

**CHANNEL TUNNEL RAIL LINK
Union Railways (South) Ltd**

Project Area 330

**WATERLOO CONNECTION, NORTHFLEET, KENT
ARC NBR 98**

**DETAILED ARCHAEOLOGICAL WORKS
INTERIM REPORT
FINAL**

Contract S/300/SP/0007 P380

**Oxford Archaeological Unit
19th September 1999**

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Prepared By: Date:	
Checked By: Date:	
Approved By: Position: Date:	

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**Oxford Archaeological Unit
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19th September 1999**

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1 INTRODUCTION

1.1 Location and specification

- 1.1.1 The Oxford Archaeological Unit was commissioned by Union Railways (South) Limited (URS) to undertake detailed archaeological investigation at the site of Waterloo Connection, Northfleet, Kent, located 0.5 km to the south of the Roman town at Springhead (*Vagniacae*) and 200 m to the south-west of the scheduled temple complex (SAM KE 198), part of which falls within the same arable field in the angle between Station Road and New Barn Road (Figure 1). This work formed part of an extensive programme of archaeological investigation carried out in advance of the construction of the CTRL.
- 1.1.2 The site is centred on URL grid point 41904 52098 and NGR grid point TQ 6190 7210. The site was specified as detailed excavation for the cemetery and strip, map and sample for the remainder. 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.
- 1.1.3 The present excavation is the second stage in a major programme of works that has resulted in the excavation of the entire area of a roadside cemetery of the 1st – 3rd centuries AD, associated with the Roman small town of Springhead (*Vagniacae*). The present report incorporates the results of all previous excavations, which will henceforth be considered as a single site.
- 1.1.4 In the Autumn/Winter of 1997 Oxford Archaeological Unit was commissioned by Pirelli Construction Company Ltd, to undertake a detailed watching brief on topsoil stripping operations during cable relay works for SEEBoard, to the south of the A2 (Watling Street) near Pepper Hill, Kent. A previously unrecorded Roman cemetery comprising inhumations and cremations was revealed (Figure 2). After several weeks work it became apparent that it would be impossible to complete the excavation of the whole cemetery within the easement width before the cable trench was due to be excavated in early January.
- 1.1.5 Following meetings with SEEBoard, KCC and RLE it was agreed that work should concentrate on clearing a 9 m wide working strip for laying the cable, and that work should also continue on the southern end of the cemetery. Initially it was believed that the remaining area of the cemetery to the north of the cable trench could be preserved *in situ*. OAU was therefore instructed to terminate any further work in that area, apart from completing the recording and lifting of burials already exposed. The area was then covered with geotextile and reburied.
- 1.1.6 Subsequently it became clear that the latter area would be affected by construction work for the CTRL and that complete excavation of the remainder of the cemetery would be required. OAU was commissioned by Union Railways (South) Limited to carry out this work between August 1998 and January 1999.

1.2 Geology and Topography

The geology of the area comprises sands and gravels overlying brickearth. The site slopes gently down from south to north, towards Watling Street and the Roman Town, and drops away sharply to the west of the cemetery. The site is located in a field used for arable agriculture.

1.3 Background

- 1.3.1 The discovery and excavation of the cemetery adds to a considerable and growing body of archaeological evidence relating to Springhead Roman town.
- 1.3.2 Evaluation in advance of CTRL construction works established the presence of part of the periphery of the Roman town. The remains appeared to date from the 1st and 2nd centuries AD, and no later. There was no obvious evidence for a pre-Roman phase within the area of study. Test pits within the nursery and close to the slip road from the A2 indicated that well-preserved stratigraphic sequences were present, although they were not affected by works for Contract 330. It appeared that the Victorian watercress industry had truncated archaeological deposits immediately adjacent to the Ebbsfleet river. Away from the river there was evidence of dry-stone building foundations stratified within colluvium and other archaeological deposits, though the majority of the evidence consisted of discrete archaeological features and deposits. Further concentrations of features have also been recorded on the higher ground to the north-east, which represent less dense activity of late Iron Age and Romano-British date. The evaluation recovered a large Roman pottery assemblage, and the indications were that other palaeo-economic and palaeo-environmental remains were well-preserved.
- 1.3.3 Roman burials have previously been recorded in small numbers around Springhead, including a number in a walled cemetery found in 1801 some 350 m to the north-east, at the junction of New Barn Road and Watling Street. Cremations and inhumations were located in 1921-2 in an area well to the south-east of the town.
- 1.3.4 For some years it has been known that a Roman road entered the Roman town of Springhead from a southerly direction. This road was located in both the 1994 OAU and 1994 KARU excavations to the north of and within the Garden Centre, to the south of Watling Street. The same road was located and recorded within the stripped easement for the Pirelli cable trench, although the road was on a different alignment and was here represented by a metalled surface within a hollow-way. The reason for the change in the alignment of the road remains to be established, but it is possible that it was avoiding pre-existing structures. This cemetery appears to be a good example of an urban cemetery flanking a main road, where it would be easily accessible but otherwise interfere least with agricultural and other domestic uses (Figure 2).

