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EARLY ROMAN BURIAL IN DARTFORD

PAUL HUTCHINGS

with contributions by
Malcolm Lyne, Jacqueline McKinley and Ian Riddler

Alec Detsicas summarised the evidence for Roman settlement in Dartford in his volume on the *Cantiaci*, and usefully brought together accounts stretching back over almost a century (Detsicas 1983, 80). The Roman archaeology of Dartford remains elusive, although small-scale evaluations and excavations at its centre are beginning to develop our understanding. This small contribution by staff of the Canterbury Archaeological Trust and two external specialists is presented as a reminder of how useful Alec's survey has been, and how we are indebted to him.

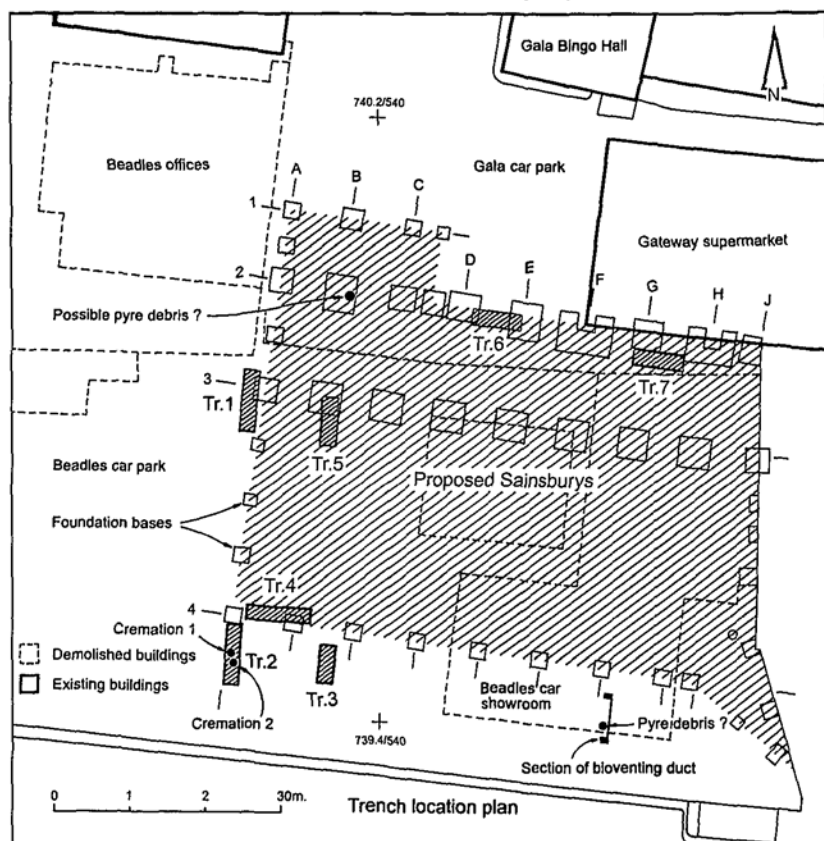
Following a desk-based assessment undertaken for the new Sainsbury's supermarket at the Priory Centre in Dartford, an archaeological evaluation took place in advance of redevelopment. Three trenches (Fig. 1, Trenches 1-3) were cut across the area (presently Beadle's show court and car service area) to determine the presence or absence of any surviving archaeological remains. Work began in October 1998 and took place over three consecutive weekends under the direction of the writer. Further trenches were later opened in an area thought to contain Roman cremation burials (Trenches 4 and 5) but these yielded no additional evidence. A further two trenches were subsequently excavated in adjacent land formerly belonging to the Gala bingo hall (Trenches 6 and 7). These latter trenches provided some further evidence of Roman activity. A watching brief maintained during ground-works for the development also provided some additional information.

The Priory Centre site (NGR: TQ 5400 7395) is largely flat with a slight downward slope from west to east. Located on flood plain gravel, overlying Upper Chalk, the site lies at +4.80m OD and is situated within the valley of the River Darent which is located approximately 1km to the east.

Roman finds were reported during the building of the present car



Fig. 1 Site location;
plan of excavation
trenches.



showroom in 1920 (C. Baker, pers. comm.). These reports include mention of numerous complete pots, including samian vessels, in conjunction with human skeletal remains, clearly suggesting the presence of a cemetery of Roman date on or near the Beadle's site.

THE ARCHAEOLOGICAL FEATURES

Roman topsoil

Natural gravel, observed at various locations across the site, was generally capped by a thin deposit of discoloured and disturbed brick-earth. Surmounting the natural deposits was a uniform reddish brown silty clay, on average 0.2-0.3m thick, containing fragmented oyster shell and carbon flecking thought to represent a buried Roman topsoil. Encountered in Trenches 3, 5, 6 and 7, this deposit was also identified in many of the foundation pits cut for the new building. Generally the topsoil was void of datable finds, but slight differences in texture and colouration of the deposit and the distribution of fragmented oyster shell may indicate that it was an agricultural topsoil.

