Channel Tunnel Rail Link

London and Continental Railways

Oxford Wessex Archaeology Joint Venture

The Roman Cemetery at Pepper Hill, Southfleet, Kent

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ABSTRACT

From 1997 to 1998 Oxford Archaeology undertook an archaeological investigation at Pepper Hill, Southfleet in Kent on behalf of Union Railways South (Limited) ahead of construction of the Channel Tunnel Rail Link. The site lay south of the Roman town and religious complex at Springhead (*Vagniacis*). Excavation revealed almost the entire plan of a Roman-period cemetery which developed alongside a road that took inhabitants, pilgrims and other traffic into the town. A total of 558 graves or other funerary-related features were encountered.

The cemetery was located at a site previously used for burial in the middle Iron Age. At least one grave belonged to that time. No burials were certainly made during the late Iron Age, though quarry pits and a boundary ditch record activity dating before the Roman conquest. The site received the greatest number of burials during the early Roman period (AD 43-130). The rate of burial declined during the 2nd century and, by the 3rd century, few graves were dug. The latest burials comprise a group of five dating after AD 260; given the fortunes of the neighbouring town, none is likely to date far into the 4th century. The site was abandoned after the Roman period until medieval times when quarrying and agricultural activity began.

The predominant rite, appearing throughout the life of the cemetery, was inhumation. Some 360 such graves were excavated. Many were devoid of grave goods – a factor resulting in a high proportion of undated burials – but offerings were by no means uncommon. Pottery was regularly deposited. Drinking vessels were most popular, followed by eating-related vessels, then cooking forms, such as jars. Other objects were less frequent, but could include brooches, shoes and, more rarely, bracelets, beaded necklaces and wooden objects. Skeletons were poorly preserved. Those that survived revealed a mainly adult population with an equal male-female ratio. Ages rarely extended beyond 30 years. Few children were recorded, although their number is probably lower than expected since their bones would have survived least well. Iron nails and decayed wood-derived soil stains attested to the frequent use of coffins. The proportion of coffined burials was higher in the 2nd century, compared with the 1st century. Wooden boxes or caskets filled with grave goods occasionally accompanied the burial.

Almost 150 cremation graves were encountered. The rite spanned the mid 1st to early 3rd century AD. The deceased were cremated on pyres within the cemetery and outside its boundaries. A cobbled surface west of the cemetery may have functioned as a crematorium or place of funerary feasting. The dead, often wearing brooches, necklaces and the like, were occasionally carried to the pyre on a bier. Pyre goods included shoes, pottery, joints of meat, and, rarely, beans and fruits. Overall, urned and unurned graves were equally represented, although urned graves were more common in the 2nd century, echoing the use of the coffin.

The cremated remains had been carefully deposited in correct anatomical order in at least one urn, while the skull had been deliberately excluded from another. A few boxes and caskets were deposited. One casket was particularly ornate, being decorated with lion-headed studs. Analysis of the cremated human remains again indicated a largely adult population, but with a slight bias towards males. Surprisingly, few cremated individuals had died under 40 years, suggesting that the rite was largely reserved for Springhead's oldest inhabitants. However, children were also represented; some accompanied adults in double burials. Unburnt grave goods included pottery – the range of forms was little different from that recovered from inhumation graves – brooches and shoes. Grave goods hinted at changing beliefs in the afterlife during the 2nd century.

An unusual aspect of the cemetery was the presence of *busta*. Here, the deceased were cremated on a pyre and buried where the remains fell into an underlying pit. The features date mainly to the mid or late 1st century AD and the rite was introduced to Pepper Hill by soldiers or other newcomers, probably from the Rhineland or Danube provinces. Almost all *busta* were closely spaced, a further sign, perhaps, of a social or ethnic grouping. Other funerary-related features included cenotaphs that contained no human bone but were otherwise typical graves, and pits that yielded pyre debris only. A well or shaft east of the cemetery was not fully excavated, but is likely to have received ritual deposits.

The cemetery was very crowded and much intercutting was evident. It admitted a cross-section of Spinghead's inhabitants, but inevitably the cemetery contained mainly low-status burials. The comparison with a walled cemetery only a little way north of Pepper Hill, which covered a larger area and contained eight ornate burials, is particularly revealing.

RÉSUMÉ

Entre 1997 et 1998, Oxford Archaeology entrepris des recherches archéologiques à Pepper Hill, près de Southfleet dans le Kent, pour le compte de Union Railways (South) Limited et en avance de la construction de la ligne ferroviaire du Tunnel sous la Manche (CTRL). Le site se trouve au sud de la ville romaine et du complexe religieux de Springhead (*Vagniacis*). Les fouilles ont révélé le plan presque complet d'un cimetière de l'époque romaine qui s'est développé le long d'une route qui emmenait les habitants, les pèlerins et autre circulation dans la ville. Un total de 558 tombes et autres structures funéraires furent mises au jour.

Le cimetière était placé sur un site auparavant utilisé comme lieu de sépulture vers le milieu de l'âge du fer. Au moins une tombe appartenait à cette époque. Aucune tombe supplémentaire n'appartient de manière certaine à la fin de l'âge du fer, bien que des fosses d'extraction ainsi d'un fossé de délimitation témoignent d'activités antérieures à la conquête romaine. Le site reçut le plus grand nombre de tombes vers le début de la période romaine (43

à 130 ap. JC). Le taux de sépultures déclina au cours du IIème siècle et à partir du IIIème siècle, peu de tombes furent creusées. Les sépultures les plus tardives se composent d'un groupe de cinq, postérieur à l'an 260 ; étant donné le sort de la ville voisine, il est peu probable qu'aucune d'entre elles soient datées bien après le début du IVème siècle. Le site fut abandonné après la période romaine jusqu'aux temps médiévaux où des activités d'extraction et agricoles commencèrent.

Le rite prédominant, apparent tout au long de la durée de vie du cimetière, fut l'inhumation. Quelques 360 tombes de ce type furent fouillées. Nombre d'entre elles étaient dépourvues de mobilier funéraire - un facteur qui a résulté en une large proportion de sépultures non datées - mais les offrandes n'étaient en aucun cas rares. De la céramique était régulièrement déposée. Les vaisselles à boire étaient les plus populaires, suivies par les récipients de table, puis les formes à cuire, telles que les jarres. Les autres types d'offrandes étaient moins communs, mais pouvaient inclure des broches, des chaussures et plus rarement des bracelets, des colliers à perles et des objets en bois. Les squelettes étaient mal préservés. Ceux qui ont survécu révélèrent une population essentiellement adulte avec une proportion égale entre mâles et femelles. L'âge s'étendait rarement après 30 ans. Peu d'enfants furent découverts, bien que leur nombre soit probablement plus bas que prévu étant donné que leurs ossements auraient survécu le moins bien. Des clous en fer et des traces dans le sol dérivées de la décomposition du bois ont permis d'attester de l'usage fréquent des cercueils. Le taux de sépultures en cercueils était plus élevé au IIème siècle après JC en comparaison avec le Ier siècle. Des boites en bois ou des coffrets remplis d'offrandes accompagnaient parfois la sépulture.

Presque 150 tombes à incinération furent découvertes. Ce rite couvrit une durée depuis le milieu du Ier siècle jusqu'au début du IIIème siècle. Les morts étaient incinérés sur des bûchers situés dans la nécropole mais au delà de ses limites. Une surface pavée, à l'ouest du cimetière, a peut-être fonctionné comme crématorium ou comme lieu de festin funéraire. Les morts, qui portaient souvent des broches, des colliers ou d'autres objets de parures, étaient occasionnellement portés au bûcher sur des brancards. Les offrandes funéraires comprenaient des chaussures, de la poterie, des rôtis de viande et plus rarement des haricots et des fruits. Dans l'ensemble, les incinérations en urnes ou directement dans la terre étaient représentées de manière équitable, bien que les incinérations en urnes apparaissaient plus courantes au IIème siècle, rappelant ainsi l'usage des cercueils. Les restes incinérés avaient été soigneusement déposés dans l'ordre anatomique dans au moins une des urnes, tandis que le crâne avait été exclu délibérément dans une autre. Quelques boîtes et coffrets étaient également déposés. Un coffret était particulièrement chargé, orné de clous décorés de têtes de lions. L'analyse des restes humains incinérés a indiqué une fois de plus une population essentiellement adulte, mais avec un nombre légèrement plus élevé de mâles. Etonnamment,

peu d'individus incinérés sont morts avant l'âge de 40 ans, ce qui suggère que ce rite était largement réservé aux plus vieux habitants de Springhead. Cependant, les enfants étaient également représentés, certains accompagnaient des adultes dans des doubles sépultures. Les offrandes funéraires non brûlées comprenaient de la poterie (l'éventail des formes différait peu du matériel récupéré dans les tombes à inhumation), des broches et des chaussures. Les offrandes funéraires suggérèrent un changement des croyances dans l'au-delà au cours du IIème siècle.

Un aspect inhabituel de la nécropole était la présence de *busta.* Les décédés étaient incinérés sur un bûcher et enterrés à l'emplacement où les restes tombèrent dans la fosse sous-jacente. Ces structures datent essentiellement du milieu ou de la fin du Ier siècle ap. JC et furent introduites à Pepper Hill par des soldats ou d'autres nouveaux arrivants probablement venus des provinces rhénanes ou du Danube. Presque tous les *busta* étaient situés ensemble, ce qui constitue peut-être un signe supplémentaire de rassemblement social ou ethnique. Les autres structures de type funéraire comprenaient des cénotaphes, qui ne contenaient pas d'ossements humains mais étaient sinon comme des sépultures typiques, et des fosses qui ne produisirent que des débris de bûcher. Un puits ou une chute situé à l'est du cimetière ne fut pas entièrement fouillé, mais a probablement reçu des dépôts rituels.

La nécropole était bondée et il était évident que de nombreuses structures s'entrecoupaient. Elle admis un échantillon des habitants de Springhead, mais inévitablement le cimetière contenaient de nombreuses sépultures de bas statut. La comparaison avec une nécropole emmurée située seulement un peu plus au nord de Pepper Hill, qui couvrit une superficie plus importante et contenait huit sépultures ornées, était particulièrement révélatrice.

ZUSAMMENFASSUNG

1997/98 unternahm Oxford Archaeology im Auftrag von Union Railways South im Vorfeld des Baus der Bahnstrecke durch den Kanaltunnel (Channel Tunnel Rail Link) archäologische Untersuchungen bei Pepper Hill, Southfleet, in Kent. Das Gelände lag südlich der Römerstadt und religiösen Stätte von Springhead (*Vagniacis*). Die Ausgrabung brachte fast den gesamten Grundriss eines römerzeitlichen Gräberfelds neben einer Straße zum Vorschein, über die Bewohner, Pilger und sonstiger Verkehr in die Stadt gelangte. Insgesamt wurden 558 Gräber und andere grabrelevante Strukturen entdeckt.

Das Gräberfeld lag an einer Stelle, an der schon in der mittleren Eisenzeit Bestattungen vorgenommen wurden. Mindestens ein Grab stammte aus jener Zeit. Während der späten Eisenzeit wurden mit Sicherheit keine weiteren Gräber angelegt, obwohl Steinbruchgruben und ein Grenzgraben Aktivitäten aus vorrömischer Zeit belegen. Die meisten Gräber

stammten aus der frührömischen Periode (43–130 n. Chr). Schon im 2. Jahrhundert ging die Zahl der Bestattungen zurück und im 3. Jahrhundert wurden kaum noch Gräber ausgehoben. Die jüngste, aus fünf Grabstätten bestehende Gruppierung wurde nach 260 n. Chr. angelegt; angesichts des Schicksals der benachbarten Stadt ist es unwahrscheinlich, dass die Bestattungen weit ins 4. Jahrhundert hineinreichten. Die Stätte wurde nach der Römerzeit aufgegeben und erst im Mittelalter wieder für Steinbruch- und landwirtschaftliche Arbeiten genutzt.

Auf dem Gräberfeld fanden zeit seines Bestehens vorwiegend Erdbestattungen statt. Gut 360 solcher Gräber kamen zur Ausgrabung. Viele enthielten keine Grabbeigaben – weshalb ein hoher Anteil der Gräber nicht datiert werden konnte –, andererseits waren solche Beigaben durchaus nicht ungewöhnlich. Eine regelmäßige Grabbeigabe waren Keramikgegenstände. Am beliebtesten waren Trinkgefässe, gefolgt von Essgeschirr und danach von Kochgefäßen wie etwa Töpfen. Andere, seltenere Beigaben waren Fibeln, Schuhe und, etwas weniger häufig, Armreifen, Perlenketten und hölzerne Objekte. Die Skelette waren nicht besonders gut erhalten. Die, die noch vorhanden waren, wiesen auf eine vorwiegend erwachsene Bevölkerung mit ausgeglichenem Geschlechterverhältnis hin. Das Lebensalter lag nur selten über 30 Jahren. Kinder wurden kaum gefunden. Ihre Zahl ist niedriger als erwartet, wohl deshalb, weil ihre Knochen für den Verfall am anfälligsten waren. Eisennägel und von verwittertem Holz stammende Bodenverfärbungen waren ein Beleg für den häufigen Einsatz von Särgen, wobei die Zahl der Sargbestattungen im 2. Jahrhundert höher war als im ersten. Gelegentlich fanden sich auch hölzerne Kästchen oder Schatullen mit Grabbeigaben.

Daneben wurden fast 150 Brandbestattungen verzeichnet, ein Ritus, der von der Mitte des ersten bis ins frühe 3. Jahrhundert n. Chr. zu beobachten war. Die Verstorbenen wurden auf Scheiterhaufen innerhalb und außerhalb des Gräberfelds verbrannt. Ein Pflasterareal westlich des Gräberfelds könnte als Verbrennungsstätte oder als Ort für Begräbnisfeiern gedient haben. Die Toten, die häufig Fibeln, Halsketten und dergleichen trugen, wurden gelegentlich auf einer Totenbahre zum Scheiterhaufen gebracht. Oft wurden als Beigaben Schuhe, Tonwaren, Fleischkeulen und seltener Hülsenfrüchte und Obst mitverbrannt. Insgesamt gab es etwa gleich viele Urnen- wie urnenlose Gräber, auch wenn Urnengräber im 2. Jahrhundert häufiger vertreten waren, parallel zur Sargbenutzung. Die Leichenbrände waren in zumindest einer Urne sorgfältig in korrekter anatomischer Reihenfolge eingelagert, in einer anderen war der Schädel vorsätzlich entfernt. Vereinzelt wurden auch Kästchen und Schatullen gefunden. Eine Schatulle war besonders reich verziert, nämlich mit Nägeln, auf deren Köpfen Löwen abgebildet waren. Eine Analyse der verbrannten menschlichen Überreste wies auch hier auf eine weitgehend erwachsene Bevölkerung hin, mit einem leichten Überhang an Männern. Überraschenderweise waren nur wenige der eingeäscherten Personen jünger als 40 Jahre alt, was darauf schließen lässt, dass diese Bestattungsform in

erster Linie den ältesten Bewohnern von Springhead vorbehalten war. Dennoch waren auch Kinder vertreten, einige zusammen mit Erwachsenen in einem Doppelgrab. Als unverbrannte Beigaben fanden sich Tonwaren – deren Formenspektrum sich kaum von dem der Erdgräber unterschied – sowie Fibeln und Schuhe. Die Grabbeigaben deuteten darauf hin, dass sich die Glaubensvorstellungen zum Leben nach dem Tod im 2. Jahrhundert änderten.

Ein ungewöhnlicher Aspekt des Gräberfelds war der Fund von *Busta*. Bei dieser Bestattungsform wurden die Toten auf einem Scheiterhaufen über einer Grube verbrannt, in die die Überreste fielen. Diese Strukturen stammten vorwiegend aus dem mittleren oder späten 1. Jahrhundert n. Chr. Sie wurden von Soldaten oder anderen Neuankömmlingen, vermutlich aus dem Rheinland oder den Donauprovinzen, nach Pepper Hill gebracht. Fast alle *Busta* lagen dicht beisammen, womöglich ein weiterer Hinweis auf eine besondere soziale oder ethnische Gruppierung. Zu den sonstigen Funden zählten Grabmale ohne menschliche Knochen, die ansonsten wie normale Gräber aussahen, und Gruben, die nur Scheiterhaufenrückstände enthielten. Ein Brunnen oder Schacht im Osten des Gräberfelds, der nicht komplett ausgegraben wurde, enthielt wahrscheinlich kultische Deponierungen.

In dem stark gefüllten Gräberfeld wurden viele Überschneidungen beobachtet. Man trifft hier auf einen Querschnitt der Bevölkerung von Springhead, allerdings herrschen zwangsläufig Gräber niederrangiger Personen vor. Besonders aufschlussreich ist der Vergleich mit einem ummauerten Gräberfeld nur wenig nördlich von Pepper Hill, das flächenmäßig größer war und acht kunstvoll verzierte Grabstätten aufwies.

ABSTRACTO

Oxford Archaeology, en nombre de Union Railways South, llevó a cabo una investigación arqueológica previa a la construcción de Channel Tunnel Rail Link, en Pepper Hill, Southfllleet, Kent, entre 1997 y 1998. El yacimiento está localizado al sur de la ciudad romana y complejo religioso de Springhead (*Vagniacis*). La excavación reveló casi la totalidad de la planta del cementerio romano que se extendía a lo largo de la vía que conducía habitantes, peregrinos y otro tráfico a la ciudad. Se localizaron un total de 558 tumbas y otras estructuras funerarias.

El cementerio estaba situado en un área previamente utilizada como enterramiento en la mitad y final de la Edad del Hierro. Por lo menos una tumba corresponde a esta época. No se documentan otros enterramientos durante el final de la Edad del Hierro, a pesar de que un pozo de extracción y una zanja delimitadora indican cierta actividad anterior a la conquista romana. El yacimiento recibe el mayor número de enterramientos durante el inicio del período Romano (43-130 d.C.). El número de éstos decayó durante el siglo II d.C. y en el siglo III d.C. sólo unas pocas tumbas fueron excavadas. Entre los enterramientos más tardíos incluye

un grupo de cinco tumbas con datación posterior al 260 d.C.; dado el declive de la ciudad vecina, ninguna de ellas parece datar más allá del siglo IV d.C. El yacimiento se abandona después del período romano hasta época medieval cuando se inicia la actividad agrícola y de extracción.

A lo largo de la vida del cementerio, el rito predominante fue la inhumación. Unas 360 tumbas de este tipo fueron excavadas. Muchas carecían de ofrendas- y por tanto difícil de datar. Sin embargo, las ofrendas no eran inusuales. Cerámica aparecía depositada frecuentemente en las tumbas. Los recipientes para beber eran los más habituales, seguidos de recipientes para comer y de cocina, como jarras. Entre las ofrendas menos frecuentes se incluían broches, zapatos y más raramente, brazaletes, collares y objetos de madera. Los esqueletos se hallaron en mal estado de conservación. Entre aquéllos mejor conservados se identificó una población principalmente adulta con igual proporción entre la femenina y la masculina. La edad raramente sobrepasa los 30 años. Se documentó escaso número de niños, debido seguramente a la peor conservación de los huesos. Clavos de hierro y marcas de madera descompuesta en la tierra demuestran el uso frecuente de ataúdes. La proporción de enterramientos en ataúd era mayor en el siglo II d.C. comparado con el siglo I d.C. En ocasionos, cajas de madera o cofres llenos de bienes funerarios acompañaban el enterramiento.

Se han identificado alrededor de 150 tumbas de cremación. Este rito se extiende desde la mitad del siglo I d.C. hasta el inicio del siglo III d.C. Los difuntos eran cremados en piras tanto en el cementerio como fuera de su límite. Una superficie de piedras al oeste del cementerio podría haber servido como crematorio o lugar de homenaje funerario. Los difuntos, ataviados a menudo con broches, collares y similar, en ocasiones eran transportados a la pira en antas. Entre las ofrendas en la pira se incluyen calzado, cerámica, articulaciones de carne y raramente judías y frutos. En general, tanto las tumbas con urna como sin ella estaban igualmente representadas, aunque los enterramientos con urna eran más habituales en el siglo II d.C. Al menos en una de las urnas, los restos cremados aparecen cuidadosamente depositados en orden anatómico, mientras que el cráneo aparece deliberadamente excluido en otra.

Es raro encontrar cajas y ataúdes depositados en las tumbas. Un ataúd apareció especialmente ornamentado, decorado con remaches de cabeza de león. Una vez más, los análisis de los restos humanos cremados indican una población mayoritariamente adulta, con cierta tendencia hacia una población masculina. Sorprendentemente, escaso número de individuos murieron cremados antes de los 40 años de edad, sugiriendo que este rito quedaba reservado para la población senil de Springhead. Sin embargo, infantes también aparecen representados; algunos acompañan adultos en enterramientos dobles.

Entre los bienes funerarios sin cremar se incluyen cerámica- las formas difieren poco de las registradas en las inhumaciones- broches y calzados. Estos bienes funerarios advierten un cambio en las creencias del más allá durante el siglo II d.C.

Un aspecto inusual del cementerio es la presencia de bustos. Los difuntos eran cremados en una pira y enterrados directamente en la fosa donde caían los restos. Las estructuras fechan principalmente de mitad y final del siglo I d.C. y fueron introducidas en Pepper Hill por soldados u otros recién llegados, probablemente de las provincias del Rhin o del Danubio. Casi todos los bustos se localizaron juntos, un signo quizás de agrupamiento social o étnico. Entre otras estructuras funerarias se incluyen cenotafios sin restos humanos, por otro lado tumbas típicas, y fosas con tan sólo debris de las piras. A pesar de no haber sido excavado un pozo u hoyo al este del cementerio, es posible que éste hubiera recibido depósitos rituales.

El cementerio fue muy repleto y las superposiciones son evidentes. Éste muestra una sección de la población de Springhead pero inevitablemente el cementerio contenía mayoritariamente enterramientos de bajo status. Es interesante su comparación con un cementerio amurallado a poca distancia al norte de Pepper Hill que cubría una mayor extensión y se localizaron ocho enterramientos ornamentados.

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The following specialists contributed to this report: Michael J Allen (radiocarbon dating), Edward Biddulph (Roman pottery), Joanna Bird (samian pottery), Paul Booth (coins), Ceridwen Boston (human remains), Dana Challinor (charcoal), Hilary Cool (small finds), Anne Davis (charred plant remains), Brenda Dickinson (samian stamps), Grace Jones (prehistoric pottery), Jennifer Kitch (animal bones), Dan Stansbie (Roman pottery) and Annsofie Witkin (human remains). Illustrations were prepared by Anne Stewardson and Laura Kirby, with CAD/GIS support from Matt Bradley. The submission and calibration of radiocarbon dates was coordinated by Michael J Allen, in discussion with Alex Bayliss and Peter Marshall of the English Heritage Scientific Dating Service. The reconstruction image was drawn by Rosalyn Smith. The abstract was translated by Mercedes Planas (Spanish), Gerlinde Krug (German) and Valerie Diez (French).

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1 INTRODUCTION

1.1 Project Background

The Roman cemetery at Pepper Hill was discovered and excavated as part of an extensive programme of archaeological investigation carried out in advance of the construction of the Channel Tunnel Rail Link (CTRL). The detailed excavation was undertaken following the unexpected discovery of Roman burials during a watching brief on cable diversion works for SEEBoard, in advance of construction of the rail link. Oxford Archaeology (then the Oxford Archaeological Unit, OAU) was commissioned by Union Railways (South) Limited (URS) (a subsidiary of London and Continental Railways) to undertake a detailed archaeological excavation at the site of Waterloo Connection, Southfleet, Kent, located 0.5 km to the south of the Roman town at Springhead (Vagniacis) (Fig. 1). The work was project managed by Rail Link Engineering (RLE).

CTRL was built by London & Continental Railways Limited in association with Railtrack Group plc. The project was authorised by Parliament with the passage of the CTRL Act, 1996. The high-speed line runs for 109 km (68 miles) between St Pancras station in London and the Channel Tunnel and was built in two sections. Section 1 lies entirely within Kent and runs from Fawkham Junction (Gravesham) to Folkestone. The boundary between CTRL Sections 1 and 2 separates the Pepper Hill cemetery from the associated Roman settlement at Springhead. The latter was extensively excavated in advance of CTRL Section 2 and is the subject of a separate publication (OWA, in prep.).