2 SUMMARY OF RESULTS

2.1 Site Summary (Figure 3)

- 2.1.1 Two phases of fieldwork were undertaken between 1st November 1997 and 15th January 1999, following the unexpected discovery of the cemetery during a watching brief on cable diversion works. The first phase of fieldwork revealed the southern part, the second phase the northern part, of a previously unknown Roman cemetery dating from the late 1st to the mid 3rd century AD.
- 2.1.2 The section of the CTRL route between the cemetery and the temple site to the north-east was subject to a strip, map and sample excavation, but contained little significant archaeology apart from a number of quarry pits. These were generally located close to the hollow way, extending northwards from the cemetery, and probably result from periodic maintenance of the road surface.

- 2.1.3 A small number of pits pre-date the cemetery and may be Iron Age in date. Some of these were sealed by a cobbled surface located on the northern edge of the cemetery. A ditch on a north-south alignment, containing a dense concentration of burnt flint, produced pottery of late Iron Age date and may bear no relationship to the cemetery.
- 2.1.4 The cemetery measured *c.* 76 m (north-west – south-east) by *c.* 23 m (north-east – south-west) and was located adjacent to a Roman road, which survived as a metalled hollow way and formed the south-eastern boundary of the cemetery. The surface of the road was metalled with coarse gravel and exhibited well defined wheel ruts. An enigmatic shaft- or well-type feature was located immediately to the east of the hollow way.
- 2.1.5 The cemetery was bounded to the north and west by a series of linear ditches and comprised approximately 326 inhumation graves and 235 cremation pits. Other features included stakeholes and postholes which may have served as grave markers. At least one group of postholes formed a fence line. A square pit containing a substantial circular post-pipe filled with charcoal may also have been a grave marker although it was cut through a complex sequence of graves.
- 2.1.6 The majority of inhumations were buried in wooden coffins which survived as coffin stains and were regularly associated with iron nails and coffin fittings including brackets. Many were accompanied by one or more pottery vessels. Other grave goods were occasionally present. Cremation deposits were generally contained within pottery vessels although wooden boxes and a casket were identified. Many of the cremation burials were also accompanied by accessory vessels and other grave goods. A number of cremations had been placed in organic containers without accompanying pots.
- 2.1.7 An interesting variation in the cremation rite was a group which showed signs of burning of the brickearth in and around the cremation pit, as though the remains were burnt *in situ* in the pit, or perhaps on a platform set above it. Published accounts of Roman pyre sites are uncommon although burning on the sides of a cremation pit is relatively easily detected in excavation. This may suggest that it was a genuinely unusual practice in Britain. The absence of an obvious Iron Age predecessor together with the relatively frequent association with military sites such as Petty Knowes, Beckfoot, Herd Hill, Riseholme and Derby Racecourse suggests that it is an intrusive rite in Roman Britain. Certainly it is a consistent feature of burial practice in extensive areas of the continent.
- 2.1.8 The density of activity within the cemetery area was extremely high and there was therefore marked intercutting of features. The lack of linear organisation is a noteworthy feature. Organisation of Roman cemeteries in a linear or ribbon arrangement alongside Roman roads is a common feature. While this may have been the case in an early phase of burial at Waterloo Connection, there is clear evidence of nucleation in subsequent phases. A similar sequence of events has been suggested for the Roman cemetery at St Bartholomew's Hospital, London.

2.2 Periods Represented

- 2.2.1 A small number of pits located at the northern edge of the cemetery are pre-Roman and may be late Iron Age in date (200 BC – 43 AD). A north-south aligned ditch may also pre-date the cemetery.
- 2.2.2 On present ceramic evidence the overall chronology of the group extends from the late 1st century AD up to about the mid 3rd century or possibly a little later, but there are very few vessels which need have been of 3rd century date. The majority of the coarseware forms are not sufficiently closely dateable, however, to allow the

relative chronology of many of the burials to be established without detailed study of the pottery in conjunction with the stratigraphic evidence. The majority of the burials of both types (cremation and inhumation) appear to date from the 2nd century AD. Pointers to this date range include the Samian ware, of which only one vessel (form 18) is likely to have been of later 1st century date rather than later. This vessel was associated with a typologically early flagon (the only vessel certainly in a (local) white-slipped fabric) in an inhumation grave. In terms of pottery dating, this is perhaps the earliest grave on the site. Not surprisingly the latest burial is also an inhumation, containing a tall, tapering indented beaker of 3rd century date.

