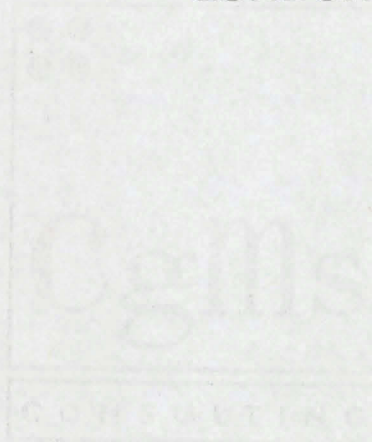




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ARCHAEOLOGICAL EVALUATION

FORMER QUEEN MARY'S
HOSPITAL
CARSHALTON
LONDON



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OCTOBER 2008

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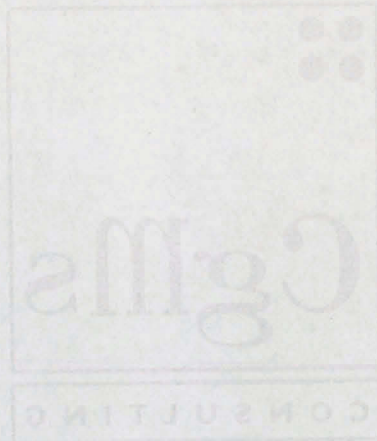
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CARSHALTON, LONDON

Archaeological Evaluation Report

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Figure 2	Possible Bronze Age ditch 704.
Figure 3	Romano-British features in Trench 6.
Plate 1	Typical section through one of the modern parallel cuts 1804. Looking to the south.
Back cover	Roman burial of horse skull in pit 609. Looking to the south-west.

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Archaeological Evaluation Report

Summary

Wessex Archaeology was commissioned by CgMs Consulting to undertake an archaeological evaluation in August 2008 in advance of proposed redevelopment of the western part of the former Queen Mary's Hospital at Carshalton in south London, centred on NGR 527770 162440.

The evaluation comprised the excavation and recording of 15 trial trenches located in the hospital grounds and were mostly positioned between the existing buildings. Of the 19 trenches originally proposed, 4 trenches could not be excavated due to site constraints.

Archaeological features comprising ditches and a pit containing a horses head of Romano-British date were found on the eastern edge of the Site in Trench 6 and would suggest a degree of settlement activity in the Early Roman period on the Site. To the west of Trench 6, a probable Bronze Age ditch, partially exposed in Trench 7 may be associated with the Scheduled Bronze Age enclosure (SM163) to the south-east.

Trenches 15 and 18 dug in garden areas in the north-west of the Site both revealed a series of closely spaced parallel features interpreted as possible planting trenches used to increase food production in one of the World Wars.

Some truncation and modern landscaping of the Site is evident and has led to the natural degraded chalk being directly below the topsoil in some areas, however, in the higher south-east corner of the Site adjacent to the Late Bronze Age enclosure (SM 163) the chalk was capped by more than half a metre of Thanet Sand.

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Archaeological Evaluation Report

Acknowledgements

Wessex Archaeology would like to thank Mr Duncan Hawkins of CgMs Consulting who commissioned the project. Diane Walls of the Greater London Archaeological Advisory Service monitored the work on behalf of the Local Planning Authority.

This fieldwork was carried out by David Godden, Matt Kendall, Martin Harrison and Georgina Cox. The pottery was assessed by Lorraine Mephram, the environmental samples by Dr Ruth Pelling and the animal bone by Jessica Grimm. Linda Coleman prepared the figures and David Godden compiled this report. The project was managed by Sue Farr.

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Archaeological Evaluation Report

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Wessex Archaeology was commissioned by Mr Duncan Hawkins of CgMs Consulting to undertake an archaeological evaluation in advance of proposed redevelopment of part of the former Queen Mary's Hospital at Carshalton (hereafter the Site). A Specification for the Archaeological Evaluation was prepared by Wessex Archaeology in July 2008.
- 1.1.2 The principal aim of the evaluation was to identify any archaeological remains which may be impacted by the proposed development, and to assess their nature, form and date.
- 1.1.3 The fieldwork for the archaeological evaluation was undertaken between the 12th and 22nd of August 2008.