Table 1: Pepper Hill principal sites: Fieldwork events

Fieldwork Event	Type	Code	Contractor	Date of fieldwork
Pepper Hill	Excavation	ARC PHL97	OA	1/11/97-16/1/98
South of Station Road	Evaluation	ARC SSR98	OA	19/1/98-23/1/98
New Barn Road	Excavation	ARC NBR98	OA	1/8/98-15/1/99

The archaeological work was carried out according to Written Schemes of Investigation (WSIs) prepared by Rail Link Engineering (RLE), and agreed in consultation with English Heritage and Kent County Council (KCC) on behalf of the Local Planning Authorities (URL 1998b). The first stage of work began in November 1997 (ARC PHL97). After several weeks, it became apparent that it would be impossible to complete the excavation of the, by now obvious, cemetery within the easement width before the cable trench was due to be excavated. Following meetings with SEEBoard, KCC and RLE it was agreed that work would concentrate on clearing a 9 m wide strip across the cemetery, designated Area A, and that work should continue on Area B. SEEBoard conceded that Area C, to the north of the cable trench, was no longer required as part of the construction work. However, it became clear that

Area C would in fact be affected by construction work for the CTRL and that complete excavation of the remainder of the cemetery would be required. OA carried out this second stage of work between August 1998 and January 1999 (ARC NBR98). The total excavated area was *c.* 0.99 ha in extent although the cemetery and associated features fell within an area of only *c.* 0.2 ha. The cemetery was excavated in detail, while the remaining areas were subject to a process of stripping, mapping and sampling. The results of the archaeological evaluation, consisting of 10 trenches excavated on farmland adjacent to Station Road (B262) and south of the A2, Southfleet, on the opposite side of the valley to the cemetery, were assessed in a separate fieldwork report (URL 1998a).

1.2 Geology and Topography

The geology of the area comprised sands and gravels overlying brickearth. The site sloped gently from south to north, towards Watling Street and Springhead Roman town, and dropped away sharply to the west of the cemetery (Figs 1 and 2). The site, at its highest point in the south, approached 30 m above OD; graves had been dug at heights of between 22 and 25 m above OD. The site was in a field which was used for arable farming and centred on URL grid point 41904 52098 and NGR grid point TQ 6190 7210 (Plate 1).

1.3 Archaeological and Historical Background

Pepper Hill cemetery was located 0.5 km to the south-east of central *Vagniacis*, the Roman-period 'small town' (SAM KE 158) and religious complex at Springhead. The town's Roman name is encountered in the *Antonine Itinerary*, and, deriving from British roots, is taken to mean 'the estate of, by, or at the marshy place' (Rivet and Smith 1981, 485). Occupation of the area pre-dated the Roman conquest of AD 43, however. Pottery and flint tools attest to Palaeolithic, Mesolithic and Neolithic activity along the Ebbsfleet Valley. Features dating to the Bronze Age have been uncovered to the west of the later town (Smith 2004, 1-2), while a later Bronze Age settlement was revealed some 3 km east of Springhead in Gravesend (Mudd 1994). While late Bronze Age to middle Iron Age activity is scarce (Williams 2003, 224), evidence belonging to the late Iron Age appears to be substantial. Excavations during the 1950s and early 1960s by William Penn revealed sequences of boundary ditches, enclosures and postholes that lay under the Roman settlement. But these generated only limited interest until a 1984 study confirmed their late Iron Age date and potential significance as a religious antecedent to the later Roman temple complex (French 1984; Davies 2001, n. 3). That marshes, bogs, streams, rivers and springs - indeed almost anything connected with water - were often venerated in the Iron Age is well known, and the practice continued into the later period (Burnham and Wacher 1990, 192).

Smith (2004, 4-5) argues for a military presence at Springhead during the Conquest period. If this is the case, then it was short-lived; by the later 1st century AD, the religious complex had begun to take shape. At least seven temples or other religious structures - Detsicas (1983, 67) counts three, maybe four, temples - have been excavated within the central precinct. These were constructed at various intervals between the later 1st century and the early 3rd century. The end of Springhead is harder to date. Detsicas (1983, 70, 75) suggests that Building 10, a shrine, continued in use until the early 4th century, and that Temple II remained in use until the mid 4th century. The latest coin evidence from Temple V, however, points to a decline in the town's formal religious role beginning by the later 3rd century (Davies 2001, 164). Fourth and early 5th century activity is otherwise scarce, and it may be that the town was barely functioning, although Davies (2001, 163) notes that the late Roman horizons have been much disturbed and truncated. Besides the temples, the settlement encompassed industrial activity, including metalworking and pottery production (Detsicas 1983; Smith 2004). Northfleet villa lay some 2 km north of the town. Recent excavations by Oxford Archaeology have allowed us to clarify our understanding of the site, not least its chronology. The estate, modest after the conquest, developed into large courtyard villa complex during the later 2nd century, complete with bath and aisled buildings. The villa may have continued to function in the late 4th or early 5th century, despite the decline of *Vagniacis* (Williams 2003, 230-1).

Roman burials have been uncovered in small numbers in and around Springhead, though many have escaped detailed record. A inhumation grave, tile-lined and roofed, was uncovered in 1955 1.5 km north of Springhead, possibly relating to the nearby villa (Williams 1956, 266). Burials within a walled cemetery found in 1801, situated some 300 m north of Pepper Hill at the junction of New Barn Road and Watling Street (Rashleigh 1803; Jessup 1959, 14, 29-30), were among the more impressive of interments. The cemetery contained at least eight burials. The cremated remains of two individuals were contained in glass *amphorae* and housed in a stone sarcophagus. Two unburnt bodies were buried in lead coffins placed in a stone tomb. Accompanying grave goods included gold bracelets, a gold ring and pendant, and samian pottery. The cemetery was an early 3rd century construction, though it appeared to contain individuals buried elsewhere in the 2nd century and subsequently re-buried (Davies 2001).

Excavation by the Kent Archaeological Rescue Unit (KARU) in the Garden Centre site uncovered a small enclosed group of seven graves - three cremation and four inhumation burials - on the east side of a metalled road (Philp and Chenery 1997, 8-12). All of the cremation burials and one of the inhumations appear to date to AD 70-100 and may represent a single family plot. Each of the cremation burials was accompanied by five pottery vessels. Animal bones associated with three of the burials were interpreted as food offerings. The

contents of another cremation grave had been deposited in a wooden box, while two of the inhumation burials had been made in wooden coffins, with one of them additionally accompanied by a wooden box.

Cremation and inhumation graves were found in 1921-2 in an area well to the south-east of the town (*VCH* 1932, 91). Burials were also discovered in a SEEBoard pipe trench excavated in 1994 which extended across the eastern portion of the scheduled area (Boyle and Early nd). The remains of 12 neonatal infants were recovered from a variety of settlement contexts largely dating to the 1st and 2nd centuries.

For some years it has been known that a Roman road, south of Watling Street, entered the Roman town of Springhead from a southerly direction. This road was encountered in separate excavations in 1994 by OA (Boyle and Early nd; Philp and Chenery 1997) and tentatively interpreted as a continuation of a road leading away from the temple precinct (the so-called Temenos Road East or R3 identified by Penn (1965, fig. 1)). Pepper Hill cemetery was located on the west side of this road some 350 m away from the southernmost temple.

2 AIMS

The aim of this report is to present synthesised data at an interpretative level that can be assimilated into complementary studies. This synthetic report is supported by the fieldwork and research archive which is freely available as a web-based digital archive (ADS 2006).

In support of the CTRL Project Monograph (Booth *et a*l. 2007), the Pepper Hill report integrates key assemblages and stratigraphic data into a site sequence secured on key dating evidence from artefact groups. The report includes a discursive narrative describing the sequence of activity and reasoning evidence (URS 2003, 15-16).

The updated research aims specific to Pepper Hill focused on four principal aspects (URS 2001, 42-6). A crucial aim was to gain a good understanding of the site's chronology, which, despite the general truncation and high proportion of 'empty' graves, would allow detailed phasing of the site, as well as contribute to wider questions of regional prosperity or decline. It was important too to understand mortuary practices, cemetery development and organisation. An additional, but very specific aim, was to study the *busta* apparent at the site, exploring their implication as an intrusive rite. Questions relating to the location of the cemetery were also addressed. Though acknowledged as key areas of study, aims concerning the relationship between the cemetery and the town could not be addressed in detail at this stage, and were postponed until analysis on CTRL Section 2 data could begin.

3 METHODS

The site, not anticipated before fieldwork, was discovered during a watching brief for cabling works. Fieldwork was carried out in two stages. The first (ARC PHL97) commenced with topsoil stripping of the cable easement by 360-degree excavators fitted with toothless ditching buckets. Areas of darker soil containing frequent pottery fragments were identified during the archaeological monitoring, and the level of stripping was adjusted to ensure that any significant archaeological deposits in the area were not damaged. Excavation of what was clearly a cemetery commenced soon after. The second stage (ARC NBR98) began in August 1998. Due to the difficult weather conditions encountered through the winter months, polytunnels were erected over the excavation area to allow all-weather working (Plate 2). Despite the presence of 24-hour security, the site was affected by metal detectorists immediately after the discovery of the cemetery. Cremation burials in particular were damaged.

All graves were fully excavated, and each individual context within a burial group was assigned a unique number from a continuous running sequence (Plate 3). Graves were planned at 1:10 scale, or 1:5 for the particularly complex examples. The fragile nature of the inhumed bodies often necessitated their removal in soil blocks for laboratory excavation. Bulk soil samples were recovered from all graves for the recovery of charred plant remains, human and animal bone and small artefacts. Initially all deposits of cremated bone were excavated on site in a series of 20 mm spits as recommended by McKinley and Roberts (1993, 6). Each spit was planned and the presence of clearly identifiable fragments was noted. Pressure of time forced a modification to the excavation strategy, and all complete or substantially complete vessels were subsequently lifted as a block for laboratory excavation. Vessels which were deemed to be less than 50% complete were not generally excavated in spits.

Busta and pyre sites (assumed to be *busta* during fieldwork) were subjected to 100% sampling and excavated in spits by quadrant to allow the osteologist to detect any patterns in the distribution of skeletal elements. A full record of the distribution in both plan and section at a scale of 1:10 was made after the excavation of each spit. Features other than graves and pyre-related deposits were excavated and planned at a scale of 1:10. They were generally fully excavated, although features of low archaeological significance, including tree throw holes and quarries, were usually half-sectioned.

The MAP2 assessment report was produced by OA in accordance with the specification produced by RLE (URS 2000). All method statements followed national guidelines and were agreed in consultation with English Heritage and Kent County Council (KCC) on behalf of the Local Planning Authority.

The post-excavation analysis and report were carried out by Oxford Wessex Archaeology Joint Venture (OWAJV) following the methodology set out by the updated project design for archaeological analysis and publication (URS 2001). All project design documents are available in the digital archive (ADS 2006).

4 RESULTS

4.1 Phase Summary

The site phasing was based primarily on finds evidence, particularly pottery. Stratigraphic visibility was poor overall. Grave cuts were often ill-defined, since the soil removed to create the grave was usually returned as backfill. The cemetery was densely populated, and much intercutting of graves was evident. Very few graves survived as discrete features. The high level of truncation - inevitably resulting in the redeposition of material - was exacerbated by later ploughing. There were, in addition, many graves that lacked datable material. Some phasing based on the stratigraphic relationships was possible, however, and a sufficient number of clear relationships existed to support the general sequence of cemetery development. Soil horizons representing ancient ground level that both sealed graves and had graves cut into them were encountered, but these were disturbed, yielding finds assemblages of mixed date; consequently their value in terms of phasing was not so useful. The phasing was assisted by a number of radiocarbon determinations, although the limited stratigraphic clarity and paucity of suitable sample material produced relatively few reliable dates. However, the radiocarbon programme has helped to confirm the sequence presented below and was vital in identifying Iron Age phases of burial activity. In addition to the presence of residual earlier flintwork and pottery, the following phases were identified:

- Middle Iron Age (350-50 BC): Radiocarbon dating allowed a single inhumation grave to be attributed to this phase. It lay at the base of a sequence of graves whose dating is uncertain and could belong to any time after the beginning of this phase.

- Late Iron Age (50 BC-AD 43): A north-south aligned boundary ditch and a cluster of 12 possible quarry pits have been tentatively assigned to the late Iron Age. All were along the western edge of the site.

- Late Iron Age to early Roman (*c* 50 BC-AD 120/130): This phase comprised 132 inhumation and 61 cremation graves in addition to 13 pyre sites, six *busta* and 13 other funerary-related features. These were concentrated in the central and northern parts of the

cemetery. The earliest possible date for many burials is nominal; the phase description reflects the difficulty in dating graves lacking diagnostic material and situated at the base of sequences. There is no doubt, however, that burials were made during the mid 1st century AD, with the rate of burial increasing after *c* AD 70. Cemetery boundary ditches were established during this phase, and a large pit dug in the centre of the site began to receive deposits of pyre-debris. Initial use of a metalled road (the 'Hollow Way'), which defined the cemetery's eastern limit, probably belongs to this phase, although dating evidence is scanty. A well or shaft east of the road may have been dug during this phase.

- Late Iron Age/early Roman to middle Roman (50 BC/AD 43-AD 270): A total of 61 inhumation and 31 cremation graves containing only broadly-dated grave goods or truncated by well-dated middle Roman graves were assigned to this phase. Eleven other funerary-related features can be placed here.

- Middle Roman (AD 120/130-270): Fewer burials were made during this time. Forty-three inhumation graves, 34 cremation graves and two funerary-related features are represented. Graves were concentrated within the central and southern parts of the site, and the majority of graves were confined to the 2nd century; just nine graves certainly belonged to the 3rd century. A cobbled surface was laid immediately beyond the western edge of the cemetery during the mid 2nd century. The boundary ditches may have silted up or been deliberately infilled, while the pyre-debris pit received its final deposit.

- Middle to late Roman (AD 120-410): Twelve inhumation graves, seven cremation graves and one funerary-related feature were dated to this phase.

- Late Roman (AD 260/270-410): Use of the cemetery had declined almost to the point of abandonment. Five inhumation graves were assigned to the late Roman period, probably dating no later than the mid 4th century. The well or shaft received its final deposit by AD 325. Soil accumulated over the Hollow Way in the later 4th century, though the process may have commenced somewhat earlier.

- Roman (AD 43-410): Ninety-five inhumation graves, 12 cremation graves, three pyre sites, one *bustum*, and 16 funerary-related features were dated no closer than to the Roman period. However, given the chronological trends of the cemetery, many of these features are likely to belong to the 1st or 2nd centuries AD. Six of the seven quarries to

the north of the cemetery were attributed to the Roman period. The discussion of the well or shaft has been placed in this phase in lieu of firm dating evidence.

- Post-Roman: A copper alloy dress pin recovered from the topsoil indicates late Saxon activity in the vicinity. Damage to a number of burials had been caused by medieval and post-medieval ploughing. The seventh quarry north of the cemetery has been given a post-medieval date.

4.2 Early Agriculturalists - The Neolithic and Early Bronze Age landscape (*c* 4000 cal BC to *c* 1600 BC)

No features of earlier prehistoric date were identified at Pepper Hill, but a small collection of redeposited worked flint was recovered during the excavation. The flint assemblage generally comprised undiagnostic debitage thinly distributed across the site; few retouched forms were recovered. A single piece of pottery, also redeposited, was probably broadly contemporaneous. While of limited value in determining the character of prehistoric occupation at Pepper Hill, the flint and pottery nevertheless provide evidence for Neolithic or early Bronze Age activity in the area, giving a useful reference point for early prehistoric land use.

4.3 Farming communities - The later Bronze Age and Early Iron Age landscape (*c* 1600 BC to *c* 300 BC)

As with the Neolithic and early Bronze Age phase, no features were assigned to the later Bronze Age or early Iron Age. Grave 10314 produced pyre debris radiocarbon dated to 920 to 800 cal BC (KIA-23932); the charcoal had been deposited and must be residual, but nevertheless hints at cremation activity occurring in the vicinity during the late Bronze Age. In addition, some 80 sherds of redeposited pottery were recovered across the site. The pottery was abraded and extremely fragmented. Three deposits, though, contained sherds belonging to the same shouldered jar with a flat rim and upright neck. This was probably of early Iron Age date. The remaining material was not so diagnostic, but could be accommodated within this phase on fabric grounds.

4.4 Towns and their Rural Landscapes I - The later pre-Roman Iron Age and Romano-British Landscapes II (*c* 300 BC to *c* AD 500)

4.4.1 Middle Iron Age (c 300 BC to c 50 BC)

The site received at least one burial (10404) during the middle or earliest part of the late Iron Age (Fig. 3). The skeleton was poorly preserved, but the surviving bones and soil stain indicated that the body of an adult male was laid face-down, or prone (Fig. 4; Plate 4). With no sign of coercion - the arms were extended, rather than behind the back as if tied - or hastiness, the burial appears to be formal. Prone burial was rare in the Iron Age, and was unusual, too, in the Roman period. A radiocarbon determination of 350-40 cal BC (KIA-23946) allows the grave to be placed here, but it is otherwise chronologically isolated. The grave was first in a sequence of later graves, which yielded no dating evidence and could potentially date to any time up to the end of the Roman period.

4.4.2 Late Iron Age (c 50 BC to AD 43)

No grave can be assigned with certainty to the late Iron Age, and it appears likely that Pepper Hill received few or no burials during the second half of the 1st century BC or first half of the 1st century AD. In the meantime, activity was concentrated on the western edge of the site where a cluster of twelve pits was located (Fig. 3 and 5). Most pits intercut others, with the group likely to represent a sequence of pit digging, use, and replacement. Dug into the natural brickearth, the features vary in shape from circular to roughly rectangular, but all are reasonably substantial, averaging 1.18 m wide and 0.9 m deep (Table 2). The pits were usually filled with a series of thin sandy clay deposits, though the top fills tended to be thicker (Fig. 6), probably serving as later capping to level the surface prior to the laying of the cobbled surface 10438. Pit 10570 was among the latest. It cut 11194 and was partially sealed by the cobbles. Some 61 sherds of mid 2nd century pottery - including 20 sherds of Central Gaulish samian ware - were recovered from the feature. Given its location, the pit seems best placed with the main group, although its different character - a relatively small pit containing a single fill - as well as its pottery suggests that the pit was a later feature not associated with the others.

The function of the pits is unresolved. Domestic material was virtually absent; 11 sherds of late Iron Age flint-tempered ware recovered from an upper fill of pit 11129, together with occasional flint flakes and iron nails, represent a sparse assemblage. As they were located away from any obvious evidence of settlement, the pits may have been dug for the

purpose of extracting brickearth. The features were assigned to this phase on the basis of the pottery, though their original digging could date somewhat earlier.

Table 2: Late Iron Age pits

Feature	Max. width (m)	Max. depth (m)
10419	2.1	0.79
10570	1.01	0.63
11129	0.78	1.41
11133	1.32	1.1
11134	0.64	0.48+
11137	1.67	1.5
11141	0.71	1.44
11193	2.1	0.9
11194	1.07	0.83
11772	1.6	0.72
11922	1.37	0.77
11974	1.02	1.09
Mean	1.18	0.91

A NE-SW aligned ditch (54) was additionally attributed to the late Iron Age. The feature was 1.5 m wide and 0.34 m deep with steep sides and a flat base. It was visible for almost 12 m before extending into the southern limit of excavation (Figs 3 and 6). It terminated at its north end, appearing to truncate or, more likely, butt boundary gully 702, though the relationship is unclear. The ditch terminus contained three fills, including a primary deposit of profile-eroded sandy silt. The secondary fill yielded 61 sherds of flint-tempered ware, dating that episode of filling to the late Iron Age or earliest Roman period (up to *c* AD 70), though the absence of certain post-conquest wares suggests that the ditch existed and attracted material before *c* AD 43. Given its size, the feature can reasonably be regarded as a boundary ditch. After filling, the ditch was cut by a rectangular pit (50) measuring 0.6 m by 0.45 m and 0.24 m deep, which yielded burnt flint and the substantial part of a 'Belgic' shell-tempered ware vessel.

4.4.3 Late Iron Age to Early Roman (Up to c AD 130)

Burial resumed in earnest at Pepper Hill during the latest Iron Age or mid 1st century AD (Fig. 7; Table 3). How far back into the late Iron Age, if at all, one can place the earliest graves is debatable. While no grave certainly pre-dates the Roman conquest, given Springhead's role before AD 43, and the fact that Pepper Hill had already been established as a burial ground, albeit of sporadic use, the presence of late Iron Age graves should not be surprising. A good candidate is grave 11386, a crouched inhumation burial radiocarbon dated

to 50 cal BC to cal AD 120 (KIA-24643), with stratigraphy limiting the latest possible date to AD 70 (Plate 5). Crouched burial was common in the Iron Age (Cunliffe 1991, 499; Whimster 1981, 11), though the rite is by no means unknown in Roman Britain, being generally regarded as a persistence of native practice (Philpott 1991, 71). Other graves of potential pre-conquest date, almost 50 in total, were usually undated and underlay Roman-period graves or contained redeposited late Iron Age pottery within their backfills. But overall the proportion of 'Belgic' pottery was very low, accounting for just 2% of ceramic grave goods by vessel count. And, where present, the pottery usually accompanied Roman objects. The number of pre-conquest graves might, therefore, be minimal, with the first significant phase of burial occurring after AD 43.

Table 3: Distribution of early Roman funerary-related features (based on count of features).

Feature type	**Up to AD 70**	**AD 43-130 or earlier**	**AD 70-130**	**Total**
Bustum	1	5	0	6
Cenotaph or disturbed cremation grave	3	5	3	11
Cremation-related feature	1	0	1	2
Inhumation grave	22	82	28	132
Pyre site	4	8	1	13
Unurned cremation grave	5	10	17	32
Urned cremation grave	3	14	12	29
Total	39	124	62	225

Pyre sites

Pyre sites were identified from the evidence of abundant charcoal and *in situ* burnt soil around the edges and across the base of the cuts. Most features interpreted as pyre sites were, during excavation, regarded as *busta*, but subsequent analysis of the cremated human bone recorded quantities that were considerably lower than the 1000 g normally expected as a minimum from *busta* (McKinley 2000a, 40). Seven out of the 13 features assigned to this phase yielded less than 100 g of bone; none contained more than 500 g. One pyre site, 10596, which yielded 339 g of cremated bone and four complete and apparently unburnt ceramic vessels, could be seen as a *bustum*, but is instead placed here given the quantity of bone in an otherwise well-preserved feature. All pyre sites were within the central part of the site, suggesting that a degree of organisation helped to determine location. While the existence of a fence or similarly defined enclosure cannot be determined, the concentration of pyre sites nevertheless indicates that, during the early Roman period, the cemetery's centre was deliberately selected as an area for cremation. Dated by pyre-goods, stratigraphic associations and radiocarbon

determinations, all pyre sites belong to the early Roman period. Feature 10857 was among the more closely dated, with the pyre being fired during the mid 1st century, a date attained on the basis of a radiocarbon determination of 120 cal BC-cal AD 60 (KIA-23934).

The pyre sites had suffered to some extent from truncation by later graves. Only three (10424, 10470 and 11009) cut earlier features; the remainder were dug into 'fresh' soil (Fig. 8). Despite truncation, the dimensions of the pit below the pyre structure can be reasonably well established. Pyre sites measured an average of 0.49 m wide and 0.94 m long, though these mask a range of values determined to some extent by the level of preservation. Features were preserved up to a depth of 0.22 m; most were considerably shallower on account of subsequent truncation. The cuts, which ventilated the pyre structure from below in order to improve combustion, were generally rectangular in shape. Two features (11182 and 11823) were, however, rather more irregular with extensions on their eastern sides. Both recall the late Iron Age T-shaped pyre sites uncovered at Westhampnett, West Sussex (Fitzpatrick and Powell 1997, 18-32). A single pyre site (10687) yielded the remains of at least three individuals; the rest contained a minimum of one individual each. While this suggests that most pyre sites were used only once, it is possible that pyre debris was cleared after each funeral. The debris in most pyre sites would therefore represent the features' final use.

The pyre structure and fuel

The pyre sites yielded abundant quantities of charcoal deriving from the pyre structure and kindling. In most cases, the charred remains were sufficiently diagnostic to determine taxa. Examination showed a limited range of taxa, which was dominated by oak (*Quercus* sp.), supplemented by ash (*Fraxinus* sp.) and the Maloideae family (which includes hawthorn, apple and pear), with the occasional appearance of hazel (*Corylus* sp.) and birch (*betula* sp.). Pyre sites often contained a mix of at least two taxa, although species other than oak and to a lesser extent ash were present in small quantities (Challinor 2006). The range of species retrieved from early Roman cremation graves was consistent with that from the pyre sites. Cherry type wood (*prunus* sp.) from grave 10567 was the sole addition.

Pyre goods

Seven ceramic vessels were recovered from six pyre sites; an eighth was recorded during excavation, but subsequently lost. The pottery was largely confined to drinking-related forms, including, for example, a beaker from 11182 and a flask from 10687. A shell-tempered jar was recovered from 10424. The choice of wares appeared to favour white or buff/orange surfaced fabrics, though the significance of this is unclear. Burnt pottery was occasionally retrieved from cremation burials; usually the vessels had been scorched on the base and the sides. Their interpretation as pyre goods is problematic, however, since household use may

readily explain the burning (Biddulph 2006a). It is worth noting, too, that severely burnt vessels were recovered from two inhumation graves 11801 and 12011. In any case, objects placed on the pyre need not exhibit signs of burning depending on position (Fitzpatrick 2000, 17; J McKinley pers. comm.). Burnt pottery fragments found among redeposited pyre-debris may also belong to vessels originally placed on the pyre.