Cremation burials

Cutting Roman topsoil [8] in Trench 2 were two cremation burials, found in close proximity to one another (**Fig. 2**). Cremation Burial 1 was located against the eastern section of the trench and was only partially excavated. It was contained within an irregular, roughly circular U-shaped pit [7], 0.65m in diameter and cut to a depth of 0.25m. The cremation pit contained a grey-brown silty clay with occasional charcoal flecks and the fragmented remains of at least three vessels. These comprised a South Gaulish samian platter, a partially complete flagon and a number of sherds representing a third vessel. Cremated bone was recovered from the south-east corner of the pit and sealed the side and part of the base of the cut suggesting that it was a primary deposit. The grave goods were placed over the cremated bone which may have been that of an adult female aged approximately 30 years. A bird bone, identified in the corpus of cremated bone, may have been a remnant from a ritual meal placed with the dead person on the pyre. The burial has been dated by the pottery to c. AD 80-100.

The second cremation burial (**Fig. 2** and **Plate I**) was located immediately to the south-east of the first in Trench 2. The cremation pit [10] was sub-circular in plan with gradual sloping sides and a flattish base. The pit measured 0.73m in diameter and was cut 0.20m deep. The fill [9] was a mid-brown, grey sandy clay with occasional

Trench 2: East facing section

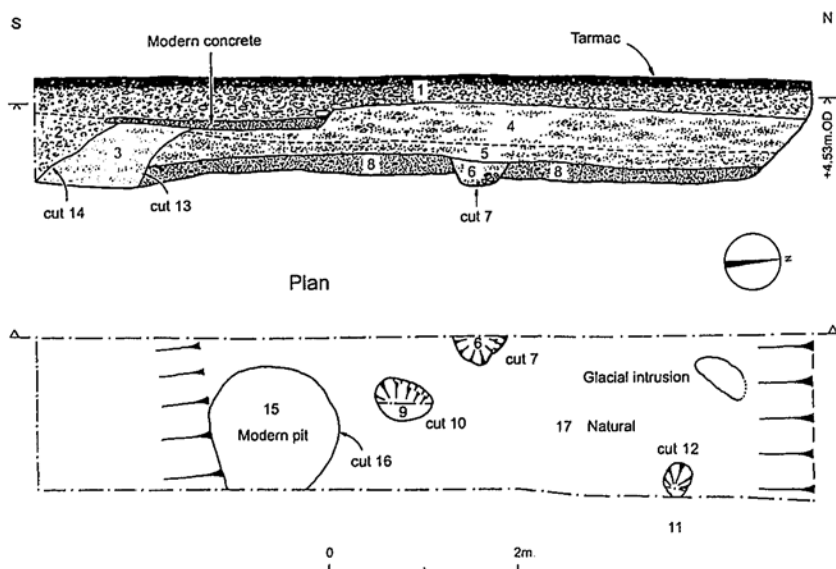


Fig. 2 Plan and section of the cremation burials (Trench 2).

pea grit and gravel. Grave contents included a substantially complete jar and a near complete cremation urn. The urn contained an almost complete poppyhead beaker and a bird bone. Cremated bone recovered from the urn was that of an adult aged approximately 50 years. A second individual, a female aged approximately 18 years, was represented by cremated bone recovered from the pit fill. Also recovered from the pit fill were small undiagnostic sherds of vessel glass. The burial has been dated by the pottery to the late first or first half of the second century AD.

Two discoveries made during the watching brief may represent debris from a funerary pyre or *ustrinum* (Fig. 1). The first, located in the south-east corner of the development during construction of a bioventing duct, was only observed in section (Fig. 3). Examination of the exposed faces of the duct revealed a basal deposit of yellow brown sandy silt [102] which may have formed the lower fill of a cut feature. This deposit appeared to have been cut by a 0.34m wide feature with a flat base, possibly a beam-slot. The slot was filled with a charcoal rich deposit of mid brown sandy silt [101]. A similar



Cremation Burial No. 2

deposit with less carbon, but including lumps of burnt clay, capped the fill of the feature and extended over the earlier deposit [102]. At the interface of the two deposits on the north side of the possible slot was a lens of broken pottery and cremated bone. Insufficient bone was retrieved for analysis. The pot sherds however represented three vessels of second-century date. Also included in the lens was a copper alloy bracelet dated to the second century. The upper surface of the deposit was heavily burnt with ash and fired orange clay. Mixed with the deposit was a patch of decomposed and burnt *opus signinum* mortar. Overall, although the sequence of deposits was only observed in section and had mostly been removed by a substantial post-Roman cut feature [103], the deposits may represent residue from an *ustrinum*.

A second deposit of possible pyre waste was observed in the sides of foundation pit B2. Here a sequence of deposits possibly associated with a cut feature yielded a sizeable corpus of pot sherds dating from the late first and second centuries and a *dupondis* of Antoninus Pius (c. AD 139).

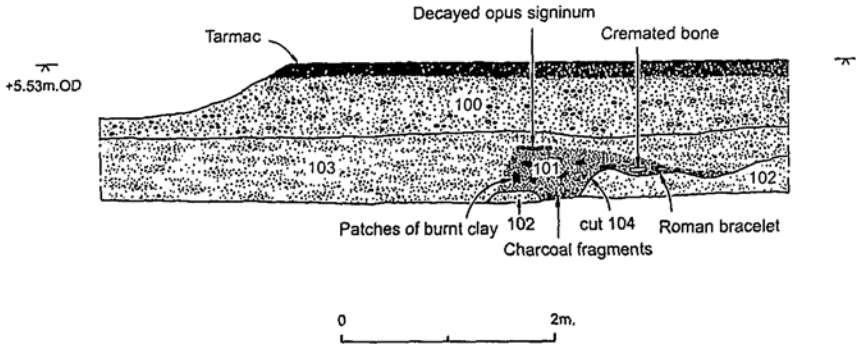


Fig. 3 West-facing Section of bioventing duct.