1.2 Site Location and Description

- 1.2.1 The Site covered the western part of the grounds of the former Queen Mary's Hospital at Carshalton in south London and consisted of an irregular parcel of land measuring approximately 500 by 250 metres and of 12 hectares in area. It was centred on National Grid Reference (NGR) 527770 162440 (**Figure 1**).
- 1.2.2 The Site was approximately bounded by Fountain Drive to the north, Wellfield Plantation to the north-west, Damson Way to the west, the Diamond Riding Centre to the south and by residential properties to the east.
- 1.2.3 The topography of the Site, although locally modified by landscaping, was highest in the south and east where it was approximately 100m above Ordnance Datum (aOD). It sloped down to the north and west where it was approximately 92m aOD.
- 1.2.4 The Site was located on Cretaceous Upper Chalk with a local cap of Thanet Sand drift deposits (Geological Map of Great Britain, Sheet 2) in the south-east corner of the Site forming the hilltop on which the Late Bronze Age enclosure is situated.
- 1.2.5 At the time of the evaluation, the Site was covered by the dispersed layout of the 19th century brick buildings of the former isolation hospital. These buildings were set in grounds of grass and mature trees.

2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 2.1.1 The Site lies to the north of a Late Bronze Age enclosure, which is one of the largest of the known Late Bronze Age circular enclosures in south-east England (**Figure 1**). The enclosure is a Scheduled Monument (SM 163).
- 2.1.2 Excavations of the Late Bronze Age enclosure were carried out during the first half of the 20th century (Robarts 1905, 1909, 1910; Lowther 1944-5) and were reassessed in 1985 (Adkins and Needham). The enclosure appears to have been circular in shape, 150m in diameter and defined by a single ditch.

The 'V'-shaped ditch was 3.6m wide and survived in places to a depth of up to 2.1m.

- 2.1.3 Deposits of chalk blocks and flint nodules within the lower fills of some of the excavated ditch segments have been interpreted as the remains of a collapsed revetment from the internal bank (Lowther 1944-5, 58-9). The chalk appears to have been extracted from the slopes of the hill below the enclosure since the enclosure ditch, where examined, only cut through the overlying Thanet Sand. Little archaeological work has been carried out within the enclosure, but similar excavated sites have revealed one or two, large post-built circular buildings. The small number of buildings commonly found within Late Bronze Age enclosures has prompted speculation that settlement was predominantly located in the extra-mural area.
- 2.1.4 Excavations within the eastern part of the former Queen Mary's Hospital revealed two prehistoric north-south aligned intercutting ditches with large pits at their northern ends and a large Iron Age pit (Tucker 1989).
- 2.1.5 Further excavations within the eastern part of the former Queen Mary's Hospital undertaken in 1999 (WA 46156) revealed two chalk quarry pits and a smaller pit approximately 30m to the east of Trench 5 of the present evaluation (**Figure 1**). They are all thought to be Late Bronze Age in origin, and appear to be associated with the nearby enclosure. The pit contained both Late Bronze Age pottery and a fragment of a characteristic Late Bronze Age perforated fired clay slab. Small quantities of Late Bronze Age pottery were recovered from the lower fills of the smaller of the quarries. This was 7m long and more than 3.5m deep. The lower fills of the other 10m long quarry were not excavated and it was therefore not securely dated. However, its similarity to the other quarry pits suggests that it is also Late Bronze Age in date. The quarries contained Late Iron Age, Early and Late Roman, Saxon and Medieval sherds in their upper fills.
- 2.1.6 A small excavation within the ring of the Late Bronze Age enclosure took place in later 1999 (WA 46151). This was approximately 20m to the south-east of the present Site boundary. A Late Bronze Age pit was revealed.

3 METHODOLOGY

3.1 Health and Safety

- 3.1.1 All work was carried out in accordance with the Health and safety at Work Act 1974 and the Management of Health and Safety Regulations 1992. A Health and Safety Risk assessment was produced by Wessex Archaeology prior to the commencement of the evaluation.