Pottery appears to have been placed infrequently on the pyre in comparison with metal and glass objects. Of these, shoes, evidenced by hobnails, were commonest. One presumes that the shoes were worn by the deceased during cremation, but this is by no means certain; shoes were often deposited away from the feet in inhumation graves, and if the body was similarly laid out on the pyre, then it may have remained unshod. Features with hobnails included pyre site 10596 and unurned cremation burial 10567. Many burnt nails, however, had been redeposited in later deposits. Brooches were found in three pyre sites (10596, 10740 and 11009). Other categories of objects, such as hairpins or necklace beads, were rarer; melted glass fragments were occasionally retrieved from cremation-related deposits, including unurned cremation graves 11272, 11366 and 11474, suggesting that glass vessels had been placed on the pyre.

Further evidence of metal objects came from the occasional iron and blue-green staining on cremated human bone. The latter, surely deriving from melted and fused copper alloy objects, was seen mainly on upper body elements, such as the arms or ribs (eight of 15 instances on diagnostic skeletal elements). Five instances of staining were visible on the cranium; one stain occurred on the mandible of a female adult buried in grave 11597. Two stains occurred on the legs. Similar evidence is known from other cemeteries. At Brougham, as at Pepper Hill, the staining favoured the upper body, implying that jewellery, such as necklaces, hair grips, bracelets and brooches, was worn by the deceased on the pyre (McKinley 2004, 302). The stain located around the mandible suggests that dislocation of items could occur, perhaps when the body was lifted on to the pyre; in this case a necklace presumably slipped onto the chin. Iron stains were less frequent, but found on the same range of bones and were similarly interpreted as personal ornaments. Intriguingly, iron objects were more strongly associated with females (Witkin and Boston 2006).

Evidence for meat joints and plant remains was also recovered. Burnt animal bones occurred in many more graves compared with vegetable matter, though this reflects the poor survival or difficult collection of cremated plant remains, rather than a genuine preference for animal products. Of the material attributed to species, pig and domestic fowl were equally represented in early Roman graves, each occurring in eight burials. Sheep or goat was less usual, occurring in two graves (11454 and 11803). A larger group of graves, ten in all, yielded bone identified no closer than medium-sized mammal. This material could, of course, belong to sheep or goats, but given overall proportions of species represented, pig seems more likely.

Cattle bones were recovered from a single grave (11018). Graves rarely yielded the remains of more than one species. Joints of meat were deposited on the pyre, suggesting that the animals were placed as food offerings. The hind limbs were the favoured cut when selecting pork joints. The presence of teeth and skull fragments suggests that whole pig carcasses were occasionally burnt. At London's eastern cemetery, the burning of whole carcasses appears to have been a more common practice (Barber and Bowsher 2000, 74). Animal bones were invariably found with the cremated human remains, suggesting that the burnt meat was selected to accompany the remains of the deceased in the cinerary vessel or other container, or, as is more likely in most cases, that animal and human bones were difficult to separate after cremation.

Plant remains were recovered from two early Roman graves. Unurned cremation grave 11801 yielded a diverse assemblage comprising cereals, weeds such as dock, and foods, including grapes, lentils, horsebean, pea or similar and figs. The cereals and weeds may have been incorporated accidentally or as pyre fuel. The food items are more significant. They had been placed on the pyre in a raw state, so that foods were 'cooked' on the pyre. They appear to denote the burial of a wealthy person - the sex cannot unfortunately be determined - since the figs and lentils would probably have been imported ultimately from the Mediterranean or Near East. The grapes might have been grown in Britain (Davis 2006).

Pyre furniture

Burnt iron nails recovered from cremation-related deposits are likely to have belonged to wooden furniture placed on the pyre. The nails range in size from medium to very small, with the vast majority measuring less than 37 mm in length (encompassing 'small' and 'very small' nails). The small nails recall those recovered from Brougham. At that site, it was suggested that the nails formed part of upholstered biers that carried the deceased to the pyre (Mould 2004). The nails from Pepper Hill may be similarly interpreted. If correct, then the biers were less ornate than the Brougham examples. There, 92 pieces of decorated bone and antler veneer were recorded, some of which are likely to have adorned the biers (Greep 2004, 274-5). At Pepper Hill, a burnt fragment of decorated inlay was recovered from pyre site 10596 along with at least 17 iron nails, although the nails were incomplete or of medium size. The type of furniture represented cannot certainly be determined; a decorated box, rather than a bier is entirely feasible. That burnt nails belonged to boxes - which probably contained pyre goods - or biers, rather than coffins, is suggested by the contrast in size between these and unburnt nails from inhumation graves, which tend to fall into the medium to extra large range.

Busta

Six *busta* were identified, like pyre sites, on the basis of *in situ* burnt soil on the floor and sides of the cuts (see, for example, Figure 9 and Plate 6). In contrast to pyre sites, however, the cremated bone in *busta* had been formally placed as burials; also, there was a greater quantity of cremated bone associated with these features compared with pyre sites. All but one yielded more than 700 g, and three (10490, 10587 and 11702) yielded close to or in excess of the expected minimum quantity of 1000 g for an adult, assuming no subsequent disturbance (McKinley 2000a, 40). *Bustum* 10603 contained 369 g of bone and may more properly be regarded as a pyre site, although the feature had been truncated subsequently. Also, less bone should be expected with the cremation of the sub-adult, as is the case here. In addition to the criterion of the bone, unburnt ceramic grave goods had been deposited in some of the pits to accompany the human remains. The features correspond to Festus's classical definition: 'The place was properly said to be a tomb where the dead person had been cremated and buried' (quoted in McKinley 2000a, 39).

The under-pyre pits measured an average of 0.6 m wide, 1.5 m long and 0.24 m deep. *In situ* burnt soil, forming a layer of between 0.06 and 0.13 m thick, was often seen across the base and edges of the cuts, though in two features, the edges only appear to have been scorched. In *bustum* 10603, the scorching was concentrated in the centre of the cut, clearly reflecting the location of the hottest part of the overlying pyre. The 'stratigraphy' of the pyre as evidenced by the sequence of deposits within the graves was consistent among all *busta*. A deposit of charcoal up to 0.2 m thick lay above the burnt soil. The layer often contained nails, and comprised charcoal from furniture placed above the pyre, as well as the pyre itself. The deposit yielded occasional cremated bone, although higher quantities of bone were usually recorded in layers above the pyre-debris. The bone from two *busta* (11702 and 11739) had been brought together in a pile; in the remaining features, the bone had remained undisturbed where it fell. At some stage after grave goods were deposited, the graves were backfilled with 'clean' silty or clayey soil. We can infer from this typical sequence that a bier or bier-like piece of furniture in which the deceased rested was placed on top of the pyre. This is supported by some of the very small nails recovered from 10587 and 11702; like those recovered from the pyre sites, these may well have derived from upholstered biers. The charcoal deposit from 10490 was rectangular, seemingly preserving the shape of the furniture. While the graves were broadly rectangular in shape, *bustum* 11739 had a small extension along the western side of its cut, which was reminiscent of pyre sites 11182 and 11823 and ultimately of pyre sites from Westhampnett (Fitzpatrick and Powell 1997, 18-32). A posthole cutting *bustum* 10490 probably provided a setting for a wooden grave marker. The 'stakehole' cut into the centre of *bustum* 11739 may have had a similar function; alternatively, it held a

pipe allowing the deposition of food and other items into the grave after burial (cf Toynbee 1996, 52).

Like the early Roman pyre sites, the *busta* were concentrated in the central part of the site and, indeed, were usually located side by side (Fig. 8). Various chronological indicators allow the *busta* to be placed in this phase. A general indication that the *busta* belong to one of the earliest phases of cemetery use is the fact that all but 10503 (Plate 6) were cut directly into the natural soil and lay at the base of sequences of further burials. Two of the *busta*, 10490 and 11702, contained early Roman ceramic grave goods, while a further three (10587, 10603, and 11739) were cut by graves that themselves yielded early Roman grave goods. Radiocarbon determinations were provided for 11702 (cal AD 20-140 (KIA-23925)) and 10603 (cal AD 170-390 (KIA-23931)). While that for the 11702 confirmed the pottery dating, the latter introduced doubt about stratigraphic and chronological assumptions. On further scrutiny, however, such doubts were shown, on balance, to be unjustified - the charcoal from 10603 was almost certainly intrusive - but nevertheless serve to highlight the difficulties of associating dating material with specific events from a very crowded and disturbed cemetery (Allen *et al.* 2006).

The pyre structure and fuel

The charcoal from all early Roman *busta* was examined, which revealed a predominantly oak assemblage. *Bustum* 10603 also contained ash in addition to oak (Challinor 2006). The charcoal derived mainly from the pyre structure and kindling, but could also include material from wooden furniture. This may be the case particularly with features 10490, 10587 and 11702, from which suspected bier nails were recovered.

Pyre goods

The range of pyre goods is consistent with that obtained from the cremation graves. Evidence was recovered from three *busta*. A pig rear limb bone - presumably a meat joint (Kitch 2006) - was present in 10490. Domestic fowl bones were recorded in 11739, while unidentified animal bones were retrieved from 11702. A blue-green stain was seen on the humerus of the adult male buried in 11702, suggesting that the deceased wore copper alloy jewellery on the pyre.

Grave goods

Unburnt grave goods - all ceramic - were present in two *busta*. Feature 10490 contained a reduced ware flagon or flask. *Bustum* 11702 yielded a white-slipped oxidised ware flagon in addition to a reduced ware platter. Rather intriguingly, the *busta* ceramic assemblage appears to share the drinking-related - and specifically liquid-server - bias seen in the burnt

assemblage from pyre sites. But just as noteworthy is its difference from *busta* from other areas. White ware *tazze* (?incense burners) and lamps were recovered from burial 1, a probable *bustum* from Watling Street, London (Mackinder 2000, 33-7).

Human remains

The only adult male buried in an early Roman *bustum* was recovered from 11702. The deceased was between 35 and 45 years old and suffered from tooth decay and degenerative joint disease evident of occupational stresses. Adult females were buried in three *busta*. The age of the deceased in 11739 could not be determined, but the individuals in 10503 and 10490 were both between 40 and 50 years old (the latter had suffered from porotic hyperostosis caused by anaemia, which had healed). *Bustum* 10490 contained a double burial; a sub-adult, aged *c* 13-18 years, accompanied the adult female. Double burials, especially those comprising an infant or juvenile and an adult female, are by no means uncommon, and examples are known at Brougham (McKinley 2004, 303) and London's Eastern Cemetery (McKinley 2000b, 272), among others. The phenomenon allows multiple interpretations, but the view that a family relationship was represented seems convincing (McKinley 2000b, 272). In the case of 10490, the juvenile's remains were recovered from the charcoal deposit lying on the grave base; the adult's remains were found above this. The deposits' separation suggests that the individuals were cremated at different times; in any case, they do not appear to have been lying side by side on the pyre. Just 40 g of the juvenile was present, and may represent something of a token deposit. Sub-adults are also present in 10603 and 10587; the latter was recovered from the backfill and probably redeposited.

Cremation graves

Cremation graves were devoid of soil layers burnt *in situ* (though they often contained redeposited burnt soil) and therefore distinguishable from pyre-sites and *busta*. The quantity of human bone varied - the token amounts of bone invariably deposited in graves (McKinley 2000a, 42-3) had in many cases been further denuded by later truncation - but generally cuts that yielded less than 10 g or those that contained small amounts of redeposited bone alone were identified as potential cenotaphs or, less definitively, cremation-related features. This resulted in a total of 61 early Roman cremation graves. These were concentrated in the west central part of the site (within the arc of boundary ditch 11330) and, more sporadically, along southern boundary ditch 1411 (Fig. 10). Graves were occasionally present in the eastern portion of the central area, but generally this area was reserved for inhumation graves, *busta* and pyre sites. Unurned graves were largely confined to the centre of the site; urned graves were located here too, but also extended south. There appears to be no significant chronological patterning: late 1st and early 2nd century graves were set among pre-Flavian

graves. The cuts were mainly circular, but other shapes - square, rectangular and oval - were present, albeit infrequently. The cuts had an average width of 0.48 m. This was remarkably consistent; the standard deviation of 0.16 m indicates a small dispersion (ranging from 0.3 m to 1.1 m). Unurned and urned graves were practically identical in terms of average width. The profile shape varied, though cuts tended to have steep or gentle sides with flat or concave bases.

Nearly all early Roman graves cut earlier graves or had been cut subsequently; ten appeared to be relatively well-preserved discrete features. Some had also been damaged by much later ploughing. The dense concentration of graves in the centre of the site especially made grave cuts difficult to identify; often grave goods or a scatter of bone provided the sole indication of a grave, whose profile could only be conjectured during excavation. A number of graves cut into or were sealed by an homogeneous layer (10614) that comprised ancient topsoil and grave fills. The dating evidence from such deposits was invariably mixed and the layer could not be used as a reliable horizon with which to separate phases of burial. Consequently, relationships between graves were at times impossible to determine with much certainty; grave goods, rather than stratigraphy, provided the basis for the assigning of graves to this phase.

Redeposited pyre-debris - incorporating charcoal, burnt soil and cremated bone - was encountered in 10 graves in significant quantity. Occasional charcoal fragments were present in most graves, but rarely as distinct deposits, which suggests that any material, save for the cremated bone, was largely deselected from the contents of the grave. The cremated bone was either placed in a ceramic vessel or apparently on the grave floor, though it may originally have been deposited in an organic container, such as a box or leather bag. The sequence of grave-good deposition could in some cases be reconstructed from the position of the objects. A number of ancillary ceramic vessels had been placed on top of other vessels (frequently the cinerary vessel) or the deposit of unenclosed cremated bone. In grave 11520, for example, a platter and beaker rested above the cremated bone. In 11232, a beaker was placed on top of the cinerary vessel. The cremated remains were therefore typically deposited first, followed by any ancillary grave goods. The soil - usually silty or clayey - removed to create the grave was then returned as backfill. No grave appeared to incorporate more than one backfill, though perhaps the occasional charcoal presence hints that token amounts of pyre-debris were scattered in the grave as the soil covered the burial.

The earliest cremation graves - seven in total - date up to *c* AD 70; most, if not all, date after AD 43. The best dated graves within this range were 10825, 10944 and 11313, which were dated by pottery to AD 50-70. The best-dated inhumation grave (891) was similarly dated to AD 55-70, and together these move some way towards suggesting that AD 50 represents the earliest starting date for the cemetery. The rate of burial increased after AD 70,

though the number of graves belonging exclusively to the early 2nd century is relatively low (four graves, as against 13 dated AD 70-100). Urned and unurned burials were more-or-less equally represented throughout the phase.

Grave goods

Pottery was by far the most common grave good, although, given that many graves without pottery are undated but may include 1st or early 2nd century interments, the importance of pottery in the early Roman cemetery might be overstated. This dilemma notwithstanding, the range of pottery recovered reveals clear choices made by mourners. Cinerary vessels were present in just under half (46%) of all cremation burials in this phase. Jars which, given a domestic context, would be regarded mainly as kitchenware, were almost exclusively selected to hold the cremated bone; bowls were used in four graves (though these included vessels which were themselves jar-like in terms of size and robustness), and there were single examples each of flagons, dishes and beakers. The cinerary vessels usually occurred in coarse wares, particularly Thameside grey ware and 'Patch Grove' grog-tempered ware. The conclusion that vessels were selected on strictly utilitarian criteria is difficult to avoid. Ancillary vessels were dominated by drinking-related vessels, accounting for 55% of the assemblage by vessel count. Of these, beakers and flagons were most frequent; cups and beaker-sized jars ('drinking-jars') formed minor components. Dining-related vessels - bowls, platters and dishes - took a small, though still significant, share of almost 30%. Jars and other vessel types, such as lids and an unguent jar, accounted for the final 15%. Sources were predominantly local, with the Thameside and Upchurch industries (Monaghan 1987) accounting for the vast majority of reduced wares, oxidised wares and white-slipped wares. But pottery from further afield was also reaching Pepper Hill. White ware flagons arrived from the Verulamium region and from kiln sites in south-eastern England or northern France - the exact sites remain unknown - probably from the Neronian period onwards. South Gaulish samian ware was also deposited from this time (Bird 2006). Vessels were recovered from three graves: platters from 11530 and 11550 and a shallow dish from 11080.

Grave goods other than ceramic were relatively scarce and dominated by jewellery. Grave 10825, for example, yielded a Nauheim derivative type brooch. The presence of three bracelets - two copper alloy and one iron - from unurned grave 11239 was more unusual (Plate 7). Hilary Cool notes that the wearing of bracelets was rare in the 1st and 2nd centuries (Booth and Cool 2006), and Philpott (1991, 129) records few early Roman bracelet-yielding graves across the province. A pair of shoes, as evidenced by hobnails, was recovered from grave 11167. Glass objects were also rare. Fragments of glass vessels were recovered from graves 11232 and 11520, but these may well have been redeposited.

Grave furniture

Evidence for grave furniture was provided by the presence of iron nails and their arrangement in the grave, and, usually, the shape of the grave. Nails were recovered from seven early Roman cremation graves, and though some occurrences of nails were residual, four graves offered tangible evidence. Square-shaped graves 418 and 10473 were among them. The graves yielded iron nails that in plan were located around the edge of the cuts. Borrill (1981, 304-318) distinguishes between *box-burials*, which contained large boxes that filled the grave and held the cremated bone and additional goods, and *casket-burials*, comprising a smaller box - those from Puckeridge averaged 0.3 m long by 0.25 m wide and 0.15 m deep - which often contained the cremated remains only, though they might include grave goods. On this basis, grave 418 is closest to a box-burial. The nails define a square 0.6 m wide within a cut of 0.8 m wide, resulting in a gap of 0.1 m between the edge of the box and grave. Of the two ceramic vessels found within the grave, the beaker (ON 4545) had been placed within the box; the unguent jar (ON 4544) appears to have been placed without - the vessel is suitably narrow. For Borrill (1981, 304), caskets were normally decorated in contrast to undecorated boxes. At Pepper Hill, undecorated caskets seemed to be more usual. The nails in 10473 formed a square pattern 0.25 m wide within a cut 0.55 m wide. The grave had been truncated by grave 10424, and possibly the area of the furniture was somewhat smaller than that of the cut, and a casket may be identified in this case. The nails from rectangular grave 10870 formed a rectangle measuring 0.35 m by 0.25 m. The grave was somewhat larger at 0.67 wide and 1.23 m long and suggests that the nails represented a casket. Grave 11614, also rectangular, yielded fewer nails, but the cremated human bone was arranged in a vaguely square shape 0.25 m wide, as if the deposit had been constrained from spreading by the sides of a casket. In all cases, the shape of the grave cut was to some extent predetermined by the requirement to bury the box or casket. The point is an obvious, but important, one; the furniture - and the needs of the deceased - had been acquired before the grave diggers were set to work.

Human remains

Analysis of the cremated bone revealed a mainly adult population that slightly favoured males. Sixty-seven deposits of human bone were recorded, including 13 females and 16 males. The majority remained unsexed. Up to nine immature individuals, 15% of the cremated population, were identified. The age ranges across the population, where determined, suggest that children were most vulnerable up to 12 years old; most immature individuals represented here died before reaching this age. The majority of adults died during their 40s or 50s, though individuals aged in their 20s or 30s were present. Like *bustum* 10490, urned cremation grave 185 contained the remains of a double burial. Cremated bone from a 6-

7 year old infant and an adult (age and sex unknown) was recovered. The infant displayed pathological evidence of anaemia, which could have resulted from dietary factors, blood loss, or more seriously from disease including cancer or a parasitic infection (Witkin and Boston 2006; Roberts and Manchester 1995, 166). Most of the bone from the grave was that of the infant. Cremated bone weighing 6 g and belonging to the adult was recovered from the cinerary vessel alongside the infant. The possibility that a token amount of bone from a deceased parent was re-interred with the primary burial of the infant is strong, particularly given the similarly token element seen in *bustum* 10490. Aside from the case of anaemia, degenerative joint disease and periostitis were commonly seen on bone showing pathological evidence. Periosteal lesions occurred predominantly on tibia fragments and may have been caused by recurrent minor injury to the shin bone; or the infection spread from elsewhere in the body (Witkin and Boston 2006; Roberts and Manchester 1995, 130; Manchester 1983, 37). Dental pathology was recorded to a lesser extent.

Inhumation graves

Rectangular-shaped cuts with unburnt human remains were, of course, interpreted as inhumation graves. However, human bone was very poorly preserved across the entire site, and the majority of graves contained no surviving bone. Those that yielded deliberately placed objects or nails were clearly identified as graves, but many cuts contained neither bone or grave goods. Some 35 'empty' cuts were assigned to the early Roman phase on the basis of stratigraphic relationships or redeposited pottery within their backfills. Given the cemetery context, their interpretation as graves is near certain. And, since cremated bone tends to survive well, the graves are more likely to have once contained inhumation burials. The graves averaged 1.9 m long, 0.78 m wide and 0.41 m deep. The standard deviation was relatively large (0.48 m), compared with that of width and depth (0.18 and 0.2 m respectively). This reflects the greater dispersion of length values, ranging from 0.35 m to 2.75 m, which result from significant truncation. After the contents of the grave were deposited, each was were backfilled in a single episode.

Graves were largely aligned N-S, NW-SE or, to a lesser extent, NE-SW, and followed the orientation of the boundary ditches and the 'Hollow Way' (Fig. 11). The paucity of human remains meant that the location of the skull was impossible to determine in many cases. However, where the position of the skull was indicated by a soil stain or dentition, north was usually favoured as the 'head end'. The body in some 11 graves was orientated towards the south, while the head pointed towards the east in four graves. Unfortunately, there is no clear indication from the human bone or grave goods of why the deceased in these graves were aligned differently from the majority of interments.

The chronological sequence contrasts slightly with that of cremation burials in that it has a stronger pre-Flavian (or earlier) emphasis. Twenty-three graves date before AD 70, compared with eight cremation graves. Within this period, the best-dated grave is 892, which dates to AD 55-70. The remainder largely falls into an AD 43-70 range, while seven graves are not certain to date from the time of the conquest, and may be earlier. The number of graves dated between AD 70 and 130 is marginally higher than that of pre-Flavian burials, though now the pattern matches that of cremation graves; only two inhumation graves certainly belong to the early 2nd century, compared with 14 that date between AD 70 and 100. The trends emerging from both burial types suggest that the cemetery received fewer burials in the first three decades of the 2nd century, compared with the final three of the 1st, although we should acknowledge that pottery does not often allow dates of such precision and that many graves that should properly belong to the early 2nd century may be hidden within a broader early Roman date range. Also, a number of the undated 'empty' graves could theoretically belong to the early 2nd century. Inhumation graves were located across the entire site. Cuts were better represented in the northern and eastern parts of the cemetery compared with cremation graves, but were just as crowded in the west within the arc of boundary ditch 11330. There was no significant spatial development over time; all areas of the cemetery received burials throughout the phase, though of course with greater frequency after AD 70.

Grave goods

As in cremation graves, pottery dominated the assemblage. Vessels were taken from the same supply as those destined for cremation graves, and consequently there are no significant differences in the range of pottery present. So, as seen in the cremated-related assemblage, drinking forms were commonest. Here, though, they accounted for 64% of the assemblage and were slightly better represented compared with cremation graves. Eating-related forms took a 28% share, while jars - less well represented - and other forms contributed the final 8%. The local Thameside and Upchurch ware industries were responsible, as expected, for much of the pottery, particularly reduced ware and white-slipped ware vessels. A tankard recovered from grave 10362 and manufactured in the Severn Valley was considerably rarer. Although the fabric has been recorded in London (Tyers 1996, fig. 254), Kent is far from its normal area of distribution in western England. Spouted vessels - so-called 'infant feeders' - were also unusual and were found in four graves.