- 2.2.3 Of eighteen coins recovered only three examples were from graves: Two are of 2nd century date (Faustina Senior c. 141 AD, Antoninus Pius, 138-161 AD). The third has been tentatively dated to the 4th century, but is unidentified and requires cleaning to establish the date. A coin of Commodus (180-192 AD) came from the final silting of the well/ shaft. The date range of the remaining Roman coins is somewhat later than the pottery, including several 3rd and 4th century examples, the latest being an issue of Magnentius (350-351 AD). However, this coin, along with five other 3rd - 4th century examples, was found in silts filling the hollow way, which tends to reinforce the picture of abandonment of the cemetery during the 3rd century. The presence of the coins suggests that the road probably continued in use during the first half of the 4th century, but as the hollow way was allowed to silt up, it cannot have been maintained and may have been used infrequently.

2.3 Feature Types

- 2.3.1 Approximately 326 inhumations and 235 cremations were revealed. The cemetery was bounded to the south-east by a hollow-way and to the north-west by a slot or fenceline. A cobbled surface located against the northern edge of the cemetery, which was respected by the burials, may conceivably have been a viewing platform for mourners or the footing for a shrine.
- 2.3.2 In addition a small number of other features were revealed, including several pits which appeared to contain dumps of pyre debris. This is not a common feature of Roman burial sites, although examples are known, including one from Snodland in Kent. Other pits showed signs of *in situ* burning. Although they are rare, similar features have been recorded at East Hill, Dartford. Also present was a well or shaft which may have had a ritual function. Some deep pits or shafts appear to have been used as depositories for offerings (eg. East Hill, Murston and Warbank, Keston), although there was no evidence for structured deposits in the Waterloo Connection example. A number of quarry pits found alongside the hollow way probably result from periodic resurfacing of the road.

2.4 Artefactual Remains

- 2.4.1 Approximately 628 pottery vessels, the majority of which were either complete or substantially so, were recovered. Otherwise the bulk of the artefactual material comprised nails and other coffin fittings. Other finds include 14 coins, traces of 36 sets of hobnailed footwear, a copper-alloy bell, a twisted armlet and iron ring, 20 copper alloy fibula and one large iron object, possibly a socketed tool. One inhumation contained part of a tinned copper-alloy mirror. A total of 81 beads were recovered from seven burials.

Pottery Vessels

- 2.4.2 A random sample of 114 vessels, both complete and fragmentary, (from a total of approximately 200 vessels excavated by 23rd December 1997) has been examined

briefly by Paul Booth of OAU in order to provide an interim characterisation of the pottery from the cemetery. Of these vessels, 43 came from 26 inhumation burials and 71 from 41 cremation burials.

- 2.4.3 Cremation 'urns' were the most common vessel type (31 of the 71 vessels from cremations), although a small number of cremations which contained pottery did not appear to have an 'urn'. These vessels, mainly standard jar forms, were almost all in local reduced (grey) fabrics, with two large examples in oxidised Patchgrove Ware. The most common accessory vessels were flagons or narrow necked flasks (11 examples), small jars or beakers (14 examples) and dishes (7 examples). The remaining vessels were additional jars (4), cups (3) and a bowl (Samian form 38).
- 2.4.4 The repertoire of forms in the inhumations showed less variety. With only two exceptions the standard types were flagon/flask (13 examples), small jar/beaker (14 examples) and 'dishes' (16 examples, including one straight-sided slightly flanged bowl). The exceptional types were a single jar (which may have been a substitute for a beaker, although larger than the types usually used for that function in these burials) and a Samian ware mortarium (form 45). All three main types were found together in only four graves, however, one of which was unusual in having three dishes (two of Samian ware).
- 2.4.5 The sources of the pottery are generally restricted. The majority of the vessels, in fairly fine reduced fabrics, are likely to have derived from the nearby North Kent/Thameside industries, though it is notable that black-burnished ware, a product of these industries from the early-mid 2nd century, is not used in the cemetery. Oxidised fabrics were generally only used for flagons and an occasional beaker. These, plus flagons in white ware and a white-slipped fabric, are also likely to be from sources within the region.
- 2.4.6 The principal imported vessels were those in Samian ware (12 vessels - forms 27, 46 (2), 18, 18/31-31 (5), 38, 45 and Ludowici Tg). It is notable that seven of these vessels were from inhumations (ie 27% of vessels from inhumations) while only five were from cremations (12% of such vessels). The only other probable import was a single fine ware beaker, in a dark colour-coated white fabric with roughcast decoration, probably a Cologne colour-coated ware.
- 2.4.7 The majority of the vessels are of fairly standard types, of which few require individual comment at this stage. A good range of flagon types is evident, however, and these vessels were much better represented than they would have been in a contemporary domestic assemblage. The most remarkable individual vessel was a small flask in an oxidised fabric of uncertain source. This vessel was tall and slender with a very narrow pedestal base. Unfortunately the rim is missing, but on present evidence the piece is unparalleled. Other notable vessels included a tall indented beaker in a reduced fabric (of late 2nd to mid 3rd century date), again with an unusually narrow base.
- 2.4.8 The principal characteristic of note, with regard to vessel types overall, relates to the use of one type as a substitute for another. Thus small jars in reduced fabrics were used as beakers (and the fact that only one fine ware beaker was present has significant implications either for the economic level of the individuals buried and/or for the status of the vessels incorporated within the graves). A more clear cut example of substitution can be seen in the case of a Samian ware mortarium from an inhumation. This was probably intended to represent a bowl or dish, as it is unlikely that the specific function of the mortarium was thought appropriate as a grave good.
- 2.4.9 Consideration was initially given to undertaking a pilot study to establish the presence of organic residues within the pottery vessels. Since doubts were raised