3.2 Fieldwork

- 3.2.1 A total of 15 trenches were excavated. They were positioned to avoid obstructions such as fences, services and existing trees. 19 trenches were originally planned but Trenches 1 and 15 were abandoned as no suitable positions could be found. Proposed Trenches 16 and 17 were found to be lying over large former water storage tanks and building foundations and so could not be excavated.
- 3.2.2 The trenches were opened, under constant archaeological supervision, by either a 360° tyred excavator or a 360° tracked excavator. Both were fitted with toothless grading buckets. The trenches were excavated down to either

archaeological deposits or to the top of the undisturbed natural geology, whichever was encountered first.

- 3.2.3 All trench areas were surrounded by Heras fencing panels before the machine excavation commenced. The spoil was placed on plastic sheeting.
- 3.2.4 The excavated spoil was inspected for finds and all features or potential features were investigated by hand.
- 3.2.5 The recording was undertaken using Wessex Archaeology pro forma recording sheets. A series of digital photographs were taken.
- 3.2.6 Trench locations were surveyed using a GPS SmartNet Rover and tied in the Ordnance Survey National Grid. This recorded the outlines of the trenches, the outlines of the features and the positions of each section. Trenches 18 and 19 were planned on paper as the GPS survey equipment would not work due to the density of trees. These plans were later added to the digital survey.
- 3.2.7 Subsequent to completion of the archaeological investigations, the trenches were backfilled by machine. Re-turfing with the original set-aside turf was attempted in Trenches 15, 18 and 19.

4 RESULTS

4.1 Soils and Geology

- 4.1.1 The natural stratigraphic sequence was uncertain as there had been extensive landscaping over the Site. The sequence found was generally as follows:
 - Turf and topsoil.
 - Subsoil. Often truncated.
 - Natural degraded chalk with bands of mid brown clay.
- 4.1.2 In the area of Trenches 6, 7 and 8, which were sited towards the top of the hill in the south-east of the Site, there was a 0.5m capping of Thanet Sand lying over the natural chalk.
- 4.1.3 Of the 15 trenches excavated, a number contained geological anomalies; rapid excavation showed the anomalies were not archaeological in origin but evidence of periglacial activity and were not recorded. As a result of seasonal thawing and freezing of permafrost, scarring occurs to the natural geology which subsequently rapidly fills with material from surrounding soils. This results in the irregular formations/solution hollows within the natural geology.

4.2 Archaeological Remains

Bronze Age (2400-700 BC)

- 4.2.1 A large ditch **704**, aligned west-south-west to east-north-east, was exposed in Trench 7 (**Figure 2**). There were indications that it may have been curving slightly towards the south. Only the southern edge of a 10m long section was exposed, but the ditch appeared to be 4m wide and approximately 0.9m deep with shallow-sloping irregular sides and base. The base was cut down into the natural chalk. Although a small quantity of Romano-British pottery was recovered from its upper fill **707**, this may have been intrusive. Indeed, given the size of the ditch and its proximity to the large Late Bronze Age enclosure at the top of the hill, coupled with a quantity of burnt flint collected from its fills, it may originally have been dug in the Bronze Age.

Roman features (AD 43-410)

- 4.2.2 A south-west to north-east aligned ditch **604** was exposed in Trench 6 (**Figure 3**) and bisected the trench. It was 0.7m deep with moderate-sloping concave sides and a concave base. A drainage ditch on such sandy well drained soil is unlikely and the ditch is tentatively interpreted as a boundary marker.
- 4.2.3 Another Romano-British ditch **612** seemed to cut ditch **604** although the stratigraphic relationship was difficult to confidently determine. This later ditch, which had a more curving course, may have been a re-cut of **604** however this could not be established within the confines of the evaluation trench.
- 4.2.4 A small oval pit **609** was revealed just to the south-east of ditch **612**. It measured 0.90m by 0.65m and was approximately 0.30m deep. It contained a fragmented horses skull and a small quantity of worked flint.

Modern (after AD 1800)

- 4.2.5 A series of closely spaced parallel cuts **1804** were revealed in both Trench 15 and Trench 18 (**Plate 1**). Both trenches were dug in modern gardens. They were aligned north to south in both trenches. The cuts were 0.6m wide and 0.25m deep with steep-sloping sides and flat bases. The cuts had an average of 0.2m separation between them and appeared to have been hand-dug. Their mid-greyish brown fills were paler than the present-day topsoil and contained very occasional fragments of modern pottery. The features may have been agricultural in origin, perhaps for growing food in one of the World Wars
- 4.2.6 A linear feature noted in Trench 5 was investigated but found to relate to a modern service containing a lead pipe and not recorded.