Grave goods other than pottery were comparatively infrequent, occurring in 16 graves. Brooches were most common and present in nine graves. The range of brooches was wide, with six types represented, though only Colchester Derivative and Nauheim Derivative brooches occurred in more that one grave. Two graves – 1124 and 11548 – each yielded two brooches. At least one object in the former had been redeposited, but in the latter, both had

been deliberately placed and lay side by side. The hinged brooches, identified as Colchester Derivatives, were rare in Kent and may not have been manufactured locally. This, coupled with the rarity of brooch pairs within the cemetery, goes some way to suggesting that the deceased in grave 11458 was perceived as special (Booth and Cool 2006). Further items of jewellery were found in grave 11178, which contained a ring, and 11608, which yielded a bracelet. Mirror fragments were recovered from grave 892. Though the fragments joined, their provenance is unclear, and possibly the pieces had been redeposited from an earlier grave (perhaps grave 794 which was cut by 892). Still, the fragments suggest that at least one person was buried with a mirror, probably before AD 70. A cluster of beads was deposited in grave 905, though the number of beads was insufficient to represent a necklace, or even a bracelet (Plate 8). Perhaps the beads may have served an amuletic purpose. The deposition of a single bead in 11674 may have been governed by a similar motivation (Booth and Cool 2006). Shoes, as evidenced by hobnails, were recovered from two graves. The nails in 203 appear to have been disturbed as there are too few to represent a pair of shoes. Grave 10270 contained a pair, which the deceased was apparently wearing. A glass unguent bottle was recovered from grave 10637. No grave goods made of organic materials survived, though a dark soil stain uncovered in grave 11977 may represent the remains of a wooden vessel.

No animal bone was recovered from inhumation burials. Cremated remains were recorded in graves 10108 and 11178, but these accompanied redeposited cremated human bone and were probably redeposited too. Given the poor preservation of human skeletons, the absence of animal bone is unsurprising.

Grave furniture

Coffins were identified in 76 early Roman graves on the basis of iron nails and, more occasionally, soil stains. The shape of the coffin was confined to rectangular boxes. No trace of lids was encountered; given the mean depth of inhumation graves - 0.48 m - and extent of intercutting, the upper levels and coffin lids in most graves are likely to have been removed through later activity. Nail patterns occasionally imply the use of a lid; nails driven vertically along the tops of the long planks within graves 10427, 10432 and 11466, for example, were all that remained of a lid fixed to the coffin. Other indirect evidence might derive from ceramic vessels found 'floating' within the backfill that might once have been resting on top of the coffin. Coffin dimensions are best estimated from the soil stains, rather than the distribution of nails, since post-depositional movement and truncation render measurements taken from the nail patterns alone unreliable (cf Barber and Bowsher 2000, 93). Well preserved soil stains were encountered in 17 graves. Their widths ranged from 0.3 to 0.92 m, averaging 0.5 m. The mean length was 1.7 m, with values ranging from 1.12 m to 2 m. The paucity of skeletal data precludes detailed analysis, but the connection between coffin size

and the stature of the deceased is compelling nonetheless. The coffin within grave 1078 was one of the smallest, measuring 0.4 m wide by 1.12 m long. It contained the remains of an infant. A coffin stain 0.3 m wide by 1.4 m deep was recorded in grave 11650, which contained the bone of a sub-adult aged 12 to 18 years. In comparison, grave 11466 contained a coffin that measured 0.35 m wide and 1.6 m deep and yielded the skeleton of an adult.

The coffins were usually simply manufactured by nailing wooden boards or planks together (see, for example, Figure 12). Coffin fittings were rare. A joiner's dog and a rectangular iron strip recovered from grave 10427 and an iron bracket found in 11325 indicate that coffins were reinforced occasionally. But this dearth of material is unsurprising, since fittings are in any case rare at urban cemeteries (Barber and Bowsher 2000, 94). The typical solution for stabilising a coffin was to knock multiple nails into the corners, as seen in grave 10532. Occasionally, the planks were jointed into vertical corner timbers and reinforced by nails, as seen in grave 12063. Grave 1087 was similarly constructed; depressions in the grave base at each corner of the coffin indicate the use of vertical timbers.

Nails tended to range in length from 38 mm to 102 mm. Very large nails up to 155 mm were scarce. Some coffins were never nailed. The presence of a coffin without nails would be impossible to determine in the absence of wood. However, grave 11650, in which the outline of a coffin was preserved in the soil but had no accompanying nails, reveals that such coffins existed at Pepper Hill. Evidence for similarly nail-less coffins was encountered at London's Eastern cemetery. Pegs or jointed timbers may have been used to fasten those coffins (Barber and Bowsher 2000, 92), and the example in grave 11650, and any others, at Pepper Hill were presumably similarly constructed. But nailed coffins need not have been heavily fastened. The sample of coffins evidenced by soil stains produced a mean of 16 nails per coffin, though a wide range of values was represented; grave 12173 yielded just three nails, while at least 32 were retrieved from 1087. Nor were some of the coffins particularly robust. One side of the coffin in grave 12011, for example, had buckled under the weight of soil pressure; its soil stain appears to indicate a coffin at least two planks deep.

Human remains

Skeletal preservation was extremely poor; the body, when not decayed totally, was present as a soil stain with occasional dentition or long bone fragments present. Consequently, data were somewhat scanty, with information retrieved for 35 burials (representing 27% of early Roman inhumation graves). Even within this group, reliable data were lacking, and many remained unsexed and age-less. Overall, however, the trends seemed clear; the majority of burials were adults. The age of a further 11 could not be determined, while three immature individuals were represented. There was an equal ratio of males and females, though this was based on six 'sexed' burials only. Life expectancy appears to diverge from that derived from the

cremation burials. Among burials from which close age ranges could be determined, all nine adults died between the ages of 18 and 30, often before reaching 25 years. This contrasts with cremated adults, who tended to live into their 40s or 50s.

Other funerary-related features

Cenotaphs or disturbed cremation graves

Eleven features were identified as potential cenotaphs (Fig. 8). None contained cremated bone, but in other respects - shape, size, and content - the cuts were similar to cremation graves, and conform to the suggested definition of cenotaphs (eg McKinley 2000a, 42-3; 2004, 306-7). The features were widely distributed across the cemetery area, though six (10233, 10247, 10255, 10272, 10278 and 10280) were grouped together in the northern part of the site. These were intercutting and represent successive deposits located in, perhaps, a reserved area for cenotaph-type features. Cuts generally had a mean depth and width of 0.18 m and 0.69 m respectively, and, with the exception of the rectangular 12017, were circular or oval in shape. Up to six features contained grave goods. Pottery from 1162 and 10233 was fragmentary and, if not disturbed through subsequent truncation, may have been introduced during backfilling. The vessels from 261, 11245 and 12017, however, were largely complete and almost certainly associated with the features. Overall, the ceramics show a preponderance of flagons and platters; a jar and 'infant-feeder' were also present. All features were backfilled with single deposits of silty soil.

Of the 11 features, 261, 11245 and 12017 are most convincingly interpreted as cenotaphs. It would seem inconceivable that later truncation removed all the cremated bone but spared the pottery. The others may well be cenotaphs, too, but the fragmentary or residual nature of the items within them, or the lack of objects in some cases, serve to reduce certainty. Nevertheless, none contained a trace of cremated bone.

Cremation-related features

Two features, 10510 and 10937, were assigned to this category (Fig. 8). As with features identified as cenotaphs, both resembled cremation graves in terms of shape and size, but contained redeposited pyre debris as the primary deposit. The features provided a location into which remaining pyre material could be deposited after the material contributing to the formal burial was collected (McKinley 2000a, 41). The debris from 10510 incorporated the remains of pyre goods and cremated bone, as well as the pyre structure itself, which was built in oak. Feature 10937 also yielded oak charcoal, but very little bone.

Pit 10613

A large pit was dug in the northern part of the cemetery (Fig. 7). Oval in plan, the feature measured 4.4 m long and 3.4 m wide. It was 1.1 m deep and vertical on its east and west sides and convex to the south and west. The pit was deliberately filled with deposits of pyre debris and burnt soil. Twenty-three deposits were recorded. All comprised silt or clayey silt soil mixed, to greater or lesser extents, with pyre debris. Deposits averaged 0.12 m thick, ranging from 0.06 to 0.16 m; overall there was little variation. In contrast, the proportion of pyre debris present in each fill varied considerably. Some deposits included as little as 2% or 3% pyre debris, while others contained as much as 80%. Indeed, up to five 'clean' deposits containing no pyre debris apart from charcoal flecking filled the pit at irregular intervals throughout the sequence. These extended across the pit and may have levelled the surface within it, or were intended to seal pyre debris, though the practice was somewhat sporadic. The cremated human remains attested to at least 10 individuals, including two subadults and an adult male. Burnt animal remains, including horse teeth, were also recovered. The pit was dug during the mid or late 1st century AD. Graves 10104 and 10767 cut the pit, indicating that the feature had been totally filled by *c* AD 100. The dating evidence from the pit is consistent with this chronology, though a spherical glass bead - which originally had been placed on a pyre - and 'late' grey ware pottery from its upper fills suggests that it continued to receive material into the later 2nd century and beyond.

The cemetery boundary

The cemetery was bounded along its western edge by a discontinuous ditch and gully (Fig. 7). The southernmost gully (1411) was orientated NW-SE and extended for at least 25 m. Its southern terminal was not found, but at its northern end, it butted Iron Age ditch 54. Three excavated segments had a U-shaped profile that averaged 0.2 m deep and 0.3 m wide. A gap separated 1411 and boundary ditch 11330, though graves meeting the gap continued to respect the line of the boundary. Ditch 11330 extended along the NW-SE axis for some 4 m before turning 90° towards the north-east, continuing for 7 m before terminating. The ditch effectively formed an irregular arc that partially enclosed a dense concentration of early Roman burials (Fig. 7). The gully was more substantial than 1411; it measured on average 0.57 m wide and 1.08 m wide. Gully 11375 met the northern terminal of 11330 - the precise character of the relationship was not established - and re-aligned the boundary along a N-S axis. The gully was over 10 m long, 0.46 m wide, 0.17 m deep and had a U-shaped profile. The gully terminated at it northern end, resulting in a gap of just over 2 m between it and the following boundary element, 12236. Gully 12236, 0.44 m wide and 0.09 m deep, was orientated NNE-SSW, extending from the western edge of the cemetery towards the cobbled surface 10438. The gully lay alongside 11375, forming a shallow funnel narrowing towards

the gap and westernmost graves. It terminated at its southern end, but no northern terminal was recorded, and a strong possibility is that the gully continued to join 10176. The boundary resumed on a NNW-SSE alignment in the form of gully 10176. This measured 0.2 m deep, 0.8 m wide and more than 15 m long. All gullies were filled in single, prolonged, episodes, usually by silty soil that formed through natural processes. But additionally, they attracted occasional deposits of pyre debris and pottery that were the product of grave disturbance.

Given that mid 1st century graves, including 203, 1099, and 10041, generally follow its various orientations, the boundary was probably dug between AD 43 and 70. However, burials were made before digging commenced; gully 10176 truncated grave 10200, which dated up to AD 70, while ditch 11330 truncated grave 11352 (unfortunately undated). The boundary's infilling is trickier to date, and not all parts of the boundary were necessarily filled at the same time. Grave 285, dating to AD 70-120, was cut into gully 1411, indicating that this part of the boundary had infilled by this time. A 'Hofheim'-type flagon, normally dating to AD 43-80, was retrieved from the gully 11375. Gully 12236 yielded 'Belgic'-type pottery that typically dated up to AD 70. Similarly early pottery was recovered from 10176. South Gaulish samian ware Drag. 18 and 15/17 platters from 11330 date the infilling of the ditch to the late 1st century or later; graves truncating the ditch provide a terminal date for infilling of *c* AD 180. The trend emerging from the dating evidence supports an early Roman chronology for the digging and infilling of the boundary ditch and gullies. However, few later Roman graves were located west of the boundary, which remained effective beyond the early Roman period.

The Hollow Way

The eastern edge of the cemetery was bounded by a metalled road, the so-called Hollow Way. The road was aligned NW-SE and formed a continuation of a longer road that arrived from the south-east. As the Hollow Way left the northern extent of the cemetery, it turned towards the north; ultimately it probably connected with Temenos Road East or R3, which extended SE from Springhead's temple precinct (Penn 1965). The foundation - 0.4 m thick in parts and comprising silty clay mixed with flint and gravel - was laid within a vertical-sided and flat-based cut that averaged 0.54 m deep and 2.9 m wide. The road surface of flint and gravel averaging 0.16 m thick was laid above this (Fig. 13; Plate 9). The western edge of one part of the road (cut 19) was noted to dip, creating a slight camber. Two gully segments (1228 and 10093) aligned with and immediately east of the road probably served as drainage ditches.

Dating evidence is scanty, but all indications suggest that the road was laid out by the mid 1st century AD, probably before use of the cemetery began; the road may represent a metalled version of a late Iron Age trackway. The road did not certainly truncate any grave. Three graves that have a direct relationship with the road - 985, 1359 and 10341 - are

undated, but in any case appear to be cut into the surface (a slope west of the road may have prevented much burial close to the road anyway). A number of graves dug between AD 43 and 70, including 10637, 10582 and 10485, were aligned with the road. As the road entered the town as Temenos Road East, it changed direction to avoid a mid 1st century enclosure (P Andrews, pers. comm.). Pottery recovered from the road-side ditches suggests that the ditches began to silt up during the Flavian period (Boyle and Early nd, 5).

4.4.4 Late Iron Age/Early Roman to Middle Roman (50BC/AD 43 to AD 270)

A total of 105 funerary-related features were assigned to this phase (Fig. 14; Table 4). Typically, these comprised graves that yielded grave goods only broadly dated to the 1st and 2nd century, or graves that were themselves undated but truncated by burials dating into the middle Roman period. A ditch east of the Hollow Way and two pits were additionally assigned to this phase.

Table 4: Distribution of early to middle Roman funerary-related features (based on count of features).

Feature type	Up to AD 200	AD 100-270	Total
Cenotaph or disturbed cremation burial	4	2	6
Cremation-related feature	5	-	5
Inhumation grave	60	1	61
Unurned cremation grave	12	-	12
Urned cremation grave	15	4	19
Total	96	7	103

Cremation graves

As with those dated more certainly to the early Roman period, cremation graves - of which graves with urned burials were marginally better represented - were concentrated along the central and southern parts of the cemetery (Fig. 15). The graves were backfilled with soil presumably removed as they were dug, though many contained redeposited pyre debris. Definition of cuts was poor, as might be expected; graves with visible edges tended to be circular, averaging 0.47 m in diameter, with a steep-sided or concave profile. The mean depth was 0.17 m, though the standard deviation, also 0.17 m, resulting from depths as low as 0.05 m, is testament to the severe level of truncation evident among graves of this phase. Crucially, the majority of pottery vessels deposited as grave goods (72% by vessel count) were less than 50% complete; more usually, just 10% of the vessel survived. With typological traits so often absent, the pottery has clearly contributed to the uncertain dating of the graves. Nevertheless, stratigraphic relationships with other graves tentatively suggest a generally early Roman date for many of the cremation burials. Some 21% of graves appeared to truncate no earlier grave,

being dug into the 'natural' soil. The figure is comparable to the 19% of early Roman graves similarly dug into fresh ground. If most graves currently assigned to the early to middle Roman period were of 2nd century or later date (and given that they were invariably located in popular areas), then one might expect a higher proportion of graves to truncate existing interments.

The pyre structure and fuel

While no pyre sites were assigned to this phase, pyre debris recovered from cremation graves continued to indicate the range of pyre woods selected. The selection is consistent with that exhibited in the early Roman period (Challinor 2006). Thus, pyres were built predominantly of oak (*Quercus* sp.), with the occasional use of ash and Maloideae (hawthorn, apple etc).

Pyre goods

Offerings placed on the pyre were largely confined to animal remains. Pig skull fragments were recovered from graves 333 and 10814, recalling the deliberate selection of pig skulls for deposition in graves at Stansted, Essex (Hutton 2004, 246-7). The remains were less diagnostic in other graves, including 998, 11065 and 11309, but these too could have been of pigs, since they indicated medium-sized mammals. A chicken carcass was recovered from grave 11638. This grave yielded more food offerings in the form of peas or beans - just one of two graves containing such evidence (Davis 2006). An oyster shell was recovered from grave 574. Apart from food, pyre goods included pottery - burnt fragments were found in graves 11287 and 11638 - and the remains of a glass vessel from 11361.

Grave goods

Unburnt pottery was commonly provided. The vessels selected to hold the cremated remains in 20 graves were exclusively jars, typically made in local sandy grey ware or occasionally in grog-tempered Patch Grove ware arriving from outside the immediate region. Ancillary pottery was biased towards drinking-related vessels - chiefly beakers and flagons - though jars were unusually over-represented at 29% by vessel count compared with the type's share of 9% across the entire ancillary assemblage. However, all the jars were incomplete and fragmentary, and there remains a strong possibility that some of them formerly held cremated bone but were subsequently disturbed. Just one eating-related vessel, a platter from 10980, was present.

There were few other grave goods beyond pottery. A brooch, of Colchester Derivative type, was recovered from grave 10980. Hobnails collected from grave 67 were of sufficient number to nail a single shoe, but their status within the grave remains unclear. Hobnails from

grave 11309 had more certainly been redeposited. Glass fragments recovered from graves 476, 1112, and 10987 were also accidental inclusions.

Human remains

The cremated bone revealed a mainly adult population. While the sex of the individual could not be determined for the majority of burials, a reasonably equal ratio - three females and five males - was attained from those burials with diagnostic data. Data relating to age of death were similarly sparse. All but three burials could be described only as 'adult'. The three that were aged died after 40 years. Pathology indicated the standard range of degenerative joint diseases caused by occupational stresses and dental diseases. The individual buried in grave 11309 exhibited signs of anaemia. At least five immature individuals were represented; one, an infant, died before its 3rd birthday, three were aged between 5 and 12 years, and another died between 13 and 18 years (Witkin and Boston 2006).

Inhumation graves

Graves were distributed across the cemetery, though they were particularly concentrated in the northern and southern parts (Fig. 16). The grave cuts, usually rectangular, measured an average of 1.7 m long, 0.7 m wide and 0.3 m deep. But, as with the cremation cuts, these figures mask a picture of severe truncation. The spread of values contributing to the means was wide; the ranges for length, width and depth (obtained by subtracting the lowest from the highest values) were 2.02 m, 1 m and 0.86 m respectively - all well above individual means. Clearly many graves had been disturbed by later grave digging or ploughing, which in the process damaged grave goods or removed them altogether, thereby preventing close dating.

Orientation followed the prevailing alignment seen among early Roman graves. Of the graves where orientation could be determined, 15 were aligned N-S. A further 28 were orientated up to 45 degrees either side of this axis. Eleven graves were aligned E-W. The paucity of skeletal remains did not allow for the location of the skull to be identified in most cases. Where such information was available, the head tended towards the north end. In two graves, 815 and 12037, the head rested at the south end.

Grave goods

Remarkably, ceramic grave goods were poorly represented compared with other classes of objects. Pottery was recovered from just six graves. That four of the six vessels were less than 50% complete serves to emphasis the high level of truncation evident among graves of this phase. Three beakers in local grey ware and two flagons in white-slipped ware were present. The form of the sixth vessel, from 1279, could not be determined. Pairs of shoes, evidenced by hobnails, were deposited in graves 420, 10084, 11611, and 12166. Cool suggests that the

practice of placing shoes in the grave commenced in the 2nd century (Booth and Cool 2006). If so, then, the graves listed here might well be among the later interments. Grave 12038 yielded the substantial remains of a glass unguent bottle. Lead sheet fragments - the only such items from the cemetery - were retrieved from the same grave. Their significance is uncertain, though Cool notes that the material was associated with the chthonic or underworld deities (Booth and Cool 2006). Grave 12047 contained an umbonate brooch.

Grave furniture

Evidence for coffins was retrieved from up to 28 graves, representing 45% of early to middle Roman graves. Remains were largely confined to iron nails, but six graves had soil stains. These gave an average coffin 0.48 m wide and 1.56 m long. This compared well with early Roman coffins, though some graves were clearly truncated. Grave 11159, for example, measured 1.4 m in length, but contained the remains of an adult. No certain fittings are known to belong to this phase; the function of iron binding in grave 11096 is indeterminate. A soil stain in grave 11727 indicates the use of a lid. Iron nails positioned along the side of the coffin and on top of the lid suggest that the lid was fixed. Iron nails in grave 420 appear to preserve the shape of a casket 2.5 m in length. The casket, deposited within a coffin, contained a pair of shoes.

Human remains

The remains of skeletons that formed the primary burial were recovered from 13 graves only. Human bone did not survive well, and most of the skeletons had decayed to the extent that only skull fragments, usually dentition, remained. Occasionally fragments of upper and lower limb bones were recovered. Skeletons survived as soil stains in a further five graves. Overall, body position could scarcely be determined. However, the evidence, while admittedly ephemeral, suggests a common extended supine burial aligned N-S, with the head towards the north. There were exceptions. Grave 12047, for example, contained one of the more curious burials. The skeleton, preserved as a stain, had apparently been laid out in a crouched position, the excavator noting that the body had been interred somewhat haphazardly. The absence of iron nails is of particular interest, suggesting that the individual was not buried in a coffin. Instead an alternative form of container, perhaps a shroud, was used. Age and sex data were obtainable from five burials. Five adults, four of them female, were represented. The individual from grave 1053 died between the age of 18 and 24 years. She exhibited the only pathology - in her case, dental calculus - within skeletons belonging to this phase.

Other funerary-related features

Cenotaphs

Six features (733, 773, 813, 1416, 10180 and 12153) yielded no cremated bone, but otherwise resembled cremation graves and were interpreted as potential cenotaphs (Fig. 15). Where the cut was visible, features were circular, measuring on average 0.9 m in diameter and 0.19 m deep. Pottery had been deliberately deposited in three features; drinking-related vessels were favoured, though a jar was deposited in 773. Iron nails from 813 and a vaguely square shape to the cut suggest that a box was deposited; if so, then it contained a ceramic beaker. In general, the features were filled with single deposits of silty soil, which contained very little or no charcoal.

Cremation-related features

Five features (940, 1437, 10524, 11270 and 11755) containing redeposited pyre debris, including cremated bone, were assigned to the early to middle Roman phase (Fig. 15). Cuts varied in shape; oval, circular and rectangular features were represented. The cuts were variable in size, though they measured on average 0.78 m wide and 0.14 m deep. Charcoal from 11270 and 11755 was predominantly oak, but the latter also yielded ash. Cremated human remains were largely undiagnostic. An adult from 11755 was aged over 40 years at death.

Ditch 11819

This ditch was arc-shaped and formed a mirror image to ditch 11330 (Fig. 14). The centres of both ditches - where they angled to change orientation - met, although the relationship between them is unclear. The southern terminal of ditch 11819 was encountered, but the northern terminal was lost among the Iron Age pits and cobbled surface 10489; again, relationships were indeterminate. The ditch was some 0.8 m wide and 0.36 m deep, and filled in up to three episodes. Pottery from the ditch, including black-burnished ware, and grave 11026, which truncated the feature, suggests that the ditch filled between AD 120 and 180. The ditch appears to have functioned alongside, or replaced, 11330, though its use as a boundary seems limited.

4.4.5 Middle Roman (c AD 120/30 to c AD 260)

Some 80 funerary-related features were assigned to the middle Roman phase, accounting for 14% of the entire cemetery, representing an apparent decline in the rate of burial, bearing in mind that some of the undated graves might belong here (Fig. 17; Table 5). Overall, the

inhumation rite remained more important than cremation, although during some decades, cremation appeared to become more popular. A large proportion of graves was dated broadly from AD 120/30 to 200. Some graves may properly date after AD 170 within a 30 year period that is otherwise poorly represented, but neither artefactual or stratigraphical data allow a firmer resolution. Graves were located in the central part of the cemetery, and concentrated along the southern boundary.

Table 5: Distribution of middle Roman funerary-related features (based on count of feature)

Feature type	**AD 120/30-170**	**AD 120/30-200**	**AD 170-200**	**AD 190-230**	**AD 200-260**	**AD 120/30-260**	**Total**
Cremation-related feature	2						2
Inhumation grave	11	16		12	2	2	43
Unurned cremation grave	9		1			1	11
Urned cremation grave	10	10	1	1		1	23
Total	32	26	2	13	2	4	79

Cremation graves

Graves were distributed along the southern boundary gully up to and within the arc of the central boundary ditch (Fig. 18). No roadside cremation burials were certainly made during this phase. Predictably, the profiles of a number of graves could not be determined. Graves with visible outlines were generally circular in plan with concave sides and bases. They measured on average 0.56 m wide and 0.16 m deep, though, again, the wide range of values that contribute to these figures indicate considerable truncation. Most graves followed the slope that declined gently from south to north.

The sequence of deposition is best illustrated by six graves. All were unurned; in five (48, 451, 10838, 11409, and 11215), the cremated bone had been deposited first, perhaps in a cloth or leather bag, followed by ceramic grave goods, which were placed on top. The sequence was reversed in the sixth grave (11204); here the bone had been placed over (but not specifically within) a dish. Graves were backfilled with single deposits of silty clay or sandy soil, occasionally mixed with pyre debris and redeposited pottery fragments.

