the site are thought to represent a single rubbish-pit at least 3 m wide. The bone from F205 contained a butchered juvenile cattle femur and other butchered mammal remains. F193 included the butchered bones of adult sheep and pig, as well as other heavily-butchered large mammal fragments. The feature is located close to both cremation and inhumation burials and may be associated with graveside feasting. Certainly the remains from these fills include good-quality meat-bearing bones and much butchering is evident, suggestive of feasting. The juvenile cattle bone in F205 could suggest that good-quality meat (from younger animals) was consumed. The feature contained a small quantity of Roman pottery including an early 2nd-century sherd.

# 6.1.4 Metalled areas/road (Figs 69-71)

Soakaway 3 (S3), in the southern part of the site, revealed a metalled surface which appeared to be cambered, ie it sloped down to the south (F43). The surface consisted of compacted small and medium rounded stones. A portion was taken out by mechanical excavator to expose the feature in section. This showed the metalled surface to be 200-250 mm thick, made up of three fills and laid on top of natural sand and gravel. Three sherds of 1st- to 3rd-century pottery were found within the stone surface, including a piece of late 2nd- to early 3rd-century samian. There were also a few pieces of Roman *tegula* just on the surface. There was nothing to indicate that the surface was not Roman.

This metalling was exposed in various other trenches to the north (F43 in T101 and T102), and west (F117 in T45 and T53, F183 in T91, and F194 in T101, T103 and T104) and seemed to follow an east to west alignment. However, it became less compacted to the west and therefore it is not certain if this is a continuous road or discrete areas of metalling. For example, in T46/T45 the amphora burial F137 was on the line of the metalling (F117) but the metalling did not survive to either side of it. Alternatively what was seen in some trenches could have been a naturally stony layer. In the westernmost trenches (T45/T54), the surface became compacted again and appeared to have a camber sloping to the north (F121). If all the areas of stone spreads are part of the same feature, it would be at least 6 m wide and 35 m long. It may be that the surface had been truncated at some point in the past, which might account for the looseness of the stone in some places.

F69 in T30 may possibly be a metalled road coming off F43 at right-angles, to the north, or alternatively may just be a gravel spread. F92 in T42 may be a northerly continuation of F69. F69 appears to have two flanking ditches; F65 to its east (T30) and F70/F73/F90 to its west (T30, T28/T41, T40). However, F65 did not continue north as later machining revealed its butt end.

F43 and its continuations west may represent a hollow way rather than a cambered road. This is suggested by the tops of most of the cremation burials being higher up (up to 0.38 m) than the bottom of the 'camber'. If the metalling were a cambered road, the bottom of the camber would be at Roman ground-level, in which case the cremations should be lower down. If it is a hollow way which has been metalled, the top of the 'camber' would actually be at Roman ground-level (see Graph 1).

Previous investigations in the vicinity recorded a Roman road 3 m to the north of the find spot of the Facilis tombstone, running through what is now 18 Beverley Road. However, this is too far north of the Handford House site to be the same road.

# 6.1.5 Ditches (Fig 3, Fig 72)

Several large ditches were exposed in the southern part of the site, which may be associated with gravel-extraction. One contained cremated human bone and this and others were likely to have been cut through cremation burials. One ditch (F116) cut through the metalled surface (see section 6.1.4). Another contained a 4th-century coin. If the ditches are contemporary then they are likely to be late Roman in date, and dug after the cemetery went out of use. Two smaller ditches of unknown function were recorded in the north of the site:

F89 – east-west Roman ditch, contained Roman pottery and Trajanic 1st-century coin (348; T48).

- F94/F95 probable gravel-working ditch F94 (Fig 72) with a slot at the base (F95); probably continuation of F89, contained Roman pottery (T50).
- F98 large pit or ditch, next to F94 and F89; contained Roman pottery, a 1stcentury coin and a 4th-century coin (Fig 101) and fragments of cremated bone (T49).
- F99 curved gully with Roman pottery at the base (T37/T38).
- F106 large pit or ditch with two fills; may be modern as has modern pot in the upper fills, and may be a continuation of F89 as it has a similar shape and fill. Contains Roman glass (T46/T47).
- F110 large pit, possibly a gravel pit, with three fills, containing butchered animal bone, 1 piece of peg-tile, some Roman pottery and a 4th-century coin (Fig 101); this could be a continuation of F116 and F138 and the peg-tile could be intrusive (T50).
- F116 large pit which cut metalled Roman road F117, contained one sherd of amphora (T53).
- F122 ditch or gravel pit with two fills; could be same as F106, may be modern; contained Roman pottery (T46).
- F138 ditch, may be a continuation of F110 and F116 (T45).
- F160 ditch cutting inhumation F171; no finds (T62/T66).
- F164 ditch cutting F163, not dug (T62).

# 6.1.6 Small ditches and pits

Several small ditches and pits of Roman date were recorded across the site. None of the ditches were obviously cemetery boundaries, but some could have been:

- F2 a narrow north-south ditch containing a Roman early 3rd-century coin (finds no 16), and a Late Bronze Age or Roman flint flake, plus Roman tile. It cannot be a cemetery plot boundary as it runs straight towards a Roman inhumation (F1) and is probably too late in date to be the cremation cemetery boundary (T4).
- F5 a narrow ditch, aligned roughly north to south, parallel to F2, containing a Roman mid 3rd-century coin (19) and Roman early 2nd-century or later pottery (T4).
- F6 a very shallow ditch with two sherds of Roman 2nd-century pottery and one piece of slate; may be modern (T4).
- F100 small pit containing Roman pottery, tile and charcoal fragments (T56a).
- F104 pit containing most of a flagon but no cremated bone. This is possibly a cremation burial which had been partially destroyed, perhaps by modern gardening. Also contained a large convex counter made from a sherd of a grey ware latticed jar (Fig 73, SF 198 (417); T37).
- F125 a pit cutting inhumation F119, containing Roman glass (T21).
- F156 a pit containing Roman pottery, one hobnail, Roman tile and an iron object (T56b).
- F163 a shallow pit cutting ditch F160, and containing Roman pottery and tile (T62).
- F188 shallow east-west ditch, containing Roman pottery (T79).
- F202 a north-south ditch, containing charcoal fragments, pottery, brick and bone fragments (S6).
- F207 a square-sided pit containing a small amount of uncremated bone and one piece of samian pottery; perhaps cut by inhumation F171 (T66).

# 6.1.7 Stake holes

Six stake holes were recorded in T11 (F21-F26). These appeared to cut cremation burial F19 as cremated bone from F19 was present in stake holes F21, F24 and

F26. The stake holes may have supported grave markers as at the eastern cemetery of Roman London (Barber & Bowsher 2000, 109).

# 6.1.8 Structures

F185, a narrow ditch containing large pieces of Roman tile, stone and mortar, was the only Roman feature containing structural elements (T81).

# 6.2 Post-medieval and modern features

(modern drains and service-trenches are not included) In the north-eastern part of the site, the foundations of a 19th-century greenhouse/vinery building was exposed during the excavation of a service-trench (T69). This consisted of a row of six modern brick piers aligned east to west (F153) with brick rubble in between and to the south (F150). The brick rubble consisted mainly of yellowish brown silty sand and frogged bricks, but there was also some Roman brick and tile and pieces of Roman amphora. Mixed in with the brick and tile was modern glass, china, slate and clay pipe. The row of piers represented the northern edge of the temporary building marked on the 1876 OS map. The southern edge was not found, probably because it was missed by the service-trench. Sale documents of Handford House ('Gafwell House') in 1892 list a vinery, 31ft by 13 ft, fitted with heating apparatus (ERO D/DEL T198). These dimensions concur with what was found by the excavation. The brick rubble and sand was used to regulate drainage and humidity necessary for growing vines.

Throughout the excavation, areas of disturbed ground were encountered which all had similar fills consisting of grey brown loose sandy silt with diagonal bands ('tip lines') of yellowish orange stony sand (Fig 74). The fills and the modern finds within indicate that they were dug in the 19th century and had been backfilled deliberately. The depth of the disturbance was between 800 mm and 1 m below ground-level. Although all these areas of disturbance were given separate feature numbers, it later became apparent that they made up two large trenches and one small trench (Fig 5). In the north-eastern part of the site, a trench at least 33 m by 10 m had been dug. This covered much of the area of Plots 15 and 16, the detached garage block to the west, and the service-trench in between. A second large trench approximately 15 m by 18 m was recorded to the south. This affected most of the area of Plots 10, 12 and 14. On the western side of the site, a small trench was recorded in T89 and T90 of the garage block. The fills contained 19th- or 20th-century pottery, slate, clay pipe and peg-tile. In some of these features there was Roman pottery and tile and also cremated bone. These trenches occasionally truncated inhumation burials; for example, two skulls were found in two of them (F8 and L36). Usually, however, these trenches were not dug deep enough to disturb the inhumation burials. Where the edge of one of these trenches was visible (F55), it was seen to be straight-sided.

These trenches are thought to be excavation trenches dug by antiquarian George Joslin who lived opposite at 10 Beverley Road. He is known to have excavated a large number of urned cremations from this vicinity in the 1860s and 1870s (see section 3.2 and *CAR* **9**, 259). However, excavating such a large area would have been a big undertaking for an amateur archaeologist and we do not know of Joslin actually instigating large-scale excavations, only making records of artefacts found during groundworks which were taking place. It may be that these large trenches were gravel quarries, dug before Handford House was built (in 1859). But gravel quarries would probably have been deeper than 1 m and are unlikely to be straight-sided, as these are.

These excavation trenches were seen to be cut by the piers for the vinery/greenhouse, thus pre-dating this structure. All the cremations in these disturbed areas had been removed, thus making the original density of cremations even higher than it appears in the current fieldwork.

Other modern features may be gravel-extraction pits which are known to have been dug in the gardens here (James Fawn, pers comm). Additionally, in the area of T3, T4, T5, T7 and T9 (Plots 15-16), there had been a very large tree which was blown down in the 1987 gales. The tree bowl was filled back in again and may account for some of the disturbance. The remaining post-medieval and modern pits and features are listed below, and some contained residual Roman artefacts:

- F34 a modern or late post-medieval pit cutting cremation burial F36, contained willow-pattern pottery, clay pipe and a Roman glass fragment (T13).
- F39 a post-medieval pit cutting inhumation F31 (T8).
- F68 modern ditch (T32).
- F80 post-medieval or modern ditch containing a small amount of animal bone, clay pipe and two pieces of residual Roman pottery and Late Iron Age/Early Bronze Age pottery (T34).
- F58/F91/F55 modern pit, part of probable 19th-century excavation trench, containing a Roman pewter base sherd (not drawn); SF 243 (358) F91), from a plate or dish with low V-section footring, minimum diameter 130 mm, probably a grave deposit (T19, T22, T24, T26, T27).
- F96/F74 modern ditch containing an early Roman copper-alloy swan's head handle terminal (Fig 100, SF 48 (363)); also contained porcelain (T27).
- F105 post-medieval pit cutting cremation burial F101/F107 (T38).
- F124 pit containing modern glass (T54).
- F144 ditch or pit containing peg-tile fragments, clay pipe and post-medieval pottery (T56b).
- F145 ditch containing peg-tile (T56b).
- F152 small ditch running east to west containing tile, peg-tile and a Roman glass fragment plus probable late Roman copper-alloy finger-ring fragment (Fig 100, SF 104 (787)) plus a small quantity of animal bone (T56b).
- F157 small pit seen in section only, cutting modern trench fill F155 (T61).
- F166 large probable gravel-pit filled with topsoil-like material, at least 2.2 m deep, containing modern pottery (T70/T73).
- F167 large, deep pit or ditch containing a fragmented grey ware cremation urn; feature must have cut through a cremation burial (T71).
- F177 cut feature containing two medieval or post-medieval pins (T59).
- F187 shallow wide ditch containing Roman tile and pottery and post-medieval or modern brick (T78).
- F189 shallow cut feature containing 17th-century pottery, may be part of general ground disturbance (T88).
- F196 roadside ditch to road F43 or a post-medieval or modern layer sealing F43 (T102).
- F206 pit or cellar (soakaway), possibly part of former Handford House building (T119).

# 6.3 Undated features

Several undated features on the site are listed below:

- F48 ditch or pit (T16).
- F50 possible ditch (Ť16).
- F51 ditch, V-shaped, possibly continuation of F50, contained fragment of Roman glass (T14).
- F54 pit cutting F47, containing one sherd of mid Roman pottery and a fragment of iron sheet (SF 181 (210)), maximum dimensions 26 by 21 mm (T15).
- F61 small pit (T26).
- F66 cut feature (T23).
- F75 pit (T35).
- F109 linear east-west feature with a Neolithic flint blade in its upper fill, may be natural (T37).
- F111 pit containing Roman pottery, cremated bone and charcoal (T47).
- F112 pit or linear feature containing undated brick or tile (T47).
- F127 small ditch cutting Roman road F117 (T45/T53; Fig 71).
- F136 straight-sided ditch (T54).
- F139 small pit (T47).
- F140 shallow ditch (T54).
- F143 ditch (T39).
- F146 pit containing fragments of cremated bone and a post-medieval copper-alloy object (T56b/T57).
- F148 pit next to F146 (T56b/T57).
- F174 narrow east-west linear feature, containing small amount of Roman pottery (T75).

F175 – natural linear feature (T75). F191 – small ditch with two fills (T80).

# 7 Finds

# 7.1 Roman pottery

by Stephen Benfield

### Introduction

In this report, Roman pottery vessel form numbers follow those of the Camulodunum (Cam) Roman pottery type series (Hawkes & Hull 1947; Hull 1958). Roman pottery fabrics follow those of *CAR* **10** and those present at the Handford House site are listed in Table 12. The types of pottery vessels are listed in Table 12. The types of pottery vessels are listed in Table 12. The types of pottery vessels are listed in Table 27 in Appendix 1, and there is a full catalogue of Roman pottery (Table 26, in Appendix 1).

# Table 12: Roman pottery fabric codes and the corresponding fabric name used in this report.

Fabric	Fabric name
AA	amphoras, all excluding Dressel 20 and Brockley Hill/Verulamium region amphoras
AJ	amphoras, Dressel 20
AU	miscellaneous amphoras including examples possibly from the Brockley Hill/ Verulamium region
BA	plain samian forms
EG	East Gaulish plain samian
СН	oxidised Hadham wares
CB	Colchester red colour-coated roughcast wares
CZ	Colchester and other red colour-coated wares
DJ	coarse oxidised and related wares
DZ	fine oxidised wares
EA	Nene Valley colour-coated wares
EB	Lyon colour-coated ware
FJ	Brockley Hill/Verulamium region oxidised ware
GA	BB1: black-burnished ware, category 1
GB	BB2: black-burnished ware, category 2
GP	fine grey wares (Colchester, London-type and north Kent wares)
GX	other coarse wares, principally locally-produced grey wares
HD	shell-tempered and calcite-gritted wares
ΗZ	large storage jars and other vessels in heavily-tempered grey wares
KX	black-burnished ware (BB2) types in pale grey ware
UR	terra nigra-type wares

# Pottery from inhumation burials

Three partial pots were recovered from inhumation burials F1, F154 and F208, and pottery sherds of late Roman date were recovered from the backfill of two burials (F31 and F159). The upper part of a Cam 266 jar (F154.1) of 1st- to early 2nd-century date was associated with the inhumation burial F154. A flagon (F1.1, minus neck and top), dated 1st-2nd century, came from the lower fill of burial F1. Also an almost complete although fragmented jar of form Cam 268 (F208.1), dated early/mid 2nd to late 3rd/early 4th century, was associated with the jumbled inhumation burial F208. The sherds from the grave fills of F31 and F159 were of early-mid 3rd- to 4th-and 4th-century date.

### Pottery from cremation burials

Pottery ranging from whole pots, to sherd groups representing part of a pot, or just a few pot sherds, was recovered from 52 (approximately 90%) of the 57 cremation burials. These cremation burials include three possible pyre-debris deposits. Small numbers of sherds were also recovered from two *busta* (F47 & F134). A number of

the burials had suffered disturbance so that the condition and completeness of the pottery burial assemblages varied, and the overall number of pots included with all the burials can only be approximated. The pottery types associated with each cremation burial and date of the pottery from each burial is summarised in Table 27 (Appendix 1).

# Date of the pottery from the cremations

Of the individual pots or pottery groups from the cremation burials (including pyredebris deposits), 26 can be dated to the 1st-early 2nd century, of which nine include pottery which is pre-Flavian. A further seven cremation burials can only be dated generally to the 1st-2nd century. Pottery from 15 cremation burials can be dated to between the earlier 2nd century and the mid-late 3rd/early 4th century. Of these, pottery from six is of early or mid 2nd- to early 3rd-century date. Pottery typical of the late Roman period appears with only two cremation burials, ie F113 and F88. There are two partial pots (F113.1 & F113.2), which are jars in Fabric GA of form Cam 279C, dated early-mid 3rd-4th century, from F113. Sherds also of form Cam 279C came from the disturbed cremation burial F88.

# Pottery vessel types and number of pots from the cremations

Of the cremation burials, 22 contained one pottery vessel, although with three of these burials there was also a pottery lid for the cremation urn, and, in addition, in one instance the lower part of another pot had been used as a lid for the urn. Also, in eight burials there was one pot, together with a few sherds from other pots which may be residual. Overall this gives a total of somewhere between about 40% and 50% of all cremations accompanied by a single pot or single pot provided with a lid. This single pot was almost always a jar, although, in a few cases, a tall bowl of similar proportions to a jar (jar/bowl) had been used. Within the burials (even when a number of pots were present), the jar was almost always used as the container for the cremated bone. Only possibly in one instance was a pot type other than a jar or jar/bowl used to contain cremated bone. This was a flagon from the burial F41 (F41.1), and it was the only pot recovered from this burial.

Of the remaining cremation burials, ten contained two pots, while in another four burials, two pots were represented in each by sherds only, so that between about 20% and 25% of all the cremation burials were accompanied by two pots. In these burials, the usual combinations of pots were a jar with a flagon (four burials), a jar with a beaker (two burials), or a jar with a dish (one burial). Only in two of these burials was a jar or jar/bowl absent (F45 & F204), and here the combination was a flagon with dish (F45) and a beaker with amphora (F204), although it should be noted that F204 had been disturbed.

Only a few (just under 10%) of the burials contained more than two pots. Burials F162 and F165 contained three pots. F162 contained a jar (with a lid), a flagon and a beaker, and F165 contained a jar, a beaker and a dish. Burial F53 contained three (possibly four) pots, a jar and a dish (both whole), much of a flagon (broken and used to shield a lamp), and sherds from a second flagon. Three whole pots came from burial F42; a jar, a flagon and a small bowl. However, there were parts of two other pots in F42, ie a flagon (large sherd) and a beaker (partial pot), which were both deliberately placed in the grave to shield a lamp. There were five pots with one burial (F137), although one of the pots, a Dressel 20 amphora (F137.1), was used as a container for the burial group. The upper part of the amphora had been detached to allow access to the interior. The pottery vessels inside the amphora consisted of a jar, a flagon, a dish and a beaker (F137.2-F137.5).

One other burial contained an amphora. This was the disturbed cremation burial F204 which contained an amphora of Gauloise 4 type from the Brockley Hill-Verulamium region potteries (Fabric AU). The amphora (F204.2) was recovered as sherds and is probably about 75% complete with parts of all the pot present, although only about 50% of the base is present. It seems probable that the amphora was used as a whole pot within the context of the burial, possibly as a container for the cremation burial, as with a similar Gauloise 4 amphora used in a cremation burial from St John's Street in Colchester (*CAR* **10**, fig 3.7, 140). In that case, the amphora would have had to be cut in two, with the upper part (neck, handles and shoulder) being detached from the body to allow access to place the cremation inside. However, the very broken condition of the Gauloise amphora from the Handford House site means that it is not known if the upper part had been detached to allow it to be used as a container for the cremation burial or not. The only other pot associated with the burial was the lower part of a ring and dot beaker (F204.1).

Burial F19, which had been disturbed, appeared unusual in that it contained parts of three *tazze* (F19.1-F19.3), one of the *tazza* being represented only by sherds making up the base of bowl and top of the foot stand, as well as a few sherds of uncertain status from five other pots.

# Damaged pottery

Many of the pots were broken or partial so that in most cases any deliberate damage was not identifiable. No deliberate damage was recorded for any of the whole pots recovered, although it appears that the flagon (F53.2) in burial F53, sherds of which were used to cover the lamp, may have been deliberately broken for that purpose. Also there was no evidence of any other parts of the pots represented by the beaker base (F42.5) and flagon sherd (F42.4) used for the same purpose of shielding the lamp in burial F42. Here suitable remnant pieces of broken pot may simply have been made use of. However, the sacrifice of two otherwise unattested pottery vessels associated with the cremation may be more likely. There is a correspondence between the small vessel (bowl) and flagon, both whole grave goods placed with the cremation urn in F42, and the small beaker base and flagon sherd covering the lamp, possibly suggesting two sets of grave pots, one set of which was broken and the sherds used in the burial.

The most common damage recorded on pots and pot sherds was evidence of burning. Nine burials contained burnt sherds (F19, F36, F53, F141, F142, F180, F182, F186, F199). Although the tazza in F19 could possibly have been scorched or burnt during use, as tazze are commonly thought of as incense burners, some sherds appear to have been heated in such a way as to suggest that the pots had been burnt. Some residual sherds from the fill of the inhumation burial F1 were also burnt. It might be, however, that much or all of the pottery from the bustum F47 was burnt, although this was probably not the case with bustum F134. From F47, of the eight medium- to small-sized sherds recovered, only two sherds, both from the same grey ware pot, are clearly burnt. Of the pottery recovered from F134, a broken cream oxidised ware flagon (F134.6) overall shows little sign of having been scorched or burnt, although a few sherds from this pot are slightly discoloured arey. This discolouration could be caused by burning, although it is not clear if these sherds have been burnt. Also, amongst a small quantity of sherds of white oxidised ware from F134 (F134.7), probably from another flagon, a few are also discoloured grey with the same appearance as those from the flagon F134.6. Again it is not clear if these sherds have been burnt.

Firing defects indicating kiln-damaged pots, either serviceable kiln seconds or wasters, were much rarer than burnt sherds. There are two pots (F87.1 & F201.1) with heat damage which could be burning or a kiln defect from firing. The pot F201.1 also has a manufacturing blemish on its shoulder which might suggest that it is a kiln second. The only other example of a physical defect noted on a pot was the distorted rim of pot F15.1. Also the oxidised jar (F128.2) from burial F128 may be mis-fired grey ware and thus a second or waster pot.

# Discussion

Only a small quantity of pottery was associated with the inhumation burials; however, the wide date range of the pottery associated with them – 1st-early 2nd to late 3rd-4th century – deserves some comment. While sherds from the backfill of two burials (F31 & F159) are early-mid 3rd-4th or 4th century, and these are clearly late Roman inhumations, partial pots associated with two other burials are of 1st- to 2nd-century date The pot from burial F1, an incomplete local flagon of 1st- to 2ndcentury date, came from the lower fill of the grave cut. Also, an incomplete and broken jar of form Cam 266, dated 1st-2nd century, came from the mid back area of the skeleton in F154, and could have been below the burial in the grave cut. Both the positions in the burial (one in the grave fill and one possibly below the inhumation) and also the incompleteness of the pots suggest that they may be residual. Also both pots are of pottery types common among the cremation burials from the site. The only other pottery associated with an inhumation is a broken Cam 268 jar, of mid to late Roman date (early/mid 2nd to late 3rd/early 4th century) from burial F208. Overall, although pottery associated with the inhumation burials dates from both the early and later Roman periods, the early Roman pottery associated with two inhumation burials may be residual, and it is possible that the inhumation burials are all of the late Roman period. It can be noted that, other than the late Roman pottery sherds from the fills of inhumation burials F31 and F159, the only other recognised late Roman pottery from the site are two partial jars (from F113) and a few sherds (from F88) of early-mid 3rd- to 4th-century date (see below).

The pottery from the cremation burials suggests that about two-thirds of the 57 recorded cremation burials are of 1st- to 2nd-century date. Of these, nine contained pottery which can be dated as pre-Flavian, and it is probable that most, if not all, of these nine burials are pre-Boudican. Of the remaining one-third (approximately) of the cremation burials, the pottery from these is almost all of 2nd- to 3rd-century date. The only late Roman pottery consists of a few sherds in BB1 (Fabric GA) of the jar form Cam 279C (early-mid 3rd-4th century) which are intrusive in the cremation burial jars also in BB1 (Fabric GA) both of jar form Cam 279C from the cremation burial/pyre-debris deposit F113.

Overall, the pottery associated with the cremation burials is generally in accord with the types of pottery vessels, numbers of pots and prevalent use of jars as cremation urns, as recovered and recorded from Roman cremation burials in the south-east of England (Philpott 1991, 35-6). This appears also to be reflected in the pottery from the two *busta* (F47 & F134) with grey ware sherds, probably from jars or bowls, and other sherds probably from flagons, represented.

The use of pot sherds to cover and protect lamps (F42 & F53) deserves mention. In cremation burial F53, much of a Brockley Hill/Verulamium region flagon (F53.2) was placed so that the broken neck and rim created a chimney effect above the lamp. With this (as would usually be expected) was a jar containing the collected cremated bone. The matching of a jar, used as a cremation urn, and flagon, is one of the two most common combinations in cremation burials, the other being jar and beaker (Philpott 1991, 35), and it appears that, in cremation burial F53, the flagon may have been sacrificed to cover the lamp. In the cremation burial F42, a similar arrangement of broken pottery to shield the lamp had been made, although here the broken pottery was a large sherd from a flagon (F42.4) and a beaker base (F42.5). An intact flagon (F42.3) was placed next to the cremation urn, and a small bowl (F42.2) was also present as part of the grave group. No other sherds were present in the burial from the two broken pots (beaker and flagon sherd) used for shielding the lamp, and suitable remnants of broken pot may simply have been made use of, although it seems unlikely that these would simply have been to hand. Perhaps more likely is that they were brought to the funeral as part of a larger group of pottery. The pottery from the cremation burial could be seen as an original group of a cremation urn with a flagon and small bowl which were used to form the set of grave goods, and other pottery, possibly representing a second set of grave goods of a flagon and beaker, which were sacrificed to cover the lamp.

Of the pottery itself, two individual pots are of intrinsic interest. One is an amphora (F204.2) of Gauloise 4 type, a copy in fabric of the Brockley Hill/Verulamium region (Fabric AU) from the disturbed cremation burial F204. The amphora was recovered as sherds and is about two-thirds complete. A ring and dot beaker (F204.1) associated with it suggests a Neronian-Flavian date for the burial. Amphoras in Brockley Hill/Verulamium region fabric have been recognised from excavations in Colchester (CAR 10, 162-4). The most easily recognised were of form Dressel 2-4, and much of these came from early military/colonia contexts (dated c AD 44-49/55) on the Lion Walk site (CAR 10, 162). However, copies of Gauloise-type amphora forms have been recognised with about half a dozen examples previously recorded from Colchester (CAR 10, fig 3.19, 18-22). More generally, copies of Gauloise amphora forms from the Brockley Hill/Verulamium region potteries have been discussed by R P Symonds, the largest number of these pots being recorded from London (Symonds 2003, 54-5). The second pot of intrinsic interest in relation to Colchester is a beaker in white eggshell ware of Marsh Type 11 (Marsh 1978) from cremation burial F192. The form is absent or very rare at Colchester with no examples in the Camulodunum type series or published examples in CAR 10. A number of these pots have come from pits dated to the early 2nd century in London (Marsh 1978, 146). It can be noted that the amphora from cremation burial F204,

and the beaker from cremation burial F195 which is rare or unique to Colchester, are both pots which are recorded more frequently from London.

# 7.2 Samian pottery

by Joanna Bird

# Table 13: list of samian pottery by context.

Finds	Context	Description	Date
no or			
pot no			
21	L2, T5	Drag 27, South Gaul; burnt	Neronian-early Flavian
91	F34, T13	Cup, probably Drag 27, South Gaul; slightly burnt	Neronian-early Flavian
149	F43, S3	Drag 45 mortarium, East Gaul (Trier); abraded	late 2nd-first half of 3rd century
156	L1, T15	Bowl/dish, Central Gaul	Hadrianic-Antonine
204	F47, T15	Drag 31 or 31R (Ludowici Sa or Sb), East Gaul	later 2nd-early 3rd
F47.5		(Trier)	century
407	L1, T38	Drag 33, Central Gaul	Antonine
794	F151, T60	Drag 31R, Central Gaul; slightly burnt	mid-late Antonine
888	U/S, T67	Drag 30 or 37, probably East Gaul (Rheinzabern),	later 2nd-first half of
		although origin at Colchester is not impossible	3rd century
926	L3, T72	Bowl/dish, Central Gaul	Hadrianic-Antonine
1004	F141,	Cup, probably Drag 27, South Gaul; burnt	Neronian-Flavian
F141.6	T94		
1015	L1/2,	Drag 37, Central Gaul, panel design with wavy-line	Hadrianic-early
	T79	borders, including small figures, one of them	Antonine
		probably a gladiator (cf Oswald 1936-37, Type 1056)	
1190	F207,	Drag 15/17, South Gaul	pre-Flavian
	T67		

Drag = Dragendorff forms Antonine = AD 138-192 Flavian = AD 69-96 Hadrianic = AD 117-138 Neronian = AD 54-68

# 7.3 Small finds and bulk metalwork

# by N Crummy

The coins (Table 28 in Appendix 2; Fig 101)

Table 28 in Appendix 2 lists the coins from burials first, followed by those from other site features, and layers, and finally unstratified items. The first column gives the small find (SF) number, the next four the finds number, feature or layer number, and context description. The coin identification, diameter, weight, reference, and date follow, with the final column giving the coin period defined by Reece (2002, 145).

All the coins from the site are of Roman date apart from a 1936 penny of George V from topsoil (L1) in T68. The Roman coins range in date from Claudius (AD 41-54) to Honorius (AD 395-402), but are too few in number to be used statistically.

Eight burials contained seven coins; three coins are burnt pyre deposits (F47, F134 and F199), the others are unburnt burial deposits (F42/F53, F44, F197 and F198). The use of single coins points to their being fees for Charon the ferryman, who bore the souls of the departed across the river Styx to the underworld. Two are illegible but early Roman (F42/F53, F47), most are Flavian (F197 and F199, Vespasian; F44, Titus; and F134, Domitian), and one dates to early in the reign of Antoninus Pius (F198). The coin of Titus is in very good condition and is unlikely to have been in circulation for any length of time before being deposited, but the longevity of Antonine *aes* means that the coin in F198 may have been deposited many years after its date of minting. The absence of pre-Flavian, Trajanic and Hadrianic coins might be taken to suggest that the area was used for burials in two distinct phases, but several burials contained pre-Boudican/pre-Flavian lamps, and

the low number of graves producing coins suggests that the pattern of deposition is more likely to be a reflection of family practice rather than of cemetery usage.

Family practice is demonstrated very clearly in two of the eight burials (F42 and F53), each of which contained one half of a single coin (Fig 88). It is a very worn and illegible *as* of 1st-century date which was first of all scored or struck many times on one face, with most of the incisions concentrated close together and therefore weakening the metal at that point, and was then struck once on the opposite side along the same line, causing the coin to split into two. This use of a single coin implies an extremely close relationship between the people buried in the two graves, a relationship also demonstrated by the close proximity of the two features and the similarity of the burial rite and the other grave deposits (see sections 7.4 and 7.9).

The possibility has been considered that the choice of coins deposited with the Handford House site burials was dependent upon the reverse being in some way pertinent to a funerary context. The reverse image is visible on five of the eight: Spes in F44, the emperor, probably holding a palladium, in F134, Securitas in F197, Salus in F198, and Victory in F199. All four female personifications can be interpreted as appropriate statements of the thoughts and wishes of a family for a member who has departed to the afterlife: Spes is hope, Securitas is confidence/security, Salus is safety/health, and Victory is the triumph of life everlasting in the underworld over death. The reverse of the emperor with a palladium may also be appropriate, as the image is at once imperial and priestly, and the palladium invokes Pallas Athene/Minerva as both a safeguard and a figure of courage and victory. All the images may also be seen as protective in the context of the journey to the underworld.

Proving deliberate selection based on the reverse image depends on amassing statistical evidence that the reverses found in graves differ from those found on occupation sites. This is not an appropriate undertaking in the context of this report, and will be particularly difficult from published coin lists, as they rarely give the reverse image and rarely state which edition of Roman Imperial Coinage was used, which might allow the image to be found through the reference. However, taking the Securitas Augusti reverse on coins of Vespasian as a sample, comparison with two recent large excavations at Colchester and with the Forum-Basilica site at Silchester suggests that this reverse occurs infrequently. Twelve Vespasianic coins were found at Silchester, of which only one had Securitas on the reverse (Boon 2000, 138-9). Of the 32 Vespanic coins coming from two Colchester sites - sixteen each from the 29-39 Head Street site (CAT Report 268) and the St Mary's hospital site (CAT Report 484 forthcoming) – only two had Securitas on the reverse, while eight (25 %) had the eagle on globe reverse. These figures cannot be regarded as absolute, however, as the reverses of five of the coins from the 29-39 Head Street site and three of those from the St Mary's hospital site were illegible (CAT Report 268, 25-8; CAT Report 484 forthcoming).

Some of the coins from features other than graves at the Handford House site are likely to be disturbed pyre or grave deposits. One of these, a *denarius* of Septimius Severus from ditch F2, possibly scorched, is worth noting in the context of funerary symbolism. The reverse is *Indulgentia Aug in Carth*, which shows the sky-goddess *Dea Caelestis* seated on a lion running beside a stream. The sky-goddess is linked to the solar wheel and thus represents rebirth, the stream is emblematic of the water of life and perhaps also a reminder of the river Styx at the junction between life and death, while the lion not only represents the all-devouring jaws of death but may also be the guardian of the dead. It appears on tombstones and as small objects in graves, including a coin of Philip I with a lion reverse, pierced so that the lion image, not the bust of the emperor, was upright when suspended (Toynbee 1971, 192; *RIB I* nos 121 and 201; Bertrand 2003, 64, fig 68; Henig & Wickenden 1988, 107; Hagen 1937, Taf 40, J9).

Many of the other coins from the site may also derive from disturbed burials, but none show signs of being heat-affected. Other characteristics of the assemblage include: 1) an absence of barbarous radiates, which often occur in very high numbers on urban sites but low ones on suburban/rural sites (eg *CAR* **4**, table 8, 22, 44-9); 2) a good proportion of Constantinian coins of Reece's period 17, a time of general high coin loss; and 3) the presence of an coin of Honorius (AD 395-402), examples of which are comparatively rare, particularly in small assemblages such as this. The first two suggest the assemblage conforms to the general pattern for suburban/rural sites in Roman Britain.

**Pyre-debris deposits and cremation burial deposits** (Table 29 in Appendix 2) Following the distinction used by Bel (2002), the objects recovered from cremation burials are here described as primary deposits if they are small refrozen fragments of pyre debris, show clear signs of having been scorched, or are fragmentary (but not necessarily burnt), and as secondary deposits if they are complete and unaffected by fire. The difference cannot always be determined with certainty, and evidence from at least one of the funerary features (F134) suggests that secondary grave goods can be added to a *bustum* after the ashes had cooled. Distinguishing between incomplete primary deposits and residual items is rarely possible, but there seems to be little residual material in general in the Roman levels. Coins are also briefly listed; they are discussed and catalogued in detail above. Similarly, the lamps are briefly listed here but are described and discussed by Hella Eckardt in section 7.4. Iron nails, other than hobnails, are of Manning's Type 1b, with more or less flat round head (Manning 1985, 134).

Table 29 presents the primary and secondary deposits among the small finds and bulk metalwork from the cremation burials and other early funerary features. Structural nails have been found in many of the cremation burials but are not shown in the table. They may have come from the funerary bed or bier, or may have been used in the construction of the pyre itself, or may have been fixed in timber from demolished buildings used as fuel, while the smaller examples may have come from boxes or similar small wooden objects placed on the pyre as grave goods. Where boxes have been deposited as secondary grave goods they are shown in Table 29.

The most frequently recovered grave goods are hobnails from nailed footwear. A maximum of 26 cremation burials, out of 57 from the site, produced hobnails, and the high number of disturbed cremation burials means that the true figure is likely to be much higher. However, in F15, F179 and F192, undisturbed burials with only one or two hobnails, they may be residual. Very large numbers of hobnails in cremation burials suggest that the burnt shoes had Rhodes' Type C close-set nailing pattern, where a lines of nails ran around the outside edge and the inner area was filled with rows of nails (1980, 107). As this nailing pattern appears to be restricted to adult shoes, then the individuals buried in F115 and F203 (at least) can be presumed to be adult.

The suggestion has often been made that shoes were deposited in burials as symbols of the journey to the afterlife, but contemporary written evidence provides a much simpler reason, the dead were burned on the pyre fully clothed (Toynbee 1971, 44-50). The high proportion of nailed footwear in the Handford House site cremations shows that the early Roman population of Colchester conformed to that practice. Because not all footwear was nailed and in some cremations very little pyre debris had been collected for burial, the absence of hobnails from some of the graves need not represent an absence of footwear on the pyre, but an indication that thonged or 'stitched-only' sandals were worn, or that the random collection of pyre debris had failed to include hobnails. However, it is possible that footwear might have been missing from some burials, in particular those where the rite differed in some way from the norm of placing the ashes in a ceramic vessel. For example, in F120 the bones were placed in a jewellery box and the only other item in the grave was a small accessory vessel, and in F126 the bones lay in a glass jar which was itself within a wooden box.

Coins and lamps are fairly well represented; the former are discussed above, the latter in section 7.4. The high number of lamps that can be shown to have been lit when deposited is an important feature of the site, and suggests that much information of this type was lost during the 19th-century excavations in the area. The images on the coins may have influenced their selection as grave deposits, and the two complete picture lamps from burials certainly bear strikingly apotropaic designs, one shows a lion fighting a crocodile (F42, Fig 88), the other a stave dancer with large phallus (F53, Fig 89). A lion occurs on the site on a coin from a disturbed funerary feature, and its imagery has been summarised above. The lamp shows the crocodile as representing the dangers of the afterlife, which are held at bay by the attacking lion. The phallic image on the lamp from F53 would have been selected as a means of averting the evil eye (Johns 1982, 61-75). Young boys in Republican

Rome wore phallic amulets to guard them from danger as they grew up, and small gold rings with a phallus on the bezel from London and from Faversham, Kent, and a small gold phallic pendant from Braintree, Essex, belong to this tradition (Varro, *de lingua latina*, II, 97; Henig 1984, fig 92; Johns 1982, pl 10; Johns 1996, fig 1.3; Johns & Wise 2003), while phalli of various materials have been found in children's graves in Britain (eg *CAR* **9**, 41; Lentowicz 2002, 68, fig 260).

It is difficult to be certain that two incomplete picture lamps, from F141 and F199, were deliberate primary deposits rather than residual. Both burials also contained factory lamps of later date, which supports the idea that the picture lamp sherds are residual. However, there is in general little residual material in the cremation graves and it may be that these picture lamps had been decorated with apotropaic images like those from F42 and F53 and their potency had been invoked by deliberate breakage at an earlier stage in the burial rite. Alternatively, as neither group of sherds has been burnt, their inclusion in the burials may represent the provision of a ritually-killed lamp for the soul on its journey to the underworld, while the complete lamps, both placed in the grave alight, were provision for its departure from this one. The choice of the newer lamps for lighting and the older for breaking may therefore contain an element of conspicuous consumption.

Fragments of a picture lamp and of a pipeclay *aedicula* came from the disturbed burial F19 (Fig 88). The fabric of the lamp appears slightly discoloured and it may have been burnt, but the *aedicula* fragments are unburnt. Too little remains of the latter to attribute it to a particular type, so the deity it contained is unknown, but it represents another instance of including a protective image in the burial.

One burial, F120, contained a jewellery box of a well-known 1st-century type which used rings as both hinges and strap-guides (Figs 91-92). This box was a secondary deposit containing cremated remains, but in F36 (Fig 88) and F101/F107 only a fragment of a ring picked from the pyre debris is present, although F101/F107 also contained a fragment of a bead representing the box contents. Boxes of this form were used in life for the storage of jewellery, clothing, or toiletries, and their fittings have been found on occupation sites both on the Continent and in Britain (Riha 2001; *CAR* **6**, 165-6; Wilson 1968, pl 45, 193). Examples from early Roman burials in Britain are concentrated in the south and east, with the majority coming from Essex and Hertfordshire, but they were not always used to hold the ashes (Borrill 1981, table 46; Philpott 1991, table A4). In F199 several fragmentary copperalloy box fittings (Fig 99) were associated in the burial-pit with pyre debris, but the box may not have been of the same type as those in F120, F36 and F101/F107. Another jewellery box may have been associated with F41, which contained small nails similar to those from the box in F120.

Sturdier boxes made with thicker wooden boards than that in F120, lay in F126 (Fig 92) and F108. They may have been purpose-made 'cremation coffins', or household storage boxes appropriated for the burial.

Jewellery came from only four cremation graves, F45, F101/F107, F162 and the disturbed pot base F209. A single bone bead fragment came from F45 (Fig 89); F101/F107 (Fig 90) held only a fragment of an eyed bead, almost certainly a primary deposit, while F162 contained a melon bead, an ivory armlet and a copper-alloy finger-ring (Fig 97), and F209 contained a melon bead and part of a shale armlet (Fig 99). The objects from F162 and F209 are secondary deposits. Melon beads are post-conquest imports, and the eyed bead is also post-conquest and probably an import. Although melon beads are a long-lived form, they were not necessarily regularly imported into Britain. Examination of the contexts producing melon beads from the 1970s excavations in Colchester shows that 73 per cent came from pre-Trajanic contexts, and many of the remainder came from contexts with a high level of residual pre-Trajanic material. Moreover, no melon beads at all came from sites without 1st-century occupation.

Three graves produced mirrors, ie F128, F134 and F200. A different form was present in each burial. In F128 the mirror was small and round, and was made of a low-tin bronze, not the more common high-tin bronze (speculum) used for the other two (Fig 92). The mirror in F200 was small and square or rectangular (Fig 99), while a handled round mirror came from F134 (Figs 95-96; Plates 7a-7b). All three mirrors were unburnt secondary deposits, even that in F134. A spoon was also deposited in F134 and, as it was associated with a mirror, may have been used as a toilet instrument rather than an eating utensil (Fig 94).

The urned cremation burial F53 contained the head of a burnt bone needle, and a bone shaft found in the same grave probably also belongs to the needle, although there is some chance that it may instead come from a bone pin or spoon (Fig 89). Part of a bone die was found in F199 (Fig 99). Both needles and dice are comparatively rare as grave goods. A pair, hollow like the one from F199, came from a grave dated to beween AD 30-55 at King Harry Lane, St Albans (Stead & Rigby 1989, 108, 178, fig 92, 20) and dice were also found with sets of gaming counters in graves at Chichester, West Sussex, and Alton, Hants (Down & Rule 1971, 117; Millett 1987, 68). Another grave at Chichester, dating to the late 2nd or early 3rd century, contained one copper-alloy and eight bone needles, and iron needles were found in both pre- and post-conquest graves at King Harry Lane (Down & Rule 1971, 113-15; Stead & Rigby 1989, 107).

An unusual group of iron fittings came from F114 (Fig 90). They include a complete link and two fragmentary links from a chain, as well as two penannular loops with overlapping ends. The only tools to come from graves are both of stone and both may be residual. One is a fragment of a sandstone hone from F42 (Fig 89), the other is a fragment of a flint pebble, possibly utilised as a polishing tool, from F126.

A few cremation burials contained small amorphous fragments of iron or copperalloy pyre debris and these are shown in Table 29, but flakes of iron recovered from environmental sampling have not been shown in the table if the burial already contained iron objects.

In terms of gender the funerary deposits, both primary and secondary, point to F36, F101/F107, F120, F128, F134, F162, F199, F200 and F209 (and possibly F41) as being burials of females, in some cases definitely juveniles (F162, F209), while the remaining deposits cannot be assigned with certainty to either sex, although perhaps the chain in F114 is more likely to be from a male grave than a female one. The inclusion of protective images in F42 and F53 suggests that these are the graves of children, and the same may be true of F19. The cremated bone report is at variance with some of these interpretations and puts F19 as definitely adult and F200 as an uncertain male.

The absence of brooches is unusual, but several factors have probably contributed towards this lack: the burial rite, the date range of the graves, and, to some extent, the population buried in the cemetery. The rite of cremation means that brooches worn by the dead may have been completely destroyed on the pyre, and fragments of copper-alloy debris from a few of the graves may be all that now remains of any dress accessories. There is a general decline in brooch use in southeast Britain from sometime in the last quarter of the 1st century, so that any burials at the Handford House site post-dating *c* AD 75/80 are much less likely to contain brooches than earlier ones. Although there are few grave goods at the Handford House site which can be positively dated to before that date, those that are present show that the population buried there primarily consists of incomers to the province rather than native British. The inclusion of a coin as a ferryman's fee is a Roman rite, as is the use of phallic and other apotropaic imagery, while the presence of picture lamps is an indicator of a wholly Romanised life-style (Eckardt 2002a, 43).

Any relationship between a Romanised population and the use of brooches as grave goods in the pre-Flavian and early Flavian periods is more difficult to establish, given the fluidity and mutability of contemporary populations and their material culture. Brooch deposition is certainly a major characteristic of Late Iron Age cemeteries, such as King Harry Lane, St Albans (Stead & Rigby 1989, 87-103), but brooches are also found in some numbers in the pre-Flavian and early Flavian periods in the colonia at Colchester, as well as in the Balkerne Lane canabae and at Sheepen (CAR 2, 7-18; CAR 6, 140-43, 206-9; Hawkes & Hull 1947, 308-328; Bayley & Butcher 1985). However, many of the imported types among Colchester's early post-conquest brooch assemblage are those used by Roman military personnel, who do not appear to be represented at the Handford House site, and many of the others are British-made and so are perhaps most likely to be Britishworn. The late 1st-century decline in brooch use in south-east Britain mentioned above compared to the high numbers found in the west at the same period argues strongly that more Romanised populations made less use of brooches, and therefore an absence of early brooches at the Handford House site may be yet another indicator of a highly Romanised group of people.

# Residual pyre debris

A small number of objects from some of the cremations and inhumations derive from earlier burials and are noted as residual in their respective grave catalogues but not listed here. Residual material in service-trench F18 derived from cremation burial F19 and has been catalogued under that burial.

Three small fragments of copper-alloy, probably pyre debris, came from the drain trench F20, and hobnails from F17 and F91 are also probably Roman. A possibly burnt coin of Septimius Severus from ditch F2 (listed in Table 28 and see coins above) may have been a pyre deposit, although if so it is probably the latest item among the small finds from the cremations.

- SF 9. (82) F20. Modern drain. Two small copper-alloy lumps, probably refrozen or heat-affected pyre debris. Weight 0.95 g.
- SF 178. (97) F20. Modern drain. Small copper-alloy fragment, probably refrozen pyre debris. Weight 0.16 g.
  - (204) F17. Post-medieval or modern ditch. The head of an iron hobnail.
- SF 236. (357) F91. Probable 19th-century excavation trench. Iron hobnail, length 13 mm.

### Inhumation burials

Apart from nails, some from coffins, some residual from earlier burials, the only item from the inhumation burials is a shale armlet, large enough to be more accurately termed an arm-ring and found on the left upper arm of the adult male burial F119 (Fig 94). Close typological dating of shale armlets is not possible and the absence of other dated finds from this grave means that there are two main periods when this burial may have taken place. Arm-rings are generally characteristic of La Tène male burials, making a Late Iron Age or very early Roman date possible, despite inhumation being very rarely practised at this period in south-east Britain, but alternatively it may be late Roman, as a shale armlet of similar size, although of different form, has been found in a late 3rd- or 4th-century male inhumation in London (Barber & Bowsher 2000, 221-2, B673.4, table 8, B673).

### Other Roman objects

The following items are listed by material, and within material by feature or context.

- Fig 100, SF 104. (787) F152. Post-medieval or modern ditch. Fragment of a copperalloy finger-ring similar to *CAR* **2**, fig 50, 1778, with the hoop narrowing to a rebate abutting the bezel. Probably late Roman. Internal diameter at least 14 mm, maximum width 5 mm.
- Fig 100, SF 48. (363) F96. Modern ditch. Copper-alloy terminal in the form of a stylised swan's head, broken at the top of the neck. Length 36 mm. The birds on such terminals are conventionally called swans, but rarely closely resemble any of the species found today in Europe. They may perhaps be more accurately identified as geese, but this particular example has a broad rounded end to the beak which is more duck-like. The term 'waterfowl' should perhaps be preferred.

This is the lower terminal from an early Roman cart fitting, the majority of which come from the military areas of Britain and northern Europe, and is particularly close in style to one from Water Newton, Cambridgeshire (Webster 1958, 74-5, fig 3, 37, fig 8, 232; Toynbee & Wilkins 1982; Crummy 2000). They take the form of an hexagonal socket surmounted by an eagle's head, with a goose or swan head rising upwards from the base of the socket. Sometimes there are two lower projections. These objects were first identified as cart fittings by Károly in 1890, and were further studied by von Mercklin (1933) and Alföldi (1935). They were nailed to the top of a wooden pole around which the reins were tied when the vehicle was stationary. The basal swan or goose head projection prevented the reins from slipping downwards. Wear/polish on the underside of the Handford House site example may have been formed by contact with leather.

The iconography of the Continental examples is not always zoomorphic and not restricted to birds. One has a panther's head top with basal horse's head, others have simple bell or baluster-shaped tops with the lower projection in the form of a finger, snake, or basilisk, or simply left plain. An unusual example in the British Museum, but not necessarily from Britain, shows two human heads. Most of the British examples date to the 1st century and have the eagle and waterfowl combination, but there is a later one from Vindolanda, perhaps as late as the 3rd century, that is topped by a full-figure horse, and there is a related griffin-shaped fitting from Trawscoed, Dyfed (Toynbee & Wilkins 1982; Davies 1987). A military connection for the British examples is supported by their geographical distribution, association with military establishments, and iconography. The eagle is both the symbol of Jupiter and of imperial might, while the goose is the symbol of Juno, and also the companion of the martial northern deity Mars Thincsus (Toynbee 1973, 262). If, however, the bird is really intended to represent a swan, then it may provide a link to the imperium through Augustus, who claimed the patronage of Apollo, represented on the Ara Pacis by swans (Crummy 2000).

Colchester has produced two eagle heads from these fittings (Webster 1958, nos 51 and 68), and a damaged socket lacking both the head and the terminal of the basal projection came, appropriately, from a Roman street surface (*CAR* **2**, fig 109, 2545). The head of a waterfowl from Balkerne Lane is probably also from a cart fitting, but two other heads from the same site are more delicate and likely to come from vessels (*CAR* **2**, fig 76, 2035-7).

SF 98. (710), unstratified. A copper-alloy folded sheet rivet with slightly dished surface. Length 24 mm, width 12 mm, thickness 5.5 mm. These rivets were used to repair splits and holes in the walls of metal vessels, either singly or multiply as a means of attaching a patch, and they generally occur in medieval contexts (Egan 1998, 16). However, this example is listed with the Roman objects as very little medieval material has been found at the Handford House site, and a stratified Roman sheet rivet has recently been found at Silchester (University of Reading excavations, SF 2616).

SF 243. (358) F91. Pit or 19th-century excavation trench. Pewter base sherd from a plate or dish with low V-section footring. Minimum diameter 130 mm. Probably a disturbed grave deposit.

SF 60. (404). Unstratified. Lead wedge, used in wall construction to level individual stones or bricks (Cochet 2000, 53). Maximum dimensions 40 by 35 by 23.5 mm.

SF 61. (405). Unstratified. Large lead plug, used to repair a ceramic vessel or a lead container. Maximum dimensions 62 by 54 by 14 mm. Possibly post-Roman.

SF 181. (210) F54. Roman pit. Fragment of iron sheet. Maximum dimensions 26 by 21 mm.

- Fig 100, SF 198. (417) F104. Pit. Early/mid 2nd to mid/late 3rd century. Large convex counter made from a sherd of a grey ware latticed jar; one side is missing. The edge is slightly irregular but ground smooth. Maximum surviving diameter 79 mm, thickness 9 mm.
- Fig 100, SF 43. (328) L1 (T35). Topsoil. Small counter made from a sherd of grey ware; a small piece is missing. The edge is worn smooth and both faces are abraded. Diameter 30 mm, thickness 7 mm.

SF 51. (379) L1 (T49). Topsoil. Fragment of a small grey ware counter. The edge is roughly shaped but slightly worn; both faces are abraded. Diameter 37 mm, thickness 9 mm.

SF 188. (852) L1 (T68). Topsoil. Fragment of a slightly convex grey ware counter. The edge is slightly irregular but ground smooth. The surfaces are abraded and the inner one is spalled. Diameter 45.5 mm, thickness 6 mm.

SF 118. (1017) L1 (T79). Topsoil. Fragment of a small grey ware counter. The edge is smooth and both faces are slightly abraded. Diameter 36 mm, thickness 6.5 mm.

SF 12. (127) F39. Post-medieval pit. Small sub-square counter made from a thin fragment of tile, with two pairs of parallel grooves crossing the upper surface. Dimensions 25 by 25.5 mm, maximum thickness 7.5 mm.

SF 30. (187) L1 (T15). Topsoil. Semicircular tile counter, with the straight edge as much abraded as the rounded one. Diameter 71 mm, thickness 22 mm.

SF 31. (188) L1 (T15). Topsoil. Broad tongue-shaped fragment of tile, possibly reworked from an antefix. The broad end is slightly pointed and is ground smooth. One corner is missing. Length 59 mm, width 57 mm, thickness 15.5 mm.

SF 233. (414) F105. Pit fill. Post-medieval. Fragment of Mayen lava from a quernstone. The grinding surface is smooth. Maximum dimensions 56 by 61 mm, 31 mm thick.

SF 111. (912) L1 (T77). Topsoil. Ten fragments and many tiny pieces of Mayen lava from a quernstone. Small patches of original surfaces remain on two of the fragments. Weight 574 g.

SF 14. (144) L12 (S3). Roman layer. Five fragments of Mayen lava from a quernstone. No original surfaces survive. Weight 647 g.

### Post-Roman objects

A summary catalogue of post-Roman and undated items, mainly small fragments, is included in the archive. The majority date to the 19th and 20th century, but there is an early post-medieval buckle fragment from L38. A lead musket ball may be associated with the Civil War.

# 7.4 Lamps

### by Hella Eckardt

Lamps are relatively rare in the province of Britain, with Colchester and London providing by far the most examples (Eckardt 2002a). Especially in the 1st century, there appears to be a strong bias towards urban and military sites, with few examples coming from smaller towns and the countryside. The selection of lamps from the Handford House site fits into the picture very well, and the range of lamps underlines the importance of Colchester for Romano-British lamp studies.

Both picture lamps and factory lamps (Loeschcke 1919; Bailey 1980; Bailey 1988) are represented, in two cases in the same burial, F141 (Fig 97) and F199 (Fig 98). Both these picture lamps would thus have been quite old when deposited and the interpretation of their presence in these graves is uncertain (see section 7.3). The typological change reflects a chronological development, with picture lamps generally dated to the second half of the 1st century (in Colchester usually pre-Flavian), while factory lamps occur from the Flavian period onwards. In Britain, lamp numbers decline sharply in the early 2nd century.

It is difficult to establish the provenances of ceramic lamps without detailed fabric analysis, but it appears that both imports (from Gaul and probably also Italy) and local products are represented. Colchester is one of the few British sites for which lamp production can be demonstrated, and a workshop at West Stockwell Street is thought to have operated from AD 49-60/1 (Eckardt 2002b). None of the designs match the moulds or lamps from the West Stockwell Street site, but the fabric of the picture lamp from F199 indicates that it is a Colchester product.

Lamps deposited in Roman burials as grave goods may have been intended to guide the deceased into the afterlife. In Britain, the majority of lamps come from cremation burials and Colchester is one of the most prolific sites in this respect (Eckardt 2002a, 98-115). Most of these Colchester finds are, however, derived from antiquarian excavations largely lacking detailed context information (eg May 1930), which makes this collection even more valuable.

In several burials from the Handford House site, the lamps appear to have been placed into the grave lit. This is suggested both on the evidence of the lamps themselves (burning around the wick hole) and of the grave structure. It has been suggested (Philpott 1991, 191) that lamps in burials may have been placed and lit in order to reflect lighting arrangements in a house. Thus at Rougham, Essex, the spike and hook of an open lamp was actually driven into the wall of the burial chamber and at Avisford, East Sussex, ceramic open lamps were placed on ledges in all four corners of a burial cist (Eckardt 2002a, 109-110). From the 'blackened greasy earth' found beside an example from Guilden Morden, it has been suggested that it was deposited lit (Philpott 1991, 191). At the Handford House site, several lamps were placed in cavities formed by flagon sherds, perhaps in an attempt to symbolise lighting arrangements within a house or, more likely, to protect the flame from being extinguished when the grave was filled in and so enable the lamp to provide light on the journey to the underworld. A Romano-British amphora burial from Warwick Square in London contained two factory lamps that appear to have been adapted to provide a brighter light in their funerary context (Eckardt 2002a, 101, fig 45).

With picture lamps it is possible that a particular design was chosen for its funerary symbolism, and Nina Crummy has suggested here that the lamps from both F42 and F53 are instances of such selection (Figs 88-89 and section 7.3), although it has proved difficult to demonstrate that this took place more generally in Romano-British burials (Eckardt 2002a, 117-33).

### Lamps from non-burial contexts

SF 149. (236) L1. Residual in topsoil. Wall fragment of a picture lamp. Whitish-buff fabric with large inclusions; slip completely worn off; probably a pre-Boudican local product.

SF 35. (225) L2. Residual in topsoil. Twelve very small fragments from the wall and base of a picture lamp. Buff to yellow-green fabric with worn slip, possibly local. Second half of the 1st century, probably pre-Boudican.

# 7.5 Roman glass

### by H E M Cool

Roman glass vessels, or the remains of them, which seem directly related to funerary activities, were found in eight cremation contexts and one *bustum* (see Table 14). In addition, a small fragment of glass was found in the cremation burial F41 (finds no 129) and another in the disturbed cremation burial F45 (finds no 175). They show no obvious signs of melting, and are possibly chance inclusions in the fill. The colour of the glass suggests they are of a 1st- to 2nd-century date. In the following report, the glass will be discussed first according to the whether it is clearly a pyre good, a grave good or from a non-funerary context. In the final section, the way in which the glass vessels were being used in the Handford House site cemetery, compared with other contemporary cemeteries at Colchester and elsewhere, will be considered.

### Table 14: the distribution of glass vessels at the site.

(Note: the ? entries in the pyre goods indicate the presence of additional melted fragments which may come from the identified pyre goods or from other vessels.)

Feature	Pyre g	joods	Grave goods		
	Unguent	Unknown	Urn	Cup	Flask
F19	1	?	-	-	-
F42	2	?	-	1	1
F47	-	1	-	-	-
F53	-	1	-	-	3
F114	-	1	-	-	-
F125	-	1	-	-	-
F126	-	1	1	-	-
F142	2	?	-	-	1?
F181	-	?	-	-	-
Totals	5	5	1	1	5

# The pyre goods

Melted glass from vessels which had been placed on the pyre was present in three cremation burials (F42, F142, F181) and *bustum* F47. In one burial (F114), small fragments of glass were recovered from the cremated bone. Although these show no obvious signs of burning, it seems reasonable to conclude that they had been on the pyre and had been collected along with the bones for deposition. In addition, a fragment of possibly heat-affected glass was recovered from the disturbed cremation burial F19 (F19.10). In F42, the remains of two blue/green tubular unguent bottles were found (F42.11 and F42.15; Fig 102), as well as additional formless fragments of melted blue/green glass (F42.12 and F42.13) from them or other pyre goods. F19.10 also comes from this type of vessel. Tubular unguent bottles (Isings Form 8 in Isings 1957) are the dominant unguent bottle type of the mid 1st century AD both in Britain and elsewhere, going out of use in the Flavian period (*CAR* **8**, 159; Price & Cottam 1998, 169). They were effectively packaging for the contents, which were almost certainly oil, possibly perfumed. As such they are

not likely to have been curated, and the presence of them in these deposits suggests that the funeral took place not later than *c* AD 75-85.

F142.5 appears to come from a slightly different form of unguent bottle with a shorter neck, possibly a relatively tall conical reservoir, and small horizontally outbent rim which appears sheared. It was possibly a small version of the conical flask no F53.12 which is discussed below in the grave goods section. A mid 1st-century date would again be appropriate. At least one other unguent bottle was placed in the pyre of the individual in F142, as there is an additional melted cylindrical neck (F142.5) from the grave.

Cremation burial F181 produced a melted blue/green lump (F181.3), the form of which cannot be identified. The fragment weighs 10g which would be equivalent to the weight of a small tubular unquent bottle. The complete unquent bottle (F42.16, Fig 102) from F42, for example, weighs 11g including some soil infill. The blue/green colour is certainly appropriate for a container. The colourless melted fragment (F47.4) from the *bustum* F47 is unusual in two respects. The first is that it weighs less than 1g. Technically a *bustum* is where the pyre site becomes the place of interment. If a glass vessel had been on the pyre, more glass would be expected, unless the site was stripped of cremation pyre debris prior to the burial taking place, which would appear to be contrary to the aims of a *bustum*. There must, therefore, be the possibility that this was a chance vessel glass fragment that was fortuitously in the area in which the pyre was being built. The other unusual feature is that it is colourless. This was the type of glass used for tablewares, and all of the other glass pyre goods appear to be containers. This might, again, suggest that the fragment was a chance inclusion. The colour is, however, of use in helping to date the deposit, as colourless glass only started to be fashionable in the AD 60s, but was still rare by the late 1st century. It only became common in the 2nd century.

### The grave goods

At the Handford House site, a glass vessel was used as the urn in one burial (F126.1; Fig 103). It is an example of a square jar with a collared rim (Isings Form 62). These appear to have been rare in Britain, but this may be because of the difficulties of identifying them from fragments (*CAR* **8**, 185). They are made in two ways; some are free blown with the square profile produced by flattening the four sides, while others are blown into a square mould producing a moulded design on the base in the same way that square bottles were produced (*CAR* **8**, 179; Price & Cottam 1998, 194). This example was clearly blown into a mould.

Dating the mould-blown jars is not simple, because of the lack of well-dated comparanda from settlement sites. Price and Cottam (1998, 135-6) list a number of square jars from Roman Britain, mainly from burial contexts, but most are of the free-blown form. A mould-blown example with similar rim formation and base design was found at Gloucester serving as a cremation urn; but, as it was an antiquarian find, it provides no useful dating evidence (Lysons 1792, 131, fig 1). Isings (Isings 1957, 81) notes that square jars are found in large numbers on sites destroyed by the eruption of Vesuvius in AD 79 and goes on to cite parallels up to the 4th century. The Campanian examples tend to be the free-blown flattened type (see for example Scatozza Höricht 1986, 68 Forma 55; Stefani 2003, 180 no H12). Dated examples which were definitely blown into a mould, with the collared rim seen on jar F126.1 and with a concentric circle pattern on the base, include one from a grave in Trier (Germany) which also contained a coin of Vespasian (Goethert-Polaschek 1977, 182 no 1137), and another from a grave at Locarno (Switzerland) dated to AD 70-120 (Simonett 1941, 163 no 8; Carazzetti & Biaggio Simona 1988, 74 no 68). Elsewhere, mould-blown collared jars have been found in late 2nd- to 3rd-century graves such as that at Stein in the Netherlands (Isings 1971, 39, no 126) and several from Poitiers in France (Simon-Hiernard 2000, 95-7, nos 22-5). These later ones frequently have patterns on the bases which do not only consist of concentric circles, and the rims often do not conform to the rolled in then rolled out collar seen on F126.1. The later ones often also have a pontil scar, a feature which is rarely seen on glass vessels prior to the mid 2nd century.

F126.1 would thus appear to belong to the earlier part of the production of these jars. A Flavian to early 2nd-century date would certainly be appropriate, given the evidence from the Colchester town-centre Roman sites. Both the collared rim and fragments from mould-blown square vessels only start to occur in the archaeological

record in any quantity in post-Boudican contexts (CAR 8, figs 7.1 and 11.6).

Two glass vessels were deposited as grave goods in the cremation burial F42, both being found inside the urn. One was a tubular unguent bottle (F42.16; Fig 102) of the same type as those burnt on the individual's pyre (F42.15; F42.11). The other is an example of a Hofheim cup (F42.17; Fig 102). These cups (Isings Form 12) were a mid 1st-century form which was going out of use in the AD 70s (Price & Cottam 1998, 71). The distinct kick in the centre of the base of F42.17 might hint that it was in use during the later part of the life-span of the type (see Berger 1960, 43); certainly this base form did not occur in the town-centre Roman sites in Colchester in pre-Boudican contexts.

The other cremation burial where whole glass vessels were definitely being placed unburnt in the grave was F53, where three blue/green conical flasks (F53.10, F53.11, F53.12) were found within the urn (Figs 20-21 and 102-103). All have elements which suggest that they are of mid 1st-century date. F53.10 has a rim with a very small triangular profile. In the Colchester town-centre Roman sites, nearly half of the flask rim fragments with this profile were found in pre-Boudican contexts (CAR 8, 164). It is the rim form found on two flasks from one of the cremation burials at the Sheepen site, for which a Neronian date seems most likely (Charlesworth 1985, mf 1:A8, nos b and c). Both of the blue/green flasks in the famous figurine grave at Colchester also have this rim formation, although with slightly more bulbous bodies (Eckardt 1999, 74, fig 7, nos 37/1139 and 38/1140 - NB in neither is the rim formation drawn accurately in these illustrations). A date in the decade before the Boudican revolt seems most appropriate for this grave as, although some of the grave goods could equally date to the years immediately after that event, the circumstances of the town would seem to preclude that. If we are to believe Tacitus (Annals xiv.29-39), there would have been no colonists left to bury their dead with such elaborate ceremony.

F53.11 is a tall conical unguent bottle differing from a tubular unguent bottle only in that it has a flattened rather than rounded base. It would have been in use at the same time as the tubular form. A very similar one, for example, came from a mid 1st-century cremation burial at Little Alie Street, London (RCHME 1928, 159, fig 65, no 28). The tall conical form seems less common than the tubular one, but that may just be because of the larger capacity. A very similar example to this has been found in Colchester before, presumably also from a grave, although it is now without provenance other than the fact that it formed part of the Joslin Collection (Colchester and Ipswich Museums, JOS 299).

The rim on F53.12 consists merely of a small horizontally out-turned edge. This was a very rare rim form amongst the material from the Colchester town-centre Roman sites, and the only example was found in a context which dated from the mid 1st century to the early 3rd century (*CAR* **8**, 163 no 1261). In discussing that example, we suggested that it should be regarded as being a variant of the rim finish on tubular unguent bottles. The discovery of F53.12, in association with the two undoubted mid 1st-century flasks F53.10 and F53.11, shows that this is indeed the case.

In two cases (F53.11, F53.12), the vessels, although complete, are broken at the rim. Both fragments of F53.12 were found in the same excavated spit, but, in the case of no F53.11, the main part of the vessel was found in spit 4 and the rim in spit 7, suggesting that the vessel was placed into the urn after it was broken. Presumably the contents were used during the interment ceremonies, possibly poured over the burnt bones.

In addition to the unguent bottles placed on the pyre in cremation burial F142, there are seven fragments of another tubular unguent bottle (F142.4) placed with the cremated bones in the pyre and found within the urn (Figs 46 and 103). The fragments join, but parts of the rim and body are missing. Most were found in spit 6, but some came from spit 7. The rim and neck area show an altered surface, possibly from the action of heat. Clearly this was placed in the urn in an incomplete state. It may have been a pyre good but, given that the degree of heat alteration is very slight, it must have been in a peripheral position if placed on the pyre. It should probably be regarded in the same light as the flasks in F53, and the altered surface may have come about because of burial in contact with the hot bone.

#### Glass from non-funerary contexts

Four of the fragments found in non-funerary contexts relate to the funerals which

took place on the site, as they are melted. One of the fragments is from a later pit (F34) but undoubtedly derives from the cremation burial which it cuts (F36); this fragment is listed as F36.5. The other three are clearly derived from pyre goods: F125 (606); F152 (788); and L1 (852). All are in colours which tubular unguent bottles are known to have been made in, and it seems very likely that they came from perfume containers placed on the pyre. There are also a number of unburnt blue/green fragments (L1 (236); F51 (191)) which may be dated to the 1st to 3rd centuries. One of these fragments (finds no 236) retains features which suggest that it is from a jug, but is otherwise undiagnostic. A fragment of cast window glass of 1st- to 3rd-century date was also found in pit F106 (420).

- L1 (236), SF 158, T20. Jug; 8 body and base fragments. Cylindrical neck curving out smoothly to globular body; convex-curved body fragments, one preserving the rounded end of a handle attachment; one lower body curving into concave base. Diameter of neck approx 22 mm, wall thickness 1 mm.
- F51 (191), T14. Blue/green body fragment.
- F34 (91), T13. Melted yellow/green fragment. Weight 8g.
- F125 (606), T54. Melted blue/green fragment. Weight 6g.
- F152 (788), SF 105, T56. Melted blue/green lump. Weight less than 1g.
- L1 (852), SF 189, T68. Melted deep blue lump. Weight 3g.
- F106 (420), T47. Window glass: 1 fragment of light green cast matt/glossy. 5.5 cm<sup>2</sup>.

### An overview of vessel use in the cemetery

The types of glass vessels identified in the cemetery suggest that burial was taking place here in the mid 1st century. There is very little evidence, other than the collared jar which was used as an urn in F126, that glass vessels continued to be part of the funeral ritual by the late 1st century.