4.3 Tree Throws

- 4.3.1 Tree throws noted in Trenches 11-13 were investigated but not recorded. The tree throws were irregular in plan with concave sides and a shallow irregular base. They all contained single fills, derived from gradually silting subsoils. No archaeological components were recovered from within the fills.

5 FINDS

- 5.1.1 The evaluation produced a small quantity of finds in a limited range of material types. The assemblage is largely of Romano-British date, with a small amount of prehistoric material. All finds have been quantified by material type within each context, and the results are presented in **Table 1**.

5.2 Pottery

- 5.2.1 Two sherds, both from topsoil in Trench 10, have been identified as later prehistoric. Both are base sherds, probably from the same vessel, and are in a moderately coarse fabric with sparse, calcined flint inclusions. The fabric, and the concentration of calcined flint on the underside of the base, are characteristic of the post-Deverel-Rimbury ceramic tradition of the Late Bronze Age/Early Iron Age; these sherds cannot be placed any more closely within that broad date range.
- 5.2.2 The remaining sherds are all of Romano-British date, and consist largely of coarse greywares, oxidised wares and grog-tempered wares. There are also three sherds of Spanish Dressel 20 amphora (1st to 3rd century AD). There are

no diagnostic sherds amongst these wares, but one bead rim in a coarse, shelly fabric (lower fill **605** in ditch **604**) and a lid seated bead rim jar in Verulamium region whiteware (ditch **704**) suggest a date range in the later 1st or early 2nd century AD. Ditch **612** can only be broadly dated as Romano-British.

5.3 Worked and Burnt Flint

5.3.1 Three worked flints were recovered from pit **609**; one is bladelike but cannot necessarily be taken as an indication of an early prehistoric date. A large, worn flint pebble also came from this feature, but showed no signs of working or utilisation, and has been discarded.

5.3.2 Just under 2kg of burnt, unworked flint was found in ditch **704**, mostly from the lowest fill. This material type, although intrinsically undatable, is often taken as an indicator of prehistoric activity. In this instance, however, pottery from the lower fill in the ditch indicates an early Roman date.

5.4 Animal Bone

5.4.1 Well preserved animal bone was present for ditch **604** (upper fill **608**), pit **609** and ditch **704**. A total of three horse bones, two cattle bones and four sheep/goat bones could be identified. Of interest was the fragmented horse skull in pit **609**. According to crown height its age at death was between 5-9.25 years (Levine 1982). The wear pattern on the upper incisors suggests an age of about 7 years. Wolves' teeth ('extra' teeth which grow in front of the normal teeth) were present on both sides. As they were placed immediately against the second premolar, they probably would not have irritated the horse when using a bit.

5.5 Other Finds

5.5.1 Other finds comprise one piece of undiagnostic fired clay (ditch **604**), two small pieces of ironworking slag (ditch **604**), a small piece of square-sectioned copper alloy rod, of unknown function (ditch **704**), and a modern copper alloy button with the embossed legend "OUR OWN MAKE" (modern cut **1804**).

Table 1: All finds by context (number/weight in grammes)

Context	Feature	Animal Bone	Burnt Flint	Pottery	Other Finds
605	604			13/127	1 slag
608	604	9/60		15/285	1 slag
610	609	122/3305		5/49	3 worked flint; 1 unworked flint
613	612			9/98	
615	604			9/155	1 fired clay
616	604			2/10	
705	704		22/1500		1 copper alloy
706	704		5/135		
707	704	26/157	5/343	2/19	
1001	Topsoil			2/15	
1805	1804				1 copper alloy
		157/3522	32/1978	57/758	

6 ENVIRONMENTAL

6.1.1 Four bulk samples were taken from archaeological features encountered during the evaluation and were processed for the recovery and assessment of charred plant remains and charcoals. Samples were taken from three Romano-British features, the pit containing the horse's head **609** and two ditch features (**612** and **604**) and a tentatively dated Late Bronze Age ditch (**704**). Sample volumes ranged from 2 to 15 litres. Charred plant remains were present in all four features, being most well represented in the Romano-British ditches. The range of material present is indicative of regular small scale processing of glumed wheats, principally spelt wheat.