over the statistical validity of such a sample it has been decided to retain unwashed sherds from a large sample of vessels, where appropriate. No immediate programme of work is planned, but by retaining these sherds it will ensure that a programme of work can be undertaken in the future.

- 2.4.10 While no significant Roman funerary assemblage has been examined to date, the analysis of 131 vessels (210) sherds from the Stanwick Roman site in Northamptonshire, constitutes the largest scale study of organic residues in Roman domestic pottery. If the Waterloo Connection assemblage were studied in the same way, the Stanwick assemblage would provide a base-line for comparative assessment.
- 2.4.11 Alternatively, a better approach would be to collect unwashed sherds of identical vessel forms and fabrics during the future archaeological mitigation of domestic deposits at Springhead, and subject these to a similar study.

2.5 Palaeo-environmental and Economic Evidence

Substantial quantities of charcoal were recovered from many of the cremation burials. The analysis of the charcoal has the potential to illuminate our understanding of pyre technology as well as providing an indication of the woodland cover in the vicinity of the cemetery during the period of the use of the cemetery.

3 FIELDWORK EVENT AIMS

3.1 Landscape Zone Priorities

- 3.1.1 A number of research aims were identified prior to the fieldwork, within the framework of the CTRL research strategy. They include the following themes:

- The effects of 'urban' growth and decline at Springhead, and the adoption of Roman ways and organisation in general.
- The immediate pre-Roman/ early Roman urban-rural landscape.
- Roman burial and ceremonial use in the environs of Springhead.

3.2 Primary Aims

- To establish the origins and decline of the Roman settlement.
- To recover the plan and a dated occupation sequence for all phases of that section of the Roman settlement (including the rural-urban fringe and immediate hinterland) affected by the CTRL, to further the understanding of the extent and character of the core Roman settlement, its interaction with its immediate environs, and changes through time.
- To recover artefact assemblages (especially pottery) to elucidate the sequence of site development; provide information on trade and exchange within the local, regional and international economy, and the status and economy of the settlement.
- To determine the origins and decline of urban functions within the settlement.
- To recover other palaeo-economic indicators known to be well preserved: (eg. animal bone, molluscs, charred plant remains) to establish the fullest possible picture of the urban economy.

- To recover palaeo-environmental indicators to elucidate the interaction of the town within the local environment.
- To establish the chronology of the cemetery.
- To establish the spatial development of the cemetery as far as possible within the area of investigation.
- To establish whether spatial variations exist within the cemetery in relation to burial practice.
- To recover data for palaeo-demographic and palaeo-pathological analysis.
- To establish the nature and distribution of structural features located within the cemetery.
- To identify ancillary features associated with specific burial practices.
- To establish the nature and date of occupation pre-dating the cemetery
- To determine the nature and date of activity and land utilisation, other than that directly forming part of the cemetery, associated with the Roman town of Springhead.