On the whole, the type of vessels being used, ie flasks and unguent bottles, are typical of what is found in Roman centres in mid 1st-century Britain. Precisely the same type of tubular unguent bottles, for example, both burnt and unburnt, as here, were found in a cemetery associated with the legionary fortress at Lincoln (Jones 2002, 48 colour plate 7) and in cemeteries around Winchester (Collis 1978, 85, fig 30.20 and 102, fig 40.49; Victoria Road excavations, unpublished). They are also very common in the cemeteries around Colchester, where it is clear that they were regularly put on the pyre as well being placed in the grave unburnt. Mid 1st-century burials which have both flasks as grave goods and melted glass indicative of vessels placed on the pyre include the 'child's grave' with figurines (Eckardt 1999, 74), and, following the numbering of May 1930, graves 7/24, 29/47 and 44/26. Grave 7/24 is especially interesting as the records state that the whole unguent bottle was placed in the urn, presumably following precisely the same rite as that seen at the Handford House site. May regularly recorded unguent bottles and flasks from the burial groups, and many more complete examples from Colchester survive in the Colchester and Ipswich Museums, although now without provenance. The contents of these vessels must have been regularly used during the funerals.

The use of a glass vessel as a cremation urn appears to be much less common. May notes only three instances (May 1930, Joslin graves 65/78 and 83/79; Taylor grave 9/8), all of which certainly post-date the mid 1st century. This fits a pattern that Philpott (1991, 26) has observed more widely in Roman Britain, and probably suggests that the glass urn from F126 is later in the sequence than F42, F53 and F142. As we have seen, the glass urn from F126 would fit, typologically, more happily into a later 1st- to earlier 2nd-century milieu than earlier.

The deposition of glass drinking cups in mid 1st-century graves is very uncommon, which is interesting because they are a very common site find. In the town-centre Roman sites excavated at Colchester, for example, a minimum of 35 Hofheim cups were recovered (*CAR* **8**, 64). F42.17 is the only certain example ever to have been recovered from a grave in Britain; although there are two other candidates, both now without provenance but both with Colchester connections, that might have been. One, now in the British Museum (accession no 1870.4-2.3), formed part of the collection of the Rev J H Pollexfen who is known to have collected much material from burials in Colchester in the mid 19th century. It is a pale yellowish green, and of similar shape and base pattern to F42.17. It is complete but mended, and the likelihood that it came from a grave at Colchester in the stores of the Colchester and Ipswich Museums. It is pale blue/green and more cylindrical than

those which are regularly found at Colchester. From its state, it presumably originated from a grave. Whether that grave was at Colchester, however, is open to question. The form and colour are unusual, judged against a background of undoubted Colchester finds, and it may be a vessel brought back to this country from abroad in modern times. It is known that some vessels in the collections originated in this way.

Another glass cup of this date which also formed part of Rev Pollexfen's collection, the famous Colchester circus cup, was found with a cremation burial in the West Cemetery in Lexden (Harden *et al* 1987, 168 no 89). Again this is a type which was clearly popular in daily use. Excluding the one from the West Cemetery, there are a minimum of 12 known from the Colchester/Sheepen area (*CAR* **8**, 44), but this is the only example to have been found in a grave in the UK.

The way in which glass drinking vessels are normally almost always excluded from grave contexts suggests that the individual buried in F42 was of some special status.

In general, therefore, with the possible exception of F42, the use of vessel glass in funerary ritual at the Handford House site follows the normal pattern seen in the cemeteries surrounding Colchester in the mid 1st century. It confirms the normal practice of using the contents of the vessels on the pyres, as well as in the postburning rituals, and the emphasis on containers rather than tablewares. This pattern is very different from that seen in the contemporary and earlier graves at the sites of Stanway Quarry (Crummy *et al* 2007) and Sheepen (Niblett 1985, 22), and the vessels do seem to reflect a difference in the burial rites of the native population and the colonists.

### Acknowledgements

I am most grateful to Professor Jennifer Price for providing me with information about the Hofheim cup from the Pollexfen collection in the British Museum.

# 7.6 Cremated human bone

by Sue Anderson

### Introduction

This report examines the cremated bone from 50 cremation burials, two *busta*, five other features and fourteen contexts within layers. A full catalogue of the cremated bone can be found in Appendix 3 with Table 30.

### Methodology

Collection methods varied depending on the size and type of deposit. Twenty-nine groups of cremated bone from pottery vessels were collected in spits. Upper fills of the *busta* were sampled and sieved, but bone fragments within the burials were collected and numbered individually. The remainder were collected as single groups of bone. With the exception of a few fragments which were hand-collected on site, all groups of bone (including separate spits) were wet-sieved and sorted into fractions <5 mm and >5 mm prior to analysis. The smaller fractions were mixed with pea-grit; fragments from the <5 mm fractions of eleven sample residues were separated by hand before analysis so that the bone could be weighed. However, this task was very time-consuming and so, in the remainder, the amount of bone was simply estimated, based on the approximate percentage of bone present, and scanned for recognisable fragments. Animal bone and artefacts were extracted for study by the appropriate specialist.

Bone fragments were sorted into five categories: skull, axial, upper limb, lower limb, and unidentified. All fragments were weighed to the nearest 0.1g. Measurements of maximum skull and long-bone fragment sizes were also recorded. These data are listed in Appendix 3.

Observations were made, where possible, concerning bone colour, age, sex, dental remains, non-metric traits and pathology. Identifiable fragments were noted. Age of juveniles was estimated from tooth eruption and/or epiphyseal fusion where possible, age of adults from degenerative changes. Sexing of adults was based on size and robusticity. Methods used follow the Workshop of European Anthropologists (WEA 1980), McKinley 1994 and McKinley 2004. A catalogue of burials is included as Appendix 3.
### Quantification, identification, collection and survival

Table 15 shows the bone weights, percentages of identified bone from each burial, and the proportions of bone identified from the four areas of the skeleton (skull, axial, upper limb, lower limb). Expected proportions are provided in the first row.

Quantities of bone varied considerably, ranging from as little as 0.4g (F108) to 1,818.4g (F134). The total weights of bone indicate that the majority of these burials were substantially incomplete. The average bone weight per context for the whole assemblage (total weight 25,300.4g) was 361.4g. Mays (1998, table 11.2) notes that the combusted weight of an adult skeleton has a mean of around 1,500g for females and 2,300g for males. Only one of the burials in this group (F134) was within this range, and only seven produced more than 1,000g of bone.

Graph 2 shows the percentages of bone identified for each burial against the total weight of bone. There is no particular correlation between the two, although smaller quantities are more likely to fall at either end of the graph, being either wholly unidentifiable or fully identifiable. The two *busta*, F47 and F134, fall towards the higher end of the graph, both with over two-thirds of the remains identifiable.

Table 15 shows that skull fragments are almost always over-represented amongst the identifiable material; only twelve burials with identifiable remains have less than the expected proportion of 18.2%. Conversely, only twelve burials had greater than expected proportions of identifiable axial fragments, and only eight had more than expected of the upper limb. Fragments of femur also appear to be more easily identified, and the lower limb is over-represented in 21 burials.

It has been suggested that 'it should be possible to recognise any bias in the collection of certain areas of the body after cremation' (McKinley 1994, 6). However, there is also some bias inherent in the identification of elements. McKinley notes the ease with which even tiny fragments of skull can be recognised, and, conversely, the difficulty of identifying long-bone fragments. These figures can therefore provide only a rough guide to what was originally collected. However, if the cranial vault is underrepresented, this suggests a number of possibilities: ie that it was not collected, that it was deposited separately, that it was retained (as suggested by Wells 1981), or that it was in the top of a truncated vessel. In this assemblage, F59, F115 and F179 seem to have lost a large proportion of their skull fragments – F59 and F179 were disturbed, but none of the three was truncated.

Туре	Feature	Total wt/g	% identified	% Skull	% Axial	% U limb	% L limb
	Expected*			18.2	20.6	23.1	38.1
Boxed	cremation burial						
	F120	185.5	62.7	18.9	14.7	15.1	51.3
Urned a	and probable urr	ned cremation	on burials				
	F15	1,270.7	41.0	21.8	16.3	18.7	43.2
	F36	33.9	49.0	50.0	19.9	16.9	13.3
	F41	166.8	49.8	51.6	16.1	16.1	16.1
	F42	370.7	44.4	70.5	3.2	13.8	12.5
	F44	220.3	56.0	55.9	2.8	15.8	25.5
	F45	4.0	10.0	100.0	0	0	0
	F53	368.0	45.1	65.3	1.4	18.6	14.7
	F59	247.4	77.3	8.3	9.9	21.4	60.4
	F87	266.5	61.7	38.4	19.4	13.4	28.7
	F88	8.0	100.0	6.3	28.8	65.0	-
	F93	5.4	100.0	0	0	0	100.0
	F101/F107	4.0	0	-	-	-	-
	F102	61.1	18.3	84.8	2.7	0	12.5
	F103	914.8	55.1	17.2	32.6	15.3	35.0
	F114	1,488.1	38.1	29.0	20.7	12.1	38.2
	F115	1,051.5	57.5	14.8	26.0	19.0	40.3
	F118	47.9	30.7	32.7	3.4	18.4	45.6
	F126	107.6	30.4	69.7	11.6	3.7	15.0
	F128	571.6	44.0	18.8	9.9	19.3	52.0
	F129	432.2	76.5	31.3	6.9	17.4	44.4
	F135	1.002.7	53.9	27.6	21.9	12.5	38.0

# Table 15: percentages of identified fragments out of total identified to area of skeleton (\*expected proportions from McKinley 1994, 6).

CAT Report 323: Archaeological excavations at 1 Queens Road (Handford House, now 'Handford Place'), Colchester, Essex: 2003 and 2004-2005

	F137	837.2	53.5	30.2	29.0	21.0	19.8
	F141	628.3	44.1	25.5	12.7	15.1	46.7
	F142	915.4	39.9	19.9	25.7	19.7	34.8
	F162	274.8	52.4	53.2	23.2	8.4	15.1
	F165	700.1	40.2	27.7	19.0	8.1	45.3
	F178	751.0	35.5	19.1	5.7	15.5	59.7
	F179	237.9	47.9	6.5	6.3	10.5	76.7
	F180	585.4	47.7	12.6	5.6	16.4	65.4
	F181	183.5	20.3	74.5	6.5	9.9	9.1
	F186	195.4	37.9	39.4	4.6	13.8	42.2
	F192	750.2	53.2	30.8	10.4	13.9	44.9
	F195	772.5	53.2	35.5	4.0	23.3	37.3
	F198	1,129.0	52.0	20.0	9.3	14.4	56.4
	F199	704.5	49.1	24.7	22.5	27.1	25.7
	F200	1,322.7	59.9	25.8	17.4	26.0	30.8
	F201	572.7	47.6	51.3	4.4	18.7	25.5
	F204	20.9	92.3	0	0	64.2	35.8
	F209	2.1	85.7	61.1	22.2	0	16.7
Unurned							
	F18	170.0	60.5	35.8	11.0	28.2	25.1
	F19	209.0	63.8	29.1	13.9	22.0	35.0
	F83	11.6	100.0	37.1	8.6	15.5	38.8
	F85	27.1	84.1	44.3	9.6	40.4	5.7
	F108	0.4	0	-	-	-	-
	F123	9.8	10.2	100.0	0	0	0
	F133	23.3	100.0	0	0	0	100.0
	F182	747.1	46.4	26.2	8.7	19.9	45.2
	F197	153.2	35.6	18.9	14.5	32.8	33.8
	F203	810.1	15.7	11.4	7.3	8.0	73.2
Bustum							
	F47	1,368.0	76.3	17.4	25.1	20.7	36.8
	F134	1,818.4	69.4	16.0	36.9	10.2	36.9

CAT Report 323: An archaeological excavation at 1 Queens Road (Handford House, now 'Handford Place'), Colchester, Essex: 2005





## The cremation burials

Urned burials and boxed cremation burial

Thirty-nine urned cremation burials (including one in a glass vessel inside a box and one inside an amphora) and one boxed cremation burial were excavated. These are summarised in Table 16.

In general, the bones were well preserved and in good condition, with an average maximum fragment size of 57.6 mm (range 10-135 mm). Fifteen urned burials were disturbed, three of them truncated, and these had an average maximum fragment size of 48.5 mm, compared with 62.8 mm for the undisturbed burials. A few fragments, most notably in F181, F192 and F195, showed signs of abrasion. In the double cremation burials (F192 and F195), this affected only one of the two individuals.

The range of weights for these burials was 4.0g to 1,488.1g, with an average of 487.8g. This is higher than the average weight of bone in urned burials at the Abbey Field (327.3g (including boxed cremation burials and cist); revised CAT Report 138 in prep), but lower than the average weights found at Baldock (619.2g) and St Stephen's cemetery in St Albans (899.6g; McKinley 2000b, 270). The disturbed burials had an average weight of 273.8g, compared with an average of 600g for the undisturbed burials. Undisturbed urned burials at the eastern cemetery of Roman London had an average weight of 845g (McKinley 2000b, 270).

Six of these burials contained the remains of more than one individual, but only four (F42, F162, F192, F195; 10.5% of the urned burials) can be claimed as double cremation burials. F41 and F128 contained only small quantities of the second individual, a child in both cases. These were too few to indicate a separate individual and they may well have been collected and included in error if the pyre site had been used previously. Alternatively, they may have been included deliberately to accompany the main individual. The minimum number of individuals (MNI) for this group is 43.

Most of these burials were excavated in spits and this allows for the relative proportions of the four main skeletal areas to be compared. Graphs 3-4 show the results of this (based on percentages of identified fragments by weight) for F178, which showed the most structured pattern of collection on the site, and F200, which had the largest quantities of identifiable bone. In F178, there is an increase in the amount of skull towards the bottom of and outside the vessel; although the patterning is not particularly clear, there is a slight suggestion that the burnt bone was collected from the head end of the pyre first, working down to the feet. In F200, there is a fairly even spread of identifiable fragments. F186, F198 and F201 also showed this pattern. However, the majority of urned burials showed no real structure in the patterns of deposition of identifiable fragments (details in archive). This may be due to post-depositional disturbance, which seems to have affected many of the burials. Another possibility is that more than one person was involved in collecting the bone, which would make it difficult or unnecessary to work systematically from one end to the other.



# Graph 3: proportions of skeletal area by spit from urned cremation burial F178.

Table 16: summary	of urned	l and proba	ble urned	cremation	burials.

Burial	Age	Sex	Notes
F15	middle-	?M	Well preserved with large fragments; some degenerative
	aged/old		changes; bones appear large.
F36	adult	?F	Very incomplete, mostly small fragments; bones appear small, but epiphyses fused.
F41	i) adult	U	Very incomplete, but some large fragments; mainly adult
= 40	ii) 8-12 years	U	fragments, but a few unfused epiphyses and ilium of child.
F42	i) approx 5-	U	Incomplete, some large fragments; ages based on
	6 years	U	epiphyseal fusion and tooth eruption. Too much skull for
	II) approx		one individual, but not clear now much of each may be
	12+ years		represented. Well preserved but incomplete: unfused femeral eniphysic
F44	vears	0	weil preserved but incomplete, uniused lemoral epiphysis.
F45	unknown	U	Poor, verv incomplete.
F53	approx 3-5?	Ū	May be fairly complete, some large fragments; age based
	years		on tooth eruption.
F59	adult	Μ	Very incomplete, some very large fragments; large robust
			bones, epiphyses fused, no degeneration; slight periosteal
			reaction on tibia shaft fragment.
F87	adult	U	Very incomplete, a few large pieces; epiphyses fused, no
			degeneration; wormian bones present.
F88	adult	U	Very incomplete, size suggests adult.
F93	adult	U	Very small amount; identified as adult based on size.
F101/	adult?	20	very small quantity; some not certainly burnt and may be
F107	approx 2.2		animai. Verv incomplete, some lerge pieces: uperupted meler
F IUZ	appilox 2-3	0	crown fragments
F103	middle-aged	2E	Well preserved, some very large fragments: small hopes
1100	inidule-aged	: 1	and femoral head medial clavicle fused some
			degeneration of vertebrae.
F114	middle-	Μ	Possibly fairly complete, well preserved, particularly large
	aged /old		fragments of torso; large occipital crest and robust bones,
	0		degenerative disease and partially obliterated cranial
			sutures; osteoarthritis of the right hip and osteophytosis of
			the spine, small exostosis of femoral shaft.
F115	young/	F	Well preserved, large fragments, but incomplete;
	middle-aged		beginnings of degenerative changes, wide sciatic notch
5440			and gracile bones.
F118 E120	adult middle egod	U	Very incomplete but some large pieces; epipnyses tused.
F120	midule-ageu	Г	some degenerative changes of vertebrae, gracile bones
F126	approx $9-12$		Incomplete, some large fragments: age based on tooth
1 120	months	0	eruntion
F128	i) older adult	U	Incomplete, some large pieces; mainly adult with
	ii) infant	U	degenerative disease, small occipital crest but large axis
	,		odontoid process, only two fragments of infant identified;
			osteoarthritis and osteophytosis of spine.
F129	middle-	?F	Very incomplete, but several large fragments; occipital
	aged /old		crest prominent but not large, some cranial sutures
			closed, degenerative disease; osteophytosis of spine,
E40E	مع أما ما		lipping of linea aspera of femur.
F135	middle-	IVI	Fainy complete, large fragments, degenerative disease,
	ageu /olu		large occupital crest, robust bories and large verteblae,
			diffuse ideonathic skeletal hyperostosis osteoarthritis of
			medial clavicle
F137	approx 16-	?F	Incomplete, large fragments: unfused adult-sized
	18 vears	••	epiphyses, small and gracile.
F141	middle-aged	?F	Very incomplete, several large fragments; some
	+		degeneration, bones seem small; osteophytosis of spine.
F142	approx 16-	Μ	Incomplete, but some very large pieces, including near-
	18 years		complete vertebrae; age from epiphyseal fusion, sex from
			prominent occipital crest and large fingers.
F162	i) approx 3	U	Very incomplete, some large pieces; age of child based on
	years	U	tooth eruption, adult had degenerative disease. Most
	ii) older		Regiments from the pit ill were from an adult (finds hos
	auuit		(finds no 864). Fragments from Inside the urn were MIXed
			(11105 110 004).

Burial	Age	Sex	Notes
F165	middle-aged +	U	Incomplete, some large fragments; some degeneration, large occipital crest, but cervical vertebrae appear small; osteoarthritis of the elbow, and slight lipping at hip joint.
F178	approx 16 vears	?M	Incomplete, some large fragments; unfused distal ulna, prominent occipital crest.
F179	middle-aged +	U	Very incomplete, a few large pieces; some degeneration; lipping of linea aspera.
F180	adult	?M	Very incomplete, some large fragments; epiphyses fused, large occipital crest.
F181	older adult	U	Very incomplete, poor and abraded; degenerative disease; possibly osteoporotic, osteophytosis of spine.
F186	approx 12+ years	U	Incomplete, some large pieces; age estimated from tooth eruption and epiphyseal fusion.
F192	í) adult ii) adult	F U	Fairly incomplete, well preserved, some skull fragments abraded; one individual had a gracile occipital crest, at least one of the two individuals had degenerative changes, ie osteophytosis of spine and right shoulder joint.
F195	i) adult ii) older adult	U M	Fairly incomplete, well preserved, some skull fragments abraded; one individual was large and robust and showed degenerative changes.
F198	middle- aged /old	?M	Fairly complete with some very large pieces; teeth lost ante-mortem, degenerative changes, robust bones, occipital crest fairly prominent; osteophytes of spine, periostitis of tibia.
F199	adult	F	Incomplete, some very large fragments; epiphyses fused, bones small and gracile.
F200	?young	?M	Fairly complete, some large pieces; no degeneration, large robust bones; osteochondritis of right elbow (distal humerus).
F201	adult	?F	Incomplete, large fragments; epiphyses fused, small bones.
F204	adult	U	Very incomplete, some large fragments; size indicates adult.
F209	infant	U	Very incomplete, small fragments; age indicated by size of bones and skull thickness.

# Graph 4: proportions of skeletal area by spit from urned cremation burial F200.



The majority of bone in this group was fully oxidised and cream to white in colour, although occasionally fragments were grey, blue-grey or black, indicating incomplete oxidation. This was often seen on the inner surface of the skull, cancellous

fragments of torso, and inner parts of the long bones, particularly the femur and tibia. The presence of a high proportion of white bone indicates firing temperatures in excess of approximately 600°C (McKinley 2004, 11). However, in comparison with two Early Bronze Age groups from Essex (Birch Pit near Colchester, and St Osyth in North-East Essex) recently analysed by the present author, it was noticeable that the Roman group contained a much higher proportion of grey-black bone. It appears that there was sometimes inefficiency in the cremation process, which has been noted at other Roman sites (eg McKinley 2000a, 269; Wells 1981, 291). This might be more likely to occur if cremations were being carried out by specialist businesses, perhaps taking less care than might be accorded by relatives of the dead.

A connection has been suggested between F42, F44, F53 and F142 based on the use of gorse as a fuel and the close proximity of the burials within the cemetery (see section 7.9). F42 and F53 contained two halves of the same coin (K Orr, pers comm). All four individuals were under the age of 18, but otherwise there is nothing in the bones to suggest any association. F42 and F53 were of a similar age, but they were two individuals as there was duplication of part of the frontal bone.

### Unurned or pyre-debris deposits

Ten cremation deposits were unurned or probably unurned, although some of them may originally have been buried in perishable containers. Table 17 summarises the information collected during the study of these burials. The average bone weight for these deposits was 240.2g (assuming that F18 and F19 were one burial), and the average maximum fragment size was 38.6 mm (range 9-60 mm). Most of this material was well preserved, and large fragments were often present. Only F123 showed signs of abrasion.

The MNI for this group is eight, although in some cases these were represented by such a small quantity of bone – as Table 15 shows, most were less than 200g in total weight – that it seems likely that they were redeposited, either from more complete burials or within pyre debris. However, none is located close to a more complete burial. The small quantities for unurned material are not necessarily a result of the lack of a pottery vessel, as many of the urned burials in this group were also severely underweight. F182 and F203 contained enough bone to be considered intentional burials. F108 may be animal and is not included in the MNI.

Colouration for the unurned cremated bone was fairly uniform and generally indicated full oxidation and high firing temperatures, although F18/F19 and F203 produced several fragments of grey and black bone.

Burial	Age	Sex	Notes
F18	adult	?M	Very incomplete, several large fragments; bones medium- large, no obvious degenerative changes; metopic suture patent. Probably the same as F19.
F19	mature	Μ	Very incomplete, some large pieces; some degenerative changes, large mastoid process; osteophytosis of the spine. Probably the same as F18.
F83	adult	U	Very incomplete, several large fragments; bone size indicates adult.
F85	mature	U	Very incomplete, some large pieces; slight degeneration.
F108	unknown	U	Very little surviving, may not be burnt and could be animal.
F123	?infant	U	Very incomplete, chalky and abraded; skull thickness and bone size suggest infant.
F133	adult	U	Very incomplete, large pieces; size indicates adult.
F182	?old	Μ	Incomplete, several large pieces; degenerative changes and tooth loss, large occipital crest and fingers; osteophytosis of spine and hip joint. Includes iron concretions and pottery fragments.
F197	adult	F	Very incomplete, some large fragments; epiphyses fused, small bones.
F203	middle- aged +	U	Incomplete, small fragments; degenerative changes to spine.

#### Table 17: summary of unurned cremation deposits.

#### The busta

Two features were identified as *busta*, and these are summarised in Table 18. The maximum fragment sizes for these burials were 77 mm for F47 and 160 mm for F134. All bone was well preserved with no signs of abrasion.

Feature	Age	Sex	Notes
F47	middle- aged	Μ	Incomplete but well preserved with many large pieces; robust bones, some degeneration; slight osteophytosis of spine.
F134	?middle- aged	F	Probably complete, many large fragments; age determined from fragment of pubis and presence of degeneration, sex from wide sub-pubic angle, small and gracile bones; large Schmorl's nodes in lumbar vertebrae, osteophytosis of spine.

The total weight of bone collected from F47 was only 1,368.0g, which is well below the average for a male cremation. On the other hand, F134 produced 1,818.4g, the only burial in this assemblage to contain enough bone to be considered 'complete'.

In a true *bustum*, it would be reasonable to suggest that all surviving cremated bone should be present. However, other excavated examples have produced relatively small quantities (Barber & Bowsher 2000, 62). It is also expected that the bone will be laid out in roughly anatomical order within the pyre pit or grave. This is true of F47 at this site, but not of F134. Neither contained large quantities of charcoal, which would be predicted if the pyre had collapsed *in situ*.

Whilst it seems unlikely that the individual buried in F134 was burnt *in situ*, F47 is more difficult to explain. Although a few fragments of the leg bones were scattered in the chest area of the grave, in general, areas of the skeleton were deposited as would be expected, allowing for some movement as the pyre collapsed. So where were the remains of the fuel? One explanation could be that the feature was truncated and thick deposits of charcoal above the bone had been removed, but this would suggest that the body had been placed under the pyre, not the normal position and not the best place to ensure full cremation. However, the possibility that the bones in F47 could have been laid out in the correct order following redeposition is so small that it must be rejected.

A fairly high proportion of the bone from F47 was black or grey, suggesting inefficient cremation of these pieces. Perhaps the bone collected from this feature represents material which fell through the pyre before it had been fully cremated and before the pyre collapsed. If this were the case, bone may have been removed from the upper levels for burial elsewhere, perhaps mixed in with the pyre debris, leaving half the skeleton *in situ* amongst the ashes in the flue.

F134 contained so much bone, compared with the other burials from the site, that it could represent more than one individual. No duplication of bones was seen during recording, but there was some ambiguity in surviving sexing criteria. The sub-pubic angle was wide and the bones were generally small and gracile, but the occipital crest appeared fairly prominent. However, the overall impression was of a single individual. This burial contained at least 93.7g of animal bone, whilst none was identified in F47. Most of the bone from F134 was cream-white, although occasional black fragments were present (many of them animal bone).

Despite the size of the burial-pit and the apparent dispersal of large fragments of bone within it, it seems reasonable to suggest that F134 was not a true *bustum*, and that the remains within it were redeposited. This is likely to have occurred soon after cremation and may indicate that the pyre was not far away – apparently there was no need for a vessel to transport the fragments, and less than the normal breakage had occurred.

## Other features

Nineteen other contexts produced small quantities of burnt and calcined bone, much of it chalky and abraded. Table 19 summarises the information collected for these groups.

Table 19: cremated bone from non-burial features.

CAT Report 323: An archaeological excavation at 1 Queens Road (Handford House, now 'Handford Place'), Colchester, Essex: 2003 and 2004-2005

Context	Finds no	Wt/g	Age	Sex	Notes
F8	96	5.0	adult	U	rib and acetabulum fragments only; age based on size.
F28	77	0.6	unknown	U	poor condition; may not be human.
F32	98	1.5	unknown	U	small fragments, no sexing or ageing criteria, but human.
F34	87	17.1	adult	U	some large fragments; clavicle is small and gracile but tibia is large; possibly more than one individual?
F98	390	5.0	adult	U	some large pieces; size suggests adult.
L1	222	32.7	adult	U	some large pieces; size suggests adult.
	262, 264	193.3	adult	М	some large fragments; epiphyses fused, large ischium – probably a disturbed and redeposited burial.
	314	8.0	adult	U	some large pieces; size suggests adult.
	350	98.0	adult	U	size suggests adult; small exostosis distal radius, osteophytosis of spine; may be from F87 or F83.
	351	90.3	middle- aged-old	U	large fragments of legs; osteophytosis of the spine, same as finds no 350?
	1007	26.8	adult	U	size suggests adult.
L2	6	4.0	adult	U	size suggests adult; may be from F181.
	63	5.9	adult	U	size suggests adult.
L16	354	8.1	adult	U	size suggests adult; may be from F87 or F83.
L36	1188	1.5	unknown	U	poor, small fragments.
L38	1011	4.1	adult	U	size suggests adult.
L39/L40	928	0.6	?child	U	size suggests ?child – close to F180, which is adult.
unstrat		37.6	adult	U	some large fragments, including toes; epiphyses fused.

In most examples, it is likely that the material is redeposited, and may derive from other individuals excavated from the more complete burials. However, there is enough bone from L1 (finds nos 262/264 and 350/351) to count these as separate individuals.

## Demography

The total MNI for the cremation burials is 55, including unurned and redeposited material; if this is discounted, the MNI is reduced to 45.

Table 20 presents a summary of the distribution by age and sex. This shows a fairly even distribution through the age groups, although there is a peak of child deaths in the 'small child' category, perhaps as a result of childhood illnesses such as measles.

Age group	Unsexed	Male	?Male	Female	?Female	Total
Infant (0-2 years)	3					3
Small child (3-9	5					5
years)						
Juvenile (10-15	2					2
years)						
Sub-adult (16-18		1	1		1	3
years)						
Young adult			1	1		2
Adult	10	2	1	3	2	18
Mature adult	4	2		2	2	10
Older adult	3	4	2		1	10
Unknown	2					2
Total	29	9	5	6	6	55

#### Table 20: distribution by age and sex of cremation burials.

Of the 55 individuals, 13 (23.6%) were under the age of 18 years at death. This is a relatively high proportion in comparison with several other Roman cremation groups, which varied between 7.7% at Skeleton Green to 12% at Baldock, although, at the

cemetery of St Stephen's cemetery in St Albans, the figure was 21% (quoted by McKinley 2000b, 265). At the large Iron Age cremation cemetery of King Harry Lane, St Albans, 12.8% of the aged individuals were non-adults (calculated from Stirland 1989, table 48).

Only one of the infants in the Handford House site group could be closely aged, and was thought to be approximately 9-12 months at death. This single individual under a year old represents 7.7% of the juvenile group, a relatively low proportion for a 'normal' population but not especially abnormal in a cremation group, as discussed by McKinley (McKinley 2000a, 266).

Three sub-adults, aged between 16 and 18 years, were present and all three showed sexing criteria, suggesting that one was female and two were male or possibly male.

The majority of adults for whom age could be suggested fell into the mature and older adult categories, but this is simply because older individuals are more easily identified amongst cremated remains, due to the presence of degenerative changes. The absence of this indicator would result in an individual being categorised simply as 'adult', and it is likely that a high proportion of this large group were young or mature. In comparison, a very high proportion of the individuals from the Abbey Field in Colchester were identified as sub-adult or young adult, which is very unusual and may indicate some form of segregation (revised CAT Report 138, in prep).

Of the 42 adults, 23 (54.8%) could be sexed. There were twelve males or possible males and eleven females or possible females, giving a sex ratio of approximately 1:1, as expected in a normal population. At other Roman cremation cemeteries, more women than men have been identified, and McKinley suggests that there may be a bias towards the identification of women in cremated remains (McKinley 2000a, 266), although this may be subjective as the present author finds the opposite to be the case. At King Harry Lane, 102 individuals were thought to be male or ?male, but only 33 were female or ?female (Stirland 1989, table 49).

Five women (41.7%) and eight men (66.7%) were mature or older. This slight difference between the sexes has been noted at other sites, for example the eastern cemetery of Roman London (McKinley 2000b), but it is not statistically significant.

## Anatomical variants and pathology

Study of anatomical variants, dental disease and skeletal pathology is, unsurprisingly, difficult in fragmented human remains such as those derived from cremation. No prevalences can be calculated, so the following is simply a summary of observations of the few diseases and morphological traits which could be identified.

Very few anatomical variants were identified in this group. A metopic suture was present in F18. This suture, which divides the frontal bone of the skull, is normally obliterated by the age of six years, but in some individuals it remains patent into adulthood. Wormian bones, ie extra-sutural bones of the skull, were found in F87. A septal aperture was found in the distal left humerus of F115, and F165 had one in the distal right humerus. This trait can be related to gracility and is often more common in women than in men. Only one of these individuals could be sexed, ie F115, and this was female. All of these relatively common traits may occur due to genetic predisposition, environmental influences or developmental factors, but normally they would be asymptomatic.

Dental remains in cremated skeletons consist largely of fragments of tooth root, small pieces of maxillary and mandibular alveolus, and unerupted tooth crowns. In this group, only 95 fragments of tooth root were identified, none of which showed any signs of dental disease. Seventeen individuals had fragments of maxilla or mandible for which the area of dentition could be identified. These fragments included 102 tooth positions, of which 88 belonged to adults. Ten positions in five adult individuals were closed, showing that the teeth had been lost ante-mortem. An 11.5% prevalence for this condition is relatively high, but may be related to preservation since a closed alveolus is less fragile and therefore more likely to remain intact for identification. Twenty-three unerupted deciduous and permanent crowns were also present, again with no signs of disease. No traces of abscesses or carious lesions were identified in any of the fragments.

Pathological lesions were noted in 22 burials. The majority consisted of relatively minor degenerative changes, largely in the form of osteophytes on fragments of vertebral facets and bodies, and occasionally on other joints.

Some individuals provided evidence of more chronic degenerative disease. F114, a middle-aged/old male, had Grade II osteoarthritis of the anterior right acetabulum (hip joint) and at least one facet for a rib head on a lower thoracic vertebra, as well as osteophytosis of most of the lower spine. F128, an unsexed older adult, had Grade III osteoarthritis on the left facet for the rib head of one thoracic vertebra, osteophytosis of the spine, and lipping of the acetabulum, iliac crest and linea aspera. Grade II osteoarthritis of the medial clavicle was noted in F135, a middleaged/old male, along with osteophytosis of the neck and lower spine, knee and hip joints, and lipping of the iliac crest and linea aspera. An adult toe phalanx in F162 showed Grade II osteoarthritis at the proximal end. Grade II/III osteoarthritis was present in the elbow of F165, a middle-aged or older adult, with eburnation of the proximal radius joint. F179 exhibited lipping of the linea aspera. F181, an unsexed older adult, appeared to have been affected by osteoporosis, and also had possible osteoarthritic changes to the distal end of one toe phalanx. Grade II osteoarthritis was present in one vertebral facet of F182, an old male, who also had large osteophytes at the femoral head and on one lumbar vertebra. F192, which contained two adults, included fragments of thoracic and lumbar vertebrae with large osteophytes, new bone growth on the linea aspera, and lipping of the right scapula glenoid joint. Middle-aged/old male F198 also had lipping of the linea aspera and medium osteophytes in the spine and the sacro-iliac joint. Proliferation of new bone at sites such as the iliac crest and linea aspera, together with very large osteophytes favouring one side of the spine, are symptoms

with very large osteophytes favouring one side of the spine, are symptoms associated with diffuse ideopathic skeletal hyperostosis (DISH). Some or all of these lesions were noted in five of the above individuals (F128, F135, F179, F192, F198). DISH is a condition which affects men more than women, occurs most commonly after the age of 50 years, and is associated with obesity and late-onset diabetes. The evidence in this group has to be considered tentative, however.

Periosteal new bone growth, indicating an inflammation of the soft tissue surrounding the bone, was found on fragments of tibia in F59 and F198. This type of periostitis is a common finding in archaeological populations. Its causes are often non-specific, although more severe cases may be related to infections such as leprosy, or secondary to trauma in the affected area. An unidentified fragment from F128 also appeared to show inflammatory changes in the form of rapid new bone growth, perhaps due to a infection or arthritic condition. A small fragment of skull in F198 showed signs of new bone growth, but again the cause was uncertain.

Trauma, in the form of small exostoses which are probably indicative of torn muscle attachments, was seen in two individuals. F114 had a small exostosis (approx 7 mm long) on a fragment of femoral shaft. A fragment of distal radius from L1 (350) had a small exostosis above the medial facet, possibly an ossified haematoma.

Osteochondritis dissecans, a condition associated with physical stress, was present on the distal right humerus medial facet (elbow) of F200, a ?young ?male. The lesion was oval, pitted and shallow, but probably unhealed, and measured 11 x 5 mm.

Schmorl's nodes are common lesions which affect the vertebral bodies and result from physical stress on the intervertebral discs. A few individuals had near-complete vertebral bodies in this group, but only one (F134) showed signs of the condition. It was present in the lumbar vertebrae and most of the lesions were large. This individual also had osteophytosis of the lower spine.

#### Note on the animal bone

Small quantities of animal bone were identified in 23 of the burials and six other features/layers, a total of 445.4g. The largest groups were from F134 (93.7g), F135 (52.4g) and F114 (47.2g). In several cases, the fragments were easier to identify than normal due to condition and colouring. Several pieces were bright white externally and blue-grey or black internally, and showed signs of abrasion. This may indicate that they had been cooked prior to cremation. No attempt was made to identify the bone in detail, but it was clear that the main meat-bearing species (cow, pig, sheep) were represented; there was at least one bird (F199); and in one burial (F162) several unburnt fish vertebrae were present.

## Summary and discussion

A total of 70 groups of cremated bone of varying sizes was analysed. Of these, 39 were urned or probable urned burials, one was a boxed cremation burial, two were possible *busta*, ten deposits were unurned or pyre debris, and the remainder were from other features or layers. The groups represented a minimum of 55 individuals. Six burials contained fragments of a second individual, but two of these had such small amounts that only four could be considered as 'double burials'.

The group as a whole contained three infants, seven children, three sub-adults (two male, one female), twelve adult males, eleven adult females and seventeen unsexed adults. Almost half the adults could not be aged, but, of those which were, the majority were middle-aged or older. The four double burials contained two children in one, a child and an unsexed older adult in another, and two adults in two burials. The spread of ages and sexes seen at this site is similar to other contemporary groups in the south-east of England.

Apart from the degenerative changes which affected most of the mature and older adults in this group, few pathological lesions were identified. It is possible that some of the individuals suffered from diffuse ideopathic skeletal hyperostosis, but the evidence was slight. A few insignificant infections of the bone and some minor traumatic injuries were present, but nothing unusual was noted.

It is possible to suggest some interpretations of the osteological evidence with respect to pyre technology and ritual. Unurned cremation burials in this group were few, and difficult to distinguish from pyre debris, although at least two were complete enough to be burials and were perhaps originally deposited in organic containers. The evidence from the two possible *busta* was difficult to interpret. Whilst one of them may have been burnt and deposited *in situ*, the lack of any pyre material cast some doubt on its identification as a burial of this type. The other showed no evidence for collapse of the pyre *in situ*, and should probably be considered an unusual form of unurned burial.

The majority of burials had been placed in a non-perishable container. None of those excavated were in close enough proximity to suggest that the remains of a single individual were deposited in more than one urn. Based on total bone weights, it is clear that post-cremation collection of bone in this group, like other Roman groups, was far from complete. It has been suggested that collection was simply token, with a few fragments of each part of the body being buried, and the remainder being either disposed of with the pyre debris or removed for other purposes, such as a *memento mori* or perhaps even kept to add to future cremation burials. The latter may explain some of the burials found with a few fragments of a second individual, although, if this were the case, then clearly it was not common practice. More likely is that these odd fragments were incorporated accidentally from re-used pyre sites. The lack of skull fragments in some burials has been attributed to retention of pieces of the head by relatives, but it could just as easily be the result of general carelessness of the collector. The cremation process also appears to have been less efficient than it could have been, based on colouration of the bone, but this is a common finding at Roman sites.

It is interesting to note, in connection with the possibility of retention of fragments of skull or other body parts, that the two double burials which each contained a pair of adults both contained fragments of very white, abraded skull. This was similar in condition to some of the animal bone identified in other burials, but was certainly human. During analysis, the two burials appeared similar enough to be the remains of the same two individuals spread between two vessels, but they were buried at some distance from each other so this now seems unlikely. The presence of abraded skull of a second individual could perhaps be explained by accidental collection from a re-used pyre, but in F195 it seemed to make up the majority of the collected bone. It is equally possible that the abraded bone in both cases was retained from an earlier cremation and later deliberately added to the pyre of a loved one.

Study of the relative proportions of the main areas of the body within urns excavated in spits showed that generally there was no structured approach to collection of bone and/or filling of the container. There was one exception, which seemed to show that collection started at the head end and worked down the body. The most common pattern was to find similar proportions of the main body areas distributed throughout the urn, and this might be expected to occur if more than one person was involved in collection. This, combined with evidence of poor collection, inefficient cremation of many of the burials and probable re-use of pyre sites, would appear to support the presence of specialist undertakers performing cremation rites in Roman Colchester.

## 7.7 Inhumed human bone

by Sue Anderson

## Introduction

Human remains from eight graves, one possible disturbed burial and seven other contexts were submitted for analysis. A full catalogue of the inhumed human bone can be found in Appendix 4.

## Method

Measurements were taken using the methods described by Brothwell (1981), together with a few from Bass (1971) and Krogman (1978). Sexing and ageing techniques follow Brothwell (1981) and the Workshop of European Anthropologists (WEA 1980), with the exception of adult tooth wear scoring which follows Bouts and Pot (1989). Stature was estimated according to the regression formulae of Trotter and Gleser (Trotter 1970). All systematically scored non-metric traits are listed in Brothwell (1981), and grades of cribra orbitalia and osteoarthritis can also be found there. Pathological conditions were identified with the aid of Ortner & Putschar (1981) and Cotta (1978).

## Number of individuals

The articulated remains represented a minimum of eight individuals. One feature produced bones which were thought to be from a disturbed burial and were all from one individual. Disarticulated remains from four of the other features may derive from three of the more complete burials, but the other contexts are likely to represent a further three individuals. The total minimum number of individuals is therefore twelve.

## Condition

Most skeletons from this site were in poor condition and many were incomplete due to the nature of the excavation (footings and service-trenches only). All had some degree of surface erosion and fragmentation. The best-preserved and most complete skeleton was from F171 (Grave 8), although this was lacking the skull.

## Demographic analysis

The age and sex of the eight articulated and one disturbed skeletons are listed in Table 21.

Grave	Feature	Sex	Age
Grave 1	F1	male	young/middle-aged
Grave 2	F31/F39	male	middle-aged/old
Grave 3	F40	?female	adult
Grave 4	F119	male	young/middle-aged
Grave 5	F154	?male	middle-aged/old
Grave 6	F158	unsexed	adult
Grave 7	F159	unsexed	young
Grave 8	F171	male	young/middle-aged (approx 25-30 years)
Grave 9	F208	?female	middle-aged/old

### Table 21: age and sex of articulated skeletons.

No juvenile bones were found. The articulated remains consist of four males, one possible male, two possible females and two unsexed individuals. The disarticulated remains add a further two males and an unsexed individual. The sex distribution at this site is clearly biased in favour of men, but, as the group is small and scattered, this may not be significant.

Of those adults to whom an age range could be assigned, one was 'young', three were 'young/middle-aged', and three were 'middle-aged/old', suggesting a fairly even spread.

#### Metrical and morphological analysis

Cranial and mandibular measurements could be taken for one adult individual and post-cranial measurements for five. A full list is included in Appendix 4. The cranial index could be calculated for only one individual, ie F119 (Grave 4) at 81.0, which is in the brachycranial (broad-headed) range.

Platymeric and platycnemic indices were calculated and are recorded in the appendix; the significance of these indices, which show the relative antero-posterior flattening of the femur and transverse flattening of the tibia, is uncertain. In this group, all measurable bones were towards the broader end of the ranges.

Stature could be estimated for four individuals, all male. They ranged from 164.3 cm to 173.5 cm (5' 5" to 5' 8") with an average of 168.9 cm (5' 6"). This is within the normal range for Roman men.

Non-metric traits were scored for six skulls and six post-cranial skeletons. A list is included in the Appendix. Nothing particularly unusual was seen. It is possible that both F31 (Grave 2) and F154 (Grave 5) had small ossicles at the lambda, which could suggest a relationship between the two men. Both individuals also had unusually thick skulls. They are not buried in close proximity, however.

### Dental analysis

Five individuals had full or partial dentitions. If all teeth and alveoli were present, a total of 160 positions could be studied. From this total, 64 positions must be deducted because they were missing, and sixteen teeth were present without the alveolar bone, leaving 80 positions which could be assessed for ante-mortem tooth loss and alveolar abscesses. In addition, twelve teeth had been lost post-mortem and seventeen ante-mortem, and two were unerupted or congenitally absent, leaving 64 teeth. A further three positions (one ante-mortem loss, one post-mortem loss and one tooth remaining) can be added from the disarticulated remains.

The eighteen teeth lost before death give a prevalence for this condition of 21.7%. This is very high, and is a result of the small size of the group. Ante-mortem tooth loss had affected most of the mandibular teeth of F154 (Grave 5; maxilla not present), four upper teeth of F119 (Grave 4), and one lower premolar of F1 (Grave 1).

Five carious teeth were observed, a prevalence of 7.6% in the erupted teeth. These were seen in two individuals; ie F119 (Grave 4) who had three advanced lesions in the upper right premolars and first molar, and F154 (Grave 5) who had small lesions in the lower right second and third molars (his only remaining teeth). Where it was possible to determine the origin, most of these lesions had developed interstitial-cervically, at the point where food would be trapped between the teeth. One small occlusal lesion was present in the third molar of F154 (Grave 5).

Four alveolar abscesses were present, a prevalence of 4.8%. Three were in the upper left molar area of F119 (Grave 4), and the teeth had been lost as a result. One was in the mandible of disturbed burial F208 (Grave 9), at the left second premolar, which was probably also lost ante-mortem.

Although the dental disease prevalences in this group are high, this is in part a result of the small number of individuals available for analysis. However, the general pattern suggests that the group had a diet rich in carbohydrates. Progression of dental disease appears to have followed the expected pattern, with moderate to large carious lesions opening the pulp cavities of the teeth and allowing abscesses to form around the root, resulting in eventual loss and closure of the tooth socket.

No calculus was present on the teeth, and this did not appear to have been lost as part of the post-excavation cleaning process, suggesting that some attempt was made to keep the teeth clean. This has been noted in other Roman groups, for example skeletons excavated at Lakenheath, Suffolk.

Very shallow hypoplastic lines were present in the enamel of one individual F159 (Grave 7), suggesting periods of illness or malnutrition between the ages of two and five years. This is a relatively common condition in earlier populations. It could simply be related to a reduced availability of nutrients during the winter.

A similar pattern of dental disease has been noted in other Roman groups from the region, and, in general, populations at this time suffered greater dental decay and associated conditions than previously or later.

## Pathology

#### Congenital and developmental conditions

Sacralisation of the fifth lumbar vertebra was present in F119 (Grave 4), although this was in poor condition and only assessable on the left side. Other vertebral anomalies included noticeable asymmetry of the fourth and fifth lumbar vertebral arches of F171 (Grave 8), the L4 being larger on the left side and the L5 larger on the right. This individual also had a cleft defect of the first sacral segment arch. None of these conditions would have produced any symptoms in life.

Additional joints were present between the navicular and calcaneum in both feet of F171 (Grave 8), and both bones were slightly modified to accommodate this extra articulation. The joint surfaces were pitted, suggesting early arthritic changes.

Premature fusion of the right squamosal suture of F119 (Grave 4), affecting the short straight part of the suture which runs above the mastoid process, had resulted in asymmetrical growth of the occipital bone, which was wider on the right side, with deformation of the foramen magnum. This may have caused a slight scoliosis in the neck, but the cervical vertebrae were in poor condition and not assessable.

#### Degenerative and arthritic conditions

The middle-aged/old male in F31 (Grave 2) had several lesions associated with degenerative conditions. There was osteoarthritis of the left hip joint, with eburnation of the femoral head, pitting in the superior part of the acetabulum, and osteophytes around both joint margins. The right hip joint was affected to a lesser degree, with only osteophytes. These lips of new bone growth were also present at the left knee joint and in the left thumb (MC1 distal end). In the spine, they were present on the three surviving lumbar vertebrae, and were particularly large on the left side.

The vertebrae of young/middle-aged male F119 (Grave 4) were in poor condition, but Grade II osteoarthritis was seen in the articular facets of two mid-thoracic vertebrae.

Osteophytes were present on the T11-12 vertebral bodies of middle-aged/old ?male F154 (Grave 5), and were particularly large on the right side, but again the spine was in poor condition and most bones were not assessable. There was also lipping around the left acetabulum. The third to fourth cervical vertebrae had Grade II osteoarthritis of the bodies. The distal end of the right radius was slightly enlarged, especially to the anterior edge of the joint, with osteophytes and pitting periarticularly, and new bone deposits and areas of very fine pitting on the joint surface. The ulna may also have been affected but is in poor condition. This suggests arthritis of the wrist, possibly as a result of trauma.

As noted above, there was slight pitting on the abnormal joint facets present in the ankles of young male F171 (Grave 8), and these may be pre-arthritic.

#### Stress lesions and trauma

Schmorl's nodes, lesions which occur in the bodies of vertebrae and are related to physical stress on the spine, were seen in the surviving lumbar vertebrae of F31 (Grave 2), most of the thoracic vertebrae and the first lumbar of F154 (Grave 5), and the mid thoracic to second lumbar of F171 (Grave 8). Several lesions were very large in all three individuals.

A possible case of osteochondritis dissecans was seen in the distal end of the right first metatarsal of F31 (Grave 2). The lesion consisted of a slight depression with large pits in the floor, and it measured 7 x 5 mm.

Traumatic lesions in this group were all fairly minor, and most were probably the result of torn muscles. A large exostosis was present on the superior edge of the right navicular of F31 (Grave 2), above the facet for the right cuneiform. An enlarged area with slight new bone growth was present on the medial side of the linea aspera of the left femur of F154 (Grave 5), close the lower end of the insertion for the *Vastus medialis* and the *Adductor magnus* muscles. Exostoses were present on both clavicles of F171 (Grave 8), just lateral to the insertions of the costo-clavicular ligaments.

A crush fracture of the left talus was seen in F119 (Grave 4). There was flattening and distortion of the posterior calcanean articular surface (the larger inferior facet) at the lateral edge, with a crack in the joint surface and a pitted area. The calcaneus did not appear to have been affected to any degree.

## Infections

There were signs of pitting and striation on both parietals of F31 (Grave 2), which may be the result of a healed inflammation or possibly porotic hyperostosis. This individual also had periosteal graining and thickening of both tibia shafts, mainly medially in the superior half, which is an inflammatory response, possibly due to an infection. A lytic lesion or cyst in the superior right side of the second lumbar vertebral body had resulted in partial collapse and wedging of the bone, but some healing had occurred on the outer surface of the bone, which would have strengthened it to some degree. There must have been a slight scoliosis/kyphosis of the spine nevertheless. This kind of lesion can be associated with tuberculosis, but a radiograph would be required to confirm the diagnosis.

Gross periosteal new bone growth with pitting and graining was present on the right fibula of F119 (Grave 4), particularly in the proximal half, where a lump had formed. The corresponding area of the tibia also showed periostitis to a lesser degree. The fibula was in poor condition, but it is possible that the 'growth' was a result of callus formation following a fracture. Again a radiograph would be required to determine the cause.

Slight periosteal graining was present on the lateral right tibia and medial left tibia of F154 (Grave 5), and the right fibula shaft appeared slightly enlarged, although there was no pitting.

#### Miscellaneous

There was slight new bone growth on the inner table of the frontal bone of middleaged/old ?male F154 (Grave 5). This was similar to hyperostosis frontalis interna, a condition which seems to be associated with the menopause in women, but these lesions do sometimes occur in male skulls with unknown cause. One example seen by the author was associated with Paget's disease of the skull, and this skull is unusually thick, but the diploë and inner and outer tables appear normal.

As noted above (non-metric traits), the skull of F31 (Grave 2) was also unusually thick, but again there was no evidence of Paget's disease. Fragments of another skull, F208 (Grave 9), showed signs of hyperostosis frontalis interna, but this individual was thought to be a mature ?female.

The femoral neck angle of the right femur of F40 (Grave 3) appeared abnormally oblique, a condition known as coxa vara, but the bone was in poor condition and the appearance may simply be a result of post-mortem erosion.

Slight lateral bending of both tibiae of F171 (Grave 8) in the proximal thirds may have resulted in 'knock knee' (genu valgum), a condition which can be acquired or congenital.

The head of F171 was missing, so the two remaining cervical vertebrae (C6-7) were checked for evidence of cut marks. Both bones were well preserved, but showed no evidence for decapitation.

#### Summary and discussion

Eight articulated skeletons, one disturbed burial and seven contexts of disarticulated remains represented a minimum of twelve individuals. These were seven men, two women and three unsexed adults. No children were present, and the individuals ranged from young to old age. They were spread across a wide area to the north of the site.

In terms of general physical appearance – head and body size, stature – they were within normal limits for the Roman period, but slightly shorter on average than Anglo-Saxon groups. Nothing unusual was seen in the range of non-metric traits present, but a couple of cranial anomalies may indicate a relationship between F31 (Grave 2) and F154 (Grave 5). However, as the number of skeletons is small, it is possible that these traits were relatively common within the local population as a whole.

The degree of dental pathology in this group was quite high, but this was due in part to the small number of individuals available for study. However, a high level of dental disease is the norm in most Roman groups and suggests greater consumption of carbohydrates in this period.

Degenerative disease had affected two older adults in the group, but was also seen in at least one younger individual. Usually this would be expected to occur most frequently in the spine, but in this group very few vertebrae were well preserved. Despite this, evidence was seen for the disease affecting the spines of all three individuals. Other areas of the body with arthritic changes were the hips, knees, wrists and ankles. General stresses and strains had caused lesions in the spines of at least three individuals, but most were not assessable due to poor preservation. Torn muscles had also affected three men, one in the foot, one in the thigh and one in the shoulder girdle. A crush fracture in the heel bone of another individual was another stress lesion which is relatively common in early rural populations.

Non-specific inflammatory changes to the shin bones are often observed in skeletal groups, and three individuals were affected in this one. Only one of these showed gross changes, which may have been the result of a secondary infection following trauma.

A possible tuberculoses lesion was identified in the spine of a middle-aged/old male. This was the only evidence for any potentially life-threatening illness in the group, and it was healed or healing at the time of death.

### 7.8 Animal bone

#### by Julie Curl

### Summary

A total of 6.434kg of animal bone, comprising 382 pieces, was recovered from excavations at the Handford House site. Over 60% of the assemblage was recovered from Roman contexts and these remains included possible feasting waste associated with inhumation and cremation burials. A full list of animal bone can be found in Appendix 5.

### 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. Bones were also studied to determine if evidence of bone, horn or antler working was present in the assemblage. A note was also made of butchering marks and any indications of skinning, horn-working and other modifications. When possible, a record was made of ages and any other relevant information, such as pathologies. Counts and weights were noted for each context. No measurements were taken with this assemblage due to the lack of much suitable material. Human bone was identified and briefly reported on in this report and removed from the assemblage for the human bone specialist to fully examine and report on. All information was recorded on the faunal remains recording sheets and inputted 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 all of the bone, context by context, is included in Appendix 5.

## Results and discussion by period

# Table 22: weights, quantities and percentages of animal bone for each period and for undated bone.

Period	Total weight (g)	Total quantity	Percentage of assemblage (by weight only)
Roman	3,927	177	61%
Post-medieval to modern	2,386	199	37%
Undated	122	6	2%

#### Roman

Contexts dating to the Roman period produced a total of 3,927kg of bone, which accounted for almost 61% of the assemblage. In general, the assemblage was in quite poor condition, fragmentary from butchering and wear and with eroded or porous surfaces. Some material showed signs of canid gnawing; this could mean that the material had lain exposed to scavenger activity for a time before burial or simply that it was from food intentionally given to domesticated dogs.

Several contexts in this period are related to cremation burials, a *bustum* and inhumation burials. *Bustum* F134 produced butchered remains of a Dexter (Celtic short-horn type) cattle metatarsal and a single vertebrae from a small species of fish (possibly mackerel). Urned cremation burial F162 yielded a single piece of chopped sheep/goat metapodial which had been burnt at high temperature, plus an eel vertebra. Juvenile equid remains were produced from inhumation burial F171. Both fragments of the equid bone appear to be part of one juvenile femur, and one

fragment bore a chop mark on the shaft which suggests that it may have been eaten. F31, an inhumation burial in a pit, and F42, an urned cremation burial with pyre debris, both contained fragments of mammal bone, none of which appeared to be burnt. The bone recovered from the remains of a *bustum* (F47) consisted of a rodent bone. The urned cremation burial in F53 produced eleven bones from a mole, consisting of a jaw, pelvis, skull and limbs; however, given that this is a burrowing animal, the remains of this mole may be intrusive. The inhumation burial F119 produced unidentifiable mammal bone and cremation burial F181 yielded two fish bone fragments. A mackerel vertebra was found in the urned cremation burial in F128. The boxed cremation burial (F120) produced a single adult mouse femur; this small rodent is likely to have simply made its home in the vessel.

F205 and F193 are thought to represent a rubbish-pit associated with graveside feasting. The bone from F205 contained a butchered juvenile cattle femur and other butchered mammal remains. F193 comprised of the butchered meat bearing bones of adult sheep and pig, as well as other heavily butchered large mammal fragments. Certainly the remains from these fills include good-quality meat-bearing bones and lots of butchering is evident, so they could be from a feast. The juvenile cattle in F205 could suggest that younger and good-quality meat was consumed.

A single adult fox femur was recovered from the Roman L3 (finds no 926). No butchering marks were observed on this particular bone, but foxes are often produced from Roman contexts and were possibly killed for their fur.

### Post-medieval to modern

Post-medieval through to 19th-century and modern contexts yielded 37% of the assemblage, totalling 2.386kg of faunal remains. Much of the faunal remains from this period consisted of unidentifiable mammal remains, many of these from L1. Several contexts produced primary and secondary butchering of cattle and sheep/goat and pig. Two positive identifications of goat were noted, one in L1 (finds no 852) in the form of an adult metacarpal and a goat mandible in L36 (finds no 899). A very large pig tusk was recovered from L1 (finds no 154); the large size of this tusk would suggest a mature male. Sparse remains of equid and bird/galliformes were identified; one of the equid bones, a metacarpal from L19 (finds no 317), had been chopped.

Human bones were identified from T8, F39 (finds no 120); these remains consisted of two adult distal humeri and a section of humerus shaft which joins one of the distal fragments. These remains were recovered from a post-medieval pit which cut a Roman inhumation burial in another pit (F31), and so it is probable that these bones were part of that burial.

## Undated contexts

A total of 122g of bone was recovered from undated contexts, totalling just over 2% of the faunal assemblage. The undated material consists of primary and secondary butchering of adult cattle and other large mammal fragments.

## Conclusions

Much of the faunal assemblage appears to be derived from both primary and secondary butchering waste. Many of the remains have been recovered from inhumation or cremation burials and these may be the remains of animal offerings which were deliberately placed within the grave, perhaps as sustenance for the journey to the afterlife, or they may be the remains of graveside feasting. Many of the animal bones associated with the burials are good-quality, main meat-bearing bones, so they could have been joints of meat placed within the grave for the afterlife.

The remains of fox may be from an animal which had been killed for its pelt, as it is unlikely that this animal had been eaten. The mole and the mouse in the assemblage are probably intrusive remains from animals that had burrowed and died underground. Human bones within this assemblage are likely to derive from a disturbed inhumation.

#### 7.9 Charred plant macrofossils and other environmental remains by Val Fryer

## Introduction

An extensive series of plant macrofossil samples were taken from pyres, cremation pits and the fills of urns and other vessels, in the hope that these would provide data about contemporary cremation practices, most notably the fuels utilised for the

pyres. Urn fills were excavated in spits, with each spit forming an individual sample which was processed and assessed separately. In total, 316 samples were submitted for assessment.

### Methods

The samples were processed by manual water flotation/washover, collecting the flots 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 Tables 36-54 (Appendix 6). Nomenclature within the tables follows Stace (1997). With the exception of rare fragments of mineral-replaced wood, all plant remains were charred. Modern contaminants, including fibrous and woody roots, seeds and arthropod remains, were common throughout.

The non-floating residues were collected in a 1 mm-mesh sieve and sorted when dry. Cremated bone fragments and other artefacts/ecofacts were removed for further specialist analysis.

### **Results of assessment**

#### Plant macrofossils

With rare exceptions, the assemblages were characterised by low densities of seeds and other plant remains, although charcoal fragments were present throughout. Of the cereal grains and seeds which were recovered, many were either puffed and distorted or fragmented. None of the legumes retained an intact testa and, as a result, identifications were made using size and shape as the principal criteria.

### Cereals and other food plants

Cereal grains were extremely rare, occurring as single specimens in only 27 samples. Although oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, many grains were too fragmented for positive identification. Cereal chaff was not recorded. Cotyledon fragments of large pulses were noted in a number of samples, and were moderately common in the assemblages from cremation burials F42 (finds no 152), F53 (finds nos 224 and 240) and F142 (finds nos 795 and 796). Large angular seeds, probably of field bean (*Vicia faba*), were noted in eight samples. Other food plant remains were rare, but apple/pear (*Malus/Pyrus* sp.) seeds were noted in the material from *bustum* F134 (finds no 813) along with fragments of damson (*Prunus* sp.)-type fruit stone (finds no 814).

#### Wild flora

Seeds of common weed species occurred in approximately one-quarter of the assemblages studied. Small legumes were predominant, and, although close identification was not always possible, the size and shape of the seeds probably indicates that most specimens were of gorse (*Ulex europaeus*). Although rare, other tree/shrub macrofossils including broom (*Cytisus scoparius*) seeds and hazel (*Corylus avellana*) nutshell fragments were also recovered. Of the remaining seeds, grasses and grassland herbs including medick/clover/trefoil (*Medicago/Trifolium/Lotus* sp.), ribwort plantain (*Plantago lanceolata*), knotgrass (*Polygonum aviculare*), dock (*Rumex* sp.), sheep's sorrel (*R. acetosella*), and vetch/vetchling (*Vicia/Lathyrus* sp.) were predominant. Nutlets/seeds of wetland plants including sedge (*Carex* sp.) and spike-rush (*Eleocharis* sp.) were recorded from only three assemblages.

#### Other plant macrofossils

Charcoal fragments were recorded at varying densities from all assemblages, along with small pieces of charred root/rhizome or stem. Other plant remains were rare, although occasional culm nodes, fruit stone fragments, seeds and pieces of tuber were noted.

#### Other materials

Fragments of black porous 'cokey' material and black tarry material were recorded from most contexts. Although most are probably derived from the combustion of organic materials at very high temperatures, some may be tarry products of the cremation process. Small fragments of burnt bone were present in most contexts, but pieces of unburnt bone were also noted along with occasional small mammal/ amphibian bones and fish bones. Vitrified concretions were common in some assemblages, and, although some may be derived from glass artefacts placed with the deceased, the majority were probably formed as a result of the high temperatures during cremation fusing the soil beneath the pyres. Burnt clay fragments were also relatively common. Small coal fragments were noted in many assemblages, but it is considered most likely that the majority of these are intrusive within the contexts.

## Discussion

## The cremation burial-pits (Tables 36-51 and 54)

Samples were taken from approximately 44 cremation burial-pits, some of which contained accessory vessels including urns, pots, flagons, dishes and bowls. The recovered assemblages are mostly very small, and, although charcoal fragments are reasonably common, other plant macrofossils are generally rare. Given the contexts, it is assumed that much of the material present is derived from pyre debris or similar cremation waste, although in most instances there is insufficient to illustrate any specific aspect of the cremation process. However, a small number of samples, ie F42 (finds no 152), F44 (finds no 178), F142 (finds nos 795 and 796), and, most notably, samples from within F53 (Table 5), do appear to contain definite fuel residues in the form of gorse seeds, field beans and fragments of other legumes. It appears most likely that the larger legumes are derived from bean 'straw' which, along with gorse, is known to burn at a very high temperature and would, therefore, make ideal kindling or fuel for a pyre. Other fuels may have included dried grasses and grassland herbs, broom, bracken and hedge scrub, although some of this material could equally be derived from plants burnt in situ beneath the pyres. There appears to be little or no evidence for the deliberate deposition of plant materials on the pyre as offerings to the deceased, and, although cereals, nutshell fragments and soft fruit remains are present, they are almost certainly either accidental inclusions or an incidental component of brushwood fuel.

## The busta (Tables 52-53)

Fifteen samples were taken from two *busta* (F47 and F134). As is probably to be expected, the composition of the assemblages is essentially the same as those derived from the cremation burial-pits, with a low density of cereals, weed seeds, legumes and tree/shrub macrofossils. Bone fragments are reasonably common (particularly small fragments of vesicular material), as are materials possibly derived from artefacts including ferrous and cuprous residues, glass fragments and a small number of iron nails or studs (finds no 814).

#### Conclusions

In summary, despite the low density of material within the assemblages, a significant quantity of data has been recovered regarding the cremation practices conducted on this site. Although wood probably formed the main component of the pyres, subsidiary fuels almost certainly included gorse, bean 'straw', broom, bracken and dried grasses and grassland herbs. The latter two, which were probably used as kindling, appear to have been pulled up by the roots from areas of predominantly dry grassland, although a small number of plants more particular to damp areas do appear to have been incorporated. Unfortunately, with the exception of a few fragments of mineral-replaced wood derived from a box within F120 (finds no 601), nothing remains of any unburnt plant materials which may have been placed within the various accessory vessels.

It was decided not to examine the site archive to ascertain if specific fuels were used for groups of cremations, or whether fuel selection was either random or a matter of seasonal availability of material.

## 7.10 Pollen

#### by Patricia Wiltshire

The contents of three vessels from inside the amphora cremation burial F137 (the dish, the flagon and the beaker) were analysed for pollen. There was no definite evidence for food or drink, but pollen from the following trees and herbs were identified.

Trees and shrubs	English name
Betula	Birch
Quercus	Oak

#### Herbs Apiacea

Apiaceae indet. Artemisia Aster type Asteraceae (fenestrate) Chenopodiaceae Plantago lanceolata Poaceae Ranunculus type Trifolium type Urtica Hogweed family Mugwort Daisy/Hemp, Agrimony and others Dandelion-type plants Goosefoot family Ribwort plantain Grasses Buttercups and allies Clover and allies Nettle

## 7.11 Flint

## by Hazel Martingell

Ten pieces of worked flint and one natural piece were studied. They consisted of one flake, two blades (one complete and one fragment), four chippings, one retouched flake, one retouched blade and one irregular piece.

The retouched blade (L2, finds no 707), blade (F109, finds no 447) and blade fragment (*bustum* F47, finds no 204) are all good and should be of early Neolithic date. Similar material has been recovered from the Roman River valley south of Colchester. These finds suggest agriculture along the northern side of the valley. It is possible that they were collected from farther afield and re-used during the Iron Age or later. The retouched flake (L12, finds no 143) is of interest. It has the typological requirements for later prehistoric flint implements (Clark 1936; Clark 1953) and roughly resembles a scraper. Continuing research suggests that some of these scrapers may also have been used as strike-a-lights. The find spot, in the subsoil sealing the Roman road, could be where it was discarded or lost, unless it came with the subsoil from elsewhere.

These pieces, although few in number, are an important contribution to the information which is being collected about the prehistoric way of life in the Colchester area.

Finds no	Small Find no	Context, soakaway and trench no	Description	Date
17	182	F2, T4	1 flake, secondary	Late Bronze Age-Roman
143	185	L12, S3	1 retouched flake, secondary	Late Iron Age- Roman
204		F47, T15	1 blade fragment, tertiary	Neolithic
205		F47, T15	1 burnt fragment	
299	156	F47, T15	1 chipping (core or artefact trimming)	
357	196	F91, T24	1 natural piece	
447	154	F109, T37	1 blade, tertiary, good	Neolithic
707	170	L2, T56	1 retouched and backed blade, knife/sickle piece, tertiary, good	Neolithic
1003		F141, T94	1 chipping, trimming flake, tertiary	
1157	150	F114, T45 (inside urn)	1 ?retouched irregular piece	Iron Age- Roman
1177		F201, T131, inside urn	1 chipping, trimming flake, tertiary	

# Table 23: list of flint artefacts by context.

# 7.12 Prehistoric pottery

by Paul R Sealey

## Table 24: list of prehistoric pottery by context.

Finds no	Context and trench no	Description	Date	Weight (in g)
355	F80, T34	2 x flint-tempered sherds, one with decoration	initial Iron Age (formerly 'Late Bronze Age Decorated'), <i>c</i> 800-600 BC	12

459	L8, T46	1 x flint-tempered sherd	?Late Bronze Age/Early Iron Age, c 800 BC +	6
591	F93, T36/T37	3 x flint-tempered Deverel- Rimbury sherds	Middle Bronze Age, c 1,400-1,200 BC	39

## 7.13 Post-Roman pottery

#### by Howard Brooks

In total, 4.1kg of post-Roman pottery was analysed from the Handford House site. The tables in Appendix 7 show the group in two parts: Table 55 shows the medieval and late medieval transitional wares (which form 14.5% of the whole group), and Table 56 shows the post-medieval wares (85.5% of the total group).

This group is typical of Colchester post-Roman pottery assemblages, consisting primarily of modern ironstones (Fabric 48d – 32% of the total group), and post-medieval red earthenwares (Fabrics 40 and 40b – 21%). There were smaller weights of modern ironstones (Fabric 45m – 6%), medieval sandy orange wares (Fabric 21 – 4%), flowerpot (Fabric 51b – 4%), early medieval wares (Fabric 13 – 3%), and late slipped kitchen wares (Fabric 51a – 4%). (Fabrics from *CAR* **7**.)

Much of this material is from topsoils, and does not merit detailed comment. However, there is one interesting aspect which is worth highlighting, and this is the large amount of medieval pottery from this out-of-town site. It would be normal to recover large volumes of material from the town and its immediate environs, but this site is some distance from the walled town centre. The total weight of Fabrics 13, 20 and 21 is 457g (11% of the group). If the Colchester-type wares are added (Fabric 21), then this group amounts to 501g (12%). This is more than the quantity of medieval pottery which would be expected on an open field, with the finds deriving from manure scatter. The average weight of manure scatter medieval pottery in Essex is almost exactly 25 grammes per hectare (figures kindly provided by Mark Germany of the Essex County Council Field Archaeology Unit). The implication must be that there was a local source of medieval pottery from the 12th century onwards; whether this was a farm nearby or a property on the Lexden Road/London road frontage is not clear.