6.2 Methodology

6.2.1 Bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2mm and 1mm fractions and dried. The coarse fractions (>5.6 mm) were sorted, weighed and discarded. Flots were scanned under a binocular microscope and the presence of charred remains quantified (Table E1) to record the preservation and nature of the charred plant and wood charcoal remains. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997).

6.3 Results

6.3.1 The flots were generally small with fairly large quantities of rootlets. While modern seeds were very rare, the presence of modern uncharred rootlets raises the possibility of some stratigraphic movement of material. The charred cereal grain noted was consistently poorly preserved being highly clinkered and pitted, indicative of high temperatures and/or well oxygenated conditions. Chaff and weed seeds were much better preserved.

6.3.2 Ditches **612**, **604** and pit **609** all contained numerous glume bases and weed seeds with variable quantities of grain. Approximately 100 grains were present in ditch fill **613** (feature **612**), while smaller quantities (10 to 30) were present in the other two samples. The chaff was dominated by glume bases of *Triticum spelta*, with occasional glume bases of *Triticum dicoccum* (emmer) present in ditch fill **613**. Grain was generally poorly preserved, although *Triticum spelta*, *Hordeum vulgare* (barley) and *Avena* sp. (oats) were identified. Weed seeds were present in similar quantities in all three samples and included typical species of arable/wasteland habitats commonly encountered in deposits of this period, such as *Galium aparine* (goosegrass/cleavers), *Rumex* sp. (docks), *Sherardia arvensis* (field madder) and *Vicia/Lathyrus* sp. (vetch/vetchling/tares etc). Charcoal was infrequent and appears to be dominated by *Quercus* sp. (oak).

6.3.3 The top fill of ditch **704** produced a small flot dominated by roots. Charred remains consisted of a single *Triticum* (wheat) grain which could not be identified to species, occasional chaff and weed seeds and very little charcoal. The chaff included a single glume base identifiable as *Triticum spelta* (spelt wheat). The poor number of remains in this sample may be related to the high number of roots and the destruction of material through bioturbation within the active soil horizon.

6.4 Discussion

6.4.1 Charred plant remains are well represented in the features. The samples are typical of the Romano-British period and would appear to be dominated by

the processing waste of glumed wheats (chaff and weed seeds), primarily *Triticum spelta*, the major cereal of this period (Greig 1991). Such material is present on sites where small scale regular crop processing was taking place and would have been swept or fallen into open features or deliberately discarded as waste when features were backfilled. As such they are good indicators of domestic activities and settlement in the immediate area. Preservation of grain was poor, and is likely to be the result of the temperature and nature of burning rather than post-depositional conditions

Table E1. Evaluation of the charred plant remains and charcoal

Feature type/no	Context	Sample	size litres	flot size ml	% ro ots	Grain	Chaff	Flot		Charcoal >4/2mm	Other	Residue Charcoal >4mm
								Charre other	Seeds			
Romano-British												
Pit 609	611	1	10	20 ⁵⁰		A	A*	A	Triticum spelta, Avena sp., Hordeum, Galium aviculare, Polygonum persicaria, Rumex sp., Vicia/Lathyrus	2/1		
Ditch 612	613	2	12	30 ⁵⁰		A**	A**	A	T. spelta, T. dicoccum (rare), Sherardia sp., Rumex, Galium aviculare	2/2		
Ditch 604	616	3	2	5 ²⁰		A	A**	A	T. spelta, Triticum short, Grass, Vicia/Lathyrus	1/1		
Possible Bronze Age												
Ditch 704	707	4	15	10 ⁸⁰		C	B	C	T. spelta/dicoccum, Chenopodium, grass	<1/<1		

KEY: A*** = exceptional, A** = 100+, A* = 30- 99, A = ≥10 items, B = 9 - 5 items, C = < 5 items