Other Roman features

Two other features are worthy of mention. In Trench 7, cut in the north-east corner of the development, a well-defined buried topsoil [6] was exposed, this overlying natural deposits of clay gravel and coarse sandy gravel [7]. Cutting topsoil across the west end of the trench was a north-east to south-west aligned irregular U-shaped gully [5], 1.08m wide and 0.36m deep (Fig. 4). The gully fill of dark brown to grey brown silty clay and gravel [4], flecked with charcoal, yielded no datable finds, but the stratigraphic position of the feature indicated that it was of a Roman date.

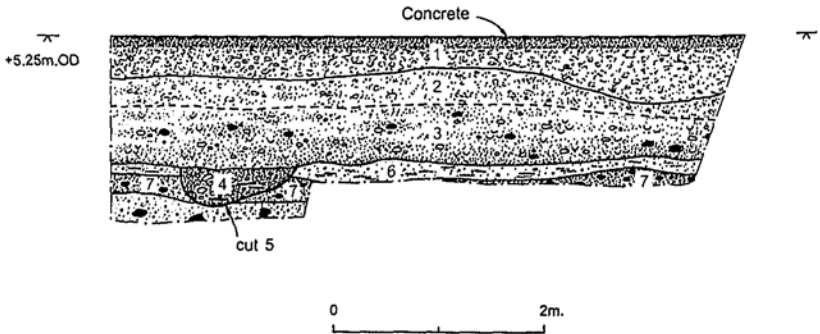


Fig. 4 South facing section of Trench 7.

A similarly aligned feature was recorded during the watching brief in foundation pit E3. Here, a U-shaped gully 1.20m wide and 0.22m deep may represent a continuation of the same feature and the presence therefore of a linear boundary ditch crossing the development area. The gully fill of grey sandy silt yielded no datable finds, but again the stratigraphic position suggested that the feature was of Roman date.

Post-Roman deposits and features

Capping the buried Roman topsoil in most evaluation trenches and foundation pits was a thick deposit of dark brown gravelly loam. In Trenches 1 and 2 upper and lower units of the deposit were discernible; the lower unit being of lighter colouration, with a greater concentration of gravel and more frequent and complete oyster shells. The combined depth of the deposit was approximately 0.50m. A similar sequence of deposits was observed in Trenches 6 and 7.

Few post-Roman features were observed. The southern end of Trench 5 was cut by a shallow pit or gully [9]. The fill of this feature [8] produced oyster shells, ironworking slag and a single sherd of Kingston-type ware dating to the period c. AD 1250-1400. Trench 2 contained a single deeply cut post-pit, which may have been of later medieval date. Foundation pit 4A provided tentative evidence for a sunken or cellared structure of unknown date (**Fig. 5**). A possible construction cut for the feature was defined by a thin lens of decayed and trampled chalk. This was 4cm thick and filled the foundation pit. The basal deposit was capped by a 0.26m thick deposit of fine orange grey sand [19] which was in turn surmounted by a layer of compact gravel [18] thought to represent a floor. Three stake-holes [22, 23,

Foundation Base 4A

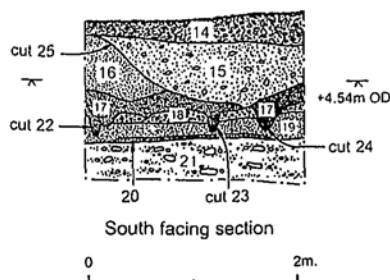


Fig. 5 Section showing medieval post-/stake-holes (foundation 4A).

24] were observed cutting the possible floor in the north section of the foundation pit. Others may have been present, but were removed when the foundation pit was cut. The stake-holes were on average 4cm in diameter and were up to 0.20m deep. Capping the stake-holes and the gravel floor was a layer of mid brown sandy silt with oyster shells [17], possibly representing an occupation deposit. The feature was capped by consecutive steeply tipping deposits of green brown sandy silt [16] and dark brown sandy silt mixed with angular stones. No datable finds were recovered. (A number of post-medieval and modern features and deposits were observed and recorded, but are not presented here.)

THE FINDS

THE ROMAN CERAMICS *by Malcolm Lyne*

Cremation vessels

Cremation Burial 1 [Trench 2, context 6] (Fig. 6)

Screw-neck flagon of Monaghan Type 1E1.1 (1987) in pinkish-brown fabric R71 variant with profuse up-to 0.30mm multi-coloured quartz filler. Ext. rim diameter 50mm. Only part of this vessel appears to be present. *c.* AD 70/80-140/150 (Fig. 6.2)

South Gaulish samian Dr.36 platter. External rim diameter 160mm. *c.* AD 70-110 (Fig. 6.3)

The burial pit also yielded eight small sherds in patchy black/reddish-brown fabric with profuse up-to 0.30mm multi-coloured quartz filler (approximating to Monaghan's Fabric S1.6B (*ibid.*)).