Urned graves were generally more common than unurned burials in contrast with the early Roman period. This is in part a consequence of the dating process; graves yielding cinerary vessels alone are intrinsically better dated than unurned graves that lack pottery altogether. Among groups of closely dated graves (AD 120/30-170), the ratio of urned to unurned graves was more balanced. Cremation was rarely practised by the start of the 3rd

century. Given the paucity of burials dated beyond the late 2nd century, AD 170 represents something of a terminal date for the rite at Pepper Hill.

The pyre structure and fuel

No middle Roman pyre sites were identified, although indirect evidence was obtained from pyre debris from three graves (291, 590 and 796). Oak was predominant in all three. Grave 590 additionally yielded smaller quantities of beech. Grave 796 yielded a relatively diverse charcoal assemblage comprising oak, ash, hawthorn or similar, and birch (Challinor 2006).

Pyre goods

Evidence for pyre goods was recovered from 16 graves. Most of these graves yielded burnt animal remains. As in the early Roman period, diagnostic fragments indicate a preference for medium-sized mammals - probably pigs - and domestic fowl. Sheep or goat and cattle remains were retrieved to a lesser extent. The skull fragments and teeth of medium-sized mammals, for example from graves 48, 796 and 11119, hint at the head being deposited on the pyre. Pre-prepared meat joints were also placed on the pyre. A shoulder of mutton, for example, was burnt with the corpse then deposited in grave 117.

Blue-green or iron stains on cremated human bone reveal that the deceased continued to wear metalwork while laid out on the pyre. Stains were visible on cranial vaults and long bones of the arm, suggesting that bracelets, necklaces or hairpins were worn. A bone hairpin was recovered from grave 10744. As no burnt hobnails were recovered, the practice of placing shoes on the pyre was apparently confined to the early Roman period.

Grave goods

Pottery remained the favourite class of grave offering. Jars were almost exclusively chosen as cinerary vessels. A dish and bowl were also selected to contain cremated bone. The proportions of ancillary types are unchanged from the early Roman period. Drinking-related vessels - flagons, beakers and the like - accounted for 57% by vessel count of the ancillary vessel assemblage; eating-related vessels - dishes, bowls and platters - took a share of 33%, while jars accounted for 10%. A reasonably narrow range of forms was represented; poppy-head beakers, ‘cooking-pot’ jars and plain-rimmed dishes appeared regularly. Coarse grey wares continued to dominate the assemblage, though other wares, including black-burnished wares, were introduced. Samian ware is better represented in this phase compared with the early Roman period, accounting for 25% of ancillary vessels.

In the early Roman period, shoes were more commonly burnt on the pyre than deposited unburnt in the grave. In the middle Roman phase, the converse is true. Pairs of unburnt shoes were deposited in three graves (78, 796 and 10838), representing 9% of middle

Roman cremation graves, compared with 3% before AD 130. A copper alloy bracelet and tin bronze bell (Plate 10), along with a samian cup, were recovered from grave 1438, and accompanied the double burial of an adult female and infant. The burial recalls early Roman grave 11239, which similarly yielded bracelets associated with a child burial.

Bone was, again, poorly preserved, and unburnt animal remains were rarely found. None was recovered from 62 early Roman graves, though four of 35 middle Roman graves yielded animal bone, including three graves with very small and delicate fish bones, is surely significant. Bone should survive no better from the middle Roman period, so one can regard the difference as a genuine reflection of choice, rather than chance survival. The range of bones suggests that fish were preferentially selected. Herrings were deposited in graves 291 and 1117, while a ray fish bone was recovered from grave 117. Grave 653 yielded a skull fragment from a large mammal. The grave measured 0.6 m wide, and was clearly too small to contained the entire unburnt carcass, so it is unlikely that the fragment represents a meat joint.

Grave furniture

The remains of a juvenile recovered from grave 291, dated to AD 130/40, were contained within an ornate casket. The object was wooden and fixed by iron nails. It was decorated with copper alloy plates and lion-headed studs. The decaying wood left no stain, but the dimensions of the grave cut confine the size of the casket to under 0.3 m wide.

Iron nails preserved the outline of a rectangular box in grave 451. It contained unurned cremated remains and a relatively rich assemblage of five pottery vessels (Plate 11). A sixth vessel was found outside the box. Nails suggest the presence of a box in grave 11409. However, the nails did not preserve the an outline, and this, as well as the circular shape of the cut, casts doubt on the interpretation Both 291 and 11409 date up to the mid 2nd century; 451 was slightly later, with grave goods suggesting a date range of AD 170-190.

Human remains

The middle Roman cremated bone assemblage predominantly comprised adults. The male-female ratio was reasonably equal - the data continue the apparent early Roman trend of a slight bias towards males - although the sex of almost half of the adult burials was indeterminate. Few individuals could be more precisely aged. However, of the seven individuals whose approximate age at death was determined, six died after their fortieth year. The seventh died after the age of 17. The adults exhibited the range of pathological lesions seen in earlier phased burials, caused by anaemia, dental decay and joint disease. The remains of five immature individuals were recovered, representing 14% of the cremated population. Three died before the age of 5 years, the fourth between 6 and 13 years, and the sixth may have survived up to the age of 18 years.

Inhumation graves

Forty-three inhumation graves were assigned to the middle Roman period. The graves were concentrated along the western boundary in the southern part of the cemetery, appearing to avoid the area within the arc of boundary ditch 11330 (Fig. 19). The mainly rectangular cuts were typically flat-bottomed with steep or vertical sides. The cuts produced average dimensions of 2.0 m long, 0.8 m wide and 0.4 m deep. As with earlier-dated graves, truncation was considerable. The range of values contributing to each figure reflects this. Grave 11855, for example, survived to a length of 0.4 m and depth of 0.08 m. Most graves were dug to a height of between 23 m and 24.5 m above Ordnance Datum; heights, like those of the cremation graves, reflected the prevailing slope of the site.

Most graves followed the NW-SE axis of the southern boundary gully. A few graves were orientated N-S or E-W. The heads of the deceased continued to be located at the northern end of the grave. No individuals were certainly positioned with their heads towards the south. The sequence of deposition within graves was generally simple. Typically, the body, whether inside a coffin or a shroud, was placed inside the grave along with any grave goods, and covered with the silty soil originally removed to make the grave. There was little variation. The body within grave 148 was placed above a primary silty fill. Upper and lower fills were recorded in graves 698 and 787. In all three cases, the decaying coffin caused the soil in the lower parts of the graves - otherwise part of a single episode of backfilling - to change colour slightly.

The majority of graves were dug between AD 120 and 200. No burials were dated specifically to the late 2nd century, though it is possible that some of the graves dated more generally to the 2nd century actually belong within the final three decades of the century. Inhumation burial continued - or resumed - at the end of the 2nd century or beginning of the 3rd, but at a reduced rate; 29% of middle Roman inhumation burials date to the period *c* AD 190 to 260.

Grave goods

Ceramic offerings continued to be made. The proportions of the principal functional groups remain almost identical to those derived from cremation burials. The majority of vessels were made in grey wares from local sources. Occasional fine wares, other than samian, included a bag-shaped beaker from the Rhineland (grave 1434). Accounting for 12% of the middle Roman inhumation assemblage by vessel count, samian ware appeared less frequently than in contemporaneous cremation graves. In terms of represented functions, drinking-related ceramic vessels dominate, accounting for 56%. Eating-related vessels took a share of 21%, while jars contributed 10%. The range of forms varied slightly from that in cremation burials.

Poppy-headed beakers were joined more frequently by globular and folded or indented beakers, and reflect the extended chronology of the inhumation rite. Samian cups were absent. Grave 787, dated to the early 3rd century, yielded another oddity: a samian wall-sided mortarium, Drag. 45. The near-absence of mortaria generally from cemeteries throughout the northern provinces is well-known, and any appearance is exceptional. An 'infant-feeder' from grave 11654 is tentatively associated with a child burial; the human remains were indeterminate, but the cut was child-sized at 1.25 m long.

Grave 254 merits discussion on the basis of its complex, and not entirely understood, ceramic evidence (Plate 12). The 'foot-end' of the grave yielded seven vessels, the highest count from any single grave. Some of the pots were specially arranged in the grave, clearly serving no practical use. For example, two incomplete samian dishes (ONs 4255-6) were inverted and partially covered the same coarse ware dish (ON 4258). Similarly, a jar base (ON 4554) was used as a lid for a beaker-sized jar (or 'drinking-jar'). Additionally, a large deposit of fragmented and occasionally burnt pottery, representing 15 vessels, was scattered over the main group of vessels. Eating and drinking related vessels, including dishes, beakers and flagons, accounted for over 60% of this assemblage by estimated vessel equivalent (EVE). The motivations behind the sequence are far from certain. The deposit recalls the layers of seemingly deliberately broken pottery - also with a bias towards dining - observed in graves at Alton, Hampshire. The pottery was interpreted as the remains of funerary feasting (Millett 1986, 82). Similarly, late 2nd century inhumation grave 8160 at Westhawk Farm, Ashford, yielded over 2000 sherds, many belonging to freshly broken vessels. No clear functional bias was observed, although dining vessels were better represented there than in groups from contemporaneous features (M Lyne, in prep).

Few graves yielded objects other than pottery. Pairs of shoes, attested by hobnails, were recovered from seven graves. In at least four (780, 1028, 1227 and 10863), the presence of teeth or skull fragments indicated that the shoes were at the feet end, although the poorly preserved bone renders judgements about whether they were being worn impossible. A fragment of leg bone hints that the individual buried in 1028 wore shoes; the leg - surviving as a stain - was orientated towards a corner of the grave, where the pair of shoes was found.

Jewellery was recovered from three graves. Grave 10520, dated by pottery to AD 190-230, contained the most diverse assemblage, comprising three copper alloy bracelets, a necklace of beads, including gold-in-glass type, and a copper alloy finger ring complete with glass intaglio. None was worn by the deceased at the time of burial. Apart from the example in grave 10520, finger rings came from graves 10761 and 11072.

Coins were rare at Pepper Hill; none of those reported on (Booth and Cool 2006) was retrieved from graves. However, during the excavation of mid 2nd century grave 10863, a coin was encountered inside the jaw of the skeleton. Unfortunately, the coin cannot be found

and has escaped detailed examination, but the rite is otherwise a well known Roman custom (Toynbee 1996, 44). Two circular soil stains, possibly the remains of wooden bowls, were uncovered in grave 10681. No animal bone survived.

Grave furniture

A total of 35 graves - 83% of middle Roman inhumation graves - yielded evidence for coffins. The proportion of coffined graves is larger than in the early Roman phase (58%), and suggests that the preference for coffins increased towards the later Roman period. But caution is required. The difference might, for example, reflect changing techniques of coffin construction. It is possible that wooden pegs were used more readily in the early Roman phase compared to the later phases, when iron nails were used almost exclusively. This may be regarded as somewhat fanciful, although the fact that all identified coffins were nailed supports the case. In the early Roman phase, at least one coffin was fixed by means other than nails, and other examples may have existed. The mean number of nails per coffin was higher in the middle Roman phase: 20 nails, compared with 16 in the early Roman period. We should note, however, that 13 later graves produced fewer than ten nails, some as few as one or two. In addition, the paucity of large groups of early Roman inhumation graves means that we cannot know if this apparent trend is typical. Nail distribution patterns record methods of coffin construction. In grave 792, for example, the coffin had been heavily nailed along the widths of both ends, but rather lightly along the length to secure the lid. In contrast, nails were more numerous and evenly spaced along the length of the coffin in grave 942.

Soil stains record the dimensions of a number of coffins, producing an average width of 0.55 m and length of 1.8 m. As usual, the mean length masks a wide range of values resulting from the high level of truncation seen across the site. The coffin in grave 780 was among the largest, being 2.5 m long. Grave 1104 produced one of the shortest coffins, which, judging by slender bones found in the grave, contained a child. No certain fittings were found; a copper alloy drop handle from grave 198 may have belonged to the coffin, though such objects tend to be associated with caskets (cf Borrill 1981).

Boxes or caskets were deposited in four graves. None was as ornate as the casket in cremation grave 291; all were made with wooden boards fixed by iron nails. They varied in size, however. The boxes or, more likely, caskets, from 864 and 10761 measured 0.25 m square. Grave 10520 contained a larger box, 0.5 m square. The box from 10681 was rectangular, measuring 0.12 by 0.38 m. All boxes contained grave goods, chiefly pottery. Two vessels were placed inside the box belonging to grave 10520, but the jewellery also recovered from the grave did not accompany them, and was instead deposited in a group nearer the centre of the grave. The box in 10681 formed the northern end of the coffin; the two coffin timbers were otherwise unfastened at this end. One vessel was located at the south end of the

coffin away from the box and remaining grave goods. Iron nails and fittings, including joiner's dogs and riveted bars, were recovered from grave 11070 and formed part of a coffin or box.

Few boxes have been noted as coming from inhumation graves; Philpott records none in his survey of Romano-British burial practices (1991). Since that publication, one example, dating to the late 3rd or 4th century, has been excavated at London's eastern cemetery (Barber and Bowsher 2000, 165-9).

Human remains

Skeletal remains were recovered from just 14 graves. Preservation was predictably very poor; remains were largely confined to either skull (including dentition) or lower limb fragments. An adult female in grave 11072 was one of the better preserved individuals, with *c* 40% of the skeleton surviving. For most skeletons, body position, age and sex were indeterminate. From the little evidence available, bodies were laid out in a supine, extended position. There was an equal number of males and females, although this was based on just four individuals. As observed in the early Roman period, the life expectancy in middle Roman individuals was apparently lower than that of cremated individuals. Three adults died before reaching the age of 30. A fourth, a male, was at least 40 years old when he died. No pathology beyond dental disease was noted. An immature individual was buried in grave 1028.

Other funerary-related features

Cremation-related features

The two features (433 and 1002) assigned to this category contained redeposited cremated bone and, despite deliberately deposited objects being present, could not certainly be identified as cremation graves. Feature 433 yielded a samian dish and coarse ware 'cooking-jar'-type, while 1002 contained a beaker.

Cobbled surface 10438

A cobbled surface, rectangular in plan and orientated N-S, was uncovered some 3 m west of the western cemetery boundary. The surface was extensive, measuring 14 m long and almost 5 m wide. It overlay the group of Iron Age pits at its southern end. The feature was cut to a depth of up to 0.3 m deep into the gentle slope, creating a level area in which to lay the surface (Fig. 20; Plate 13). This comprised compacted flint and gravel within a sandy silt matrix up to 0.08 m thick. Occasional pieces of burnt flint were noted within the surface, but defined no further. A layer of sandy silt and flint nodules covered the surface, which by that time was out of use. Some 250 sherds of pottery were recovered. Recognisable vessels were

few, but those that were identified were biased towards dishes and platters. Jars and a cup were also represented.

The surface overlay the Iron Age pits and must be later. Pit 10570 yielded pottery, including black-burnished ware and Central Gaulish samian, dated to *c* AD 125-150 and can be attributed to a period of deliberate backfilling ahead of surfacing. No material was recovered from the surface itself, but latest pottery from the overlying deposit, including a black-burnished ware dish, dated to *c* AD 130-150. Both pottery-yielding deposits help to chronologically bracket the surface, placing it reasonably within the mid 2nd century.

4.4.6 Middle to late Roman (c AD 120 to AD 410)

Twenty funerary-related features were assigned to the middle to late Roman phase (Fig. 21; Table 6). Dating evidence – whether stratigraphy or grave goods – remained too broad to place any feature within a single phase. Nevertheless, the chronological distribution of grave, however poorly dated, reveals that the cremation rite continued after the beginning of the 3rd century. Overall, however, inhumation graves were more numerous than cremation graves, emphasising the earlier Roman *floruit* enjoyed by the cremation rite.

Table 6: Distribution of middle to late Roman funerary-related features (based on count of feature type)

Feature type	AD 120/30-410	AD 170-410	AD 200-410	Total
Cenotaph or disturbed cremation grave		1		1
Inhumation grave	8	2	2	12
Unurned cremation grave	2			2
Urned cremation grave	1	2	2	5
Total	11	5	4	20

Cremation graves

The few cremation graves assigned to this phase were located along the western boundary. Cuts were often difficult to define; those whose profiles were visible to lesser or greater extents were generally circular with gently-sloping sides and flat or concave bases. The graves measured on average 0.4 m wide and 0.2 m deep. After the cremated bone and grave goods had been deposited, the graves were filled with a single deposit of clayey or silty soil (presumably the soil originally removed to create the grave). The phase includes an important group of four graves that were dug after *c* AD 190. Grave 11015 represents the latest known cremation-related feature. It was dated to after *c* AD 220 on stratigraphic grounds; the grave

cut a 3rd century inhumation grave 11070 and must be later in date, despite the 1st or 2nd century jar attributed to it.

The pyre structure and fuel

Pyre debris from just one grave was examined. Grave 142 yielded oak charcoal primarily, but smaller quantities of alder and birch were also present (Challinor 2006).

Grave goods

Pottery was recovered from six cremation graves. Five graves contained urned burials. The cinerary vessels were typically robust and utilitarian, though a carinated bowl from grave 11098 was made in 'Upchurch'-type fine grey ware, a fabric more often used for tablewares. The ancillary vessels – a total of six pots – were evenly divided between eating- and drinking-related forms. It is striking that anachronistic vessels were recovered from five graves. In some cases, the pottery was over 100 years old before reaching the grave.

Grave goods other than pottery were recovered from a single burial. Grave 10852, dating from *c* AD 150-300, contained a bead necklace. The beads comprised two types, pentagonal cylindrical and colourless segmented. Both types are rare, but the latter is of particular interest. The colourless glass is fragmented, but may have once enclosed gold or silver foil similar to the beads in grave 10520.

Human remains

All but one of the seven cremated individuals were adults. Unfortunately, further details of age and sex were largely indeterminate. Grave 11098 contained an individual who died between the age of 18 and 30 years. An adult male was buried in grave 142. An immature individual buried in grave 10852 was accompanied by the beaded necklace and was probably female based on that item. Pathology is again confined to dental and joint disease.

Inhumation graves

Most of the 12 inhumation graves belonging to this phase were at the top of a sequence of graves. They were rarely cut by later graves and, consequently, were relatively well preserved. Their average dimensions provide a measure of this. The graves, invariably rectangular with steep sides and flat bases, gave a mean width of 0.67 m (excluding an outlier width of 0.08 m), mean length of 2 m, and mean depth of 0.31 m (again excluding an outlier). Generally, the values contributing to these means are far less variable than those exhibited in early and middle Roman graves. The filling of each grave usually followed a simple sequence; once the deceased and any grave goods had been deposited, the grave was backfilled in a single episode. Two graves, 1221 and 11541, are exceptions. A layer of gravel,

0.2 m thick, was laid on the floor of the former; the coffin was placed on top. The grave was then backfilled as normal. The latter grave contained two sequential deposits of sandy loam; the first was slightly darker than the upper deposit. In other graves where a similar sequence was evident, the two fills were regarded as belonging to the same, single, episode of backfilling; the darker hue to the lower part of the fill was caused by the decaying coffin. However, grave 11541 appears to have contained no coffin, although it is possible that an unnailed coffin was deposited. Seven graves followed the prevailing N-S orientation. Individuals in two graves (11567 and 11589) were laid with their heads towards the south. Four graves were aligned E-W. Among the latest graves within the phase were 11567, which was dug after *c* AD 190, and 10810, dug after *c* AD 220. The date ranges of the remaining graves began within the 2nd century. Graves were located in the southern part of the site against the western boundary and towards the cemetery's centre, though again avoiding the area within the arc of ditch 11330.

Grave goods

Pottery was recovered from two graves. Grave 11541 yielded a carinated beaker, an 'antique', being at least 50 years older than the date of the grave. A dish was retrieved from grave 353. A pair of shoes, as indicated by hobnails, was deposited in grave 11571.

Grave furniture

Evidence for coffins was recovered from six graves. One grave, 353, had a soil stain, which gave coffin dimensions of 0.43 by 1.6 m. The function of an iron hook or spiked loop from the same grave is unknown, but this may have been a fixture on the coffin. A bracket found in grave 1221 more certainly fitted onto a coffin.

Human remains

The remains of three individuals were recorded. A sub-adult aged between 12 and 18 years was buried in grave 172. An 18 year old was buried in grave 11589. The age and sex of the individual in grave 11567 were indeterminate.

Other funerary-related features

Cenotaph or disturbed cremation grave

Occurrences of this type are limited to a single, circular feature (1418). It yielded no cremated bone, and its function is otherwise unknown.

4.4.7 Late Roman (c AD 260 to c AD 410)

Inhumation graves

Five inhumation graves only were assigned to this phase (Fig. 22). No cremation-related deposit is known to date after AD 260, and the cremation rite had almost certainly ceased by this time. Four graves were located in a group against the eastern edge of the cemetery at the southern end. The fifth was also along the eastern edge, but situated almost 17 m to the north of the group. All graves were rectangular with vertical sides and flat bases. Like the middle to late Roman inhumation graves, these were uppermost in the stratigraphic sequence and consequently had been little disturbed by later activity. The dimensions record near-complete features, offering a mean width, length and depth of 1.05 m, 1.9 m and 0.83 m respectively. Grave 1121, the widest grave in the entire cemetery at 1.4 m (Fig. 23), provided evidence for a relatively complex sequence of filling. The coffin, once lowered, was packed around with a silty soil; a second layer of soil was deposited, followed by a third to complete backfilling. The size of the cut recalls similarly large graves from Kelvedon, Essex, which were interpreted as wood-lined vaults (Rodwell 1988, 37-41). Upper and lower fills evident in graves 962 and 1148 formed part of a single episode of filling, with the lower part discolouring as the coffins decayed. The four southern graves followed the prevailing NW-NE alignment of the Hollow Way and existing graves. Skeletons were probably located with their heads at the north end, although the individual in 1121, the only grave with preserved traces of the skeleton, was laid down with its head towards the south. Grave 10455 was orientated along an E-W axis. Four graves share a broad date range that spans the phase; grave 833 truncated 1148 and, though yielding little diagnostic material, must date after AD 280. Conceivably, the grave could date up to the end of the Roman period, though the remaining four graves suggest that burial activity ceased by *c* AD 360.

Grave goods

Graves yielded a diverse range of deliberately placed objects. Pottery was recovered in all but one grave. The ceramic assemblage comprised four beakers - all funnel-mouthed or pentice-moulded beakers - two flagons and a dish. The pottery in grave 962 was accompanied by a coin and finger ring. Both were anachronistic, being of much earlier date than the grave. The coin, one of only two from a burial context in the cemetery, though long out of circulation, was nevertheless considered suitable to fulfil its spiritual function perhaps as an amulet. A pair of shoes accompanied the individual in 1121.

Grave furniture

Coffins were present in all five graves. They were once again indicated mainly by nails and soil stains. The coffin in the largest grave (1121) measured 0.55 by 2 m. The nail pattern was sufficiently well-preserved to indicate the use of a cover. Nails driven vertically into the top of the side boards helped to fix the lid. Iron spiked loops provided additional fittings.

Human remains

Human remains were preserved in a single grave (1121). The deceased was an adult of indeterminate sex, who died between the age of 18 and 22 years old.

The Hollow Way

By the mid 4th century AD maintenance of the road, which had accumulated deposits of sandy silt up to 0.4 m thick, had ceased. Coins of Magnentius and the House of Valentinian give upper dates of 351 and 375 respectively, though the same deposits also yielded an *as* of Claudius, providing an indication of the mixed nature of the soil (Booth and Cool 2006). At best, the coins offer the earliest possible date for these deposits. In any case, the coins reveal some activity into or beyond the 4th century.

4.4.8 Roman (c AD 43 to AD 410)

Some 24% of all funerary-related features were assigned a date range spanning no less than 300 years (Fig. 24; Table 7). The features were invariably devoid of grave goods and other datable material, and often lay in sequences of burials bracketed by more poorly-dated graves or graves that belonged to the earliest or latest part of the cemetery sequence. Many inhumation burials remained undated; grave goods by no means formed an essential, or even usual, part of the rite, resulting in graves, given the poor preservation of the skeleton, appearing empty. Undated cremation-related features, including pyre sites and a *busta* were far fewer.

Table 7: Distribution of funerary-related features of broad Roman date (based on count of feature)

Feature type	Total
Bustum	1
Cenotaph or disturbed cremation grave	8
Cremation-related feature	8
Inhumation grave	95
Pyre site	3
Unurned cremation grave	11
Urned cremation grave	1
Total	127

Pyres

Three undated pyre sites were encountered. Sites 1012 and 1036 were located towards the southern extent of the cemetery, isolated from the main group of more centrally located early Roman pyre sites (Fig. 25). Feature 10699, however, formed part of this central group and should be chronological associated. Inevitably, the lack of firm dating evidence cannot allow a conclusive judgement to be made. Shape and dimensions were somewhat variable; the southernmost features were oval or sub-rectangular and smaller than 10699, measuring on average 0.59 wide by 0.7 m long. Rectangular-shaped pyre site 10699 measured 0.52 by 1.2 m. The feature exhibited a sequence of deposits consistent with that of the early Roman pyre sites; the base and sides of the pyre pit had been scorched as the overlying pyre burnt down. This left a deposit of charcoal across the base of the cut, which was overlain by the cremated bone that remained uncollected for formal burial. Eventually, the feature was backfilled. The southern pyre sites must have followed a similar pattern, though the sequence was not so clear during excavation, with the pyre debris appearing to be mixed into the backfilled soil. Pyre site 1012 had been used at least twice; it contained the remains of an immature individual and an adult. Both 1036 and 10699 yielded the remains of single adults.