## 7.14 Roman brick and tile

#### by Ernest W Black

The table below shows the identifiable fragments of tile found in Roman (including uncertain Roman) and post-Roman contexts. Doubtful fragments, eg tiles with a thickness of approximately 25-28 mm which might come from either bricks or *tegula* bases, have not been included. A complete catalogue of Roman tile can be found in Appendix 8.

type of tile	amount from Roman	amount from post-
	contexts	Roman contexts
box-tiles		14 (6 burnt)
bricks (thickness 28-42 mm)	5 (3 burnt)	73 (21 burnt)
bricks (thickness 43> mm)	2 (1 burnt)	2 (1 burnt)
imbrices	7 (1 burnt)	35 (3 burnt)
<i>tegulae</i> (thickness >20 mm)	25 (1 burnt)	76 (16 burnt)
tegulae (thickness 21> mm)	13 (3 burnt)	27 (8 burnt)
tesserae		7
voussoir	1	
Totals	53 (9 burnt)	234 (55 burnt)

#### Table 25: types of of Roman tile.

The overall proportion of burnt tiles in the two groups is not dissimilar. There are few tiles that are intrinsically datable. The voussoir (finds no 926) from L3 is a type produced *c* AD 125-50 (Black 1995, 79-81). The combed box-tiles will not be earlier than the 2nd century. Study of *tegula* bases from the Co-operative Society's store site in Colchester showed that they decreased in thickness over time, with those deposited in contexts dating before the late 2nd century having a thickness greater than 20 mm, and tiles less than 20 mm only appearing from the late 2nd century onwards (Black 2000). While this cannot be taken as an absolute, it can be used as a chronological guide. Only two *tegula* bases were found in fairly closely dated

contexts at the Handford House site: from F130 (finds no 657), dated 1st-2nd century, came a base with a thickness of 23 mm, and from F137 (finds no 680), dated early 2nd to mid/late 3rd century, came one with a thickness of 17-19 mm. This is at least consistent with the findings from the Co-operative Society's store site. On this basis, very little of the tile from Roman contexts need have reached the site before the late 2nd century, and this would suggest that it was probably not a regular component in the structure of cremation pyres or in other aspects of burial before this date. The relative paucity of bricks in Roman contexts, and the absence of box-tiles and tesserae, is significant, since these are elements used in the structure of the walls and floors of substantial buildings and would only usually become available as a result of rebuilding or demolition, whereas roof-tiles might be available after running repairs to a structure. It can be tentatively suggested that the majority of the Roman tile reached the site in the late Roman period (and was then redeposited in later contexts) or in the post-Roman period. The source of the tile might be a nearby Roman building or the Roman town itself, from which soil and rubbish might have been brought to be dumped at any time.

## 7.15 Clay pipes

by N Crummy

Clay tobacco pipes were identified and are listed in Appendix 9.

## 7.16 Textile

by J P Wild

Textile from the boxed cremation burial F120 (F120.10, finds no 550), SF 71 was analysed. Nine scraps of the same 1/1 plain-weave cloth (no more than 6 sq cm in all) were examined. Attached to the inside of one of the box fittings, they had been mineralised by the oxides leaching from the ironwork which had also coated the back of each piece (Janaway 1983). In one fragment, there were two layers of fabric rather than one. The data from the largest piece were as follows:

- System (1): medium Z-spun (10-20°), approx 16 threads per cm, maximum length 18 mm, regular spin.
- System (2): medium Z-spun, approx 16-18 threads per cm, maximum length approx 15 mm, regular spin, but some slightly thicker yarns.

Under the microscope, the visible character of the fibre strongly resembles wool. Described as a 'balanced tabby', medium-weight good-quality wool cloth of this type was a standard product of the Romano-British textile industry (Wild 1970, 46; Wild 2002, 14, 18-19). Its original function is obscure: while it would have been suitable tunic material, as parallels from Vindolanda suggest, in this context it was arguably in secondary use, perhaps as the container for cremated bone.

# **7.17 The graffiti on the amphora from cremation burial F137** (Figs 42-43, Fig 81) *by Ernest W Black*

An amphora (F137.1) containing a cremation burial dated to the second half of the 2nd century carries two adjacent symbols. That to the right is deeply cut and may have been made pre-firing. That to the left is less deeply cut and was probably made after firing. It is a leaf-stop, used to separate words in monumental inscriptions, and rarely on pottery (*RIB II.8*, 2503. 398 where the leaf-stops seem to have been added to give emphasis to the work they flank).

That to the right was possibly cut before the amphora was fired and could have been intended as the letter V or A or the number 5. Its original significance is therefore unknown. When the leaf-stop was added, its alignment shows that the symbol was intended to be read as A. Presumably this was the purpose of adding the leaf-stop. The A was perhaps intended to be an abbreviation of a significant word or name.

There are parallels for the letter A cut after firing on pottery from burials from other sites in the south-east of England. The closest, geographically, comes from burial BF6 at Stanway Quarry, Colchester and dates to the mid 1st century AD. There a samian cup carries  $\land$ , another form of A (Crummy *et al* 2007, 123, 307-310). Another samian vessel from Baldock in Hertfordshire carries  $\land$  (=A) and a cross, as well as the personal name MELENIO[S] (*RIB II.7*, 2501.377). A and AN (ligatured) occur on vessels in burials at the Ospringe cemetery in Kent (Whiting *et al* 1931,

plate LII) and on others, unpublished, from the cemetery at Walls Field, Baldock (Westell 1931), sometimes combined with a cross.

The regulated occurrence of such graffiti in burial contexts in south-east England suggets that they may have some funerary significance. The following possibilities can be suggested, although they are not provable at present and will remain so unless and until a full version of the A - name is found.

The Celtic word andumnos (or antumnos) occurs in a Gallic text from Larzac near La Graufesenque and seems to have had the sense of 'very deep' and was used to mean 'the underworld' (Meid 1994, 40). The A inscribed on pots from burials may have stood for this or some derivative word. A possible Latinised version of this is found on a vessel from a burial at Skeleton Green, Hertfordshire, reading ORKI VOT[VM], 'a vow for Orcus' (*RIB II.7*, 2501.20), with Orcus, a Roman name for the underworld, standing for the god of the underworld.

The second possibility is that the A stood for the name of a particular underworld god. A Purbeck marble slab, now lost, which came from the area of a Roman cemetery on the the south-west side of Colchester (and therefore from the same area as the the Handford House site burials) read: 'To the Deities of the Emperor and to the god Mercury Andescociuoucos, Imilco, freedman of Aesurilinus, from his own resources gave this altar in marble' (*RIB I*, 193). The Graeco-Roman Hermes/Mercury was the escort of the souls of the dead to the underworld and was the patron of money-making and wealth. It seems likely that Mercury was here identified with a Celtic god who embodied one or both of these aspects. Although this god is only recorded from Colchester and we have seen that the use of A (and occasionally AN) on pottery from burials is much more widespread, a possible link is provided by *RIB II.8*, 2503,130 from a late 1st-century context in London, admittedly not a burial. This reads MIIRC[....]A and it is possible to expand this to Merc[urio] A[....], perhaps A[ndescociuoucos].

### 7.18 Miscellaneous finds

A list of stone, charcoal, slate and slag, etc was made and can be found in Appendix 10.

## 8 Discussion

## 8.1 Pyres and the cremation process

Toynbee, using classical texts as sources, describes a typical Roman cremation where the pyre (*rogus*) was made of a rectangular pile of wood on which the corpse was laid (possibly lying on a couch), accompanied by various gifts and some personal possessions or pets. When the pyre was lit, the attendants, usually the family of the deceased, would throw oil and perfume onto the fire along with food and ornaments. Animals were sometimes sacrificed. After the body had been cremated, the flames were doused with wine and the relatives would then collect up the bones into the receptacle for burial elsewhere (Toynbee 1971, 49-50).

However, caution needs to be exercised when using this as a model, as the ancient authors mainly describe heroic or public funerals in Greece or Rome, for example, Homer (*Iliad*, 23), Festus (*Vespae*), Suetonius (*Augustus*,100), Pliny the Elder (*Natural History*, 35), Virgil (*Aeneid*, iv.684, v.77, vi.177, vi.215, vi.225-9, ix.215, x.519, xi.143, xi.188), and Festus (*Vespae*). Geographical and class variations in cremation of the dead must have occurred. Archaeological excavation helps to 'fill in the gaps' left by ancient authors, especially concerning the process of cremation, eg fuel, furniture, artefacts and ecofacts burnt on the pyre.

Evidence for the cremation process was recovered from three different types of feature at the Handford House site; two pyre sites, several pyre-debris deposits, and the cremation burials. Both pyre sites excavated were *busta*, a type of pyre site not previously recorded in Colchester. *Busta* vary from standard pyres in that the cremated bone and remains of the pyre have been allowed to fall into the oblong pit below, which forms the grave. In a *bustum*, therefore, it would be expected that the majority of the bone would be present as it would not have been picked off for reburial. It would also be expected that the bone would have stayed in roughly anatomical order. The first pyre (F47) conforms to this model; however, the second pyre F134 is less clear. At the Handford House site, what remained of each pyre was an oblong pit (possibly dug to aid ventilation as well as to receive the remains)

with a very blackened fill. Scorching produced reddened earth around the edges, indicating that a fire had been lit over the pits. A wooden pyre or *rogus* would have been erected above the pit and the body of the deceased laid either below or on top of the pyre. Charcoal from the *rogus* and cremated bone from the body would fall into the pit as the fire burned. Some of the pieces of bone were quite large, suggesting either that the cremation burial process was not very efficient or that perhaps it was never completed, for some reason. The bluish hue of the cremated bone in F47 points to incomplete oxidation, ie with a temperature of less than 600°C being achieved. It is often observed with Roman cremations that the cremation process was less efficient than it could have been (see section 7.6).

Sue Anderson is of the opinion that F134 is not a *bustum* but an unusual form of unurned cremation, due to the jumbled nature of the cremated bone within the pit (see section 7.6). However, it is the view of the author that F134 is a *bustum*, due to the size of the pit, the large amount of cremated bone present, and the scorching around the top of the pit. Moreover, between ten and twelve probable *busta*, similar to F134, have since been excavated at Area J1 North of the Colchester Garrison Urban Village site (CAT Report 412). There the oblong pits were also scorched and contained large quantities of cremated bone which was not in anatomical order. These *busta* may provide an interesting comparison to those found at the Handford House site. They appear to be similar to F134, ie the bone is jumbled within the pit, as if there had been some shovelling of the bone and pyre debris into the pit below. There is also a similar proportion of *busta* to other cremation burials at both sites (approximately 1:30).

Although charcoal was present in both of the *bustum* pits at the Handford House site, more charcoal would be expected. An explanation may be that the land surface has been truncated horizontally, thus removing a layer of charcoal. This was noticed at pyres in the Skeleton Green excavation in Hertfordshire (Partridge 1981, 294). The bodies may have been placed under the *rogus* rather than on top, which means that the charcoal would be the first thing to be removed by any ground truncation (Hall 1959, 15-16).

Cremation using busta is a tradition more commonly seen on the Continent in the Roman period, and it is associated with large settlements and military centres. It is a practice likely to have been brought over by the Roman army (Barber & Bowsher 2000, 309; Struck 1993, 91-2). Other busta found in Britian include a probable example from the eastern cemetery of Roman London which was a 1.8 m-long, 1 mwide and 680 mm-deep pit. The bottom 300 mm of fill was charcoal, cremated bone and pyre goods. The top 20 mm of the pit was reddened. The position of the individual bones was not recorded, but 835g of bone was recovered in total, which does not represent a complete individual. Although all the skeletel elements were represented, it is not thought that they were in anatomical order in the pit. This bustum is dated to AD 180-300 (Barber & Bowsher 2000, 62). A probable bustum was excavated at 165 Great Dover Street, Southwark which is part of the southern cemetery of Roman London. This late 1st-century AD bustum was found next to mausolea and walled cemeteries. The pit was 800 mm wide and over 1 m long, and there was no scorching. Its fill contained cremated bone from a female and an exceptional array of charred plant remains of nuts, dates, figs, almonds, cereals and a complete chicken burnt on the pyre. These are thought to have been the raw ingredients of a meal. Also included were eight ceramic lamps, eight tazze and melted glass (Mackinder 2000, 10-13).

In St Albans (Roman Verulamium), ten supposed *busta* were excavated at St Stephen's cemetery (4-6 King Harry Lane). The *busta* there were charcoal-filled pits of similar dimensions to F47 and with *in situ* burning on their upper margins. However, the excavators found less than half of the expected bone weight in each undisturbed *bustum*, and they deduced that there may have been more to the cremation and burial process than is normally assumed (Barber & Bowsher 2000, 62; Frere 1987, 329). Other *busta* have been recorded at military centres in the north of England, especially in the vicinity of Hadrian's Wall (Struck 1993, 91).

Only two *busta* were recorded at the Handford House site, yet there were 57 cremation burials, which suggests that other pyres must have existed nearby. These could have occupied a separate area to the burials, as was the case at the Late Iron Age cemetery at Elms Farm, Heybridge, near Maldon in Essex (ECC 2002a, 9). Classical authors such as Virgil and Festus describe a *'ustrinum'* as a place definitely reserved for cremation of the dead (Toynbee 1971, 49). Thus the *ustrinum* 

for the cremation burials at the Handford House site may still await discovery. Alternatively, it may be that pyres other than *busta* were once present on the site but left only shallow evidence which has been lost. This was the case in Enclosure 3 of the site at Stanway Quarry, Colchester (Crummy *et al* 2007). If pyres were built straight onto the ground without a pit, later ground truncation would leave little surviving evidence (Barber & Bowsher 2000, 61). The presence of urned cremation burials with the *busta* in this cemetery indicates that at least two cremation rites were being practised here concurrently in the 1st-2nd century; the standard re-used pyre site where the bone was picked off and buried, usually in a container, and the *busta*, where the remains were left *in situ*.

Small quantities of cremated animal bone were identified in some of the cremation burials and in one of the *busta* at the Handford House site, indicating that food was burnt on the pyre with the body. The largest groups were from F134, F135 and F114. Several pieces were bright white externally and blue-grey or black internally, and showed signs of abrasion. This may indicate that they had been cooked prior to cremation (see section 7.6). F134 produced butchered remains of a Dexter (Celtic short-horn type) cattle metatarsal and a single vertebra from a species of small fish. F162 yielded a single piece of chopped sheep/goat metapodial which had been burnt at high temperature, plus an eel vertebra; F181 yielded two fish fragments; and a mackerel vertebra was found in the urned cremation burial in F128 (see section 7.8). The type of animals represented would be more likely to be food offerings, rather than pets of the deceased which some classical authors have referred to (Walker 1985, 57).

The environmental report shows little or no evidence for the deliberate deposition of plant materials on the pyre as offerings to the deceased, and, although cereals, nutshell fragments and soft fruit remains are present, they are almost certainly either accidental inclusions or an incidental component of brushwood fuel (see section 7.9).

The small finds, Roman pottery and Roman glass reports provide further information about other goods placed on the pyres. Roman glass unguent bottles or the remains of them, which seem directly related to funerary activities, were found in eight cremation contexts and one *bustum*. These vessels originally held oil, probably perfumed. In general, the use of vessel glass in funerary ritual at the Handford House site follows the normal pattern observed in the other Roman cemeteries surrounding Colchester in the mid 1st century.

Bustum F134 suggests that secondary grave goods could be added to a bustum after the ashes had cooled. Fragments of an unburnt flagon were mixed in with the cremated bone as were an unburnt hand mirror and unburnt copper-alloy spoon. The Colchester Garrison Area J1 North *busta* also featured unburnt pottery and lamps which had been added to the cremated remains after cremation.

There was evidence of wooden boxes being placed on the pyre with the deceased. The *busta* and pyre debris from cremation burials commonly contained iron nails. The smaller examples of nails may have come from boxes or similar small wooden objects placed on the pyre as grave goods. Two cremation burials contained burnt copperalloy box fittings from boxes which had been placed on the pyre.

Individuals are likely to have been cremated fully clothed and wearing shoes, the evidence for this being the copious amounts of hobnails in the pyre debris. There was no evidence for shoes being placed next to the cremation vessel within the pit. Two cremation burials contained a burnt bead which may have formed part of necklaces worn at cremation.

The two *busta* and one of the cremation burials (F199) contained scorched coins which had been burnt on the pyre. In *bustum* F47, the coin was found at the head end of the pit. It is likely that these coins were placed in the mouths or on the eyelids of the deceased prior to cremation. This Roman custom was connected to the belief of needing to pay the ferryman to take the deceased across the mythical river Styx to the afterlife.

Burnt broken pottery was found in several cremation burials and the two *busta*. Whether this was deliberately smashed after cremation is hard to verify. Burnt fragments of three *tazza* vessels were present in one cremation burial (F19). *Tazze* are usually thought to be incense burners and thus might suggest the use of incense in the cremation process (Philpott 1991, 193). It is not clear whether the burning was caused by the pyre or through the burning of incense.

The study of the plant macrofossils from the site gives an indication of what the pyres were made of. Although wood probably formed the main component of the pyres, subsidiary fuels almost certainly included gorse, bean 'straw', broom, bracken, dried grasses and grassland herbs. Bean 'straw' and gorse are known to burn at a very high temperature and would, therefore, make ideal kindling or fuel for a pyre (see section 7.9).

Study of the cremated bone provides evidence for how the bone was picked off the pyre. Analysis of the relative proportions of the bone representing the main areas of the body within cremation urns which were excavated in spits showed that, generally, there was no structured approach to the collection of bone and/or filling of the container. There was one exception, which seemed to show that collection started at the head end and worked down the body (F178). The most common pattern was to find similar proportions of the bone representing the main body areas distributed throughout the urn, and this might be expected to occur if more than one person was involved in collection. There was very little charcoal inside the urns, which indicates that the bone was carefully picked off the pyre rather than swept off with other material.

It is clear from the weight of the bone recovered at the Handford House site that the amount of bone collected for burial was far from complete, as at other Roman cemeteries around the country (section 7.6). It has been suggested that collection was simply token, with a few fragments of each part of the body being buried, and the remainder being either disposed of with the pyre debris or removed for other purposes (see section 7.6). The deposition of pyre debris in separate pits or hollows is a phenomenon which has been recorded at the Handford House site, as at various other recently excavated Late Iron Age and Roman cremation burial sites such as Stanway Area D, Colchester (Crummy et al 2007, 400-422); Elms Farm, Heybridge, Essex (ECC 2002a, 9); Westhampnett Bypass in Sussex (Fitzpatrick 1997, 71); the eastern cemetery of Roman London (Barber & Bowsher 2000, 60-63 and 265); Atlantic House, part of the western cemetery of Roman London (Watson 2003, 43); Great Dunmow in Essex (ECC 2003, 7); and Colchester Garrison Urban Village (CAT Report 412). Pyre-debris deposits are difficult to differentiate from unurned cremation burials (McKinley 2000a, 265). In pyre-debris deposits, the recovery of bone is incidental and it is mixed in with other pyre debris, usually without any layering or grouping of the bone. They are also characterised by very black, charcoally fills.

Between 11 and 15 cremation burials contained deliberately-deposited pyre debris in the pit fill. This consisted of small fragments of cremated bone, charcoal and artefacts such as melted glass unguent bottles, burnt pottery, nails from wooden boxes, lamps, coins, jewellery, a bone needle, a bone die and hobnails. This material was burnt with the body on the pyre and deliberately placed with the cremation burial. The deliberate reburial of the pyre debris separately is being increasingly recognised during the excavation of Late Iron Age and Roman cemeteries elsewhere in the country (Fitzpatrick 1997). The pyre debris must have had some significance to the mourners, but what purpose its reburial served and whether it was purely a symbolic act is uncertain.

## 8.2 Cremation burials

The excavation provided information on burial rites as well as cremation rites. Of the 57 cremation burials, 35 were definitely urned. The cremation urn was commonly a ceramic cooking or storage jar, but, in one cremation burial, the bone was contained within a glass jar (F126) and, in another cremation burial, the bone was in a wooden jewellery box (F120). Eleven cremation burials may have been urned but the level of disturbance made this difficult to ascertain. The remaining 11 cremation burials have been classified as either unurned or pyre-debris deposits. It was difficult to distinguish between the two due to ground disturbance. Generally, those with a charcoally fill and where cremated bone occurred throughout the fill rather than just at the base of the pit have been termed pyre-debris deposits. Twenty of the urned cremation burials featured one or more ancillary vessels alongside the urn/box; for example, dishes, flagons and small beakers which may have held food and drink. One of the urned cremation burials was deposited in a large Dressel 20 amphora (F137); subsequent excavation of its contents produced a flagon, the neck of the amphora, the cremation urn, a lamp and a dish. Pollen analysis carried out on the ancillary vessels from inside this amphora did not provide any definite evidence that

they had contained food and drink (see section 7.10). One possible reason for the eating and drinking vessels associated with the cremation urn not holding food or drink is that they may have been symbolic of a meal rather than containing an actual meal.

One urned cremation burial featured a large but broken Verulamium region/Brockley Hill amphora (F204) which may have contained a cremation urn. Amphora burials have been found in Colchester previously, providing ready-made cists for cremated remains (*CAR* **9**, 265-6).

As well as F120, the wooden jewellery box containing a cremation (ie a boxed cremation burial), some other cremation burials also featured or appeared to feature unburnt wooden boxes (?F41, F103, F108, F126, F199). These boxes either contained the cremation urns or pyre debris.

Several of the cremation urns had been covered by lids of varying forms; some were formed out of broken pot bases, others were specially designed lids, and a few were dishes inverted over the mouth of the urn. The lids did not just serve a functional purpose of preventing the backfill from falling into the urn. A dish was probably used as a lid within the amphora burial F137 but the cist had already been sealed by the neck of the amphora, therefore negating the need of a lid for the urn. The use of a lid therefore may have been partly symbolic. The author of the excavations at Atlantic House, the site of which is part of the western cemetery of Roman London, suggests that the lids formed by inverted dishes over the cremation burial may be an act of symbolic feeding of the deceased (Watson 2003, 35).

Lamps are not commonly found in cremation burials in England; however, six complete lamps came from cremation burials at the Handford House site, plus fragments from at least three others. Three of the complete lamps were from cremation pit fills and the other three came from inside urns or inside an amphora (see below). There was compelling evidence for some of the lamps being lit before the pit was backfilled, thereby providing light in the grave for the deceased. In two of the cremation burials (F42 and F53), broken pottery had been placed carefully over the wick end of the lamps in order to the shield the flame (Plates 1 and 8). There must have been some kind of cavity to protect the lit lamp from the backfill, perhaps created by a wooden board. Lamps in cremations are most often found in cist cremations or amphora burials which provide a cavity. This was the case with the first amphora burial (F137), where a small lamp was found upside-down within the dish. The dish was found by the side of the urn but had probably been placed on top of it. The lamp was probably flipped over when the neck of the amphora fell in and knocked the contents over. One lamp depicting a comedy mask was discovered inside an urn along with broken fragments of a lid (F128). The lamp could have been sitting on top of the lid originally. Another lamp was found partly inside an urn, on top of a lid (F141).

Some of the designs on the picture lamps may well have been chosen for their funerary symbolism; for example, the lion fighting a crocodile and the stave dancer with the large phallus. As well as being a guide for the deceased to help them on their journey to the underworld, lamps may have had other functions, such as purification (Philpott 1991, 192-3). Lipid analysis was carried out on five of the complete lamps to ascertain what oil was used; however, no conclusive results were obtained.

Firing defects were noted on three of the cremation urns, indicating that kiln wasters or seconds may have been used as receptacles for cremated bone.

Four double cremation burials were identified from the Handford House site, ie remains from two individuals in one urn (Barber & Bowsher 2000, 109). Two of the double cremation burials were of two adults (these may be the same two individuals spread over two burials), one was of two children, and the other was of an adult and a child. Barber and Bowsher state that the probability of kin relationships or close friendships of those buried together is compelling (Barber & Bowsher 2000, 272). It is not known whether the individuals were cremated together or if one was cremated later and subsequently added.

The contents of 100% of the whole cremation urns (25 in number) were excavated by hand, in spits, in order to recover the cremated bone and other items inside. The contents of 12 complete ceramic ancillary vessels were also excavated by hand. Several of the urns were found to contain carefully deposited unburnt items alongside the cremated bone. Glass vessels (unguentaria, flasks and a Hofheim cup) were recovered from within the urns from two cremation burials (F42 and F53).

Two urns contained mirrors (F128 and F200), one contained a picture lamp (F128, see above), one contained a beaker and a finger-ring (F162), two contained childrens' shale or bone bracelets and melon beads (F162 and F209), and one contained an unburnt coin (F198); three other cremation burials contained unburnt coins but within the pit fills rather than within the urn.

## 8.3 The inhumation burials

Nine articulated adult inhumation burials were excavated, all of which occupied the northern/north-eastern part of the site. No two inhumation burials were the same; the deceased were buried in different positions and alignments, and only two of them were definitely buried in coffins (F1/Grave 1 and F159/Grave 7). Some were buried in pits, and most were supine, but two were flexed on their sides (F31/Grave 2 and F154/Grave 6). One of the skeletons was a male wearing a shale armlet (F119/Grave 4). Another was wearing hobnail shoes (F171/Grave 8). The inhumations are all Roman, but there is no more precise dating evidence from most of the inhumations except for three which contained pottery dating them to somewhere between the mid 2nd to 4th centuries. Two inhumations did contain 1stto 2nd-century pottery (F1 and F154); however, this may have derived from earlier cremation burials which had been cut by the inhumations. The shale armlet may either be Late Iron Age/early Roman or late Roman. Therefore it not possible to surmise whether the two burial practices were being used concurrently or whether all the inhumations are later than the cremations (see below, the phasing of the cemeterv).

The orientation of the inhumations or lack of it is worth noting. At the Roman cemetery on the Butt Road site in Colchester, the first phase of inhumation burials were generally aligned north-south and the later (Christian) ones were aligned eastwest (*CAR* **9**, 4-202). At the Handford House site, there does not seem to be a pattern, which suggests that they were not Christian.

The gender distribution was weighted towards men, but the sample was small and not in good condition.

It was not possible to establish the religion of the inhumations, specifically whether any were Christian.

The inhumations were mostly 1 m below ground-level whereas the cremations were generally shallower. The deeper burial of the unburnt bodies may have been for reasons of hygiene.

## 8.4 Phasing of the cemetery

The earliest cremation burials date from the mid 1st to 2nd century and some are definitely pre-Boudican, ie the cemetery was in use from the first few years after the Roman invasion of AD 43. The cremation cemetery carried on in what appears to have been continuous use till the 3rd or 4th century as there are cremation burials from the 2nd century and the 3rd or 4th centuries from the site.

Some of the inhumation burials are more difficult to date due to a lack of wellstratified pottery or other datable artefacts. The first inhumation to be excavated (F1) contained a flagon in the grave fill dating to the 1st-2nd century plus a few fragments of early pottery from other vessels. However, it may be that the inhumation was cut through an earlier cremation (one fragment of cremated bone was found within the grave fill). A post-medieval pit cutting through inhumation burial F31 contained 3rd- to 4th-century pottery which probably derives from the burial. The fill of another inhumation burial in a pit contained part of a grey ware jar of the 1st-2nd century, which may be residual (F154). The individual buried wearing a shale armlet (F119) could have died in the Late Iron Age/early Roman period or in the 3rd to 4th century, as such armlets are known from sites of both periods (see section 7.3). The fill of the grave for inhumation burial F159 contained 3rd- to 4th-century pottery. The disarticulated bones from inhumation burial F208 were jumbled together with fragments of a mid 2nd- to 3rd-/early 4th-century pot. The other inhumation burials did not contain any datable material. The fact that the inhumations were grouped together in the north-eastern part of the site suggests that they are contemporary with each other. Whether they are all late Roman cannot be verified, but it seems likely.

In the pre-Roman Iron Age in south-east Britain, the main burial rite was cremation, the population being influenced by the Aylesford-Swarling culture (Philpott 1991, 6). This certainly seems to be true of Colchester; for example, the cremation burials in the Lexden Cemetery and the Lexden Tumulus are all of pre-

conquest date (*CAR* **11**, 164; Foster 1986). The invading Romans also practised cremation burial, which was used to completely dispose of the body to ensure that the spirit entered the other world and did not return to haunt the living (Alcock 1980, 50). The Romans also brought other burial practices which gained popularity in Britain, such as putting a coin in the mouth or on one of the eyelids of the deceased or into a cremation urn to pay the passage of the dead across the mythical river Styx to the afterlife (*ibid*, 57).

During the mid 2nd century, there began a move away from cremation to inhumation burial, which has been viewed by some as a move towards a greater degree of respect for the dead, with the spirit now entering upon a new life with a complete body (MacDonald 1977, 37; Watson 2003, 7). Toynbee states that this change was too early to be a result of Christian influence but 'would seem to reflect a significant strengthening of the emphasis on the individual's enjoyment of a blissful hereafter' (Toynbee 1971, 41). Walker attributes the change to Greek influence, with the vogue for sarcophagi being spread by Emperor Hadrian across the Continent (Walker 1985, 17). Roman inhumations were usually extended supine burials, often in wooden coffins. The accepted theory is that cremation burial was the dominant rite through the 1st-early 3rd century, with inhumation becoming more prevalent in the 3rd and 4th centuries (Watson 2003, 38). Most of the cremation burials recorded from Colchester are of 1st- and 2nd-century date (CAR 9, 257 & 262-4). At the Butt Road site cemetery, which was in use from the 3rd to early 5th century, only five cremations were found and these probably date from c AD 200. The rest of the burials (over 700 in number) were all inhumations (CAR 9, 4, 13, 27). Recent excavations at the St Mary's hospital site in Colchester revealed approximately 80 burials, almost all of which were inhumations from the 3rd-4th centuries (CAT Report 484 forthcoming). The changeover to inhumation in Colchester seems to have occurred between AD 250 and AD 275.

However, the process was more complicated than just a clear transition. There have been earlier inhumation burials from Colchester dating to between AD 150 and AD 175 (CAR 9, 264). More recently, excavations at Area C2 of the Colchester Garrison site recorded mid to late 3rd- to 4th-century cremation burials cutting mid 2nd- to mid to late 3rd-century inhumation burials. Also at Area C2, ten 4th-century cremations were found to be interred under barrows. Those interred were possibly Germanic in origin (Garrison Urban Village Areas C and J1, CAT Report 412). At the excavation of the Abbey Field in 2000, in the Garrison, the majority of the cremation burials dated to the mid to late Roman period with some dating to the 4th century (revised CAT Report 138, in prep). Excavations of the eastern cemetery of Roman London produced evidence for inhumation being practised from the late 1st century or early 2nd century alongside cremation. One possible explanation is that they were immigrants from other parts of Britain or the empire with their own inhuming traditions. Another possible explanation is that inhumation was cheaper (Barber & Bowsher 2000, 19, 300). Data from excavations from Atlantic House, the site of which is in the western cemetery of Roman London, shows that both rites were practised throughout the 2nd and 3rd centuries and there was no evidence to support the accepted theory of cremation burial being the dominant rite through the 1st-early 3rd century, with inhumation becoming more prevalent in the 3rd and 4th centuries. This 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).

Colchester, being a large urban and military centre and, at one time, the capital of the Roman province, would have been one of the first places to adopt new customs and would have been home to different ethnic groups. It should not be unexpected, therefore, to observe a variety of burial rites.

## 8.5 The layout of the burials

The Handford House site is situated just south of the line of the Roman road leading to London and is within a dense area of Roman burials to the west of the modern and Roman walled town of Colchester (Hull 1958). If these burial plots form part of a large urban cemetery, one would expect it to have been laid out with some planning and to feature evenly-spaced family grave plots and grave markers. The main grouping consisted of the inhumations, which were all in the northern/north-eastern part of the site; however, there were cremation burials occupying this area as well. The cremation burials were spread all over the site but thinned out slightly to the west. This is to be expected as burials become less and less dense the further west of the town one moves.

The piecemeal nature of the excavation and the large areas of disturbance make it difficult to state with any certainty the spacing between the cremation burials. Several were less than a metre apart from each other, while others appeared to be more widely spaced. Approximately 10% of the 68 m x 65 m site was excavated and 68 burials were exposed. Therefore, by the law of averages, the site should originally have contained approximately 680 burials. If we assume that the cemetery was planned rather than developing *ad hoc*, this works out at one burial every 2.5 m, or 16 burials in a 10 m x 10 m area. This is the minimum estimate as it does not take account of the burials which had already been destroyed by modern activity and therefore left no trace.

Very few of the graves intercut each other, which suggests that graves or plots were marked in some way and were respected. The only intercutting features were two of the inhumation burials (F1 and F154), which possibly cut through cremation burials. A series of six stake holes cutting into one of the cremation burials may have held stakes which marked the burial, as has been found at the eastern cemetery of Roman London (Barber & Bowsher 2000, 109). No other evidence for markers was found, but this may be because markers such as stones, pots, wooden posts or mounds have not survived. One would expect graves to be marked, as we are told by Classical sources that families often returned to graves to commemorate their dead (Toynbee 1971, 51). Perhaps intercutting of burials in the later Roman period would have been greater had there been more pressure on space. Excavations to the south of the town and just outside the town wall to the west have shown that land here was given over for burials in the 3rd or 4th centuries, ie the cemeteries at Butt Road and the St Mary's hospital site (*CAR* **9**; CAT Report 484 forthcoming).

Family groupings and relationships are suggested by the double cremation burials (those with the remains of two individuals in one urn; Barber & Bowsher 2000, 109), and also by a cluster of four cremation burials in the eastern part of the site which were of the same date, contained similar grave goods, and were cremated in a similar way (F42, F44, F53, F142; see section 7.9). Of these four, two were almost definitely related as they were next to each other and each contained half of the same coin. Two other skeletons had the same thickening of the skull and may have been related (F31 and F154). Apart from that, there were not enough complete inhumation burials to look at family relationships through analysis of the bone.

As mentioned in section 8.1, the two *busta* were not in a separate part of the cemetery but were surrounded by cremation burials. It was common for Roman *busta* to be placed in close proximity to other cremation burials (McKinley 1997, 66). However, there would have been other, non-*bustum* pyres in use and re-use, yet these were not located during the excavation. This is either because they leave no physical trace (not having under-pyre pits) or because they were located away from the burials, in a separate *ustrinum*.

## 8.6 Graveside feasting

Classical authors inform us that two major religious festivals in the Roman world were set aside for the commemoration and care of the dead; the Parentalia and Lemuria. On the Parentalia, relatives visited the graves of their kin and partook of a meal at the graveside (Ovid, Fasti 2:547; Hopkins 1983, 233; Fitzpatrick 1997, 280). It was also customary for relatives to eat a funeral meal by the graveside on the day of the cremation and to revisit graves on the anniversary of the death and to share a meal with the dead (Walker 1985, 10; Hopkins 1983, 233-4). The evidence of this practice from the excavations at the Handford House site was a rubbish-pit at least 3 m wide which was revealed on the northern side of the site (F193 and F205). The pit contained animal bone, including good-quality meat-bearing bones with much evidence of butchering, indicating a feast. The pit, which was located close to burials, contained a small quantity of Roman pottery including an early 2nd-century sherd.

Butchered uncremated animal bone was also recovered from some of the cremation and inhumation burials. Two burials contained fragments of mammal bone, none of which appeared to be burnt (ie one inhumation in a pit and an urned cremation burial with pyre debris). One inhumation burial produced juvenile equid remains. Both pieces of the equid appear to be part of one juvenile femur, and one piece bore a chop mark on the shaft which suggests that it may have been eaten.

These animal remains suggest feasting; however, there is the possibility that animals were sacrificed and placed within the burial as a ritual offering to a god on behalf of the deceased.

The occasional remains of quernstones and whetstones at the Handford House site might be associated with on-site preparation of food (Fitzpatrick 1997, 233).

The type of pottery found in the pyre debris, for example, the presence of the broken flagon in *bustum* F134 hints at drinking and possibly feasting. Alternatively it may have contained wine which was poured on the pyre, either as a libation or perhaps to extinguish the fire. The practice of quenching the pyre flames with wine is attested in Virgil's *Aeneid* and Homer's *Iliad*. Burnt sherds from grey ware jars were also found within the pyre debris from several cremation burials.

## 8.7 Social status and identity

The people buried at the Handford House site cemetery do not appear to have been from among the upper echelons of society, but neither were they buried in paupers' graves. Most of the burials consisted of simple cremation urns in the ground. There were no grand monuments, and no burials were enclosed in mausolea or in square pits with wooden shuttering. Some burials were slightly more richly furnished than others; for example, those with boxes, glass flasks and mirrors. These individuals may have come from wealthier families or been of higher status. However, grave goods cannot necessarily be taken as indicators of wealth and status. In terms of ancillary vessels, there were no expensive samian platters and most of the pottery consisted of simple tablewares.

The evidence from the glass vessels and small finds, the iconography on the lamps and coins, and the methods of cremation all indicate that, in its earliest phases, the burial ground was associated with inhabitants of the Roman colony with a wholly Romanised life-style, rather than with the surrounding Romano-British (native) population. The *busta* are often associated with military centres and as such would be expected to have been used in Colchester; however, no military personnel were definitely represented in the burials at the Handford House site.

## 8.8 Physical appearance, relationships and health

Study of the human bone demonstrates that those interred had a normal range of pathologies and injuries and there was nothing unusual in their stature, mortality rates, or ratios of male to female, although there is a peak of child deaths in the 'small child' category, perhaps as a result of childhood illnesses such as measles. Study of the teeth of the inhumation burials showed that their diet was rich in carbohydrates which was normal for the Roman period, and there was evidence that some effort was made to keep teeth clean. The average stature for males was 5 ft 6 inches.

## 8.9 Religion and beliefs

It is difficult, some would say impossible, to answer questions of belief purely from archaeological remains. Those buried at the Handford House site probably adhered to differing religious ideologies, as Roman beliefs were extraordinarily varied and there was no single dominant orthodoxy (Hopkins 1983, 226). The pantheon of Graeco-Roman gods was not the only belief system; Eastern religions were practised and there were other influences such as Stoicism, Epicureanism, Judaism and, later, Christianity. Native British beliefs would also have held some sway; for example, we are told by Julius Caesar and by Diodorus in the 1st century BC that the Gauls believed in reincarnation (Black 1986, 228). Roman epigraphs show beliefs about the afterlife ranging from nihilism through a vague sense of the soul's ghostly existence (the Manes) to a concept of an individual's personal survival in a recognisable form (Hopkins 1983, 227).

There is evidence from the Handford House site for beliefs about death and the afterlife, although it is hard to determine which gods were worshipped. The graffito  $\Lambda$  scratched on the amphora F137 which contained a cremation burial, may be an abbreviation of a god's name beginning with A, eg Mercury Andescociuoucos or it could represent the Celtic word Andumnos, meaning the underworld (section 7.17). The functional grave goods like the beakers and lamps indicate belief in life after death, unless they were symbolic. The lamps lit in the graves, the coins in the mouths of the dead, and the symbolic figures on the coins and lamps all indicate a belief in the afterlife with potential dangers and the need for protection. The lamps

and possible remains of food and feasting suggest a belief that the deceased still had a body, unless they too were symbolic. The bone die may represent the idea of the 'game of life'. The broken picture lamps in some cremation burials – if they were deliberately broken – may have depicted apotropaic images and their potency would have been invoked by deliberate breakage at an earlier stage in the burial rite. Alternatively, their inclusion in the burials may represent the provision of a ritually 'killed' lamp for the soul on its journey to the underworld, while the complete lamps, which were both placed in the grave alight, were provision for its departure from this one (see section 7.3).

The dead were believed to partake in the graveside feast (Toynbee 1971, 49-51; Hopkins 1983, 233). Therefore the graveside feasting indicates that the living believed that the soul of the deceased occupied the grave for a certain amount of time before embarking on its journey to the afterlife (Black 1986, 230).

There was no definite evidence of sacrifices or libations made to appease the gods, although the occurrence of this practice cannot be ruled out.

The differences between cremation and inhumation may shed light on Roman beliefs. Cremation was a way of thoroughly disposing of the body, perhaps because of a belief of the deceased person's spirit still being able to revisit the living. The transition to inhumation was perhaps connected with a developing belief in the survival of the body and the resurrection of the dead. Alternatively it may have been a following of Greek fashion, which favoured inhumation in sarcophagi. A functional reason, with inhumation requiring less wood, may also be valid. Christianity was not the deciding factor in this change as it took place before the influence of Christianity in Britain.

### 8.10 The environment

Although wood probably formed the main component of the pyres, subsidiary fuels almost certainly included gorse, bean 'straw', broom, bracken, dried grasses and grassland herbs. The latter two, which were probably used as kindling, appear to have been pulled up from areas of predominantly dry grassland, although a small number of plants more particular to damp areas do appear to have been incorporated (see section 7.9). The analysis of the pollen from within some of the ancillary vessels in cremation burials suggests open weedy conditions with some birch and oak in the catchment area (see section 7.10).

#### 8.11 The metalled areas/road (Graph 1)

Several trenches in the southern part of the site contained gravel metalling which may represent a continuous feature such as a track or road. The best-preserved and most compacted pieces of metalling (F43 and F121) appear to have been cambered, ie they sloped down to the south. The pottery and tile found would suggest a Roman (2nd-century or later) date. F43 is a slight conundrum; its lowest surface was lower down than the top of the cuts for some cremation burials (see Graph 1). If the feature was contemporary with the cemetery and was constructed to link the burials, one would expect it to have been at a higher level. Horizontal truncation of the surface by later activity may be one explanation. This may also have created the illusion of a camber. Alternatively, the metalling may have been the lining of a hollow way rather than a road, so the lower surface would have been below the Roman ground-level because it had been hollowed out by use. A similar situation was noted at the Colchester Garrison excavations (Area J1), where a droveway had become hollowed out through use over the centuries and had subsequently been metalled. Some of the cremation burials were therefore above the level of the base of the hollow way (CAT Report 412).

The piecemeal nature of the excavation did not allow a firm conclusion to be drawn of the function of the metalled surface(s). They may not be connected and instead may have served as a series of metalled areas, perhaps for sacrificing animals or cooking graveside meals. At the Giltspur Street site, within the western cemetery of Roman London, gravel surfaces probably representing paths through the cemetery were observed (Watson 2003, 31-2). A cobbled area was also found at St Stephen's cemetery (4-6 King Harry Lane) in St Albans (Frere 1987, 328).

Laver, in his diary on March 19th 1923, recorded a section of buff clay, on the corner of West Lodge Road and Queens Road. It was running in a south-westerly to north-easterly direction and Laver supposed it to be the Roman road from Bluebottle/Bell Grove to the Balkerne Gate. However, the feature or features at the Handford House site seemed to be aligned roughly east to west, had a metalled

surface and were lying on silt and natural sand and gravel, and so are unlikely to represent the same feature. A footpath is shown crossing the site roughly from west to east on the 1848 Monson map. However, it is not likely that this was metalled and it also crosses the site at a point which is too far north to be the same feature.

## 8.12 The 19th-century excavation trenches (Fig 5, Fig 74)

Throughout the excavation, large areas of modern disturbance were encountered. These appeared to make up two large trenches in the eastern part of the site and one smaller trench on the western side of the site. Originally they were thought to be horticultural, but their locations do not correspond with plant beds marked on the OS 1876 map nor the Gafwell House sale map of 1892. One interpretation, given their depth and location, is that they were archaeological excavation trenches, dug for antiquarian George Joslin. He built and moved into 10 Beverley Road, opposite Handford House, sometime between 1862 and 1866. Joslin excavated in the Beverley Road area in the second half of the 1860s and collected many cremation urns which are now in Colchester and Ipswich Museums. He also discovered the tombstone of the Roman legionary Facilis. The piers of the vinery (F150/F153) were seen to cut into the backfilled trenches and the rubble was laid on top. Therefore the excavation trenches pre-date the vinery. The vinery appears on the 1st edition OS map of 1876, so the excavation trenches must have been dug sometime before that date. The finds within the excavation trenches indicate a 19th-century date, which would correspond with Joslin's excavations. It is not clear whether Handford House (Gafwell House) was built by the time that Joslin's trenches were dug, if, indeed, they are attributable to him. The plot was sold in 1859 for Gafwell House/Handford House so it may have been built or was in the process of being built in the 1860s.

Antiquarian interest in the 19th century tended to focus on artefacts and pots. As cremations yielded more of these items and were usually to be found at a shallower depth, inhumations were often overlooked. We know that Joslin directed excavations within a quarter of a mile of his house (*CAR* **9**, 259), but it is not clear whether he directed proper area excavations or merely recorded finds which came up during groundworks. An alternative interpretation for these trenches is gravel quarries, dug before Gafwell House/Handford House was built. However, the trenches are only a maximum of 1 m deep and do not have the appearance of pits dug for gravel extraction.

# 9 Acknowledgements

The Trust would like to thank Vaughan and Blyth (Construction) Ltd for funding the work and for help on site including lifting the amphora, Emma Hogarth from Colchester and Ipswich Museums' conservation lab. for removal of box fittings, John Lay and Francis Nicholls for metal detecting, Nina Crummy for advice on site on small finds, Val Fryer for advice on site on environmental sampling, Sue Anderson for advice on the removal of human bone from the pyre, and James Fawn from the Colchester Archaeological Group for historical information.

The fieldwork was supervised by K Orr and the site work was carried out by S Adams, C Austin, L Gadsby, D Goodman, M Górniak, B Holloway, B Hurrell, L King, C Lister, L Pooley, N Rayner, D Ross, P Skippins, E Spurgeon, K Weller, and N Weller. The project was monitored by Martin Winter and Philip Wise from Colchester and Ipswich Museums.

# 10 Abbreviations and references

## Abbreviations

BABAO	British Association for Biological Anthropology and Osteoarchaeology
BAR	British Archaeological Report
Cam/CAM	Colchester pottery type series from Camulodunum, first report on the
	excavations 1930-39, RRCSAL, 14 (Hawkes & Hull 1947) and
	Roman Colchester, RRCSAL, 20 (Hull 1958)
CAR	Colchester Archaeological Report
CBA	Council for British Archaeology

СК		R A G Carson & J P C Kent, 'Part 2: bronze Roman imperial coinage of the Later Empire AD 346-498', in <i>Late Roman bronze coinage</i> , by R A G Carson, P V Hill & J P C Kent (London: 1972)
НК		P V Hill & J P C Kent, 'Part 1: the bronze coinage of the House of Constantine AD 324-346', in <i>Late Roman bronze coinage</i> , by R A G
RCHME		Royal Commission for Historic Monuments of England
RIB I	1965	The Roman Inscriptions of Britain: Inscriptions on stone, I, by R G Collingwood and R P Wright, 2nd edition
RIB II.7	1995	The Roman Inscriptions of Britain: Graffiti on samian ware, II.7, ed by S S Frere and R S O Tomlin
RIB II.8	1995	The Roman Inscriptions of Britain: Graffiti on coarse pottery, II.8, ed
		by S S Frere and R S O Tomlin
RIC		Roman imperial coinage
RRCSAL		Reports of the Research Committee of the the Society of Antiquaries of London
WEA		Workshop of European Anthropologists

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### 11 Glossary and abbrevations

Bronze Age	the period following the Stone Age, characterised by the use of bronze, in Britain $c$ 2,000-800/700 BC; Early = $c$ 2,000- $c$ 1,600 BC; Middle = $c$ 1,600- $c$ 1,000 BC; Late = $c$ 1,000- $c$ 800/700 BC
bustum	(plural <i>busta</i> ), site of cremation and burial where the pyre is contructed over a grave-shaped pit. The pyre debris and the cremated remains then form the primary fill of the pit
CBM	Ceramic Building Material
context	specific location on an archaeological site, especially one where finds are made, eg a feature or a layer
ECC	Essex County Council
EHER	Essex Historic Environment Record, Essex County Council
feature	an identifiable thing like a pit a wall a drain a floor
Iron Age	the period following the Bronze Age and preceding the Roman invasion, in Britain $c  800/700 \text{BC-AD}  43$ , Early = $c  800/700 \text{-}c  400/300 \text{BC}$ , Middle = $c  400/300 \text{BC}$ to $c  70 \text{BC}$ . Late = $c  70 \text{BC-AD}  43$
medieval	the period from 1066 to c AD 1500
modern	the period from <i>c</i> 1800 to the present day
natural NGR	geological deposit undisturbed by human activity National Grid Reference
Neolithic OD	the new Stone Age, in Britain the period from <i>c</i> 4,000 to 2,000 BC height above sea level
post-medieval	the period from c 1500 to c 1800
Roman	the period when Britain was a province of the Roman Empire from AD 43 to $c$ AD 410
tazza	ceramic vessel usually used as an incense burner; plural tazze
tertiary	a flint flake that does not have any cortex remaining, ie from the interior of the flint
UAD	Urban Archaeological Database, held by Colchester and Ipswich Museums
U/S	unstratified find, ie without an archaeological context

### 12 Archive deposition

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### 13 Appendices Appendix 1: Roman pottery catalogue and groups by Stephen Benfield

Table 26: catalogue of Roman pottery, with dates, arranged by feature and layer.

date of context		modern	modern	modern	modern	modern	modern	Modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	Modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern?	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	Homan modern	modern	modern	Roman	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern	modern nost-medieval	, 2	post-med	post-mea
uant spot date	sq Roman	Roman 1-2/3	1-2/3 1-E3C	Roman	q 2 century	1-early2C	F2 C+	M-L3-4C	Roman	Roman	sq 1-2 century	1-2C E2 E1C	EZ-E4C Boman	Roman	sq Roman	sq E2C	q E2C+	Roman	E2 century	1-E2 century	Roman	1-2/3C	10 ma-Flavian?	M3+?	Roman	1-E2C	1-2/3/c	Roman	Roman	1-2/3 century	Boman	Roman	E 2-3 century	sq Roman	1-2/3 century	M3-4C	Roman	L4? 1/0 contrar	1/2 cenury Doman	1-early 2 century	Roman	sq 1/2C	1-M-L2C	Roman	5d 1-2C	Roman	M-L3C+	M3-4C	1 L3-4C	1-2/30 L2-M-L3C	1-E2C	E2-M-L3+	1-2/3C	1-E2c Boman	L2C+	M3-4C	1-2/3C	Homan L3-4C	Roman	Roman	M2-E4C Boman	M3-4C	M3-4C	EZ-IM-L3C 1-E3C	1-2C?	sq E2C+	sq Homan M3-4C	Roman	M 3rd C+	koman so Roman	a Roman	E2C+	4 1-E2C	M-L 3-4C	a 1-2 C? so Boman	sq 1-2C?	sq 1-2 C?	sq mid 3-4 century	יושוווטת 54 1-2/3 century	pre-Flavian?	Roman Glaudian-E Flavian	pre-Flavian	2C	M-LZ-40
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tt fabric (& form)	Roman sherds	1 × GX; 2 × DJ 1 × D1 eherd	t x D20 ambhora A.I	1 × DJ	Roman pottery	1 x AJ amphora sherd	Roman pot inc GA (CAM 279)	1 x KX (CAM 305) & other Homan pot inc sherd of samian	2 X G X 1 X G X	3 × GX; 1 × DJ	DJ pottery	lamp tragment; other Roman pot	IX GA (CAIM 208) 1 × GY ahraded sherd	3 × GX	1 grey ware jar sherd?; 1 piece of lid	1 x GX; BB2	grey ware sherds (?CAM 268)	1 x GX bowl/jar rim	sq GX inc a lid; 1 x BB1; 2 x DJ	2 x 'honey pot' (CAM 177)	sq GX	sq GX + DJ	Sq GA; טע מ טם (סטב) יימי מימיני נומימי 1 ע למינים אונים אינים עום וום	vsy grey ware, דא נפוום וושום נאפט שישיט טו איראי איר GAM 376 + CAM 391: איר GAM 268): 1 x MO ?Oxford		1 x DJ D20 amphora. Sq GX (inc CAM 108)	1 × DJ; GX; HZ	1 x GX rim jar/bowl	vsq GX sherds probably 2 flagons	very small quantity of DJ itagon	sq av mic i pussiony burnit sq GX	t x drev ware: 1 x DJ handle	1 x AJ amphora; vsq GX	1 x grey ware	1 x DZ sherd	1 x EA; sq GX (?same pot)	small quantity Roman inc HZ; GX:DJ	1 X samian (Drag 33), AU 138-192; 1 X MP chords of unhits finance: curvitit: of healing is	srierds of write itagori; quartitity of prokent jar	sy av grey wate; sy buttit of waster av stretus 1 x AJ amphora body sherd	u a ru ampriva bouy sired vsa GX (CAM 108)	grey ware GX and flagon (CAM 155)	quantity of sherds inc part of 1 DJ ring-neck flagon? (CAM 154/155), body & neck, no base, 2 x GX sherds	1 x grey ware	grey ware snerd Roman not	1 x GX sherd	GX & GB/KX (CAM 305b)	1 x HZ; 1 x GX; 1 x GA (?CAM 279c)	1 x EA base of Nene Valley beaker; 1 x GA (CAM 124 or small jar); 2 x MR base of (CAM 316 bowl); sq GX	T x bu snero 1 x KX (?CAM 376) mortarium: 1 x TZ (?CAM 497) variant: 2 x GX		sq Roman inc DU; GX; CZ	1 x DJ sherd	quantity of DJ (CAM 119); quantity of GX burnt (CAM 266), some burnt 1 × k ×	T X NA grev ware (CAM 37b & CAM 268 iar)	so the second se	1 × GX/HZ storage jar; 1 × AA amphora	vsq inc. DJ; GX & AJ 1 x AJ? Dressel 20: 1 x CH/MB	1 x DJ flagon sherd; 1 x GX sherd	2 x GX; 1 x samian (Drag 30 or 37)	2 x rims GX (?CAM 268); 1 sherd HZ; 1 UR rim uncertain platter type (CAR 10, fig 5.2 no 52)	d group med (20 m 37); 1 x DJ	1 × DJ; 1 × EA	ו x (CAM 4UD); ו X GA Roman pot plus 1 x amphora sherd & 1 x grev ware sherd	sq GX inc. part of a base of jar	2 x very abraded black-burnished ware sherds	I x AJ ampnora (⊔∠U); I x snera (∪ANN 3/0 /), plus grey ware EA and rim of (CAM 273) iar	er enter mer er er enter er enter er er enter er e	sherds of EA pot	I x grey ware grey ware	ery meno Roman pottery	Roman pottery	ronnan poutery rim sherd (CAM 243/244/246); 1 other Roman	Roman pottery	Roman pottery 3 sherds of built ware	o sherus vi buli ware grey ware HZ	grey ware	1 x GX; 1 x EA	grey ware 1 x DJ abraded sherd	1 × UR LTC (CAM 16/30)	1 x GX sherd Hofhaim flanon sherds (CAM 140): 1 x Lvon ware: other flagons	1 x samian; 1 x Lyon ware cup fragment; other Roman (CAM 39/40)	1 x (CAM 37a) ついついい パンニー ヘル クロインロイン	2 x GX (inc. CAM 281/281)
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date of context	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med	post-med most-med	post-med	post-med	post-med	post-med	post-med	Roman	Roman	Roman	Roman	Homan	Roman	Roman	modern	natural	modem	modern	Roman	modern	post-Roman post-Roman	post-med	?post-med	modem	Roman	modern 2			modern	modern	modern	modem	modern	Roman or nost-med	Roman or post-med	Roman or post-med	Roman or post-med	ċ	Roman	Roman	Roman	Roman	modern	?Roman	?Roman	modern	modern	modern	modern	modern	modern	modern	modern	1-3C	-3C	1-30	post-med or modern	modern	modern	1-2C	1-2C	post-med or modern	mouern E2-M-L3C+	modern	modem	modern	?1-2C 21-2C	modern	modem	post-med post-med or modern	post-med	post-med
wgt quant spot date	36 vsq 1C	vsq Roman	4/ Roman	1/ 1/04+? 20 Roman	73 Roman	sa Roman	vsq 2-3C	21 M3-4C	37 1-2/3C	10 Roman	vsq Roman	11 Roman	99 sq N13-4C 456 MJ-13-4	45 1-23C	135 1-E3C	19 ?	26 ?	35 1-2/3C	15 pre-Flavian	8 Roman	250 Roman	14 vsq 1-E2C	4 NUTIALI 976 EOC	3/3 EZO 351 1-E2C	5 Roman	13 1-2/3C	7 Roman	16 Roman	16 Roman	sq L3-4C	43 1-E2C	15 Roman	193 sq E2-M-L3C	23 Roman	sq 2C+	9 Roman	40 Koman 54 Domon	8 Bornan	15 Boman	62 Roman	135 1-3C	26 M3-4C	389 q M3-4C	32 Roman	3 Boman	80 1-2/3C	20 1-2/3C	sq E2+	12 L2-3/E4C	22 Roman	- 1-20 25 1-23C	sq 1-2C	8 Roman	5 Roman	sq homan 177 E2+	14 ?E-M2C+	41 L2-4C	1/5 1-E2 sq 1-2C?	21 Roman	3 Roman 13 Roman	13 Roman	1 Roman	63 EZ-IVI-L3 61 1-F	4 Roman	- 1-2/3C	110 1-20	215 1-3C	77 1-2C 2 1-2C	4 ا-حر sq 1-2C	40 1-2C	a 1/E2C	52 71-20	14 Roman	12 pre-riavari 10 30 E2-M-L3C+	77 M3+	sq 1-2C 36 1-2C+	sq Roman	q 1C ?Claudio-Neronian	16 Roman	4 Roman	144 sq M3C+ M3-4	197 M3-4C	60 1-3rdC
fabric (& form)	1 x burnt samian (Drag 27); grey ware	vsq Roman pot inc (CAM 154/155)	vsq grey ware Eshidi (YX / MM g2/geV 4 v Lhadhaan umaa Eshidi AL	radiic AA (WAW 37/35); I X nadriarii ware radiic Ch 1 x D.I	1 X CO 1 Y Drev ware iar base	Poman potterv	1 x BB2 sherd + other Roman sherds	GX; DJ; EA	DJ + AA	1 × GX	handle of patera	1 × GX, 1 × ?DJ	sq inc 1 x GA; DJ; GX; AJ ampinora; EA ruiantitiv of Boman not inc (CAM 273)· GA (CAM 305a_BB1)· & CH (Hadham ware)		1 piece Dressel 20, AJ	vsq GX sherds; 1 x DJ sherd	2 x GX sherds; 1 x KX base sherds, dish/bowl base	vsq DJ flagon base	1 x DJ; 1 x ?EC	1 x GX, 1 x samian (AD 138-192)	most of a flanged bow (CAM 312/317); 1 x amphora sherd, + other Roman	rim sherds of beaker (?CAM 108)	1 X GX Sherd 4	Iragments or טבט, אט (חסו ווויפ same as no דו / יט), יאט טט, די איסא, די איסא מיימידיייט הל הא ראש איז		3×DJ	1 x GX	2 x GX	2 × GX	Roman pottery inc. TV/NV and CH	1 x amphora AA	dx a Du shierds 1 x GX shierd	CZ colour-coat; BB1 (CAM 39a); BB2 (CAM 39b)	1 x DJ; 1 x GX	fragments of a Roman jar (CAM 268?)	3 × GX	4 X GX sherds	o X GA yrey ware 1 v GX Int	2 X GX	so GX	1 × HZ sherd	1 x EA2; 1 x GX (?CAM 268); 3 rim sherds (CAM 212-217)	Hadham Fabric CH; rim of Nene Valley mortarium TE (CAM 500); Fabric EA	fragments of Nene Valley mortaria (CAM 503) 4 × CV #+ort/ CAM 934 -920	t da task (udivi 201-202) 1 x rrev ware sherd	2 x flacon base DJ	1 x AJ probably flagon base	Roman pot	1 x GA rim fragment (CAM 304); 1 x GX	2 × GX	wille wate beaver of hagori to 2 x DJ	1 x early Roman; 2 x burnt samian (Drag 15/17); 2 x flagon sherds; 1 x grey ware; 1 x ?Roman	sq GX	1 × GX D Horana charde and CV amunas	bu itagon sheras and GA grey ware sq GX (CAM 268)	2 x GX (?iim) (CAM 268)	1 x GB/KX very abraded, bead-rim bow/? (CAM 37); 1 x GX rim (CAM? 280-281)	5 X GX all (?CAM 266); 1 X AA ampnora fragments of grey ware GX jar & 1 flagon sherd	2 × GX; 1 × AA amphora	1 x DJ 2 v rraviusre	2 x grey ware		sq a.x., I x db (uAlwide); I x Hz; I x Du; I x IIo iragment <i>r</i> iadric 1 x D20 ambhora D1	1 x grey ware	1 urn (CAM 270b)	IX UJ sen of DI lid (CAB 10 Tune 163)	Du half of lid (CAR 10, DJ, Type 163)	1 x AA? ada ur acatad II um unus aus finamenta Bacana finamento i finamento af terra la mari ana unus 8 la il Arbada	corour-coaleo Lyon ware cup naginents, itagons itaginents, itaginents or tazza ounter, grey ware o our sterus tazza incense burner fragments; flagon sherds	6 × DJ; 1 × GX	?burnt tazza fragments (CAM 108); flagon sherds; grey ware	quantity DJ fragments probably flagon and small jar	4 x DJ	ב א טלא, דא גיטרא (בירט) (טלאוי וויפטט) ד א GX: ד א WA: ד א GA (CAM 279); ד א GB (CAM 40B)	sq flagon; 1 x TN mortarium; 1 x AJ amphora; 3 x grey ware inc CAM 268	ring-necked flagon sherds sa DJ: 1 x samian (DR 27) (slightly burnt), 1 x UR/GR	Roman pottery	1 x burnt samian (Drag 15/17) + sherds of nng-necked flagon (CAM 154)	sq DJ vsq Roman pot	1 x grey ware GX	GA (CAM 279); GB (CAM 39/40); EA Nene Valley colour-coat; CZ 1 x samian BA (Drad 45): 1 x TE Nene Valley mortarium: 1 x KX (CAM 37/38)	1 × CAM 279; 3 × CAM 268; 1 × CH; 1 × CAM 281/282; sq GX	1 x HZ sherd
rave no description of context	topsoil	topsoil	topsoil	topsoil	tonsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	topsoil	ploughsoil	ploughsoil	plough soil	ploughsoil	piougrison مامنامام	nougneen nhridhsnil	ploughsoil	silt layer	natural	topsoil	topsoil	subsoil	fill 19th C ex trenc	stonev laver	deposit	deposit	silty layer	deposit	Dackfill	subsoli subsoli	subsoil	excavation trench	excavation trench	excavation trench	19th C ex trench	excavation trench	excavation trenton	accumulation	accumulation	accumulation	deposit	silty base Ro road	G1 inhumation	G1 inhumation	G1 inhumation	drain trench	araın rencn ditch	shallow ditch	large pit	large pit large pit	shallow ditch	19th C ex trench 19th ex trench	19th C ex trench	19th C ex trench	excavation trench 19th C ex trench	shallow ditch	urned cremation	urned cremation	urned cremation	shallow ditch	gas pipe thro F19	pipe thro' F19	disturbed cremation	disturbed cremation	large ditch	ומושט שויטיו inhumation	large pit or ditch	pit pit	excavation trench	urned? disturb crem	19th C ex trench	excavation trench	pit thro' inhum F31 bit thro' inhum F31	pit thro' inhum F31	pit thro' inhum F31
o soakaway no (											S1																	S3	S3	S3																																																					
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no find n	21	43	44	40 40	1 C	74	85	2 95	124	186	? 217	2 703	10/ 2	2 727	? 1170	2 1195	2 1190	2 1204	32	3 926	3 101	3 110:	1171	1172	1172	3 459	0 125	1 142	1 142	2 143 - 222	5 309	7 983	9 304	9 317	1 337	3 374	095 C	0 000 0 0 000 8	8 406	6 816	6 816	6 848	668 899	6 899	090 B	965 965	8 1001	8 1011	9 928	1 1061	- ო	29	31		18	20	25	09 96	26	33	33	33	4/ 73	42	47	00 1115	1126	50	40 69	69	29 29	68	76	5 84	66	86 91	89	93	יז 105	126	105 107	107	10/
feat n layer	LS	, L		- L	<u> </u>			L5	- L		L2	. L			L2	Γ	L2	. ר	S.	Ë	<u>َ</u> لَـ	יבי - ר	- L	Ľ ì	LG.	L5	L1	5	5		5 3	2 2	L1	L1:	L2	- L2	Ď L	й - Г	<u>, r</u>	L3 L3	L3	L3	L3	E L3	2 <u>5</u>	L C	L3	L3	L3	гч Г		Ē	Ξì	F4	F5	F6	5. E8	89 B	F9	11 11	F11	F11	F12 F13	F14	F15	гто 715	F15	F17 E10	F18	F18	F19	F19	F28 	гзи F31	F32	F34 F34	F35	F36 E26	г F38	F38 	F39 F39	F39	F39