7 CONCLUSIONS

- 7.1.1 Although only a small proportion of the Site was suitable for archaeological investigation due to the presence of existing buildings, landscaping and numerous services, there were no stray finds found within the topsoil and subsoil other than two late prehistoric pottery sherds recovered from the topsoil in Trench 10. It can tentatively be suggested therefore that the modest number of archaeological features found is a true reflection of the original number that may have existed across the whole Site.
- 7.1.2 A small number of features were exposed in the trenches positioned in the south-east corner of the Site, in the vicinity of the Late Bronze Age enclosure (SM 163). The large, probably curving, ditch **704** has been tentatively dated to the Bronze Age although a sherd of Romano-British pottery found in its upper fill may be the result of root action and therefore intrusive, or evidence of its continued use into the Roman period. A larger exposed area would be needed to ascertain its full profile and alignment, however, there is the possibility that it is an outer ring ditch of the nearby enclosure ditch (SM 163).
- 7.1.3 The concentration of Romano-British features in Trench 6 includes two ditches **604** and **612** as well as the burial of a horse skull in a small pit **609**. This pit probably respected the ditches. The number of features and quantity of pottery and charred grain found in them suggests small scale Romano-British settlement in the vicinity.

8 ARCHIVE STORAGE AND CURATION

8.1 Museum

8.1.1 The project archive will be deposited with the Museum of London under the Site Code OHH 08.

8.2 Archive Storage

8.2.1 The project archive consists of

- One A4 file containing the paper records and drawings
- One box of finds
- A series of digital photographs
- Digital data (survey data, word-processed files)

8.2.2 It is currently held at the offices of Wessex Archaeology at Old Sarum, Salisbury, Wiltshire under the project code 69940. It also carries the London Site Code OHH 08.

8.2.3 The project archive will be prepared following nationally recommended guidelines (Walker 1990; SMA 1995; Richards and Robinson 1998; Brown 2007).

8.3 Copyright

8.3.1 The full copyright of the written/illustrative archive relating to the site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The Museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profit making, and conforms to the Copyright and Related Rights regulations 2003.

8.4 Security Copy

8.4.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Monuments Record Centre (Swindon), a second diazo copy will be deposited with the paper records at the Museum, and a third diazo copy will be retained by Wessex Archaeology.

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10 TRENCH SUMMARY

Trench 2 Dimensions 17.3 (base) x 1.8 x 0.7m max depth
 Ground level 94.8m (W), 94.5m (E) aOD

Context	Description	Depth (m)
201	Turf and topsoil.	0 – 0.35
202	Subsoil. Mid orangey brown silty sand with occasional flints.	0.35 – 0.55
203	Natural. Degraded chalk with patches of mid orangey brown clay.	0.55+

Trench 3 Dimensions 9.5 (base) x 1.8 x 0.6m max depth
 Ground level 93.7m (N), 94.4m (S) aOD