Ceramic date: late Flavian (*c.* AD 80-100).

Cremation Burial 2 [Trench 2, context 9]

Necked storage-jar in grey fabric with profuse up-to 0.30mm multi-coloured quartz filler and occasional up-to 0.50mm calcareous inclusions, fired flecky brown-black with brown margins. Ext. rim diameter 120mm. *c.* AD 80-150. (Fig. 6.1)

Plain poppy-head beaker of Monaghan Type 2A4-15 in grey Upchurch fabric R16. Ext. rim diameter 70mm. *c.* AD 130-170. (Fig. 6.4)

Ceramic date: *c.* AD 130-150.

Possible funerary pyre [bioventing duct, layer 101]

Fourteen refired sherds from two pots in a fine-sanded grey/black fabric with pink patches were retrieved from a layer of charcoal and ash [101] in and around feature 104, which is thought to have been a pyre deposit. Nine of the

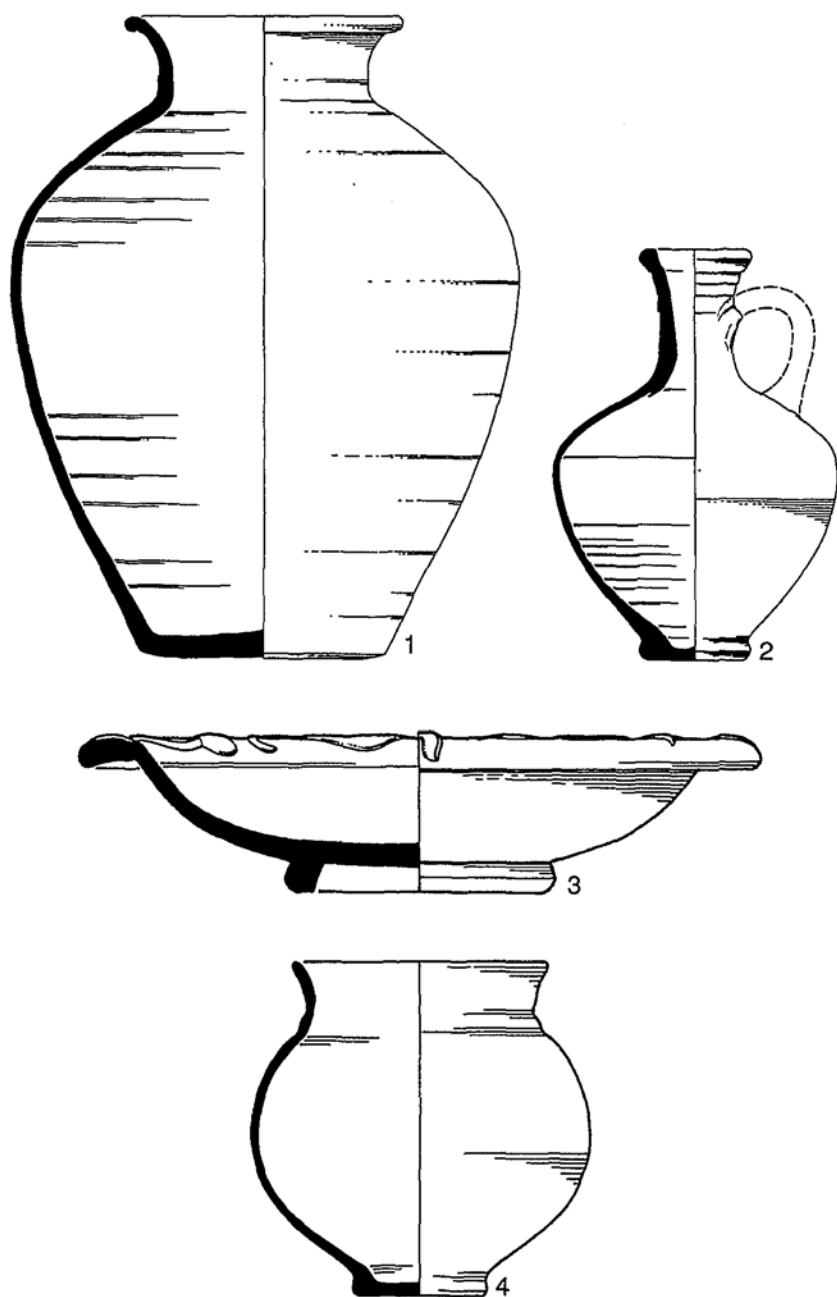


Fig. 6 Roman cremation vessels.

fragments came from a lid boss, possibly from a lid of Monaghan type 12C2-3 (Monaghan 1987, c. AD 50-70). The other five are from a finely-combed closed form of c. AD 50-150 date. This deposit is contemporary with the cremation vessels described above.

Possible pyre residue (foundation pit B2, context 7)

The bulk of the sherds from this possible pyre deposit are from a variety of silt and sand horizons immediately above the natural gravel. This assemblage (43 sherds) came from the upper surface of context 7 and was retrieved during the watching brief. The pottery is of late first- to second-century character and is largely made up of BB2, Thameside grey, North Kent shell-tempered and fine Upchurch greywares from the Thames and Medway marshes. Recognisable forms include a Cliffe BB2 pie dish of Monaghan type 5C4 (Monaghan 1987, c. AD 150-250) and an Upchurch greyware bowl of his type 5B2 (c. AD 90-130). Two sherds from indeterminate Central Gaulish samian forms (c. AD 120-200) and one from a Patch Grove storage jar are also present.