date of context	?post-med post-med Roman Roman	1-2/3C	1-2/3C 1-2/3C	1-2/3C	1-2C	1-2C	1-2C	1-2C	Roman	1-2 C	1-2C	1-2C	1-2C	1/2C	1/2C	modern earlv Roman?	early Roman?	early Roman?	a 1-E2C	a 1-E2C	1-E2C	1-E2C	a 1-E2C	1-E2C	1-E2C	1-E2C	Roman	1-E2C 1-F2C	1-E2C	1-E2C	1-E2C	1-E2C	1-E2C	Roman	modern	1-2 C	1-2C	1-E2C modern	19thC?	modern	modern	Roman	Roman	ć	modern	post-mea/modern Roman	1-E2C	E2-M3C F2-M3C	E2-M3C	1-E2C	1-E2C	1-E2C 2Boman	modern	modern	modern	Roman	M-L2-E4C M-I 2-F4C	Roman	Roman	?Roman	?Roman	. <sub>0</sub> .	1-2C	1-2C E2-L3	E2-L3	E/M2-L3/E4C E/M2-L3/E4C	E-M2-M-L3C	post-med	modern	1-E2C	E2-L2/E3C F9-1 2/F3C	E2-L2/E3C
ant spot date	M-L3-4 C M3-4C Roman Roman	1-2C	1-2C 1-2/3C	?1-2C	Claudio-Neronian	1-2C	1-ECO 1-2C or later?	?1-2C 1 E2C	1-LEC 1-3rdC	1-2 C	1-2C	1-E2C	:11-2C 1/2C	Claudian-Neronian	Roman	2-3C F2C+	?L2C	?early Roman	Claud-Nero, E Flavia	Claud-Nero, E Flavia	1-E2C Claud-Naro E Flavis	21-2C	Claud-Nero, E Flavia	pre-Flavian	71-2C	Claud/e Flavian	Roman	Homan 1-F2C	Claudio-Neronian	1-E2C	1-E2C	1-E2C	Roman	?L2-M-L3C Boman	1-2/3C	1-2 C	1-2C	1-E2C F2C+	1-20	1-2/3	Roman	Roman	EZ-INI3+ Boman	Roman	1-2/3C	1-2/3 C	1-E2C	E2-M3C 21-2C	E2-M3C	1-E2C	1-E2C	3-4C	Roman	Roman	Roman	M-L 2-4C	M-L2-E4C Boman & MBA	1-2/3C	Roman	Roman	1-3C 2.4C	3-4C M3-4C	1-2C	1-2C E2-E3C	E2-M-L3	E/M2-L3/E4C 1-E2C	E-M2-M-L3C	L1-E2C	L3-4C Roman	1-E2C	E2-L2/E3C ?1-2C	Roman
wgt qua	s sd sd s	808	1 124	15	512	152	68	170	160	sq	72	650	1 SO	b DS	с С	ps 26 vsn	2	26	1018	1018	- 1018	1	1018	83	ΩΩ	454	sd	9	bs	89	31 25	18	19	12	52	ı		35 -	sq	82	5 –	bsn	67 43	ъ ъ	82	11 vsq	160	197 8	800	255 224	114	653 08	92 sq	61	10 19		283 202	142	0 0	120	165	2 0	78 vsd	psv 59	540	2000 17	277	94	9 27	72	130 132	4
<pre>ct fabric (&amp; form)</pre>	fragments of GA pot (CAM 279) 2 fragments of UR terra nigra platter; 2 x black-burnished ware GA (CAM 279c) 1 x GX 1 x GX	quantity of a white ware DJ ring-necked flagon, rim missing but mostly there; 1 x grey ware	2 x UJ flagon fragments	sq DJ	GA Jar (CMM 200) flagon (CAM 154/155) ring-necked Fabric DJ	fragments of white ware flagon locally made	GA base of (CAIM 100) sq of DJ + DX?	3 x DJ cmoil vorion of a (CAM 366/331)	ament version of a Correct 2001 21 and a sherd (CAM 186) salazon amphora; 1 x samian (Drag 45) (late 2-1st half 3rd C)	buff flagon en D.I.ebarde flagons all some vessed as may be nadiv best-discoloured: beso and body shards	ed by anerus megory, an same vesser as mey be party near-ous-coloured, base and body sherus sq of sherds of ring-necked flagon (CAM 154/155)	GX jar/bowl (CAM 218)	1 x white ware tlagon sherd flagon sherds	agon and do a dish (CAM 8)	1 x Roman	Homan pottery GZ 1 x RR22	samian bowl fragment with bead rim (Drag 31 or 31R) (later 2nd-early 3rd century)	sq GX, some may be heated/burnt	Brockley Hill (CAM 140) flagon: same vessel	Brockley Hill (CAM 140) flagon: same vessel	GX jar (CAM 266), pierced base Brooklav Hill (CAM 140) flander same vassal		Brockley Hill (CAM 140) flagon: same vessel	sq DJ + GX, GX looks burnt; 1 x ?DZ butt-beaker	4 rragments (CAM 108) beaker sq DJ	1 platter with stamp, terra nigra-type (CAM 16)	burnt grey ware fragments	sq GX, burnt and very burnt sherds 3 fraaments very burnt oot "almost melted - same not GX (CAM 266): 1 v GX less burnt	2 x burnt ring-necked flagon (CAM 154); burnt sherds (CAM 108); burnt jar sherds (CAM 266) plus 1-2 other sherds	1 x piece of flagon (?lid) Brockley Hill; could be part of other bits outside	1 x Brockley Hill; 1 x DJ flagon base	r o inggori shera (nom um no 139) 1 x Brockley Hill flagon (see 1104)	1 x GX burnt; 2 x GX sherds from small jar base	GB rim (CAM 37/ 37b) 1 × GY	1 × GX, 1 × HZ; 1 × DJ	grey ware cremation urn & lid; other sherds	fragments of lower part of DJ flagon	fragments of plain beaker (CAM 108) + partially complete GX vessel 1 × H2· 1 × GA· 1 × GX	Roman pottery inc amphora	1 x HZ	t x (v.v.m. t.s.s) tragon at tourst regul strend 1 x GX		IX KA (LAMI Z/B); THE FEST IS GA 5 x orev ware	1 x GX	modern pipe; also sq DJ; AJ; GX	sq or ∪J vsq of small fragments including grey ware, Fabrix GX and oxidised coarse ware, Fabric DJ	sq qrey ware inc GX (inc. CAM 218)	quantity of a GB jar (CAM 278) - burnt or a second (same as no 394) 2 × D.I	most of a GB jar (CAM 278), black-burnished ware; 1 x tazza (CAM 198)	Lyon ware EB; fragments of large flagon DJ; GX curantity of shards_A1 amphora_Dressed 2-42 (or CAM 186)	3 x AA amphora; 4 x DJ	frags of white flagon; amphora body sherds; sherds of cooking pot GA (CAM 279c), plus grey ware pottery	t x DJ; small quantity GX	small quantity inc: GX; DJ	3 X G X 3 X G X	fragments of large GX globular jar and 2 fragments of MQ white coated ware	most sherds are part of same GX jar (CAM 280) GX mosthv 1 jar nlus 3 sherds of Bronze Ane notterv	2 x AJ amphora; 1 x HZ ; 1 x DJ; 2x GX	1 × GX	z × CX quantity of Roman pot inc AA; DJ; GX	1 x HZ sherd 1 v GA alicehtu burnet (CAM 9700), 1v GV	I x GA SIGRIY DURT (DAM Z/91); IX GA 1 x EA: 2 x GX; 1 x DJ	DJ and GX	vsq GX sherds fraaments of KX: 2 bead-rimmed iar (CAM 328)	GB base of jar (CAM 278)	GX (CAM 268) complete cooking pot used as urn GX (CAM 266)	GB rim (CAM 278); part of small DJ flagon (CAR 10, fig 6.19, no 497)	sq of DU; GX. 1 × UR (E) eggshell ware rim	TX MH (?CAM 316) 2 x GX	vsq (CAM 218) & flagon sherds	GB bead-rimmed (CAM 328) D I minature flack or flanon with near-shaned body. no rim	DJ minature itask or itagon with pear-sitaped body, no titti 1 x GX
to description of conte	pit thro' inhum F31 pit thro' inhum F31 inhumation inhumation	urned disturb crem	urned disturb crem urned disturb crem	urned disturb crem	urned cremation	urned cremation	urried cremation	urned cremation	road	urned cremation	urned cremation	urned cremation	urned cremation	urned disturb crem	urned disturb crem	1 9th C exc trench bustum	bustum	bustum	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	pit? everyation tranch	ditch	disturb urned crem	disturb urned crem	urned, disturb crem excavation trench	excavation trench?	excavation trench	ditch	ditch :	excavation trencn ditch	pit	excavation trench	aitcn cremation burial	disturb unurn? crem	disturb urned crem disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	excavation trench	excavation trench	excavation trencn excavation trench	disturb urned crem	disturb urned crem disturb urned crem	large ditch	ditch gully	ditch/large pit	ditch/large pit	guny pit	disturb urned? crem	disturb urned? crem urned cremation	urned cremation	urned cremation urned cremation	pit,? disturb crem	pit Ioree eit er diteb	large pit or ditch	disturb urned? crem	un-urned cremation	un-urned cremation
soakaway no grave r		S2 S2	S2 S2	S2 54	S o	S 3	S1	S1 2	S3										S1	S1	0. 01	S 10	S1	S1	S1 01	S1	S1	v vi	S1	S1	5 2	S1 0	S1																																							
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feat n laye	F39 F39 F40 F40	F41 E44	F41 F41	F41 F40	F42 F42	F42 F40	F42	F42 E42	F43	F44 E44	F44	F44 F44	F44 F45	F45	F45	F46 F47	F47	F47	F53	F53	F53 F53	F53	F53	F53	F53	F53	F53	F53 F53	F53	F53	F53	F53	F53	F54 Ебб	F58	F59	F59 F50	F60 F62	F63	F64	F68	F70	F74 F74	F75	F77 E00	F83	F85	F87 F87	F87	F88 F88	F88	F88 F80	F91	F91	F91	F93	F93 F93	F94	F95 F06	F98	F98	F100	F101	F101 F102	F102	F103 F103	F104	F105	F106 F106	F107	F108 F108	F108

date of context	?Roman ?Roman	?Roman	?Roman 3	f M-L3-4C	M-L3-4C	1-3C	1-3C	1-3C	1-3C	1-3C	LIA-E Roman	?Roman	E2C+?	1-EZC	1-E2C	Roman	Roman or modern	4/?4	1-3C	1-3C	1-3C	/HOITIBIT	21-2/3C	?1-2/3C	?1-2/3C	?1-2/3C	E2-E4C	21-2C	1-2/3C	1-2/3C	1-2/3C	1-2/3C	21-20	?1-2C	?1-2C	E-M2C	E-M2C	E-M2C	E-M2C	E-M2C	E-M2C	E-M2C	E-M2C	E-M2C	1-2/3C 1-2/3C	1-2/3C	1-2/3C	1-2/3C	1-2/3C	1-3C	1-3C	1-3C 1-3C	1-3C	post-med or modern	?	modern	modern	modern	modern	modern	post-med or modern	1-E2C	1-E2C	modern 1/F2-F3C2	M3-4C	E2-E3C	E2-E3C	E2-E3C	E2-E3C	E2-E3C	EZ-E3C 2nd C +?	E2-L3/4C	E2-L3/4C	E2-L3/4C F2-L3/4C	E2-L3/4C	E2-L3/4C	moaern post-med	0	1/2-3C 1/2-3C	1/2-3C
uant spot date	M3-4C ?1-2C	Roman	Roman	M3-4C	M-L3-4C	1-M-L2C	1-E2C	earlier Roman?	Roman	1-E2C 1 -mid-lata 2C	LIA-E Roman	E2C+	E2C+?	1-E2C	21-20	Roman	1-2C	mid 3rd-4th C	1-3C	1-2/3C	?1-2C		רב-ועו־בטט ?earlv Roman	1-2C	?1-2/3C	?1-2/3C	E2-E4C	21-2C	E2C?	1-2/3C	1-2C	21-2C	pre-conguest-L1C	late 2nd-4th C	?1-2C	Roman	AD 150-210	E2-12/F3C	E2-E3 C	E2-L2/E3	E2-E3 Boman	Roman	Roman	E2-M-L3C	1-2/3C 1-F2C	1-E2C	?1-2C	Roman	pre-riaviari 1-2C	1-E2	Roman 1 roo	1-E2C Boman	1-3C	3-4C	Boman		1-2/3C	L2-E3C 2	. c.	L2-M-L3C	1-2/3C 1-2C	q 1-E2C	1-E2C	Homan 1/F2-F3C	M3-4C	?1-2C	1-2C Boman	Roman	1-2C	1C , pre AD 60?	a 2ndC +	L1-2C	L1-E2C	E2-L3/4C E2-2/3C	?1-2C	?E2-E3C	Roman	Roman	1/2-3C ?1-E2C	M3-4C
wgt qı	6 ト	14	34	07 14	313	3000	134	04	N	10	1635	190	473	8	4004 8	04	48		27	34	4	204 SU	1840	-		32	752 q	<u>ی</u> ہ	938	10	6	ເນ <del>ເ</del>	4 1855	115	с	9	97800 846	040 1675	349	63	юч		0	77	47	200 q	ო	27	99 34	44	4 000 1	1260	235	102	129	210 vs	29	342	8	66	о С	14 vs	41 SC	91	ς Ω	52	64 17	148	80	811	υ NS	39	317	1165 535	36	19	11	-	108 SC 120	5
fabric (& form)	1 x Nene Valley; 1 x Cologne EA; sq GX 2 x DJ	1×GX		i x Uu, z x GA fraaments of GA iar (CAM 279c). black-burnished ware (separate pot to no 540)	inguinents of CAM 279C), prace but instruction wate (separate por to the port of the part nearly complete GA (CAM 279C) cooking/storage jar/urn, black-burninshed ware	large narrow-necked flask, used as urn, Fabric GX	quantity of GX (CAM 266)	I X DU/DZ, I X GA 3 X Drev ware	2 x GX grey ware	inside urn no 532, vsg of (?CAM 108) beaker Jarra GY flack / /AM 231/220 come flack ac no 542	GX (CAM 256) ovoid cooking pot with everted rim, used as urn; crack from mis-firing, may be a second or a waster	1 x amphora AA; 2 x mortaria TZ; 2 x buff pink white ware DJ; 1 x GX ; 1 x BB2?	1 x grey ware; 2 x gritty grey ware plus sherds of grey ware jar	tragments of rim (CAM 104/266) CV /CAM 318)	GA (CANY 210) 4 x GX rim (same pot)	1 × GX mm (Same pay	sq GX	1 x EA Nene Valley colour-coat (CAR 10)	sq white flagon DU, maybe more than 1	sq DJ	sq DJ 	ן sherd (LAIM 31b); ו ניב snerg (LAIM 4U/); ב א בא ועפוופ עמוופץ, ו א רוב אוופוט pus yrey אמוט אייאיזאי איל בעי ד ע רו יס ערד /ראות פסטו	quainity or טא, יו א טא, ב א טב (טאויי סאב <i>ן</i> ) soft sandv red DJ larae iar: verv broken ub. no rim. lower bart of iar only	everted rim of a small beaker/jar	DJ lid sherds (CAR 10, DJ, Type 163; same as finds no 1153)	3 x DJ lid sherds (CAR 10, Type 163) (same as F15 T11??)	sherds of cooking pot/jar (CAM268)	2 × G× 1 × 2GX rim: 1 × DJ	very broken ring-necked flagon (CAM 154/155) - large Claudio-Neronion, maybe not burnt	4 x DJ flagon; 1 x fired clay	2 x GX; sq DJ		ed us HD cooking ont used as urn (CAM 259). sooty. 80% there. hole in base. part rim missing. sand temper (shell temper?)	sq GX sherds inside urn, (?CAM 307) lid-seated bowl about 50% complete, rim and shoulder only	1 x DJ	2 x GX	AJ amphora D20 (has a stamp) complete block burnished word 3 dick Echnic CB (CAM 10-)	comprete black-burnished wate z dish, nabirc GD (CANN 40a) KX (CAM 278) ian	complete DJ ring-necked flagon (CAM 156)	complete CZ beaker, Colchester colour-coat (CAM 391)	1 sherd (CAM 110)	1 x GX grey ware	1 x grey ware	Fabric KX rim (CAM 278) jar	GX (CAM 2/UD) complete with possible tiring spail, storage jar, used as urn sc D.P. sc GX-1 x F.I		2 x white ware flagon?	same vessel as no 1113 an af buit book as 2077 (AMI 4424443) . an af utitio ward DI amoll accord ward for as book at an book at	sq or butt-beaker .rbz (CANN 112/113) + sq or write ware, bb sinaii coarse ware jar or beaker DJ lid (CAR 10, Type 163)	GX fragments (CAM 266 jar) oxidised/heated, burnt or a waster	1 × GX grey ware	GX jar (CAM 266) 2 × GX	2 X GX GX lid whole but broken (not pot base) (CAR 10, GX Type 239)	1 x TE rim of Nene Valley mortanium (CAM 504/505); GX inc. CAM 268	small quantity inc DJ; GX	noniari grey wate 1 x AJ amphora sherd	1 x HZ	2 x amphora sherds AA + AJ; 1 x DJ white ware 2 x GX; 1 x BA samian (Drag 31R) 2 × D1 sherds on GY 2 time (1 inr 1 hown)	1 x BA sherd; 1 x GX rim bowl/jar	GX; DJ; GB (CAM 37b)	1 × DJ so D.1 note faint signs of burning cracks and crazing: so GX	grey ware GX (CAM 104)	sq of a jar (CAM 104, possibly CAM 266)	sq GX (small jar/bowl) more than one pot 1 × H7- 1 × AA ammhora	1 x DJ white ware fragment; 1 x EA Nene Valley	sq DJ sherds, 1 x pot, ?flagon found at the base of the cut, near flagon	DJ flagon (CAM 256) GX mere tranmente lid (CAB 10 Time 243)	GX lid for 864, broken; sand-tempered (CAR 10, Type 242)	GX everted rim from a jar/beaker	double cordoned jar or beaker used as urn; rim removed in antiquity (CAM 103? variant), whole	CB beaker (CAWI 39 I) 2 sherds of Roman pot	e anator of unit (CAM 123?)	3GP misc. beaker or jar with firing spalls, a ?second, everted rim	GX (CAM 268) mis-tired - oxidised GB howi (CAM 37a)	do dom (or more a) set as a set of GX; 2 x DJ flagon	GX or GB, 2 joining sherds (CAM 37a/ 38), burnt?	1 × GX; 1 × DJ 1 × GX; 1 × DJ	1 × DJ	DJ flagon fragments much of GX iar/bowl. with cordon (CAM 266/CAM 104) no rim; 2 x GX sherds inc.1 x UR LTC platter rim frag (CAM 14/28)	1 × EA: 1 × DJ
description of context	large pit large pit	large pit	large pit	pıı disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	urned cremation	ditch or gravel pit	disturb urned crem	casket cremation	casket cremation	road/stone surface	pit or ditch	pit or ditch	un-urn crem/pyre deb	un-urn crem/pyre deb	un-urn crem/pyre aed	ріт ^:+	אינ disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	disturb urned crem	uisturib urrieu crerri pvre debris?	bustum	bustum	bustum	bustum	urned cremation	unurned cremation	urned cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	amphora cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	urned cremation	ditch or pit	pit crocobouro hordooro	greenhouse hardcore	19th C ex pit	19th C ex pit	19th C ex pit	topsoil	small ditch small ditch	inhumation	inhumation	excavation trench	inhumation	urned crem	urned crem	urned crem	urned crem	urned crem	urnea crem pit	urned crem	urned crem	urned crem	urned crem	urned crem	large gravel pit linear cut	linear feature	disturbed cremation disturbed cremation	disturbed cremation
no grave no																																																														G5	G5																	
trench no soakaway	T50 T50	T50	T50 T17	14/ T55	T55	T45	T45 745	143 T45	T45	T45 Т45	T26	T53	T56 T11	114 T14	T14 T14	T54	T46	Т46	T54	T54	T54	121 Tot	14 I T39	T39	T39	Т39	137 To7	13/ T54	T50	T50	T50	150 TEO	134 T34	T34	Т34	T45	T45 T45	145 T45	T45	T45	T45 T45	T45	T45	T45	194 T94	T94	Т94	T94 T04	134 T94	T58	T58 TF5	158 Т58	130 T58	T58	T56 TE0	139 T59	Т60	160 2	T120	T120	156 T56	T61	T61	161 T56	T63	T63	T63 T63	T63	T63	T63 TC2	103 T62	T68	T68 T00	168 T68	T68	T68	173 T71	T75	T72 T72	T72
no find no	464 640	641	643 454	40 - 539	540	542	543	1143	1143	1143	498	638	685	551 551	551	545	546	546	604	604	630 564	74 474	671	1132	1141	1153	629	000 657	679	813	813	813	610 688	688	1142	680	708	1084	1085	1086	1087	1089	1090	1094	981 1003	1004	1111	1112	1113	723	725	725 796	1137	704	706	600 890	794	794	1192	849	786 972	792	842	/90 843	858	855	862 863	863	864	864	853 853	859	859	871 903	946	1149	608 868	901	923 924	925
feat n layer	F110 F110	F110	F110	F113	F113	F114	F114 F114	F114 F114	F114	F114 E114	F115	F116	F118	F120 E120	F120	F121	F122	F122	F123	F123	F123 -1 25	F120 E105	F128	F128	F128	F128	F129	F129 F130	F134	F134	F134	F134	F135 F135	F135	F135	F137	F137 E127	F137 F137	F137	F137	F137 E137	F137	F137	F137	F141 F141	F141	F141	F141 E114	F141 F141	F142	F142 F142	F142 F142	F142 F142	F144	F146 E1E0	F150	F151	F151 E151	F151	F151 L1	F152 F152	F154	F154	F155	F159	F162	F162 F162	F162	F162	F162 F162	F162 F163	F165	F165	F165 F165	F165	F165	F166 F173	F174	F176 F176	F176

faat n lavar no t	find no th	rench no sosteway no drava no	a description of context	fabric (8. form)	tucino tour	enot data	data of contact
E177	016	TFO	irregular feature	1 × CB rim (CAM 37 227b): 1 × CY	10 dadin	abor date	2modern
F178	920	T76	disturb urned crem	autoritorium of the company of the c	172	1-E2C	1-2/3C
F178	920	T76	disturb urned crem	GX (CAM 218) most of vessel, some of rim missing, used as urn	684	1-E2C	1-2/3C
F178	921	T76	disturb urned crem	flagon body sherds	63	1-2/3C	1-2/3C
F179	935	Т79	disturb urned crem	flask (CAM 280/281)	530	M-L2-4C	M-L2-4C
F179	936	Т79	disturb urned crem	most of one GX urn (CAM 268); 1 x GX rim of a small grey ware flask	808	E2-E4C	M-L2-4C
F180	930	Τ77	urned cremation	quantity of GX cremation bowl (CAM 218); not all there; very broken up	608	1-E2C	1-E2C
F180	931	Т77	urned cremation	GX sherds	42	10	1-E2C
F180	932	Т77	urned cremation	base of rim of (CAM 120b); sherds of flagon; 1 x beaker (CAM 108)	198	10	1-E2C
F180	938	T77 T70	urned cremation	base of grey ware pot - burnt	80 70	Roman	1-E2C
F180	939	1/8	urned cremation		13	-1-2C	1-E2C
F181	1105	156	urned cremation	quantity of GX ware body sherds	ь 3	Homan	1-2C
F181 E180	GUL1	156	urned cremation	large grey ware jar, no rim; 1 x DJ ilagon nandle 2 x zoon moon anonith of floors //2/M4154155	20	1-2C	1-2C
F182	9/0	1/9 T70	unurn crem/pyre deb	z x grey ware; quantity or nagon (UAM 154-155) 	102	1-M-LZC	02-12
L102	2/6	1/9 T70	unum crem/pyre deb	sq taxi, sq tu on D Lanonishi kilahtik humit o V OV	0		
F102 F182	972 972	E/1 T70	unum crem/nyre deb	set do possiony singinity duriti, z x dx set D.1: set GX inc. CAM 10R	<u>n t</u>	21-20	21-20
F183	959	191	road/trackway		2.00	E2-M3C	Boman
F184	964	T81	cremation-disturbed	orev water is fragments GW: fragment of one other	' ) 1	1-E2 C?	1-E2 C?
F186	266	T88	urned cremation	a strate wate sherd probably from a different vessel, slightly burnt	9	Roman	1-E2C?
F186	998	T88	urned cremation	GX (CAM 266) jar used as urn; broken but almost 100%	1252	1-E2C	1-E2C?
F186	666	T88	urned cremation	sq GX, some probably burnt	80	Roman	1-E2C?
F187	1008	Т78	ditch	DJ buff ware	bsn	1-2C	post-med
F188	1010	Т79	ditch	flange bowi GA (CAM 305)	bsn	M-L3-4C	\$
F189	1009	Т88	shallow scoop	grey ware	bsn	Roman	post-med
F192	1033	T102	urned cremation	white eggshell ware beaker, wide-mouthed, Fabric DZ, unusual type	47	?L1-E2C	1-E2C
F192	1034	T102	urned cremation	whole GX jar, used as urn, mis-shapen, a second (CAM 266 jar)	1414	1-E2C	1-E2C
F193	1029	Т99	rubbish pit	sq Roman pot inc. brown colour-coat ware Fabrics MR & GA (BB1)	194	E2C	?Roman
F194	1037	T103	stone surface/track	2 x GX sherds	22	Roman	?Roman
F194	1055	T103	stone surface/ track	1 x grey ware	24	Roman	?Roman
F195	1050	T107	urned cremation	GX whole jar (CAM 268)	1292	E2-L3/E4	E2-L3/E4
F195	10501	110/	urned cremation	lower part of a grey ware jar or bown used as a lid	490	Homan	E2-L3/E4
F196	5001	1102	roadside ditch?	of ety wate	bsv 17 oc	Roman	Homan or post-med
F19/	1000	109	unurn crem/pyre deb		4/ sq	Roman 21 AC	Нотал
F19/	1001	-109 	unum crem/pyre deb	4 × TCJ, SQ GA	4 7 •	Demon	Beman
F19/ F197	100/	1 1 1 0 3 T 1 0 9	unum crem/pyre deb	z X GA srr GX franments		Roman	Roman
F197	1076	T109	unurn crem/pvre deb	ad act magnetics 1 x GX	- 0	Roman	Roman
F197	1076	T109	unurn crem/pyre deb	sq GX; 2 post-Roman	6	Roman	Roman
F198	1078	T108	urned cremation	GB jar (CAM 268)	1915	E2-M-L3C	E2-M-L3C
F198	1099	T108	urned cremation	1 × white ware flagon?	N	1-2C?	E2-M-L3C
F199	1062	T108	urned cremation	same as no 1068? from soil sample of SW corner of feature	15	?1-2C	1-E2C
F199	1066	T108	urned cremation	GX jar (CAM 266)	694	1-E2C	1-E2C
F199	1068	T108	urned cremation	quantity of large ring-necked flagon (CAM 154/155)	267	1C -Claud-Nero	1-E2C
F200 E200	1167	1114 T114	urned cremation	rim fragments from urn 1168 Eabria VV	bs	E2-M-L3C	E2-M-L-3C
E201	1177	1114 T126	urned cremation	radiic AA - ilealiy wilole jai (CAW 270)	2000		
F201	1178	T126	urned cremation	un flacon	1 1	2C	E2-M-L3C
F203	1180	T126	un-urn crem/pyre deb	fragments of a ring-necked flagon (CAM 154/155); 2 sherds of grey ware (one is CAM 266)	75 sq	1st to early 2nd C	1st-early 2nd C
F203	1181	T126	un-urn crem/pyre deb	sherds from flagon, probably same as no 1180	5 vsq	1st to early 2nd C	1st-early 2nd C
F204	1182	T124	disturb urned crem	sherds from other vessels and amphora sherds	ı	1-E2	early Roman
F204	1183	T124	disturb urned crem	2 sherds of (CAM 266/221) vessel, Fabric GX; 5 sherds Fabric DJ and 5 sherds Fabric FJ	244	1-E2	early Roman
F204	1183	T124	distub urned crem	nearly complete with one handle missing Brockley Hill flat-bottomed amphora (CAR 10, FJ, Type 72-74)	4500	1-E2C ?pre-Flavian	early Roman
F204	1184	T124	disturb urned crem	(CAM 100), Fabric DZ, base and side of vessel with barbotine panels and barbotine roundels	172	AD 50-90	early Roman
F205 F205	1186	1119 Tea	animal bone in pit	1 small piece of Homan pottery	h sq	Roman	?Roman
F207	1101	16/ T120	square-sided pit	I × samtan (urad 1917) Docelu comorto i normania (CAM 960)		pre AU 69	Нотап
F209	1194 1194	1120 T125	disturbed cremation	riearly complete jar useu as urir in ingurierus (שאוא בסס) עצת קX iar hase. 5 ioining hase and body sherds, much of lower part of pot	290 290	MZ-L3/E40	Homan 1-2/3C
F209	1197	1125 T125	disturbed cremation	voy uv, jar vase, o jerming vase and voug anerus, muun or iver, parter parter parter se GX how/heaker found inside no 1194. much of lower part remaining: 2 x GX prob from iar no 1194 above	85	1-2/3 C	1-2/3C
						) j	));

## Table 27: types of Roman pottery vessels and date of pottery groups from the cremation burials.

\* = pot containing cremated bone

eature	jar	ır/bowl	lid	lagon	eaker	dish	other	ottery dated
Ę.		.e		<b>~</b>	2			0
F15	1*		1					1st-2nd/3rd
F19							tazza (3) also 1 or 2 sherds from 5 other pots	1st-early/mid 2nd century, possibly pre- Flavian
F36				(sherds)		(sherd)		1st-mid 2nd century
F41				1*				1st-2nd
F42	1*	1		1 flagon (also sherds from second possible flagon)	1 (base only)			1st-early 2nd century
F44		1*		?2 (sherds)				1st-early 2nd century, ?Claudio- Neronian
F45				1		1 (3 sherds)		probably Claudio- Neronian
F53	1* ?2nd- century pot represented by sherds			1 flagon (also sherds from second possible flagon)	(sherds)	1		Claudio- Neronian to early Flavian
F59	1*			1				probably 1st-
F60	1*				1 (sherds)			1st-early 2nd century
F85		?1 (sherds)						1st-early 2nd
F87	1*							early-mid 2nd to late 2nd/early 3rd century
F88	1 (sherds)			(few sherds)			amphora (sherds from 2 amphoras); cup (sherds)	1st-early 2nd century, possibly pre- Flavian (some ?intrusive sherds early- 3rd to late 4th century)
F93	1							mid-late 2nd to 4th century
F101/ F107		1 (sherds)			1 (sherd)			1st-early 2nd century, possibly pre- Flavian
F102	1* (also sherds from possibly second jar)							early-mid 2nd to late 2nd century
F103	1*							early-mid 2nd to late 3rd/early 4th century
F108	1							early 2nd-late 2nd/early 3rd century
F113	2							early-mid 3rd- 4th century
F114		(sherds)			(sherds)		large flask 1*	1st-2nd century, probably 1st-

ature	jar	r/bowl	lid	agon	eaker	dish	other	ottery lated
fe		jai		- <del>-</del>	Ā	-		ăð
								early 2nd
F115	1*							century 1st-early 2nd
F118	(sherds)							century
	(0.10100)							early/mid 2nd
								3rd/early 4th
F120		1						1st-early 2nd
F123				(sherds)				century 1st-2nd/3rd
F128	1*		1					century probably 1st-
								early 2nd
F129	1*							early/mid 2nd
								to late 3rd/early 4th
F135	1*							century 1st century
F137	1*			1	1	1	amphora 1	mid 2nd to late
E4.44	1*		(abarda)		2 (abarda)			century
F 141	1		(sherds)		z (snerus)			century
F142	1*		1					1st-early 2nd century
F147	?1*							burial record only, pot not
F162	1*		1	1	1			seen early 2nd-late
								2nd/early 3rd
F165	1*			(sherds)	1	1		early 2nd-late
								2nd/early 3rd century
F176	1			(sherds)		1		1st-early 2nd century (1
								sherd early- mid 3rd to 4th
F178		1*		1				century) 1st-early 2nd
E470	4+			1			flaals 4	century
F1/9	1						nask i	4th century
F180		1*		(sherds)	1 (sherds from 1 or			1st-early 2nd century
					possibly 2 pots)			-
F181	1*			(sherd)				1st-2nd century
F182	?1 (sherds)			1 (sherds)				1st-mid 2nd century
F184	1*							Roman, probably 1st-
								early 2nd
F186	1*							1st-early 2nd
F192	1*				1			early 2nd
F195	1*		1 (jar					century early/mid 2nd
			base used as					to late 3rd/ early 4th
E405	(-1		lid)					century
F197	(sherds)			(sherds)				Roman, ?1st-2nd
F198	1*							century mid-late 2nd to
								early 3rd

feature	jar	jar/bowl	lid	flagon	beaker	dish	other	pottery dated
F199	1*			(sherds)				1st-early 2nd century
F200	1*							early-mid 2nd to late 2nd/ early 3rd century
F201	1*			1				early-mid 2nd to late 2nd/early 3rd century
F203	(sherds)			(sherds)				1st-early 2nd century
F204					1		amphora 1	Neronian- Flavian
F209	1*				? (sherds)			1st-2nd/3rd century

## Appendix 2: lists of small finds and bulk metalwork by N Crummy

 Table 28: summary catalogue of the coins.

 Reference abbreviations are listed in the main bibliography. Roman coin periods are those defined in Reece 2002, 145.

Roman coin period		7		1	4	4	2	4	10	-	5	4	17	17	12
Date	1st century	AD 79-81	1st-early 2nd century	1st century	AD 81	AD 70-1	AD 140-3	AD 69-79	AD 201-10	AD 250-70	AD 98-117	AD 70-3	AD 330-5	AD 330-45	AD 259-68
Reference	1	<i>RIC</i> (Lyon) 868	-	-	as <i>RIC</i> 265	as <i>RIC</i> (Lyon) 811*	RIC 1307	as <i>RIC</i> (Rome) 571	<i>RIC</i> 335	-	-	as <i>RIC</i> 600, consulship number illegible	HK 188	copy as HK 51	-
Weight (g)	4.35	9.43	4.84	4.29	7.97	7.23	23.69	8.95	2.97	2.36	6.68	10.73	1.73	1.35	2.15
Diameter (mm)	27	28	27.5	26.5	27	29	31	27	19	20	22	27	16	15	20
Identification	cut half of an <i>as</i> , fits SF 38 from F53; obv and rev worn with no details of design visible; one side marked by heavy scoring	Titus, as, rev Spes	as, scorched and illegible	cut half of an as, fits SF 244 from F42; obv and rev worn with no details of design visible; one side marked by heavy scoring	Domitian, as, burnt; rev emperor standing left, probably holding palladium on right hand, legend illegible	Vespasian, as, rev Securitas August	Antoninus Pius, <i>sestertius</i> , rev Salus	Vespasian, as, scorched; rev Victory, legend illegible	Septimius Severus, <i>denarius</i> , ?scorched; rev <i>Indulgentia Aug in</i> <i>Carth</i>	illegible antoninianus	Trajan, rev completely smooth	Vespasian, as, rev Aequitas Augusti	Constantius II, rev Gloria Exercitus 2 standards	Urbs Roma copy, rev wolf and twins	Postumus(?), <i>antoninianus</i> , rev standing female figure with extended right arm and ?cornucopia in left
Context description	cremation burial	cremation burial	bustum	cremation burial	bustum	cremation burial	cremation burial	cremation burial	N-S ditch	N-S ditch	E-W ditch	N-S ditch	N-S ditch	?gravel-pit	topsoil
Feature or Layer	F42	F44	F47	F53 Sx 1	F134	F197	F198	F199	F2	F5	F89	F98	F98	F110	L1 (T38)
Finds no	177 F42.7	166 F44.4	209 F47.1	277 F53.9	804 F134.3	1057 F197.3	1098 F198.2	1080 F199.5	16	19	348	392	397	463	375
SF	244	23	82	38	106	121	131	127	۲	2	47	54	55	68	50

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	ო	ı	12	2	21	1	4	19	17
3rd-4th century	AD 68-9	1936	AD 395-402	AD 43-54	AD 330-45	late 4th century?	AD 71-2	AD 364-78	AD 346-50
1	?as <i>RIC</i> 97		as CK174	as <i>RIC</i> 140	copy as HK 51	ı	as <i>RIC</i> pl 36, 8 (Hall Collection), but head to richt	as CK 82	copy as HK 137
0.77	7.93	ı	1.14	9.74	1.42	0.06	7.72	2.35	1.48
12	24	31	13.5	28	13.5	Ð	27	16.5	16
illegible	Galba, as, rev very worn, possibly Roma seated	George V, 1d	Honorius, rev Victoria Augg	Claudius I, as, rev Constantia	Urbs Roma copy, rev wolf and twins	illegible <i>minimissimus</i> , slightly convex	Vespasian, <i>as</i> ; rev Providen(t?) SC	House of Valentinian, rev Securitas Republicae	House of Constantine, rev Victoriae DD Augg Q NN
topsoil	topsoil	topsoil	topsoil	topsoil/subsoil	Roman	modern	accumulation, post-medieval or Roman	unstratified, Plots 15 + 16?	unstratified
L1 (T54)	L1 (T50/T46)	L1 (T68)	L1 (T101)	L2 (T83)	L3 (T17)	L36 (T62)	L38 (T84)	N/S	S/N
441	639	852	1036	986	183	815	1012	103	602
65	93 8		120	115	29	280	117	11	67

# Table 29: pyre-debris deposits and cremation burial deposits from the small finds and bulk metalwork assemblages.X....example present (one X only is given for footwear as the precise number of items represented by hobnails cannot be determined);?X...probable example present; p...pyre-debris deposit; p?... probable pyre-debris deposit; p...probable example present burial deposit.

loot enot2					sX;			
Copper-alloy, iron, or lead pyre debris	дX				dX			dХ
Iron chain								
Household Storage box								
Ðie								
əlbəəN								
nooq2								
Mirror								
Դewellery							×	
Jewellery box			dХ	3Xp				
sluoibəA		Xs						
dwey		Xs			sX			
nioD					Xs (1/2)	Xs		ďX
slisndoH	dX	dX	dX	dX	dx	dx	dX	
Date from grave goods		AD 44-60/1	1st century; ?pre-Flavian		probably AD 44-60/1	AD 79-81 (well-preserved coin)		1st-early 2nd century
Burial	F15	F19	F36	F41	F42	F44	F45	F47

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									?Xs																						
dХ	dХ			dХ	ďX									dХ	дX										Xp?						
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dХ																															
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			Xp?												Xs Xs	×	(bead,	armlet,	ring)	ò											XsXs (bead, armlet)
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sX Xp?	Xs									Xs		Xs	Xp? Xs															Xp? Xs			
Xs ( <sup>1/2</sup> )																											Xs	dХ			
dХ		3Xp		3Xp		дX		3Xp		dΧż	dХ		dХ	дX	?Xp					дX	Xp?	ďX	ďX	Xp?		3Xp		dХ		дX	dX
probably AD 44-60/1	early ?2nd century		1st century				1st century; pre-Flavian			very late 1st-early 2nd century	AD 81 +	very late 1st century	late 1st-early 2nd century		1st century											AD 70-1 +	AD 140-3 +	last quarter 1st century			1st century
F53	F85	F87	F101	F108	F114	F115	F120	F123	F126	F128	F134	F137	F141	F142	F162					F178	F179	F180	F182	F192	F195	F197	F198	F199	F200	F203	F209

measurements.	
- quantification and	
: cremated human bone	by Sue Anderson
Appendix 3:	

Table 30: quantification and measurements of cremated human bone.

Burial	Finds	Spit	Mesh	Residue	Approx	Estimated	Skull	Axial	U limb	L limb	Unident	Totals	max skull	max I.b.	Animal
	ou			Wt/g	bone %	bone Wt/g	Wt/g	Wt/g	Wt/g	Wt/g	Wt/g	Wt/g	(mm)	(mm)	Wt/g
F15	47	-	<5mm	55	5	2.8					2.8	2.8			
		N	5mm+				0.8	0.1				0.9	16	I	
		4	5mm+				1.2			0.2	0.5	1.9	16		
		5	<5mm	29	5	4.0					4.0	4.0			
			5mm+				5.2	0.5	4.0	2.7	1.2	13.6	27	38	
		9	<5mm	103	102	72.1					72.1	72.1			
			5mm+				14.9	4.5	9.4	52.8	24.0	105.6	31	53	
		7	<5mm	117	90	105.3	0.5				104.8	105.3			
			5mm+				28.9	24.9	37.4	68.7	78.8	238.7	43	53	
		80	<5mm	141	06	126.9	2.1				124.8	126.9			
			5mm+				47.7	25.0	36.2	35.4	89.8	234.1	56	64	
		6	<5mm	330	50	165.0					165.0	165.0			
			5mm+				12.1	29.7	10.5	65.4	82.1	199.8	37	37	
			Totals			476.0	113.4	84.7	97.5	225.2	749.9	1,270.7			
F18	54						1.5					1.5	19	I	
	55		<5mm	141	10	14.1					14.1	14.1			
			5mm+				35.3	11.3	26.7	25.8	53.0	152.1	35	40	1.2
	70								2.3			2.3		27	
			Totals			14.1	36.8	11.3	29.0	25.8	67.1	170.0			1.2
F19	68						38.8	18.5	29.3	46.7	75.7	209	45	46	2.2
			Totals				38.8	18.5	29.3	46.7	75.7	209.0			2.2
Total F1ε	3/F19						75.6	29.8	58.3	72.5	142.8	379.0			3.4
			1					•	•					_	
F36	94		<5mm				5.8	2.3	0.6		10.2	18.9	33	1	
			5mm+				2.5	1.0	2.2	2.2	7.1	15	15	28	
			Totals				8.3	3.3	2.8	2.2	17.3	33.9			

9.7			370.7	206.0	20.6	22.8	5.2	116.1	144.9			Totals			
2.9	·	ı	2.9	2.9								<5mm	•	185	
1.2		17	8.4	4.5			0.3	3.6						177	
	'	ı	0	0					0.0	0	187	<5mm	~	176	
	'	·	0.3	0.3								5mm+	4		
		ı	0.1	0.1								5mm+	с С	150	
1.3	19	14	43.9	40.9		1.3	0.3	1.4	43.9	5	878	<5mm	~	152	
	'	ı	0.1	0.1									_	151	
	'	12	1.1	0.9				0.2					~	15(	
	20	ı	2.2	2.2										147	
	40	35	200.3	49.7	20.6	18.6	3.8	107.6				5mm+			
	1	ı	87.5	87.5					87.5	50	175	<5mm	4		
	ı	20	2.9	1.3				1.6				5mm+			
	'	I	13.5	13.0		0.5			13.5	5	269	<5mm	3	136	
4.3	33	20	5.3	1.6		2.4		1.3					10	135	
	'	18	2.2	1.0			0.8	0.4					~	135	F42
			166.8	83.8	13.4	13.4	13.4	42.8	46.5			Totals			
	17	13	11.3	9.2		1.4	0.2	0.5					-	14(	
	'	19	7.4	3.1			2.3	2.0					_	134	
	22	25	13.9	6.9	0.7	1.9	0.1	4.3					•	126	
			0.6	0.6					0.6	-	56	<5mm	5		
	30	28	42.1	8.5	4.2	4.8	7.8	16.8				5mm+			
			19.3	18.3				1.0	19.3	25	77	<5mm	4		
	40	35	34.9	6.3	6.5	5.3	2.8	14.0				5mm+			
			21.5	21.5					21.5	25	86	<5mm	ო		
	27	19	5.3	3.9	0.3		0.1	1.0				5mm+			
			3.2	3.2					3.2	10	32	<5mm	0		
	16	25	5.4	0.4	1.7		0.1	3.2				5mm+			
			2.0	2.0					2.0	5	39	<5mm	3	126	F41

			4.0	3.6	0.0	0.0	0.0	0.4				Totals			
	-	10	0.8	0.4				0.4						175	
			3.2	3.2										174	F45
38.9			220.3	<b>6</b> .96	31.5	19.5	3.4	69	31.2			Totals			
			6.9	6.9					6.9	33	21	<5mm	œ		
7.7	29	29	17.0	4.0	4.6	4.8	0.1	3.5				5mm+			
			7.2	7.2					7.2	10	72	<5mm	7		
	35	40	30.1	7.1	1.9	3.7	0.4	17.0				5mm+			
			5.8	5.8					5.8	25	23	<5mm	9		
	28	33	16.2	0.4	3.0	1.7	0.6	10.5				5mm+			
			1.6	1.6					1.6	Q	31	<5mm	5		
	23	23	9.7	1.3	3.9	1.1		3.4				5mm+			
			3.2	2.7				0.5	3.2	10	32	<5mm	4		
1.8	24	22	8.2	2.2	0.3		0.3	5.4				5mm+			
			1.6	1.6					1.6	5	32	<5mm	ო		
	29	28	4.3		1.2		0.3	2.8				5mm+			
			4.0	4.0					4.0	25	16	<5mm	N		
	ı	14	1.0	0.4				0.6				5mm+			
			1.0	1.0					1.0	£	19	<5mm	-	182	
29.4	35	23	102.6	50.8	16.6	8.2	1.7	25.3						178	F44

			27.1	4.3	1.3	9.2	2.2	10.1				Totals
	34	30	26.3	3.5	1.3	9.2	2.2	10.1				
			0.8	0.8				-				
			11.6	0.0	4.5	1.8	1.0	4.3	_			tals
	30	36	11.6		4.5	1.8	1.0	4.3				
						-	-		:	-		-
4			247.4	56.2	115.4	40.9	19.0	15.9				Totals
0	31	17	60.8	26.5	12.7	10.4	6.8	4.4				
Ϋ́ Ϋ́	94	35	186.1	29.2	102.7	30.5	12.2	11.5				
			0.5	0.5								
			-		-		-	-			-	
7			368.0	215.1	22.4	28.4	2.2	6.66	146.9			Fotals
9			0.0									
			39.6	26.9	1.3	1.3	0.1	10.0				
			11.6	9.7	0.4			1.5	11.6	-	1156	
			2.1	2.0				0.1				
			19.7	9.9					9.9	-	987	5mm
			0.5					0.5				5mm
	36	25	41.5	11.7	6.5	7.9		15.4				+uu
			35.8	35.8					35.8	25	143	5mm
	57	27	58.5	17.6	7.8	5.8	1.3	26.0				+uu
Õ			33.8	33.0			0.3	0.5	33.8	25	135	5mm
	46	42	65.9	11.7	2.9	11.7	0.3	39.3				+um
			44.9	44.3			0.1	0.5	44.9	33	136	ទោក
Õ	33	44	7.6		1.3	1.7	0.1	4.5				+uu
			0.7	0.7					0.7	-	70	(5mm
Ö	52	16	4.3	1.0	2.2			1.1				hmm+
	I	12	0.7	0.5				0.2				imm+
			5.2	5.1				0.1	5.1	£	101	5mm
	'	ı	0.3	0.3								+uu
			5.3	5.1				0.2	5.3	10	53	5mm

										1.8	1.8												
	42	1		20	17	1		I				ŀ	28									30	
	7				•																	.,	
	30	14		·	15	14		18														23	
13.5	231.1	3.9	1.3	6.3	3.9	1.0	1.1	6.8	266.5	8.0	8.0	·	5.4	5.4	3.5	0.5	4.0	0.3	0.4	0.2	43.5	16.8	61.1
13.5	81.8	1.9		0.2	1.6	0.6		2.5	102.1					0.0	3.5	0.5	4.0	0.3	0.4	0.2	43.5	5.6	49.9
	44.5			1.7	1.0				47.2			-	5.4	5.4			0.0					1.4	1.4
	20.8			1.3					22.1	5.2	5.2	-		0.0			0.0						0.0
	24.7	1.8		3.1				2.3	31.9	2.3	2.3	-		0.0			0.0					0.3	0.3
	59.3	0.2			1.3	0.4		2.0	63.2	0.5	0.5			0.0			0.0					9.5	9.5
13.5			1.3				1.1		15.9			:							0.4	0.2	43.5		44.0
06			5				-					•			-				-	-	25		
15			25				114												36	17	174		
<5mm	5mm+		<5mm	5mm+	5mm+	5mm+	<5mm	5mm+	Totals		Totals			Totals			Totals	<5mm	<5mm	<5mm	<5mm	5mm+	Totals
			9		7	8	6											4	£	9	7		
393		395	431							377			592		412	428		430					
F87										F88			F93		F101/	F107		F102					

		2		36		5		55		16			_		
		Т		LO		д		LO)		Ф					
						25		50		47					
0.1	4.2	15.4	4.8	39.7	30.8	103.7	128.8	216.4	68.3	302.4	0.4	914.8	•	0.4	0.4
	4.2		4.8	2.7	30.2	24.9	128.3	53.4	68.2	94.5	0.2	411.2	•	0.4	0.4
		4.2		27.5		42.0		68.0		34.4		176.1	_		0.0
		0.7		4.5	0.1			21.3		50.2		76.8	_		0.0
0.1		10.5		5.0	0.5	24.6		50.4		73		164.1	-		0.0
						12.2	0.5	23.3	0.1	50.3	0.2	86.6			0.0
	4.2		4.8		30.8		128.8		68.3			236.7			
	5		5		25		80		25				-		
	83		95		123		161		273						
<5mm	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	Totals	-		Totals
N	ო		4		ß		9		7		15				
458													1	535	
F103														F108	

																				47.2				47.2
		19		24		31		17		36		32		33				43		48		'	I	
		21		34		24		20		ı		22		I		12		23		47		12	16	
0.6	1.2	11.6	2.9	17.0	23.1	40.4	5.7	5.7	6.7	15.3	4.8	49.9	0.8	12.6	22.5	1.5	13.1	47.8	452.7	746.7	1.1	3.2	1.3	1488.1
0.6	1.2	4.1	2.8	2.7	23.1	10.4	5.7	2.6	6.7	1.2	4.8	7.1	0.8	2.8	22.3	0.9	13.1	5.2	449.7	348.9	1.1	2.7		920.4
		1.2		4.3		12.0		0.8		11.9		33.5		7.9				30.3		114.7				216.6
				2.7		0.5				1.4		2.5		1.9				7.9		51.8				68.7
		4.7		0.9		8.7		0.3		0.8								0.4		101.9				117.7
		1.6	0.1	6.4		8.8		2.0				6.8			0.2	0.6		4.0	3.0	129.4		0.5	1.3	164.7
0.6	1.2		2.9		23.1		5.7		6.7		4.8		0.8		22.5		13.1		452.7		1.1			535.1
-	-		5		33		10		5		5		-		25		10		06		-			
60	120		58		70		57		133		96		82		06		131		503		107			
<5mm	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	5mm+	Totals																
ო	ŋ		9		7		ø		6		10		1		12		13		14		15			
542																								
-114																								

			107.6	74.9	4.9	1.2	3.8	22.8	68.5			Totals		
	31	26	36.2	11.1	4.0	1.2	1.9	18.0				5mm+		
			63.0	58.0			1.7	3.3	63.0	90	70	3 <5mm	e	
	23	20	2.9	0.5	0.9		0.1	1.4				5mm+		
			5.5	5.3			0.1	0.1	5.5	10	55	2 <5mm	566 2	F126
1.1			9.8	8.8	0.0	0.0	0.0	1.0				Totals		
1.1	ı	6	9.6	8.6				1.0				<5mm	636	
			0.2	0.2									605	F123
			185.5	69.1	59.7	17.6	17.1	22.0	3.0			Totals		
	26	17	49.4	36.1	6.0	2.9	1.5	2.9				5mm+		
			1.9	1.9								<5mm	601	
	60	41	131.2	28.1	53.7	14.7	15.6	19.1				5mm+		
			3.0	3.0					3.0	50	9	<5mm	600	F120
			47.9	33.2	6.7	2.7	0.5	4.8	23.3			Totals		
	25	20	15.6	5.0	5.3	2.7	0.5	2.1				5mm+		
			23.3	23.3					23.3	25	93	<5mm	686	
	14	16	9.0	4.9	1.4			2.7					684	F118
5.1			1051.5	447.3	243.6	114.6	156.8	89.2	190.1			Totals		
	57	37	82.5	20.8	30.9	11.4	17.1	2.3				5mm+		
			30.0	29.7	0.2			0.1	30.0	100	30	5 <5mm	Ð	
	55	45	133.0	22.2	58.4	18.7	24.3	9.4				5mm+		
			21.6	21.6					21.6	80	27	4 <5mm	4	
1.0	68	24	115.6	12.5	38.3	29.3	32.5	3.0				5mm+		
			45.6	45.6					45.6	80	57	3 <5mm	e	
	61	31	155.3	39.2	46.7	10.6	50.2	8.6				5mm+		
0.4			87.5	86.6		0.1	0.2	0.6	87.5	70	125	2 <5mm	2	
0.9	33	21	29.4	5.0	14.8	1.5	3.5	4.6				5mm+		
			5.4	3.5		0.1		1.8	5.4	5	108	1 <5mm	498 1	
2.8	43	28	334.8	159.8	54.3	35.7	27.2	57.8					497	
			10.8	0.8		7.2	1.8	1.0					496	F115

31 31 33 33 33 34 40 55 59 60 40 46 50 40 50 40 50 40 50 40 50 50 40 50 50 50 50 50 50 50 50 50 50 50 50 50	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	40 41 46 50 50 40 50 50 13 37 50 50 40 50 50 40 50 50 40 50 50 50 50 50 50 50 50 50 5	41 50 4 60 4 37 37 59 60 19 37 , 37 , 59 60 40 , 50 , 10 , 50 , , , , , , , , , , , , , , , , ,	41 50 60 19 37 59 60 19 37 59 60 40 50 59 59 50 50 40 50 50 50 50 50 50 50 50 50 50 50 50 50	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	, 25 , 37 , 37	50 59 60 19 37 59 60 40 50 50 40 50 50 40 50 50 ,	50 46 37 59 60 46 60 46 7 37 59 60 40 46 50 40 46 50 40 50 50 40 50 50 50 50 50 50 50 50 50 50 50 50 50	46 60 40 37 59 80 19 30 80 19	46 60 40 37 59 80 19 37 , 80 , 80 , 19 , 19 , 10 , 10 , 10 , 10 , 10 , 1	60 40 60 59 10 13 13 13 13 13 13 13 13 14 13 14 14 14 14 14 14 14 14 14 14 14 14 14	40 59 60 10 13 37 59 60 40 13 37 59 60 40 13 7 59 60 40 7 7 60 7 7 60 7 60 7 7 60 7 60 7	60 59 37 30 30 40 19 40 59 59 59 59 59 59 50 50 50 50 50 50 50 50 50 50 50 50 50	60 59 37 30 37 37 59 60 37 59 60 37 59 60 41 59 59 59 59 59 59 59 59 59 59 59 59 59	59 37 33 30 80 19 19	59 37 30 30 30 30 30 37 30 37 37 37 37 37	37 18 80 80 -	37 30 80 80 -	- 19 30 80 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -	18 30 80 -	18 30 80 -	30 80 -	80 -	80 -	80			26 4.8	4.8	41	
20 20 20 20 20 20 20 20 20 20 20 20 20 2	20 - 20 - 20 20 - 20 - 20	20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	- 20 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 41 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2	- 20 - 44 - 62 - 40 - 62 - 40 - 62 - 62 - 62 - 62 - 62 - 62 - 62 - 62	- 20 62 40 62	20 62 40 62	44 62 40	44 62 40	62 40	62 40	40	40			27		16		20					·		20	21	43			
6.7 18.7 18.7 18.7 13.5 13.5 13.5 13.5 13.5 11.2 10.5 10.5 10.5 56.7	7.3 18.7 0.2 13.5 1.7 55.3 55.3 0.5 12.0 101.8 56.7	18.7 0.2 3.7 3.7 55.3 0.5 12.0 101.8 56.7	18.7 0.2 3.7 5.5.3 0.5 12.0 101.8 56.7	0.2 13.5 55.3 55.3 0.5 12.0 101.8 56.7	13.5 3.7 1.7 55.3 0.5 73.6 12.0 101.8 56.7	13.5 3.7 55.3 0.5 73.6 12.0 101.8 56.7	3.7 55.3 0.5 73.6 12.0 101.8 56.7	1.7 55.3 0.5 73.6 12.0 101.8 56.7	55.3 0.5 73.6 12.0 101.8 56.7	0.5 73.6 12.0 101.8 56.7	73.6 12.0 101.8 56.7	12.0 101.8 56.7	101.8 56.7	56.7		119.7	5.1	34.7	7.2	49.5	571.6		4.0	9.7	3.3	7.2	227.9	7.4	172.7	432.2	23.3	23.3
3.9 3.3 3.3 3.3 5.4 1.7 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3	7.3 3.3 5.4 7.7 2.0 3.1.2 3.1.2 3.1.2 5.6 5.6 5.6	3.3 0.2 5.4 1.7 2.0 31.2 1.2 0.5 1.2 0.5 56.6 56.6	3.3 0.2 2.1 2.1 2.2 3.1 2 3.1 2 3.1 2 3.1 2 3.1 2 5.6 6 5.6 6 5.6	0.2 5.4 2.0 2.1.7 2.3.2 3.1.2 3.1.2 3.1.2 56.6 55.6	5.4 2.0 2.3.2 3.1.2 3.1.2 40.0 56.6 56.6	5.4 2.0 2.2 3.1.2 3.1.2 40.0 56.6 56.6	2.0 1.7 23.2 31.2 40.0 56.6 56.6	1.7 23.2 0.5 31.2 40.0 56.6	23.2 0.5 31.2 12.0 40.0 56.6	0.5 31.2 40.0 56.6 65.9	31.2 12.0 56.6 65.9	12.0 40.0 56.6	40.0 56.6 65.9	56.6 65.9	65.9	>>>>	5.1	21.1	7.2	29.6	319.9				1.7	7.2	18.6		74.2	101.7		
2.1 13.5 18.3 25.7	13.5 8.1 25.7	13.5 8.1 18.3 25.7	13.5 8.1 25.7 25.7	8.1 18.3 25.7	8.1 18.3 25.7	8.1 18.3 7.7 7	18.3	18.3 25.7	18.3 25.7	25.7	25.7			29.5		21.2		9.3		3.1	130.8		4.0	9.6	1.6		92.3	4.0	35.3	146.8	23.3	23.3
7 4 4 0	∠ 4 4. 0	∠ 4 4. 0	7 4 4 6	4 7. 4. 6.	4. 7. 4. 3.	4. 7. 4 4. 6.	4.7 4.0	7.4	7.4 4.3	4.3	4.3			16.8		18.8		1.3			48.6						39.1	2.1	16.3	57.5		
5 5 1 0 5.6 4.5	5 5 1 0 5.6 4 5	5 5 1 0 .6 4 5	5 5 1 0.9 5.6 4 5	5 5 1 0 .6 4 5	0 - 0 0 0 - 0 0 0 0 - 0 0	5. 5. 1. 0 5.6	0.0 7.5 5.6 6.6	5. 5. 1.5 5.6	5. 5. <del>1</del> .5 5.6	5.6 5.6	5.4 5.6	5.6	5.6			3.7		2.6		5.3	25			0.1			12.0		10.8	22.9		
0.7 9.9 8.0 7.0	1.0 1.0 0.7 0.0	1.9 0.8 7.0 7.0	0. 4. 7 9. 8. 0. 0.	0.8 7.0 7.0	0.8 7.0 7.0	0.8 7.0 7.0	0.8 7.0	4.9 7.0	4.9	7.0	7.0			9.9	0.1	10.1		0.4		11.5	47.3	-					65.9	1.3	36.1	103.3		
7.3 1.7 0.5	7.3 1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	1.7 0.5 12.0	0.5	0.5	12.0	12.0			56.7		5.1		7.2		94.1					7.2				7.2		
20 <del>7</del> 21 52	20 <del>7</del> 21 <u>7</u> 2	Q → Q	20 <del>-</del> 2	20 <del>-</del> 2	<u>ა</u> - თ	20 <del>-</del> 7 2	20 - 2	50 - 5	20 1	50	50	50			06		10		10							06						
2 50 34 29 2 50 34 29	29 29 29 24 29	2 5 3 4 0 4	8 50 42 4 00 42	34 25 3	34 250 24	34 25 50 45 24	34 25 0 24 24	34 50 24	50 24	50 24	24	24			63		51		72							8						
5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm	<pre>&lt;5mm &lt;5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm &lt;5mm</pre>	5mm+ <5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm	5mm 55mm 55mm 55mm 55mm 55mm	<pre>&lt;5mm &lt;5mm+ 5mm+ 5mm+ 5mm+ &lt;5mm &lt;5mm</pre>	5mm+ 5mm+ 5mm+ 5mm+ 65mm	5mm+ 5mm+ 5mm+ 5mm+ 5mm+ 5mm	5mm+ 5mm+ 5mm+ 55mm	<ul> <li>5mm</li> <li>5mm</li> <li>5mm</li> </ul>	5mm+ 5mm+ 5mm+	<5mm 5mm+ <5mm	5mm+ <5mm	<5mm		5mm+	<5mm	5mm+	) <5mm	5mm+	1 <5mm	5mm+	Totals					<5mm	5mm+			Totals		Totals
ω 4 ω ο Ν	ω 4 ω ο Ν	4 û û M	4 GOV	4 UO V	4 Q QI	✓ Φ Ω	4 00	9 N	7	2			8		6		10		11				616	617	627	628		631	633		619	
																							F129								F133	

						17.4		7.4		8.9				18.7	52.4												
6		10		10		_		~		0		10				_		1		0				<u> </u>		0	
56		36		135		61		46		62		55		48						99		50		89		22	
		·		30		24		35		40		40		40				13		31		50		66		30	
5.4	15.6	15.2	28.8	81.5	53.2	122.0	35.1	88.1	18.3	144.1	40.0	142.2	49.5	163.7	1,002.7	1	0.7	16.6	54.5	222.6	51.2	165.2	44.1	151.7	36.0	94.6	837.2
2.3	15.6	4.9	28.8	22.1	53.2	33.1	35.0	21.6	17.9	40.6	39.7	38.0	49.5	60.3	462.6	1	0.7	2.2	54.5	94.9	49.5	44.0	44.1	40.9	35.3	23.2	389.3
1.5		0.0		44.7		30.6		21.9		49.3		32.0		16.4	205.4	_		4.6		0.0		36.8		15.0		23.4	88.8
1.2		1.3		11.2		14.9		12.6		2.1		11.3		12.7	67.3	-				40.6		20.2		25.0		8.3	94.1
0.4				0.3		39.3		16.8	0.3	40.7	0.3	11.9		8.4	118.4	-		9.5		37.6		35.2		24.8	0.1	22.5	129.7
				3.2		4.1	0.1	15.2	0.1	11.4		49.0		62.9	149.0	-		0.3		40.5	1.7	29.0		46.0	0.6	17.2	135.3
	15.6		28.8		53.2		35.1		18.3		40.0		49.5		240.5	1	0.7		54.5		51.2		44.1		36.0		186.5
	20		60		70		60		25		50		25			,	-		50		80		60		100		
	78		48		76		39		73		80		198			00	69		109		64		49		36		
5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals	L	mmd>	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals
4	Ŋ		9		7		ω		6		10		=			c	n		4		S		9		7		
688																	1084										
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0.1			C-070	0.100	123.5	4 . 'U	7.00	0.07	0.121			IOUAIS	
	59		14.4	4.9	9.5								1005
	40	23	163.0	123.3	21.1	5.4	5.6	7.6					1003
	62	43	238.5	78.3	58.4	22.2	22.6	57.0				5mm+	
			100.0	100.0					100.0	25	400	<5mm	12
	48	35	70.8	15.0	38.7	8.9	2.9	5.3				5mm+	
			9.1	9.1					9.1	10	91	<5mm	11
0.7	ı	12	7.5	3.4			3.9	0.2				5mm+	
			4.2	3.7	0.3		0.2		4.2	5	83	<5mm	10
	35	ı	4.4	0.8	1.1	2.5						5mm+	
			1.1	1.1					1.1	-	105	<5mm	6
	41	12	5.2	1.8		2.9		0.5				5mm+	
			0.8	0.8					0.8	-	83	<5mm	8
	14	ı	1.3	1.1	0.2							5mm+	7
			3.8	3.8					3.8	5	76	<5mm	9
			0.5	0.5								5mm+	5
			0.8	0.8								5mm+	
			2.7	2.7					2.7	5	53	<5mm	4
			0.2	0.2								5mm+	З
			0.1	0.1								5mm+	<b>-141</b> 981 2

0.0	07	2	274.8	130.9	21.8	12.1	<b>33.4</b>	76.6	0.4				Totals	Totals
c	o c	C	1.7	1.7	с т		Li T	с Ц					<5mm	4 <55mm
			12.5	12.5										<u>۳</u>
			0.4	0.4					0.4		ى ک	7 5	<5mm 7 5	5 <5mm 7 5
	40	28	96.0	42.9	7.9	2.4	19.3	23.5					5mm+	2 5mm+
	51	44	119.7	38.0	12.7	9.7	12.2	47.1					5mm+	4 1 5mm+
	1	14	5.9	4.8			0.4	0.7	-					4
			915.4	550.6	126.8	71.7	93.8	72.5	-	93.	93.	93.	Totals 93.	Totals 93.
	46	20	67.0	49.6	3.8	1.3	2.4	9.9						9
	17	24	56.5	45.0	2.8	2.1	2.6	4.0						2
	36	25	34.0	22.3	5.3	3.0	2.2	1.2					5mm+	5mm+
			50.2	50.2									<5mm	9 <5mm
	46	32	59.5	25.7	9.3	3.2	19.9	1.4					5mm+	5mm+
			25.9	25.9						25.9	70 25.9	37 70 25.9	<5mm 37 70 25.9	8 <5mm 37 70 25.9
	68	27	151.4	63.1	36.7	15.3	34.6	1.7					5mm+	5mm+
			40.8	40.8						40.8	80 40.8	51 80 40.8	<5mm 51 80 40.8	7 <5mm 51 80 40.8
	89	25	62.0	37.2			24.2	0.6					5mm+	5mm+
			23.1	23.1					-	23.	70 23.	33 70 23.	<5mm 33 70 23.	6 <5mm 33 70 23.
	,	23	6.9	0.8	4.2			1.9	_				5mm+	5mm+
			0.4	0.4						0.4	1 0.4	35 1 0.4	<5mm 35 1 0.4	5 <5mm 35 1 0.4
	'	16	4.6	3.9				0.7					5mm+	5mm+
			0.8	0.8						0.8	1 0.8	78 1 0.8	<5mm 78 1 0.8	4 <5mm 78 1 0.8
	'	13	3.2	2.5			0.4	0.3					5mm+	5mm+
			1.4	1.4						1.4	10 1.4	14 10 1.4	<5mm 14 10 1.4	3 <5mm 14 10 1.4
	'	16	1.9	1.3		0.3		0.3					5mm+	5mm+
			0.8	0.8						0.8	5 0.8	16 5 0.8	<5mm 16 5 0.8	2 <5mm 16 5 0.8
		17	2.6	2.3				0.3					5mm+	5 1 5mm+
	60	43	313.3	144.4	64.7	46.5	7.5	50.2					5mm+	5mm+
			9.2	9.2						0.0	0.0	0.0	<5mm 0.0	2 <5mm 0.0

				5.7			5.7												1.1	1.1							
17		20		66		48			31		27		54		62		34	20	29		25		47	44		51	
		20		33		43			13		16		29		24		22	26	26		ı		25			22	
0.6	1.6	7.0	76.5	137.9	179.0	297.5	700.1	6.1	16.2	7.4	36.6	63.2	108.1	106.2	186.6	64.5	75.0	9.1	72.0	751.0	0.7	10.1	73.8	13.4	23.3	116.6	237.9
9.0	1.6	3.2	76.3	53.0	179.0	105.3	419.0	6.1	9.6	7.4	14.2	62.6	44.2	105.8	82.9	64.5	44.7	6.9	35.2	484.1		10.1	27.7	7.2	23.3	55.6	123.9
				55.9		71.3	127.2		6.2		19.2		47.8		69.4		5.8		11.0	159.4			38.5	6.2		42.7	87.4
		1.5		5.6		15.7	22.8				2.6	0.2	2.6		18.2		13.7	1.1	2.9	41.3	0.7		0.5			10.8	12.0
		0.6		9.0		43.7	53.3				0.3		4.3	0.1	6.3		2.3		2.0	15.3			3.5			3.7	7.2
		1.7	0.2	14.4		61.5	77.8		0.4		0.3	0.4	9.2	0.3	9.8		8.5	1.1	20.9	50.9			3.6			3.8	7.4
	1.6		76.5		179.0		257.1	6.1		7.4		63.2		106.2		64.5				247.4		10.1			23.3		33.4
	-		50		50			5		10		80		06		50						10			10		
	155		153		358			121		74		79		118		129						101			233		
	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+			Totals		<5mm	5mm+	5mm+	<5mm	5mm+	Totals
	-		2		က			-		2		ო		4		2					N	-		N	က		
859	871							920										922	924		935	936					
F165								F178													F179						

2		1.3														3.1			5.4					0.6	2.7		3.6		0.4					29.8	37.1
39		20		30		57		60		35		38		25	27	30														'		20		37	
		_													_	_																			
26		19				14		30		26		·		21	20	19														~		22		27	
IJ.	0.9	9.2	0.	<del>.</del>	0.9	3.5	5.4		0.2	6.9	9.6	2 N	.8	6.9	3.6	6.0	6.9	3.6	5.4	2.7	Ŀ.	Ŀ.	.7	0.0	0.0	.3	0.0	٣.	.3	.4	F.7	6.9	<u>9</u> .	8.	3.5
51	22	56	1	=	22	4	4	102	10	48	25	4	10	4,	18	66	U	.,	585		-		-	0	U	U	0	-	0	U	7	4,	61	6	183
10.4	22.0	7.2	7.0	7.8	21.9	16.3	43.1	24.5	19.1	16.8	25.6	12.5	10.8	2.8	8.3	39.5	6.9	3.6	306.1	1.7	1.5	11.5	1.7					1.1	0.3	0.2	4.7	3.6	61.6	58.4	146.3
2		0		6		4		4		2		0			0				9															4	4
32.		19.3		2.0		21.		45.4		.6		30.			.9	15.3			182.(															ς. Ω	3.
2.5						4.5		3.0		9.3				1.7		4.8			5.8							0.3								3.4	3.7
						,		Ň		0,						,			4							0								.,	
0.6		0.1						7.4		1.0		1.5			1.7	3.3			15.6															2.4	2.4
5.8		2.6		0.4	0.1	1.3	0.3	1.8	0.1	2.1				1.4	2.4	7.0			35.3											0.2		2.3		25.2	7.7
										-									.,															CU.	7
	22.0		7.0		22.0		43.4		19.2		25.6		10.8				6.9	3.6	160.5	1.7		11.5						1.1			4.7		61.6		80.6
			10										10							-		10						_			_				
	5		Ň		5		7		90		80		ñ				10	10															10		
	44		28		44		62		32		32		43				69	36		174		229						112			470		616		
																			s																Is
	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+			<5mm	<5mm	Tota	<5mm	5mm+	<5mm	5mm+	5mm+	5mm+	5mm+	5mm+	<5mm	5mm+	5mm+	<5mm	5mm+	<5mm	5mm+	Tota
	-		N		ო		4		2		9		7		,		pot 1	pot 2		N		4		Ŋ	9	7	ω	ი		=	12		13		
929	930															933	around	around		1105															
180																				181															
ш																				Ĺ.															