The pyre structure and fuel

All three pyre sites contained oak charcoal only. Pyre debris from other cremation-related features revealed a range of species that was entirely typical at Pepper Hill. Ash, hawthorn-type species and birch charcoal were present to lesser or, less usually, greater extents in addition to the ubiquitous oak. Cremation grave 10167 yielded plum or cherry-type wood.

Pyre goods

Cremation-related features contained a generally typical range of pyre goods. Animal remains included a dressed pig joint from grave 11528, a sheep or goat femur - another probable meat

joint - from 11780, and a bird (chicken?) bone from 11341. Burnt oyster shell, recovered from pyre site 1012 and grave 11528, brings the total number of incidences across the cemetery to three. Iron or copper alloy staining to the bone from three features show, once again, that the deceased occasionally wore items of personal adornment on the pyre. Hobnails recovered from pyre site 1036 tentatively places the feature within the 1st or early 2nd century AD, the period in which the practice of burning shoes was most common (Booth and Cool 2006).

Pyre furniture

Evidence was confined to iron nails collected from pyre site 1036. Nail lengths were not fully recorded, but the objects, as depicted on the field plan of the feature, appear to be small - some perhaps less than 20 mm long - placing them within the size range into which bier-derived nails typically fit.

Bustum or pyre site 10622

One further possible *bustum* was encountered. The sequence of deposits within 10622 was similar to that of the other *busta* and pyre-sites, though the underlying pit more closely resembled the T-shaped cuts seen among the pyre sites of Westhampnett (Fitzpatrick and Powell 1997, 18-32). The feature had been severely truncated by grave 10518, and much of the potential cremated bone has been lost. Though identified as a *bustum*, the absence of grave goods and small amount of bone brings considerable uncertainty to the interpretation. If not a *bustum*, then the feature may be re-interpreted as a pyre site. The feature was close to the main group of similar features and could well be of early Roman date.

Cremation graves

The graves were uncovered in the central part of the cemetery (Fig. 25). Cuts, where visible, were generally circular with gently-sloping or steep sides and flat or concave bases. On average, they measured 0.59 m wide and 0.11 m deep. Most were backfilled with a single deposit of silty soil. Evidence for a marker was recorded in grave 10908. A posthole 0.1 m wide and 0.06 m deep was set into the centre of the unurned grave. The grave had been backfilled before the post was sunk. Grave goods were scarce. A fish bone from grave 10167 adds to the small list of occurrences of unburnt fish from middle Roman graves. A pip of unidentified species from grave 11528 hints at the deposition of fruit.

Inhumation graves

Graves were typically rectangular with steep or vertical sides and flat bases. Where dimensions could be determined, the cuts measured on average 0.75 m wide, 1.6 m long and 0.27 m deep. Standard deviation and the range of values were relatively high, however,

reflecting the wide spread of values consistent with a high incidence of truncation. The majority of graves were orientated N-S, or up to 45° either side of north. A much smaller proportion of graves followed an E-W axis (Fig. 26). Evidence for coffins was encountered in 25 graves. Soil stains were occasionally seen; the coffin in 1361 was only evidenced by a stain, since the coffin was apparently made without iron nails.

Human bone was recovered from a relatively small number of graves. Sex and age were largely indeterminate. The individuals in two graves (10111 and 11943) died between the age of 17 and 25 years. Grave goods were limited to pairs of shoes, represented by hobnails, in two graves. A third pair was recovered from a grave (11390) whose interpretation as an inhumation burial is uncertain; a dark soil stain beneath the feet of the individual in grave 12111 may be the decayed remains of nail-less shoes. Generally at Pepper Hill, the remains of nailed shoes were found in middle Roman graves. While conclusive data are lacking, these graves may therefore belong to the 2nd century or slightly later.

Inhumation graves represent 75% of all cemetery-related features within this phase. In other phases, though always dominant, the rite was less well-represented, only accounting for more than 60% of features in the late Roman phase. One factor that might account for the difference is the relatively high cost of cremation (Challinor 2006). This, allied to the absence of grave goods may identify many of these undated features as 'pauper' graves. However, it is worth considering that the severe intercutting may have removed evidence that would otherwise identify the deceased as being other than the poorest in society.

Other funerary-related features

A total of 18 cremation-related features were broadly dated to the Roman period. These invariably contained no or small amounts of cremated bone and pyre-debris. With grave goods absent, their interpretation remains problematic, though they are consistent with better dated cenotaphs or cremation-related features.

Well or shaft 10415

The well or shaft was among the more enigmatic of features. Located to the east of the Hollow Way and cut through gravel, the feature was circular and measured 8 m wide (Fig. 27). It was at least 4 m deep; engineering restrictions prevented full excavation. The upper fills comprised a sequence of silty clay deposits with occasional erosion of the gravel walls. The lowest hand-excavated deposit yielded two fragments of an unburnt human long bone, but there were otherwise few finds from the upper fills. Dating evidence is scarce. A coin of Constantine (AD 322-325) from the top fill indicates that the features continued to attract material in the 4th century. Pottery was broadly-dated to the 1st or 2nd century. That the Hollow Way appears to 'thread' its way in between the Iron Age boundary ditch and the well

or shaft suggests that the latter pre-dated the metalled road, one of the earliest features on the site, and could therefore be of late Iron Age date. Other shafts in Kent, for example at Greenhithe, Bekesbourne, and Deal, were tentatively dated to the late Iron Age or early Roman period (Webster 1997, 141-2).

Quarries

Six quarries were situated north and east of the cemetery. They were irregularly shaped and of varying size, but generally oval with a mean length, width and depth of 11 m, 8.5 m and 0.56 m respectively. The pits had been dug into the gravel subsoil, which, exposed along the sides of the pits, had occasionally slumped as the features silted up over time. The pits were largely devoid of finds; small amounts of pottery were recovered from 10012 and 10050. First century 'Belgic' shell- and grog-tempered pottery was retrieved from the former, while the latter yielded East Gaulish samian ware, which dated infilling to the mid 2nd century or later. The quarry area was therefore in use during the early Roman period, continuing into the 2nd century at least. The pits had almost certainly been dug in order to extract gravel; it seems reasonable to suggest that the material was used to construct and maintain the Hollow Way.

4.5 Towns and their Rural Landscapes II - The post-Roman and Anglo-Saxon Landscape (*c* AD 410 to *c* AD 1000)

No features certainly belonged to this phase. However, a copper alloy dress pin (ON 10013), recovered from the topsoil, dates to the 9th or 10th century, indicating late Anglo-Saxon activity in the area.

4.6 The medieval and recent Landscape - *c* AD 1000 to the modern day

Wheel ruts and potholes were identified in the upper levels of the Hollow Way along with medieval and post-medieval plough furrows which had caused damage to a number of shallow cremation burials. Quarry pit 10058 was located among the Roman quarries, but yielded pottery dating after 1500. It was noticeably different in size, too, being oval; and measuring 6.5 m long and 1.15 m deep. Four post-medieval coins were recovered from the topsoil. One 17th-century copper farthing was found in a grave fill (sub-group 10862) and was clearly intrusive. A post-medieval finger ring was recovered from the topsoil.

4.7 Discussion

4.7.1 A chronological summary and regional comparison

The earliest burial (10404) was radiocarbon dated to the middle Iron Age or earliest part of the late Iron Age. The grave was chronologically and spatially isolated and did not, on present evidence, form part of an organised cemetery. The cemetery received burials possibly before the conquest. Radiocarbon determinations certainly allow the possibility of pre-Roman burial, as the majority of the dated inhumation burials, including crouched burial 11386, fall into a phase of 50 cal BC to cal AD 100, with the earliest cremation and pyre sites attributed to a similar range (Table 9; Allen *et al.* 2006). Given the ceramic evidence, there were probably very few late Iron Age burials, and instead burial began in earnest during the pre-Flavian period (AD 43-70). Pottery typology is insufficiently precise to date any feature more narrowly within this range, although a number of graves so dated, for example 746, 10243, 10278 and 12011, cut earlier graves. If desirable areas for burial were overcrowded, necessitating a degree of intercutting, then the cemetery may well have been operating for a considerable time before AD 70. Inhumation was the dominant rite at this time, accounting for 56% of funerary-related features. Cremation graves took a share of almost 20%. Where relatively closely dated, the *busta* and pyre sites tended towards a middle to late 1st century date, with the emphasis fixed on the earlier part of that range (that is, before AD 70). Burial activity intensified during the late 1st and early 2nd century when the cemetery received proportionately more graves. The cremation rite increased in importance; inhumation and cremation graves were now almost equally represented, each at around 45% of features (Table 8).

Table 8: Chronological distribution of funerary-related features.
Quantification by feature count.

Feature type	**Up to AD 70**	**AD 70-130**	**AD 130-170**	**AD 170-230**	**AD 200-260**	**AD 260-410**
Bustum	1					
Cenotaph or disturbed cremation grave	3	3				
Cremation-related feature	1	1	2			
Inhumation grave	22	28	11	12	2	5
Pyre site	4	1				
Unurned cremation grave	5	17	9	1		
Urned cremation grave	3	12	10	2		
Total	39	62	32	15	2	5

Compared with the previous phase, the middle Roman period (AD 120/30 to 260) witnessed a significant fall in the rate of burial. As before, inhumation burial continued to predominate. This was not constant, however, and between AD 120 and 170, the cremation rite overtook inhumation in importance. But this was not to last. The number of cremation graves declined rapidly after AD 170, and by AD 190, inhumation resumed its former dominance. Just one cremation burial (11015) was certainly made after AD 200, an observation supported by the radiocarbon determinations (Table 9; Allen *et al.* 2006). The cemetery was little used after AD 260. Five inhumation burials dated after this time. None needs date far beyond it. Coins from the Hollow Way and the well or shaft indicate activity in the area continuing up to the mid 4th century AD, but generally, the chronology of the cemetery reflects that of the Roman town at Springhead, whose religious role ceased by the mid 4th century (Detsicas 1983, 70). Few, if any, of the undated graves - largely comprising unaccompanied inhumation burials - are likely to belong to the late Roman period. Since inhumation graves outnumber cremation graves at Pepper Hill during the early Roman period, we cannot assume that the undated graves belong to the final 150 years of Roman Britain as we would be able to do with confidence in the Midlands or western Britain, for example. Nor can the absence of grave goods support the assumption, despite the general decline in Britain of grave furnishings over time (Philpott 1991, 224). A little over 40% of early Roman inhumation graves (compared with 15% of cremation graves) were devoid of grave goods, suggesting that the practice of depositing the dead in unfurnished graves was a standard rite during this time. With no clear chronological landmark, the inhumation graves must remain undated, but, on balance, many should be confined to the 1st and 2nd centuries AD.

Table 9: Summary of radiocarbon determinations

Grave	Feature	Dated material	Result no.	Result BP	cal
142	Cremation	charcoal Maloideae, Alnus/Corylus	KIA-23933	1806±26	AD 130-320
837	Inhumation	L femur frags	KIA-23947	1946±28	AD 20-120
10314	Cremation	Vicia/Lathyrus + charcoal Maloideae, Alnus/Corylus	KIA-23932	2712±28	920-800 BC
10404	Inhumation	L femur frags	KIA-23946	2012±32	350-40 BC
10603	Bustum	grain T. spelta/dicoccum	KIA-23931	1759±28	AD 170-390
10710	Inhumation	R humerus	R-28529	FAIL	-
10857	Pyre site	charcoal Fraxinus roundwood	KIA-23934	2027±29	120BC-AD60
10863	Inhumation	teeth	KIA-23944	2016±30	AD 100-70
10961	Inhumation	L femur frags	NZA-20649	1971±30	50BC-AD120
10961	Inhumation	R femur frags	KIA-23945	2120±28	350-50 BC
10999	Cremation	charcoal Maloideae	KIA-23930	1908±31	AD 20-220
11009	Pyre site	oak sapwood	KIA-23924	1933±28	AD 1-140
11159	Inhumation	L humerus frags	KIA-23943	FAIL	-
11272	Cremation	charcoal Maloideae	KIA-23927	2119±29	350-40 BC
11386	Inhumation	L femur and skull frags	KIA-24643	1974±28	50BC-AD120
11386	Inhumation	R femur frags	KIA-23942	FAIL	-

Grave	Feature	Dated material	Result no.	Result BP	cal
			KIA-24643		
11504	Pyre site	Maloideae	KIA-24213	1972±22	40BC - AD90
11589	Inhumation	Human bone frags	NZA-20650	1764±25	AD 170-390
11702	Bustum	A. elatius/oak sapwood	KIA-23925	1927±27	AD 20-140
11708	Pyre site	charcoal Maloideae roundwood	KIA-23929	1978±33	50 BC-AD 120

Pepper Hill, with its early Roman emphasis, is unrivalled within the region in terms of its size and range of funerary practices, particularly *busta* and pyre sites. First and early 2nd century graves are well-attested in Kent - at Dartford (Priory Centre: Hutchings 2001), Keston (Philp 1973, 94-98) and West Wickham (Cook and McCarthy 1933), for instance - but at best form small cemeteries or minor components of larger ones. Cremation was usual at most, although mixed-rite cemeteries were by no means unknown. At Monkton, four cremation graves were accompanied by at least five inhumation. Ceramic grave goods from both types date the group to the 1st or early 2nd century AD (Perkins 1985, 54-9). Early Roman inhumation graves were excavated at Westhawk Farm, Ashford, although cremation remained the predominant rite (Booth *et al.*, in prep). Three inhumation burials were made within a Neolithic long barrow - Julliberrie's Grave at Chilham - during the 1st century AD (Ashbee 1996). At least one early Roman inhumation grave was uncovered at Mill Hill, and more were suspected (Parfitt 1995, 156). Much closer to home, a small enclosed early Roman cemetery a little way north of Pepper Hill at Springhead included both cremation and inhumation graves (Philp and Chenery 1997). *Busta*, taking the form of square pits with scorched sides and pyre debris, are suspected at East Hill, Dartford (Black 1986, 143) and, like those at Pepper Hill, formed part of an extensive, long-lived cemetery (*VCH* 1932, 89). Both sites are exceptional, however, and parallels must be sought beyond the region.

Kent is somewhat stronger in funerary evidence of middle Roman date, although comparatively little of it lies close to Pepper Hill. Rather, excavated burial sites have tended to concentrate in southern and eastern parts of the county. The cemetery at Ospringe, Faversham, was very extensive (Whiting 1921; 1923; 1925; 1926; Whiting *et al.* 1931). Over 400 burials and funerary-related features have been recorded, including at least three probable pyre sites, although, by modern standards, descriptions lack necessary detail, limiting the cemetery's usefulness for comparative purposes. More informative, but smaller, sites have been recorded at Each End, Ash (Hicks 1998) and various locations in Canterbury, most notably at Cranmer House (Frere *et al.* 1987). Moving into the late Roman period, burial sites are widespread, but sparsely populated, and, as at Pepper Hill, few large groups of burials are known. The walled cemetery at Springhead (Davies 2001) and mausoleum at Lullingstone (Meates 1979) provide an obvious counterbalance to the less socially distinctive evidence at Pepper Hill. Burials more typical of the period have been uncovered at Canterbury (eg

Bennett 1978) and East Hill, Dartford (Canterbury Archaeological Trust 2004, 374), among others.

The cemetery at Pepper Hill, then, is undoubtedly archaeologically special in Kent. It is so far the largest recorded cemetery in north Kent, comparable in size only to Ospringe. The key aspects at Pepper Hill - in particular pyre sites, *busta*, and the scale of early Roman inhumation - distinguish the site from others in Kent, making it on current evidence regionally unique.

4.7.2 Funerary and burial practices

The importance of the inhumation rite at Pepper Hill during the 1st and 2nd centuries is remarkable. However, its use during this time elsewhere in Britain is attested. Apart from the early Roman inhumation graves at Springhead, Monkton, Chilham, and Ashford noted above, 17 late Iron Age or early Roman inhumation graves were encountered at the King Harry Lane Cemetery, Verulamium. Like many of those at Pepper Hill, some of the graves were unfurnished (Stead and Rigby 1989, 81). The comparison is limited, however, since cremation burials were far more common at that site. Also in Hertfordshire, early Roman inhumation graves have been found at Baldock, though again accompanied by many more cremation burials (Frere 1984, 304). The few inhumation graves found among the mass of cremation burials at the St Pancras cemetery, Chichester, West Sussex, were not well dated, although one grave was truncated by a cremation grave (Down 1971, 72), and the two rites must have been contemporaneous to some extent. Most early Roman inhumation burials were laid out in an extended supine position, but crouched burial is not unknown in the south-east. The two crouched burials (11386 and 12047) encountered at Pepper Hill add to a small dataset that includes, for instance, two early or mid 2nd century crouched burials at the Stratford Market Depot site, West Ham (Hiller and Wilkinson 2006, 17-20).

Early Roman inhumation burial rite has been regarded as a survival of native Iron Age tradition (Philpott 1991, 57; Whimster 1981). The discovery of two late Iron Age warrior inhumation burials at Brisley Farm, Ashford (Williams 2003, 226), and late Iron Age inhumation cemeteries at Deal and Sittingbourne (Parfitt 1995) lends much weight to this view. Sites beyond Kent, but still regionally close, that produced similar evidence include Mucking and North Stifford in south Essex (Going 1993a, 19; Wilkinson 1988, 37). The tradition remained unusual, however. The archetypal 'Belgic' cemeteries, for instance those at Allington, Aylesford and Ulcombe (Thompson 1978; Birchall 1965; Aldridge 1996; 2006), are characterised by cremation burial and continental-style pottery and metalwork - the so-called Aylesford type (cf Fitzpatrick 1997, 208). Middle Iron Age burials are scarce; formal burial may have been the exception, rather than the rule (cf Cunliffe 1991, 505). Excarnation

has long been suggested as an explanation for the paucity of material in southern Britain (e.g. Carr and Knüsel 1997), although formal burial in Kent was not unknown. An inhumation burial dating to the 2nd century BC uncovered at Mill Hill (Parfitt 1995, 155) was, like grave 10404 at Pepper Hill, isolated and hints at a dispersed pattern of burial. The burial evidence from Kent and beyond, then, apparently identifies inhumation as an occasional rite in the Iron Age. It was encountered in pockets, but could form the majority rite at sites where present. Well-dated burials from Mill Hill and Monkton in addition to Pepper Hill firmly place the rite within the early Roman period, demonstrating continuity beyond the conquest. Furthermore, the discovery of early Roman inhumation graves at West Ham (Hiller and Wilkinson 2005) and West Thurrock (B Barber, pers. comm.), both only a little way from Springhead across the Thames, helps to define a loose regional tradition.

Cremation graves, unlike inhumation burials, by definition permit us to reconstruct in broad terms the sequence of the Romano-British funeral. At Pepper Hill, the evidence of pyre debris is amplified by the presence of pyre sites. A similar range of evidence at the Iron Age cemetery at Westhampnett allowed its excavators to reconstruct mortuary rituals (Fitzpatrick 2000, 27). To what extent the sequence was shared by other sites separated by distance and time is unclear, but the concordance between the archaeological evidence at Pepper Hill and the mortuary events at Westhampnett is compelling, suggesting that the sequence can be adopted as a reasonable model. Thus, the dressing and adorning of the deceased prior to cremation is attested by metalwork stains evident on cremated bone, indicative of brooches, bracelets, necklaces, head-dresses and the like. In general, the inclusion of pyre goods, represented particularly by burnt jewellery and hobnails, was reserved for 1st century adults (Table 10). A period of 'laying-in-state' presumably followed the preparation of the body, though this is archaeologically invisible. Meanwhile, the pyre was constructed. Oak and, to a lesser extent, ash were used for the structure, while hawthorn or similar small roundwood was used for kindling (Challinor 2006). Analysis of charcoal from a group of German sites suggested that oak was as popular there as in Britain, though beech was also common (Kreuz 2000, 48). Oak and ash are, of course, highly calorific and therefore make good fuel (Campbell 2004, 270; Gale 1997, 82). Timbers additionally provided good structural support (Gale 1997, 82), a factor evident in the selection of mature trees at Pepper Hill (Challinor 2006).

The dead were carried to the pyre, in some cases, on a bier. The evidence is restricted to small iron nails that fixed the upholstery to the wood, but the absence of decorated inlay suggests that the biers would have been plainer than those at Brougham (Cool 2004), for example, where inlay fragments were relatively abundant. The funerary procession or *pompa* is described in ancient texts, though how far Roman custom was followed - a night-time cortège of slaves and mourners lit by torches, for instance (Toynbee 1996, 46) - is unknown.

The 16 pyre sites at Pepper Hill indicate that cremation took place within the cemetery itself. The sites were largely concentrated in the centre of the cemetery, along with the *busta*, identifying the area as a preferred location for cremation. With the exception of 10687 and 1012, pyres were used perhaps only once. Further areas of cremation outside the cemetery must have existed during the life of the cemetery, but in its earliest phase (up to AD 70), the low number of cremation burials supports the view that cremation was a restricted rite mainly undertaken within the cemetery. From the mid 2nd century, cremation may have taken place on surface 10438, whose function is otherwise unknown. No structural evidence was uncovered, but the traces of burnt flint are significant. An *ustrinum* or crematorium provides an obvious explanation. The full range of evidence from excavated examples, such as those from Colchester and Verulamium (Black 1986, 210), is not fully understood, but a number of *ustrina* were square or circular, often defined by tile or stone walls. Discrete areas of burning were found within. A better parallel was found in a rural settlement at Septfontaines, Luxembourg (Polfer 2000). The *ustrinum* was oval, measuring almost 16 m long and 0.5 m deep, with no apparent wall. However, a considerable amount of pyre-debris was recovered from the feature. In contrast, no pyre-debris was encountered at Pepper Hill. While the ceramic assemblage recovered from disuse deposits was dominated by eating vessels, like that from Septfontaines, it was not obviously burnt (Biddulph 2006a). Instead, the cobbled surface could be interpreted as a place of funerary feasting undertaken as a preliminary to burial or during festivals conducted at intervals after burial (see below). The burnt areas may indicate hearths. Other explanations, such as a shrine or a platform for viewing funerals or laying bodies in state, seem less convincing given a paucity of parallels. Ultimately, the evidence from 10438 is not conclusive. But, as the excavators note, the feature was only partially excavated and inevitably had suffered truncation.

Table 10: Pyre goods. Quantification by count of features.

Pyre good	Early Roman	Early-mid Roman	Mid Roman	Mid-Late Roman	Roman (undated)	Total no. features
Animal remains	23	9	10	1	4	47
Bead	1					1
Cu brooch	5					5
Cu object	10		5		2	17
Cu pin	2					2
Cu ring	1					1
Fe object	8	1	2		3	14
?Bier/box	16	4	3		1	24
Glass object	5	2			1	7
Hobnails	3				1	3
Plant remains	1	1				2
Pottery	9	2				11
Wood inlay	1					1
Total	85	10	20	1	12	135

Burnt glass fragments found among cremated remains hint at the provision of unguent bottles or other vessels that may have contained aromatic liquids or beverages. The use of such items is vividly described in the account of Misenus's funeral in Virgil's *Aeneid*. In addition animals were sacrificed and placed on the pyre (Table 10). Pigs and domestic fowl - probably chickens - were common, though remains of sheep or goat and cattle were occasionally recovered. Meat joints and whole carcasses are represented (Kitch 2006), suggesting that there were multiple reasons for cremating animals. Pig skull fragments in various graves recall the Roman law requiring the sacrifice of a pig in order to legally constitute a grave (Toynbee 1996, 50). The writers Cicero and Tellus record the *porca praesentanea*, the offering of a pig to Ceres (Lindsay 1998, 72-3). Domestic fowl may symbolise the cockerel as an attribute of Mercury, escort of the dead (cf MacDonald 1979, 410). But the use of such animals has late Iron Age precedents - cremated sheep and pig remains were recovered from a pre-conquest burial at Westhawk Farm, for example (Booth *et al.*, in prep) - and so the inherent symbolism may derive, at least in part, from non-classical beliefs.