Trench 5, context 7: Roman topsoil

This deposit of silt, coarse sand and pea-grit on the surface of the natural gravel, produced six sherds of Roman pottery and one medieval sherd. The Roman sherds are both early and late in date and include a further fragment from a Patch Grove storage jar (c. AD 43-200+), pieces from a mid first-century grit- and grog-tempered jar, a Dressel 20 olive oil amphora flake, an Oxfordshire red colour-coated wall-sided mortarium (c. AD 240-400) and a horizontally-ribbed Overwey-Portchester D cooking pot (c. AD 330-400+). The medieval sherd is from a green-glazed London-type pitcher or jug, of thirteenth-century date.

Foundation pits D2 (context 16) and 4A: Roman topsoil

Similar deposits in the cuts for stanchion base D2 (context 16) and foundation base 4A yielded one flake of Roman tile and two sherds of pottery. The sherds comprise a flake from a South Gaulish samian open form footring (c. AD 70-110) and a sandy brown nondescript fragment from a cooking pot, which may be medieval.

THE SMALL FINDS *by Ian Riddler*

The only small finds of Roman date from the site consist of a coin and a bracelet, as well as several small and indistinct fragments of vessel glass, which were recovered from Cremation Burial 2. As noted above, the coin is a *dupondius* of Antoninus Pius (AD 139). The copper alloy bracelet (Fig. 7) has an internal diameter of approximately 50mm. It is a narrow strip bracelet

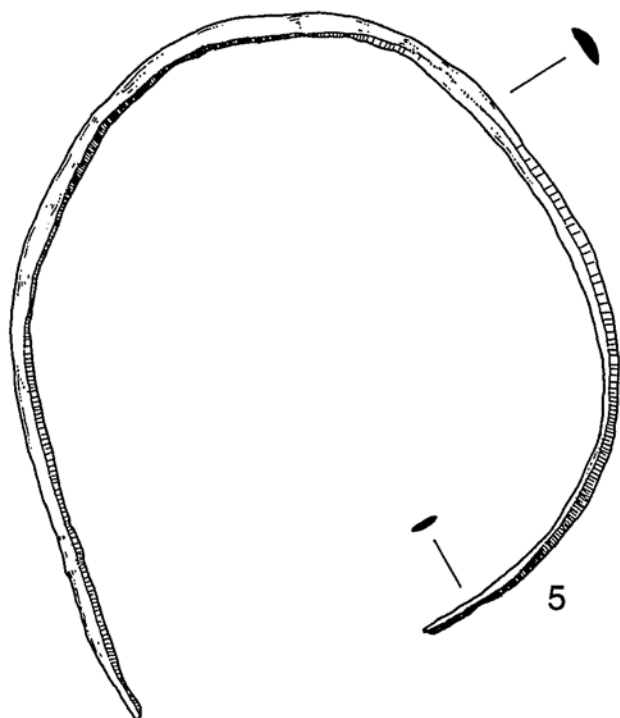


Fig. 7 Copper alloy bracelet, probably second-century.

and it appears to be undecorated, which allows it to be assigned to Mould's type 9 (Riddler *et al.* forthcoming). Undecorated strip bracelets are comparatively rare, in contrast to those with a variety of patterning, which occur largely in late-Roman contexts at Canterbury, Ickham and Rochester in particular (Blockley *et al.* 1995, 1024-5; Cool in Harrison 1981, 125-31). A number of simple, undecorated strip bracelets of copper alloy were retrieved from second-century contexts at Monkton, and they are known from early Roman deposits elsewhere (Riddler forthcoming). It is likely that this is a further example of a simple and relatively early copper alloy bracelet, perhaps of second-century date.

THE HUMAN BONE *by Jacqueline McKinley*

Cremated bone from three Romano-British contexts was received for analysis, including the remains of an urned burial (Cremation Burial 2) to-

gether with bone from the backfill [9], and a partially excavated, unurned burial (Cremation Burial 1).

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5-21). Age was assessed from the stage of skeletal and tooth development (Van Beek 1983; McMinn and Hutchings 1985; Webb and Suchey 1985) and the general degree of age-related changes to the bone (Bass 1987). Sex was ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994).

TABLE 1. SUMMARY OF BONE ANALYSIS RESULTS

<i>Crem. burial /Cxt</i>	<i>Type</i>	<i>Bone Weight (g)</i>	<i>Age</i>	<i>Sex</i>	<i>Pathology</i>	<i>Pyre goods</i>
1/6a	un-urned burial	257.2	adult >30 yr	?? F	op - axis	bird
2/9a	urned burial	599.4	1) adult >50 yr 2) adult >18 yr	min. one F	op - 1C, 1L; ddd - S1; oa - 1T; exo. - iliac crest, proximal ulna, femur shaft, left patella	bird; glass
2/9	= 9a	207.5	1) older adult 2) adult	F	oa - 1C, 1T	bird; glass

KEY: op - osteophytes; ddd - degenerative disc disease; oa - osteoarthritis; exo. - exostoses; C - cervical; T - thoracic; L - lumbar; S - sacral

Due to the nature of the archaeological investigations (see above) the remains of Cremation Burial 1 were not fully excavated and it has been estimated that c. 50 per cent of fills were removed. The fragmentary nature of the three vessels comprising grave goods in Cremation Burial 1 suggests some level of disturbance to the deposit. The urned burial (Cremation Burial 2) was largely intact though there had been some disturbance damaging the upper 20 per cent of the vessel. The bone appeared in good condition, and included fragments of both compact and trabecular bone suggesting the soil conditions were not adverse to good bone survival (McKinley 1997, 57).