																							7.7					7.7
58		60		32					32		30		46	20					18		50		47		35		42	
31		46		26					22		30		29	20					13		ı		46		19		65	
30.3	6.0	251.1	39.2	298.1	624.7	0.1	0.5	4.7	14.6	15.5	37.1	35.5	63.7	23.7	195.4	0.6	1.3	2.9	2.6	2.8	44.8	13.2	173.6	79.2	101.5	83.5	244.2	750.2
13.6	6.0	82.6	39.2	195.7	337.1	0.1	0.5	4.7	4.7	15.1	18.5	35.2	29.0	13.5	121.3	0.6	1.3	2.9	0.8	2.8	3.9	13.2	43.0	79.1	34.1	83.0	86.4	351.1
15.8		59.6		50.8	126.2				5.2	0.3	6.7		17.5	1.6	31.3				0.9		35.5		35.1		33.1		74.7	179.3
		41.2		20.4	61.6				0.2		5.3		4.3	0.4	10.2						2.5		21.7		5.7		25.5	55.4
		16.6		6.9	23.5				0.8		0.3		1.3	1.0	3.4				0.5		2.9		5.4		25.7		6.9	41.4
0.9		51.1		24.3	76.3				3.7	0.1	6.3	0.3	11.6	7.2	29.2				0.4				68.4	0.1	2.9	0.5	50.7	123.0
	6.0		39.2		45.2	0.0	0.5	4.7		15.5		35.5			56.2	0.6		2.9		2.8		13.2		79.2		83.5		182.2
	25		10				-	10		25		25				1		£		5		33		06		25		
	24		392				46	47		62		142				64		58		56		40		88		334		
	<5mm	5mm+	<5mm	5mm+	Totals	<5mm	<5mm	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+		Totals	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals
						~	ო	4		ъ		9				-	N	ю		4		5		9		7		
970	971		972			966 								666		1034												
F182						F186										F192												

	7.6		2.7				2.7				14.4			27.4											2.8									2.8
	30		45		22		62		41		56		62		46	29	21				'		36		50		44		50		76		41	
	ı		35		34		46		35		49		45		25	18	20				34		29		51		72		50		33		33	
1.7	12.2	0.6	18.2	3.1	15.1	2.3	48.2	50.4	46.8	39.0	200.0	82.0	253.1	772.5	65.8	34.4	53.0	153.2	1.4	1.4	7.2	9.1	35.2	56.2	173.6	68.4	175.1	60.9	175.1	20.0	194.5	52.5	98.7	1129.0
1.7	1.3	0.6	5.4	3.1	5.9	2.3	9.0	50.4	16.9	38.7	44.2	81.8	100.3	361.4	31.6	23.6	43.5	98.7	1.2	1.2	0.2	9.1	9.9	55.4	52.9	68.4	43.9	60.6	65.1	19.8	57.9	52.5	43.6	541.6
	10.9		1.0		3.4		7.0		17.7		48.3		64.9	153.2	14.2	3.4	0.8	18.4					10.3		76.5		70.5		50.4		91.5		31.9	331.1
							10.8				31.1		53.7	95.6	11.3	3.1	3.5	17.9					8.1		8.5		12.2		31.8		17.0		6.7	84.3
					1.0				5.8		7.8		1.7	16.3	5.8	0.3	1.8	7.9	0.2				1.9		9.5		20.2	0.1	11.8		8.1		3.0	54.8
			11.8		4.8		21.4		6.4	0.3	68.6	0.2	32.5	146.0	2.9	4.0	3.4	10.3			7.0		5.0	0.8	26.2		28.3	0.2	16.0	0.2	20.0		13.5	117.2
1.7		0.6		3.1		2.3		50.4		39.0		82.0		178.9						1.2		9.1		55.4		68.4		60.9		20.0		52.5		267.5
£		-		5		5		06		50		50								-		10		33		06		70		25		25		
33		55		61		45		56		78		164								115		91		168		76		87		80		210		
<5mm	5mm+	<5mm	5mm+	Totals				Totals	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals										
-		N		ო		4		S		9		7							e	4		S		9		7		ω		ი		10		
1050															1059	1067	1076		1078															
F195															F197				F198															

	13.5	1.5			1.1		5.9		13.9		35.9			0.3				3.3		4.2		1.9		6.6	16.3
'	31	68			33		134		58					15		28		50		55		70		52	
	28	39			22		34		49					19		29		30		31		50		41	
29.4	182.5	91.9	0.7	2.0	21.0	22.5	77.5	45.3	231.2	0.5	704.5	1.3	2.6	10.6	1.7	22.7	5.0	90.0	8.8	256.3	48.0	339.1	34.9	501.6	1322.7
28.8	121.7	31.2	0.7	1.9	6.1	22.4	26.3	44.8	74.9		358.8	1.3		3.2	1.7	12.9	5.0	37.4	8.8	99.1	48.0	115.8	34.9	162.5	530.7
	9.3	14.7			1.9		6.3		56.7		88.9			3.3		0.8		17.7		64.9		73.3		84.1	244.1
	10.0	28.2			1.8		21.8		31.8		93.6					4.9		5.4		44.8		64.9		85.8	205.8
0.3	12.8	2.2			9.6		16.8	0.5	35.5		7.77		2.6	3.3		1.6		17.2		21.7		29.0		62.1	137.5
0.3	28.7	15.6		0.1	1.6	0.1	6.3		32.3	0.5	85.5			0.8		2.5		12.3		25.8		56.1		107.1	204.6
				1.9		22.5		45.3			69.7	1.3			1.7		5.0		8.8		48.0				64.9
				5		50		25				-			-		5		10		50				
				38		45		181				134			172		100		88		96				
<5mm	5mm+		5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	Totals	<5mm	5mm+	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	<5mm	5mm+	Totals
			-	2		ო		4		4		N		ო	4		Ŋ		9		7		8		
1062		1064	1066									1168													
F199												F200													

	8		20.9 2.1 2.1	<b>0.3 1.6</b>	<b>0.</b> 3 <b>0.</b> 3 <b>0.</b> 3	12.4 0.0	0.0 0.4 0.4	0.0 1.1 1.1					Totals Totals	Totals Totals	1194 Totals
	32 55		2.1 18.8	0.8 0.8	1.3 5.6	12.4									1182
			810.1	683.2	92.9	10.2	9.3	5	14.	494.3 14.	494.3 14.	494.3	Totals 494.3 14.	Totals 494.3 14.	Totals 494.3 14.
-	35	23	315.8	188.9	92.9	10.2	9.3	5	14.	14	14	14	5mm+ 14,	5mm+ 14	5mm+ 14
			494.3	494.3						494.3	33 494.3	1,498 33 494.3	<5mm 1,498 33 494.3	<5mm 1,498 33 494.3	1181 <5mm 1,498 33 494.3
			572.7	300.2	69.69	51.0	12.0	6.0	139	175.1 139	175.1 139	175.1 139	Totals 139	Totals 139	Totals 139
	64	52	162.7	40.8	15.3	27.3	3.4	<u>م</u>	75.	75.	75.	22	5mm+ 75.	5mm+ 75.	5mm+ 75.
			45.0	45.0						45.0	50 45.0	90 50 45.0	<5mm 90 50 45.0	7 <5mm 90 50 45.0	7 <5mm 90 50 45.0
	40	37	95.4	34.2	21.6	9.0	3.1	.5	27	27	27	27	5mm+ 27	5mm+ 27	5mm+ 27
			56.8	56.5				e.	0	56.8	80 56.8 0	71 80 56.8 0	<5mm 71 80 56.8 0	6 <5mm 71 80 56.8 0	6 <5mm 71 80 56.8 0
	52	42	88.1	28.2	26.0	6.9	4.0	0	23.	23.	23.	23.	5mm+ 23.	5mm+ 23.	5mm+ 23.
			35.0	35.0						35.0	70 35.0	50 70 35.0	<5mm 50 70 35.0	5 <5mm 50 70 35.0	1178 5 <5mm 50 70 35.0
	45	31	37.2	14.9	3.9	7.8	1.5	-	О	9.	<u></u> б	6	5mm+ 9.	5mm+ 9.	5mm+ 9.
			16.7	16.5				0	0	16.5 0.3	25 16.5 0.1	66 25 16.5 0.3	<5mm 66 25 16.5 0.1	4 <5mm 66 25 16.5 0.1	4 <5mm 66 25 16.5 0.
	30	22	12.9	6.7	2.8			4	ຕ່	Э.	Э		5mm+ 3.	5mm+ 3.	5mm+ 3.
			14.5	14.5						14.5	25 14.5	58 25 14.5	<5mm 58 25 14.5	3 <5mm 58 25 14.5	3 <5mm 58 25 14.5
		15	1.1	0.6					0.5	0.5	0.5	0.5	5mm+ 0.5	5mm+ 0.5	5mm+ 0.5
			7.3	7.3						7.3	5 7.3	146 5 7.3	<5mm 146 5 7.3	2 <5mm 146 5 7.3	1177 2 <5mm 146 5 7.3

*Bustum* burials

Identified bones		-	iliac crest, tibia, temur, humerus head	L mand ramus, C/T verts, humerus, fingers		ulna, ribs, lunate		T verts, femur	verts, ribs, fingers			tooth root, pisiform							humerus	axis, T vert arch	temporal, small fragment ?finger phal	basi-occipital R.	occipital	missing?	rib fragments, convex joint	humerus?	vert, humerus	rib	thin, curled skull fragments	ulna?	inner surface	vert fragments?	metacarpal	mandible	ribs	ribs	ribs	rib	
Animal	wt/g																																						
max I.b.	(mm)	ſ	73	41	35	27	37	I	25	31	22	20	28	27	30		23																						
max skull	(mm)	L	25	37	1	18	I	I	17	I	'	27	24	I	1		18																						
max frag	(mm)	_																28	64	42	47	30	30		26	36	35	20	33	46	37	23	27	26	35	50	21	38	
Totals	wt/g		142.7	101.5	53.9	11.7	62.6	11.8	32.6	15.6	59.9	44.9	40.4	25.5	11.3	0.6	29.8	8.4	10.0	7.3	10.6	2.3	12.6	0.0	3.3	2.7	0.6	0.5	5.7	4.0	1.6	1.3	0.6	4.2	2.9	5.5	1.0	0.6	
Unident	wt/g	ĩ	51.0	30.6	27.4		30.7	11.8	18.5	9.3	47.7	17.3	23.5	10.8		0.6	20.4								0.5				1.8										
L limb	wt/g	L	50.5	0.4	24.1		22.3		0.8	3.2	12.2		5.4	12.0	11.3																								
U limb	wt/g		26.1	18.3	0.8	7.5	1.8		3.7	2.1		3.7	6.2	1.2			2.4		9.0		0.2				1.4	2.7				4.0			0.6						
Axial	wt/g		10.2	31.4	1.6	3.7	7.8		8.0	1.0		2.5	2.3	1.5			3.4			7.3					1.4		0.6	0.5				1.3			2.9	5.5	1.0	0.6	
Skull	wt/g	•	4.9	20.8		0.5			1.6			21.4	3.0				3.6	8.4	1.0		10.4	2.3	12.6						3.9		1.6			4.2					
Bone	ou																	÷	N	ი	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	
Finds	ou		205	244	245	246	248?	298	514	515	516	517	518	519	520	522	528	1155																					
Burial			F47																																				
Identified bones				uina	uina	ulna	scapula	ribs, ulna/radius	femur	lower T or L vert	ribs	distal L humerus	femur	femur	large prox L ulna, radius, ilium	ilium	femur	rib and ilium	ulna	?pelvis, molar roots	ilium	femur, ilium	femur, ischium, ribs	long bone?	T vert fragment, slight OP	L vert and fragments - small SN	femur	lower T verts, femur	femur	femur	femur	ulna, femur, tibia	femur/tibia	poss pelvis?	acetabulum and femur head	pelvis	femur	pelvis	femur neck or sciatic notch
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Animal	wt/g																																						
max I.b.	(mm)																																						
max skull	(mm)	_																																					
max frag	(mm)	oc	9 0	32	34	43	40	35	44	37	48	26	41	30	45	41	20	47	50	26	36	24	47	36	23	37	59	42	43	41	47	41	22	31	35	41	23	40	32
Totals	wt/g	0 7	) i	0.0	3.4	4.8	2.0	1.7	3.0	5.0	2.6	32.6	2.9	4.2	26.7	4.9	2.9	4.4	6.0	1.4	3.6	2.7	20.8	1.1	1.6	8.5	7.5	15.9	9.5	11.4	5.4	9.5	1.8	2.1	11.7	2.1	4.1	2.1	2.6
Unident	wt/g	_							0.2															1.1										2.1					2.6
L limb	wt/g	_							2.8				2.9	4.2			2.9					1.4	7.3				7.5	7.1	9.5	11.4	5.4	7.8	1.8		2.0		4.1		
U limb	wt/g	0 1	) ( 	0.0	3.4	4.8		0.5				32.6			19.1				6.0													1.7							
Axial	wt/g	_					2.0	1.2		5.0	2.6				7.6	4.9		4.4		1.1	3.6	1.3	13.5		1.6	8.5		8.8							9.7	2.1		2.1	
Skull	wt/g	=																		0.3																			
Bone	ou	çç	1 0	8 8	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
Finds	ou	_																																					
Burial																																							

Identified bones		femur	ilium and ischium, femur shaft	tibia (or poss femur?)	finger middle phal	tibia?	tibia and fibula	tibia	tibia	fibula	tibia, 1 black fragment poss animal	pelvis (may be 70 on plan?)	distal femur (may be 69 on plan?)	tibia?	tibia	fibula	tibia and fibula	tibia	tibia	tibia tubercle??	tibia	tibia	fibula?	tibia	tibia	tibia	tibia	tibia	talus	poss ulna/radius?	sacrum (or L1)	femur	femur	femur	R patella, fragment vert	metacarpal	distal radius, femur	metacarpal
Animal	wt/g																																					
max I.b.	(mm)																																					
max skull	(mm)																																					
max frag	(mm)	32	63	60	22	29	46	49	74	44	23	34	30	29	45	55	31	40	37	35	48	23	17	33	32	60	21	43	30	27	30	20	19	29	42	27	33	37
Totals	wt/g	2.7	36.7	11.9	1.0	2.0	9.5	4.1	9.8	2.0	2.7	12.8	2.3	3.7	4.8	4.0	9.3	4.3	2.7	4.1	4.6	4.4	1.1	5.3	1.4	8.9	3.6	3.3	2.0	1.3	2.0	2.8	1.9	8.8	9.2	0.6	3.1	1.5
Unident	wt/g										2.1																			1.3								
L limb	wt/g	2.7	9.3	11.9		2.0	9.5	4.1	9.8	2.0	0.6		2.3	3.7	4.8	4.0	9.3	4.3	2.7	4.1	4.6	4.4	1.1	5.3	1.4	8.9	3.6	3.3	2.0			2.8	1.9	8.8	8.9		1.4	
U limb	wt/g				1.0																															0.6	1.7	1.5
Axial	wt/g		27.4									12.8																			2.0				0.3			
Skull	wt/g	_																																				
Bone	ou	59	60	61	62	63	64	65	66	67	68	69	20	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	06	91	92	93	94	95
Finds	ou	_																																				
Burial																																						

entified bones		nents					ae		SI	of 103)				ent															SUL			root						
Ide		rib and other fragr	humerus	pelvis and femur	femur	humerus	pelvis and vertebr	femur	skull, ribs, humeru	femur (NB 2 bags		rib	verts	cancellous fragme	ribs, ?pelvis	C vert	C or upper T vert	ulna?		C vert	scapula		humerus	atlas and C vert	humerus	rib	humerus?	rib	R. mandibular ran	femur	ribs, ulna/radius?	maxilla and tooth	T vert	vert??	R. radius tubercle	radius/ulna	rib	humerus
Animal	wt/g																																					
max I.b.	(mm)																																					
max skull	(mm)																																					
max frag	(mm)	31	30	21	30	35	25	27	23	31	33	30	25	22	21	24	24	30	18	22	36	31	50	27	77	32	43	25	46	39	17	24	23	19	46	23	35	41
Totals	wt/g	3.6	3.7	3.2	3.2	3.6	3.1	3.0	3.6	4.5	7.2	0.4	3.7	0.4	3.2	2.5	2.5	1.3	1.5	1.1	1.2	0.6	2.5	5.3	12.8	1.6	1.9	0.4	2.6	4.9	1.6	1.7	2.9	0.8	4.4	1.3	1.0	1.8
Unident	wt/g	2.1									1.1			0.4	1.3				1.5	0.6		0.6												0.8				
L limb	wt/g			2.1	3.2			3.0		4.5																				4.9								
U limb	wt/g		3.7			3.6			1.3									1.3					2.1		12.8		1.9				0.8				4.4	1.3		1.8
Axial	wt/g	1.5		1.1			3.1		1.9			0.4	3.7		0.8	2.5	2.5			0.5	1.2			5.3		1.6		0.4			0.8		2.9				1.0	
Skull	wt/g								0.4		6.1				1.1								0.4						2.6			1.7						
Bone	ou	96	97	98	66	100	101	102	103	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131
Finds	ou																																					
Burial																																						

Identified bones		vert and lond house convex inint		sternum	frontal	rib and vert fragments			B molor			scapula	2 tooth root fragments, upper R. lat incisor + ?	humerus	<i>in situ</i> covers 64 x 98mm, lots of small	iriaginerits Irib	ribs and skull		skull and scapula		inner surface	rib	mandible	rib/vert?	joint, slightly concave, poss scapula	scapula and skull base		lower molar	tooth root	temporal	C vert	basal fragments	including mandible		maxilla, finger phal, vert, rib, frontal	finger phal			
Animal	wt/g																																						
max I.b.	(mm)																																						
max skull	(mm)																																						
max frag	(mm)	PA 10	+ ( 1 (	20	- 0	18	2		20	07	17	30	17	33	25	19	20	21	30	26	30	29	45	19	20	20	25	16	10	24	17	30	40	10	32	15	16	21	
Totals	wt/g	- -	 j	1.4 0	ο α α	0.0	4.0	t + 0 0	- u	0.1	1.9	2.7	0.4	3.6	14.3	0.4	1.2	1.3	1.8	0.9	1.2	1.7	1.7	0.8	0.5	2.1	2.8	0.4	0.1	3.0	0.7	4.5	5.2	0.1	15.3	0.2	5.1	0.8	1368.0
Unident	wt/g	α t	-															1.3		0.9			0.6		0.5														324.8
L limb	wt/g	_																																					383.5
U limb	wt/g	_												3.6																					1.8	0.2			216.4
Axial	wt/g	с С	) ·	4. C	0.0	0 4	5	0	0.0			2.7				0.4	0.7		1.0			1.7		0.8		1.3					0.7				0.7				261.6
Skull	wt/g	_			α α	0	40	t u . c	0.7 7	0.1	1.9		0.4		14.3		0.5		0.8		1.2		1.1			0.8	2.8	0.4	0.1	3.0		4.5	5.2	0.1	12.8		5.1	0.8	181.7
Bone	ou	130	1 0	133	101	136	137	001	001	50	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	
Finds	ou	_																																				<u> </u>	
Burial																																							Totals

Identified being	Identified bones							radius/ulna		maxilla, ribs, verts, prox radius, femur	rib	humerus	ulna	humerus	skull		femur	femur		metacarpal or rib?		distal L. femur	humerus?	metacarpal	rib	humerus, metacarpal, skull	vert spine		rib	rib		vert facet	femur	femur	rib	radius/humerus	fibula/ulna?
Animal	Animai wt/g	4.9	1.0		1.4	18.4	1.9		0.7	13.6																					1.3						
4	max I.b. (mm)	1	I	14	26	32	19			25																											
Il leem	max skull (mm)	14	23	•	24	31	32			30																											
a curry second	max rrag (mm)							34			37	20	20	17	38	26	21	29	25	21	26	62	35	39	19	24	19	22	38	38		15	21	30	24	14	44
Totolo	l otals wt/g	2.9	29.7	1.8	87.3	439.1	34.6	3.4	0.0	90.4	1.7	0.9	0.8	1.1	4.5	0.6	1.3	1.7	2.3	0.4	0.7	35.8	5.5	0.6	0.3	1.7	0.4	1.5	1.1	0.7	0.0	1.2	4.2	3.7	1.3	0.6	1.6
1	unident wt/g	1.0	23.5		62.6	344.6	14.1			55.6						0.6				0.4												0.8					1.6
احدا	L IIMD wt/g				5.2	28.2	4.0			10.3							1.3	1.7				35.8											4.2	3.7			
4	u IIMb wt/g		0.8	1.8	7.9	10.0	2.7	3.4		6.3		0.9	0.8	1.1									5.5	0.6		1.2										0.6	
Auto1	AXIAI wt/g	1.0	1.7		4.0	24.2	6.7			8.9	1.7														0.3		0.4		1.1	0.7		0.4			1.3		
0111	skull wt/g	6.0	3.7		7.6	32.1	7.1			9.3					4.5				2.3		0.7					0.5		1.5									
0.00	no				<5mm	5mm+		۲	N	2?	ო	4	5	9	7	ω	ი	10	1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
- F = : -	rinds	691	692	811	813	813	846	1158																													
00	Burial	F134																																			

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Identified bones		tibia	mid T vert body, no OP	rib	humerus (or poss tibia)	humerus	rib			C vert, no OP	vert arch		rib	humerus/radius?	ulna?	ulna/radius		poss femur or humerus	humerus head	femur shaft	fibula	scapula	distal ulna	mandible		pelvis	rib	femur	humerus (or poss tibia)	T vert			toe phal			LID	rib	fibula
Animal	wt/g											0.0													4.1									1.3	1.0			
max I.b.	(mm)																																					
max skull	(mm)																																					
max frag	(mm)	36	31	36	31	26	21	26	17	30	34		28	34	27	34	22	21	38	72	68	35	42	34		44	37	31	31	30	23	23	14		č	34	29	28
Totals	wt/g	1.9	6.7	1.7	2.6	2.4	1.1	1.0	1.1	2.1	0.8	0.0	0.9	2.3	1.1	1.4	0.7	1.2	10.7	27.8	2.5	2.5	3.1	1.3	0.0	4.4	1.5	2.4	1.6	1.8	0.3	0.5	0.2	0.0	0.0	0.9	1.0	1.7
Unident	wt/g																0.7	1.2													0.3	0.5						
L limb	wt/g	1.9																		27.8	2.5							2.4					0.2					1.7
U limb	wt/g				2.6	2.4								2.3	1.1	1.4			10.7				3.1						1.6									
Axial	wt/g		6.7	1.7			1.1			2.1	0.8		0.9									2.5				4.4	1.5			1.8					0	0.9	1.0	
Skull	wt/g	_						1.0	1.1															1.3														
Bone	ou	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	04 1	65	66
Finds	ou																																					
Burial																																						

Identified bones				rib	ulna	vert arch			L. ischium		tibia	femur and skull	pelvis	poss ilium?	tibia or humerus?	rib (labelled 86, but prob 80)	radius?	T vert body, slight OP	pubis	tibia?	radius	poss medial clavicle or distal radius	mandibular ramus		poss animal (labelled 88)	scapula inferior end		poss skull	T vert arch			tibia/femur	tibia and femur	femur	ischium (same as 73) and vert	L vert body, SN	L vert arch		C vert body
Animal	wt/g							0.3		5.5																					1.8				3.2				
max I.b.	(mm)	_																																					
max skull	(mm)	_																																					
max frag	(mm)	oc	2	39	40	28	20		76		44	28	25	43	41	36	31	31	26	34	29	22	45	30	29	31	21	16	25	24		50	70	85	36	44	40	41	26
Totals	wt/g	с т	2	1.3	4.8	1.2	0.8	0.0	19.3	0.0	6.2	4.6	1.6	0.8	1.2	1.9	1.8	5.1	6.6	3.9	3.0	1.1	2.9	2.2	0.7	2.3	1.4	1.2	2.0	4.0	0.0	7.9	16.6	22.7	4.0	12.9	2.3	3.8	2.0
Unident	wt/g	_												0.8	1.2	0.6			1.8			1.1		2.2	0.7		1.4	1.2							0.8				
L limb	wt/g										6.2	4.2								3.9												7.9	16.6	22.7					
U limb	wt/g	Ţ			4.8												1.8				3.0														0.1				
Axial	wt/g			-		1.2			19.3				1.6			1.0		5.1	4.8							2.3			2.0						3.2	12.9	2.0		2.0
Skull	wt/g	=					0.8					0.4											2.0							4.0								3.8	
Bone	ou	27	5	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	06	91	92	93	94	95	96	97	98	66	100	101	102	103
Finds	ou																																						
Burial																																							

Identified bones		_			vert arch	pelvis	v. large unburnt lower M2 - residual?	L. femur lesser tubercle	frontal, maxilla	poss ilium?	L. malar		ribs and humerus	tibia	rib	humerus?	fibula		fibula	rib	radius	humerus (1 fragment poss animal)	rib		rib	rib	L. femur head fragment			46 x 30mm in situ, lots of small fragments	long bone	femur	tibia	tibia	R. mand condyle		L. scapula glenoid	rib	sheep calcaneus
Animal	wt/g		0.1															1.5																		0.9			6.3
max I.b.	(mm)	-																																					
max skull	(mm)	-																																					
max frag	(mm)	-		32	22	33		33	28	46	28	25	32	27	37	23	43		73	50	48	45	30	31	34	39	49	32	28	28	30	17	17	22	22		41	33	
Totals	wt/g		0.0	0.7	0.9	0.8	2.4	2.9	3.7	3.2	1.5	1.2	2.9	1.4	1.4	1.3	2.0	0.0	3.3	3.2	5.6	5.0	1.5	2.0	1.1	0.7	5.1	2.7	0.5	14.7	0.8	1.4	1.3	1.6	1.3	0.0	7.8	1.7	0.0
Unident	wt/g	-		0.7					0.6	3.2		0.2								0.7								2.7	0.5		0.8								
L limb	wt/g	-						2.9						1.4			2.0		3.3								5.1					1.4	1.3	1.6					
U limb	wt/g	-											1.3			1.3					5.6	5.0																	
Axial	wt/g	-			0.9	0.8							1.6		1.4					2.5			1.5		1.1	0.7											7.8	1.7	
Skull	wt/g	-					2.4		3.1		1.5	1.0												2.0						14.7					1.3				
Bone	ou		104	105	106	106	106	107	108	109	110	111	112	113	114	115	116	117	118a	118b	119	120	121	122	123	124	124	125	126	127	128	129	130	131	132	133	134	135	136
Finds	ou	-																																					
Burial																																							

Identified bones				radius/humerus?	tibia (may be numerus :/), green stain	ilium	R. acetabulum	prox shaft and head R. femur	L4(?) body, large SN	L3(?) body, large SN	long bone	prox L. femur	upper T vert	R. tibia	R. temporal	tbia	L vert	tibia		cuboid	tibia		R. sacrum		tibia	medial clavicle - fused		tibia shaft	ilium	C vert	T vert	T vert and base of skull	R. mandibular ramus	C vert arch	T vert body	T vert arch	basi-occipital	manubrium	rib
Animal	wt/g																																						
max I.b.	(mm)	_																																					
max skull	(mm)	_																																					
max frag	(mm)	00	0.	31	0 4 0	32	50	70	40	50	30	35	30	90	31	41	45	38	54	25	36	34	46	40	34	30	24	160	30	29	25	47	46	33	17	32	51	45	49
Totals	wt/g	- -	2	2.3	N.N.	2.0	12.3	54.6	9.7	14.8	1.4	19.8	3.8	19.1	2.8	13.4	14.8	6.1	2.7	3.5	3.9	2.6	8.1	1.5	1.3	2.4	1.0	33.3	1.8	2.9	2.4	4.4	4.4	1.8	1.3	1.9	7.8	6.3	1.8
Unident	wt/g	_									1.4													1.5			1.0												
L limb	wt/g	_		0	N.N.			54.6				19.8		19.1		13.4		6.1		3.5	3.9				1.3			33.3											
U limb	wt/g	_		2.3																																			
Axial	wt/g	u •				2.0	12.3		9.7	14.8			3.8				14.8		2.7				8.1			2.4			1.8	2.9	2.4	2.1		1.8	1.3	1.9		6.3	1.8
Skull	wt/g	=													2.8							2.6										2.3	4.4				7.8		
Bone	ou	127	10	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173
al Finds	ou	_																																					
Buri																																							

Identified bones		axis	petrous temporal	tibia	ulna, ?humerus, metatarsal head	metatarsal	pelvis fragments, L vert, large SN, small OP	fragments C7, lower T/L verts, pelvis, finger		femur	fibula	occipital, rib	femur	R. ischium	acetabulum and pelvis fragments	tibia	v. fragmented long bone	sacrum	3 rib	mandible	prox tibia?	ilium		talus	rib	rib (2 separate bags - number used twice)	unident long-bone	tibia and C vert			pelvis	first metatarsal	lower T vert, large SN	R pubis	rib		lower T vert arch	T vert
Animal	wt/g							1.0	3.0										0.0				5.0						1.2									
max I.b.	(mm)																																					
max skull	(mm)																																					
max frag	(mm)	35	25	61	45	39	43	39		38	41	47	37	65	70	60	19	54	17	45	36	23		27	23	40	26	47		46	33	35	40	41	50	19	35	19
Totals	wt/g	4.4	3.9	6.6	6.1	2.3	23.0	27.1	0.0	6.3	2.2	22.8	5.2	20.6	33.1	17.1	4.5	14.8	0.9	2.9	4.0	2.5	0.0	2.9	1.8	5.1	3.7	16.4	0.0	23.6	3.8	2.6	8.8	2.3	2.9	1.0	2.7	1.1
Unident	wt/g					1.4		7.8				0.3					4.5										2.4											
L limb	wt/g			6.6	0.2	0.9		4.0		6.3	2.2		5.2			17.1					2.7			2.9				15.5				2.6						
U limb	wt/g				5.9			0.5																														
Axial	wt/g	4.4					23.0	12.7				1.7		20.6	33.1			14.8	0.9			2.5			1.8	5.1		0.9			3.8		8.8	2.3	2.9		2.7	1.1
Skull	wt/g		3.9					2.1				20.8								2.9	1.3						1.3			23.6						1.0		
Bone	ou	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
Finds	ou																																					
Burial																																						

Identified bones		C	TIDUIA?	ilium	iliac crest	tibia/femur	upper T vert		T vert			humerus	atlas		lower T vert, small SN	rib			upper T vert	femur	pelvis	rib	T vert arch	humerus	humerus	mid T vert and mid sacral segment	rib	verts, patella, pelvis, dist fibula	humerus?	poss animal?	T vert arch		rib	L vert arch	scapula glenoid	pelvis	
Animal	wt/g							1.8		4.3	3.0			2.5														0.5				2.5					93.7
max I.b.	(mm)	_																																			
max skull	(mm)																																				
max frag	(mm)	10	34	30	45	45	23		27			48	36		35	62	37	43	26	49	42	42	35	44	60	30	40	35	35	26	32		42	40	37	41	
Totals	wt/g	000	0.9	1.8	2.3	4.0	2.3	0.0	5.9	0.0	0.0	8.6	2.4	0.0	7.5	2.7	2.7	7.2	3.0	22.2	4.3	1.1	2.3	9.4	6.0	5.8	2.0	20.8	2.9	2.3	1.9	0.0	1.7	2.8	3.3	9.9	1,818.4
Unident	wt/g	_																		1.3								3.3		2.3							555.9
L limb	wt/g		0.9			4.0														20.9								5.5									466.1
U limb	wt/g	_										8.6												9.4	6.0				2.9								128.5
Axial	wt/g	_		1.8	2.3		2.3		5.6				2.4		7.5	2.7	_		3.0		4.3	1.1	2.3			5.8	2.0	.8.6			1.9		1.7	2.8	3.3	9.6	466.3
Skull	wt/g	=															2.7	7.2										3.4									201.6
Bone	ou		112	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	
Finds	ou	-																																			
Burial																																					Totals

Other features and layers

limal	vt/g		0.7				0.7
₹	2	1	1	17	61	16	
max I.b.	(mm)			-	ч	Ф	
max skull	(mm)	I	ı	I	31	I	
Totals	wt/g	5.0	0.6	1.5	17.1	5.0	29.2
Unident	wt/g		0.6		1.7		2.3
L limb	wt/g			0.9	7.1	5.0	13.0
U limb	wt/g			0.6	0.4		1.0
Axial	wt/g	5.0			5.9		10.9
Skull	wt/g				2.0		2.0
Type		Pit	Ditch	Pit/ditch	Pit	Ditch/pit	
Find	ou	96	77	98	87	390	
Feature		F8	F28	F32	F34	F98	Totals

Animal	Wt/g		9.5						2.8	2.3			0.5				1.8	16.9
max I.b.	(mm)		41	56	24	30		48	43	26							27	
max skull	(mm)		I	25	I	22		34	23	22							26	
Totals	wt/g	4.8	27.9	190.9	2.4	8.0	3.0	95.0	90.3	26.8	4.0	5.9	8.1	1.5	4.1	0.6	37.6	510.9
Unident	wt/g	4.8	10.1	51.2			3.0	46.3	23.1	17.5			8.1	1.5			13.7	179.3
L limb	wt/g		9.2	64.6	2.2	6.5		20.0	41.9	4.8		5.9			4.1	0.6	9.1	168.9
U limb	wt/g		8.6	37.2				14.9	6.3								3.8	70.8
Axial	wt/g			28.3	0.2			1.9	9.4								4.4	44.2
Skull	wt/g			9.6		1.5		11.9	9.6	4.5	4.0						6.6	47.7
Estimated	bone wt/g	4.8					3.0											
Approx	bone %	25					50											
Residue	wt/g	19					9											
Mesh		<5mm	5mm+				<5mm	5mm+										
Trench		21		20	20	28	35							67				
Context		222		262	264	314	350		351	1007	9	63	354	1188	1011	928		
Layer		L									L2		L16	L36	L38	L39/40	unlabelled	Totals

# Catalogue of cremated human bone per burial

## Urned and unurned cremation burials

Cremation burial F15 (find: Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	s no 47): middle-aged/old ?male Total weight 1270.7g: Skull 113.4g, axial 84.7g, upper limb 97.5g, lower limb 225.2g, unidentified 749.9g. Urned burial excavated in nine spits, although the majority of material came from the lowest four. Good, well-preserved, some large fragments. 41.0% identified. Some degenerative changes. Bones appear large. Mandibular ramus, frontal, zygoma and temporal fragments. Distal metatarsal, fragments of femur and tibia shaft, cervical and thoracic vertebrae, toe phalanges, ribs, proximal radius R and L, distal ulna. Max skull fragment size 56 mm, max long-bone fragment size 64 mm. Seven root fragments.
Cremation burial F18 (finds Quantification:	s nos 54, 55, 70): adult ?male Total weight 170.0g: Skull 36.8g, axial 11.3g, upper limb 29.0g, lower limb 25.8g, unidentified 67.1g.
Description: Condition: Determination of age:	Animal bone 1.2g. Gas pipe trench cutting F19. Same as F19? Fairly well preserved, several large fragments, but very incomplete. 60.5% identified. Size, no obvious degenerative changes.
Determination of sex: Identified elements: Measurements:	Bones medium-large? Frontal, maxilla, mandible, scapula, ulna, radius. Max skull fragment size 35 mm, max long-bone fragment size 40 mm.
Colours: Teeth:	Mainiy grey-white, some black.
Pathology:	Metopic suture patent.
Cremation burial F19 (finds Quantification:	<b>s no 68): mature male</b> Total weight 209g: Skull 38.8g, axial 18.5g, upper limb 29.3g, lower limb 46.7g, unidentified 75.7g. Animal
Description: Condition:	Very incomplete and disturbed. Same as F18? Fair condition, some large pieces. 63.8% identified.
Determination of age: Determination of sex: Identified elements:	Some degenerative changes. Large mastoid process. Fragments of frontal parietal temporal occinital mandible zvgoma cervical vertebra, humerus, tibia
Measurements:	patella, femur. Max skull fragment size 45 mm. max long-bone fragment size 46 mm.
Colours:	Pale buff, grey, some white.
Pathology:	Such toot negatifiert. Slight osteophytes on cervical vertebra and larger on one fragment of lower vertebra.
Cremation burial F36 (finds Quantification:	<b>s no 94): adult ?female</b> Total weight 33.9g: Skull 2.3g, axial 0.6g, upper limb 2.2g, lower limb 11.1g, unidentified 39.5g.

# **Crematic** Quantific

Quantification:	Total weight 33.9g: Skull 2.3g, axial 0.6g, upper limb 2.2g, lower limb 11.1g, unidentified 39.5g
Description:	Disturbed ?urned cremation.
Condition:	Mostly small fragments, very incomplete. 49.0% identified.
Determination of age:	Size, fused epiphyses.
Determination of sex:	Bones appear small.
Identified elements:	Mandibular ramus, cervical vertebra, ribs, distal finger phalanx.

Measurements: Colours: Teeth: Pathology:	Max skull fragment size 33 mm, max long-bone fragment size 28 mm. Mainly white. 1 small fragment of tooth root. Nothing observed.
<b>Cremation burial F41 (find</b> Quantification: Description: Condition: Determination of age:	s nos 128, 129, 134, 140): i) unsexed adult; ii) child approx 8-12 years Total weight 166.8g: Skull 42.8g, axial 13.4g, upper limb 13.4g, lower limb 13.4g, unidentified 83.8g. Urned cremation, finds no 128 excavated in five spits. Fair, some large pieces, very incomplete. 49.8% identified. i) Axis odontoid process fused, most bones adult sizad. ii) small fragment with unfused epiphysis, unfused ii) crest of 1. iiiof shild and frammart of lumbar variabate
Determination of sex: Identified elements: Measurements: Colours: Teeth	Both unsexed. ) Mandible, axis, ribs. ii) skull, L. ilium and lumbar vertebra. Max skull fragment size 35 mm, max long-bone fragment size 40 mm. Cream-buff.
Pathology:	/ / /
Cremation burial F42 (find i) child, approx 5-6 years; Quantification:	s nos 133, 135, 136, 147, 150, 151, 152, 153, 176, 177, 189): ii) child, approx 12+ years Total weight 370.7g: Skull 116.1g, axial 5.2g, upper limb 22.8g, lower limb 20.6g, unidentified 206.0g.
Description: Condition: Determination of age:	Ormed or 9.19. Urned cremation, finds nos 136 and 153 excavated in four spits (nothing from spits 1-2). Fair, some large pieces. 44.4% identified. Metopic suture closed, some unfused epiphyses. i) state of tooth eruption (juvenile molars were present at death): ii) distal metatarsal fused.
Determination of sex: Identified elements:	No sexing criteria. Fragments of ribs, atlas, phalanges, metatarsal, fibula, mandible. Also one small fragment probably adult femire
Measurements: Colours: Teeth:	Max skull fragment size 35 mm, max long-bone fragment size 40 mm. Cream, buff, white.
Pathology:	
Cremation burial F44 (find Quantification:	s nos 178, 182): child, approx 2-3 years Total weight 220.3g: Skull 69.0g, axial 3.4g, upper limb 19.5g, lower limb 31.5g, unidentified 96.9g. Animal 38 do (meinty, shear)
Description: Condition: Determination of age: Determination of sex:	Urned cremation burial, finds no 182 excavated in eight spits. Unded cremation burial, finds no 182 excavated in eight spits. Good, several large fragments. 56.0% identified. Unfused femoral epiphysis, deciduous roots. No sexing criteria.
identified elements. Measurements: Colours: Teeth: Pathology:	Frontial, zygorina, t. remun resent uper cire, uistan remoral epipinysis, perious temporal, ripta. Some craman vault and tibia fragments could be animal. Max skull fragment size 40 mm, max long-bone fragment size 35 mm. Five deciduous root fragments. Nothing observed.

Cremation burial F45 (find	<b>ls nos 174, 175): unknown</b> Total weicht 4 Nor Skull 0 4n unidentified 3 6n
Condition:	Urred burial on the second of
Determination of age:	No ageing criteria.
Determination of sex:	No sexing criteria.
Identified elements: Measurements:	SKUII. May eki ili fragmant 10 mm
Polouise:	
Colours. Teeth:	rate dui. None
Pathology:	Nothing observed.
Cremation burial F53 (find	ds nos 199, 208, 223, 224, 240, 267, 281): child, approx 3-5 years?
Quantification:	Total weight 368.0g: Skull 99.9g, axial 2.2g, upper limb 28.4g, lower limb 22.4g, unidentified 215.1g.
Description:	Animal 7.0g. Urned cremation excavated in nine spits (finds nos 199 and 240).
Condition:	Good, several large pieces. 41.5% identified.
Determination of age:	Unerupted permanent second and third molars, deciduous incisors present at death. No exime ortheria
Identified elements:	Mandible, maxilla, frontal, petrous temporal, cervical vertebrae, ribs, humerus shaft, distal first metatarsal.
Measurements:	Max skull fragment size 44 mm, max long-bone fragment size 57 mm.
Colours: Teeth	Mostly pale cream, occasional grey patches.
Pathology:	· · · · · · · · · · · · · · · · · · ·
Cremation burial F59 (find	ds nos 287, 289, 290): adult male
Quantification:	l otal weight 247.4g: Skull 15.9g, axial 19.0g, upper limb 40.9g, lower limb 115.4g, unidentified 56.2g. Animal 4 20
Description:	Disturbed urned cremation.
Condition:	Fair, some very large fragments, but very incomplete. 77.3% identified.
Determination of age:	Epiphyses fused, no obvious degeneration.
Letermination of sex:	Large robust pones.
laentijiea elements: Measurements:	Lumbar vertebrae, rips, sacrum, temur, tipia. May skuill fracment size 35 mm may Ionor-hone fracment size 94 mm
Colours:	
Teeth:	None.
Pathology:	Slight periosteal new bone growth on one tibia shaft fragment.
Cremation burial F83 (fine	ds no 346): unsexed adult
Quantification:	Total weight 11.6g: Skull 4.3g, axial 1.0g, upper limb 1.8g, lower limb 4.5g, unidentified 0.0g.
Description:	Spread of cremated bone.
Condition:	Very incomplete, several large fragments. 100% identified.
Determination of age:	bone size.
Letermination of Sex. Identified elements	No sexing diteria. Skull fonctonnes
Measurements:	oveni, vorug bortos. Max skull fragment size 36 mm. max lono-bone fragment size 30 mm.
Colours:	Pale bufficream.
Teeth:	None.
Pathology:	Nothing observed.

<b>ds nos 341, 342): unsexed mature adult</b> Total weight 27.1g: Skull 10.1g, axial 2.2g, upper limb 9.2g, lower limb 1.3g, unidentified 4.3g. Unurned cremation burial. Fair, very incomplete, some large pieces. 84.1% identified. Epiphyses fused, slight degeneration. No sexing criteria. Ilium, humerus. Max skull fragment size 30 mm, max long-bone fragment size 34 mm. Pale buff/cream. None. Slight osteophytes at edge of iliac SIJ.	<b>ds nos 333, 395, 431): unsexed adult</b> Total weight 266.5g: Skull 63.2g, axial 31.9g, upper limb 22.1g, lower limb 47.2g, unidentified 102.1g. Urned cremation excavated in nine spits, of which the top five produced no bone. Fair, a few large pieces, 61.7% identified. Epiphyses fused, no obvious degeneration. No sexing criteria. A few vertebral fragments, humerus, femur, fibula, tibia, etc. Max skull fragment size 30 mm, max long-bone fragment size 42 mm. Pale cream, white and dark grey fragments. Normian bones present.	<b>ds no 377): unsexed adult</b> Total weight 8.0g: Skull 0.5g, axial 2.3g, upper limb 5.2g. Animal 1.8g. Urned burial (previously L23)? Fair. Size. No sexing criteria. Vertebra, humerus. Cream. None. None.	<b>ds no 592): unsexed adult</b> Total weight 5.49. Lower limb 5.49. Disturbed cremation? Good. 100% identified. Size. No sexing criteria. Femur? Max long-bone fragment size 28 mm. Cream. None. Nothing observed.	<b>107 (finds nos 412, 428): unsexed ?adult</b> Total weight 4.0g: Unidentified 4.0g. Disturbed cremation? Poor, some not definitely burnt and could be animal. 0% identified. Size.
<b>Cremation burial F85 (finds n</b> Quantification: To Description: Un Condition: Fa Determination of age: Ep Determination of sex: No Identified elements: No Identified elements: Ma Colours: Pa Teeth: No Pathology: Sli	<b>Cremation burial F87 (finds n</b> Quantification: To Description: Ur Condition: Ep Determination of age: Ep Determination of sex: No Identified elements: Ma Maasurements: Pa Colours: Pathology: No	<b>Cremation burial F38 (finds n</b> Quantification: To Description: Ur Condition: Fa Determination of sex: No Identified elements: Ve Measurements: Cr Colours: Cr Teeth: No Pathology: No	<b>Cremation burial F93 (finds n</b> Quantification: To Description: Dis Condition: GG Determination of age: Siz Determination of sex: No Identified elements: Fei Ma Massurements: Crr Teeth: No Pathology: No	<b>Cremation burial F101/F107 (f.</b> Quantification: To Description: Dis Condition: Po Determination of age: Siz

Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	No sexing criteria. None. None. Buff/white. None. Nothing observed.
<b>Cremation burial F102 (fin</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>ds no 430): child, approx 2-3 years</b> Total weight 61.1g: Skull 9.5g, axial 0.3g, lower limb 1.4g, unidentified 49.9g. Urmed cremation burial excavated in seven spits, nothing in the upper three. Fair, some large pieces. 18.3% identified. Unerupted molar crown fragments. No sexing criteria. Petrous temporal, rib, vertebra, femoral shaft. Max skull fragment size 23 mm, max long-bone fragment size 30 mm. Pale buff. Upper left and lower left unerupted first permanent molars.
Cremation burial F103 (fin Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>Ids no 458): middle-aged ?female</b> Total weight 914.8g: Skull 86.6g, axial 164.1g, upper limb 76.8g, lower limb 176.1g, unidentified 411.2g. Urned cremation burial excavated in ?seven spits (one bag labelled spit 15), nothing in spit 1. Good, well preserved, some very large pieces. Two fragments of humerus in spit 7 have blueish melted glass adhering. 55.1% identified. Medial clavicle fused, some degeneration. Small bones. R. publis, C.T and L vertebrae, both iscia, medial clavicle, L. scapula glenoid, fragments R. ilium, femur shaft and head, petrous temporals. Max skull fragment size 23 mm, max long-bone fragment size 30 mm. FeHd 40 mm. Pale buff(cream, dark grey in several skull fragments. 1 lower incisor tooth root. Slight osteophytes on ?L verts, slight new bone growth at L. SlJ. No Schmorl's nodes on surviving vertebrae.
<b>Cremation burial F108 (fin</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>ds no 535): unknown</b> Total weight 0.4g: Unidentified 0.4g. Unurned cremation burial? Poor. 0% identified. May not be burnt and could be animal. No ageing criteria. No sexing criteria. None. Pone. Pale buff. None. None.
Cremation burial F114 (fin	ids no 542): middle-aged/old male

Quantification:	Total weight 1488.1g: Skull 164.7g, axial 117.7g, upper limb 68.7g, lower limb 216.6g, unidentified 920.4g. Animal 47.2g.
Description:	Urned cremation burial excavated in fifteen spits, nothing in spits 1, 2 and 4, very little in 3.
Condition:	Good, well preserved, particularly large fragments of torso, but 30% of the bone was from the <5 mm
	fraction of spit 14. 38.1% identified.
Determination of age:	Cranial sutures partially obliterated, degenerative disease.

Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	Large occipital crest, robust bones. Frontial, fragments of 5 C, 11 T and 4 L vertebrae, ilium, ischium, femur, tibia. Max skull fragment size 47 mm, max long-bone fragment size 48 mm. Cream, occasionally dark grey, especially at ankles and inner fragments of thicker long bones. 2 tooth root fragments. OA Grade II anterior R. acetabulum and at least one rib facet on L. side of a lower T vertebra, slight lipping lilac crest, OP most lumbar and some thoracic vertebrae. Fragment of femoral shaft with exostosis approx 7 mm long – torn muscle. No Schmorl's nodes in surviving vertebral bodies.
<b>Cremation burial F115 (finc</b> Quantification:	<b>Is nos 496, 497, 498): young/middle-aged female</b> Total weight 1051.5g: Skull 89.2g, axial 156.8g, upper limb 114.6g, lower limb 243.6g, unidentified 447.3g (includes 4 concreted lumps with iron corrosion – 36.3g). Animal 5.1g.
Description: Condition:	Urned cremation burial excavated in five spits and two other contexts. Good, well preserved, large fragments. One finger fragment in spit 2 with fuel ash slag adhering. 57.5% identified
Determination of age: Determination of sex: Identified elements:	Epiphyses fused, beginnings of degenerative change. Epiphyses fused, beginnings of degenerative change. Mandibular ramus and alveolar fragments, frontal, atlas, axis, L. scapula glenoid, humerus heads and shafts, finger phalanges, proximal L. radius and ulna, distal R. radius, proximal femora, ilium, ischium, tibia
Measurements: Colours:	orian, too prinaingoo, mi riceas, accamola boilo. Buff/creament size 45 mm, max long-bone fragment size 68 mm. HuHd 35 mm. Buff/creament
Teeth: Pathology:	11 tooth root fragments. Left side of mandible with alveolus for M3, R side all teeth present at death. Septal aperture L.? Very very slight sharpening of some vertebral body borders.
<b>Cremation burial F118 (finc</b> Quantification: Description: Condition: Determination of age:	<b>Is nos 684, 686): unsexed adult</b> Total weight 47.9g: Skull 4.8g, axial 0.5g, upper limb 2.7g, lower limb 6.7g, unidentified 33.2g. Broken urned cremation. Fair. 30.7% identified. Epiphyses fused.
Determination of sex: Identified elements: Measurements: Colours: Teeth:	No sexing criteria. Mandible, rib, vertebra, tibia and femur. Max skull fragment size 20 mm, max long-bone fragment size 25 mm. Cream-white. None.
Pathology:	Nothing observed.
Boxed cremation burial F1. Quantification: Description: Condition: Determination of age: Determination of sex	<b>20 (finds nos 600, 601): middle-aged female</b> Total weight 185.5g: Skull 22.0g, axial 17.1g, upper limb 17.6g, lower limb 59.7g, unidentified 69.1g. Boxed cremation burial. Fair. 62.7% identified. Some degenerative changes.
Identified elements: Measurements: Colours: Teeth: Patholoov:	C vertebrae, ribs, L vertebrae, proximal radius, lilum, femur head and shaft. Max skull fragment size 41 mm, max long-bone fragment size 60 mm. FeHd 35 mm. Mainly light brown/cream, a few grey/black pieces, eg fragments of ilium. None. Slicht OP C vertebrae.
r autorogy.	

Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	Size. No sexing criteria. Skull vault. Max skull fragment size 9 mm. White. 2 tooth root fragments. May be animal? Nothing observed.
Cremation burial F126 (fin Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Teeth: Pathology:	<b>ds no 566): child, approx 9-12 months</b> Total weight 107.6g: Skull 22.8g. axial 3.8g, upper limb 1.2g, lower limb 4.9g, unidentified 74.9g. Glass vessel cremation burial excavated in three spits, nothing in spit 1. Good, some large pieces. 30.4% identified. Tooth eruption. No sexing criteria. Petrous temporal and basi-occipital, ribs, vertebrae, axis, humerus, femur. Max skull fragment size 26 mm, max long-bone fragment size 31 mm. Unerupted upper first incisor, upper deciduous second molars, left permanent first and second molars. Nothing observed.
Cremation burial F128 (fin Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth:	<b>ds no 671): i) unsexed older adult; ii) infant</b> Total weight 571.6g: Skull 47.3g, axial 25.0g, upper limb 48.6g, lower limb 130.8g, unidentified 319.9g. Urned cremation burial excavated in eleven spits. Good, well preserved, some large pieces. 44.0% identified. i) Cranial sutures partially obliterated, degenerative disease. ii) Size. i) Occipital crest seems small but axis odontoid process is relatively large. ii) No sexing criteria. i) Maxilla, axis, C verts, humerus head and shaft, pelvis, femoral head and distal fragments, proximal tibia. Max skull fragment size 62 mm, max long-bone fragments of infant. Pale buff, some white and a few black, especially cancellous fragments.
Pathology:	<sup>2</sup>
<b>Cremation burial F129 (fin</b> Quantification: Description: Condition: Determination of age: Identified elements: Measurements: Colours: Teeth: Teeth: Pathology:	<b>ds nos 616, 617, 628, 631, 633): middle-aged/old ?female</b> Total weight 432.2g: Skull 103.3g, axial 22.9g, upper limb 57.5g, lower limb 146.8g, unidentified 101.7g. Animal 4.8g (juvenile cow teeth). Disturbed urned cremation burial. Good, several large fragments. 76.5% identified. Some cranial sutures closed, some degeneration. Lower margin of mandible, temporal, vertebrae, ribs, ulna, humerus, sacrum, femur, tibia. Max skull fragment size 70 mm, max long-bone fragment size 80 mm. Cream/buff. None.
<b>Cremation burial F133 (fin</b> Quantification: Description:	<b>ds no 619): unsexed adult</b> Total weight 23.3g: lower limb 23.3g. Unurned cremation burial?

Condition:	Good, large pieces. 100% identifiable.
Determination of age: Determination of sex: Identified elements:	Size. So sexing criteria.
Measurements: Colours:	Max long-bone fragment size 41 mm. White/grey.
Teeth: Pathology:	None. Nothing observed.
<b>Cremation burial F135 (fin</b> Quantification:	<b>ds no 688): middle-aged/old male</b> Total weight 1002.7g: Skull 149.0g, axial 118.4g, upper limb 67.3g, lower limb 205.4g, unidentified 462.6g. Animal 52.4a.
Description: Condition:	Disturbed urned cremation burial excavated in eleven spits, nothing in 1-3. Good, well preserved, large fragments. 53.9% identified.
Determination of age: Determination of sex: Identified elements:	Degenerative disease. Large occipital crest, robust bones, large vertebrae. Zygoma _axis, C and L vertebrae, medial clavicle, distal humerus, distal radius, ulna shaft, ilium, femur and
Measurements: Colours:	tiola shafts. Max skull fragment size 40 mm, max long-bone fragment size 62 mm (three fragments of tibia = 135 mm). Cream/buff. Animal bone is white and black and more abraded – presumably cooked first?
l eeth: Pathology:	1 tooth root. Large OPs on C and L vertebrae, L4(?) has large OP on superior edge at R. side of body. OA Grade II medial clavicle. OP distal femur, distal acetabulum, SIJ. Lipping linea aspera and iliac crest.
Cremation burial F137 (fin Quantification: Description: Condition:	<b>ds no 1084): sub-adult ?female, approx 16-18 years</b> Total weight 837.2g: Skull 135.3g, axial 129.7g, upper limb 94.1g, lower limb 88.8g, unidentified 389.3g. Amphora cremation burial excavated in seven spits, nothing in 1-2. Good, some large fragments. 53.5% identified.
Determination of age:	ribia and remur epipnyses umused but aduit-sized, proximal radius just rused, distal umused, bast-occiptal unfused. MT1s small (distal end fused), occipital crest small.
Identified elements: Measurements: Colours:	Frontal, maxilla, petrous temporals, basi-occipital, atlas, axis, humerus head and distal end, sacrum, ilium, ischium, distal femur and R. patella, proximal tibia, distal tibia and fibula, first metatarsals, talus. Max skull fragment size 66 mm, max long-bone fragment size 68 mm. Cream/buff.
Teeth: Pathology:	/ / / / /
Cremation burial F141 (fin. Quantification:	<b>ds nos 981, 1003, 1005): middle-aged+ ?female</b> Total weight 628.3g: Skull 70.6g, axial 35.2g, upper limb 41.9g, lower limb 129.3g, unidentified 351.3g.
Description: Condition: Determination of age: Determination of sev	Animation of the control of the cont
Identified elements: Measurements: Colours:	Mandible, ribs, vertebrae, scapula, pelvis, humerus, ulna, finger, femur, tibia, tarsal navicular. Max skull fragment size 43 mm, max long-bone fragment size 62 mm. Cream/buff. Some pieces in 1003 have iron staining. 4+ molar root frammants and at least 1 sincle root both
Pathology:	OP some vertebral bodies.

Cremation burial F142 (fir Quantification:	nds nos 722, 725, 795, 796): sub-adult male, approx 16-18 years Total weight 915.4g: Skull 72.5g, axial 93.8g, upper limb 71.7g, lower limb 126.8g, unidentified 550.6g.
Description:	Urned cremation burial excavated in nine spits (finds no 725).
Condition: Determination of age:	ecoo, some very large inagments, including near-complete venebrae in lower spits. 53:37/a loenumed. Proximal tibia and femur epiphyses unfused, proximal femur partly fused. Adult-sized.
Determination of sex:	Prominent occipital crest, large fingers. Temorral ribs vertebrae nelvis sacrum humerus carnals fingers femur tibia cubrid sesamoid
	רטוויטרמו, וויטט, אכו אטו מין פראוס, סמט מווון, וומוווטרמט, כמו צמוט, ווויוסט ט, וכוווימו, ויוטומ, כמטטוט, סכסמוווטוט, toes.
Measurements:	Max skull fragment size 43 mm, max long-bone fragment size 89 mm.
Colours:	Pale grey-black.
Pathology:	r uner upeeu morar orown magniterin (wolf), z root magniterius. Nothing observed.
Cremation burial F162 (fir	nds nos 854. 864. 865. 883. 884): i) child. approx 3 vears: ii) older unsexed adult
Quantification:	Total weight 274.8g: Skull 76.6g, axial 33.4g, upper limb 12.1g, lower limb 21.8g, unidentified 130.9g.
Description	Animai (tish) U.og. Limod momotion burial overviated in two enite (864)
Condition:	Good, some large pieces. 52.4% identified.
Determination of age:	i) Tooth eruption. ii) Degenerative disease.
Uetermination of sex: Identified elements:	No sexing criteria. i) Basi-occipital. ribs. vertebrae. humerus. distal radius. femur shafts. calcaneus. ii) Rib. ulna. femur. toe.
Moonimontoi	Most fragments in 883 and 884 are adult.
Measurements. Colours:	Max skull lagittetit size 44 mm, max torg-bone itagment size o mm. Pale buff.
Teeth:	U U -  U U U U
Pathology:	U e d C d e U Adult toe phalanx with OA Grade II at proximal end.
Cremation burial F165 (fir Quantification:	nds nos 859, 871): unsexed middle-aged+ adult Total weight 700.1g: Skull 77.8g, axial 53.3g, upper limb 22.8g, lower limb 127.2g, unidentified 419.0g.
Description:	Animal 5.7g. Urned cremation burial excavated in three spits (871).
Condition:	Good, some large fragments. 40.2% identified.
Determination of age: Determination of sex:	Some degenerative changes. Large occipital crest, but C verts fairly small.
Identified elements:	Allas, axis, o verts, rids, numerus nead and distal iragment, proximal remur, lilum, ischlum, tarsal navicular
Measurements: Colours:	Maximum Max skull fragment size 43 mm, max long-bone fragment size 66 mm. Pale buff.
Teeth:	X / /
Pathology:	Slight lipping inferior acetabulum. OA Grade II distal humerus, eburnation head of radius. Septal aperture R.
<b>Cremation burial F178 (fir</b> Quantification:	<b>nds nos 920, 922, 924): sub-adult ?male, approx 16 years</b> Total weight 751.0g: Skull 50.9g, axial 15.3g, upper limb 41.3g, lower limb 159.4g, unidentified 484.1g. Animal 1.1ɑ.
Description:	Disturbed urned cremation burial excavated in five spits.
Condition: Determination of age:	Good, several large fragments. 35.5% identified. I Infrised distal uina
Determination of sex: Identified elements:	Promised data unce. Prominent occipitaterest, cortical bone very thick. Ulna, fingers: ribs, ischium, femur, tibia.

Max skull fragment size 29 mm, max long-bone fragment size 62 mm. Cream/buff. 2 tooth roots. Nothing observed.	<b>inds nos 935, 936): unsexed middle-aged+ adult</b> Total weight 237.9g: Skull 7.4g, axial 7.2g, upper limb 12.0g, lower limb 87.4g, unidentified 123.9g. Disturbed urned cremation burial excavated in three spits. Fair, a few large pieces. 47.9% identified. Some degeneration. No sexing criteria. Femur shaft. Max skull fragment size 25 mm, max long-bone fragment size 51 mm. Pale buff. Some white/dark blue-grey fragments may be animal? None.	<b>inds nos 929, 930, 933): adult ?male</b> Total weight 585.4g: Skull 35.3g, axial 15.6g, upper limb 45.8g, lower limb 182.6g, unidentified 306.1g. Animal 5.4g (juvenile cow teeth). Urned cremation burial excavated in seven spits. Good, some large fragments. 47.7% identified. Epiphyses fused. Large occipital crest. C vertebrae, humerus, femur, tibia. Max skull fragment size 30 mm, max long-bone fragment size 60 mm. Pale buff, some brown/black – possibly animal? 7 tooth root fragments including canine.	inds no 1105): unsexed older adult         Total weight 183.5g: Skull 27.7g, axial 2.4g, upper limb 3.7g, lower limb 3.4g, unidentified 146.3g. Animal 37.1g.         Urned cremation burial excavated in thirteen spits.         Poor, abraded. 20.3% identified.         Degenerative disease.         No sexing criteria.         Maxila, proximal radius, distal humerus, toe.         Max kull fragment size 27 mm, max long-bone fragment size 37 mm.         Pale buff, animal bone white.		inds nos 970, 971, 972): 7old male Total weight 747.1g: Skull 90.9g, axial 30.0g, upper limb 68.9g, lower limb 156.5g, unidentified 400.8g. Unurned cremation or pyre debris. Good, several large pieces. 46.4% identified. Degenerative changes, tooth loss. Large occipital and fingers. Occipital, mandible, ribs, acetabulum, pelvis, humerus, ulna, radius, carpals, fingers, femur, tibia.
Measurements: Colours: Teeth: Pathology:	<b>Cremation burial F179 (find</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>Cremation burial F180 (find</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>Cremation burial F181 (find</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth:	Pathology:	<b>Cremation burial F182 (find</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements:

Measurements: Colours: Teeth	Max skull fragment size 46 mm, max long-bone fragment size 60 mm. Cream-pale buff.
Pathology:	X X X / / / / /
<b>Cremation burial F186 (f</b> Quantification: Description: Condition: Determination of age: Determination of sex:	<b>inds nos 998, 999): child approx 12+ years</b> Total weight 195.4g: Skull 29.2g, axial 3.4g, upper limb 10.2g, lower limb 31.3g, unidentified 121.3g. Urned cremation burial excavated in six spits, nothing in top spit. Good, some large pieces. 37.9% identified. Unfused epiphyses. MC1 head recently fused. No sexing criteria.
Identified elements: Measurements: Colours: Teeth: Patholouv	Maxilla, mandible, petrous temporal, ribs, prox humerus, capitate, finger, femur, distal tibia. Max skull fragment size 30 mm, max long-bone fragment size 46 mm. Pale cream. Pale cream.
Cremation burial F192 (fi Quantification:	inds no 1034): i) adult female; ii) unsexed adult Total weight 750.2g: Skull 123.0g, axial 41.4g, upper limb 55.4g, lower limb 179.3g, unidentified 351.1g.
Description: Condition: Determination of age: Determination of sex: dentified elements: Measurements: Colours: Feeth: Pathology:	Animal 7.7g. Urned cremation burial excavated in seven spits. Same as F195? Good, well preserved. 53.2% identified. Epiphyses fused. At least one of the individuals had degenerative changes. i) Occipital crest gracile. ii) No sexing criteria. Mandible, R. scapula, humerus head, femur, trasal navicular. Max skull fragment size 65 mm, max long-bone fragment size 50 mm. Mostly pale buff, some skull fragments white and grey (possibly the second individual). 1 molar and 1 single root fragment. Large OP on T and L vertebrae, new bone growth linea aspera, lipping R. scapula glenoid.
Cremation burial F195 (f Duantification: Description: Determination of age: Determination of sex: dentified elements: Determination of sex: dentified elements: Determination burial F197 (fi Duantification: Description:	<ul> <li>Inds no 1050): i) adult; ii) older male</li> <li>Total weight 772.5g: Skull 146.0g, axial 16.3g, upper limb 95.6g, lower limb 153.2g, unidentified 361.4g. Animal 27.4g.</li> <li>Unned cremation burial excavated in seven spits. Same two individuals as F192?</li> <li>Good, well preserved. 53.2% identified. Some fragments of (ii) abraded.</li> <li>i) No sexing criteria. ii) Large and robust.</li> <li>i) Lambdoid suture obliterated internally, but patent externally. ii) Degenerative changes. Frontal, parietal, occipital, scapula, ribs, pelvis, humerus, radius tubercle, ulna shaft, femur, patella, tibia, fibula, talus, toes.</li> <li>Max skull brown, black and white.</li> <li>1 tooth root fragment.</li> <li>ii) Small fragments of vertebrae with large OPs.</li> <li>iii) Small fragments of vertebrae with large OPs.</li> <li>Total weight 153.29: Skull 1057, 1076): adult female</li> <li>Good some farceneits.</li> <li>35.6%, identified.</li> </ul>
Determination of age:	Epiphyses fused, tooth roots fully formed. Small

Identified elements: Measurements: Colours: Teeth: Pathology:	Ribs, proximal radius, distal ulna, fingers, femur, patella, tarsals. Max skull fragment size 25 mm, max long-bone fragment size 46 mm. Light brown/cream. 8 tooth root fragments, including 4 molars. Nothing observed.
<b>Cremation burial F198 (fin</b> Quantification:	ds no 1078): middle-aged/old ?male Total weight 1,129.0g: Skull 117.2g, axial 54.8g, upper limb 84.3g, lower limb 331.1g, unidentified 541.6g.
Description: Condition: Determination of age:	Animal 2.09. Urned cremation burial excavated in ten spits, nothing in spits 1-2. Good, some very large pieces. 52.0% identified. Cranial sutures closed but not obliterated, several teeth lost ante-mortem, degenerative
Determination of sex: Identified elements:	changes. Robust bones, occipital crest fairly prominent. Occipital, maxilla, mandible, clavicle, L. scapula, C, T and L vertebrae, ribs, humerus, ulna, finger, femur,
Measurements: Colours: Teeth:	uora. Max skull fragment size 72 mm, max long-bone fragment size 76 mm. FeHd approx 45 mm. Pale buff, ocasional grey/black.
Pathology:	2 molars and one other root fragments. 2 molars and one other root fragments. Lipping of linea aspera, medium OP on some vertebral bodies and lipping of vertebral facets and SIJ (both bones). Periosteal reaction L. tibia shaft. Small fragment of ?skull with new bone growth, probably pathological but cause unknown.
Cremation burial F199 (fin Quantification:	<b>ds no 1062, 1064, 1066): adult female</b> Total weight 704.5g: Skull 85.5g, axial 77.7g, upper limb 93.6g, lower limb 88.9g, unidentified 358.8g. Animal 35.9g (includes sheep and bird).
Description:	Urreo cremation purial excavated in <i>r</i> seven spits (notming below spit 4 except 5 small tragments of skull in spit 7).
Condition: Determination of age: Determination of sex: Identified elements:	Good, some very large fragments. 49.1% identified. Epiphyses fused. Bones small, gracile. Maxilla, mandible, axis, C vertebrae, ribs, humerus shafts, ulna, fingers, proximal L. femur, ilium, L.
Measurements: Colours: Teeth:	ischium, tibia. Max skull fragment size 49 mm, max long-bone fragment size 134 mm. FeHd approx 38 mm. Pale buff, occasional black cancellous fragments.
Pathology:	
Cremation burial F200 (fin Quantification:	<b>ds no 1168): ?young ?male</b> Total weight 1322.7g: Skull 204.6g, axial 137.5g, upper limb 205.8g, lower limb 244.1g, unidentified 530.7d, Animal 16.3d
Description: Condition: Determination of age: Determination of sex: Identified elements:	Urned cremation burial excavated in eight spits, nothing in spit 1. Good, several large pieces. 59.9% identified. Epiphyses fused, no degeneration. Seems large and robust. Zygoma, mandible, C verts, T verts, scapula, distal humerus, ulna, distal radius, carpals, ilium, femur prox and dist. tibia. fibula, tarsals. MT1.
Measurements:	Max skull fragment size 50 mm, max long-bone fragment size 70 mm.

Colours: Teeth:	Cream-buff, inner fragments occasionally grey.
Pathology:	
<b>Cremation burrial F201 (fin</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Teeth:	<b>ds nos 1177, 1178): adult ?female</b> Total weight 572.7g: Skull 139.9g, axial 12.0g, upper limb 51.0g, lower limb 69.6g, unidentified 300.2g. Urmed cremation burial excavated in 7 spits, nothing in spit 1. Good, large fragments. 47.6% identified. Epiphyses fused. Small. Ribs, vertebrae, distal humerus, proximal radius, tibia. Max skull fragment size 52 mm, max long-bone fragment size 64 mm. Pale buff. None.
<b>Cremation burial F203 (fin</b> Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Pathology:	<b>ds no 1181): unsexed middle-aged+ adult</b> Total weight 810.1g: Skull 14.5g, axial 9.3g, upper limb 10.2g, lower limb 92.9g, unidentified 683.2g. Animal 18.4g. ?Urned cremation burial. Fair, very incomplete, small fragments. 15.7% identified. Degenerative changes. No sexing criteria. C vertebrae, ribs, fingers, femur. Max skull fragment size 23 mm, max long-bone fragment size 35 mm. Pale buff, some black, especially inner surfaces. 3 tooth root fragments: 1 molar, 1 premolar?, 1 canine? Slight OP C vertebrae.
Cremation burial F204 (fin Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Treth: Pathology:	<b>uds nos 1182, 1183): unsexed adult</b> Total weight 20.9g: Upper limb 12.4g, lower limb 6.9g, unidentified 1.6g. Disturbed cremation. Fair, very incomplete. 92.3% identified. Size. No sexing criteria. Humerus. Max long-bone fragment size 55 mm. Pale cream. None.
Cremation burial F209 (fin Quantification: Description: Condition: Determination of age: Determination of sex: Identified elements: Measurements: Colours: Teeth: Teeth:	<b>uds no 1194): infant</b> Total weight 2.1g: Skull 1.1g, axial 0.4g, lower limb 0.3g, unidentified 0.3g. Urned cremation burial. Fair, small fragments. 85.7% identified. Very small. No sexing criteria. Vertebrae.

# or limb 201 Or Busta Cremation burial F47 (finds nos 205, 245, 298, 516-520, 522, 528, 1155): middle-aged male Outantificention: Tratal weight 1079 Rev Skull 154 00 axial 206 50 under limb 176 1g low

Quantification:	Total weight 1079.8g: Skull 151.0g, axial 206.5g, upper limb 176.1g, lower limb 324.0g, unidentified
	222.2g.
Description:	Bustum.
Condition:	Good, some very large fragments. 79.4% identified.
Determination of age:	Ante-mortem tooth loss, some degeneration.
Determination of sex:	Mastoid medium, very large ulna, robust bones.
Identified elements:	Most areas of the skeleton represented.
Measurements:	Max fragment size 77 mm.
Colours:	Cream, black, grey, buff.
Teeth:	

### Pathology:

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Total weight 1,818.4g: Skull 201.6g, axial 466.3g, upper limb 128.5g, lower limb 466.1g, unidentified
555.9g. Animal 93.7g.
Bustum.
Good, some very large fragments. 69.4% identified.
State of pubis, some degenerative changes.
Sub-pubic angle wide, bones small and gracile, but occipital crest fairly prominent.
Most areas of the skeleton represented.
Max fragment size 160 mm. HuHd 38 mm, FeHd 38 mm.
Cream, buff, occasionally black.
2       6
One extra unburnt tooth, a large lower molar (labelled 106), was also present.
Large Schmorl's nodes in L vertebrae. Slight lipping superior border L4(?), medium OP on superior border
L3(?).