A shoulder of mutton in grave 117 from Pepper Hill shows that meat was also prepared as food for the deceased. Other foodstuffs survive less well and are probably underrepresented consequently. Beans and peas found in graves 11638 and 11801 could be considered appropriate for lower-status households, though their presence alongside the grape, fig and lentils in the latter grave (Davis 2006) suggests that the selection of such items was to some extent culturally normal regardless of status. Conventionally food can be regarded as sustenance for the deceased's journey to the afterlife (Philpott 1991, 237), although Williams (2004) highlights the importance of communal feasting during the funeral. The burning of food on the pyre permitted the deceased to take part. Of course, the foodstuff need not represent a meal; as at Pepper Hill, raw pulses had been burnt on pyres at London's eastern cemetery. Barber and Bowsher (2000, 70; 308) highlight the possible religious and magical attributes of pulses, particularly the Celtic bean. Beans were eaten at the *silicernium*, a grave-side meal of purification, and during the *Parentalia* festival that honoured the family (Lindsay 1998, 72; 75). Ovid describes the use of black beans during the *Lemuria*, a festival of the dead, to feed the hungry ghosts or *Larvae* (Toynbee 1996, 64), but there is no direct evidence that the practice extended back to the time of cremation.

The pyre was lit and consumed by fire; T-shaped draft pits of 11182 and 11823 assisted combustion. Cherry or blackthorn wood (*Prunus* sp.), present as charcoal in grave 11801, not only provided good fuel, but also pleasant aromas (Gale 1997, 82) that, together with the perfumed contents of the unguents, affected the senses of the mourners. The burnt pyre cooled for a time, aided, perhaps, by wine that the mourners poured onto the glowing embers (Toynbee 1996, 50). The remains were then collected. The bone evident in pyre sites indicates

that some bone remained at the place of cremation. During the early Roman phase, some bone cleared from pyre sites was deposited into a large pit (10613). The material destined for graves was deposited in a wooden casket (grave 291) or other organic container or, as seen in over half of cremation graves, in pots, usually jars. What bone entered the container and how it was deposited was not apparently always random. The skull belonging to the adult buried in grave 11065 had been deliberately excluded. The significance of this rite is uncertain, but it recalls the practice of decapitation evident at many later Roman inhumation cemeteries (Philpott 1991, 225), and may find a link with the veneration of the skull in the Iron Age. The bone from five graves, including 117, had been kept in anatomical order as it was placed in the urn, with the skull at the top of the vessel and the lower limbs at the base, suggesting that the bone had been collected from the pyre floor in a systematic manner. The bone in other urns displayed random patterns, as if the bone on the floor had been raked together first (Witkin and Boston 2006).

Where a complex sequence of deliberate deposition can be determined (for example in graves 11215, 11232, 11409, and 11520), the cremated bone, whether in a pot or other container, was placed first in the empty grave. Accompanying objects were placed around or on top of it. The occasional 'stacking' of pottery reflected the small size of the grave; alternatively, certain objects, typically food vessels, had to be in physical contact with the cremated remains - and each other - to ensure the use of any items in an afterlife (Biddulph 2002, 104). The grave was then backfilled, usually in a single episode of filling using the soil removed originally to create the grave (the boundaries of graves were invariably difficult to see for this reason). Grave markers may have been erected as a matter of course, but evidence among cremation graves is confined to a posthole in the centre of grave 10908.

Only evidence relating to the final stages of the funeral could be extracted from inhumation graves. Pottery deposited as grave goods tended to be placed outside the coffin during the 1st and early 2nd centuries, but inside the coffin from the mid 2nd century onwards (Biddulph 2006a). What this may mean in terms of beliefs is uncertain. The change in practice was coincident with the deposition of unburnt shoes and meat joints in cremation graves (see below), and may derive from a similar view of the spiritual journey. However, the pattern appears to conflict with the evidence from the late Roman cemeteries at Butt Road, Colchester (Crummy and Crossan 1993) and London's eastern cemetery (Barber and Bowsher 2000), where vessels were preferably placed outside coffins. The backfill of grave 254 included broken drinking and eating related vessels that may have derived from a funerary feast; some of the more formally-placed grave goods, such as the two broken samian dishes and the jar base, may also have been used and broken during the feast (Biddulph 2006a). Such grave-side commemoration may have occurred regularly during the life of the cemetery for cremated, as well as inhumed, individuals (cf Pearce 1998; Williams 2004), though evidence

from the site is otherwise scarce. Judging by the scale of the evidence at Pepper Hill, such elaborate rites were accorded to relatively few people, possibly on the basis of status, although vestiges of funeral feasting may be present in the form of deliberately 'killed' or mutilated vessels, a practice more routinely found at Pepper Hill and cemeteries in south eastern Britain (Biddulph 2006a; 2002, 104-5). In any case, the deliberate smashing of vessels - in some sense analogous to the breaking of a plate or other ceramic containing the *kollyva*, a traditional wheat dish prepared at Orthodox Greek Cypriot funerals (Francis *et al.* 2005, 71) - terminated the feast and signalled the final stage of the burial process: the covering of the interment with soil.

Table 11: Grave goods. Quantification by count of features.

Grave good	Early Roman	Early-mid Roman	Mid Roman	Mid-late Roman	Late Roman	Roman	Total
Animal remains		2	4			2	8
Bead/necklace	3		1	1			5
Box/casket	10	3	9			4	26
Bracelet	3		2				5
Brooch	9	3					12
Coin			1		1		2
Cu necklace			1				1
Finger ring	2		3		2		7
Mirror	1						1
Misc. Cu object	2		1				3
Pottery	123	24	71	9	4		231
Shoes	4	5	10	2	1	3	25
Vessel glass	4	5	2				11
Total	161	42	105	12	8	9	337

Grave goods overwhelmingly comprised pottery (Table 11). Ancillary pottery was biased towards drinking-related forms, followed in preference by eating, then cooking or storage types. There was no set combination of vessels represented within individual graves although the selection of vessels for cemetery use conformed to standard, funerary-related, norms. Pottery was mainly of local origin and drawn from the ceramic supply otherwise intended for domestic use. Indeed, the presence of worn or burnt vessels suggest that some pottery had first seen household use. Some 'antique' grave-goods may have remained in the household for generations before burial. The phenomenon of anachronistic pottery has been noted at other cemeteries. Graves at Colchester's Butt Road cemetery (Crummy and Crossan 1993) and London's eastern cemetery (Barber and Bowsher 2000), for example, both produced 'antique' vessels. Going (1993b, 49) regards this as a product of pottery supply and identifies certain periods as aceramic in terms of pottery production. Older pottery, including vessels removed from existing graves, was required to make up any shortfall. Barber and Bowsher (2000, 122) see the survival of vessels relating to their household use either as

heirlooms or static items of furniture that moved little and broke infrequently. These explanations may apply to Pepper Hill, though the level of intercutting evident at the site also suggests that some vessels were disinterred by grave cutting and subsequently re-buried, either deliberately or accidentally, in a later grave (Biddulph 2006a).

In common with most Roman-period cemeteries in Britain, mortaria were deliberately avoided as grave goods. Why this was so is far from certain, but the lion-headed spout on the only mortarium identified as a grave good at Pepper Hill - from grave 787 - offers a clue. The vessel can potentially be linked with the ornately-decorated casket in cremation grave 291; death-related symbolism, if inherent in the lion motif, would have been common to both objects. From Brougham, the six samian Drag. 45 mortaria, also with lion-headed spouts, are extremely unusual, but clearly reflect a deliberate selection of a specific type (Dickinson *et al.* 2004, 348). That some of the vessels were damaged before being deposited in the graves - like the example from grave 787, which lacked part of its rim and was inverted within the grave - emphasise the form's symbolic, rather than practical, qualities.

Samian cups were preferentially selected in the middle Roman phase, resulting in a higher proportion than usual. At Brougham, cups were strongly associated with children (Cool and Evans 2004, 362). A similar association might exist at Pepper Hill, where three of the six cups were associated with child burials. Two cups were associated with adults of indeterminate sex, while another was recovered from the grave of an adult female. The argument is not conclusive - the seventh cup from the site came from the grave of an adult - but that is not to say that cups were not perceived as special. In Essex, the form was strongly associated with high-status burials (Biddulph 2006b, 36); similarly at Pepper Hill, two cups were associated with a box or casket (graves 291 and 451), while a third was recovered alongside jewellery (grave 1438).

There was no significant difference between inhumation- and cremation-derived assemblages, and no firm conclusion could be drawn about selection of pottery based on the sex of the individual. Evidence for a range of treatments was found. Some vessels had been inverted or laid on their sides. Pottery placed inside cinerary vessels may first have been placed on the pyre. Other vessels had been deliberately mutilated. The practice may relate to offerings, perhaps symbolising a food or liquid sacrifice (Biddulph 2006a) or represent the consumption of food and drink analogous to the consumption of the body by fire as an act of remembrance (Williams 2004). The number of vessels per grave remained reasonably constant throughout the life of the cemetery (Table 12). Groups appeared to be slightly larger in the mid Roman period compared with the preceding phase - a trend consistent with the pattern in Kent and Essex (Biddulph 2006b, table 4). However, the standard deviation reveals a wide dispersion; both small and large groups are represented. Although the late Roman average is little different from the overall site mean, it nevertheless matches that typically

encountered in graves of that period (Philpott 1991, 110). The standard deviation is lowest here, too; no grave contained more than two vessels.

Table 12: Number of ancillary vessels per funerary-related feature.
Data from pottery-yielding features only.

Phase	Mean	Standard deviation (sd)
Late Iron Age/early Roman	1.7	0.9
Middle Roman	2	1.2
Late Roman	1.8	0.5
All features and phases	1.7	0.9

Grave goods made of other materials were relatively infrequent. Nailed shoes were most common. Like shoes burnt on the pyre, they were associated mainly with adults, but significantly were more often deposited in the 2nd century, in contrast to the 1st century emphasis of the burnt shoes. This mirrors a trend observed elsewhere and relates to changing beliefs of the afterlife (Philpott 1991, 171). If shoes were necessary items for the deceased's journey to the afterlife - and this is far from certain; van Driel-Murray (1999, 132) suggests that shoes might have enabled the deceased to *return from* the world of the dead - then from the 2nd century onwards, the deceased made that journey from the grave, even if cremated. Previously, the journey began at the pyre. The animal bone evidence supports this view. Unburnt animal bone was recovered from 2nd century cremation graves only; none was certainly deposited in earlier graves. Wherever the journey took them, the deceased need not been provided with shoes only for practical comfort. At least four graves (67, 203, 10852 and 11571) each yielded hobnails too few in number to represent more than a single shoe. In these cases, the shoes were presumably not have been worn by the deceased, but may have been offerings from mourners. If a pair of shoes enabled the deceased to travel, then, assuming that the deceased had had the use of both legs, a single shoe prevented it. Its deposition was perhaps intended to prevent ghosts from walking or to keep the deceased in the earthly world, providing comfort to grieving mourners reluctant to 'let their loved ones go'.[1] The shoe, a highly personal item, was inextricably connected with an individual's identity. The presence of footwear in wells, shafts and other ritual places reminds us of the importance of the shoe as an acceptable personalised offering alongside coins, chickens and the like (van Driel-Murray 1999, 135-6). In the context of graves, the single shoe alternatively might have represented the living person in the realm of the dead, accompanying the deceased and connecting both worlds. The presence of one or two hobnails from numerous graves at Pepper Hill may be

[1] The use of shoes concealed in chimneys, under floorboards and around doors in 17th century and later English houses to offer protection to the household and ward off evil spirits is well-known. The shoes' other reputed function - a fertility symbol - seems of less relevance in a Roman funerary context (Merrifield 1987; Dixon-Smith 1990).

accidental in most cases, introduced through later disturbance, but they might also carry the symbolism of the shoe, reducing the physical requirements for a complete pair still further.

Brooches were most common in 1st century graves; few were recovered from 2nd century or later graves (Cool 2006). This supports a trend seen at other sites in the county, including Westhawk Farm, Ashford (Cool in Booth *et al.* in prep) and Canterbury (Mackreth 1995). Bracelets were recovered from 1st century graves, as well as one belonging to the late 2nd or early 3rd century AD (10520). The objects began to be deposited at a time when bracelet wearing was not popular (Booth and Cool 2006). The three finger rings from Pepper Hill belong to 3rd or 4th century graves. One from grave 10761 lacked its intaglio; if acting as a seal, the jewel may have been bequeathed to the deceased's heir (Booth and Cool 2006; Henig 1974, 65). Two glass unguent bottles were recovered from inhumation graves (10637 and 12038). Their use in inhumation graves was presumably motivated by concerns different from those related to cremation, recalling, for example, the myrrh and aloes brought by Nicodemus to prepare Jesus's body according to Jewish burial custom (John 19:39).

Coffins had been placed into a minimum of 175 (49%) inhumation graves. Fittings were rare, and the planks or boards of most coffins had been fixed simply with iron nails. If necessary, the corners could be reinforced with more nails. Some coffins at least were lidded; nails driven vertically into the top of the long planks provide the evidence. The use of coffins appeared to have been more popular in the 2nd and 3rd centuries compared with the 1st, although pegged coffins, which would have left little trace, might account for the difference. Of uncertain significance, and perhaps merely coincidental, the trends here find a parallel with regard to cremation graves. Some 55% of cremation graves contained urned burials; similarly, the use of the urn was more prolific during the mid Roman period compared with the previous phase. Apart from the ceramic vessel, a casket occasionally contained the cremated bone. The casket from grave 291 was ornately decorated with copper alloy fittings and lion-headed studs. The studs resemble those from two casket burials at Skeleton Green, Hertfordshire (Borrill 1981, 315-6). In the Roman world the lion symbolised the ravening jaws of death (Toynbee 1996, 192). The distribution of the studs mirrors the Hertfordshire and Essex emphasis of casket burials generally, although caskets are known from Canterbury and Faversham (Philpott 1991, fig. 3; Partridge 1981, table XLVI). Like grave 291, most lion-studded caskets are from burials associated with Roman towns, although Cool notes that lion-headed studs are also well-known in non-funerary contexts (Booth and Cool 2006). Grave 291 was not rich in terms of the number and range of grave goods, but the presence of a cup, albeit worn, and funerary bier nails alludes to mourners with pretensions of grandeur. Eckardt (2002, 115) remarks that lamps, another high-status object, were strongly associated with box- or casket-burials; lamps were, however, absent at Pepper Hill.

We have commented on the view that the inhumation rite at Pepper Hill derived from a pre-conquest tradition. In addition, data relating to individuals' ages, collected from cremation and inhumation burials, suggest that, to a certain extent, the age of the individual at death determined how he or she was to be buried. Fifteen out of 22 cremated individuals whose ages could be determined were aged 40 years or over. In contrast, 15 out of 17 inhumed individuals (excluding redeposited bone) were aged between 18 and 40 years at death. The difference is statistically significant at the 0.5% level, or 1% using Yates' Correction (Fentem 1996, 343), and could not have occurred by chance. This pattern was observed in all phases and was apparently no methodological quirk. The relatively old cremated individuals at Pepper Hill therefore demands an alternative explanation. Cremation was deemed appropriate for the elders of society, but inappropriate for the majority of the younger adult population, for which inhumation was preferred. The very survival of the individuals into old age - with attendant attributes of experience and wisdom - was worthy of society's veneration and respect. And extreme old age was sufficiently rare for inhumation to predominate at Pepper Hill. However, Witkin and Boston (2006) sound a note of caution: the sample of aged inhumation burials might be considered too small to gain a reliable picture of trends.

What was appropriate for the elderly was apparently also appropriate for children. Some 83% of individuals identifiable as aged under 18 years had been cremated. The figure conjures the rather poetic view that adults, as they grew older, returned to a state akin to that of children and were therefore treated similarly in death. But inhumed remains survived poorly, children's remains worst of all. The proportion of inhumed children is therefore likely to be under-represented.

Features identified as cenotaphs form an intriguing group. All well-dated examples belong to the early Roman phase and were potentially contemporary with the *busta* and pyre sites. Some might be better regarded as disturbed cremation graves, but the total loss of bone is odd, even after subsequent disturbance. Features containing no or very little bone have been attested at other burial sites, including Westhampnett (McKinley 1997, 71-2), King Harry Lane (Stirland 1989) and Brougham (McKinley 2004, 306-7). Given, too, epigraphic evidence for cenotaphs in the Roman world (Pagano 2000, 28), their appearance at Pepper Hill is not unexpected. The use of cenotaphs may be determined by, among other factors, a requirement to make a formal burial despite the absence of human remains. This might be necessary if the individual had died away from home, perhaps on the battlefield or at sea where the body could not be recovered (Toynbee 1996, 54). Such explanations are inappropriate, however, for the possible cenotaph 11245, which included a ceramic 'infant-feeder' and may therefore represent the grave of a child.

4.7.3 Identity and status

Mortimer Wheeler (1956, 13) famously remarked that archaeologists dug up people, not things. Nowhere is this truer than for cemeteries, which bring us face to face with the people of the past. Determining the identities of Roman Britain's inhabitants remains a potent preoccupation (eg Allason-Jones 2001), but conclusive statements based on burials often remain illusive among a mass of poorly-understood rites and contradicting evidence. Genetic and isotope analysis provides a pointer, though only where suitable data are available. At Pepper Hill, the material evidence currently provides the only means by which to address questions of identity. Luckily, the cemetery offers some exceptional evidence that points to a population of varied origin.

We have already noted that *busta* were rare in Britain. Philpott (1991, 49) concludes that, on balance, '*in situ* cremation is not typical of mainstream native practice and a continental origin is likely in the majority of cases'. Certainly, the distribution of *busta* in Britain, confined largely to military forts and urban centres, supports this view. Struck (1993b, 92; Abb. 1) has shown *busta* to be concentrated along the Rhine and the Danube, suggesting that the rite spread westwards from eastern Europe, accompanying the movement of auxiliaries serving in the Roman army. The spread was not entirely one-way, however; Struck (1996, 158) considers *busta* to be intrusive in Raetia. Pepper Hill seems far removed from this world, yet excavation at Springhead has tentatively identified short-lived military occupation. Recent fieldwork by Wessex Archaeology confirmed the presence of a triple-ditched, rectangular enclosure dated to the earliest part of the Roman period. Open at one end, the enclosure is unlikely to have been a fort, but possibly served as a supply base (Smith 2004, 4; P Andrews, pers. comm.).

All *busta*, except a single undated example, dated from the mid to late 1st century. The individuals buried there might well have seen or been part of the military presence. However, only one of the individuals (10702) could have served as a soldier or other official; the remainder were adult females or immature. James (2001, 80) suggests that soldiers were accompanied by a significant 'non-combatant tail', comprising servants and slaves, wives, mothers and children, both of foreign and native origin (see also Allason-Jones 1999). If the *busta* were introduced to Springhead by the army, then the deceased may be identified among this group (Fig. 28).

The question of where the soldiers or officials originated is open to further speculation. The identity of auxiliary units that joined the invasion in AD 43 is poorly-understood, but Jarrett (1994) places the *ala I Thracum* and *cohortes Batavorum* among them. The latter is of particular interest, since their territory included the fort and town of Nijmegen, where mid 1st century *busta* have been encountered (e.g. at Nijmegen-Hatert (Haalebos 1990, 36)). Many

graves at Nijmegen's cemeteries were enclosed by gullies, and the absence of this feature at Pepper Hill argues against the presence of Batavians. However, other units would have taken part in the invasion, with some as likely to bring the *bustum* rite with them. The seven features present at Pepper Hill might seem fewer than expected, given the scale of military supply. However, the figure is above average for the province and comparable with the number encountered at continental sites. At two sites at Hambach, Germany, for example, seven *busta* in addition to 48 cremation burials were seen (Gaitzsch and Werner 1993, 55). This is only slightly more as a proportion than the six or seven from Pepper Hill against 61 early Roman cremation graves. Indeed, *busta* always formed a minority rite, even in areas of concentration (cf Struck 1993b, 91). Apart from the one at Nijmegen-Hatert, there were, for example, three at Ergolding, Germany (Struck 1996, 157), six at Matrica, Hungary (Topál 1981, 77), 13 at Carnuntum, Austria (Ertel *et al.* 1999, 24), and perhaps one at Rusovce, Slovakia (Kraskovská 1976, 6); all these cemeteries were large and dominated by cremation and inhumation graves.

Of course, the movement of the army brought more than just its entourage; traders took advantage of new markets, and civilians saw the opportunity to migrate. The *busta* may represent the burial of these newcomers. The cenotaphs at Pepper Hill provide an intriguing footnote. All well-dated examples belong to the early Roman phase, with the majority dating, or potentially dating, to the mid 1st century. If they indeed represented the graves of individuals whose remains were elsewhere, then they might, too, be connected with the Roman army of the conquest period and Springhead's putative base.

An alternative context for *busta* at Pepper Hill is a religious one. A barrow covering a *bustum* at Thornborough, Buckinghamshire lies close to the temple site at Bourton Grounds (Liversidge 1954). Coin evidence dated the temple construction to the 3rd century, or possibly the late 2nd century AD (Green 1965, 360). This overlaps only slightly with the date of the mid or late 2nd century date of the barrow, but other structures are known in the area, and it is possible that a larger, and earlier, religious complex existed (Smith 2001, 125). The chronology of the *busta* at Pepper Hill and Springhead's temples presents similar difficulties. Temples 1 and 2 were established by the late 1st century - after the earliest *bustum* had been made - but intensive mid 1st century occupation could relate to contemporaneous religious activity (Smith 2001, 207), and the cult centre may have had pre-conquest origins (Smith 2004, 8). If Springhead's religious centre was well-established after *c* AD 50, then pilgrims from the Rhine may have sought its healing waters or other benefits. But the association between *busta* and religious activity is otherwise weak. The narrow date range of the *busta* is more in keeping with a short-lived military occupation than a long-lived religious centre that continued well into the 3rd century. The paucity of *busta* from other settlements with a significant religious component also renders the association less likely.

Grave goods suggest that other people originating outside the Springhead area were buried at Pepper Hill. A ceramic tankard from grave 10362 was produced in the Severn Valley. Products from this source were exceptionally rare in south-eastern England and not usually traded. The vessel may have been a personal possession, travelling with its owner who settled at Springhead during the later 1st century. An individual, probably female, who arrived at Springhead from overseas was buried in grave 10520 during the late 2nd or early 3rd century. A number of factors point to her being other than British. First, the jewellery that accompanied the lady, including three bracelets, a finger ring and a necklace part-made with gold-in-glass and polychrome beads, was placed unworn in the grave. Both the placement of the objects and the objects themselves, the necklace in particular, are rare in graves of this time, leading Hilary Cool to speculate that the individual brought new beliefs and fashions in personal decoration. Second, the beads forming the necklace were types that seem to have accompanied the arrival of troops from the Danubian lands (Booth and Cool 2006). Boon (1977, 200) linked gold-in-glass beads with the transfer to Britain in *c* AD 175 of the Sarmatian cavalry, and more recently Cool (2004, 387) has given polychrome beads and chevron decoration, as found in this grave, a similar origin. While Springhead is far away from the military centres of northern Britain, the site adds to a small group of finds-spots in south-eastern England. Gold-in-glass beads have been recovered from graves at London (Barber and Bowsher 2000, 219), Baldock, Colchester and Verulamium (Boon 1977, 198-9), and Denham, Buckinghamshire (Cotswold Archaeology 2003). Given this south-eastern distribution, a direct military link seems less likely. Instead, the female was perhaps a lady of note, who moved away from her Danube home to resettle in Springhead.

The people from south-western Britain, Germany and the Danube formed only a small component of the population buried at Pepper Hill. Most were doubtless of local origin, although neither the burial rites, apart from the *busta*, and material remains provide an obvious means of isolating specifically British rites. The burial groups from many inhumation graves were identical to those of cremation graves. Dining-related vessels - flagons, beakers, dishes and the like - played as significant a part in pottery-yielding inhumation graves as they did in cremation graves, and the presence of brooches and shoes, for example, reflect Romanised dress and beliefs in the afterlife. But the inclusion of grave goods was by no means universal, as the large proportion of unfurnished early Roman inhumation graves confirms. The rejection of goods in so many inhumation graves - and possibly more, counting the undated graves - separates the rite more completely from the cremation rite of Aylesford type-derived tradition. Both rites, adopted in south-eastern Britain during the Iron Age, have been ascribed a continental origin (Parfitt 1995, 157; Fitzpatrick 1997, 208-9). However, the primacy of inhumation at Pepper Hill before AD 70 (compared with a low rate of cremation), and the presence of Iron Age burial 10404 and crouched burials 11386 and 12047 identifies

inhumation more convincingly as the normative, accepted, rite within the region. The implication is that the cremation rite as a whole, not only *busta*, was in a large part intrusive at Springhead after AD 43.