The remains of a minimum of two adults were identified, one from each burial. Most of the bone in Cremation Burial 2 and from the grave backfill [9] represents the remains of an elder female, but fragments from a second adult were recovered from both deposits. These additional fragments may represent the formal burial of a second individual, i.e. the burial was of the remains from a dual cremation, or may have accidentally been incorporated within this deposit during collection of bone from the pyre site for burial. If the pyre site was used for a succession of cremations and clearance of debris between events was inefficient, bone from an early cremation on the site not

collected for burial may have accidentally been incorporated with bone fragments from a subsequent one. (NB. It is a characteristic of the rite of disposal of the dead by cremation that not all the bone remaining after cremation is incorporated in the burial, McKinley 1994a; 1997; 2000). It is, therefore, conceivable that the additional bone from Cremation Burial 2 (9a and 9) may pertain to the individual in Cremation Burial 1 (there is no duplication of fragments).

The pathological lesions observed are largely indicative of joint disease, the older adult female (Cremation Burial 2) had osteoarthritis at two sites – cervical and thoracic vertebrae – and degenerative disc disease in a sacral vertebra. Osteophytes (new bone around joint surface margins) and exostoses (new bone at tendon and ligament insertions) generally show increased distribution with age, largely reflecting 'wear-and-tear', though there may be other predisposing factors (Rogers and Waldron 1987).

The bone from context 6a and the majority of that from 9a and 9 was white in colour indicative of a high level of oxidation (Holden *et al* 1995 a and b). Some bone fragments from 9a and 9 were blue or grey – the right temporal region of the skull, right mandible and a few fragments of vault, fragments of arm bone from the elbow region, fragments of distal femur and a foot phalanx. Such a discrete distribution of poorly oxidised bone suggests specific causes; the right side of the head and one elbow may have been covered, for example by leather or fur, which would have impeded oxygen availability in those specific areas, and the distal femur may have been similarly affected. In a pyre cremation the lower leg and foot bones tend to burn earliest in the cremation process by virtue of their lack of surrounding soft tissues (McKinley 1994a); the poor oxidation of a single foot phalanx (four recovered) may indicate this one bone fell in amongst the fuel ash and was buried before it had fully oxidised.

Since the remains of burial 6a were not fully recovered, and the bone from 9a and 9 may represent those of more than one individual, it would be inappropriate to discuss the weight of bone included in the burials other than to comment that the total weight of bone from grave 10 represents a maximum of 80 per cent of the expected weight of bone from an adult cremation (McKinley 1993).

The majority (>65 per cent) of the bone from both burials was recovered from the 10mm sieve fraction and the maximum fragment-size was 72mm from burial 9a and 56mm from burial 6a. Numerous factors may contribute towards the fragmentation of cremated bone, including the effects of soil infiltration and movement in excavation (McKinley 1994b), and there is no conclusive evidence for the bone being deliberately fragmented prior to burial. Bone from all skeletal areas was represented within the burial and there was no evidence to suggest deliberate selection of specific skeletal elements.

Fragments of partridge-sized bird bone were recovered from all the deposits, 0.2g from Cremation Burial 1, 2g from Cremation Burial 2 and 0.9g from deposit 9. The inclusion of animals as pyre goods is a common theme within the cremation rite, between 10 and 50 per cent of burials from different Romano-British cemeteries containing cremated animal bone

(McKinley 2000; in prep.). Although domestic fowl was amongst the most popular species, non-domestic bird has been recovered elsewhere (Barber and Bowsher 2000). Fragments of melted glass – again, the remnants of pyre goods – were also recovered from Cremation Burial 2 and deposit 9. Slight charcoal flecking observed in context 6a and a fragment of burnt flint in context 9a are likely to represent the accidental inclusion a small amounts of pyre debris within the burials.

Approximately 26 per cent of the cremated bone from Cremation Burial 2 was recovered from the backfill of the grave [context 9] rather than the burial. Since this deposit also contained fragments of pottery from the upper part of the vessel, it is possible that the bone represents spill from the urn. However, since the location of the bone within the fill is unknown, it cannot be conclusively excluded that it represented a deliberate secondary deposit outside the urn. The bone from the backfill represents the same individuals as that contained within the urns – with joins between at least two fragments – and a range of skeletal elements was present in both deposits.

DISCUSSION

by Paul Hutchings and Ian Riddler

The presence of two cremation burials within the general area implies that a Roman cemetery survives in the vicinity of the site. Little can be said, at present, of the nature of that cemetery, although the burials recovered in this evaluation and watching brief are of early Roman date, and belong to the late first century and the first half of the second century.