### Other features Pit F8 (finds no 96): unsexed adult

Quantification:	Total weight 5.0
Description:	Fragments from
Condition	Cood 1000/ ide

Quantification:	Total weight 5.0g: axial 5.0g.
Description:	Fragments from a pit, probably redeposited.
Condition:	Good. 100% identified.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	Fragment of rib and piece of acetabulum.
Measurements:	None.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### Ditch F28 (finds no 77): unknown

Quantification:	Total weight 0.6g: unidentified 0.6g. Animal 0.7g.
Description:	Fragments from a ditch fill. May not be human.
Condition:	Poor, small.
Determination of age:	No ageing criteria.
Determination of sex:	No sexing criteria.
Identified elements:	None.

None.	Cream.	None.	Nothing observed.	
Measurements:	Colours:	Teeth:	Pathology:	

### Pit/ditch F32 (finds no 98):

Quantification:	Total weight 1.5g: upper limb 0.6g, lower limb 0.9g.
Jescription:	Fragments from a pit.
Condition:	Fair, small. 100% identified.
Determination of age:	No ageing criteria.
Determination of sex:	No sexing criteria.
dentified elements:	None.
/leasurements:	Max long-bone fragment size 17 mm.
Colours:	Cream.
eeth:	None.
athology:	Nothing observed.

Pit F34 (finds no 87): un Quantification: Description: Condition: Determination of acco	<b>sexed adult</b> Total weight 17.1g: Skull 2.0g, axial 5.9g, upper limb 0.4g, lower limb 7.1g, unidentified 1.7g. A few fragments from a pit. Fair, some large pieces. 90.0% identified.
Determination of age.	clas.
Determination of sex:	Clavicle seems small and gracile, but tibia is large. Possibly more than one individual?
Identified elements:	R. clavicle, ribs tibia shaft
Measurements:	Max skull fragment size 31 mm, max long-bone fragment size 49 mm.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.
Ditch/pit F98 (finds no 3	30): unsexed adult
Ouantification:	Total weicht 5 Ori Iower limb 5 Ori

## āō

Quantification:	l otal weight 5.ug: lower limp 5.ug.
Description:	Fragments from a pit or ditch fill.
Condition:	Fair, some large.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	Femur/tibia.
Measurements:	Max long-bone fragment size 46 mm.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### L1 (finds no 222): unsexed adult

LI VIIIUS IIU 222/. UIISCACU	
Quantification:	Total weight 30.7g: upper limb 8.6g, lower limb 9.2g, unidentified 12.9g. Animal 9.5g.
Description:	Fragments from L1 in T21.
Condition:	Fair. 58.0% identified.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	Humerus, femur.
Measurements:	Max long-bone fragment size 41 mm.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### L1 (finds nos 262, 264): adult male

LI (IIIIUS IIUS EUE, EUT) 1	
Quantification:	Total weight 193.3g: Skull 9.6g, axial 28.5g, upper limb 37.2g, lower limb 66.8g, unidentified 51.2g.
Description:	Fragments from two finds nos in L1 in T20 – possibly the same individual.
Condition:	Fair, probably a disturbed and redeposited cremation burial? 73.5% identified.
Determination of age:	Epiphyses fused.
Determination of sex:	Large ischium.
Identified elements:	Small fragment of mandible, humerus, finger, pelvis, femur.
Measurements:	Max skull fragment size 25 mm, max long-bone fragment size 56 mm.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### L1 (finds no 314): unsexed adult

LI (IIIIUS IIO SIT). UIISEAEU	
Quantification:	Total weight 8.0g: Skull 1.5g, lower limb 6.5g.
Description:	Fragments from L1 in T28.
Condition:	Fair. 100% identified.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	Patella.
Measurements:	Max skull fragment size 22 mm, max long-bone fragment size 30 mm.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### L1 (finds no 350): unsexed adult

Quantification:	Total weight 98.0g: Skull 11.9g, axial 1.9g, upper limb 14.9g, lower limb 20.0g, unidentified 98.0g.
Description:	Fragments from L1 in T35.
Determination of age:	
Determination of sex:	No sexing criteria.
Identified elements:	Distal radius, L vertebra.
Measurements:	Max skull fragment size 34 mm, max long-bone fragment size 48 mm.
Colours:	Cream.
Teeth:	
Pathology:	Distal radius has small exostosis above medial facet, possibly ossified haematoma? Large OPs on ?L vertebral body
L1 (finds no 351): unsex	xed adult

Total weight 90.3g: Skull 9.6g, axial 9.4g, upper limb 6.3g, lower limb 41.9g, unidentified 23.1g Animal 2.3g. Same as finds no 350? Fragments from L1 in T35. Fair. 74.4% identified. Size. No sexing criteria. Max skull fragment size 23 mm, max long-bone fragment size 43 mm. Cream. None
Osteophytes on vertebrae.

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-1 (Tinds no 100/): unse	ked adult
Quantification:	Total weight 26.8g: Skull 4.5g, Iower limb 4.8g, unidentified 17.5g. Animal 2.3g.
Description:	Fragments from L1 in T89.
Condition:	Fair. 34.7% identified.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
dentified elements:	Radius, L´vert, femur.
Measurements:	Max skull fragment size 22 mm, max long-bone fragment size 26 mm.
Colours:	Cream.
Feeth:	None.
Pathology:	Nothing observed.

### L2 (finds no 6): unsexed adult

luantification:	Total weight 4.0g: Skull 4.0g.
bescription:	Topsoil.
condition:	Fair.
betermination of age:	Size.
betermination of sex:	No sexing criteria.
dentified elements:	1 skull fragment.
feasurements:	
colours:	Cream.
eeth:	None.
athology:	Nothing observed.

L2 (finds no 63): unsexed	adult
Quantification:	Total weight 5.9g: lower limb 5.9g.
Description:	Topsoil.
Condition:	Fair.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	2 fragments femur.
Measurements:	
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.

### 41.14 ġ (

-16 (finds no 354): unsexe	adult
Quantification:	Total weight 8.1g: unidentified 8.1g. Animal 0.5g.
Description:	Subsoil.
Condition:	Fair.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
dentified elements:	None.
deasurements:	None.
Colours:	Cream.
Γeeth:	None.
athology:	Nothing observed.

## L36 (finds no 1188): unknown Quantification: Total waicht 1 5cr

Total weight 1.5g: unidentified 1.5g.	Poor, very small.	No ageing criteria.
Quantification: Description:	Condition:	Determination of age:

Determination of sex: Identified elements: Measurements:	No sexing criteria. None. None.
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.
L38 (finds no 1011): unsex	ed adult
Quantification:	Total weight 4.1g: lower limb 4.1g.
Description:	Accumulation.
Condition:	Fair.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements: Measuraments:	Femur/tibia.
Colours.	Cream
Teeth:	Nordell.
Pathology:	Nothing observed.
LJA/L40 (TINGS NO 920): rc	
Quantification:	otal weight 0.6g: lower limb 0.6g.
Description:	Deposit.
Condition:	Fair.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	1 small fragment femur?
Measurements:	
Colours:	Cream.
Teeth:	None.
Pathology:	Nothing observed.
Unstratified: adult	
Quantification:	Total weight 37.6g: Skull 6.6g. axial 4.4g: upper limb 3.8g: lower limb 9.1g. unidentified 13.7g. Animal 1.8g.
Description:	Unknown
Condition:	Fair.
Determination of age:	Size.
Determination of sex:	No sexing criteria.
Identified elements:	Fragments of vertebrae, ribs, femur, toes.
Measurements:	Max skull fragment size 26 mm, max long-bone fragment size 27 mm.
Colours:	Cream-grey.
Teeth:	None.
Pathology:	Nothing observed.

### Appendix 4: catalogue of inhumed human bone

by Sue Anderson

### Notes

Methods of age and sex determination are generalised to give an idea of the bones used. Sexing based on the pelvis used more traits than entries might suggest. 'DF' stands for discriminant function, a statistical method of determining sex, where +2.0 is very male, -2.0 very female (WEA 1980).

Teeth are recorded in the form illustrated below.

Maxilla	R.	87654321	1 2 3 4 5 X 7 U	L.
Mandible		07654	//34567C	
		A C	R	

Code	Meaning
1 2 3, etc	Tooth present in jaw.
Х	Tooth lost ante-mortem.
1	Tooth lost post-mortem.
U, u	Tooth unerupted.
О, о	Tooth in process of erupting.
С	Tooth congenitally absent.
	Jaw missing.
А	Abscess present (above/below tooth number).
С	Caries present (above/below tooth number).
R	Root only.

Lower case letters a-e and u/o are used for deciduous teeth. Attrition patterns are coded according to the scores suggested by Bouts and Pot (Bouts & Pot 1989, modified version of Brothwell's original tooth wear chart (Brothwell 1981)).

A few abbreviations have been used in the catalogue for commonly occurring pathological conditions and anatomical regions. These are as follows:

OA	osteoarthritis	MT	metatarsal
OP	osteophytosis, osteophytes	MC	metacarpal
C cervical	)	L.	left
T thoracic	) vertebrae	R.	right
L lumbar	)		

Any other abbreviations should be self-explanatory, since they are simply shortened forms of bone names or anatomical areas (prox = proximal, etc). Tables of measurements for the skull and major long bones are included after the catalogue of disarticulated remains. Tables of non-metric trait scores are also provided.

### Articulated skeletons

Grave 1, F1	Male, young/mid	dle-a	ged															
Description:		Fragments of skull, R. humerus and R. femur only.																
Condition:		Poo	or, sku	ll defo	rmed	l post-	morte	m, ve	ry cru	mbly.	Skull	proba	bly fai	rly cor	nplete	, but r	10	
		atte	empt m	nade te	o reco	onstru	ict it. N	lo bor	nes of	the fa	ace su	irvivin	g. Sur	faces	lost.			
Determination of ag	ge:	Lar	nbdoid	l sutur	e par	tially o	obliter	ated, t	tooth v	wear s	slight-	mode	rate.					
Determination of se	ex:	Ver	y large	e occip	oital c	rests,	prom	inent	glabel	la/bro	w ridg	jes, bi	ut mas	stoids	mediu	m.		
Stature:		-																
Cranial index:		-																
leeth:		8	7	6	_	_	з	1	1	1 -	_	_	1	5	6	7	8	
			7	6	-	-	5	/	/	-	-	-	4	- J - V	0	7	0	-
		U	1	6	-	-	-	-	-	-	-	/	4	X	0	1	U	
Tooth wear:		1	2+	4+	-	-	4	-	-	-	-	-	4	3	4+	2+	1	
		-	2+	4+	-	-	-	-	-	-	-	-	3	-	3+	3-	-	
Dental pathology:		Nor	ne on s	survivi	ng te	eth.												

Grave 2, F31	Male, middle-aged/old
Description:	Most of the skeleton was disarticulated in F39; only the lower R. leg and foot were <i>in situ</i> . Consequently the upper part of the body is fragmentary and most of the torso is missing.
	Fragments of all major limb bones, skull and pelvis are present. A few fragments of skull
	from F8 (79) also belong here.
Condition:	Fair, but most bones broken and incomplete.
Determination of ag	e: Some degeneration, cranial sutures partially obliterated.
Determination of sea	c: Sciatic notch appears narrow, bones large and robust, occipital crests and mastoid process large.
Stature:	166.4cm (5 <sup>°</sup> 5½")

Cranial index: Teeth: Pathology:		- Nor	ne sur	viving	I <b>.</b>												
Schmorl's nodes: Osteophytosis:		Lar OP L2-	ge in s R. fe 4, esp	L2-4. emur l beciall	head y on l	and a side	cetab e.	ulum.	Large	OPs	distal	?L. N	1C1. S	Slight	OP di	stal L.	femur.
Osteoarthritis: Infection:		OA Sig be   Per Lyti with	III (el ns of poroti iostea c lesi n new	purnat pitting c hype al grai on in s bone	ion and erosto ning a super forma	nd vei striatio sis. and th ior R. ation o	ry larg on on ickeni side o on the	ie OP both ing of of L2 l	) L. fer parieta both ti body, r edge	nur h ils - p bia sl esulti which	ead, C robab nafts, ng in າ prob	DA II s ly hea mainl partia ably s	superi aled ir y mec I colla streng	or L. a nflamn dially i npse a thene	acetat nation n sup nd we d the	oulum. , but c erior h edging area.	could alf. , but May
Trauma:		nav ?Os Lar	re cau steoch ge ex scle	nondri ostosi	tic pit s sup	ting d erior l	istal F R. nav	y caus R. MT /icula	i (7 x t above	5mm) face	et for 2	nd cu	uneifo	rm, pr	obabl	y due	to torn
Miscellaneous:		Ski	ull ver	y thick	ς.												
Grave 3, F40 Description:	?Female, adult	Fra	gmen	ts of p	pelvis	, both	femu	rs and	l a few	r finge	er bon	es.					
Determination of ag Determination of se Stature:	ge: ex:	Epi Bor -	physe nes gr	gmen es fuse acile,	ed. ed, no femo	o dege ral he	enerat ad dia	ive ch amete	anges r 42mr	at hij n.	os.						
Cranial index: Teeth: Pathology:		- Nor	ne.														
Miscellaneous:		Fer	noral	neck	angle	appe	ars at	onorm	ally ob	lique	(Coxa	a valg	a).				
Grave 4, F119 Description:	Male, ?young/mi	ddle-a Fair only	aged rly cor /. botł	nplete	e skel ds mis	eton, ssina.	althou	ıgh bo	ones of	f the t	orso a	are re	prese	nted b	oy frag	gment	8
Condition:		Poc	or-fair, sider	bone	s fair	ly con	nplete	, but a	all surfa uld be	aces	very e	rodeo	d and	bones	s are		
Determination of a	je:	Epi	physe	s fuse	ed, cra	anial	suture	s still	open,	tooth	wear	slight	-mod	erate,	some	;	
Determination of se Stature: Cranial index: Teeth:	ex:	Cra 173 81.(	nium 5.5cm 0 (bra	DF +1 (5' 8" chycra	I.9, P ) anial)	elvis -	+2.0, I	bones	large	and r	obust						
		0	v	C	C	C	2	2	,		2	2	4	F	A	A	A
		8	7	6	5	4	3	2	, 1	1	2	3	4	5	6	7	8
Tooth wear:		3 3	- 2-	7 3+	3 3-	7 2+	3 3	2+ 2+	- 3-	-	2+ 3	3+ 3	3+ 2+	4+ 3-	- 3+	- 3	- 3-
Dental pathology:		Car only	ies ao /, mai	dvance nly los	ed, in st A-N	terstit /I.	ial in ι	upper	R. PM	2. Up	per R	. M1	repres	sentec	l by o	ne roo	t
Pathology: Congenital anoma Osteoarthritis: Infection:	ilies:	Sac Ver Per but	cralisa tebrae iostea show	ition o e in po al new s very	f L5 ( por cc bone thick	only L onditio grow new	side n but th sup bone	survi OA II perior growt	ves) in two media h, pittii	mid- I surfa ng an	T vert ace R d grai	s L. z . tibia ning,	ygapo . R. fil espec	ophyse bula ir cially a	eal fac n poor at the	cets. <sup>.</sup> condi superi	tion or
Trauma:		Cru edg	sh fra je, wit	icture h a cr	L. tal	us wit the j	h flatt oint si	ening urface	and di	storti	on of d area	nferio . Calo	or larg	e face s doe	et at th s not :	ne late seem	ral to be
Miscellaneous:		Pre occ cau	matur ipital l sed a	e fusi bone, slight	on of proba t scoli	R. sic ably a iosis?	le of s s a re	squan sult o	iosal s f this, v	uture with g	abov reater	e mas grow	stoid p /th on	the R	s. As <u>y</u> . side	ymme <sup>:</sup> . May	try of have
Grave 5, F154 Description:	?Male, middle-ag	ged/ol Fra anc F15	ld gmen I L. fit	ited, b oula. T this is	ut mo he sk	ost bo cull wa	nes re as mis nere.	eprese sing,	ented b but wa	oy at l as tho	east c ught t	one pi o be t	ece, e the or	except le exc	the L avate	hum d from	erus
Condition:		Poc	or-fair	, mosi	t bone	es fraç	gment	ed an	d still i	n the	ir soil st on l	matri:	x. Par	tial cle	eaning	g carri	ed
Determination of a	je:	Toc Cra	oth we	er slig utures	ght to s oblit	mode	erate, d.	but a	dvance	ed a-n	n tootl	n loss	. Som	ne deg	jenera	ation.	
Determination of se Stature: Cranial index:	ex:	Cra 164 -	nium I.3cm	DF + <sup>-</sup> (5' 5"	1.6, p )	elvis -	+1.6, I	oones	mediu	ım.							
i eeui.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		8 C	/ C	Х	Х	Х	Х	Х	Х	×	Х	Х	Х	/	Х	1	-

Tooth wear:		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dental pathology: Pathology:		3- Cari	3- es occ	- clusal	- and ii	- nterst	- itial in	- lowe	- r R. N	- 13, an	- d inte	- rstitia	- I cervi	- ical in	- Iower	- R. M	- 2.
Schmorl's nodes: Osteophytosis: Osteoarthritis:		T3-7 T11- C3-4 joint pittir	7, T10- -12 (m 4 bodie , with ng on j	-L1, s lost n es Gra OP al joint s	ome la ot ass ade II nd pitt urface	arge. essat Dista ing pe e. Uln	ole). L al end eri-art a may	. acel R. ra icular / also	abulu dius s ly, an be at	um. slightly d new ffected	y enla bone d but i	irged, e depo is in p	espe osits a ooor co	cially t ind are	to ante eas of on. Art	erior o very f hritis (	f fine of
Ankylosing spondyl Infection:	itis:	the V Larg Sligh som	wrist, o je DIS nt grai e enla	could H-like ning l traem	be po e OP t ateral ent. n	st-tra o R. s R. tib o pitti	ide of ide and ia and ng.	c? T11- d mec	12. lial L.	tibia.	R. fib	ula sl	haft ha	as lum	npy ap	peara	nce,
Trauma:		Enla with	rged a new b	area a oone o	approx arowth	kimate 1. prol	ely ¾ o bably	down torn n	shaft nuscle	to me e atta	edial s chme	ide of nt.	f linea	aspe	ra of L	. fem	ur
Miscellaneous:		Skul evid	l very ence f	thick. or Pa	Sligh get's	t new Disea	bone se.	grow	th (lik	e HFI	) on i	nner t	able c	of fron	tal bo	ne. No	)
Grave 6, F158 Description: Condition: Determination of age Determination of sex Stature: Cranial index: Grave 7, F159 Description:	Unsexed, adult :: : Unsexed, young	A fev Fair Size All d - - Frag	w frag but fra of boi iagnos	menta agmei nes, e stic cr	ary foo nted a apiphy iteria	ot bon Ind er Ises fi Iost.	es on oded. used.	ly. No de	egene	erative	char	iges i	n joint	S.			
Condition: Determination of age	:	Very Crar	v poor nial su	and fi tures	ragme open'	ented, ? Too	surfa th wea	ce ero ar slig	osion ht.								
Determination of sex Stature: Cranial index: Teeth:	:	All d - -	iagnos	stic cr	iteria	lost.		0									
		-	-	6	-	-	3	2	-	1	-	-	-	-	-	7	-
	-	-	7	6	-	4	3	2	/	1	-	-	-	-	-	7	-
Tooth wear:		-	- 2-	2- 2+	-	- 2-	2- 2	2- 2+	-	2+ 3-	-	-	-	-	-	2- 2-	-
Dental pathology:		Enai	mel hy	/popla	asia, a	pprox	imate	ely 2-5	öyrs.								
Grave 8, F171 I Description: Condition: Determination of age Determination of sex Stature: Cranial index: Teeth: Pathology: Congenital anomali Schmorl's nodes: Osteoarthritis: Trauma: Miscellaneous:	Male, approx 25-3 :: :	30 yea Neal Fair, Med Pelv 171. - Non Cleff Abno T6-L Sligh Exos	ars r-comp but se ial cla is DF 3cm ( 2, esp nt pittin stoses nt later	plete : evera vicle ( +1.2, 5' 7½ nd S5 joints peciall ng on c on be	skelet I bone epiphy bone ") . Noti betwo ly larg abno oth cla nding	on fro es hav /ses p s large ceable een n e on rmal ju avicles of bo	e asyl avicul 79-12 oint b s just th tibi	e neck ded s ly fuse robus mmeta ars ar etwee latera a at s	t dow urfac ed. st. ry of I nd ca en L. r I to ir	n. es. L4-5 a Icanea navicu nsertic	Irches a. Ilar ar on for d. pro	:: L4 li nd cal costo bable	arger caneu -clavid	on L., ım. cular I valqu	L5 or igame	ı R.	
	Comolo middlo	ong.	/old			0.00			apon		a, p. c	202.0	90.10	, a.ge			
Description:	remale, middle-	Frag frag	imenta ments	ary sk , man	eletor dible,	n from lower	prob halve	able of l	listurl both l	bed bu	urial. ( i, upp	Consi er rig	sts of ht uln	crania a, frag	al vau ment	t s of	
Condition: Determination of age Determination of sex	: :	Fair, Epip Crar have	, but s hyses nium E e caus	urface fuse OF +0 ed se	d, cra 2, pe xing c	d long nial su lvis – criteria	-bone utures I.4, lo a to ap	ends almo ng bo opear	svery st ob nes a smal	erode literat appea ler (or	ed in p ed, to r sma wide	olaces oth w II and r in th	ear m graci e cas	odera le, bui e of th	te. t erosi ne scia	on ma	ay
Stature: Cranial index: Teeth:		-								1							
	-	- 8	- 7	- 6	- 5	- 4	-	-	-	- 1	- 2	- 3	- /	- X	- 6	- 7	- 8
										R	R	R		А	R		
Tooth wear:		- 3	- 3+	- 4+	-	-	-	-	-	-	-	-	-	-	-	- 3+	- 3
Dental pathology:		Non	e obse	erved	, but s	evera	l teet	n surv	vive a	s root	s only	due	to pos	st-mor	tem e	rosion	
Miscellaneous:		Sligh	nt new	bone	grow	rth (pr	obabl	y HFI	) on ii	nner t	able c	of fron	tal bo	ne.			

### **Disarticulated remains**

F8 (79)	Fragments of skull = Grave 2 (included with that skeleton).
F46 (184)	Fragments of large adult pair of tibiae and fibula shafts - probably one individual.
F155	Fragments of skull = Grave 5? (included with that skeleton).
T5 L2/L3 (8)	Fragments of distal R. femur and proximal tibia, and fragment of pelvis (acetabulum). Epiphyseal lines still visible in cancellous bone, so probably young adult.
T8 L2 (85)	Small fragment of adult tibia or femur, possibly from Grave 2/Grave 3?
T33 L20 (310)	Abraded fragments of adult skull (mainly frontal and parietal). Large glabella suggests male.
T66 L36 (900)	Fragment of C1, ?skull fragment and piece of L. mandible ( X / 8, abscess under M1), very abraded. Possibly from Grave 8?

### Articulated skeletons: bones present (in black; disarticulated in green and red)





Grave 1 (F1)

Grave 2 (F31)/F39/F8





Grave 3 (F40)

Grave 4 (F119)





Grave 5 (F154)/F155

Grave 6 (F158)



Grave 7 (F159)



Grave 8 (F171)

### Table 31: cranial measurements of Grave 4 (F119) in mm.

Cranium		Grave 4
Max Length	L	195
Max Breadth	В	158
Max Height	H'	140
Basi-nasal Length	LB	107
Basi-alveolar Length	GL	100
Upper Facial Height	G'H	76
Bimaxillary Breadth	GB	99
Bizygomatic Breadth	J	
Nasal Height	NH'	
Nasal Breadth	NB	
Simotic Chord	SC	
Bi-dacryonic Chord	DC	
Orbital Breadth	0'1	36
Orbital Height	02	
Palatal Length	G'1	47
Palatal Breadth	G2	32
Min Frontal Breadth	В'	105
Biasterionic Breadth	BiastB	115
Foramen Magnum Length	FL	37
Foramen Magnum Breadth	FB	34
Frontal Arc	S1	132
Parietal Arc	S2	128
Occipital Arc	S3	126
Frontal Chord	S'1	116
Parietal Chord	S'2	119
Occipital Chord	S'3	100
Trans-Biporial Arc	B'Q	331
Mastoid Process Height	MPH	32
Cranial Index	100(B/L)	81.0
Height/Length Index	100(H'/L)	71.8
Height/Breadth Index	100(H'/B)	88.6
Upper Facial Index	100(G'H/J)	
Nasal Index	100(NB/NH')	
Orbital Index	100(O2/O'1)	
Palatal Index	100(G2/G'1)	68.1
Foramen Magnum Index	100(FB/FL)	91.9
Gnathic Index	100(LB/GL)	107.0

Mandible							
Bicondylar Width	W1						
Bigonial Breadth	GoGo	115					
Foramen mentale Breadth	ZZ	47					
Symphyseal Height	H1	33					
Mandibular Length	ML	117					
Bicoronoid Breadth	CrCr	105					
Minimum Ramus Breadth R	RB'	32					
Minimum Ramus Breadth L	RB'	31					
Coronoid Height R	CrH						
Coronoid Height L	CrH						
Condylar Length R	CyL						
Condylar Length L	CyL						
Gnathion-Gonion Length R	GnGo						
Gnathion-Gonion Length L	GnGo	88					
			Grave	Grave	Grave	Grave	Grave
---	---------	---	-------	-------	-------	-------	-------
			2	3	4	5	8
Femur Maximum langth	Eal 1	Б				121	456
	Feli		111		/71	431	450
Oblique length	Fel 2	R			471	-07	453
	TOLL	1	438		469		460
Head diameter	FeHead	R	48	42			46
		L				45	46
Bicondylar breadth	FeE1	R					
		L	84				77
Min subtrochanteric A-P diameter	FeD1	R	27	27			30
		L	28			28	29
Max subtrochanteric M-L diameter	FeD2	R	34	27			30
		L	34			32	33
Minimum shaft diameter (A-P)	FeD3	R	31				31
		L	29				30
Maximum shaft diameter (M-L)	FeD4	R	27				28
		L	28	400			26
Meric Index 100(FeD1/FeD2)		R	/9.4	100		07.5	100
Debustisituledau 400//EsD2+EsD4//EsD2			82.4			87.5	87.9
Robusticity Index 100((FeD3+FeD4)/FeD2)	1	R	12.0				13.0
Tibio		L	13.0				12.2
Movimum Longth	Til 1	D					
	11111						368
Bicondylar Breadth	TiE1	P					300
	11 - 1						
A-P diameter at nutrient foramen	TiD1	R	31				
	1101	1	01				
M-L diameter at nutrient foramen	TiD2	R	25				
		L					26
Cnemic Index 100(TiD2/TiD1)		R	80.6				
		L					
Fibula							
Maximum Length	FiL1	R					
		L					357
Humerus							
Maximum Length	HuL1	R					331
		L					
Head diameter	HuHead	R					48
		L	46				
Epicondylar Breadth	HuE1	R					
Dealine	-	L					
Radius Maximum Lanath	Del 4	-					250
	RaL1	R					250
Llina		L					
Maximum Length	1 111 1	P					271
		1		1	[		211
Calcaneus							
Maximum Length	Cal 1	R					
Clavicle	1						
Maximum Length	CIL1	R					150
		L					
Stature			1,664		1,735	1,643	1,713

#### Table 33: cranial non-metric traits.

		Grave	Grave	Grave	Grave	Grave	Grave
		1	2	4	5	7	9
Highest nuchal line	R	0	0	0	+	-	0
	L	0	0	0	+	-	0
Ossicle at lambda/Inca		0	?	0	+	-	0
Lambdoid wormian bones	R	0	-	+	-	-	-
	L	-	-	0	-	-	-
Parietal foramen	R	0	+	+	-	-	+
	L	0	+	+	-	-	-
Bregmatic bone		-	-	0	-	-	0
Metopism		0	0	0	0	0	0
Coronal wormian bones	R	-	0	0	-	-	0
	L	-	0	0	-	-	-
Epipteric bone	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Fronto-temporal articulation	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Parietal notch bone	R	-	-	0	0	-	0
	L	-	-	0	-	-	0
Asterionic ossicle	R	-	-	0	-	-	-
	L	-	-	+	-	-	-
Auditory torus	R	0	-	0	0	-	0
	L	-	-	0	0	-	0
Huschke's foramen	R	0	-	0	0	-	0
	L	-	-	0	0	-	0
Post-condylar canal	R	-	-	+	-	-	-
	L	-	-	0	+	-	-
Double condylar facet	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Precondylar tubercle	R	-	-	+	-	-	-
	L	-	-	+	-	-	-
Double hypoglossal canal	R	-	-	0	+	-	-
	L	-	-	0	0	-	-
Foramen ovale incomplete	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Extra palatine foramen	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Palatine torus	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Maxillary torus	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Zygoma-facial foramen	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Supra-orbital foramen complete	R	0	-	0	-	-	0
	L	0	-	0	-	-	0
Extra infra-orbital foramen	R	-	-	-	-	-	-
	L	-	-	-	-	-	-
Sagittal wormian		-	-	0	-	-	0
Squame parietal ossicle	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Multiple mental foramen	R	-	-	0	0	-	-
	L	-	-	0	-	-	-
Mandibular torus	R	0	-	0	0	-	0
	L	0	-	0	0	-	0

		Grave	Grave	Grave	Grave	Grave	Grave
		2	3	4	5	8	9
Atlas bridge lateral	R	-	-	-	-	-	-
	L	-	-	-	-	-	-
Atlas bridge posterior	R	-	-	-	-	-	-
	L	-	-	-	-	-	-
Atlas double facet	R	-	-	0	-	-	-
	L	-	-	0	-	-	-
Suprascapular foramen	R	-	-	-	-	0	-
	L	-	-	-	0	0	-
Sterno-manubrial fusion	R	-	-	-	-	-	-
	L	-	-	-	-	-	-
Septal aperture of humerus	R	-	-	-	-	-	-
	L	-	-	0	-	0	0
Epicondylar process of humerus	R	-	-	-	-	0	-
	L	-	-	0	-	0	-
Sacralisation of L5	R	-	-	-	-	0	-
	L	-	-	+	-	0	-
Four sacral segments		-	-	-	-	+	-
Six sacral segments		-	-	-	-	-	+
Acetabular crease	R	0	+	-	0	0	0
	L	0	+	+	0	+	-
Allen's fossa of femur	R	0	-	-	-	0	-
	L	0	-	-	-	0	-
Poirier's facet of femur	R	+	-	-	-	+	-
	L	+	-	-	-	+	-
Plaque formation of femur	R	0	-	-	-	0	-
	L	0	-	-	-	0	-
Third femoral trochanter	R	0	-	-	0	+	-
	L	0	-	0	0	0	+
Vastus notch of patella	R	-	-	-	-	-	-
	L	0	-	-	-	-	-
Calcaneus double facet	R	+	-	0	-	?	-
	L	-	-	0	-	?	-
Cuboid-navicular articulation	R	+	-	0	-	+	-
	L	-	-	0	-	+	-

#### Table 34: post-cranial non-metric traits.

# Appendix 5: catalogue of all the animal bone by Julie Curl

#### Table 35: summary of all of the faunal remains.

Listed in order of layer (L) number and then feature (F) number; T = Trench and S = Soakaway.

Trench/ Soakaway	Layer	Feature	Finds no	Total quantity	Total Wt (g)	Species	Species quantity	Countable	Butchering	Ages	Burnt	Elements present/ Comments
T14	L1		154	5	43	pig	1			mature		large tusk
T14	L1		154			mammal	4					
T18	L1		193	1	8	mammal	1					
T19	L1		207	1	14	cattle	1					molar
T20	L1		285	1	9	mammal	1					poor condition, eroded surface
T21	L1		563	7	108	cattle	1	0.5	chopped	adult		proximal phalange
T28	L1		314	1	5	mammal	1					
T29	L1		294	2	12	mammal	2					
T34	L1		369	5	3	mammal	5					
T34	L1		368	3	9	mammal	3					
T34	L1		356	1	8	cattle	1			adult		premolar

T40	L1		335	1	3	mammal	1				
T46	L1		437	1	5	sheep/goat	1		chopped	adult	vertebrae fragment
T46	L1		437	4	43	mammal	4				
T50	L1		367	1	21	mammal	1				vertebrae fragment
T53	L1		460	2	14	mammal	2				
T58	L1		701	1	7	mammal	1				
T68	L1		852	4	84	sheep/goat	1	1.0	chopped	adult	goat metacarpal
T68	L1		852			pia	1	1.0	chopped	adult	humerus
T68	L1		852			mammal	2				
T73	L1		904	1	19	mammal	1				
T73	11		904	5	33	mammal	5		butchered		
T73	   1		904	5	33	mammal	5		butchered		
T87			1006	1	11	cattle	1		batorierea		metatarsal shaft
107			1000			Cattic					fragment
T8	L2		85	1	6	sheep/	1		chopped		vertebrae fragment
T52	12		130	2	15	goat mammal	2				 probably cattle
T56	12		727	2	14	mammal	2				
T113	12		1170	16	200	cattle	6			adult	molars
T112	1.2		1170	10	200	mommol	10		hutchorod	auun	
1113	LZ		1170			mammai	10		butchered		fragments, prob
											cattle
T124	L2		1193	1	11	cattle	1		chopped		metatarsal fragment
T124	L2		1193	1	12	mammal	1				
T72	L3		926	3	48	cattle	1	0.5	fine cuts	adult	proximal phalange
T72	L3		926			fox	1	1.0			femur
T72	L3		926			mammal	1		chopped		
T113	L3		1171	1	102	cattle	1		chopped	adult	radius fragment
T40	L19		317	2	64	equid	1	1.0	chopped	adult	metacarpal, chopped
T40	119		317			mammal	1				mid-proximai snaπ
T33	120		310	1	3	mammal	1				
T45	1.30		569	16	4	hird	16				fragmentary very
1.10	200		000	10	•	bird	10				small pieces
T60	L34		729	1	25	cattle	1		chopped	adult	vertebrae
T60	L34		729	1	3	mammal	1				
T63	L36		848	6	43	mammal	6		butchered		
T66	L36		899	5	36	equid	1			adult	small pre-molar, well
T66	1.36		899			mammal	4				fragments
T66	1.36		1189	1	3	mammal	1				
T66	1.36		899	9	45	mammal	9		butchered		
T66	136		899	2	18	mammal	2		butchered		large mammal
100	200		000	2	10	mamma	2		butchered		fragments, probably cattle
T66	L36		899	6	90	cattle	1			adult	molar
T66	L36		899			sheep/goat	1	1.0	chopped	mature	mandible, goat
T66	L36		899			mammal	4				
T85	L38		1001	1	13	cattle	1		sawn		part of distal humerus,
T27	L1, L16		362	1	20	mammal	1				
T4		F12	47	1	7	mammal	1		chopped		
T11		F19	68	3	4	pig	3			juvenile	 unerupted juvenile
Т9		F30	78	2	12	sheep/goat	2	1.0	chopped	adult	molar & premolar metatarsal, chopped and split
T8	1	F31/ Grave	108	18	48	mammal	18	1	butchered		large mammal, ?cattle
T13		-2 F34	91	1	14	cattle	1		chopped		neural spine from vertebrae

T13	F34	86	5	24	pig	1	1.0	chopped	adult		humerus
T13	F34	86			mammal	4					
T8	F39	105	8	60	mammal	8		chopped			rib and other fragments
T8	F39	113	14	372	cattle	5	2.5	butchered	adult		pelvis, scapula,
тя	F30	113			mammal	q		butchered			phalange
T8	F39	120	11	287	human	3	2.0	butchereu	adult		distal humerii x 2 1 x
10	100	120		201	naman	Ŭ	2.0		addit		humerus shaft
Т8	F39	120			cattle	3	2.0	chopped	adult		metacarpal, phalanges
T8	F39	120			galliformes	1	1.0		adult		humerus
Т8	F39	120			mammal	4					
T101	F43	1039	4	7	mammal	4					
T14	F46	184	8	45	mammal	8					very poor condition, eroded
T15	F47	517	1		rodent	1					no identification possible
T51	F53	199	11	3	mole	11			adult		jaw, pelvis, skull fragments, limb, vertebra
T16	F63	301	2	21	mammal	2					large mammal, ?cattle
T40	F72	334	3	5	mammal	3					poor condition
T34	F80	355	2	1	bird	2					shaft fragments
T24	F91	357	1	2	mammal	1					
T49	F98	389	1	6	mammal	1					poor condition,
T50	F110	641	3	43	cattle	1		chopped	adult		calcaeneus
T50	F110	641			mammal	2		chopped			
T50	F110	640	2	40	cattle	1		chopped	juv		tibia fragment
T50	F110	640			mammal	1					
T21	F119/ Grave 4		2	7	mammal	2					
T54/ T45	F121	545	5	16	cattle	5					molar fragments, poor condition
T21	F125	674	2	62	cattle	2	1.5	chopped	adult		proximal metatarsal, distal phalange
T21	F125	565	8	41	cattle	1		chopped			metacarpal fragment
T21	F125	565			sheep/goat	1		chopped	adult		radius fragment
T21	F125	565			mammal	6					
T39	F128	671	1		fish - mackerel	1					vertebrae
T50	F134	692	1	153	cattle	1	1.0	cut/ chopped	adult		metatarsals, probably Dexter, gnawed
T50	F134	813	1		fish	1					vertebrae fragment, small species
T56	F144	704	1	2	mammal	1					·
T56	F144	704	2	115	cattle	1	1.0	cut/chopp ed	adult		talus
T56	F144	704			mammal	1					
T56	F146	706	4	35	equid	4			adult		molar fragments
T56	F146	706	6	14	mammal	6					
T56	F152	786	1	9	mammal	1					
T63	F162	-	1		eel vertebra	1					
T63	F162	895	1	162	sheep/goat	1		chopped		white	metapodial fragment, burnt white
T73	F166	905	2	18	cattle	2		chopped			metapodial fragments
T73	F166	905	2	63	sheep/goat	1	1.0	chopped	adult	İ	tibia
T73	F166	905			mammal	1		chopped			rib, probably cattle
T73	F166	905	9	103	sheep/goat	2	2.0	chopped	adult		tibias, both distal ends
T73	F166	905			mammal	7		butchered			rib fragments, probably cattle

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T73	F166	905	4	53	pia	3	2.5	chopped	iuv/sub	pelvis, unfused
			-		5	-			adult	femur, phalange
T62	F171/ Grave 8	919	1	33	equid	1	1.0		juvenile	femur head, unfused
T62	F171/ Grave 8	919	1	334	equid	1	1.0	chopped	juv	unfused femur, chopped distal shaft
T56	F181	1105	2		fish	2				no identification possible
Т99	F193	1029	31c	1,695	cattle	4	2.0	butchered	adult	humeri, femur, molar, tibia
T99	F193	1029			sheep/goat	1	1.0	chopped	adult	tibia
T99	F193	1029			pig	1		chopped	adult	humeri
Т99	F193	1029			mammal	25		butchered		large mammal fragments, heavily butchered
T93	F194	1052	4	20	mammal	4				
T102	F196	1053	6	39	mammal	6				poor condition, erdoed surfaces
T108	F199	1062	2	1	rodent	2			adult	femur, mouse species
S6	F202	1179	2	4	mammal	2				
S11	F205	1186	1	2	mammal	1				
S11	F205	1187	39	977	mammal	37		butchered		large mammal, ?cattle
S11	F205	1187			cattle	2		cut/ chopped	juvenile	unfused femur, chopped head
T66	F207	1190	2	84	mammal	1		chopped		sacrum fragments
T120	F208/ Grave 9	1191	1	65	cattle	1	1.0	chopped	adult	metacarpal, distal end
S1	F42	133	1	2	mammal	1				
T57	U/S	694	3	22	mammal	3				
T65	U/S	885	1	17	mammal	1				
T83	U/S	983	1	18	cattle	1		chopped	adult	talus

# Appendix 6: tables of charred plant macrofossils and other environmental remains

by Val Fryer

#### Key to tables

- x = 1-10 specimens
- xx = 10-100 specimens
- xxx = 100+ specimens
- b = burnt
- fg = fragment
- CP = cremation pit
- UF = urn fill
- PF = pot fill
- DF = dish fill
- S = soil associated with bone

# Table 36: charred plant macrofossils and other environmental remains from F12 and cremation burials F19, F36, F41, F83, F87 and F108.

Sample no	177	55	68	94	129	140	345	395	584
Feature no	F12	F19	F19	F36	F41	F41	F83	F87	F108
Cereals and other food plants									
Large Fabaceae indet.	х		х						
Hordeum sp. (grains)								xcf	
Vicia faba L.	xcf								
Cereal indet. (grains)	х		х				х		
Herbs									
Fabaceae indet.	xx							х	х
Medicago/Trifolium/Lotus sp.	х								
Plantago lanceolata L.			х					х	
Polygonum aviculare L.			х						х
Polygonaceae indet.					х				
R. acetosella L.	х								
Vicia/Lathyrus sp.			х						
Wetland plants									
Eleocharis sp.				х					
Montia fontana L.	х								
Tree/shrub macrofossils									
Corylus avellana L.	xcf	х							х
Ulex europaeus L.	х								
Other plant macrofossils									
Charcoal <2mm	xxx	xx	xx	xxx	xx	xxx	xx	xx	xxx
Charcoal >2mm			х	х				х	
Charred root/rhizome/stem	xx	х	xx	х	xx	х	х		х
Indet. fruit stone fragments					х	х			
Indet.seeds	х								
Other materials									
Black porous 'cokey' material	х	хх	хх	xx	xx	хх	хх	х	xxx
Black tarry material					х	xx	х	хх	х
Bone	x xb	xxb	xxb	x xxb	xb	x xxb	xb	xxb	x xb
Burnt/fired clay	х			х	XX	х	х	х	х
Burnt stone						х			
Ferrous globules			х	х				х	
Fish bone							х		
Small coal fragments	х	х	xx	xx	ХХ	xx	xx	xx	xxx
Vitrified material	xxx	хх	xx	xx	х	х			
Sample volume (litres)	10	10	18	18	30	18	10	20	70
Volume of flot (litres)	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	<b>50%</b>

# Table 37: charred plant macrofossils and other environmental remains from cremation burialsand possible pyre debris deposits F129, F133, F197, F199 and F203.

Sample no	617	621	1067	1076	1062	1181
Feature no	F129	F133	F197	F197	F199	F203
Cereals and other food plants						
Large Fabaceae indet.					xfg	
Herbs						
Fabaceae indet.			x	Х	Х	
Galium aparine L.				х		
Medicago/Trifolium/Lotus sp.					xcf	
Polygonum aviculare L.						х
Rumex sp.	x					
Tree/shrub macrofossils						
Corylus avellana L.		х				х
Other plant macrofossils						
Charcoal <2mm	XX	XX	XXX	XX	XXX	XXX
Charcoal >2mm	XX		XXX	XX	х	XX
Charred root/rhizome/stem		х			х	х
Indet. seeds					х	
Other materials						
Black porous 'cokey' material	XXX	XX	х	XX	х	х
Black tarry material	XX	х	х	х	х	х
Bone	xb	x xb		xb	xxb	xxb
Burnt/fired clay			х			х
Ferrous globules			х		х	
Ferrous fragments					Х	
Small coal fragments	XX	XX	х	XX		х
Vitrified material			XXX	XXX	х	XXX
Sample volume (litres)	20	10	70	60	52	20
Volume of flot (litres)	<0.1	<0.1	0.1	0.2	0.2	<0.1
% flot sorted	100%	100%	100%	50%	50%	100%

## Table 38: charred plant macrofossils and other environmental remains from cremation burial F42.

Sample no	132	136				137	150	152	153				176	189
Spit no		1	2	3	4				1	2	3	4		
Context type	СР	UF	UF	UF	UF	FF	СР	СР	PF	PF	PF	PF	СР	СР
Cereals and other food plants														
Large Fabaceae indet.							х	xxfg						
Triticum sp. (grains)	xcf													
Vicia faba L.	xcf							xcf						
Cereal indet. (grains)							xfg							
Herbs														
Fabaceae indet.	Х			Х		Х	Х	XX		Х			х	Х
Medicago/Trifolium/Lotus sp.								xcf					xcf	
Polygonaceae indet.														Х
R. acetosella L.								х						
Vicia/Lathyrus sp.	Х							Х					х	
Tree/shrub macrofossils														
Corylus avellana L.														Х
Cytisus scoparius (L.)Link														xcf
Ulex europaeus L.	Х			Х			Х	XX			xcf		xcf	xcf
Other plant macrofossils														
Charcoal <2mm	XXX	Х	х	XX	х	Х	XXX	XXX	XX	Х	Х	Х	XX	XX
Charcoal >2mm	Х													
Charred root/rhizome/stem	Х		Х	Х	Х	Х	Х	Х					х	Х
Indet. seeds	Х				Х		Х	Х					х	
Other materials														
Black porous 'cokey' material	XXX	х		х	х		XX						XX	
Black tarry material	Х		Х		Х									XX
Bone	xxb	XX	xb	х	x xb		x xb	xxxb		xb				xxb
Burnt/fired clay	Х						х							х
Ferrous globules	Х													
Small coal fragments	XX						XX							х
Vitrified material	х			x	x		XXX	XXX		Х			Х	XX
Sample volume (litres)	30	1	2	2	2	1	40	16	0.5	1	0.5	0.5	3	12
Volume of flot (litres)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 39: charred plant macrofossils and other environmental remains from cremation burial F44.

Sample no	617	621	1067	1076	1062	1181
Feature no	F129	F131	F197	F197	F199	F203
Cereals and other food plants						
Large Fabaceae indet.					xfg	
Herbs						
Fabaceae indet.			х	Х	х	
Galium aparine L.				х		
Medicago/Trifolium/Lotus sp.					xcf	
Polygonum aviculare L.						x
Rumex sp.	x					
Tree/shrub macrofossils						
Corylus avellana L.		х				х
Other plant macrofossils						
Charcoal <2mm	XX	XX	XXX	XX	XXX	XXX
Charcoal >2mm	XX		XXX	XX	х	XX
Charred root/rhizome/stem		х			х	х
Indet. seeds					х	
Other materials						
Black porous 'cokey' material	XXX	XX	х	XX	х	х
Black tarry material	XX	х	х	х	х	х
Bone	xb	x xb		xb	xxb	xxb
Burnt/fired clay			х			х
Ferrous globules			х		х	
Ferrous fragments					х	
Small coal fragments	xx	xx	х	XX		х
Vitrified material			XXX	XXX	х	XXX
Sample volume (litres)	20	10	70	60	52	20
Volume of flot (litres)	<0.1	<0.1	0.1	0.2	0.2	<0.1
% flot sorted	100%	100%	100%	50%	50%	100%

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Sample no	199							208	223	224	240		267	279
Spit no	1	2	3	4	5	6	7				1	2		
Context type	UF	СР	СР	СР	DF	DF	СР	СР						
Cereals and other food plants														
Large Fabaceae indet.		×			х			×	х	хх	xfg	xxfg	×	×
Vicia faba L.									xcf	xcf			xcf	
Cereal indet. (grains)								xfg						
Herbs														
Bromus sp.										х				
Fabaceae indet.	×	хх	х	х	хх	хх	хх	хх	х	ххх	хх	хх	ххх	ХХ
Fallopia convolvulus (L.)A.Love												х		
Medicago/Trifolium/Lotus sp.										х				
Small Poaceae indet.											×			
Polygonaceae indet.	×													
Vicia/Lathyrus sp.												xcf	xcf	×
Wetland plants														
Montia fontana L.									х					
Tree/shrub macrofossils														
Corylus avellana L.			х				х	×						
Ulex europaeus L.	xcf	xcf	xcf	xcf	xcf	xcf	х	×	х	хх	х	×	XX	×
Other plant macrofossils														
Charcoal <2mm	XX	×	×	XX	XX	XX	×	XX	XXX	XXX	×	×	XXX	XXX
Charcoal >2mm	×	×		×				××	×	XXX			XXX	
Charred root/rhizome/stem	×	×	×		×	×	×	×	×	×	×	×	×	×
Indet. seeds	×				×		×				×			
Indet. tuber fragments								×						
Other materials														
Black porous 'cokey' material		×	×	×			×	×		×		×		×
Black tarry material		×						××				×	×	
Bone	x xb	dx x	dx x				×	хb	дx	dxx	хb		dxx	хb
Burnt/fired clay								×		×			×	×
Ferrous globules									×					
Small coal fragments						×	×	×	×	×		×	×	×
Small mammal/amphibian bone			×	×		×	×							
Vitrified material		×		×		×	×	×	×	XX	×		××	XX
Sample volume (litres)	2	e	2	2	2	2	ო	60	e	52	2	-	34	10
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	0.3	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	100	100%	50%	100%

# Table 41: charred plant macrofossils and other environmental remains from cremationburials F115, F120 and F123.

Sample no	497	498					601	606	636
Feature no	F115	F115	F115	F115	F115	F115	F120	F123	F123
Spit no		1	2	3	4	5			
Context type	СР	UF	UF	UF	UF	UF	СР	СР	СР
Cereals and other food plants									
Avena sp. (grains)	xcf								
Large Fabaceae indet.								х	
Triticum sp. (grains)	xcf								
Cereal indet. (grains)								х	х
Herbs									
Fabaceae indet.							х	х	
Small Poaceae indet.		х	х						
Polygonum aviculare L.		х							
Tree/shrub macrofossils									
Corylus avellana L.	xcf		xcf					х	х
Other plant macrofossils									
Charcoal <2mm	ххх	ххх	xxx	х	хх	хх	xxx	xxx	XXX
Charcoal >2mm		х	х	х				xxx	XXX
Charred root/rhizome/stem	х	хх	хх					х	Х
Indet. fruit stone fragments	х								
Indet. seeds		х					х		
Indet. tuber fragments									Х
Other materials									
Black porous 'cokey' material	ХХ		х					х	х
Black tarry material	х						Х	х	
Bone	xb	xb	xb	xb	xxb	xxb	xxxb	xxb	xb
Burnt/fired clay								х	
Copper-alloy residues							Х		
Ferrous globules							Х		Х
Mineralised concretions							Х		
Mineral-replaced textiles							XX		
Mineral-replaced wood							XX		
Small coal fragments	х						Х	х	
Vitrified material	х	х	х	Х	х	х	х	х	
Sample volume (litres)	25	2	2	2	2	1	20	20	10
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2
% flot sorted	100%	100%	100%	100%	100%	100%	100%	<b>50%</b>	<b>50%</b>

Sample no	981												1003
Spit no	۲	2	e	4	5	9	7	8	6	10	11	12	
Context type	٩N	UF	٩N	ЧL	ΠF	٩N	٩N	Π	٩U	UF	UF	٩N	СР
Cereals and other food plants													
Large Fabaceae indet.									xfg				
Hordeum sp. (grains)													xcf
Cereal indet. (grains)									×				
Herbs													
Fabaceae indet.					×	×	×	×	×		×	×	×
Vicia/Lathyrus sp.		×											
Tree/shrub macrofossils													
Ulex europaeus L.											xcf		×
Other plant macrofossils													
Charcoal <2mm	хх	ххх	×	×	хх	×	xxx	хх	хх	хх	xx	хх	ххх
Charcoal >2mm						×			×	×	×	×	ххх
Charred root/rhizome/stem					×	×			×				×
Other materials													
Black porous 'cokey' material	хх		×	×	×			×	×	×		×	ХХ
Black tarry material				×	×	×	×	×		×	х	х	×
Bone	хb	×	хb		хb	×	хb	xb	x xb	x xb			хb
Burnt/fired clay	×						×						×
Ferrous globules		×											
Fish bone							×						
Small coal fragments		×									×		×
Vitrified material			×		×	×		×	×	×			×
Sample volume (litres)	1	1	2	2	2	2	2	2	2	2	2	3	118
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<10%

Table 42: charred plant macrofossils and other environmental remains from cremation burial F141.

Sample no	722	725									795	796
Spit no		-	2	e	4	5	9	7	ø	6		
Context type	S	ЧF	٦	ЧF	٩U	ЧL	Ч	٩U	٩U	٩U	СР	СР
<b>Cereals and other food plants</b>												
Avena sp. (grains)											×	
Large Fabaceae indet.				×		×		×			xxxfg	××
Vicia faba L.											xcf	xcoty
Herbs												
Fabaceae indet.	×		×	×	×	х	×	×	х	×	xxxfg	×
Small Poaceae indet.									x			
R. acetosella L.						X						×
Vicia/Lathyrus sp.	xcf											
Other plant macrofossils												
Charcoal <2mm	×	×	xx	хх	хх	xx	xx	xx	хх	хх	ххх	XXX
Charcoal >2mm	×	×	xx	×	х	х		×	х		ххх	ххх
Charred root/rhizome/stem	×	×	×	х	х	х	×	х		х	XXX	xx
Indet. seeds				х								×
Other materials												
Black porous 'cokey' material		×							х	х		×
Black tarry material									×	×	×	
Bone	хb	хb	xb	xb		xb	xxb	xxb	xxb	xb	xxb	x xxb
Burnt/fired clay								х				
Burnt stone		×										
Glass fragments								×				
Vitrified material		×				х		х	х	х	х	×
Sample volume (litres)	0.5	2	2	2	2	1	2	2	2	2	56	74
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.5
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	25%	25%

Table 43: charred plant macrofossils and other environmental remains from cremation burial F142.

Sample no	854	881	884	920			944
Feature no	F162	F162	F162	F178	F178	F178	F178
Spit no				1	2	3	
Context type	СР	СР	СР	UF	UF	UF	СР
Cereals and other food plants							
Cereal indet. (grains)	х		х				
Herbs							
Fabaceae indet.					х		
Polygonaceae indet.		х					
Tree/shrub macrofossils							
Corylus avellana L.	X		х	xcf			х
Ulex europaeus L.			х				
Other plant macrofossils							
Charcoal <2mm	XX	xx	XXX	XXX	xx	х	XXX
Charcoal >2mm	XX		xx	х			xxx
Charred root/rhizome/stem	х						х
Indet.seeds	х		х				
Other materials							
Black porous 'cokey' material	х	х	xx		х		
Black tarry material	х	х	х				xx
Bone	x xb		xb	х	xb	xb	xxb
Burnt/fired clay							х
Ferrous globules	х						
Fish bone	х		х				
Small coal fragments	XX	х	хх				х
Vitrified material	х	х	xx	xx	х	х	xx
Sample volume (litres)	30	10	100	3	2	2	40
Volume of flot (litres)	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2
% flot sorted	100%	100%	50%	100%	100%	100%	50%

# Table 44: charred plant macrofossils and other environmental remainsfrom cremation burials F162 and F178.

Sample no	930							933
Spit no	1	2	3	4	5	6	7	
Context type	UF	СР						
Herbs								
Fabaceae indet.				х				х
Veronica hederifolia L.					х			
Other plant macrofossils								
Charcoal <2mm	х	х	хх	хх	х	хх	х	ХХ
Charred root/rhizome/stem					х			х
Other materials								
Black porous 'cokey' material	х		х					XX
Black tarry material						х		XX
Bone	x xb	х	х	х	xb	xb	xb	xxb
Burnt/fired clay			х					XX
Ferrous fragments								х
Vitrified material	х			х	х			XX
Sample volume (litres)	2	1	2	2	2	2	2	30
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%

# Table 45: charred plant macrofossils and other environmental remains fromcremation burial F180.

Sample no	972	998						999
Feature no	F182	F186						
Spit no		1	2	3	4	5	6	
Context type	СР	UF	UF	UF	UF	UF	UF	СР
Cereals and other food plants								
Hordeum sp. (grains)						xcf		
Herbs								
Bromus sp.	х							
Fabaceae indet.	х		х					х
Tree/shrub macrofossils								
Ulex europaeus L.								xcf
Other plant macrofossils								
Charcoal <2mm	XX	х	XX	xx	xx	х		XXX
Charcoal >2mm	XX							XX
Charred root/rhizome/stem	х							х
Indet. seeds								х
Other materials								
Black porous 'cokey' material	xx	х					х	
Black tarry material	xx	х	х	х			х	х
Bone	xxb				xb	xxb	xxb	xxb
Burnt/fired clay	х		х				х	х
Ferrous globules	х							
Small coal fragments	xx	х			х	х	х	х
Vitrified material	XX							х
Sample volume (litres)	40	2	2	2	2	2	2	32
Volume of flot (litres)	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
% flot sorted	50%	100%	100%	100%	100%	100%	100%	100%

# Table 46: charred plant macrofossils and other environmental remains fromcremation burials F182 and F186.

Sample no	47								
Spit no	1	2	3	4	5	6	7	8	9
Cereals									
Avena sp. (grains)		х							
Herbs									
Small Poaceae indet.								х	
Rumex sp.								х	
Other plant macrofossils									
Charcoal <2mm	xx	XXX	XX	XX	XX	XX	xx	хх	xx
Charcoal >2mm				х					
Other materials									
Black porous 'cokey' material		х	ХХ		ХХ		х	х	ХХ
Black tarry material	х	х	х	х		ХХ	х		ХХ
Bone	xb	х	х	x xb	ХХ	xb	x xb	x xb	xb
Burnt/fired clay	х		х						
Small coal fragments	х	х			х	х	х		ХХ
Vitrified material						х	х		
Sample volume (litres)	1	2	2	2	2	2	2	2	2
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%

# Table 47: charred plant macrofossils and other environmental remains from cremationburial F15.

# Table 48: charred plant macrofossils and other environmental remains from cremation burialsF103 and F165.

Sample no	458							871		
Feature no	F103							F165		
Spit no	1	2	3	4	5	6	7	1	2	3
Cereals										
Hordeum sp. (grains)			х							
Triticum sp. (grains)										х
Herbs										
Vicia/Lathyrus sp.							xcf			
Other plant macrofossils										
Charcoal <2mm	XX	XX	XX	х	ХХ	х	х	ХХ	ХХ	XX
Charcoal >2mm								х		х
Charred root/rhizome/stem	х					х				х
Mineral replaced wood								х		
Indet. seeds								х		
Other materials										
Black porous 'cokey' material	х	XX				х		х		х
Black tarry material			х				х			
Bone	xb	xb	xb	ХХ	х	x xb	xb	xb	xb	xb
Burnt/fired clay						х				
Small coal fragments							х			
Small mammal/amphibian bones									х	
Vitrified material			х			х			х	х
Sample volume (litres)	1	2	2	2	2	2	2	2	2	3
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

# Table 49: charred plant macrofossils and other environmental remains from cremation burialsF179 and F192.

Sample no	936			1034						
Feature no	F179			F192						
Spit no	1	2	3	1	2	3	4	5	6	7
Cereals										
Hordeum sp. (grains)										xcf
Cereal indet. (grains)									х	
Tree/shrub macrofossils										
Corylus avellana L.			х							
Other plant macrofossils										
Charcoal <2mm	XX	х	х	х	х	ХХ	ХХ	х	х	XX
Charcoal >2mm	Х					х	х			
Charred root/rhizome/stem		х	х							
Indet. culm nodes			х							
Other materials										
Black porous 'cokey' material	Х		х		х		х			х
Black tarry material	х	х	XX	х		х				х
Bone		xb								
Burnt/fired clay				х	х		х			
Ferrous globules				х						
Metallic residues		х			х					
Small coal fragments				х						
Vitrified material	Х	х	х			х				
Sample volume (litres)	2	3	2	2	2	2	3	1	2	2
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

#### Table 50: charred plant macrofossils and other environmental remains from cremation burial F181.

Sample no	1105												
Spit no	1	2	3	4	5	6	7	8	9	10	11	12	13
Context type													
Cereals													
Triticum sp. (grains)		х										х	
Cereal indet. (grains)							х					х	
Herbs													
Polygonum aviculare L.									х				
Other plant macrofossils													
Charcoal <2mm	xx	хх	хх	Х	х	хх	хх	хх	х	х	х	xx	xx
Charcoal >2mm	х	х					х	х			х	х	х
Charred root/rhizome/stem							х	х		х		х	
Other materials													
Black porous 'cokey' material	х	х		х	х		х	х	х	х		х	
Black tarry material	х	х	х	х			х		х	х	х	х	
Bone					xb	xxb		xb			x xb		xb
Small coal fragments	х		х		х			хх	х	х	х		
Vitrified material	х			х									
Sample volume (litres)	2	1	2	3	1	2	4	4	3	3	2	2	2
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 51: charred plant macrofossils and other environmental remains from cremation burial F198.