3.3 Relevance of Fieldwork Event Aims

- 3.3.1 Many of the original research objectives anticipated the discovery of traces of settlement occupation on the outskirts of the Roman town of Springhead, which was not forthcoming. Nevertheless the cemetery evidence alone, as a direct reflection of town's population, can be used to address many of these objectives.
- 3.3.2 The cemetery spans the period from the 1st to the 3rd century (*c.* 43 AD – *c.* 250 AD) and thus reflects archaeological evidence for the main period of growth at Springhead Roman town. The scarcity of 3rd century activity, and absence of 4th century activity within the cemetery is noteworthy, as there is growing evidence for a general decline on a wide range of sites within Kent, and elsewhere in south-east England, perhaps starting in the early to mid 3rd century AD. This is in marked contrast to other regions, such as Oxfordshire and Gloucestershire, which show signs of recovery and development, particularly in the early 4th century AD.
- 3.3.3 Only very limited evidence of pre-Roman activity, in the form of a small number of pits and a ditch was revealed, so little can be said about the immediate pre-Roman period. The cemetery itself dates from the immediate post-Conquest period.
- 3.3.4 The analysis of the cemetery will provide significant data on the ceremonial use of the landscape around the Roman town and, as a reflection of the status, customs and beliefs of town's population, will contribute substantially to our understanding of the nature of the settlement.
- 3.3.5 All of the primary aims relating to the date, nature and composition of the cemetery have been addressed and the data recovered has the potential to fulfil all of them, with the possible exception of palaeo-economic and palaeo-environmental categories.

4 SUMMARY OF POTENTIAL

4.1 The Inhumations

- 4.1.1 The potential for further detailed analysis of the surviving inhumations is extremely limited, because of the very poor level of preservation. It will nevertheless be possible, where skeletal material survives, to provide broad assessments of age (adult/sub-adult) and, in some cases, sex.
- 4.1.2 The majority of graves contained no bone. In a small number, traces of body stains were recovered. Where bone did survive one or more of the following were present: skull, mandible, dentition and long bone (generally femur, although in a small number of cases fragments of upper limb were present).

4.2 The Cremations

- 4.2.1 It is difficult to be precise about the potential for further detailed analysis of the deposits of cremated bone as only a single example has so far been assessed. Preservation of the cremated bone was good and fragments were generally quite substantial and easily recognisable. The only exceptions are those that have been disturbed by later activity. However, given the excellent level of preservation, the size of the sample, and preliminary results from the excavation of the contents of a single pottery vessel, it can be safely assumed that the potential is very high.
- 4.2.2 A single complete vessel was initially excavated and analysed by the OAU osteologist Angela Boyle. Clear evidence of structured deposition was recovered, indicating that the bone was sorted into body parts prior to deposition within the vessel. Evidence for structured deposition of cremated bone is very rare, but a recent example has been published from a cemetery at Caerleon. The occurrence of structured deposition has implications for the study of pyre technology and ritual. All of the remaining intact cremation deposits have now been excavated in 20 mm spits, in order to allow detailed study of structured deposition, although the results have yet to be analysed. All cremation pit fills have been subject to 100% sampling for flotation and wet sieving, the results of which may provide further evidence of post-pyre activity and ritual. The level of preservation also indicates that it will be possible to provide detailed osteological information relating to the cremation deposits.
- 4.2.3 The *in situ* cremations are a particularly interesting variation of the burial rite. Burials burnt within or over the same pit that was subsequently used for the burial of the ashes were known as *bustum* burials. They are not common in Roman Britain and their analysis is likely to aid our understanding of the Romano-British cremation rite. A small number of other examples are known in the south-east including one from East Hill, Dartford and one from Silchester.

4.3 Coffin Construction and Other Burial Types

- 4.3.1 A number of graves exhibited evidence of wooden coffins, based on the survival of iron coffin nails. However, some contained less than 6 nails each and some of these nails may not have been *in situ*, rather resulted from the disturbance of earlier graves containing coffins. The majority of the coffin nails appear to be *in situ* and over 900 individual nails have been given object numbers, three-dimensionally recorded and separately bagged. An analysis of nail sizes and types must await detailed

examination and X-raying. Some coffins were, however, very substantial and held together with coffin nails up to 150 mm long.

- 4.3.2 Numbers of nails vary considerably, possibly reflecting differing constructional techniques. Many of the nails exhibit clear evidence of wood grain in the corrosion product. Future detailed examination of the nails in conjunction with the detailed three-dimensional recording will allow timber thicknesses, coffin types/dimensions and constructional details to be identified.
- 4.3.3 The field records and plans demonstrate that both rectangular and tapering wooden coffins were used. In a significant number of examples nails pointing downwards (ie. lid nails) have been recorded. Lid nails have only rarely been recorded in comparable assemblages (eg. at Lankhills, Winchester).
- 4.3.4 In several instances the timber of the coffins survived as a shadow. There are also a number of examples where the dimensions of the coffin (c. 2.5 x 0.55 m) and the nail configuration suggests that there was a separate compartment at one end of the coffin for grave goods, similar to an example excavated at Kelvedon in Essex. A small number of coffins may also have contained boxes for grave goods.
- 4.3.5 Apart from coffin nails there are relatively few structural fittings. These include corner brackets, although no significant number has been found in any single grave, suggesting that they may have been used sparingly to strengthen coffins, rather than as a primary construction method.