Grave goods cast a little light on the status of groups in society at Springhead. Apart from very young children buried beneath Springhead's temples as foundation offerings (Penn 1960, 121-2; Boyle and Early, nd), children were also buried in formal graves among adults. Bracelets buried alongside a sub-adult aged between 13 and 19 years in grave 11239 might have offered protection to the deceased or symbolised a life cut short by representing social structures such as marriage that could never be fulfilled by the deceased (Martin-Kilcher 2000). A bell from an infant's grave (1438) was deposited perhaps to ward off evil spirits (Booth and Cool 2006). Spouted vessels - so-called 'infant feeders' - were also unusual and were found in four graves. Their use has been the subject of much debate (eg Webster 1981; Martin 1997), but notably they accompanied infant burials, certainly in one grave, and probably in a further two. Grave 1078 contained the remains of an infant aged up to five years. Human bone did not survive in grave 895 and was indeterminate in 11654, but both graves appeared to be a appropriately size for immature individuals at 1.1 m and 1.25 m long respectively. The vessels were a potent symbol of childhood, but may have contained milk for the onward journey (although just one grave that contained a feeder certainly dated to the 2nd century, when beliefs about the starting point of that journey may have begun to change).

The link between grave goods and socio-economic status is complex, not to say ambiguous (Biddulph 2006b, 39-40; Philpott 1991, 228). Pepper Hill's average of 1.7 ancillary vessels per pottery-yielding grave was among the lowest in the region. Only groups from Kelveden (Rodwell 1988), London's eastern cemetery (Barber and Bowsher 2000) and Butt Road, Colchester (Crummy and Crossan 1993) - all late Roman or with significant late Roman components - tended to be smaller. Cemeteries better represented in the 1st and 2nd centuries, such as Ospringe (Whiting *et al.* 1931), Chichester (Down 1971) and Each End, Ash (Hicks 1998), produced larger groups. A further indication of low status is the absence of certain object types. *Amphora* burials were concentrated in Kent (Philpott 1991, 25), and a number are known in north Kent, for example at Green Street, Darenth (*VCH* 1932, 151), Cooling (Thornhill and Payne 1980, 380-2), Upchurch (Kelly 1963, 201-3), and Hoo (Philpott 1991, table A2). Their absence at Pepper Hill, despite 'wide circulation' of the form by the end late Flavian-Trajanic period (Pollard 1988, 66), therefore demands explanation. The evidence from Ospringe (Philpott 1991, tables 5 and 6) suggests that, like samian, *amphorae* tended to be accompanied by high-status objects, such as glass and mirrors, or a higher number of pottery vessels. Similarly, an *amphora* burial from Each End contained a glass goblet (Hicks 1998). Lamps and cups commonly found in high-status and urban burials were also rare or non-existent at Pepper Hill. Some wealthier graves can be potentially identified at

Pepper Hill. Graves containing caskets are chief among them. Those that produced samian ware may also have been higher-status. Samian had a particular association with high-status burials in south-eastern England, where the type was preferentially selected (Biddulph 2006b, 34), and it is notable that, at Pepper Hill, graves with samian averaged 2.3 vessels per grave. But it is worth remembering that graves containing high-status items, such as finger rings or glass unguent bottles, usually received up to two vessels, or none; a correlation between object type and status is still far from clear.

Still, the picture of a relatively low-status cemetery is supported in broad terms by a comparison with the walled cemetery. Its high status, exclusive, character is suggested not only by the wall, but also the amount of space - 15,886 square metres - allocated to the cemetery (comprising eight burials), and the objects it contained, including glass *amphorae*, lead and stone sarcophagi, gold bracelets, and a gold ring. The overcrowded, jumbled appearance of Pepper Hill stands in sharp contrast. Davies (2001, 166) views the walled cemetery as a family plot or other close group, which, as in life, was separated from the mass of Springhead's inhabitants by wealth and connections, as well as space. But Pepper Hill, as a communal cemetery, would have received a cross-section of the community, including relatively wealthy individuals, as occasional high-status items demonstrate, such as the glass bead necklace from grave 10520 and casket from 291.

Might the wealth and status of the deceased or mourners determined how individuals were buried? Cremation was a relatively expensive business, and this may have persuaded the poorest in society to opt for inhumation. Indeed, that unfurnished inhumation graves were commoner than unfurnished cremation graves seems to support this view, hinting at the generally low level of wealth exhibited by users of the cemetery. What argues against this is that grave goods, pottery in particular, appear sporadically in early Roman inhumation graves of south-eastern Britain (Philpott 1991, 103). If the inhumation rite does represent a continuity from the Iron Age and is ideologically separate from the Aylesford tradition of burial, then ceramic grave goods may not have been required automatically. The burial of Springhead's poor may have in any case been supported by burial societies, the provision of which being suggested by the presence of samian 'seconds' (cf Biddulph 2006b, 37), enabling individuals to be cremated if desired. On the other hand, Springhead lacked high-status houses and its population is likely to have included a high proportion of relatively lowly craftspeople and temple-workers (Smith 2004), many of which may have been buried at Pepper Hill. Witkin and Boston (2006) note a concentration of early Roman inhumation graves around urban centres where the poor were perhaps more likely to congregate, so there remain grounds for the link between inhumation and poverty.

4.7.4 The cemetery in its landscape

The cemetery extended for a distance of *c* 75 m principally along a N-S axis, and measured almost 20 m across its widest point. It was bounded on its western side by a ditch and gullies, and on the east by the road, the 'Hollow Way'. The matching alignment of the ditch and gullies and a number of graves suggest that the former were dug before AD 70. However, they cut earlier graves, indicating that the boundary was absent or incomplete when the first graves were dug. The road was similarly established before AD 70. It defined the cemetery from an early phase of its development, and may have existed before the first Roman-period burial was made. The re-alignment of the road at its northern end took it more directly into the centre of Springhead, although further kinks along the route towards the town have been detected. Curiously, in its re-alignment along a N-S axis, the road continued the line of Iron Age ditch 54. This may not have been accidental, as it is possible that the ditch was visible when the route was set out. The metalled surface may have replaced an existing Iron Age track that continued the line of the ditch (the somewhat sinuous nature of the road compared to others that extend through the town perhaps betrays an older origin), or the new road reinforced and renewed the sense of the older boundary, which survived as a bank and remained a potent territorial marker. The absence of burials above or west of the ditch seems to attest to the continued importance of the boundary, if not the ditch itself, after the conquest.

The entire cemetery area was available for use during the early Roman period. Burials were made along the western edge of the road up to the cemetery's northern limit and in the southern part of the site. The concentration in the central area was, however, particularly strong. The extent of the intercutting evident at this point reveals how desirable this location was. The regular, almost square, shape of the concentration itself hints at an internal boundary; possibly the area was fenced off to create a separate burial enclosure. If so, then it cannot have been very exclusive, but, suggesting that the location itself was important, or that other parts of the cemetery were reserved for specific groups, such as the putative Germanic community. Certainly, the cobble surface had not been laid in this period, and whatever activities took place there cannot have provided a focus for burial. Quarry pits underlying the southernmost part of the surface may indicate further extraction sites in the vicinity, and suggest that no funerary-related activity was permitted, or indeed practical, until the area had been surfaced in the mid 2nd century. Quarries do not, however, explain the concentration of burials at this point. A alternative explanation may derive from the fact that the graves extended across the projected line of the Iron Age ditch. Possibly it was the desire to be buried along an important boundary that resulted in this concentration.

Middle Roman graves were mainly in the southern part of the site, though central and northern graves were identified. Again, graves followed the alignments of the boundaries.

Burials continued to be made in the central concentration, but at a lesser rate. Somewhat intriguingly, the burials that were interred there appeared to form a circle, with two early Roman inhumation graves, 11998 and 11689, at its centre. There is no obvious factor that distinguishes the two graves as particularly noteworthy, although the fact that all the burials forming the circle contained beakers adds to the curiosity. The few late Roman graves present were in the southern and central parts of the site. Just one followed an east-west orientation favoured at late Roman cemeteries, such as Lankhills (Winchester), Poundbury (Dorchester) and Butt Road (Colchester); the re-organisation of Butt Road to an east-west orientation was dated after AD 320 (Crummy 1993, 266). Pepper Hill's remaining late Roman graves continued to reference the boundaries, and pre-dated or ignored prevailing trends seen elsewhere.

The *busta* formed another coherent group in terms of rite, location and date. All were confined to the central area and, except for an undated feature, belonged to the mid to late 1st century AD. As this part of the cemetery also contained most of the pyre sites, we can reasonably suggest that this part of the cemetery was a preferred location for cremation, albeit of limited use, since the pyre sites were apparently used just once. The individuals buried in *busta* and cremated on the pyres, both exclusive elements within the cemetery, might have been connected in some way, perhaps on social or ethnic grounds.

Cenotaphs exhibit some signs of grouping; the features were at the southern and northern parts of the site, largely avoiding the centre. The southern grouping was somewhat loose, but the northern group forms a cluster. Both groups, however, suggest that cenotaphs were restricted to specific areas of the cemetery. Their paucity in the centre argues against an association with the *busta* or, indeed, any potential military connection, although four features were centrally-located, with one (10821) placed among the *busta*.

No certain family groups were detected, aside from the mother-child relationships intimated above, as might be suggested by enclosures surrounding small groups of graves, like that uncovered closer to the town and interpreted as a family group (Philp and Chenery 1997). However, three cremation graves (185, 1439 and 1440) found inside the cut of inhumation grave 203 and apparently without cuts themselves were considered by the excavator to have been buried contemporaneously. This might represent the burial of a maximum of three family members who had died simultaneously from disease, or whose cremated remains were stored above ground until all three individuals had died so that they could be buried together (Witkin and Boston 2006). Similarly, inhumation grave 448 subsequently contained three cremation graves (446, 1433 and 1434) that might represent another family group, although 1434 was somewhat later - perhaps 50 years or more - than the other two. Later 2nd century cremation graves 433 and 590 may belong to another family group. The earlier grave, 433, was re-cut in order to accommodate the remains of an elderly

male (grave 590). The identity of the individual in 433 is unknown beyond 'adult', but 590 also contained the remains of a 5 or 6 year old child. The nature of this tentative family relationship is uncertain, but it seems reasonable to speculate that a mother, father and child were buried here. Further family groups might have been symbolised by the deliberate intercutting of graves. In his research on jar burials from 1st century BC/1st century AD Japan, Koji Mizoguchi (2005) inferred genealogical relationships from sequences of intercutting graves and their accompanying grave goods. Mourners standing at the grave side formed memories not only of the recently deceased, but of the individual who had been buried previously whose grave was visible. The individuals represented in the sequence were connected physically by social or family bonds and were remembered with each subsequent act of burial (Mizoguchi 2005, 322). The level of intercutting at Pepper Hill makes such clusters difficult to identify and more analysis of chronology and grave goods is required. However, there are particular concentrations that deserve further attention, for example a group of burials and cenotaph-like features (which include 10135, 10278, and 10233) near the northern tip of the site. Analysis of the large cluster at the western side of the central part of the cemetery might also prove fruitful (the 'circle of burials already remarked upon offers some potential).

The location of certain features, and consistency of grave orientation with constant reference to boundaries, reveal a strong element of central organisation. Such planning would be expected, indeed necessary, in an urban cemetery, such as those in London (Barber and Bowsher 2000, 333), but it was important, too, in the 'small town' of Springhead. Planning allowed clear paths to be set in the cemetery, giving access to graves for mourners and other elements of the funeral procession. Such routes are difficult to identify at Springhead. In the early Roman phase, a somewhat winding path can be traced through the length of the cemetery, and is clearest in the centre, where it separates the cluster of burials on one side and the *busta* and pyre sites on the other. Whether this describes an actual path is uncertain, but the movement from the northern to southern parts of the cemetery would be expected if the procession left the road from Springhead at the north end of the cemetery where the road turned to follow a NW-SE orientation. The middle Roman graves do little to alter this route, although some of the undated graves - many of which being likely to date to the 1st or 2nd century AD - would have encroached on the path, especially at the north. An alternative entry into the cemetery might have been along the west side, specifically through the funnel created by boundary gullies 11375 and 12236. Movement on this side was unrestricted by the cobbled surface (10438), which did not exist during the early Roman phase. However, the gullies converged to leave a gap of barely half a metre; surely too narrow for a procession of mourners carrying a coffin or bier to pass through comfortably.

A further suggestion of strict organisation is made by the lack of significant expansion beyond the cemetery boundary, though natural obstructions might also have been responsible. A few graves were dug either west of the boundary ditch or east of the road. Two graves (1346 and 1326), for example, were located at the extreme southern part of the site but separated from the main cemetery by the road. A third (10262) was considerably further away - over 35 m east of the cemetery. A number of features, interpreted as tree holes, separate this grave from the road and indicate a wooded area. Its extent is unknown, but ultimately may have prevented more burials from being made. An area west of the boundary ditches may have been wooded, although quarries, too, possibly precluded burial.

Throughout the life of the cemetery some areas remained free of graves. If all parts of the cemetery were available for burial, then given the extensive intercutting, the presence of gaps - some quite large, particularly in the centre of the site - is surprising. This suggests an extraordinary consistent central planning regime that lasted over 200 years. But obstacles may have prevented burial too. Trees, such as evergreens which symbolised eternal life (Kreuz 2000, 50), might have punctuated the mass of the graves, although no direct evidence was found within the cemetery, in contrast to an area east of the road, where tree holes were uncovered. Besides trees, certain shrubs and flowers, such as poppies and roses, may have been potent symbols of death or reincarnation (ibid.). Epigraphic evidence from Italy attest to the provision of sepulchral gardens or *cepotaphia* (Toynbee 1996, 94-100), but little is known about their use, if present at all, in Britain.

One of the least understood features at Pepper Hill was well or shaft 10415. As the feature was not fully excavated, nothing is known about its early use or when it was dug. It received material in the 4th century, but may well have been dug during or before the earliest phase of the cemetery. The Hollow Way, which was earlier than the cemetery, appears to have deliberately avoided the feature; if the well or shaft pre-dated the road, then it might well belong to the late Iron Age. None of the latest activity is explicitly ritualistic in character. However, the ritual function of wells and shafts, particularly as depositories for human remains, in the Romano-British landscape is gaining much appreciation (Esmonde Cleary 2000, 134-5). The feature type is well-represented in Kent, with a number of examples yielding structured deposits (Webster 1997, 142-3). A shaft at Warbank Keston contained a sequence of animal deposits, including horses and a dog. Three human skeletons were found at the base of another, in Greenhithe, while a shaft in Crayford contained a large quantity of pottery. Closer to Pepper Hill, a shaft at Northfleet contained a horse skull, a complete pot and roof tiles. The excavator of the Greenhithe shaft suggested that the feature was originally dug to extract chalk (Webster 1997, 142); the Pepper Hill shaft was similarly dug into gravel and brickearth deposits, which may have been extracted as a useful product. Nevertheless, the deposits that subsequently filled most shafts suggest that such features were typically utilised

as places for ritual deposition, even if originally dug for a utilitarian purpose. Had the Pepper Hill well or shaft been fully excavated, the discovery of animal or human skeletons, complete pots and the like would have proved unsurprising. Few shafts from Kent were directly connected with cemeteries. A shaft dug within the 'Belgic' cemetery at Aylesford was filled with animal bones (Webster 1997, 141).

Pepper Hill, large though it was, was one of a number of cemeteries situated around *Vagniacis*. The walled cemetery north-east of Pepper Hill has been noted. Information relating to graves to the north and west of Springhead is scanty; Smith (2004, 12) notes the presence of burials north-west of the town. Another cemetery lay along Temenos Road East, but much closer to Springhead, compared with Pepper Hill. The seven graves excavated were thought to belong to a family plot (Philp and Chenery 1997, 8-12) and dated to AD 70-100. Since the graves were later than the earliest Roman-period burials at Pepper Hill, the cemetery is more likely to be additional to Pepper Hill, rather than its predecessor (*contra* Davies 2001, note 19).

At 1.5 km south of the town, the location of the cemetery deserves comment. The Roman law preventing burial within the settlement is well-known (Toynbee 1996, 48), and the pocket of land created by the Hollow Way and the traces of the Iron Age boundary ditch provided a suitable space outside the urban limits. However, the location of the Roman cemetery may have had less to do with urban law than referencing sacred Iron Age features, particularly the boundary, grave and perhaps the well or shaft. It also served to distance the dead from the settlement 'in time as well as space' (cf Pearce 1999, 157). That middle Iron Age grave 10404 did not provide a strong focus for Roman burials argues against this, although the grave, boundary and quarry pits together defined a more extensive Iron Age landscape. The siting of *busta* - apparently an intrusive rite - within a cemetery rooted in a distinctly British setting is perhaps difficult to reconcile, but not impossible. It allowed the immigrants to identify themselves with the existing population or, if the deceased were the British wives of soldiers, reflected their dual identity. There is a final factor that may have influenced the cemetery's location. The funerary procession, on leaving the town, would move uphill towards the cemetery. The slope is gentle; the procession would barely climb 10 m, but following the straight path of the Hollow Way, it would see the cemetery clearly on the horizon. All travellers heading south on this road would unavoidably meet the cemetery before turning towards the south-east to go past it. The slope and direction of the road and the hill therefore gave prominence to the cemetery. These factors placed the cemetery directly into the sights and minds of travellers leaving Springhead, requiring them to contemplate the cemetery and, perhaps, face the wider question of death and their own mortality.

5 GUIDE TO THE ARCHIVE

The site has been analysed and published as part of the Channel Tunnel Rail Link Section 1 Post-excavation Project. This Integrated Site Report is one of 20 publication level site reports available to download from the Archaeology Data Service website: **http://ads.ahds.ac.uk/catalogue/projArch/ctrl**. These present synthesised data from key site sequences at an interpretative level that can be assimilated into complementary studies. The ADS site also includes five schemewide specialist reports, which provide synthetic overviews of the specialist data from CTRL Section 1 in its regional context. Underpinning the site reports and overviews, is a comprehensive archive of individual specialist reports and databases, which are also available to download. The CTRL reports and data can be accessed through the 'Project Archives' section of the ADS website.

Hard copy publication of the CTRL Section 1 results comprises a single volume synthetic overview of the excavated results in their regional context, which includes a complete site gazetteer and guide to the archive (Booth et al 2007).

Table 13 below details all available digital data for the Pepper Hill site. The Post-excavation assessment report is included in the digital archive, but assessment databases have only been included for categories of material which were not subsequently subject to full analysis. All reports and accompanying figures are presented as downloadable, print-ready Adobe Acrobat files (.pdf). ADS also maintain archive versions of report text (.rtf) and image pages (.tiff).

The digitised site plan is available as an Arcview shapefile (.shp). The drawing can be linked to a GIS output data table in the site database, to generate phase plans.

Site and specialist databases are available both in their original format (Microsoft Access 97 or Excel 97) or as a series of archived text files (.csv). Data field names are intended to be self-explanatory as far as possible. Codes used in specialist databases are identified in tables within the database or spreadsheet (these are archived as a series of separate text files).

Table 13: Digital report and archive components available to download from the Archaeology Data Service website. [http://ads.ahds.ac.uk/catalogue/projArch/ctrl]

Description	Filename root	Principal authors and organisation
Integrated site report		
Integrated site report text	PHL_ISR_text	Biddulph E (OWA JV)
Integrated site report figures	PHL_ISR_fig	Biddulph E (OWA JV)
Grave catalogue text	PHL_ISR_cat	Biddulph E (OWA JV)
Grave catalogue figures (including associated artefact illustrations)	PHL_ISR_cat	Biddulph E (OWA JV)
Site research database		
Site database (Microsoft Access 97 - Also extracted as comma separated text files)	PHL_Site_research_database	Biddulph E (OWA JV)
CAD/ GIS drawings		
CAD drawing	PHL_CAD	Bradley M and Biddulph E (OWA JV)
ESRI ArcMAP GIS project	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS limit of excavation shapefile	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS limit of excavation shapefile	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS feature plan	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS feature plan	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS grave goods plan	PHL_GIS	Bradley M and Biddulph E (OWA JV)
GIS small finds plan	PHL_GIS	Bradley M and Biddulph E (OWA JV)
Specialist research reports		
Ceramics (Late Iron Age and Roman)	CER_ROM_PHL	Biddulph E (OWA JV)
Ceramics (later prehistoric)	CER_LPR_PHL	Jones G (University of Southampton)
Small finds	SFS_PHL	Booth P (OWA JV) and Cool H (Barbican Research Associates, York)
Faunal remains	ENV_Fauna_PHL	Kitch J (OWA JV)
Charred plant remains	ENV_Charredplants_PHL	Davis A (MoLSS)
Wood charcoal	ENV_Charcoal_PHL_text	Challinor D (OWA JV)
Human remains	HUM_PHL	Witkin A and Boston C (OWA JV)
Radiocarbon dating	DAT_PHL	Allen M (OWA JV)
Specialist datasets		
Ceramics (Late Iron Age and Roman)	CER_ROM_PHL	Biddulph E (OWA JV)
Small finds (all except coins)	SFS_Misc_PHL	Cool H (York)
Small finds (coins)	SFS_Coins_PHL	Booth P (OWA JV)
Faunal remains	ENV_Fauna_PHL	Kitch J (OWA JV)
Charred plant remains	ENV_Charredplants_PHL	Davis A (MoLSS)
Wood charcoal	ENV_Charcoal_PHL	Challinor D (OWA JV)
Human remains	HUM_PHL	Witkin A (OWA JV)
Post-excavation assessment		
Post-excavation Assessment	PHL_PXAssessment_Vol1_text	Oxford Archaeology
Post-excavation Assessment	PHL_PXAssessment_Vol1_fig	Oxford Archaeology
Post-excavation Assessment	PHL_PXAssessment_Vol2_tables	Oxford Archaeology
Assessment datasets	PHL_PXAssessment_PHL97	Oxford Archaeology
Assessment datasets	PHL_PXAssessment_NBR98	Oxford Archaeology

Table 14: Artefactual and environmental archive

ITEM	NUMBER OF ITEMS OR BOXES OR OTHER	NUMBER OF FRAGMENTS
PEPPER HILL (ARC PHL 97)		
Context records	1406	
A1 plans	43	
A4 plans	263	
A1 sections	1	
A4 sections	219	
Small finds	1899	
Black and white films	35	
Colour slide films	48	
Flint (boxes)	4 size 3	493
Pottery (boxes)	23 size 1 29 size 2 22 size 3 1 size 4 38 size 7 1 size 8	9800
Fired clay (boxes)	1 size 1	29
Stone (boxes)	1 size 4	215
Copper alloy (boxes)	1 plastic size 8 1 plastic size 4	18
Iron (boxes)	29 plastic size 8 1 plastic size 4	
Lead (boxes)	1 plastic size 8	2
Glass		
Slag (boxes)	1 size 4	2
Shell	1 size 4	3
Human bone (boxes)	12 size 1 6 size 2 1 size 7	
Animal bone	1 size 3	81
Soil samples (No. contexts)	90	
NEW BARN ROAD (ARC NBR 98)		
Context records	2230	
A1 plans	84	
A4 plans	751	
A1 sections	8	
A4 sections	90	
Small finds	2039	
Black and white films	49	
Colour slide films	59	
Flint (boxes)	3 size 3 1 size 2	886
Burnt flint (boxes)	2 size 3	272
Pottery (boxes)	15 size 1 49 size 2 16 size 3 34 size 7	19395
Fired clay (boxes)	2 size 1 1 size 2	3595
CBM (boxes)	1 size 3	21
Stone (boxes)	1 size 4	10
	1 plastic size 4	1
Copper alloy	2 plastic size 8 1 plastic size 4	63
Iron	31 plastic size 8	3300
	1 plastic size 4	2
Slag (boxes)	1 size 4	17
Human bone (boxes)	1 size 1 19 size 2 5 size 3	

ITEM	NUMBER OF ITEMS OR BOXES OR OTHER	NUMBER OF FRAGMENTS
	1 size 7	
Human cremations/residues (boxes)	14 size 1 1 size 2 2 size 3	
	1 size 3	377
	1 plastic size 4	190
Soil samples (No. contexts)	460	
SOUTH OF STATION ROAD (ARC SSR 98)		
Context records	58	
A1 plans		
A4 plans		
A1 sections		
A4 sections		
Pottery	1 size 4	45
Flint and burnt flint	1 size 3	41

Key to box sizes

Cardboard boxes

Size 1 = Bulk box	391mm x 238mm x 210mm	0.020 m^3
Size 2 = Half box	391mm x 238mm x 100mm	0.009 m^3
Size 3 = Quarter box	386mm x 108 mm x 100mm	0.004 m^3
Size 4 = Eighth box	213 mm x 102 mm x 80 mm	0.002 m^3
Size 5 = Sixteenth box	110mm x 88 mm x 60 mm	0.001 m^3
Size 6 = Skeleton box	600 mm x 241 mm x 225 mm	0.033 m^3

Plastic boxes

Size 4 = Small	213 mm x 102 mm x 80 m	0.002 m^3
Size 8 = Medium	260mm x 184mm x 108mm	0.005 m^3

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