Sample no	1078									
Spit no	1	2	3	4	5	6	7	8	9	10
Cereals										
Avena sp. (grains)					xcf					
Herbs										
Fabaceae indet.			х							
Other plant macrofossils										
Charcoal <2mm	xx	х	xx	XX	xcf	х	х	х	х	х
Charcoal >2mm				х						
Charred root/rhizome/stem								х		
Other materials										
Black tarry material		х		х	х	х		х	х	х
Bone			xb	xb	xb	xxb	xxb	xb	xb	xb
Burnt/fired clay			х							
Small coal fragments									х	х
Sample volume (litres)	3	3	3	3	3	3	3	3	2	3
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 52: charred	plant macrofossils and other environmental remains from bustum F47.
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Sample no	205	244	245	246	298	514	515	516	517
Cereals and other food plants									
Hordeum sp. (grains)						х			
Triticum sp. (grains)						xcf			
Cereal indet. (grains)						х		х	х
Herbs									
Fallopia convolvulus (L.)A.Love				х					
R. acetosella L.		х							
Vicia/Lathyrus sp.		х							
Wetland plants									
Carex sp.		х							
Tree/shrub macrofossils									
Corylus avellana L.	xcf					х			х
Ulex europaeus L.									
Other plant macrofossils									
Charcoal <2mm	ххх	ххх	ххх	ххх	хх	ххх	xxx	xxx	ххх
Charcoal >2mm	хх	ххх	хх	х		х	х	xx	хх
Charred root/rhizome/stem	х					х	х	х	х
Other materials									
Black porous 'cokey' material	х	х	хх	х	хх	ххх	XX	ХХ	х
Black tarry material	х	хх	ххх	х		х	хх	х	х
Bone	xxb	xxb	xb	xxb	xb	xxxb	xb	xxb	xb
Burnt/fired clay	х	х		х		х			
Burnt stone			х				х		
Copper-alloy residues				Х					
Ferrous globules						х		х	
Glass fragments								х	
Small coal fragments	xx	х	х	хх		хх	xx	XX	х
Vitrified material		х		Х			х	х	х
Sample volume (litres)	52	10	10	20	1	30	20	28	36
Volume of flot (litres)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2
% flot sorted	100%	100%	100%	100%	100%	100%	100%	<b>50%</b>	<b>50%</b>

Sample no	691	692	693	811	813	814
Cereals and other food plants						
Malus/Pyrus sp.					х	
Prunus sp. (fruits stone fragment)						х
Cereal indet. (grains)	х					
Herbs						
Fabaceae indet.	х	х	х		х	х
Tree/shrub macrofossils						
Corylus avellana L.					х	
Ulex europaeus L.		х			х	
Other plant macrofossils						
Charcoal <2mm	xxx	ххх	ххх	xxx	XXX	ххх
Charcoal >2mm	xxx	ххх	ххх	xx	хх	XX
Charred root/rhizome/stem	х					
Indet.seeds					х	
Other materials						
Black porous 'cokey' material	XX	xx	х	Х	х	х
Black tarry material	xxx	х	х	х	х	х
Bone	xxb	xxb	xb	xb	xxb	xxb
Burnt/fired clay	х	х	х			
Burnt stone					х	х
Copper-alloy residues			х			
Ferrous globules					Х	
Ferrous fragments	х	х			х	х
Ferrous nails/studs						х
Fish bone	х					
Small coal fragments	х	х	х	х	х	х
Vitrified material	х	х	х		х	х
Sample volume (litres)	60	10	32	6	90	10
Volume of flot (litres)	0.2	<0.1	<0.1	<0.1	0.3	0.1
% flot sorted	50%	100%	100%	100%	50%	100%

# Table 53: Charred plant macrofossils and other environmental remainsfrom bustum F134.

128     41     0     CHBSMCOULTINAT       3     UF     CHBSMCOULTINAT       4     UF     CHBSMCOULTINAT       5     UF     CHBSMCOULTINAT       188     42     PF       187     45     CP       280     59     S       283     87     S       284     UF     CHCRRSTBPCBLTAR.MAT.SMCOAL       283     87     S       284     UF     CHSPRCBATBPCBLTAR.MAT.SMCOAL       411     UF     CHSPRCBATAR.MAT.       42     UF     CHSPRCBATAR.MAT.       430     102     UF     CHBPCSB.COAL       3     UF     CHBPCSB.MCOAL     CHSPCSB.COAL       430     102     UF     CHBPCSB.MCOAL       4     UF     CHBPCSB.MCOAL     CHSPCSB.COAL       4     UF     CHBPCSB.MCOAL     CHSPCSB.COAL       3     UF     CHBPCSB.MCOAL     CHSPCSB.COAL       4     UF     CHBPCSB.MCOAL     CHSPCSB.COAL       4     UF	Sample no	Feature no	Spit no	Context type	Contents
2     UP     OPE CHESSMUCH UT MAT.       4     UP     CHESSMUCH UT MAT.       5     UP     CHESSMUCH UT MAT.       188     42     PF     CHESSMUCH UT MAT.       175     45     CP     CHESSMUCH UT MAT.       280     59     S     CHESSMUCH UT MAT.       383     87     S     CHESSMUCH UT MAT.       41     87     UP     CHESSMUCH UT MAT.       41     97     UP     CHESSMUCH UT MAT.       5     UP     CHESSMUCH UT MAT.     CHESSMUCH UT MAT.       41     07     CHESSMUCH UT MAT.     CHESSMUCH UT MAT.       41     07     CHESSMUCH UT MAT.     CHESSMUCH UT MAT.       5     UP     CHESSMUCH UT MAT.     CHESSMUCH UT MAT.       420     102     1     UP     CHESSMUCH UT MAT.       6     UP     CHESSMUCH TAT.     CHESSMUCH UT MAT.       7     0     CHESSMUCH TAT.     CHESSMUCH UT MAT.       6     0     CHESSMUCH UT MAT.     CHESSMUCH UT MAT.       7     UP	128	41	1	UF	CH;BPC;BL.TAR.MAT;B;VIT.MAT.
3     UP     OPE CHARGE TEL FACUUM 125 MC OUAL (M) MALL.       148     42     PF     CHORRSTB       175     45     CP     CHORRSTB       280     59     S     CHORRSTBPCBLTAR.MAT.SPEC.GLOB.SM.COAL       281     87     S     CHORRSTBPCBLTAR.MAT.SMCOAL       333     87     S     CHORRSTBPCBLTAR.MAT.SMCOAL       431     87     1     UF     CHBCRSTBPCBLTAR.MAT.SMCOAL       44     UF     CHBSTAMAT.     CHORRSTBPCBLTAR.MAT.       5     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       6     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       7     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       8     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       9     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       430     102     UF     CHBPCSM.COAL       7     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       8     UF     CHBPCSM.COAL     CHARSTBPCBLTAR.MAT.       9     UF     CHBPCSB.MCOAL			2	UF	
148     42     0F     0HBE TRAINATE BIRS, MILLATE, MATE BIRS, MILLATE,			3		
Het     42     5     6     6       175     45     CP     CHCRR/STBPC/BLTAR.MAT.BFE.GLOB.;SM.COAL       280     59     S     CHCRR/STBPC/BLTAR.MAT.BFE.GLOB.;SM.COAL       281     87     1     UF     CHBPC/BLTAR.MAT.       431     87     1     UF     CHBPC/BLTAR.MAT.       4     UF     CHBPC/BLTAR.MAT.     CHBPC/BLTAR.MAT.       4     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.MAT.       5     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.MAT.       6     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.       7     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.       430     102     1     UF     CHBPC/BLTAR.MAT.       431     UF     CHBPC/BLTAR.MAT.     CALCR/ST.BLTAR.MAT.       430     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.       431     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.       447     1068     1     UF     CHBPC/BLTAR.MAT.       5     UF     CHBPC/BLTAR.MAT.     CHTAR.MAT.			4		
175     45     CP     OH CRESY BPC.BL TAR MAT. BFC GLOB.:SM COAL       393     87     S     CHGRRSY BPC.BL TAR MAT. BFC GLOB.:SM COAL       431     87     1     UF     CHBPC.BL TAR MAT. MILLION COAL       431     87     1     UF     CHBPC.BL TAR MAT.       431     97     0     CHBPC.BL TAR MAT.       441     UF     CHBPC.BL TAR MAT.     CHAPC.BL       451     UF     CHBPC.SM COAL     CHAPC.B       453     UF     CHBPC.BL TAR MAT.     CHAPC.B       454     UF     CHBPC.SM COAL     CHAPC.B       455     UF     CHBPC.BL TAR MAT.     CHAPC.B       456     UF     CHAPC.B.BFC.SM.COAL     CHAPC.B       457     UF     CHBPC.BL TAR MAT.     CHAPC.B       450     UF     CHAPC.B.B.TAR.MAT.     CHAPC.B       451     UF     CHAPC.B.B.TAR.MAT.     CHAPC.B       452     UF     CHAPC.B.TAR.MAT.     CHAPC.B.TAR.MAT.       455     UF     CHAPC.B.TAR.MAT.     CHAPC.B.TAR.MAT.       457	148	42	5	PF	CH·CB/B/ST·B
280     58     CH     COLCALVIT.MAT.       383     87     1     UF     CHSM.COLL.VIT.MAT.       431     87     1     UF     CHSM.COLL.VIT.MAT.       3     UF     CHSP.CS.L.VIT.MAT.     CHSP.CS.L.VIT.MAT.       4     UF     CHSP.CS.M.COAL.VIT.MAT.     CHSP.CS.M.COAL       5     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       6     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       7     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       430     192     1     UF     CHSP.CS.M.COAL       431     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       432     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       433     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       434     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL       437     108     1     UF     CHSP.CS.M.COAL       437     108     1     UF     CHSP.CS.M.COAL       447     UF     CHSP.CS.M.COAL     CHSP.CS.M.COAL <t< td=""><td>175</td><td>45</td><td></td><td>CP</td><td>CH:CB/B/SY:BPC:BL TAB MAT 'B'FE GLOB 'SM COAL</td></t<>	175	45		CP	CH:CB/B/SY:BPC:BL TAB MAT 'B'FE GLOB 'SM COAL
383     37     S     OHSM COAL.VIT MAT.       431     87     1     UF     CHBPCB     CHBPCALTAR.MAT.       4     UF     CHBPCALTAR.MAT.     CHBPC.S     CHBPC.S       4     UF     CHBPC.S     CHBPC.S     CHBPC.S       6     UF     CHBPC.S     CHAPC.S     CHAPC.S       7     UF     CHBPC.S     CAL     CHAPC.S       8     UF     CHBPC.S     CAL     CHAPC.S       9     UF     CHBPC.S     CAL     CHAPC.S       9     UF     CHBPC.S     CAL     CHAPC.S       430     102     UF     CHBPC.S     CAL       447     108     UF     CHAPC.B     CAL       6     UF     CHAPC.B     CHAPC.S     CHAPC.S       647     108     1     UF     CHAPC.B     CHAPC.S       648     UF     CHAPC.B     CHAPC.B     CHAPC.S     CHAPC.S       649     UF     CHAPC.B     CHAPC.S     CHAPC.S     CHAPC.S	290	59		S	CH:CB/B/ST:BPC:BL TAB MAT :SM COAL
431     87     1     UF     CHBPCBLTARMAT.       3     UF     CHBPCB     CHBLTARMAT.       4     UF     CHBLTARMAT.       5     UF     CHBLTARMAT.       6     UF     CHBLTARMAT.       7     UF     CHBPCB.       8     UF     CHBPCB.       9     UF     CHBPCB.       102     UF     CHBPCB.       103     UF     CHBPCB.       104     UF     CHBPCB.       105     UF     CHBPCB.       106     UF     CHBPCB.       107     UF     CHBPCB.       108     UF     CHBPCB.       109     UF     CHBPCB.       110     UF     CHBPCB.       111     UF     CHBPCB.       111     UF     CHBPCB.       111<	393	87		ŝ	CH:SM.COAL:VIT.MAT.
10     2     0F     CHBPCB       3     UF     CHBLTARIMAT.       4     UF     CHBLTARIMAT.       6     UF     CHBPCSM.COAL       7     UF     CHBPCSM.COAL       8     UF     CHBPCSM.COAL       9     UF     CHBPCS.M.COAL       8     UF     CHBPCS.M.COAL       9     UF     CHBPCS.SM.COAL       407     CHBPC.BLTARIMAT.       6     UF     CHCRRST.BLTARIMAT.       6     UF     CHCRRST.BLTARIMAT.       6     UF     CHBPC.BLTARIMAT.       6     UF	431	87	1	ŰF	CH:BPC:BL.TAR.MAT.
3     ÚF     CHBLTARMAT.       4     UF     CHBLTARMAT.       5     UF     CHBLTARMAT.       6     UF     CHBPCB.       7     UF     CHBPCB.       9     UF     CHBPCB.       9     UF     CHBPCB.       9     UF     CHBPCB.       102     UF     CHBPCB.       2     UF     CHBPCB.       487     108     UF       7     UF     CHBPCB.       6     UF     CHBPCB.       7     UF     CHBPCB.       8     UF     CHBPCB.       8     UF     CHBPCB.       9     UF     CHBPCB.       104     UF     CHBPCB.       1054     UF     CHBPCB.       104     UF     CHBPCB.       105     UF     CHBPCB.       106     UF     CHBPCB.       107     CHBPCB.     CAL       108     UF     CHBPCB.       110	101	07	2	UF	CH:BPC:B
4     UF     CHBLTAR.MAT.       6     UF     CHBPC:SM COAL       7     UF     CHBPC:SM COAL       8     UF     CHBPC:SM COAL       9     UF     CHBPC:SM COAL       100     1     UF     CHBPC:SM COAL       430     102     1     UF     CHBPC:SM COAL       44     UF     CHGR/ST:BLTAR.MAT.     CHAPC:SM COAL       54     UF     CHCR/RST:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHCR/RST:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHCR/RST:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       7     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       7     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       7     UF     CHAPC:BLTAR.MAT.     CHAPC:BLTAR.MAT.       6     UF     CHAPC:BLTAR.MAT.			3	UF	CH;BL.TAR,MAT.
430     102     UF     CH30CSM COAL       441     UF     CH30CSM COAL     CH30CSM COAL       443     UF     CH30CSM COAL     CH30CSM COAL       444     UF     CH30CSM COAL     CH30CSM COAL       447     108     UF     CH30CSM COAL       542     114     UF     CH39C     CH30CA       542     114     1     UF     CH39C       542     114     1     UF     CH39C       542     114     1     UF     CH39C       542     114     UF     CH39C     CA       543     UF     CH39C     CA       544     UF     CH39C     CA       551     120     UF     CH39C     CA       666     118     UF     CH39C     CA       551     120			4	UF	CH;BL.TAR.MAT.;VIT.MAT.
6     UF     CH3PC;SM COAL       7     UF     CH3PC;B       8     UF     CH3PC;B       9     UF     CH3PC;B       102     1     UF     CH3PC;B       103     1     UF     CH3PC;B       104     UF     CH3PC;B     CAL       105     UF     CH3PC;B     CAL       106     CH3PC;B     CAL     CAL       107     CH3PC;B     CAL     CAL       108     UF     CH3PC;B     CAL       108     UF     CH3PC;B     CAL       108     UF     CH3PC;B     CAL       114     UF     CH3PC;B     CAL       115     UF     CH3PC;B     CAL			5	UF	CH;BL.TAR.MAT.
430     102     9     UF     CHBPC;B     CHBPC;B     CAL       430     102     1     UF     CHBPC;B,SM,COAL     CAL       2     UF     CHBPC;B,SM,COAL     CAL     CAL       4     UF     CHBPC;B,SM,COAL     CAL     CAL       4     UF     CHBPC;B,TAR,MAT,     CHBPC;B,TAR,MAT,     CHBPC;B,TAR,MAT,       4     UF     CHBPC;B,TAR,MAT,     CHBPC;B,TAR,MAT,     CHBPC;B,TAR,MAT,       467     108     2     UF     CHBPC;B,TAR,MAT,     CHBPC;B,TAR,MAT,       542     114     1     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL       542     114     1     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL       544     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL       10     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL       11     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL       11     UF     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL     CHBPC;B,SM,COAL <t< td=""><td></td><td></td><td>6</td><td>UF</td><td>CH;BPC;SM.COAL</td></t<>			6	UF	CH;BPC;SM.COAL
8     UF     CHBPCSM COAL       430     102     1     UF     CHBPCSM COAL       4     UF     CHBPCBBTCSM COAL     CHBPCBLTARMAT.       3     UF     CHBPCBLTARMAT.     CHBPCBLTARMAT.       5     UF     CHCRRSTBLTARMAT.     CHCRRSTBLTARMAT.       487     108     1     UF     CHBPCBLTARMAT.       487     108     1     UF     CHBPCBLTARMAT.       542     114     1     UF     CHBPCCBLTARMAT.       542     114     2     UF     CHBPCC       4     UF     CHBPC     CHSPC       4     UF     CHBPCA     CHSPC       4     UF     CHBPCB.SM.COAL     CHSPC       5     UF     CHBPC.BSM.COAL     CHSPC       4     UF     CHBPC.BSM.COAL     CHSPC       10     UF     CHBPC.BSM.COAL     CHSPC       11     UF     CHBPC.SM.COAL     CHSPC       12     UF     CHBPC.SM.COAL     CHSPC       11     UF </td <td></td> <td></td> <td>7</td> <td>UF</td> <td>CH;BPC;B</td>			7	UF	CH;BPC;B
9     UF     CHBPC;B:B/CSM COAL       430     102     1     UF     CHBPC;B:TSB:BLTAR.MAT.       4     UF     CHBPC;B:TAR.MAT.     CHBPC;B:TAR.MAT.       4     UF     CHBPC;B:TAR.MAT.     CHBPC;B:TAR.MAT.       6     UF     CHCRRSTB.TAR.MAT.B     CHCRRSTB.TAR.MAT.B       487     108     1     UF     CHBPC;B:TAR.MAT.       487     108     1     UF     CHBPC;B:TAR.MAT.B       542     114     2     UF     CHBPC       3     UF     CHBPC;B:M:COAL     CHBPC;B:M:COAL       4     UF     CHBPC;B:M:COAL     CHBPC;B:M:COAL       5     UF     CHBPC;B:B:FC     CHBPC;B:SM:COAL       6     UF     CHBPC;B:SM:COAL     CHBPC;B:SM:COAL       11     UF     CHBPC;B:SM:COAL     CHBPC;B:SM:COAL       12     UF     CHBPC;B:SM:COAL     CHBPC;B:SM:COAL       13     UF     CHBPC;B:SM:COAL     CHBPC;B:SM:COAL       14     UF     CHBPC;B:SM:COAL     CHBPC;B:SM:COAL       11     UF <td></td> <td></td> <td>8</td> <td>UF</td> <td>CH;BPC;SM.COAL</td>			8	UF	CH;BPC;SM.COAL
430   102   1   UF   CHERPCBLTARMAT.     3   UF   CHERPCBLTARMAT.     4   UF   CHERPCBLTARMAT.     5   UF   CHERPCBLTARMAT.     6   UF   CHERPCBLTARMAT.     7   UF   CHERPCB.     7   UF   CHERPCB.     7   UF   CHERPCB.     7   UF   CHERPCB.     6   UF   CHERPCB.     7   UF   CHERPCB.     6   UF   CHERPCB.     7   UF   CHERPCB.     6   UF   CHERCB.     6   UF   CHERCB.     6   UF   CHERCB.     7   UF   CHERCB.     8   UF   CHERCB.     9   UF   CHERCB.     10   UF   CHERCB.     11   UF   CHERCB.     12   UF   CHERCB.     13   UF   CHERCB.     14   UF   CHERCB.     15   UF   CHERCB. <t< td=""><td></td><td></td><td>9</td><td>UF</td><td>CH;BPC;B;B/FC;SM.COAL</td></t<>			9	UF	CH;BPC;B;B/FC;SM.COAL
2     UF     CHBPCBLIARMAT.       4     UF     CHBPCBSMCOAL       4     UF     CHBPCBSMCOAL       4     UF     CHBPCBLTAR.MAT.       6     UF     CHCRRST       6     UF     CHBPCBLTAR.MAT.       6     UF     CHBPCBC       7     UF     CHBPCBC       6     UF     CHBPCBC       7     UF     CHBPCBSMCOAL       8     UF     CHBPCBCBSMCOAL       10     UF     CHBPCBCBSMCOAL       11     UF     CHBPCBCBSMCOAL       12     UF     CHBPCBCBSMCOAL       13     UF     CHBPCBCBSMCOAL       14     UF     CHBPCBCBSMCOAL       15     UF     CHBPCBCB       666     118     UF     CHBPCBCB       671	430	102	1	UF	CH;CR/R/ST;B;BL.TAR.MAT
3     UF     CHBPCBLTARMAT.       4     UF     CHBPCBLTARMAT.       5     UF     CHCRPRST       6     UF     CHCRPRST.       7     UF     CHBPCBLTARMAT.       9     UF     CHBPCB.       542     114     1     UF       14     1     UF     CHBPCB.       542     114     1     UF       14     1     UF     CHBPCB.       542     114     1     UF       14     UF     CHBPCB.     CAL       15     UF     CHBPCB.     CAL       16     UF     CHBPCB.     CAL       17     UF     CHBPCB.     CAL       18     UF     CHBPCB.     CAL       19     UF     CHBPCB.     CAL       14     UF     CHBPCB.     CAL       19     UF     CHBPCB.     CAL       10     UF     CHBPCB.     CAL       10     UF     CHBPCB. <td></td> <td></td> <td>2</td> <td>UF</td> <td>CH;BPC;BL.TAR.MAT.</td>			2	UF	CH;BPC;BL.TAR.MAT.
4     UF     CHERRIST CHERRIST       6     UF     CHERRIST       6     UF     CHERRIST       7     UF     CHERRIST       9     UF     CHERRIST       108     1     UF       3     UF     CHERRIST       542     114     UF     CHERCELTRAMAT.       9     UF     CHERCEL     CHERCEL       4     UF     CHERCEL     CHERCEL       6     UF     CHERCEL     CHERCEL       10     UF     CHERCEL     CHERCEL       11     <			3	UF	CH;BPC;B;SM.COAL
3     UF     CHCRPRST_BLTAR.MAT.B       487     108     1     UF     CHCRPRST_BLTAR.MAT.       542     114     1     UF     CH       542     114     1     UF     CH       542     114     1     UF     CH3PC.B       3     UF     CH3PC.B     CH3PC.B       4     UF     CH3PC.B     CAL       5     UF     CH3PC.B     CAL       5     UF     CH3PC.B     CAL       5     UF     CH3PC.B     CAL       6     UF     CH3PC.B     CAL       6     UF     CH3PC.B     CAL       10     UF     CH3PC.B     CAL       11     UF     CH3PC.B     CAL       12     UF     CH3PC.B     CAL       13     UF     CH3PC.B     CAL       14     UF     CH3PC.B     CAL       14     UF     CH3PC.B     CAL       15     UF     CH3     CA			4	UF	CH;BPC;BL.TAR.MAT.
6     0F     CHORNELLE (ARLMAT)       467     108     1     UF     CH       3     UF     CH     CH       3     UF     CH     CH       542     114     1     UF     CHSPC       4     UF     CHSPC     CHSPC       5     UF     CHSPC     CHSPC       6     UF     CHSPC     CHSPC       7     UF     CHSPC     CHSPC       8     UF     CHSPC     CHSPC       10     UF     CHSPC     CHSPC       11     UF     CHSPC     CHSPC       11     UF     CHSPC     CHSPC       551     120     PF     CH       551     120     CHSPC     CHSPC       600     120 <td></td> <td></td> <td>5</td> <td></td> <td></td>			5		
487     108     1     UF     OH     OH, BPC, B       542     114     1     UF     OH, BPC, B       542     114     1     UF     OH, BPC, B       3     UF     OH, BPC, B     OH, BPC, B       4     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       5     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       6     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       10     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       11     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       12     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       13     UF     OH, BPC, BSM, COAL     OH, BPC, BSM, COAL       14     UF     OH, BPC, B     OH, BPC, BSM, COAL       15     UF     OH, BPC, B     OH, BPC, B       686     118     UF     OH, BPC, B       5     PF     OH, BPC, B       6600     120     S     OH, B, S/FC       671     128     1			0 7		
407     100     1     0F     0H       3     UF     0H     0H     0H       542     114     1     UF     0H     0H       542     114     1     UF     0H     0H       4     UF     0H     0H     0H       4     UF     0H     0H     0H       6     UF     0H     0H     0H       6     UF     0H     0H     0H       6     UF     0H     0H     0H       10     UF     0H     0H     0H       10     UF     0H     0H     0H       11     UF     0H     0H     0H       14     UF     0H     0H     0H       15     UF     0H     0H     0H       16     1     PF     0H     0H       16     1     0H     0H     0H       16     1     0H     0H     0H <td>197</td> <td>109</td> <td>1</td> <td></td> <td></td>	197	109	1		
542     114     1     UF     OH,BPC,B       542     114     1     UF     OH,BPC       3     UF     OH,BPC       3     UF     OH,BPC       3     UF     OH,BPC       3     UF     OH,BPC,BSM,COAL       6     UF     OH,BPC,BSM,COAL       6     UF     OH,BPC,BSM,COAL       7     UF     OH,BPC,BSM,COAL       10     UF     OH,BPC,BSM,COAL       11     UF     OH,BPC,BSM,COAL       12     UF     OH,BPC,BSM,COAL       13     UF     OH,BPC,BSM,COAL       14     UF     CH,BPC,BSM,COAL       15     UF     CH,BPC,BSM,COAL       16     UF     CH,BPC,BSM,COAL       17     UF     CH,BPC,BSM,COAL       18     UF     CH,BPC,BSM,COAL       19     UF     CH,BPC,B       10     UF     CH,BPC,B       11     UF     CH,BPC,B       600     120     S	407	100	2	LIE	
542   114   0   UF   OHBPC     4   UF   OHBPC     4   UF   OHBPC     5   UF   OHBPC,BSM.COAL     6   UF   OHBPC,BSM.COAL     6   UF   OHBPC,BSM.COAL     6   UF   OHBPC,BSM.COAL     10   UF   OHBPC,BSM.COAL     11   UF   OHBPC,BSM.COAL     12   UF   OHBPC,BSM.COAL     13   UF   OHBPC,BSM.COAL     14   UF   OHBPC,BSM.COAL     15   UF   OHBPC,BSM.COAL     16   UF   OHBPC,BSM.COAL     17   UF   OHBPC,BSM.COAL     18   UF   OHBPC,BSM.COAL     19   UF   OHBPC,BSM.COAL     10   UF   OHBPC,BSM.COAL     11   UF   OHBPC,BSM.COAL     12   UF   OHBPC,BSM.COAL     14   UF   OHBPC,BSM.COAL     15   UF   OHBPC,BSM.COAL     16   10   UF     17   UF   OHBPC,BSM.COAL			2	LIF	CH'BPC'B
ORC     ITT     UF     OHBPC       3     UF     OH     OH       4     UF     OHBPCBSM.COAL     S       5     UF     OHBPCBSM.COAL     S       6     UF     OHBPCBSM.COAL     S       6     UF     OHBPCBSM.COAL     S       7     UF     OHBPCBSM.COAL     S       9     UF     CHBPCBSM.COAL     S       10     UF     CHBPCBSM.COAL     S       11     UF     CHBPCBSM.COAL     S       12     UF     CHBPCB.SM.COAL     S       13     UF     BPCSM.COAL     S       14     UF     CHBPCB     S       13     UF     CHBPCB     S       551     120     1     PF       14     UF     CHBPCB     S       686     118     UF     CHBPCB       680     120     S     CHB       5     UF     CHBPCB     CHB       661     120	542	114	1	LIF	CH'BPC
image: second	0.12		2	UF	CH:BPC
4     UF     CH3PC,BSM.COAL       5     UF     CH3PC,BSM.COAL       7     UF     CH3PC,BSM.COAL       9     UF     CH3PC,BSM.COAL       9     UF     CH3PC,BSM.COAL       10     UF     CH3PC,BSM.COAL       11     UF     CH3PC,BSM.COAL       12     UF     CH3PC,BSM.COAL       13     UF     CH3PC,BSM.COAL       14     UF     CH3PC,BSM.COAL       15     UF     CH3PC,BSM.COAL       14     UF     CH3PC,BSM.COAL       15     UF     CH3PC,BSM.COAL       14     UF     CH3PC,B       551     120     1     PF       15     UF     CH3PC,B       600     120     S     CH3PC,B       601     120     S     CH3PC,B       671     128     UF     CH3PC,B       671     128     UF     CH3P,G       671     128     UF     CH3P,G       671     128     UF			3	ÜF	CH
5     UF     CH3BC:B:SM.COAL       6     UF     CH3BC:B:SM.COAL       7     UF     CH       9     UF     CH3BC:B:SM.COAL       10     UF     CH3BC:B:SM.COAL       10     UF     CH3BC:SM.COAL       11     UF     CH3BC:SM.COAL       12     UF     CH3BC:SM.COAL       13     UF     CH3BC:SM.COAL       14     UF     CH3BC:SM.COAL       15     UF     CH3BC:SM.COAL       14     UF     CH3BC:B       551     120     1     PF       2     PF     CH       4     PF     CH3B       5     PF     CH3B       600     120     S     CH3B       671     128     1     UF     CH3B/FC       660     120     C     CH3B       671     128     1     UF     CH3B/FC       661     126     C     CH3B       671     128     C     C			4	ÜF	CH:B:SM.COAL
6     UF     CHBPC       7     UF     CH       8     UF     CHBPC.BBFC       9     UF     CHBPC.BBFC.OAL       10     UF     CHBPC.BM.COAL       11     UF     CHBPC.BC.OAL       12     UF     CHBPC.BS.M.COAL       13     UF     BPC.SM.COAL       14     UF     CHBPC.BS.M.COAL       15     UF     CHBPC.BS.M.COAL       16     DF     CHBPC.BS.M.COAL       17     UF     CHBPC.BS.M.COAL       18     UF     CHBPC.BS.M.COAL       19     PF     CH       2     PF     CHBPC.B       4     PF     CH       551     120     1     PF       4     PF     CH       566     126     1     CH3B       671     128     UF     CH3B.FC       3     UF     CH3B       4     UF     CH3B.FC       5     UF     CH3B.FC       <			5	UF	CH;BPC;B;SM.COAL
7     UF     CH       8     UF     CH:BPC:B:SM.COAL       10     UF     CH:BPC:SM.COAL       11     UF     CH:BPC:SM.COAL       12     UF     CH:BPC:SM.COAL       11     UF     CH:BPC:SM.COAL       12     UF     CH:BPC:SM.COAL       14     UF     CH:BPC:B:SM.COAL       15     UF     CH:BPC:B:SM.COAL       14     UF     CH:BPC:B:SM.COAL       15     UF     CH:BPC:B:SM.COAL       16     UF     CH:BPC:B       551     120     1     PF       3     PF     CH:B       600     120     S     CH:B       601     120     S     CH:B       671     128     UF     CH:B       671     128     UF     CH:B       671     128     UF     CH:B       671     128     UF     CH:B       7     UF     CH:B     C       671     128     C <td></td> <td></td> <td>6</td> <td>UF</td> <td>CH;BPC</td>			6	UF	CH;BPC
8     UF     CH:BPC:B:B/FC       9     UF     CH:BPC:B:SM.COAL       10     UF     CH:BPC:SM.COAL       11     UF     CH:BPC:B:SM.COAL       12     UF     CH:BPC:B:SM.COAL       13     UF     BPC:SM.COAL       14     UF     CH:BPC:B:SM.COAL       15     UF     CH:BPC:B:SM.COAL       16     UF     CH:BPC:B:SM.COAL       17     UF     CH:BPC:B:SM.COAL       18     UF     CH:BPC:B:SM.COAL       19     PF     CH:BPC:B       551     120     1     PF       4     PF     CH:B       566     126     PF       600     120     S       566     126     CH:B       671     128     UF       3     UF     CH:B'B'C       671     128     UF       4     UF     CH:B'B'C       5     UF     CH:B'B'C       671     128     UF       671			7	UF	СН
9     UF     CH,BPC,B,SM,COAL       10     UF     CH,BPC,SM,COAL       12     UF     CH,BPC,SM,COAL       13     UF     BPC,SM,COAL,VIT.MAT.       14     UF     CH,BPC,B       15     UF     CH,BPC,B       551     120     1     PF       2     PF     CH       3     PF     CH,B       4     PF     CH       551     120     1     PF       4     PF     CH,B       566     126     1     CH,B       600     120     S     CH,B       566     126     1     CH,B       671     128     1     UF     CH,B,B/FC       633     10 </td <td></td> <td></td> <td>8</td> <td>UF</td> <td>CH;BPC;B;B/FC</td>			8	UF	CH;BPC;B;B/FC
10     UF     CH,BPC;SM.COAL       11     UF     CH,BPC;SM.COAL       12     UF     CH,BPC;SM.COAL       13     UF     BPC;SM.COAL       14     UF     CH,BPC;B       15     UF     CH,BPC;B       551     120     1     PF       2     PF     CH       3     PF     CH,B       4     PF     CH       5     PF     CH,B       600     120     S       6118     CH,B       600     120     S       6126     1     CH,B       6126     1     CH,B       6126     1     CH,B       6127     128     UF     CH,B       3     UF     CH,B       611     C     CH,B       62     UF     CH,B       63     UF     CH,B       64     UF     CH,B       7     UF     CH,B       8			9	UF	CH;BPC;B;SM.COAL
11     UF     CH:BPC:SM.COAL       12     UF     BPC:SM.COAL.VIT.MAT.       13     UF     BPC:SM.COAL.VIT.MAT.       14     UF     CH:BPC:B       15     UF     CH:BPC:B       15     UF     CH:BPC:B       15     UF     CH:BPC:B       16     UF     CH:BPC:B       17     PF     CH       2     PF     CH       3     PF     CH:B       4     PF     CH       5     PF     CH:B       6     10     UF       7     CH:B:B/FC       6     UF     CH:B:B/FC       6     UF     CH:B:B/FC       6     UF     CH:B:B/FC       7     UF     CH:B:B/FC       8     UF     CH:B:B/FC       10     UF			10	UF	CH;BPC
12     UF     CH:BPC;B       13     UF     BPC;BSM.COAL.VIT.MAT.       14     UF     CH:BPC;B       15     UF     CH:BPC;B       551     120     1     PF       2     PF     CH       3     PF     CH       3     PF     CH       3     PF     CH       3     PF     CH       5     PF     CH       5     PF     CH:B       6     PF     CH:B       600     120     S       611     CH     CH:B       620     1     CH:B       611     UF     CH:B       611     UF     CH:B       7     UF     CH:B       7     UF     CH:B:B/FC       611     UF     CH:B       7     UF     CH:B:B/FC       8     UF     CH:B:B/FC       8     UF     CH:B:B/FC       10     UF			11	UF	CH;BPC;SM.COAL
13     UF     BPC;SM.COAL:VIT.MAT.       14     UF     CH;BPC;B;SM.COAL       15     UF     CH;BPC;B;SM.COAL       15     UF     CH;BPC;B       2     PF     CH       3     PF     CH;B       4     PF     CH       3     PF     CH;B       4     PF     CH       5     PF     CH;B       6     120     S     CH;B       6     120     S     CH;B       6     120     CH;B     CH       7     UF     CH;B;B/FC     CH       671     128     1     UF     CH;B;B/FC       671     128     UF     CH;B;B/FC       661     UF     CH;B     CH       7     UF     CH;B;B/FC       6628     129			12	UF	CH;BPC;B
14     UF     CH3BPC3S       15     UF     CH3BC3       686     118     UF     CH3BC3       551     120     1     PF     CH       2     PF     CH     3     PF       4     PF     CH     3     PF       6     PF     CH3BC3     6     PF       600     120     S     CH3B     6       566     126     1     CH3B     CH3B       671     128     1     UF     CH3B       671     128     1     UF     CH3B       6     UF     CH3B     CH3B/FC       6     UF     CH3B     CH3B/FC       6     UF     CH3B/FC     CH3B       7     UF     CH3B/FC     CH3B       8     UF     CH3B/FC     CH3B       9     UF     CH3B/FC     CH3B       628     129     S     CH3B       628     11     UF			13	UF	BPC;SM.COAL;VII.MAT.
686     118     UF     CH,BPC,B       551     120     1     PF     CH       3     PF     CH,B     3       4     PF     CH,B     4       5     PF     CH,B       6     PF     CH,BPC,B       600     120     S     CH,B       566     126     1     CH,B       671     128     1     UF     CH,B       6     PF     CH,B     CH     CH       671     128     1     UF     CH,B,B/FC       6     UF     CH,B     CH     CH       3     UF     CH,B     CH     CH       4     UF     CH,B/B/FC     CH     CH       5     UF     CH,B/B/C     CH     CH       6     UF     CH,B/C     CH     CH       7     UF     CH,B/C     CH     CH       66     UF     CH,B/C     CH     CH       68 <td></td> <td></td> <td>14</td> <td>UF</td> <td></td>			14	UF	
boo     110     UF     CH       551     120     1     PF     CH       3     PF     CH,B     4       4     PF     CH,B     5       600     120     S     CH;B     6       66     PF     CH;BPC;B     6       600     120     S     CH;B       566     126     1     CH;B       3     CH;B;B/FC     6       2     CH;B;B/FC     6       3     UF     CH;B       671     128     1     UF       2     UF     CH;B       3     UF     CH;B;B/FC       6     UF     CH;B       7     UF     CH;BPC;B       8     UF     CH;BPC;B       9     UF     CH;BPC;B       10     UF     CH;BPC;B/FC       11     UF     CH;BPC;B/FC       11     UF     CH;BPC;B/FC       11     UF     CH;BPC;B/FC	696	110	15		
331   120   1   1   1   1   1     2   PF   CH   3   PF   CH     3   PF   CH   3   PF   CH     6   PF   CH;B   6   1   CH:B     600   120   S   CH;B   5     566   126   1   CH;B;B/FC   6     671   128   1   UF   CH;B;B/FC     671   128   1   UF   CH;B;B/FC     3   UF   CH;B   3   UF     4   UF   CH;B;B/FC   6   16     5   UF   CH;B   8   16     6   UF   CH;B   8   16     10   UF   CH;BPC;B   10   11     10   UF   CH;B/C;B   11   10     628   129   S   CH;B   5     633   129   CP   CH;B/C;B   16     646   134   S   CH;B/C;B   10     10   U	000 551	110	1		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	551	120	2	DE	
4     PF     CH       5     PF     CH;B       6     PF     CH;BC;B       600     120     S     CH;B       566     126     1     CH;B       3     CH;B;B/FC     CH;B       671     128     1     UF       3     UF     CH;B;B/FC       671     128     1     UF       3     UF     CH;B       4     UF     CH;B;B/FC       5     UF     CH;B;B/FC       6     UF     CH;B       3     UF     CH;B/B/FC       6     UF     CH;B/B/FC       6     UF     CH;B/B/FC       6     UF     CH;B/B/FC       6     UF     CH;B/B/FC       10     UF     CH;B/B/FC       628     129     S     CH;B/FC       633     129     CP     CH;B/FC,PC       688     135     1     UF     CH;B/FC;PC       688     13			2	PF	CH'B
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			4	PF	CH
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			5	PF	CH:B
600     120     S     CH;B       566     126     1     CH;B;B/FC       671     128     1     UF     CH;B;B/FC       671     128     1     UF     CH;B;B/FC       3     UF     CH;B;B/FC     2     UF       4     UF     CH;B;B/FC     3     UF       5     UF     CH;B;B/FC     6     UF       6     UF     CH;B;C;B     7     UF       10     UF     CH;B;C;B     7     1       628     129     S     CH;B     7       633     129     CP     CH;BPC;B     7       68     135     1     UF     CH;B;B/FC       68     135     1     UF			6	PF	CH:BPC:B
566   126   1   CH;B     2   CH;B;B/FC     671   128   1   UF   CH;B;B/FC     3   UF   CH;B;B/FC     2   UF   CH;B;B/FC     3   UF   CH;B;B/FC     4   UF   CH;B;B/FC     5   UF   CH;B;B/FC     6   UF   CH;B;B/FC     9   UF   CH;B;B/FC     10   UF   CH;B;B/FC     11   UF   CH;B;B/FC     628   129   S   CH     633   129   CP   CH;B;B/FC     643   134   S   CH;B;B/FC     688   135   1   UF   CH;B;B/FC     681   135   UF   CH;B;B/FC   CH     681   135   UF   CH;B;C;PC;POT;SM.COAL   CH <td>600</td> <td>120</td> <td>•</td> <td>S</td> <td>CH:B</td>	600	120	•	S	CH:B
671     128     1     UF     CH:B;B/FC       671     128     1     UF     CH:B;B/FC       3     UF     CH:B;B/FC       3     UF     CH:B;B/FC       5     UF     CH:B;B/FC       6     UF     CH:B;C;B       9     UF     CH:BPC;B       9     UF     CH:BPC;B/FC       10     UF     CH:BPC;B/FC       11     UF     CH:BPC;B/FC       633     129     S       648     134     S       7     UF     CH:BPC;B;SM.COAL       846     134     S       2     UF     CH:BPC;B       4     UF     CH:BPC;B       6     UF     CH:BPC;B       6     UF     CH:BPC;B	566	126	1		CH:B
3   CH;B;B/FC     671   128   1   UF   CH;B;B/FC     2   UF   CH;B   3   UF   CH;B     3   UF   CH;B   3   UF   CH;B     4   UF   CH;B;B/FC   6   UF   CH;B;B/FC     6   UF   CH;B;B/FC   6   UF   CH;B;B/FC     6   UF   CH;B;B/FC   6   UF   CH;B;B/FC     10   UF   CH;B;C;B   10   UF   CH;B;C;B/FC     11   UF   CH;B   CP   CH;B;C;B;SM.COAL     628   129   S   CH;B   CP   CH;B;C;POT;SM.COAL     633   129   CP   CH;B;C;POT;SM.COAL   CH;B/F;C   CH;B/F;C     688   134   S   CH;B/F;C;POT;SM.COAL   CH;B/F;C   CH;B/F;C   CH;B/F;C     688   135   1   UF   CH;B/F;C;POT;SM.COAL   CH;B/F;C   CH;B/F;C     688   135   1   UF   CH;B/F;C;POT;SM.COAL   CH;B/F;C   CH;B/F;C   CH;B/F;C   CH;B/F;E   CH;B/F;E   CH;B/			2		CH;B
671     128     1     UF     CH:B;B/FC       2     UF     CH:B       3     UF     CH:B       4     UF     CH:B;B/FC       5     UF     CH:B;B/FC       6     UF     CH:B;B/FC       6     UF     CH:B;B/FC       7     UF     CH:B;C;B       8     UF     CH:BPC;B       9     UF     CH:BPC;B       10     UF     CH:BPC;B/FC       11     UF     CH:B       628     129     S     CH:B       633     129     CP     CH:BPC;B;SM.COAL       846     134     S     CH:BPC;B       688     135     1     UF     CH:BPC;B       2     UF     CH:BPC;B     CH     CH:BPC;B       4     UF     CH:BPC;B     CH:B     CH:B       5     UF     CH:BPC;B     CH:B     CH:B       6     UF     CH:B     CH:B     CH:B     CH:B			3		CH;B;B/FC
2     UF     CH;B       3     UF     CH;B       4     UF     CH;B;B/FC       5     UF     CH;B;B/FC       6     UF     CH;B       7     UF     CH;BPC;B       8     UF     CH;BPC;B       9     UF     CH;BPC;B       10     UF     CH;BPC;B       10     UF     CH;BPC;B       633     129     CP       688     134     S       688     135     1       UF     CH;BPC;B;SM.COAL       3     UF     CH;BPC;B       6688     135     1       2     UF     CH;BPC;B       3     UF     CH;BPC;B       4     UF     CH;BPC;B       5     UF     CH;BPC;B       6     UF     CH;BPC;B       6     UF     CH;BPC;B       6     UF     CH;BPC;B       6     UF     CH;BPC;B       10     UF	671	128	1	UF	CH;B;B/FC
3     UF     CH:B       4     UF     CH:B;B/FC       5     UF     CH:B;B/FC       6     UF     CH:B       7     UF     CH:BPC;B       8     UF     CH:BPC;B       9     UF     CH:BPC;B       10     UF     CH:BPC;B/FC       11     UF     CH;B       628     129     S     CH:B       633     129     CP     CH:BPC;B;SM.COAL       846     134     S     CH:BPC;B       688     135     1     UF     CH:BPC;B       2     UF     CH:BPC;B     2     UF       4     UF     CH:BPC;B     2     UF     CH:BPC;B       3     UF     CH:BPC;B     5     UF     CH:BPC;B       6     UF     CH:BPC;B     5     UF     CH:BPC;B       6     UF     CH:BPC;B     6     UF     CH:BPC;B       7     UF     CH:BPC;B     6     UF			2	UF	CH;B
4   UF   CH;B;B/FC     5   UF   CH;B;B/FC     6   UF   CH;B     7   UF   CH;BPC;B     8   UF   CH;BPC;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B     11   UF   CH;BPC;B     628   129   S   CH;B     633   129   CP   CH;BPC;B;SM.COAL     646   134   S   CH;BPC;B     668   135   1   UF   CH;BPC;B     2   UF   CH;BPC;B   CH   CH     3   UF   CH;BPC;B   CH   CH     6   UF   CH;BPC;B   CH   CH;BPC;B     4   UF   CH;BPC;B   CH   CH;BPC;B     6   UF   CH;BPC;B   CH   CH;BPC;B   CH     9   UF <td></td> <td></td> <td>3</td> <td>UF</td> <td>CH;B</td>			3	UF	CH;B
5     UF     CH;B;B/FC       6     UF     CH;BPC;B       7     UF     CH;BPC;B       8     UF     CH;BPC;B       9     UF     CH;BPC;B       10     UF     CH;BPC;B       628     129     S     CH;B       633     129     CP     CH;BPC;B;SM.COAL       846     134     S     CH;BPC;B       688     135     1     UF     CH;BPC;POT;SM.COAL       3     UF     CH;BPC;B     COAL     COAL       846     134     S     CH;BPC;B     COAL     COAL       846     134     S     CH;BPC;B     COAL     COAL     COAL       846     135     1     UF     CH;BPC;B     COAL			4	UF	CH;B;B/FC
6   UF   CH;BPC;B     7   UF   CH;BPC;B     8   UF   CH;BPC;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B/FC     11   UF   CH;BPC;B,SM.COAL     633   129   S   CH;B     633   129   CP   CH;BPC;B;SM.COAL     846   134   S   CH;BPC;B     846   134   S   CH;BPC;B     2   UF   CH;BPC;B     3   UF   CH;BPC;B     4   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;BPC;B     6   UF   CH;BPC;B     6   UF   CH;BPC;B     9   UF   CH;BPC;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     11   UF   CH;BPC			5	UF	CH;B;B/FC
10   0F   CH;BPC;B     8   UF   CH;BPC;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B/FC     11   UF   CH;B     628   129   S   CH;B     633   129   CP   CH;BPC;B;SM.COAL     846   134   S   CH;BPC;B     688   135   1   UF   CH;BPC;B     6   UF   CH;BPC;B   CH   CH;BPC;B     6   UF   CH;BPC;B   CH   CH     7   UF   CH;BPC;B;SM.COAL   S   CH;BPC;B     8   UF   CH;BPC;B   COAL   S   COAL     8   UF   CH;BPC;B   COAL   COAL   S   COAL     1083   137   1   BF   CH;BPC;B   COAL   CH;CAR/ST:BPC;BI_TAR.MAT.;B;SM.COAL     1083   1			6	UF	CH;B
8   0F   CHBPC;B     9   UF   CHBPC;B/FC     10   UF   CHBPC;B/FC     11   UF   CH;B     628   129   S   CH;B     633   129   CP   CH;BPC;B;SM.COAL     846   134   S   CH;BPC;B     688   135   1   UF   CH;BPC;B     2   UF   CH;B/FC;?POT;SM.COAL   3     3   UF   CH;BPC;B   6     4   UF   CH;BPC;B   6     5   UF   CH;BPC;B   6     6   UF   CH;BPC;B   6     7   UF   CH;BPC;B   6     6   UF   CH;B   7     7   UF   CH;BPC;B   6     9   UF   CH;BPC;B   10     10   UF   CH;BPC;B   10     11   UF   CH;BPC;B   10     1083   137   1   BF   CH;BPC;B     2   BF   CH;BPC;BL;TAR:MAT.;B;SM.COAL     3   <			/	UF	
9   0F   CH, BPC, B     10   UF   CH; BPC; B/FC     11   UF   CH; B     628   129   S   CH; B     633   129   CP   CH; BPC; B; SM.COAL     846   134   S   CH; BPC; B     688   135   1   UF   CH; BPC; B     2   UF   CH; BPC; B   2     3   UF   CH; BPC; B   2     4   UF   CH; BPC; B     5   UF   CH; BPC; B     6   UF   CH; B     7   UF   CH; BPC; B     6   UF   CH; B     7   UF   CH; BPC; B     6   UF   CH; B     7   UF   CH; BPC; B     9   UF   CH; BPC; B     10   UF   CH; BPC; B     1083   137   1   BF     2   BF   C			8		
10   01   01, DF, DF, DF, DF, C     11   UF   CH; B     628   129   S   CH; B     633   129   CP   CH; BPC; B; SM.COAL     846   134   S   CH; BPC; B     688   135   1   UF   CH; BPC; B     2   UF   CH; BPC; B   2     3   UF   CH; BPC; B   2     4   UF   CH; BPC; B     5   UF   CH; BPC; B     6   UF   CH; B     7   UF   CH; BPC; B     6   UF   CH; B     7   UF   CH; BPC; B; SM.COAL     8   UF   CH; B     9   UF   CH; BPC; B     10   UF   CH; BPC; B     10   UF   CH; BPC; B     11   UF   CH; BPC; B     1083   137   1   BF     2   BF   CH; BPC; BL; TAR, MAT.; B; SM.COAL     3   BF   CH; BPC; BL; TAR, MAT.; GLASS: VIT MAT			9 10		
628   129   S   CH;B     633   129   CP   CH;BPC;B;SM.COAL     846   134   S   CH;BPC;B     688   135   1   UF   CH;BPC;B     2   UF   CH;BPC;B   2   UF     3   UF   CH;BPC;B   2   UF     4   UF   CH;BPC;B   3   UF     5   UF   CH;BPC;B   6   UF     6   UF   CH;B   6   UF     7   UF   CH;BPC;B   6   0     7   UF   CH;BPC;B   10   0     8   UF   CH;B   10   UF   CH;BPC;B     10   UF   CH;BPC;B   10   11   UF   CH;BPC;B     1083   137   1   BF   CH;BPC;BL:TAR.MAT.;B;SM.COAL   2   3   BF   CH;BPC;BL:TAR.MAT.;GLASS:VIT MAT			11	LIE	
613   129   CP   CH;BPC;B;SM.COAL     633   129   S   CH;BPC;B;SM.COAL     846   134   S   CH;BPC;B     688   135   1   UF   CH;BPC;B     2   UF   CH;BPC;POT;SM.COAL     3   UF   CH;BPC;B     4   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;BPC;B     6   UF   CH;BPC;B     6   UF   CH;BPC;B     7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     11   UF   CH;BPC;B     1083   137   1   BF     2   BF   CH;BPC;BL:TAR.MAT.;B;SM.COAL     3   BF   CH;BPC;BL:TAR.MAT.;GLASS:VIT MAT	628	129		S	CH·B
846   134   S   CH;B;B/FC     688   135   1   UF   CH;BPC;B     2   UF   CH;B/FC;POT;SM.COAL     3   UF   CH;BPC;B     4   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;BPC;B     6   UF   CH;BPC;B     7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     7   UF   CH;BPC;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B     2   BF   CH;BPC;BL     3   BF   CH;BPC;BL     3   BF   CH;CP/B/ST;BPC;BL	633	129		CP	CH:BPC:B:SM COAL
688 135 1 UF CH;BPC;B 688 135 1 UF CH;BPC;B 2 UF CH;BPC;POT;SM.COAL 3 UF CH;BPC;B 4 UF CH;BPC;B 5 UF CH;BPC;B 6 UF CH;B 7 UF CH;BPC;B;SM.COAL 8 UF CH;B 9 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 11 UF CH;BPC;B 10 BF CH;BPC;B 10 CH;CP/B/ST;BPC;BL TAB MAT ;GLASS;VIT MAT	846	134		S	CH:B:B/FC
2 UF CH;B/FC;?POT;SM.COAL 3 UF CH;BPC 4 UF CH;BPC;B 5 UF CH;BPC;B 6 UF CH;B 7 UF CH;BPC;B;SM.COAL 8 UF CH;B 9 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 10 BF CH;BPC;B 10 CH;CP/R/ST;BPC;BLTAR_MAT;GLASS;VIT_MAT	688	135	1	UF	CH:BPC:B
3   UF   CH;BPC     4   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;B     7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B     10   UF   CH;BPC;B     11   UF   CH;BPC;B     2   BF   CH;BPC;BL.TAR.MAT.;B;SM.COAL     3   BF   CH;CP/8/ST;BPC;BL TAB_MAT.;GLASS:VIT_MAT			2	ÜF	CH;B/FC;?POT;SM.COAL
4   UF   CH;BPC;B     5   UF   CH;BPC;B     6   UF   CH;B     7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B;SM.COAL     11   UF   CH;BPC;B;SM.COAL     1083   137   1   BF     2   BF   CH;BPC;BL.TAR.MAT.;B;SM.COAL     3   BF   CH;CP/8/ST;BPC;BL.TAR.MAT.;CILASS:VIT.MAT			3	UF	CH;BPC
5 UF CH;BPC;B 6 UF CH;B 7 UF CH;BPC;B;SM.COAL 8 UF CH;B 9 UF CH;BPC;B 10 UF CH;BPC;B 10 UF CH;BPC;B 11 UF CH;BPC;C 1083 137 1 BF CH;BPC;B 2 BF CH;BPC;BL:TAR.MAT.;B;SM.COAL 3 BF CH;CP/R/ST;BPC;BL TAR.MAT.;C ASS:V/IT.MAT			4	UF	CH;BPC;B
6   UF   CH;B     7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B;SM.COAL     11   UF   CH;BPC;B;SM.COAL     1083   137   1   BF   CH;BPC;B     2   BF   CH;BPC;BL.TAR.MAT.;B;SM.COAL     3   BF   CH;CP/R/ST;BPC;BL TAR_MAT.;CI_ASS:VIT_MAT			5	UF	CH;BPC;B
7   UF   CH;BPC;B;SM.COAL     8   UF   CH;B     9   UF   CH;BPC;B     10   UF   CH;BPC;B;SM.COAL     11   UF   CH;BPC;B     1083   137   1   BF   CH;BPC;B     2   BF   CH;BPC;BL.TAR.MAT.;B;SM.COAL     3   BF   CH;BPC;BL.TAR.MAT.;CI.ASS:VIT.MAT			6	UF	CH;B
8     UF     CH;B     9     UF     CH;BPC;B     10     UF     CH;BPC;B;SM.COAL     11     UF     CH;BPC;B     10     UF     CH;BPC;B     11     UF     CH;BPC;B     10     11     UF     CH;BPC;B     10     10     11     UF     CH;BPC;B     10     10     11     UF     CH;BPC;B     10<			7	UF	CH;BPC;B;SM.COAL
9 UF CH;BPC;B 10 UF CH;BPC;B;SM.COAL 11 UF CH;BPC 1083 137 1 BF CH;BPC;B 2 BF CH;BPC;BL.TAR.MAT.;B;SM.COAL 3 BF CH;CP/R/ST;BPC;BL_TAR_MAT_;CLASS;VIT_MAT			8	UF	CH;B
10 UF CH;BPC;B;SM.COAL 11 UF CH;BPC 1083 137 1 BF CH;BPC;B 2 BF CH;BPC;BL.TAR.MAT.;B;SM.COAL 3 BF CH;CP/R/ST;BPC;BL_TAR_MAT_;GLASS;VIT_MAT			9	UF	CH;BPC;B
10 OF CH;BPC 1083 137 1 BF CH;BPC;B 2 BF CH;BPC;BL.TAR.MAT.;B;SM.COAL 3 BF CH;CP/R/ST;BPC;BL TAR MAT.;GLASS:VIT MAT			10		
2 BF CH;BPC;B 2 BF CH;BPC;BL.TAR.MAT.;B;SM.COAL 3 BF CH:CR/R/ST:RPC:BL.TAR.MAT.GLASS:VIT.MAT	1000	107	11		
3 BF CH·CR/R/ST·RPC·RETAR MAT ·GLASS·VIT MAT	1063	137	ו ס	DF RE	CHIBPCIBL TAR MAT IRISM COAL
			3	BF	CH:CR/R/ST:BPC:BL TAR MAT GLASS VIT MAT

## Table 54a: samples containing only charcoal or charred root/stem and other materials.

## Table 54b: samples containing only charcoal or charred root/stem and other materials.

1084     137     1     UF     CH,B/FC,VIT.MAT.       2     UF     CH	Sample no	Feature no	Spit no	Context type	Contents
2     UF     OH       3     UF     OH       4     UF     OHB       5     UF     OHB       6     UF     OHB       1065     137     FLAG.     CH:BFC       1066     137     S     OH       855     162     OH     CH:BFC       859     165     1     UF     CH:BFC       3     UF     CH:BFC     CH:B       935     179     1     CH:BFC:BHTARMAT.B       930     180     POT 2     CHB       931     180     POT 2     CH:BFC:BHTARMAT.B       933     192     1     UF     OH:BC:BHTARMAT.B       930     180     POT 2     CH:B     CH:BC:BHTARMAT.B       930     180     POT 2     OHB     CH:BC:RM:TMAT.B       933     192     1     UF     OH:BC:RM:TMAT.B       930     195     1     UF     CH:BC:RM:TMAT.B       931     UF     OH:BC:RM:TMAT.B	1084	137	1	UF	CH;B/FC;VIT.MAT.
3     UF     OH       4     UF     OHB       5     UF     OHB       6     UF     OHB       7     UF     OHB       1065     137     FLAG.     OHBFC       1065     137     FLAG.     OHBPC,B/FC       805     162     OH     OH       905     162     OH     OH       2     UF     OH,BPC,B/FC     OH       3     UF     OH,BPC,B     OH       905     179     1     FLAG.     OH,BPC,B       901     160     POT 1     OH,BPC,B     OH       901     180     POT 1     OH,BPC,B     OH       901     180     POT 1     OH,BC,BL,TAR,MAT,B     OH       1033     192     1     UF     OH,BL,TAR,MAT,B     OH       1033     192     1     UF     OH,BL,TAR,MAT,B     OH       1051     195     1     BF     OH,BL,TAR,MAT,B     OH       1066			2	UF	СН
4     ÚF     CHB       5     ÚF     CHB       6     ÚF     CHB       7     ÚF     CHB       7     ÚF     CHB       1085     137     S     CH       885     162     CHBPC,BFC     CHB       885     165     UF     CHBPC,BFC       885     165     UF     CHBPC,BFC       3     UF     CHBPC,B     CHB       930     180     FCAG     CHBPC,B       930     180     POT 1     CHBPC,B       931     182     S     CHBPC,B       931     182     S     CHBPC,B       1033     192     1     UF     CHBC,B       1045     195     1     UF     CHBC,B       1050     195     1     UF     CHBC,B,MTAR,MT,B       1051     195     1     UF     CHBC,B,MTAR,T,B       1051     195     1     UF     CH,B,C,C       1     UF <td></td> <td></td> <td>3</td> <td>UF</td> <td>СН</td>			3	UF	СН
5     UF     CHB       6     UF     CHB       7     UG     CHB       1085     137     FLAG.     CHBCD       859     162     CH     CH       859     162     CH     CH       3     UF     CHBPCB     CH       3     UF     CHBPCB     CA       30     180     POT 1     CHBPCB     CA       301     180     POT 2     CHB     CA       301     180     POT 2     CHB     CA       301     180     POT 2     CHB     CA       1033     192     1     UF     CHBCB, TAR, MAT, B       1050     195     1     UF     CHB, CAR, MAT, B       1051     195     UF     CHB, CAR, MAT, B       1051     195     UF     CHB, CAR, MAT, B       1066     199     UF     CHBPCB, CAR, MAT, B       1066     199     UF     CHB, CAR, MAT, B       1066     199			4	LIF	CH·B
5     0 F     0 HB       7     UF     0 HB       1085     137     FLAG.     CH,BFC       1086     137     S     CH       855     162     CH     CH       859     165     1     UF     CH:BFC:BFC       859     165     1     UF     CH:BFC:B       930     160     POT 1     CH:BFC:B     CH       931     180     POT 1     CH:BC:B,VTMAT.     CH       930     180     POT 1     CH:BC:B,VTMAT.     CH       930     180     POT 1     CH:BC:CB     CH:BC:CB       931     180     POT 1     CH:BC:CB     CH:BC:CB       930     180     POT 2     CH:B     CH:BC:CB       931     182     1     UF     CH:B:CA:AR:MAT:B       933     192     1     UF     CH:B:CA:AR:MAT:B       1050     195     1     UF     CH:B:CA:AR:MAT:B       1051     195     1     UF     CH:B:C			5	UE	CH:B
0     0			6		
1085     137     FLAG.     CH,BFC       1086     137     S     CH       855     162     CH       859     165     1     UF     CHBPC.BFC       859     165     1     UF     CHBPC.B       935     179     1     FLAG.     CHBPC.B       930     180     POT 1     CHBPC.B,VIT.MAT.     COL       930     180     POT 2     CHB     CH     CH       931     180     F     CHBUC.BATAI MAT.B     CH     CH       1051     195			0	UF	
1080     137     FLAL     CH, BPC       1086     137     S     CH       859     162     CH       2     UF     CH, BPC, BFC       3     UF     CH, BPC, BFC       4     UF     CH, BPC, B       3     UF     CH, BPC, B       30     180     POT 1     CH, BPC, B       930     180     POT 2     CH, B       931     180     POT 2     CH, B       931     180     POT 2     CH, B       931     192     1     UF     CH, B       1050     195     1     UF     CH, B       1051     195     1     BF     CH, B       1051     195     1     BF     CH, B       1066     199     1     UF     CH, B	1005	107	/		
1086     137     S     CH       885     162     CH     CH       859     165     1     UF     CH:BPC:BFC       3     UF     CH:BPC:B     UF     CH:BPC:B       3     UF     CH:BPC:B     UF     CH:BPC:B       935     179     1     FLAG.     CH:BPC:B:TARLMAT:B       930     180     POT 1     CH:BPC:B:VIT.MAT.       930     180     POT 2     CH:B       931     182     S     CH:BVC:B:VIT.MAT.       930     180     POT 2     CH:B     CH:B       931     182     S     CH:BVC:B:VIT.MAT.       933     192     1     UF     CH:BUT:A:MAT.B       1050     195     1     UF     CH:BUT:A:MAT.B       1051     195     1     UF     CH:BUT:A:MAT.B       1051     195     BF     CH:BUT:A:MAT.B       1066     199     1     UF     CH:BUT:A:MAT.B       1066     199     UF     CH:	1085	137		FLAG.	CH;B/FC
865     162     CH     CH     BPC;BFC       859     165     1     UF     CH:BPC;BFC       3     UF     CH:BPC;B     G       930     179     1     FLAG.     CH:BPC;B:TAR:MAT;B.       930     180     POT 1     CH:BPC;B:TAR:MAT;SM:COAL       930     180     POT 2     CH:BPC;B:TAR:MAT;SM:COAL       930     180     POT 2     CH:B       931     192     1     UF     CH:B       1050     195     1     UF     CH:BL:TAR:MAT;B       1051     195     1     BF     CH:B       1051     195     1     BF     CH:B       1066     199     1     UF     CH:B/C:C       1166     200     1     CH     CH:B/C:C	1086	137		S	CH
859   165   1   UF   CH_BPC,BFC     3   UF   CH_BPC     4   UF   CH_BPC,B     5   UF   CH_BPC,B     935   179   1   FLAG,     936   180   POT 1   CH_BPC,BIVT.MAT.     930   180   POT 2   CH_BPC,BIVT.MAT.     931   182   S   CH_BPC,BIVT.MAT.     933   192   1   UF   CH_BPC,BIVT.MAT.     933   192   1   UF   CH_BPC,BIVT.MAT.     1033   192   1   UF   CH_BPC,BIVT.MAT.     1050   195   1   UF   CH_BPC,BIVT.MAT.     3   UF   CH_BPC,BIVT.ATR.MAT.;B   CH     4   UF   CH_BPC,BIVT.MAT.   CH     5   UF   CH   CH     6   UF   CH_BPC,BIVT.MAT.   CH     1051   195   1   BF   CH_BPC,BIVT.MAT.     1066   199   1   UF   CH_BPC,BIVT.MAT.     1066   199   1   UF   CH_BPC,BIVT.AT	865	162			CH
2     UF     CH       3     UF     CH,BPC       4     UF     CH,B       5     UF     CH,BPC,B       930     180     POT 1       930     180     POT 2       931     180     POT 2       930     180     POT 2       931     182     S       933     192     UF       1033     192     UF       2     UF     CH,BPC,B       1050     195     UF       2     UF     CH,BPC,B       3     UF     CH,BL,TAR,MAT,B       2     UF     CH,BL,TAR,MAT,B       3     UF     CH,BL,TAR,MAT,B       4     UF     CH,BPC,BL,TAR,MAT,B       5     UF     CH       6     UF     CH,BPC,BL,TAR,MAT,B       1051     195     UF     CH,BPC,BL,TAR,MAT,B       2     UF     CH,BPC,BL,TAR,MAT,B       3     UF     CH,BPC,BL,TAR,MAT,B       2     U	859	165	1	UF	CH;BPC;B/FC
3     UF     CH,BPC       4     UF     CH,BPC,B       5     UF     CH,BPC,B       935     179     1     FLAG.       930     180     POT 1     CH,BPC,BLTAR,MAT,B       930     180     POT 2     CH,B       931     182     S     CH,BPC,BLTAR,MAT,B       933     192     1     UF     CH,B       1033     192     1     UF     CH,BLTAR,MAT,B       1050     195     1     UF     CH,BLTAR,MAT,B       3     UF     CH,BLTAR,MAT,B     CH       4     UF     CH,BLTAR,MAT,B     CH       5     UF     CH     CH     CH       6     UF     CH,BLTAR,MAT,B     CH     CH       1051     195     1     BF     CH,B     CH       1066     199     1     UF     CH,BPC,BLTAR,MAT,B     CH       1168     200     1     CH     CH     CH       1168     200			2	UF	CH
4     UF     CH:B       5     UF     CH:BPC:B       935     179     1     FLAG.     CH:BPC:B       930     180     POT 1     CH:BPC:B:TAR.MAT.;SM.COAL       930     180     POT 2     CH:B       930     180     POT 2     CH:B       931     182     S     CH:B/VIT.MAT.       1033     192     1     UF     CH:B       1050     195     1     UF     CH:BL:TAR.MAT.;B       2     UF     CH:BL:TAR.MAT.;B     CH:BL:TAR.MAT.;B       3     UF     CH:BL:TAR.MAT.;B     CH:BL:TAR.MAT.;B       4     UF     CH:B:CAR.MAT.;B     CH:B:CAR.MAT.;B       5     UF     CH:B:CAR.MAT.;B     CH:CAR.MAT.;B       1051     195     1     BF     CH:B:CAR.MAT.;B       1066     199     1     UF     CH:B/CR.UTAR.MAT.;B       1166     200     4     UF     CH:B/CR.UTAR.MAT.;B       1166     201     CH:B/CR.UTAR.MAT.;B     CH:B/CR.UTAR.MAT.;B			3	UF	CH;BPC
5     UF     CH:BPC:B       935     179     1     FLAG.     CH:BLTAR.MAT.B       930     180     POT 1     CH:BPC:B.VIT.MAT.       930     180     POT 2     CH:B       931     182     S     CH:BPC:B.VIT.MAT.       933     182     S     CH:BPC:B.VIT.MAT.       1033     192     1     UF     CH:BPC:B       1033     192     1     UF     CH:BPC:B       1050     195     1     UF     CH:BPC:B       1050     195     1     UF     CH:BE:TAR.MAT.B       3     UF     CH:BE:TAR.MAT.B     CH:BE:TAR.MAT.B       4     UF     CH:BE:TAR.MAT.B     CH:BE:TAR.MAT.B       5     UF     CH:BE:TAR.MAT.B     CH:CH:BE:TAR.MAT.B       1051     195     1     BF     CH:BE:CB:VIT.MAT.       1066     199     1     UF     CH:BE:CB:TAR.MAT.B       1168     200     1     CH     CH:BE:CB:TAR.MAT.B       1168     200     1			4	UF	CH;B
935     179     1     FLAG.     CH:BLTAR.MAT.B       930     180     POT 1     CH:BPC;BLTAR.MAT.SM.COAL       930     180     POT 2     CH:BPC;BLTAR.MAT.SM.COAL       930     180     POT 2     CH:BPC;BLTAR.MAT.SM.COAL       931     180     POT 2     CH:BPC;B.VIT.MAT.       1033     192     1     UF     CH       1033     192     1     UF     CH:BLTAR.MAT.B       2     UF     CH:BLTAR.MAT.B     CH       1050     195     1     UF     CH:BLTAR.MAT.B       4     UF     CH:BLTAR.MAT.B     CH       4     UF     CH:BLTAR.MAT.B     CH       5     UF     CH:BLTAR.MAT.B     CH       6     UF     CH:BC;B:FC     CH       1051     195     BF     CH:BPC;B:LTAR.MAT.B       2     UF     CH:BPC;B:LTAR.MAT.B     CH       3     UF     CH:BPC;B:LTAR.MAT.B     CH       4     UF     CH:BPC;B:LTAR.MAT.B     CH			5	UF	CH:BPC;B
30     180     PCT 1     CH_BPC;BLTAR.MAT.;SM.COAL       930     180     POT 2     CH_BPC;B.VIT.MAT.       931     180     POT 2     CH_B       971     182     S     CH_BPC;B.VIT.MAT.       1033     192     1     UF     CH       1033     192     1     UF     CH_BLTAR.MAT.B       1050     195     1     UF     CH_BLTAR.MAT.B       2     UF     CH_BLTAR.MAT.B     CH_BLTAR.MAT.B       3     UF     CH_BLTAR.MAT.B     CH_BLTAR.MAT.B       4     UF     CH_BLTAR.MAT.B     CH_BCG.BLTAR.MAT.B       5     UF     CH_BLTAR.MAT.B     CH_BCG.BLTAR.MAT.B       1051     195     1     BF     CH_BCG.BLTAR.MAT.B       1066     199     1     UF     CH_BTC.SLTAR.MAT.B       1168     200     1     UF     CH_BTC.BLTAR.MAT.B       3     UF     CH_BTC.BLTAR.MAT.B     CH_BTC.SM.COAL       1168     200     1     UF     CH_BTC.BLTAR.MAT.B	935	179	1	FLAG.	CH:BL.TAR.MAT.:B
930     180     POT1     CH:BPC;B;VIT.MAT.       930     180     POT2     CH:B       931     180     POT2     CH:B       933     192     1     UF     CH:B       1033     192     1     UF     CH:B       1050     195     1     UF     CH:BL:TAR.MAT.;B       2     UF     CH:BL:TAR.MAT.;B     CH:B       4     UF     CH:B:TAR.MAT.;B     CH:B       4     UF     CH:B:PC     CH:B       6     UF     CH:B/B/C     CH:B       7     UF     CH:B/C:BL:TAR.MAT.;B     CH:C       1051     195     2     BF     CH:B/C:B       1066     199     1     UF     CH:B/C:B     CH:C       1168     200     1     CH     CH:B/C:B     CH:AR:AT.;B       1168     200     1     CH:B/C:B     CH:B/C:B:TAR.MAT.;B       1168     200     1     CH     CH:B/C:B:TAR.MAT.;B       1168     200     1<	000		2	FLAG	
330     100     POT 2     CH,B       971     182     S     CH,B,VIT.MAT.       1033     192     1     UF     CH       1050     195     1     UF     CH,BLTAR.MAT.B       2     UF     CH,BLTAR.MAT.B     3     UF       3     UF     CH,BLTAR.MAT.B     3     UF       4     UF     CH,BLTAR.MAT.B     5     UF       5     UF     CH     CH     6       6     UF     CH,BC/BLTAR.MAT.B     6     UF       1051     195     1     BF     CHB       6     UF     CH,BC/BLTAR.MAT.B     7     UF       1066     199     1     UF     CH,BC/BLTAR.MAT.B       1168     200     1     CH     CH,BC/BLTAR.MAT.B       3     UF     CH,BLTAR.MAT.B     1       1168     200     1     CH     2       1168     200     1     CH     2         2     CH,BLTAR.MAT.B	930	180	-	POT 1	
330     180     FOI 2     CHB VIT MAT.       1033     192     1     UF     CHBVT MAT.       1033     192     1     UF     CHBVT MAT.       1050     195     1     UF     CHBVT MAT.B       2     UF     CHBLTAR.MAT.B     2       3     UF     CHBLTAR.MAT.B     2       4     UF     CHBLTAR.MAT.B     2       5     UF     CH     CHB.TAR.MAT.B       4     UF     CHBBC.BL.TAR.MAT.B     2       1051     195     1     BF     CHB.TAR.MAT.B       1051     195     1     BF     CHBC.TAR.MAT.B       1066     199     1     UF     CHBC.TAR.MAT.B       1066     199     1     UF     CHBC.RRST.BPC.BL.TAR.MAT.B       1168     200     1     CH     CHBC.BL.TAR.MAT.B       1168     200     1     CH     CHBC.BL.TAR.MAT.B       1168     200     1     CH     CHBC.BL.TAR.MAT.B       1177     20	930	180		POT 1	
971   162   S   CH,B,VIT,MAT.     1033   192   1   UF   CH,BPC,B     1050   195   1   UF   CH,BLTAR.MAT.B     2   UF   CH,BLTAR.MAT.B     3   UF   CH,BLTAR.MAT.B     4   UF   CH,BLTAR.MAT.B     5   UF   CH,BLTAR.MAT.B     6   UF   CH,BPC,BLTAR.MAT.B     1051   195   1   BF     1051   195   1   BF     1066   199   1   UF     1066   199   1   UF     1168   200   1   CH,BPC,BLTAR.MAT.B     3   UF   CH,BPC,BLTAR.MAT.B     4   UF   CH,BPC,BLTAR.MAT.B     1168   200   1   CH     2   UF   CH,BPC,BLTAR.MAT.B     3   UF   CH,BPC,BLTAR.MAT.B     4   UF   CH,BC/RST.BPC,BLTAR.MAT.B     5   CH,BLTAR.MAT.B   CH,BLTAR.MAT.B     6   CH,BLTAR.MAT.B   CH,BLTAR.MAT.B     7   CH,BLTAR.MAT.B <td>930</td> <td>100</td> <td></td> <td>F012</td> <td></td>	930	100		F012	
1033   192   1   UF   CH;BPC;B     1050   195   1   UF   CH;BLTAR,MAT;B     2   UF   CH;BLTAR,MAT;B     3   UF   CH;BLTAR,MAT;B     4   UF   CH;BLTAR,MAT;B     5   UF   CH;BLTAR,MAT;B     6   UF   CH;BL;B/FC     7   UF   CH;BPC;BL;TAR,MAT;B     1051   195   1   BF     1051   195   2   BF     1066   199   1   UF     2   UF   CH;BL;AR,MAT;B     3   UF   CH;B/FC     3   UF   CH;B/FC     3   UF   CH;B/FC     3   UF   CH;B/FC     4   UF   CH;B/FC     3   UF   CH;B/FC     4   UF   CH;B/FC     3   UF   CH;B/FC     4   UF   CH;B/FC     5   CH;B/FC   CA     6   CH;B/FC   CA     7   CH;B/FC   CH	971	182		5	CH;B;VII.MAT.
2     UF     CH;BPC;B       1050     195     1     UF     CH;BLTAR,MAT;B       3     UF     CH;BLTAR,MAT;B     3       4     UF     CH;BLTAR,MAT;B     3       4     UF     CH;BLTAR,MAT;B     3       5     UF     CH     CH;BLTAR,MAT;B       6     UF     CH;BPC;BLTAR,MAT;B     3       1051     195     1     BF     CH;BPC;B,TAR,MAT;B       1066     199     1     UF     CH;BPC;B,TAR,MAT;B       1066     199     1     UF     CH;BPC;B,TAR,MAT;B       1168     200     1     CH     CH;BPC;BLTAR,MAT;B       1168     200     1     CH     CH;BPC       1168     200     1     CH     CH;BPC       3     UF     CH;BPC;BLTAR,MAT;B     CH;BLTAR,MAT;B       1168     200     1     CH     CH;BLTAR,MAT;B       1178     2     CH;BLTAR,MAT;B     CH;BLTAR,MAT;B       6     CH;BLTAR,MAT;B     CH;BLTAR,MAT;B	1033	192	1	UF	CH
1050   195   1   UF   CH;BLTAR,MAT;B     2   UF   CH;BLTAR,MAT;B     3   UF   CH;BLTAR,MAT;B     4   UF   CH;BLTAR,MAT;B     5   UF   CH;BLTAR,MAT;B     6   UF   CH;BC;BLTAR,MAT;B     1051   195   1   BF     1051   195   2   BF     1066   199   1   UF     2   UF   CH;BLTAR,MAT;B     3   BF   CH;BC;BL,TAR,MAT;B     1066   199   1   UF     2   UF   CH;BLTAR,MAT;B     3   UF   CH;BLTAR,MAT;B     4   UF   CH;BLTAR,MAT;B     5   CH;BLTAR,MAT;B     4   UF   CH;BC;RLTAR,MAT;B     5   CH;BC;RLTAR,MAT;B     6   CH;BC;RLTAR,MAT;B     7   CH;CR/RYS;BC;BLTAR,MAT;B     8   CH;BLTAR,MAT;B     9   CH;CR/RYS;BC;BLTAR,MAT;B     1177   201   CH     1   CH     3   CH			2	UF	CH;BPC;B
2     UF     CH;BL:TAR.MAT;B       3     UF     CH;BL:TAR.MAT;B       4     UF     CH;BL:TAR.MAT;B       5     UF     CH;BL:TAR.MAT;B       5     UF     CH;BPC;BL:TAR.MAT;B       1051     195     1     BF       1051     195     1     BF       3     BF     CH;BPC;BL:TAR.MAT;B       1066     199     1     UF       3     BF     CH;BPC;BL:TAR.MAT;B       4     UF     CH;BPC;BL:TAR.MAT;B       5     UF     CH;BPC;BL:TAR.MAT;B       4     UF     CH;BPC;BL:TAR.MAT;B       4     UF     CH;BPC;BL:TAR.MAT;B       4     UF     CH;BPC;BL:TAR.MAT;B       5     CH;BPC     CH;BPC       4     UF     CH;BPC;BL:TAR.MAT;B       5     CH;BPC;BL:TAR.MAT;B       6     CH;BL:TAR.MAT;B       6     CH;BL:TAR.MAT;B       7     CH;BL:TAR.MAT;B       6     CH;BL:TAR.MAT;B       1177     201     CH <	1050	195	1	UF	CH;BL.TAR.MAT.;B
3     UF     CH;BLTAR.MAT.;B       4     UF     CH;BLTAR.MAT.;B       5     UF     CH       6     UF     CH;BLTAR.MAT.;B       1051     195     1     BF       1066     199     1     UF     CH;BC;BLTAR.MAT.;B/FC       3     BF     CH;BLTAR.MAT.;B     CH;B/CA       1066     199     1     UF     CH;B/FC       1066     199     1     UF     CH;B/TAR.MAT.;B       3     UF     CH;B/TAR.MAT.;B     CH;B/FC       4     UF     CH;B/FC     CH;B/FC       3     UF     CH;B/TAR.MAT.;B     CH;CR/RST;BPC;BLTAR.MAT.;B       4     UF     CH;B/FC     CH;B/FC       5     CH;B/FC     CH;B/FC     CH;B/FC       6     CH;B/FC     CH;B/FC     CH;B/FC       1168     200     1     CH       2     CH;B/FC     CH;B/FC     CH;B/FC       3     CH;CR/RST;B/FC,BLTAR.MAT;B     CH;B/FC       4     CH;B/FC     <			2	UF	CH;BL.TAR.MAT;B
4     UF     CH;BL:TAR.MAT.;B       5     UF     CH;B:B/FC       7     UF     CH;BPC;BL:TAR.MAT.;B       1051     195     1     BF     CH;BPC;BL:TAR.MAT.;B/FC       3     BF     CH;BPC;B;VIT.MAT.     D(F)     CH;BPC;B;VIT.MAT.       1066     199     1     UF     CH;BL:TAR.MAT.;B       1066     199     1     UF     CH;BL:TAR.MAT.;B       3     UF     CH;BL:TAR.MAT.;B     CH;BL:TAR.MAT.;B       4     UF     CH;BL:TAR.MAT.;B       5     UF     CH;BL:TAR.MAT.;B       4     UF     CH;CR/R/ST;BPC;BL:TAR.MAT.;B       1168     200     1     CH       4     UF     CH;CR/R/ST;BRCKEN PINNULE FRAG.;B;       5     CH;BPC;BI.TAR.MAT.;B     CH;BL:TAR.MAT.;B       6     CH;BL:TAR.MAT.;B     CH;BL:TAR.MAT.;B       1177     201     CH     CH;CR/R/ST;BL:TAR.MAT.;B       1177     201     CH     CH;BL:TAR.MAT.;B       1177     201     CH     CH;BL:TAR.MAT.;B			3	UF	CH;BL.TAR.MAT.;B
5     UF     CH       6     UF     CH;B;B/FC       7     UF     CH;B;PC;BL:TAR.MAT;B       1051     195     1     BF     CH;B       2     BF     CH;BC;SWIT.MAT.     CH       1066     199     1     UF     CH;B/FC       2     UF     CH;BL;TAR.MAT;B     CH       1066     199     1     UF     CH;B/FC       3     UF     CH;BL;TAR.MAT;B     CH       4     UF     CH;BPC;C]     CH;BPC       3     UF     CH;BPC;C]     CH;BPC;C]       3     CH;BPC;BL:TAR.MAT;B     CH;BPC;G]     CH;BPC;G]       4     CH;BPC;G]     CH;BL:TAR.MAT;B     CH;BL:TAR.MAT;B       6     CH;BL:TAR.MAT;B     CH;BL:TAR.MAT;B     CH;BL:TAR.MAT;B       1177     201     CH     CH;BL:TAR.MAT;B       6     CH;BL:TAR.MAT;B     CH;BL:TAR.MAT;B       1177     201     CH     CH       2     CH     CH;BL:TAR.MAT;B       4     CH;BL:T			4	UF	CH;BL.TAR.MAT.;B
6     UF     CH;B;B/FC       7     UF     CH;B;C;BLTAR.MAT.;B       1051     195     1     BF       3     BF     CH;B;C;BLTAR.MAT.;B/FC       3     BF     CH;B;C;B,VIT.MAT.       1066     199     1     UF       2     UF     CH;B;C;BLTAR.MAT.;B       3     UF     CH;B;C;BLTAR.MAT.;B       4     UF     CH;B;C;BLTAR.MAT.;B       1168     200     1     CH       2     UF     CH;BPC;BLTAR.MAT.;B       3     UF     CH;BPC       3     CH;BPC;BLTAR.MAT.;B       4     CH;CR/RST;BACKEN PINNULE FRAG.;B;       5     CH;BLTAR.MAT.;B       6     CH;BLTAR.MAT.;B       7     CH;CR/RST;BLTAR.MAT.;B       8     CH;BLTAR.MAT.;B       1177     201     CH       2     CH       3     CH       4     CH;BL       5     CH;BL       6     CH;BL       7     CH;BL			5	UF	СН
7     UF     CH;BPC;BL.TAR.MAT.;B       1051     195     1     BF     CH;BL.TAR.MAT.;B/FC       3     BF     CH;BL.TAR.MAT.;B/FC       3     BF     CH;BL,TAR.MAT.;B       1066     199     1     UF     CH;BL,TAR.MAT.;B       3     UF     CH;BL,TAR.MAT.;B     CH;C;SM.COAL       1168     200     1     CH     CH;ST;BPC;BL.TAR.MAT.;B;B/FC;SM.COAL       1168     200     1     CH     CH;ST;BPC;BL.TAR.MAT.;B       4     UF     CH;BCRST;BPC;BL.TAR.MAT.;B     CH       5     CH;BCR     CH;BCR     CH;BCR       6     CH;BPC;BL.TAR.MAT.;B     CH;BCR/ST;BRACKEN PINNULE FRAG.;B;       7     CH;BL,TAR.MAT.;B     CH;BL,TAR.MAT.;B       8     CH;BL,TAR.MAT.;B       8     CH;BL,TAR.MAT.;B       1177     201     1     CH       2     CH     CH       3     CH     CH;BL,TAR.MAT.;B       5     CH;BL,TAR.MAT.;B     CH       6     CH;BL,TAR.MAT.;B       7 </td <td></td> <td></td> <td>6</td> <td>UF</td> <td>CH:B:B/FC</td>			6	UF	CH:B:B/FC
1051   195   1   BF   CH;B     1061   195   1   BF   CH;BLTAR.MAT.;B/FC     3   BF   CH;BPC;B;VIT.MAT.     1066   199   1   UF   CH;BLTAR.MAT.;B     3   UF   CH;BLTAR.MAT.;B   3   UF     1168   200   1   CH   CH;BPC;BL.TAR.MAT.;B     1168   200   1   CH   CH;BPC;BL.TAR.MAT.;B     1168   200   1   CH;BPC;BL.TAR.MAT.;B     4   UF   CH;BPC;BL.TAR.MAT.;B     5   CH;BPC;BL.TAR.MAT.;B   CH;BC/R/ST;B:ACACEN PINNULE FRAG.;B;     6   CH;BLTAR.MAT.;B   CH;CR/R/ST;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B   CH;CR/R/ST;BL.TAR.MAT.;B     1177   201   1   CH     2   CH   3   CH     3   CH   CH;BL.TAR.MAT.;B     1177   201   CH   CH     2   CH   CH   CH;B     3   CH   CH;BLTAR.MAT.;B     1177   201   CH   CH;B     2			7	UF	CH:BPC:BL.TAR.MAT.:B
Noti 100 1 101 101   2 BF CH;BLTAR.MAT;B/FC   3 BF CH;BLTAR.MAT;B   1066 199 1 UF   2 UF CH;BLTAR.MAT;B   3 UF CH;BLTAR.MAT;B   4 UF CH;CR/R/ST;BPC;BL.TAR.MAT;B;B/FC;SM.COAL   1168 200 1 CH   2 CH;BPC 3 CH;BPC;BL.TAR.MAT;B   4 UF CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;   5 CH;BLTAR.MAT;B   6 CH;BL.TAR.MAT;B   7 CH;CR/R/ST;BLTAR.MAT;B   8 CH;BLTAR.MAT;B   1177 201 1   2 CH   3 CH   4 CH;BLTAR.MAT;B   1177 201 CH   3 CH   4 CH;B   5 CH;BLTAR.MAT;B   6 CH;BLTAR.MAT;B   7 CH;BLTAR.MAT;B   1177 201 CH   2 CH   3 CH   4 CH;BLTAR.MAT;B   5 CH;BLTAR.MAT;B   6 CH;BLTAR.MAT;B   7 CH;BLTAR.MAT;B	1051	195	1	BF	CHB
3 BF CH;BE/CR;WIT.MAT.   1066 199 1 UF   2 UF CH;BL,TAR.MAT.;B   3 UF CH;BL,TAR.MAT.;B   4 UF CH;CR/ST;BPC;BL,TAR.MAT.;B;B/FC;SM.COAL   1168 200 1 CH   2 CH;BPC;BL,TAR.MAT.;B CH;CR/R/ST;BPC;BL,TAR.MAT.;B;B/FC;SM.COAL   1168 200 1 CH   2 CH;BPC;BL,TAR.MAT.;B CH;BPC;BL,TAR.MAT.;B   4 CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;   5 CH;BL,TAR.MAT.;B   6 CH;BL,TAR.MAT.;B   7 CH;CR/R/ST;BL,TAR.MAT.;B   1177 201 1   2 CH   3 CH   4 CH;B   5 CH;BL,TAR.MAT.;B   6 CH;BL,TAR.MAT.;B   1177 201 CH   3 CH   4 CH;B   5 CH;BL,TAR.MAT.;B   6 CH;BL,TAR.MAT.;B   7 CH;BL,TAR.MAT.;B   6 CH;BL,TAR.MAT.;B   7 CH;BL,TAR.MAT.;B   6 CH;BL,TAR.MAT.;B   7 CH;BL,TAR.MAT.;B   8 CH;CA   4 CH <td>1001</td> <td>100</td> <td>2</td> <td>BE</td> <td>CH:BL TAB MAT :B/EC</td>	1001	100	2	BE	CH:BL TAB MAT :B/EC
1066     199     1     UF     CH, BP, FC       1066     199     1     UF     CH, BL, TAR, MAT, B       3     UF     CH, BL, TAR, MAT, B     UF       1168     200     1     CH       1168     200     1     CH       2     CH, BPC     CH, BPC       3     CH, BPC, BL, TAR, MAT, B       4     CH, CR/R/ST, BRACKEN PINNULE FRAG.; B;       5     CH, BL, TAR, MAT, B       6     CH, BL, TAR, MAT, B       6     CH, BL, TAR, MAT, B       7     CH; CR/R/ST; BL, TAR, MAT, B       8     CH; BL, TAR, MAT, B       1177     201     CH       2     CH       3     CH       4     CH; B       5     CH; BL, TAR, MAT, B       6     CH; BL, TAR, MAT, B       6     CH; BL, TAR, MAT, B       6     CH; BL, TAR, MAT, B       7     CH; BL, TAR, MAT, B       6     CH; BL, TAR, MAT, B       7     CH; BL, TAR, MAT, B       1178			2		
1066   199   1   0F   CH,B/FC     2   UF   CH;BLTAR.MAT.;B     3   UF   CH;BLTAR.MAT.;B     4   UF   CH;CR/R/ST;BPC;BLTAR.MAT.;B;B/FC;SM.COAL     1168   200   1   CH     2   CH;BPC   CH;BPC     3   CH;BPC;BLTAR.MAT;B     4   CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;     5   CH;BLTAR.MAT;B     6   CH;BLTAR.MAT;B     7   CH;CR/R/ST;BLTAR.MAT.;B     8   CH;BLTAR.MAT;B     1177   201     1   CH     3   CH     4   CH;B     5   CH;BLTAR.MAT;B     6   CH;BLTAR.MAT;B     1177   201   CH     2   CH     3   CH     4   CH;B     5   CH;BLTAR.MAT;B     6   CH;BLTAR.MAT;B     1178   1   CH     2   CH     3   CH     4   CH     3   CH	1000	100	3		
2     UF     CH;BL:TAR.MAT.;B       3     UF     CH;BL:TAR.MAT.;B       4     UF     CH;CR/R/ST;BPC;BL:TAR.MAT.;B;B/FC;SM.COAL       1168     200     1     CH       2     CH;BPC     3     CH;BPC       3     CH;BPC     CH;BPC       4     CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;       5     CH;BL:TAR.MAT.;B       6     CH;BL:TAR.MAT.;B       7     CH;CR/R/ST;BL:TAR.MAT.;B       8     CH;BL:TAR.MAT.;B       1177     201     1       2     CH       3     CH       4     CH;B       3     CH       4     CH;B       5     CH;BL:TAR.MAT.;B       6     CH;BL:TAR.MAT.;B       5     CH;BL:TAR.MAT.;B       6     CH;BL:TAR.MAT.;B       7     CH;BL:TAR.MAT.;B       8     CH;BL:TAR.MAT.;B       9     CH       4     CH;BL:TAR.MAT.;B       5     CH       3     CH	1066	199	1	UF	
3   UF   CH;BLTAR.MAT.;B     4   UF   CH;CH;R/ST;BPC;BL.TAR.MAT.;B;B/FC;SM.COAL     1168   200   1   CH     1168   200   2   CH;BPC     3   CH;BPC;BL.TAR.MAT;B   CH;CH/R/ST;BRACKEN PINNULE FRAG.;B;     4   CH;CH/R/ST;BRACKEN PINNULE FRAG.;B;     5   CH;BLTAR.MAT;B     6   CH;BLTAR.MAT;B     7   CH;CH/R/ST;BL.TAR.MAT.;B     8   CH;BLTAR.MAT.;B     1177   201   1     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     1177   201   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     1178   1   CH     4   CH     5   CH;BL.TAR.MAT.;B     3   CH     4   CH     4   CH     3   CH <td></td> <td></td> <td>2</td> <td>UF</td> <td>CH;BL.TAR.MAT.;B</td>			2	UF	CH;BL.TAR.MAT.;B
4 UF CH;CH/R/ST;BPC;BL.TAR.MAT.;B;B/FC;SM.COAL   1168 200 1 CH   2 CH;BPC   3 CH;BPC;BL.TAR.MAT;B   4 CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;   5 CH;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;CR/R/ST;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;CR/R/ST;BL.TAR.MAT.;B   1177 201   1 CH   3 CH   4 CH;B   5 CH;BL.TAR.MAT.;B   1177 201   1 CH   3 CH   4 CH;B   5 CH;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;BL.TAR.MAT.;B   1 CH   2 CH   3 CH   4 CH   5 CH   3 CH   4 CH   5 CH   3 CH   4 CH   5 CH </td <td></td> <td></td> <td>3</td> <td>UF</td> <td>CH;BL.IAR.MAI.;B</td>			3	UF	CH;BL.IAR.MAI.;B
1168   200   1   CH     2   CH;BPC     3   CH;BPC;BL.TAR.MAT;B     4   CH;CR/RST;BRACKEN PINNULE FRAG.;B;     5   CH;BL.TAR.MAT;B     6   CH;BL.TAR.MAT;B     7   CH;CR/RST;BL.TAR.MAT;B     8   CH;BL.TAR.MAT;B     1177   201     1   CH     3   CH     4   CH;B     6   CH;BL.TAR.MAT.;B     1177   201     1   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     1178   1     1178   CH     2   CH     3   CH     4   CH     3   CH     4   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     4			4	UF	CH;CR/R/ST;BPC;BL.TAR.MAT.;B;B/FC;SM.COAL
2   CH;BPC     3   CH;BPC;BL.TAR.MAT;B     4   CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;     5   CH;BL.TAR.MAT;B     6   CH;BL.TAR.MAT;B     7   CH;CR/R/ST;BL.TAR.MAT.;B     8   CH;BL.TAR.MAT.;B     1177   201     1   CH     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     8   CH;BL.TAR.MAT.;B     1178   1     1178   CH     2   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     350   S     351   S	1168	200	1		СН
3   CH;BPC;BL.TAR.MAT;B     4   CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;CR/R/ST;BLTAR.MAT.;B     8   CH;BL.TAR.MAT.;B     1177   201     1   CH     3   CH     1177   201     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     5   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B;B/FC;SM.COAL     1178   1     1178   CH     2   CH     3   CH     4   CH     5   CH     350   S     351   S			2		CH;BPC
4     CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;       5     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;CR/R/ST;BL.TAR.MAT.;B       8     CH;BL.TAR.MAT.;B       1177     201       1     CH       2     CH       3     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       1177     201       2     CH       3     CH       4     CH;B       5     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;BL.TAR.MAT.;B;B/FC;SM.COAL       1178     1       2     CH       3     CH       4     CH       5     CH       3     CH       4     CH       5     CH       350     S       5     CH;CR/ST:PPC;B/TAB_MAT.;B       351     S			3		CH;BPC;BL.TAR.MAT;B
5     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;CR/R/ST;BL.TAR.MAT.;B       8     CH;BL.TAR.MAT.;B       1177     201       1     CH       2     CH       3     CH       4     CH;B       5     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;BL.TAR.MAT.;B       1178     1       2     CH       3     CH       4     CH       3     CH       3     CH       4     CH       5     CH       350     S       5     CH;CR/ST:PPC;BL_TAR.MAT.;B       351     S			4		CH;CR/R/ST;BRACKEN PINNULE FRAG.;B;
6   CH;BL.TAR.MAT;B     7   CH;CR/R/ST;BL.TAR.MAT.;B     8   CH;BL.TAR.MAT.;B     1177   201     1   CH     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     1178   1     2   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     350   S     5   CH;CR/8/5*:PPC;BL_TAR.MAT.;B     351   S			5		CH;BL.TAR.MAT.;B
7   CH;CR/R/ST;BL.TAR.MAT.;B     8   CH;BL.TAR.MAT.;B     1177   201   1     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     1178   1     2   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     350   S     5   CH:CR/R/ST:PPC:BL_TAR.MAT.;B     351   S			6		CH;BL.TAR.MAT;B
8   CH;BL.TAR.MAT.;B     1177   201   1     2   CH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B;B/FC;SM.COAL     1178   1     2   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     350   S     351   S			7		CH:CB/B/ST:BL.TAB.MAT.:B
1177   201   1   CH     1177   201   1   CH     1178   2   CH     1178   1   CH;BL:TAR.MAT.;B     1178   1   CH;BL:TAR.MAT.;B;B/FC;SM.COAL     1178   1   CH     2   CH   3     3   CH   CH     350   S   CH;BL:TAR.MAT.;B     351   S   CH;CR/B/ST:PPC:FL   TAR MAT.;B:FE GLOB :SM COAL: V/IT MAT			8		
1177 201 1   2 CH   3 CH   4 CH;B   5 CH;BL.TAR.MAT.;B   6 CH;BL.TAR.MAT.;B   7 CH;BL.TAR.MAT.;B;B/FC;SM.COAL   1178 1   2 CH   3 CH   4 CH   5 CH   350 S   5 CH;BL.TAR.MAT.;B   351 S	1177	201	1		CH
2   OH     3   CH     4   CH;B     5   CH;BL.TAR.MAT.;B     6   CH;BL.TAR.MAT.;B     7   CH;BL.TAR.MAT.;B;B/FC;SM.COAL     1178   1     2   CH     3   CH     4   CH     5   CH     3   CH     4   CH     5   CH     350   S     5   CH;BL.TAR.MAT.;B     351   S	1177	201	2		СН
3     CH;B       4     CH;B       5     CH;BL.TAR.MAT.;B       6     CH;BL.TAR.MAT.;B       7     CH;BL.TAR.MAT.;B;B/FC;SM.COAL       1178     1       2     CH       3     CH       4     CH       5     CH       3     CH       4     CH       5     CH       350     S       351     S       5     CH:CB/B/ST:PPC;BL_TAR_MAT.;B			2		
4 CH;B 5 CH;BL.TAR.MAT.;B 6 CH;BL.TAR.MAT.;B 7 CH;BL.TAR.MAT.;B;B/FC;SM.COAL 1178 1 CH 2 CH 3 CH 4 CH 5 CH 3 CH 4 CH 5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH;CR/R/ST:RPC;BL_TAR_MAT.;B;EFE GLOB_:SM_COAL_V/IT_MAT			3		
5 CH;BL:TAR.MAT.;B 6 CH;BL:TAR.MAT.;B 7 CH;BL:TAR.MAT.;B;B/FC;SM.COAL 1178 1 CH 2 CH 3 CH 4 CH 5 CH 3 CH 4 CH 5 CH;BL:TAR.MAT.;B 350 S CH;BL:TAR.MAT.;B 351 S CH:CR/8/ST:PPC;BL:TAR.MAT.;B;EFE GLOB.;SM.COAL:V/IT.MAT			4		
6 CH;BL.1AH.MA1.;B 7 CH;BL.TAR.MAT.;B;B/FC;SM.COAL 1178 1 CH 2 CH 3 CH 3 CH 4 CH 5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH;CR/B/ST:RPC;BL TAR MAT.;B:FE GLOB.;SM.COAL:VIT.MAT			5		CH;BL.IAR.MAI.;B
7     CH;BL.TAR.MAT.;B;B/FC;SM.COAL       1178     1     CH       2     CH     3     CH       3     CH     CH     CH       4     CH     CH     CH       5     CH     CH     CH       350     S     CH;BL.TAR.MAT.;B     COAL:VIT MAT       351     S     CH:CR/R/ST:RPC;BL_TAR_MAT.;B     COAL:VIT MAT			6		CH;BL.TAR.MAT.;B
1178     1     CH       2     CH       3     CH       4     CH       5     CH       350     S       351     S       5     CH:CR/R/ST:RPC:RLTAR.MAT.;B       351     S			7		CH;BL.TAR.MAT.;B;B/FC;SM.COAL
2 CH 3 CH 4 CH 5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH:CR/R/ST:RPC:RL TAR MAT.:B:FE.GLOB.:SM.COAL:V/IT.MAT	1178		1		CH
3 CH 4 CH 5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH;CR/R/ST:RPC:RL TAR MAT : B:FE GLOB : SM COAL: V/IT MAT			2		СН
4 CH 5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH;CR/R/ST:RPC:RL TAR MAT : B:FE GLOB : SM COAL: V/IT MAT			3		СН
5 CH 350 S CH;BL.TAR.MAT.;B 351 S CH:CR/R/ST:RPC:RL TAR MAT : B:FE GLOB : SM COAL: V/IT MAT			4		СН
350 S CH;BL.TAR.MAT.;B 351 S CH:CR/R/ST:RPC:BL TAR MAT :B:FE GLOB :SM COAL:VIT MAT			5		СН
351 S CHICR/R/ST BPC BLITAR MAT BLEE GLOBISM COAL VIT MAT	350			S	CH;BL.TAR.MAT.;B
	351			S	CH;CR/R/ST;BPC;BL.TAR.MAT.;B;FE.GLOB.;SM.COAL;VIT.MAT