4.4 Casket and Box Burials

- 4.4.1 One certain casket burial has been excavated, associated with a Samian form 27 bowl and a deposit of cremated bone. The copper alloy lock plate is decorated with eight lion-headed studs and a substantial part of the iron locking mechanism also survives. The associated small iron nails indicate how thin the wood of the casket would have been. Casket burials are still relatively rare, with less than 40 known in Britain.
- 4.4.2 Three further cremations in square or rectangular pits are likely to have been box-burials where the box was larger and undecorated.
- 4.4.3 Two inhumations also appear to contain small wooden boxes held together with nails. In both instances they had been placed in the coffin and may have contained hob-nailed footwear. One box may have had a copper alloy drop handle.

4.5 Associated Grave Goods

- 4.5.1 Apart from the cremations and inhumations furnished with pottery vessels, relatively few burials of either type were furnished with other grave goods. At least 36 burials (including cremations) contained hobnailed footwear. One cremation contained a possible copper-alloy bell, twisted armlet and iron ring, another a copper alloy fibula and one a large iron object - possibly a socketed tool. A further 19 fibulae were recovered from a variety of contexts. One inhumation contained part of a tinned copper-alloy mirror. A total of 81 beads were recovered from seven burials. There were three finger rings and 14 coins, although very few of the latter were from graves. Many other graves contained miscellaneous iron objects, none of which are currently identifiable and may be related to the coffin construction. The disposition of grave goods within burials, their association with pottery vessels and nailed coffins requires further detailed assessment, beyond the scope of this document.

- 4.5.2 The pottery assemblage is a large one and will aid in our understanding of site chronology and development as well as illuminating our understanding of local and regional trade and exchange. The assemblage will be important at a regional level for clarifying chronological aspects of ceramic development in Kent. Although the majority of vessels are fairly standard types there is a good range of flagon types and at least one as yet unparalleled vessel has been identified.

4.6 The Relationship of the Cemetery to the Roman 'Small Town'

- 4.6.1 A number of burials have been recovered in and around Springhead. These include a walled Roman burial ground destroyed during construction of the Northfleet switching station. Two burials were observed north of Watling Street in 1963. Excavation of a pipe trench for SEEBord by OAU in 1994 revealed further settlement activity including a metalled road and a small number of neo-natal burials. During excavations at the Garden Centre, a continuation of the Roman settlement was revealed and most pertinently here, a small enclosed cemetery and a continuation of the metalled road. The road was repaired over a period of at least a century and was clearly of some significance. The excavation at Waterloo Connection has demonstrated that this same road served the cemetery and areas beyond.
- 4.6.2 All of the usual questions relating to spatial, social and chronological patterning, together with detailed assessment of the inter- and intra-site traits and relationships of individual group contents might be posed of the existing evidence. However, in addition to these there is clear potential for further detailed analysis of other more specific aspects, such as Roman coffin construction, structured cremation burials and the contents of the pottery vessels associated with both cremations and inhumations which may survive as organic residues.
- 4.6.3 Perhaps one of the most interesting aspects of this cemetery is the relationship of the two distinct burial rites, as carried out by the same social group. Rarely does the opportunity arise to examine the transitional period of burials on the same site. The relatively high incidence of burials of both rites containing pottery vessels, together with the frequent stratigraphic relationships which can be firmly established, should provide an ideal opportunity to examine the development of burial customs over time.
- 4.6.4 The results of the archaeological investigation reflect and relate particularly well to the fieldwork event aims as specified in section 3.
- 4.6.5 The cemetery is clearly related to the Roman 'small town' of Springhead and can therefore illuminate both the growth and decline of the latter. In addition it adds significantly to the developing picture of the regional Romano-British landscape. The analysis of the cemetery is certain to add greatly to our knowledge of burial and ceremonial practice in the Springhead environs.
- 4.6.6 There is no evidence for 4th century activity at the cemetery and this is likely to be of some significance, although the possibility that a separate 4th century cemetery remains to be discovered elsewhere in the vicinity of Springhead cannot be discounted. There is mounting evidence for a decline in activity during the 3rd and 4th centuries in Kent and elsewhere in the south-east, which has also been seen at Thurnham Roman villa and at the roadside settlement at Westhawk Farm, near Ashford, currently under excavation. Evidence for decline in activity during the 4th century within the town of Springhead itself has been noted and it has been described during this period as little more than an agricultural village.