Alongside the cremation burials themselves, an area of burning was also located, at some distance (approximately 50m) to the east. This can possibly be identified as a pyre area, where the deceased were cremated. It may equally well, however, represent redeposited debris from a pyre area. A second deposit of possible pyre residue was located some 50m to the north-east. Such areas, or *ustrina*, are known from comparable sites in north-west Europe, although they have seldom been encountered or discussed in any detail. Their characteristics have, however, been summarised recently (Polfer 1996, 16-21 and 118-20; Barber and Bowsher 2000, 60-76). The debris seen at Dartford corresponds with descriptions of comparable deposits found elsewhere, as at Septfontaines-Dèckt or London (Van Doorselar 1967, 106-7; Polfer 1996, 16-8; Barber and Bowsher 2000, 61). Ceramics from the deposits suggest that they were contemporary with the cremation burials.

Cremation burials were recovered from Trench 2, but later disturbance had removed Roman deposits from Trenches 3 and 4. No cremation burials or Roman finds were discovered to the south of the pyre debris during the watching brief. The presence of pyre debris

might suggest that the site lay on the fringes of the cemetery, at its southern limit. It may extend further to the north, towards Spital Street. The infant burials discovered at Spital Street (Hicks 1995, 417, 421 and 427-8) are not necessarily a part of the same cemetery, given that infants were not always accorded the same burial rites as adults. However, they were found immediately to the north of this site, on the other side of Spital Street.

The location of Dartford, at a crossing point of the River Darent on the main Roman road between London and Dover (Watling Street), made it a convenient centre for settlement and industry. There is reasonable archaeological evidence to support an argument for the presence of a Roman settlement, possibly a small town, in the area. A number of sites have yielded Roman remains including Spital Street, Lowfield Street and the High Street (Fig. 8). Spurrell recorded an

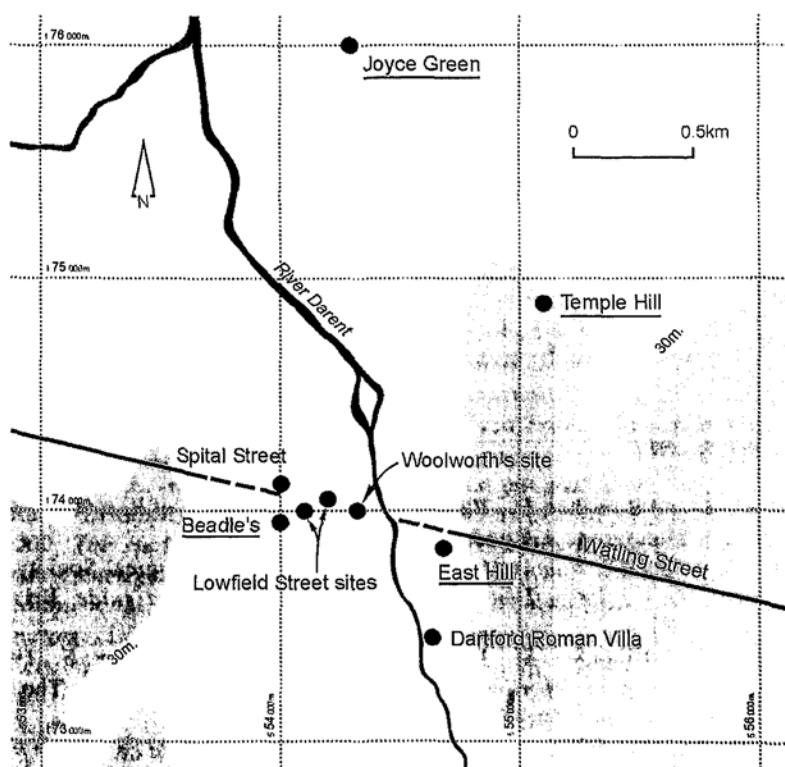


Fig. 8 Roman sites in Dartford.

(The general alignment of Watling Street is shown; its precise course through central Dartford is not known. Cemetery sites are underlined.)

area of plain, red *tesserae* at the corner of Lowfield Street and the High Street, and foundations of a Roman building further to the east, close to the church in High Street (Spurrell 1889, 312). Dale provided details of late Iron Age and Roman ceramics, predominantly of first- and second-century date, found close to the Roman building identified by Spurrell (Dale 1971). The Dartford Roman villa site was excavated by the Dartford District Archaeological Group in 1979. Alec Detsicas summarised the various discoveries in Dartford, and noted that 'though this evidence is sketchy and much of it awaits full publication, it nevertheless points to a settlement at or close to the crossing of the Darent, and it is not improbable that it developed near the spot where Watling Street crossed the river' (Detsicas 1983, 80).

Roman cemeteries at Dartford are known at East Hill, and to the north at Joyce Green and Temple Hill (Payne 1897; Leyland 1990; Spurrell 1889, 312; Tester 1956). From the Beadle's excavations it now appears that another cemetery relating to this early Roman settlement lay to the west of the river and to the south of Watling Street.

ACKNOWLEDGEMENTS

The fieldwork was undertaken to a specification prepared by Kent County Council Heritage Conservation Group on behalf of Sainsbury's Limited. The author would like extend thanks to the managing agents for Sainsbury's (Gregory Dengate Limited) and the staff of Beadle's for their help and assistance.