Table 54c: key for Tables 54a-54b. CH = charcoal CR/R/ST = charred root/rhizome/stem BPC = black porous 'cokey' material BL.TAR.MAT. = black tarry material B = bone B/FC = burnt/fired clay FE.GLOB. = ferrous globule SM.COAL = small coal fragments VIT.MAT. = vitrified material UF = urn fill

CP = cremation pit S = soil associated with bone PF = pot fill BF = bowl fill FLAG. = flagon fill

#### Appendix 7: catalogues of medieval and post-medieval pottery by Howard Brooks

#### Description of pottery

Fabrics present are as follows (after Cunningham 1985 and *CAR* **7**): Fabric 13 (early medieval ware); Fabric 20 (early medieval ware); Fabric 21 (sandy orange ware); Fabric 21a (Colchester-type ware); Fabric 22 (Hedingham ware); Fabric 35 (Mill Green ware); Fabric 40 (post-medieval red earthenware); Fabric 40bl (black glazed Fabric 40); Fabric 42 (Surrey-Hampshire white ware or 'Border ware'); Fabric 45 (unspecified stoneware); Fabric 45c (Raeren stoneware); Fabric 45d (Frechen stoneware); Fabric 45f (Westerwald stoneware); Fabric 45m (English stoneware); Fabric 46 (tin-glazed earthenware); Fabric 48b (English porcelain); Fabric 48d (modern ironstone); Fabric 48e (Yellow ware); Fabric 50 (Staffordshire slipware); Fabric 51a (late slipped kitchenware); and Fabric 51b (flowerpot). Pottery weights are listed below in Tables 55 and 56 (unidentified fabrics are not listed). Full details in archive.

# Table 55: weight of medieval fabric types per finds number and context (stratified material only).

T = trench, S = soakaway.

					Fab	rics			
Finds	Trench	Con-	13	20	21	21a	22	35	context date (some bags
no		text							have later material)
11	T2	F4	4	0	0	0	0	0	19th-20th century
14	T2	F4	4	0	0	0	0	0	19th-20th century
42	Т9	F14	0	0	4	0	0	0	13th-16th century
121	T8	F39	0	33	0	0	0	0	late 13th-14th century
341	T27	F85	0	0	24	0	0	0	19th-20th century
386	T27	F91	19	0	0	0	0	0	17th-18th century
413	T56	F100	0	16	0	0	0	0	13th century
641	?T50	?F110	6	0	0	0	0	0	12th century
795	T58	F142	0	0	0	1	0	0	?14th century
786	T56	F152	0	0	12	0	0	0	13th-16th century
300	T25	L1	4	0	0	0	0	0	12th century
306	T20	L1	0	11	0	0	0	0	17th-18th century
313	T28	L1	8	0	6	0	0	0	17th-18th century
332	T34	L1	0	0	0	8	0	0	19th-20th century
339	T35	L1	11	0	0	0	0	0	12th century
349	T48	L1	0	10	0	0	0	0	19th-20th century
356	T34	L1	0	10	0	0	0	0	19th-20th century
373	T38/T37	L1	0	12	5	0	0	0	17th-18th century
728	T39	L1	0	0	66	0	0	0	13th-16th century
852	T68	L1	0	0	15	0	0	0	20th century
440	T54	L1	0	0	0	0	0	36	late 13th, possibly 14th century
904	T73	L1	0	0	14	0	0	0	19th-20th century
927	T74	L1	0	3	0	0	0	0	19th-20th century
1013	T84	L1	22	0	0	0	0	0	12th century
1022	T96	L1	14	0	0	0	0	0	12th century
888	T67	?L1	12	0	15	0	0	0	19th-20th century
21	T5	L2	0	0	0	14	0	0	19th-20th century
142	S3	L11	17	0	0	0	7	0	17th century
400	T56	L28	6	0	0	0	0	0	12th century
406	T51	L28	2	0	0	0	0	0	12th century
603	T38	L28	12	0	0	0	0	0	12th century
1061	T108	L41	0	0	6	0	0	0	13th-16th century
		Totals	154	115	188	44	29	71	601

# Table 56: weight of post-medieval fabric types per finds number and context (stratified material only).

										Fabrics	;							
•	~																	context
on sbi	ench/ ikawa	Intext	4	40a	42	45	45c	45d	45f	15m	46	48b	48d	48e	50	51a	51b	unc
Fin	Soa	ပိ					•		-	7			•				-	
3		F1	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	1680-1750
885	T65		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th
977	Т90		0	0	0	0	0	0	0	0	0	0	0	0	0	36	7	19th-20th
11	T2	F4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	19th-20th
14	T2	F4	4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	19th-20th
96		F8	36	0	0	0	0	0	0	0	0	0	3	0	0	0	0	19th-20th
26	T5	F9	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	?16th
33	Т3	F11	8	0	0	0	0	0	0	0	0	0	18	0	0	0	0	19th-20th
78	Т9	F30	16	0	0	0	0	0	0	0	0	0	4	0	0	0	0	19th-20th
89	T13	F35	4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	19th-20th
112	Т8	F39	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	1600-1750
170	T17	F45	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
192	T18	F52	0	0	0	0	0	0	0	30	0	0	0	0	0	0	0	19th-20th century
235	T20	F58	15	0	0	0	0	0	0	0	0	0	4	0	0	0	0	19th-20th century
301	T16	F63	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
384	T32	F68	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	19th-20th century
364	T27	F74	8	0	0	0	0	0	0	3	0	0	0	0	0	0	0	20th century
330	T31	F76	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	19th-20th century
331	T31	F77	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	19th-20th century
341	T27	F85	32	0	0	0	0	0	0	0	0	0	2	0	0	0	0	19th-20th century
357	T24	F91	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19th-20th century
358	T26	F91	22	0	0	0	0	5	0	0	0	0	6	0	3	0	0	19th-20th century
386	T27	F91	11	0	0	4	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
547	T47	F106	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	19th-20th century
680	T45	F137	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	19th-20th century
704	T56	F144	0	0	0	0	0	11	0	7	0	0	1	0	0	0	0	17th-18th century
889	T59	F150	0	0	0	0	0	0	0	11	0	0	106	0	0	0	0	19th-20th century
891	T61	F150	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	19th-20th century
892	T60	F150	0	0	0	0	0	0	0	0	0	0	24	0	0	0	14	19th-20th century
913	T59/T 60	F150	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	19th-20th century
794	T60	F151	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19th-20th century

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										Fabrics	;							
•	. >																	context
ou spu	rench	ontext	40	40a	42	45	45c	45d	45f	45m	46	48b	48d	48e	50	51a	51b	uuto
Ë	So S	ŭ																
860	T68	F165	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	19th-20th century
905	T73	F166	64	0	0	0	0	0	0	44	0	10	675	0	0	35	0	19th-20th
896	T72	F170	0	0	0	9	0	10	0	0	0	0	0	0	0	0	0	late 16th-
924	T72	F176	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16th-18th
1009	T88	F189	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th
1182		F204	12	0	0	0	0	0	0	0	0	0	10	0	0	10	0	19th-20th
131	S1	L1	0	0	0	0	0	0	0	55	0	0	34	0	0	0	0	19th-20th
193	T18	L1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	19th-20th
221	T21	L1	0	0	7	0	0	0	0	0	0	0	22	0	0	0	0	19th-20th century
271	T23	L1	9	0	0	2	0	0	0	0	0	4	0	0	0	0	0	19th century
272	T23	L1	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	19th-20th century
285	T20	L1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17th-20th century
293	T30	L1	11	0	0	0	0	10	0	0	0	0	19	0	25	0	0	19th-20th century
294	T29	L1	4	0	0	6	0	0	0	0	3	2	9	0	0	12	0	19th-20th century
306	T20	L1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
313	T28	L1	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
332	T34	L1	19	0	0	0	0	0	13	0	0	0	6	0	0	0	0	19th-20th century
335	T40	L1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
349	T48	L1	11	0	0	0	0	7	0	0	0	0	1	0	0	0	0	19th-20th century
356	T34	L1	10	0	0	13	0	0	0	0	0	0	4	0	0	0	0	19th-20th century
367	T50	L1	0	0	0	0	66	0	0	0	0	0	0	0	0	0	0	late 15th century
373	T38/ T37	L1	5	0	0	6	0	7	0	0	0	0	0	0	0	0	0	17th-18th century
416	T38	L1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
437	T46	L1	0	0	0	0	0	0	0	0	0	0	13	0	0	20	0	19th-20th century
462	T50	L1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19th-20th century
615	T37	L1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
618	T43	L1	0	0	0	0	0	0	0	5	0	0	21	0	0	17	0	19th-20th century
687	T56	L1	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	19th-20th century
852	T68	L1	9	0	0	0	0	0	0	0	0	10	69	0	0	0	8	20th century
904	T73	L1	8	0	0	0	0	21	0	5	0	7	61	0	0	0	0	19th-20th century
926	Т3	L1	2	0	0	3	0	0	0	0	0	0	26	0	0	0	0	19th-20th century
927	T74	L1	16	0	0	0	0	28	0	12	0	0	0	0	0	0	0	19th-20th century

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										Fabrics	6							
0	. >																	context
ds ne	ench/ Ikawa	Intext	40	40a	42	45	45c	45d	45f	l5m	46	48b	48d	48e	50	51a	51b	uute
Fin	Tr	ပိ								7			•					
1006	T87	L1	0	0	0	0	0	0	0	0	0	0	20	0	0	0	17	19th-20th
1031	T105	L1	14	0	0	0	0	0	0	0	0	0	21	0	0	0	20	19th-20th
1032	T106	L1	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	19th-20th
284	T25	L1/ E60	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
849	T64	L1/	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	19th-20th
1028	T101	L1/L2	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	19th-20th century
362	T27	L1/L16	9	0	15	0	0	0	0	0	0	0	0	0	0	0	0	17th century
888	T67	?L1	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	19th-20th century
21	T5	L2	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	19th-20th century
43		L2	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
74	T11	L2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	late 16th century
85	Т8	L2	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	19th-20th century
130	S2	L2	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	19th-20th century
703	T56	L2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
707	T56	L2	58	0	0	0	0	0	0	0	0	0	7	0	0	0	0	19th-20th century
142	S3	L11	39	0	0	14	0	0	0	0	0	0	0	0	0	0	0	17th century
309	Т33	L15	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	prob 15th- 17th
418	T37	L16	0	0	0	0	0	18	0	0	0	0	7	0	0	0	0	century 19th-20th
983	T83	L17	0	0	0	0	0	0	0	0	0	0	6	0	0	0	32	19th-20th
396	T56	L28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	10	19th-20th
729	T60	L34	0	0	0	49	0	0	0	0	0	0	0	89	0	0	22	19th-20th
816	T62	L36	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
960	T82	L38	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
1001	T85	L38	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	19th century
1011	T84	L38	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17th-18th century
1203	T126	L1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	late 16th- 17th
899	T66	L36	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	19th-20th
		Totals	819	64	66	182	66	122	13	273	49	38	1,326	89	86	173	167	3,533

#### Appendix 8: catalogue of Roman tile

by Ernest W Black

The tiles present in each context are briefly described, with Roman contexts being listed together at the start. Measurements are given in millimetres. Finds numbers are in brackets.

Abbreviations:exth = external height of flangeS = soakawayF = featureT = trenchL = layerunid. = unidentifiable.

#### **Roman contexts**

Note: ? preceding an entry means the context is not certainly Roman.

(2) L3. T2 tegula base (thickness 14-15) ?(8) L2/L3, T5 3 unid. (2 of which burnt) ?(18) F5, T4 1 unid. (143) L12, S3 ?imbrex (thickness 12-16), 3 ?tegula bases (thickness 17, 17, 17), 2 tegula bases (thickness 18 with signature, thickness 25-28) (149) F43/L13, S3, 1 unid., 1 tegula base (thickness 18) with signature, 1 tegula base (thickness 22-24) and flange (exth 43-48) (290) F59, T23 6 unid. (341) F85, T27 5 unid. (1 of which burnt), 2 *imbrices* (also 5 peg-tiles) (346) F83, T30/T35 1 unid. ?(364) F74, T27 8 unid. ?(374) L23, T37 1 unid. (thickness at least 19) ?(389) F98, T49 2 unid., 1 brick (thickness at least 42), 2 tegula bases (thickness 15, thickness 21) ?(464) F110. T50 3 unid. (516) F47, 3 unid. ?(546) F122, T46 1 unid., 2 *tegula* bases (thickness 13/14, thickness 18), 2 joining *tegula* bases (thickness 15) with ?footprints of animal/bird ?(564) F125, T21 3 unid., 1 burnt imbrex, 3 tegula bases (thickness 12, thickness 16 and burnt, thickness 21), 2 ?tegula bases (thickness 24, thickness 25/26) (570) L30, T45 2 x imbrices, tegula base (thickness 16), tegula base (thickness 22) and flange (614) F117, T45 6 unid. ?(640) F110, T50 1 unid. (1 peg-tile present) (657) F130, T54 1 tegula base (thickness 23) (658) F121, T54 7 unid., 1 brick (thickness 30), 1 damaged tegula flange (659) F117, T45 1 unid., ?tegula base (thickness 18) ?(674) F125, T21 1 unid. (in white fabric), 1 tegula base (thickness 20) (680) F137, T45 6 unid., 2 burnt bricks (thickness 30, thickness at least 34 and glazed), 1 tegula base (thickness 17-19), 2 abraded tegula flanges (843) F156, T56 2 unid., 1 tegula base (thickness uncertain) (926) L3, T22 3 unid., 2 tegula bases (thickness 14, thickness 18), ?tegula base (thickness 25), unkeyed face (thickness 17) of hollow voussoir with part of cutaway (with slight rim to cutaway on outer face) ?(928) L39/L40, T77/T78 5 unid. (949) F43/L13, S3 1 unid., 1 tegula base (thickness 18), 1 tegula base (thickness 22-24) and flange (1003) F141, T94 2 unid. (1004) F141, T94 1 unid. (burnt) ?(1029) F193, T99 1 brick (thickness 29-30), 2 ?tegula bases (thickness 17, thickness 20), 2 tegula bases (thickness 14, thickness 16-17), 1 burnt tegula base (thickness 17) and flange (exth 42-44) (1039) F43, T107 1 unid.

?(1052) F194, T103 2 unid., 1 *tegula* base (thickness 19/20) and flange (exth approx 40)

- (1067) F197, T109 approx 40 unid. Chips of tile and plaster
- (1076) F197, T109 13 unid.
- (1171) L3, T113 1 burnt brick (thickness 49) with signature, 3 joining fragments *imbrex*, 1 burnt *tegula* base (thickness 23)
- ?(1179) F202, S6 1 burnt brick (thickness 30), 1 tegula base (thickness 18-24)
- ?(1190) F207, T66 2 unid. (burnt), 1 burnt ?tegula base (thickness 20/21)

#### **Post-Roman contexts**

- (14) F4, T2 1 *tegula* base/brick (thickness 25), 1 *tegula* base (thickness 21), 1 small part of *tegula* flange
- (21) L2, T5 2 unid., 1 very abraded combed face of box-tile (thickness 17), 1 ?*imbrex*, 1 abraded *tegula* base (thickness 25) and flange (exth approx 40)
- (25) F8, T7 1 unid.
- (33) F11, T3 3 unid., 1 ?imbrex
- (42) F14, T9 3 unid., 1 burnt ?imbrex
- (43) L2, T9 5 unid.
- (47) F12, T4 6 unid., 1 ?brick (thickness 25), 1 ?imbrex
- (60) F8, T7/T13 1 unid., 1 tegula base (thickness 16)
- (63) L2, T9 1 tegula base (thickness 19)
- (85) L2, T8 1 unid., 2 bricks (thickness 32 and thickness 42 burnt), 3 *tegula* bases (thickness 16, thickness 18, thickness 23)
- (88) F32,T9 ?tegula base (thickness uncertain)
- (91) F34, T13 1 *tegula* base (thickness 21)
- (96) F8, T7/T13 3 unid., 1 brick (thickness 31), 1 imbrex, 1 burnt tegula base (thickness 16)
- (99) F32, T9/T15 2 unid., 1 combed face of box-tile (thickness 13), 3 bricks (thickness 28, thickness 29 burnt, thickness 30)
- (105) F38, T7 1 unid., 1 burnt brick (thickness 30)
- (107) ?F39, T8 1 burnt ?box-tile (thickness 19/20) with two very shallow tooth-marks, 1 *tegula* base (thickness 18)
- (121) F39, T8 1 combed face of box-tile (thickness 18-19), 1 burnt brick (thickness 26/27), 1 *imbrex*, 1 burnt *tegula* base (thickness 17-18), 1 burnt *tegula* base (thickness 18) and flange (exth 42)
- (123) L2, T4 1 very abraded and burnt combed face of box-tile (thickness 15)
- (154) L1, T14 8 unid., 1 ?*imbrex*, 1 *imbrex*, 1 burnt ?*tegula* base (thickness 12/13), 1 very abraded *tegula* flange
- (155) L1, T15 1 unid.
- (185) F46, T14 3 unid., combed face of box-tile, burnt (thickness 15-17), 2 bricks (thickness 31, thickness incomplete), ?brick (thickness 26), 2 *imbrices*, 1 *tegula* base (thickness incomplete), 1 *tegula* base (thickness approx 19) with flange (exth approx 39), 1 possible *tessera* (11/25 x 32, thickness 18)
- (192) F52, T18 1 unid., 2 bricks (thickness uncertain and burnt, thickness 34), 1 imbrex
- (206) L1, T19 1 unid. (?thickness 21), burnt
- (207) L1, T19 2 unid.
- (218) F55, T22 2 unid.
- (220) L1, T21 1 burnt tegula base (thickness 22)
- (221) L1, T21 2 unid.
- (235) F58, T20 3 unid., 1 imbrex.
- (236) L1, T20 4 unid.
- (237) F55, T19 1 unid.
- (271) L1, T23 1 unid.
- (272) L1, T23 1 unid.
- (284) L1, F60 T25 3 unid. (one burnt)
- (286) L1, T23 2 unid.
- (295) L1, T16/T26 12 unid., 1 imbrex, 1 very abraded tegula flange
- (296) L1, T26 3 unid.
- (301) F63, T16 1 burnt brick (thickness 35), 1 *tegula* base (thickness 17/18), 1 burnt *tegula* base (thickness 21) with part of cutaway flange (Brodribb 1987, Type ?5) from bottom left corner and signature
- (303) F62, T14 1 unid.
- (304) L19, T23 1 imbrex. 2 tegula bases (thickness 21, thickness 23)
- (309) L15, T33 1 brick (thickness at least 31)
- (312) F68, T38 1 brick (thickness 31), 1 possible *tessera* (30 x 32, thickness 17)
- (313) L1, T28 5 unid.
- (316) F72, T40 1 tegula base (thickness 15-18)
- (331) F77, T31 burnt ?brick (thickness at least 25)
- (332) L1, T34 1 burnt unid., 1 burnt imbrex.
- (336) L17, T26 3 unid.
- (352) L1, T35 1 unid., 2 *tegula* bases (thickness 15, thickness uncertain)
- (357) F91, T24 13 unid., 1 ?tegula base (thickness 13)
- (358) F91, T26 2 unid., 1 burnt tegula base (thickness 18)
- (360) L25, T37 3 unid., 2 bricks, burnt on one surface (thickness 27-32)
- (362) L1/L16, T27 3 unid., 1 brick (thickness at least 28)
- (362) L1, T37/38 3 unid.
- (384) F68, T32 1 tessera (30 x 22, thickness 15/16)
- (386) F91, T27 3 unid.
- (388) F96, T27 1 unid., 1 *tessera* (26 x 20, thickness 15)
- (391) L1, T49 1 ?tessera (approx 25 x 35, thickness 15 with slight mortar traces on base)

(396) L28, T56 6 unid., 1 combed face of box-tile (thickness 19)

(400) L28, T56 3 burnt unid. (one thickness at least 18, one thickness at least 22), 1 burnt ?brick (thickness approx 24)

- (407) L1. T38 5 unid.
- (414) F105, T38 1 unid.
- (416) L1, T38 1 unid.
- (420) F106, T47 3 unid., 1 brick (thickness 34), 2 tegula bases (thickness 24 burnt with signature, thickness 25-27)
- (421) F106, T47 1 ?tegula base (thickness 18-20)
- (437) L1, T46 4 unid., 1 ?brick (thickness approx 24)
- (437) L1, T45 1 burnt tegula base (thickness approx 21/22) with signature
- (439) L1, T50 1 unid., 1 ?*tegula* base (thickness 18), 1 *tegula* base (thickness 23) and flange (exth 47) with ?part of cutaway (Brodribb 1987, Type 5) from bottom right corner
- (440) L1, T54 1 brick (thickness at least 50)
- (450) L1, T47 2 unid., 1 imbrex, 2 bricks (thickness 36, T38), 3 tegula bases (thickness approx 18, thickness approx 19 ?burnt, thickness 21), tegula base (thickness 22 with burning) and damaged flange, ?tessera (20 x 21, thickness 22)
- (459) L8, T46 1 unid., 2 bricks (thickness 25-30, thickness approx 31 burnt), 1 burnt tegula base (thickness 18)
- (460) L1, T53 1 burnt tegula base (thickness 18)
- (462) L1, T50 1 ?tessera (approx 18 x 30, thickness 18)
- (473) L1, T55 1 unid., 1 tegula base (thickness approx 16) and much-damaged flange (exth at least 48)
- (563) L1, T21 4 unid., 1 combed face of box-tile/voussoir (thickness 25),1 brick (thickness 29), 2 tegula bases (thickness 17, thickness 19 and mortared and burnt), 1 burnt tegula base with mortar over burning (thickness 17/18, probably from the same tile as tegula base above) and flange (exth approx 38), ?tegula flange (exth approx 43)
- (615) L1, T37 1 unid., 1 tessera (22 x 22, thickness 21), 1 probable tessera (19 x 26, thickness 19)
- (666) F117, T45/T54 (5 fragments of probably post-Roman brick), 1 mortared brick (thickness 32-35)
- (702) F145, T56 2 unid.
- (704) F144, T56 1 brick (thickness 34)
- (727) L2, T56 2 unid. (one burnt), 1 ?brick (thickness 28), 1 burnt brick (thickness 33), 1 imbrex, ?tegula base (thickness 19/20), 1 burnt tegula base (thickness 18/19), 2 tegula flanges (one from cutaway)
- (786) F152, T56 13 unid., 1 tegula base (thickness approx 20)
- (794) F151, T60 1 ?box-tile (thickness 13) with shallow combing
- (844) L1, F4, T60 2 burnt unid.
- (852) L1, T68 22 unid., 1 mortared and burnt combed face of box-tile (thickness 16-18),10 bricks (thickness 29, thickness 30, thickness at least 31, 2 x thickness 32, thickness 32 heavily burnt, thickness at least 32, 2 x thickness 33, thickness at least 33), 3 imbrices, 4 tegula bases (thickness 14, thickness approx 18, 2 x thickness 20), 3 tegula flanges, 1 ?burnt tegula base (thickness 22-24), with flange (exth 38)
- (861) L1, T68 1 burnt brick (thickness at least 30) (888) U/S, T67 burnt *tegula* base (thickness 24/25)
- (890) F150, T59 1 tegula base (thickness 22), 1 tegula base (thickness 26) and flange (exth 50-55)
- (892) F150, T60 ?burnt tegula base (thickness 15), ?burnt tegula base (thickness 16) and flange (exth 39) - these two may be parts of the same tile, 1 ?burnt tegula base (thickness 22) and flange (exth 42)
- (896) F170, T72 1 brick (thickness approx 30), 2 imbrices, 1 tegula base (thickness approx 19), 1 abraded tequla base and flange
- (898) F173, T71 8 unid.
- (899) L36, T66 10 unid., 3 brick (thickness 35, thickness 35, thickness 38), 1 imbrex, 1 tegula flange, 1 tegula base (thickness approx 13) and part of flange
- (899) L38, T85 6 unid., 3 bricks (thickness at least 25, thickness approx 30, thickness 35), 5 tegula bases (thickness uncertain, thickness 13, thickness 18, thickness 19, thickness 20), tegula base (thickness 17) and flange (exth 40)
- (904) L1, T73 8 unid., 1 combed face of box-tile (thickness 14), 1 ?brick (thickness 29), 4 bricks (thickness approx 30 with signature, thickness 34 burnt, thickness approx 38, thickness 56 ?burnt), 4 imbrices, 1 ?tegula base (thickness 18), 2 tegula bases (thickness 18, thickness 16-20), tegula base (thickness approx 15) and part of flange, 1 tegula flange with cutaway from bottom left
- (905) F166, T73 1 unid., 1 imbrex, 1 mortared tegula base (thickness 27) with signature, 1 tegula base (thickness 20) with part of flange
- (911) L1, T77 7 unid., burnt combed face of ?box-tile (thickness approx 21), 5 bricks (thickness 25, thickness 26/27, thickness 31, thickness 37, thickness 38/40), 4 imbrices, 9 tegula bases (thickness uncertain, thickness 14, thickness 15, thickness 17, thickness 18,

thickness 19, thickness 20, thickness 20/21, thickness 21), 1 *tegula* base (thickness approx 18) with flange (exth 39)

(913) F150, T59/T60 1 burnt *tegula* base (thickness 17-19) with MOB, 1 *tegula* base (thickness 15/16) with flange (exth approx 40) from bottom right corner (Brodribb 1987, Type 5)

- (917) L1, T76 1 unid., 3 *tegula* bases (thickness 17, thickness 19/20, thickness 20), 1 *tegula* flange (exth 38)
- (917) L1, T74 1 imbrex.
- (927) L38, T82 1 unid., 1 burnt brick (thickness approx 33), 1 *imbrex*, 1 abraded *tegula* flange (exth approx 39)
- (965) L38, T81 1 unid., 2 burnt bricks (thickness 34, thickness 39), 1 imbrex.
- (973) L1, T76 1 tegula base (thickness 13)
- (975) F185, T81 2 unid. (one thickness 12), 1 very abraded ?brick (thickness approx 30), 1 *tegula* base (thickness 15), 1 *tegula* base (thickness 19) and flange (exth 32)
- (976) L1, T80 1 combed face of box-tile (thickness approx 18), 1 *tegula* base (thickness 26) and cutaway flange from bottom right corner (Brodribb 1987, Type 2) (exth 54)
- (977) U/S, T90 2 unid., 1 *tegula* base (thickness 17-22)
- (978) U/S, T89 1 unid., 1 *imbrex*, 1 heavily burnt ?brick (thickness at least 27), 1 *tegula* base (thickness approx 22) and flange, 1 very abraded *tegula* base and small part of flange
- (983) ?L1, T83 4 unid. (one burnt), combed face of box-tile (thickness 15), 4 bricks (thickness 29, thickness 30, thickness 31, thickness 36), 1 *imbrex*, 5 *tegula* bases (thickness 15, thickness 16 and burnt, thickness 17 with signature, thickness 19, thickness 19/20), small part of *tegula* base (thickness 19) and flange (exth 34/35), 1 *tegula* base (thickness 18/19) and flange (exth 45)

(992) L1/L2, T79 6 unid., 1 ?burnt brick (thickness 38-39), 1 *imbrex*, 1 ?*tegula* base (thickness 22), 1 *tegula* base (thickness 14)

(995) L1/L2, T92 1 brick (thickness 32), 1 very abraded *tegula* base (thickness approx 17/approx 19) and flange

(1006) L1, T87 3 unid., 4 bricks (thickness 24 and burnt, thickness at least 26, thickness approx 30, thickness 35), 2 *tegula* bases (thickness 18-21, thickness 19 and burnt)

- (1028) L1/L2, T101 2 ?tegula bases (thickness 15, thickness 18), 1 abraded tegula flange (exth approx 45)
- (1031) L1, T105 2 unid., 1 brick (thickness 31)
- (1032) L1, T106 2 unid.
- (1100) F39, T8 3 unid. (2 burnt), 1 burnt combed face of box-tile (thickness 15), 2 joining bricks, burnt before breakage (thickness 34), 1 burnt brick (thickness 35), 1 burnt *imbrex*, 1 burnt ?*tegula* base (thickness 25), 1 mortared *tegula* base (thickness 19/20), 1 *tegula* base (thickness 21) and flange (exth 46), 1 *tegula* base (thickness 19) and flange (exth estimated at 45)
- (1170) L2, T113 2 bricks (thickness 35/36, thickness 37)
- (1192) F151, T120-T123 3 unid.
- (1193) L2, T124 6 unid. (2 burnt), 3 bricks (thickness 32, thickness 34, thickness 40 burnt), 1 *imbrex*, 2 *tegula* bases (thickness 20, thickness 20), 1 *tegula* flange, 1 mortared *tessera* (28 x 15, thickness 18)
- (1203) L1, T126 3 unid., 2 imbrices.

#### Undated

- (27) F10, T5 1 unid. (thickness at least 25).
- (413) F100, T56 (date not known) 8 unid.
- (453) F112, T47 (date not known) 1 burnt brick (thickness 31), 1 imbrex.
- (638) F116, T53 (date not known) 1 imbrex.
- U/S 5 unid., 1 *imbrex*, 2 *tegula* bases (thickness 18, thickness 21), abraded *tegula* base (thickness approx 19) and flange, very abraded *tegula* base and part of flange.

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# Appendix 9: catalogue of clay pipes by N Crummy

# Table 57: list of clay tobacco pipes by context.

Finds	Trench	Feature or	Context description and date	Identification	Type	Notes/date	Bore diameter
no		Layer			(CAR 5)		(mm)
60	T7/T13	F8	excavation trench; modern	3 stem fragments	ı	-	2 × 2.5, 3
96	T7/T13	F8	excavation trench; modern	3 stem fragments	ı	-	2 x 2, 2.5
33	Т3	F11	pit or ditch/excavation trench; 19th century	1 stem fragment		1	2
33	Т3	F11	pit or ditch/excavation trench; 19th century	1 bowl + narrow foot fragment	1	S C in relief on sides of foot = Stephen Chamberlain, 1728-1808, or Stephen Chamberlain Rand, working c 1810-60	2
97	T7	F20	drain; modern	1 stem fragment		-	2
86	T13	F34	pit; modern	1 stem fragment		-	2.5
91	T13	F34	pit; modern	1 stem fragment	ı	-	2
105	T7	F38	ditch or pit/excavation trench; 19th century	1 stem fragment	'	1	£
126	Τ7	F38	ditch or pit/excavation trench; 19th century	1 stem fragment	-	-	3
121	Т8	F39	pit; post-medieval	2 stem fragments		-	2, 2.5
185	T14	F46	ditch/excavation trench; 19th century	2 stem fragments		1	1.5, 2.5
192	T18	F52	ditch or pit/excavation trench; 19th century	1 stem fragment	-	-	2.5
316	T40	F72	ditch/excavation trench; 19th century	1 stem fragment	-	-	3
334	T40	F72	ditch/excavation trench; 19th century	1 stem fragment	'	1	£
331	T31	F77	pit/excavation trench; modern	1 stem fragment		-	1.5
341	T27	F85	disturbed cremation; intrusive	1 stem fragment		-	2.5
358	T26	F91	pit/excavation trench; modern	1 stem fragment	-	-	2.5
7204	T56	F144	ditch; post-medieval or modern	3 stem fragments		-	2 x 2, 3
889	T59	F150	rubble base; modern	1 stem fragment	I	-	2.5
890	T59	F150	rubble spread; modern	1 stem fragment		decorated on each side with panel or cartouche containing broad line of rouletting; 19th century	1.5
891	T61	F150	rubble base; modern	2 stem fragments	I	-	2 X 2
892	T60	F150	rubble base; modern	1 stem fragment	I	-	1.5
794	T60	F151	pit/excavation trench; modern	2 stem fragments	I	-	2, 2.5
905	T73	F166	pit; modern	1 stem fragment		-	2
905	T73	F166	pit; ?modern	1 bowl fragment		plain, mid 17th-18th century?	
898	T71	F173	cut/drain; post-medieval	1 stem fragment	-	-	1.5
925	T72	F176	disturbed cremation; intrusive	1 stem fragment	-	-	2
916	T59	F177	cut; ?modern	1 stem fragment	ı	-	3
1182		F204	disturbed Roman cremation	2 stem fragments			2.5, 3
193	T18	L1	topsoil	1 stem fragment	I		1.5
285	T20	-1	topsoil	1 stem fragment	ı	•	3
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•	•	1 stem fragment	topsoil	5	T106	1032
	•	1 stem fragment	topsoil	۶L1	T83	983
		1 stem fragment	topsoil	L1	T74	927
one tragment has raised decoration or a resting par (see CAR 5, no 2986)		b stem tragments	topsoil		1/3	904
		1 stem fragment	topsoil	L1	T68	861
•	•	1 stem fragment	topsoil	L1	T68	860
	•	3 stem fragments	topsoil	L1	T68	852
-		I root irraginerit; i sterri fragment	topson	Ļ	מכו	100
		1 stem fragment	topsoil	L1	T53	460
		6 stem fragments	topsoil	L1	T51	338
		1 stem fragment	topsoil	L1	T51	131
	·	1 stem fragment	topsoil	L1	T50	462
c 1660-80	6	1 bowl fragment	topsoil	L1	T50	367
-		2 stem fragments	topsoil	L1	T48	349
		1 stem fragment	topsoil	L1	T47	450
		3 stem fragments	topsoil	-1	T46	437
c 1660-1700	6 or /	1 bowl + toot tragment; 6 stem fragments	topsoil	L1	143	618
		1 stem fragment	topsoil	L1	T43	618
-		1 stem fragment	topsoil	L1	T41	318
-		2 stem fragments	topsoil	L1	T40	335
		1 stem fragment	topsoil	L1	T38	407
		1 stem fragment	topsoil	L1	T38/T37	373
	,	1 stem fragment	topsoil	L1	T35	352
c 1670-1700	7	1 bowl fragment; 1 stem fragment	topsoil	Г1	T35	339
		6 stem fragments	topsoil	L1	T34	368
		fragments; 17 stem				
c 1660-1700	6 or 7?	1 bowl + foot fragment; 2	topsoil	L1	T34	356
plain		1 bowl fragment; 10 stem fragments	topsoil	7	Т34	332
-	•	2 stem fragments	topsoil	L1	T30	293
	-	1 foot fragment; 5 stem fragments	topsoil	L1	Т29	294
,	ı	11 stem fragments	topsoil	L1	T28	313
-		1 stem fragment	topsoil	L1	T26	296
•	·	1 foot fragment; 3 stem fragments	topsoil	5	Т26	295
		2 stem fragments	topsoil	L1	T26	295
		2 stem fragments	topsoil	L1	T23	272
	•	1 foot fragment	topsoil	L1	T21	.77
•		- -	topsoil	L1	120	č
		1 stem fragment				306
		- - -   - - -	1 Rott fragment - -   2 Stem fragments - - -   1 foot fragment 5 stem - - -   1 stem fragments - - -   1 stem fragments - - -   2 Stem fragments - - -   1 stem fragments - - -   2 Stem fragments - - -   1 bow fragments - - - -   1 bow fragments - - - -   1 bow fragments - - - -   1 bow f	Uppen Instant mathem ··· ··· ··· ···   Uppen 1 foot fragments ··· ··	Li Lussell Seminagram -   Li Lise Lessen 1 seminagramis - - -   Li Lossel 2 seminagramis - - - - -   Li Lises 1 seminagramis - - - - -   Li Lises 1 seminagramis - - - - - -   Li Lises 1 seminagramis -	121L1Uppen1 contrigutmin $2$ LLot support $1$ Contrigutmin $2$ $126$ L1Uppen1 contrigutmin $2$ $2$ entrifferment $2$

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2, 2 x 2.5, 3	3	2.5	2 x 2, 2 x 2.5, 3	2, 3 x 3	1.5		2.5	3	3	2 x 2.5	2	1.5	3	3
-	-	-		-	-		c 1660-80	-	c 1660-1700	-	-	-	-	
-	-	-		-	-		9	-	6 or 7	-	-	-	-	-
4 stem fragments	1 stem fragment	1 stem fragment	16 stem fragments	4 stem fragments	1 stem fragment		1 bowl fragment	1 stem fragment	1 bowl fragment	2 stem fragments	1 stem fragment	1 stem fragment	1 stem fragment	1 stem fragment
topsoil	topsoil	topsoil	topsoil; post-medieval or modern	subsoil; post-medieval	topsoil/subsoil; post-medieval or	modern	rubble; modern	layer, modern or post-medieval	layer, modern or post-medieval	layer; modern	unstratified	unstratified	unstratified	unstratified
L1/L16	L1/L2	L1/L2	L11	L16	٢2		L26	L28	L28	9EJ	S/N	S/N	S/N	S/N
T27	67T	T92	T53	T37	T8		T37	T56	T51	T66	T67	T72	190	T83
362	992	962	142	418	85		372	396	406	668	888	926	677	983

## Appendix 10: catalogue of miscellaneous finds

## Table 58: list of miscellaneous finds.

Finds no	Context	Туре	No of pieces	Weight (in g)
8	L2/L3	Slag	1	8
30	F1	Fragment of iron-forging slag	1	41
97	F20	Modern ceramic pipe	1	74
170	F45	Coke	3	6
175	F45	Slag	4	2
205	F47	Sandstone	1	4
218	F55	Coke	1	17
285	L1/T20	Carbonised fruit stone	3	4
290	F59	Slag	21	14
320	F71	Charcoal	8	15
331	F77	Slate	1	3
334	F72	Slate	1	17
341	F85	Coal	4	3
349	L1	l uta Sandstone	1	154
357	F91	Concrete	1	14
358	F91	Slate	5	31
360	L25	Slate	1	7
364	F74	Slag	1	4
373	L1	Charcoal	2	1
386	F91	Septaria	2	98
386	F91	Slate	1	10
386	F91	Coal	1	6
406	L28	Charcoal	1	4
413	F100	Slate	1	19
414	F105	Burnt pebble	1	19
414	F105	Coal	1	1
464	F110	Septaria	1	462
542	F114/spit 3	Charcoal	3	19
563	L1	Septaria	1	14
564	F125	Slate	3	19
617	F129	Slag	5	1
621	F131	Slate	2	1
659	F117	Septaria	1	25
786	F152	Sandstone	1	51
786	F152	Coal	2	3
790	F155	Coal	1	12
794	F151	Coal	1	17
845	F134	Charcoal	2	9
852	L1	Septaria	1	348
852	L1	Sandstone	1	184
852	L1	Slag	2	9
852	L1	Slate	2	51
852	L1/T68	Limestone	2	610
880	E150	Sentaria	1	61
880	F150	Slag	1	6
889	F150	Slate	2	11
889	F150	Slag	6	203
891	F150	Burnt coal	<u> </u>	233 Q
898	F170	Coal	J 1	<u> </u>
899	136	Slag	1	30
904	11	Sandstone	1	2 200
904		Slate	1	2,200 Q
911	11	Sandstone	1	159
916	F177	Sentaria	1	29
960	1 38	Sandstone	1	402
965	L38	Septaria	1	483
0.00		Sandstone		
980	F150	Mortar	1	12
983	U/S	Sandstone	1	926
983	?L1, T83	Coal	2	1
1001	L38	Flint	1	200
1006	L1	Mortar	1	13
1022	L1	Sandstone	1	139
1074	F197	Slate	1	10
1076	F197	Coal	4	1

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1193	L2	Septaria	1	22
1193	L2, T124	Mortar	1	6
1205	F197	Iron slag	1	4

CAT Report 323: An archaeological excavation at 1 Queens Road (Handford House, now Handford Place), Colchester, Essex: February 2003-April 2004



Fig 1a Location of Colchester. (Not to scale.)





Fig 2 Map of Roman Colchester, showing site location (after CAR 9, fig 8.2, 259)



Fig 3 Plan of site, showing excavated areas and main features.

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Beverley Road (pavement)









Roman tile



peg-tile



pottery



human bone



edge of context



break of slope



section/limit of excavation



uncertain edge of context



line of truncation



stones



nails



cremated bone



charcoal

Fig 6 Key to plans and sections.



Fig 7 Inhumation burials F1, F31, F40, F119, F154, F159, F171, F208: plans; F158: section.



Fig 8a Bustum F47: plan, showing bone and charcoal.



Fig 8b Bustum F47: plan, showing nails and coin.







Fig 10a Bustum F134: plan, showing bone and charcoal.









Fig 12 F15: plan.



modern pipe trench F18



Fig 13 F19: plan.



Fig 14 F41: plan.





Fig 16 F44: plan.



Fig 17 F45: plan.





lower-middle level





Fig 18 F53: plans.









Fig 20 F53: contents of spit 3 of urn.



Fig 21 F53: contents of spits 4, 5, 7 of urn.















Fig 26 F87: plan.

Fig 27 F88: plan.



Fig 28 F93: plan.





Fig 30 F102: plan.



Fig 31 F108: section and plan, F103: plan.



Fig 32 F113: plan.


Fig 33 F114: section and plan.



Fig 34 F115: section and plan.



Fig 35 F118: plan.



Fig 36 F120: plan.









Fig 37 F123 and F130: sections and plan.



Fig 38 F126: section and plan.



Fig 39 F128: plan and contents of spits 2, 5 and 8 of urn.



Fig 40 F129: plan.



Fig 41 F135: plan.





Fig 43 F137: sections.







Fig 46 F142: plan and contents of spit 6 of urn.











	0			10 cm		
Fig 49 F162: contents of urn.						



Fig 50 F165: sections and plan.



Fig 51 F176: plan.



Fig 52 F178: plan.



Fig 53 F179: plan.



Fig 54 F180: plan.



Fig 55 F181: plan.



Fig 56 F182: plan.



Fig 57 F184: plan.



Fig 58 F186: plan.



Fig 59 F192: plan.



Fig 60 F195: plan.



Fig 61 F197: plan.



Fig 62 F198: plan.



Fig 63 F199: sections and plan.



Fig 64 F200: plan.



Fig 65 F201: plan.



Fig 66 F203: plan.



Fig 67 F204: plan.



Fig 68 F209: contents of base of urn.




Fig 69 F43 metalling: plan and section.



Fig 70 F69 metalling with ditches F65 and F70: section.

0.5 m









Fig 72 Ditch F94 with gully F95: section.



Fig 73 Pit F104: section.







Fig 75 F1, F31, F154, F208: pottery.



Fig 76 F15, F19, F41, F42: pottery.



Fig 77 F44, F45, F53: pottery.







Fig 79 F103, F108, F113, F115: pottery.



Fig 80 F118, F120, F128, F129: pottery.







Fig 82 F141, F142, F162: pottery.



Fig 83 F165, F178, F179, F180: pottery.





Fig 85 F195, F198, F199: pottery.



Fig 86 F200, F201, F204: pottery.



Fig 87 F204, L3: pottery.







Fig 89 F42.8 hone; F45.3 bone bead; F53.8 lamp; F53.15 bone needle; F85.1 lamp.







F120.1a



 

 Fig 91 Box fittings: F120.1 inner and outer face of lock plate, lock bolt, stud through wooden board; F120.2, F120.3, F120.4 ring hinges.
 0

2 cm







Fig 94 F119.1 shale armlet; F134.4 copper-alloy spoon.









Fig 98 F199.2 lamp.



Fig 99 F199.3 picture lamp; F199.6a ring handle; F199.6b stud; F199.7 die; F200.2 mirror; F209.3 shale armlet; F209.4 melon bead.



Fig 100 F96 swan's head terminal; F104 pottery counter; F152 finger ring; L1 pottery counter.





Fig 102 F42.11, F42.15, F42.16 glass unguent bottles; F42.17 glass Hofheim cup; F53.10, F53.11 conical glass flasks.



Fig 103 F126.1 glass jar/urn; F53.12 conical glass flask; F142.4, F142.5 glass unguent bottles.

## Essex Historic Environment Record/ Essex Archaeology and History

## **Summary sheet**

<i>Site address:</i> An archaeological excavation at Handford House, 1 Queens Road (now 'Handford Place'), Colchester, Essex	
Parish: Colchester	District: Colchester
<i>NGR:</i> TL 9858 2475 (c)	<i>Site code:</i> Museum accession code 2003.5
Type of work:	Site director/group:
Excavation	Colchester Archaeological Trust
Date of work: Main excavation February-	Size of area investigated:
June 2003, and then July 2004-January 2005	68m x 65m
Location of finds/curating museum:	Funding source:
Colchester and Ipswich Museums	Developer
Further seasons anticipated? No	<b>Related EHER nos:</b> 11850, 11857
Final report:       CAT Report 323 and summary in EAH	
Periods represented: Roman	

## Summary of fieldwork results:

An excavation was carried out during a small housing development on the site of the demolished Handford House. The excavation revealed 68 burials in total, consisting of 9 inhumation burials (excluding bone from 3 further disarticulated inhumations), 2 busta and 57 other cremation burials (7 of which did not contain cremated bone but have been classified as disturbed cremation burials). Four of the unurned cremation burials may be pyre-debris deposits. One pyre-debris deposit without cremated bone was also recorded. The two busta are busta and are the first burials of this type to be found in Colchester. The excavation consisted of the foundation trenches and service-trenches, equating to approximately 10% of the 68m x 65m site.

Of the 57 cremation burials, 35 were definitely urned, in ceramic or glass containers. In one, the cremated bone had been placed directly within a wooden jewellery box. At least three other cremations included unburnt wooden boxes containing pyre debris or the urn. The remainder of the cremation burials could either have been unurned or urned, but disturbance precludes a definite interpretation. At least three of the cremation burials and one bustum contained pots that had been deliberately broken, post-cremation. In two burials, the broken pots were used to cover lamps, which may have been lit before backfilling. Twenty of the cremation burials contained one or more ancillary vessels alongside the urn/box, not including the several lids for urns. Between 11 and 15 cremation burials contained deliberately-deposited pyre debris in the pit fill.

Several burials yielded butchered animal bone and fish bones suggestive of grave goods or graveside feasting. A Roman rubbish-pit also contained butchered animal bones.

The earliest cremations are mid 1st to 2nd century in date and some are definitely pre-Boudican. The cremation cemetery appears to have been in continuous use until the 3rd or 4th century.

The southern side of the site featured areas of metalling which may be a Roman road or trackway, either a continuous cambered trackway or hollow way, or a series of gravelled areas.

Nine Roman adult inhumations burials were excavated in the northern part of the site, buried in different positions and on different alignments, only two of them definitely buried in coffins. There is no conclusive dating evidence from the inhumations except for three dated to between the mid 2nd to 4th centuries. Two inhumations contained 1st- to 2ndcentury pottery but this may derive from earlier cremation burials. It is not possible to conclude whether the two burial practices of cremation and inhumation were going on concurrently or whether all the inhumations are later than the cremations.
The evidence suggests that, in its earliest phases, the burial ground was closely associated with the inhabitants of the Roman colony with a wholly Romanised life-style, rather than with the surrounding Romano-British (native) population. Busta are often associated with military centres and it is a burial rite likely to have been brought over from the Continent.

The cemetery went out of use at the end of the Roman period and there was evidence of late Roman gravel-extraction. There was very little evidence of activity on the site from later periods. In the 19th century, a series of large trenches was dug, which removed some of the cremation burials and disturbed several inhumation burials. These may be the excavations of antiquarian George Joslin who lived opposite Handford House.

Previous summaries/reports: CAT Report 210

Keywords:	amphora burial, <i>bustum</i> , mirrors, cremation burials, inhumation burials, jewellery boxes, lamps, pyres, road	Significance: ***	
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