- 4.6.7 Although there are substantial numbers of Roman burials known in Kent and the south-east, many of the discoveries were made in the 19th and early 20th century and relatively few have been published. In addition, very few cemeteries relating to small towns have been excavated in their entirety anywhere in the country, and none are on this scale. The cemetery at Waterloo Connection is therefore of considerable importance both locally and regionally. The slightly unusual nature of the cemetery, ie. nucleated rather than linear, and the interrelationship between inhumations and cremations, as well as its relationship to a Roman 'small town' ensures that it also has considerable national significance. The obvious comparison for this cemetery is Ospringe, Kent with a total of 387 excavated cremations and inhumations. The chronological range, mixed rite and range of grave goods are comparable, but the excavations are old and the settlement context is not clear.

APPENDIX 1**ARCHIVE INDEX****PHASE 1 (ARC_PHL_97)**

ITEM	NUMBER OF ITEMS	NUMBER OF FRAGMENTS	CONDITION (No. of items) (W=washed; UW=unwashed; M=marked; P=processed; UP=unprocessed; D=digitised; I=indexed)
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	W, M
Pottery (boxes)	23 size 1 29 size 2 22 size 3 1 size 4 38 size 7 1 size 8	9800	W, M
Fired clay (boxes)	1 size 1	29	W, M
CBM (boxes)			
Stone (boxes)	1 size 4	215	W, M
Silver			
Copper alloy	1 plastic size 8 1 plastic size 4	18	P
Iron	29 plastic size 8 1 plastic size 4		P
Lead	1 plastic size 8	2	P
Slag (boxes)	1 size 4	2	P
Shell	See Misc.	3	P
Human bone (boxes)	12 size 1 6 size 2 1 size 7	-	W, M
Bone	1 size 3	81	W, M
Glass	1 plastic size 4	7	P
Samples (number of 10 litre boxes)			
Contexts sampled	90		50 P, 40 UP

PHASE 2 (ARC_NBR_98)

ITEM	NUMBER OF ITEMS	NUMBER OF FRAGMENTS	CONDITION (No. of items) (W=washed; UW=unwashed; M=marked; P=processed; UP=unprocessed; D=digitised; I=indexed)
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	866	W, M
Burnt flint (boxes)	2 size 3	272	P
Pottery (boxes)	15 size 1 49 size 2 16 size 3 34 size 7	19395	W, M
Fired clay (boxes)	2 size 1 1 size 2	3595	W, M
CBM (boxes)	1 size 3	21	W, M
Stone (boxes)	1 size 4	10	W, M
Silver	1 plastic size 4	1	P
Copper alloy	2 plastic size 8 1 plastic size 4	63	P
Iron	31 plastic size 8	3300	P
Lead	1 plastic size 4	2	P
Slag (boxes)	1 size 4	17	P
Human bone (boxes)	1 size 1 19 size 2 5 size 3 1 size 7	2764	W, M
Human cremations/ residues	14 size 1 1 size 2 2 size 3	-	P
Bone	1 size 3	377	W, M
Glass	1 plastic size 4	190	P
Samples (number of 10 litre boxes)			
Contexts sampled	460		P

Key to box sizes

Cardboard boxes

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

Plastic boxes

Size 4 = Small	(dimensions as size 4 cardboard)
Size 8 = Medium	260mm x 184mm x 108mm

APPENDIX 2

SUMMARY REPORT

Waterloo Connection/ Pepper Hill, Kent (TQ 6190 7210)

The Oxford Archaeological Unit carried out a detailed archaeological investigation at the site of Waterloo Connection, Northfleet, Kent, located 0.5 km to the south of the Roman small town at Springhead, on behalf of Union Railways (South) Limited (URS). Two phases of fieldwork were undertaken between 1st November 1997 and 15th January 1999, following the unexpected discovery of the cemetery during a watching brief on cable diversion works. The first phase of fieldwork revealed the southern part, the second phase the northern part, of a previously unknown Roman cemetery dating from the late 1st to the mid 3rd century AD. The later prehistoric period was represented by a small number of pits of possible Iron Age date and a linear ditch which contained a large quantity of burnt flint.

The cemetery comprised 326 inhumations and 235 cremations and was bounded to the south-east by a hollow way and to the north-west by a slot/fenceline. The remaining boundaries comprised a series of linear ditches. In addition a small number of other features were revealed. These included pits containing dumps of pyre debris, a possible ritual shaft or well and a cobbled surface of uncertain function. There was also evidence for *in situ* burning of cremations.