BIBLIOGRAPHY

- Barber, B. and Bowsher, D., 2000, *The Eastern Cemetery of Roman London*, MoLAS Monograph 4, London.
- Bass, W. M., 1987, *Human Osteology*, Missouri Archaeological Society.
- van Beek, G. C., 1983, *Dental Morphology: an illustrated guide*, Bristol: Wright PSG.
- Blockley, K., Blockley, M., Blockley, P., Frere, S. S. and Stow, S., 1995, *Excavations in the Marlowe Car Park and Surrounding Areas*, The Archaeology of Canterbury V, Whitstable.
- Buikstra, J. E. and Ubelaker, D. H., 1994, *Standards for data collection from human skeletal remains*, Arkansas Archaeological Survey Research Series 44.
- Dale, L. C., 1971, 'Belgic and Roman Pottery from Dartford', *Archaeologia Cantiana*, 86, 210-5.

- Detsicas, A., 1983, *The Cantiaci*, Gloucester.
- van Doorselaer, A., 1967, *Les necropoles d'époque romaine en Gaule septentrionale*, Diss, Arch. Gandenses, Bruges.
- Harrison, A. C., 1981, 'Rochester 1974-75', *Archaeologia Cantiana*, 97, 95-136.
- Hicks, A., 1995, Excavations at Spital Street, Dartford, 1991, *Archaeologia Cantiana*, 115, 413-30.
- Holden, J. L., Phakley, P. P. and Clement, J. G., 1995a, 'Scanning electron microscope observations of incinerated human femoral bone: a case study', *Forensic Science International*, 74, 17-28.
- Holden, J. L., Phakley, P. P. and Clement, J. G., 1995b, 'Scanning electron microscope observations of heat-treated human bone', *Forensic Science International*, 74, 29-45.
- Leyland, M., 1990, 'East Hill, Dartford', in *Canterbury's Archaeology 1988-1989*, Canterbury, 33-5.
- McKinley, J. I., 1993, 'Bone fragment size and weights of bone from modern British cremations and its implications for the interpretation of archaeological cremations', *International J. Osteoarchaeology*, 3, 283-7.
- McKinley, J. I., 1994a, 'The Anglo-Saxon cemetery at Spong Hill, North Elmham. Part VIII: The Cremations', *East Anglian Archaeology*, 69, Gressenhall.
- McKinley, J. I., 1994b, 'Bone fragment size in British cremation burials and its implications for pyre technology and ritual', *J. Archaeol. Sci.*, 21, 339-42.
- McKinley, J. I., 1997, 'The cremated human bone from burial and cremation-related contexts', in Fitzpatrick, A. P. (ed.), *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992. Volume 2*, Wessex Archaeology Report 12, Salisbury, 55-72.
- McKinley, J. I., 2000, 'The analysis of cremated bone', in Cox, M. and Mays, S. (eds), *Human Osteology in Archaeology and Forensic Science*, London (GMM), 403-21.
- McKinley, J. I., in prep., 'The wider temporal perspective of cremation in Roman Britain', from paper presented at Society of Antiquaries, November 2000, *The study of Romano-British Funerary Practice: Dead or Alive?* (conference proceeding to be published).
- McMinn, R. M. H. and Hutchings, R. T., 1985, *A colour atlas of human anatomy*, London: Wolfe Medical Publications.
- Millett, M., Pearce, J. and Struck, M., forthcoming, *Putting Roman Burial Practice in Context*.
- Monaghan, J., 1987, *Upchurch and Thameside Roman Pottery - A Ceramic Typology for northern Kent, First to Third Centuries AD*, British Archaeological Reports, British Series 173, Oxford.
- Payne, G., 1897, 'Researches and Discoveries in Kent', *Archaeologia Cantiana*, 22, lii.

- Polfer, M., 1996, *Das Gallorömische Brandgräberfeld und der dazugehörige Verbrennungsplatz von Septfontaines-Déckt (Luxemburg)*, Dossiers d'Archéologie du Musée National d'Histoire et d'Art V, Luxembourg.
- Riddler, I. D., forthcoming, 'The Roman Small Finds', in J. Rady, A. Hicks, I. Riddler and S. Pratt, *Roads to the Past. Prehistoric, Roman, Anglo-Saxon and Medieval Sites at Monkton, Isle of Thanet*, Canterbury Archaeological Trust Occasional Papers, Canterbury.
- Riddler, I. D., Lyne, M. and Mould, Q., forthcoming, *The Roman Watermills at Ickham. Salvage Excavations of a Roman Industrial Complex by Jim Bradshaw and Chris Young, 1972-1975*, Canterbury Archaeological Trust Occasional Papers, Canterbury.
- Rogers, J. and Waldron, T., 1995, *A field guide to Joint Disease in Archaeology*, Chichester: Wiley.
- Spurrell, F. C. J., 1889, 'Dartford Antiquities', *Archaeologia Cantiana*, 18, 304-18.
- Tester, P. J., 1956, 'First-century Pottery from Temple Hill, Dartford', *Archaeologia Cantiana*, 70, 253-4.
- Webb, P. A. O. and Suchey, J. M., 1985, 'Epiphyseal union of the anterior iliac crest and medial clavicle in a modern multiracial sample of American males and females', *Am. J. Phys. Anth.*, 68, 457-66.