Preservation of the inhumations was poor: Many survived only as body stains and a number of graves appeared empty as the bone had decayed completely. In contrast the cremated bone was well preserved and fragments were generally substantial and easily recognisable. Limited evidence has already been recovered for structured deposition of bone within vessels, indicating that the bone was sorted into body parts prior to deposition.

Many inhumations had been buried within wooden coffins which were represented by nails and other fittings as well as wood stains. Cremations were generally contained within pottery vessels and regularly accompanied by at least one other accessory vessel.

With the exception of pottery vessels (over 600 complete vessels) grave goods were few. They included coins, hobnailed boots, brooches, glass beads, bracelets and finger rings. A single mirror fragment was also identified.

The few coins recovered included several 3rd-4th century examples, the latest being an issue of Magnentius (350-351 AD). However most of the coins, including all of the definite 3rd and 4th century examples, were recovered from the topsoil or silts filling the hollow way, which tends to reinforce the picture of abandonment of the cemetery during the 3rd century.

APPENDIX 3

SMR SHEET

Site Name: Waterloo Connection/ Pepper Hill			
<p>Summary: The investigation uncovered evidence for a Romano-British cemetery spanning the 1st to the 3rd century AD. A few probable later prehistoric features were also identified. The cemetery comprises approximately 326 inhumation graves and 235 cremation deposits. Other features include stake holes and postholes which may served as grave markers, a large, enigmatic shaft or well and a rectilinear cobbled surface. At least one group of postholes formed a fence line. A square pit containing a substantial circular post-pipe, filled with charcoal, may also have been a grave marker although it was cut through a complex sequence of graves. The majority of inhumations were buried in wooden coffins which survived as coffin stains and were regularly associated with iron nails and coffin fittings including brackets. Many were accompanied by one or more pottery vessels. Other grave goods were occasionally present. Cremation deposits were generally contained within pottery vessels although wooden boxes and a casket were identified. Many of the cremation deposits were also accompanied by accessory vessels and other grave goods. A number had been placed in organic containers without accompanying pots.</p>			
District:		Parish: Northfleet	
Period(s):			
1. Iron Age		2. Romano-British	
NGR Easting: TQ 6190		NGR Northing: 7210	
<p>Type of Recording: Evaluation Watching Brief Field Walking</p> <p>(Delete) Excavation Geophysical Survey Measured Survey</p>			
Date of Recording: (From) 1/11/97 (To) 15/1/99			
Unit Undertaking Recording: Oxford Archaeological Unit			
<p>Summary of Fieldwork Results:</p> <p>The Oxford Archaeological Unit detailed archaeological investigation at the site of Waterloo Connection located 0.5 km to the south of the Roman small town at Springhead on behalf of Union Railways (South) Limited (URS). Two phases of fieldwork were undertaken between 1/11/1997 and 15/1/1999, following the unexpected discovery of the cemetery during a watching brief on cable diversion works. The first phase of fieldwork revealed the southern part, the second phase the northern part, of a previously unknown Roman cemetery dating between the late 1st and the mid 3rd century AD. The later prehistoric period was represented by a small number of pits of possible Iron Age date and a linear ditch which contained a large quantity of burnt flint.</p> <p>The cemetery comprised 326 inhumations and 235 cremations and was bounded to the south-east by a hollow way and to the north-west by a slot/fenceline. The remaining boundaries comprised a series of linear ditches. In addition a small number of other features were revealed. These included pits containing dumps of pyre debris, a possible ritual shaft or well and a cobbled surface of uncertain function. There was also evidence for in situ burning of cremations.</p> <p>Preservation of the inhumations was poor: Many survived only as body stains and a number of graves appeared empty as the bone had decayed completely. In contrast the cremated bone was well preserved and fragments were generally substantial and easily recognisable. Limited evidence has already been recovered for structured deposition of bone within vessels, indicating that the bone was sorted into body parts prior to deposition.</p> <p>Many inhumations had been buried within wooden coffins which were represented by nails and other</p>			

fittings as well as wood stains. Cremations were generally contained within pottery vessels and regularly accompanied by at least one other accessory vessel.

With the exception of pottery vessels (over 600) grave goods were few. They included, hobnailed boots, brooches, glass beads, bracelets and finger rings. A single mirror fragment was also identified. The few coins recovered included several 3rd-4th century examples, the latest being an issue of Magnentius (350-351 AD). However most of the coins, including all of the definite 3rd and 4th century examples, were recovered from the topsoil or silts filling the hollow way, which tends to reinforce the picture of abandonment of the cemetery during the 3rd century.

Location of Archive / Finds:

Bibliography:

Summary Compiler: Angela Boyle

Date: 5/8/99