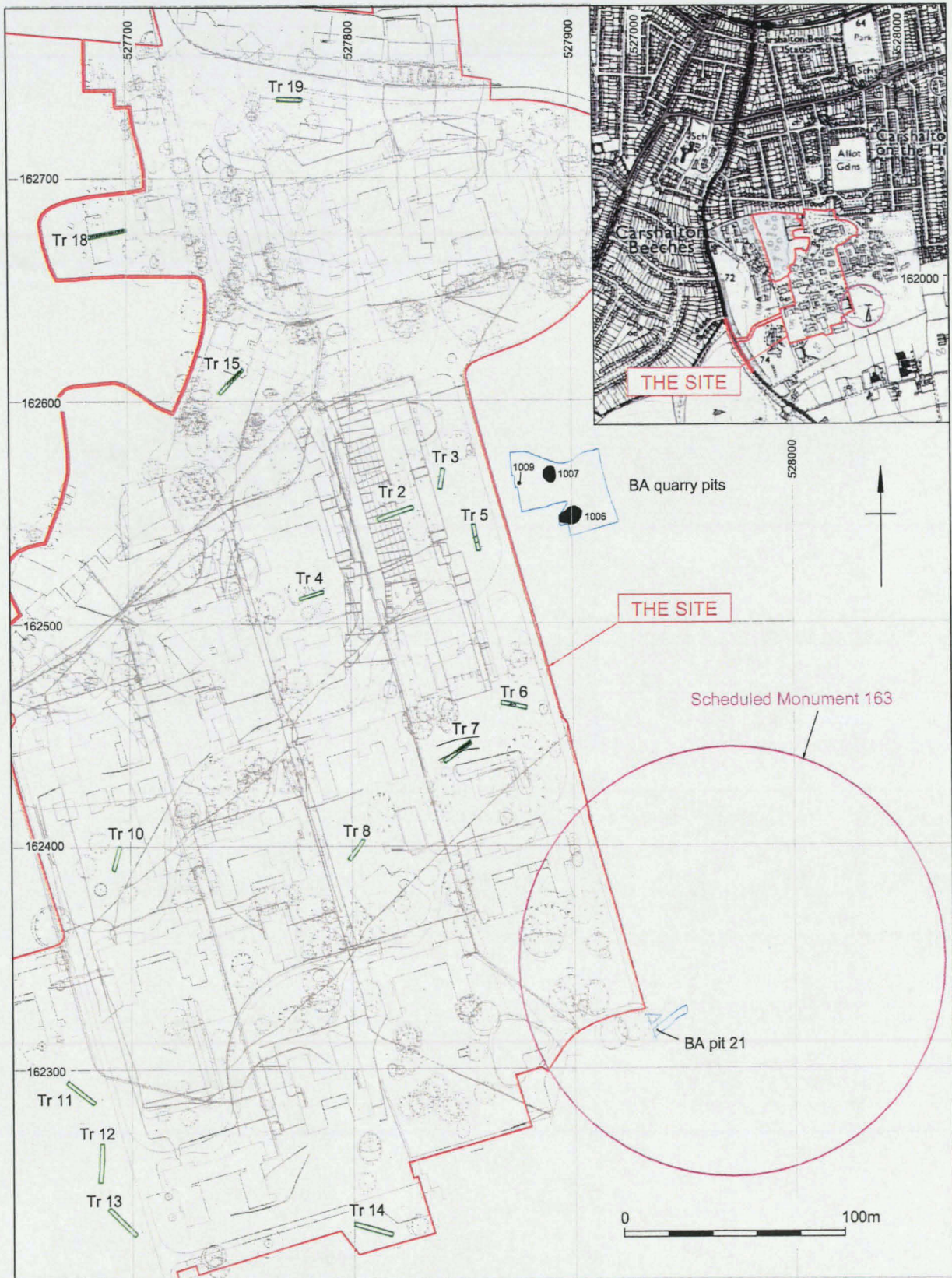
Context	Description	Depth (m)
301	Turf and topsoil.	0-0.30
302	Subsoil. Mid greyish brown silty sand with occasional flints and chalk.	0.30-0.40
303	Subsoil. Mid orangey brown silty sand with occasional flints and moderate chalk.	0.40-0.55
304	Natural. Degraded chalk with patches of mid orangey brown clay.	0.55+

Trench 4 Dimensions 11.5 (base) x 1.5 x 0.7m max depth
 Ground level 95.3m (W), 95.4m (E) aOD

Context	Description	Depth (m)
401	Turf and topsoil.	0-0.10
402	Modern makeup layer. Mid greyish brown silt with frequent chalk fragments.	0.10-0.20
403	Subsoil. Mid orangey brown silty sand with moderate chalk and occasional flints.	0.20-0.50
404	Natural. Degraded chalk with patches of mid orangey brown clay.	0.50+

Trench 5 Dimensions 12.5 (base) x 1.8 x 1.0m max depth
 Ground level 94.8m (N), 95.6m (S) aOD

Context	Description	Depth (m)
501	Turf and topsoil.	0-0.25
502	Modern makeup layer. Mid greyish brown silt with occasional chalk fragments.	0.25-0.40
503	Modern makeup layer. Darker greyish brown silt with occasional chalk fragments.	0.40-0.55
504	Subsoil. Mid orangey brown silty sand with moderate chalk and occasional flints.	0.55-0.90
505	Natural. Degraded chalk with patches of mid orangey brown clay.	0.90+



Evaluation trench
 1999 WA trench

**Wessex
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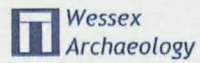
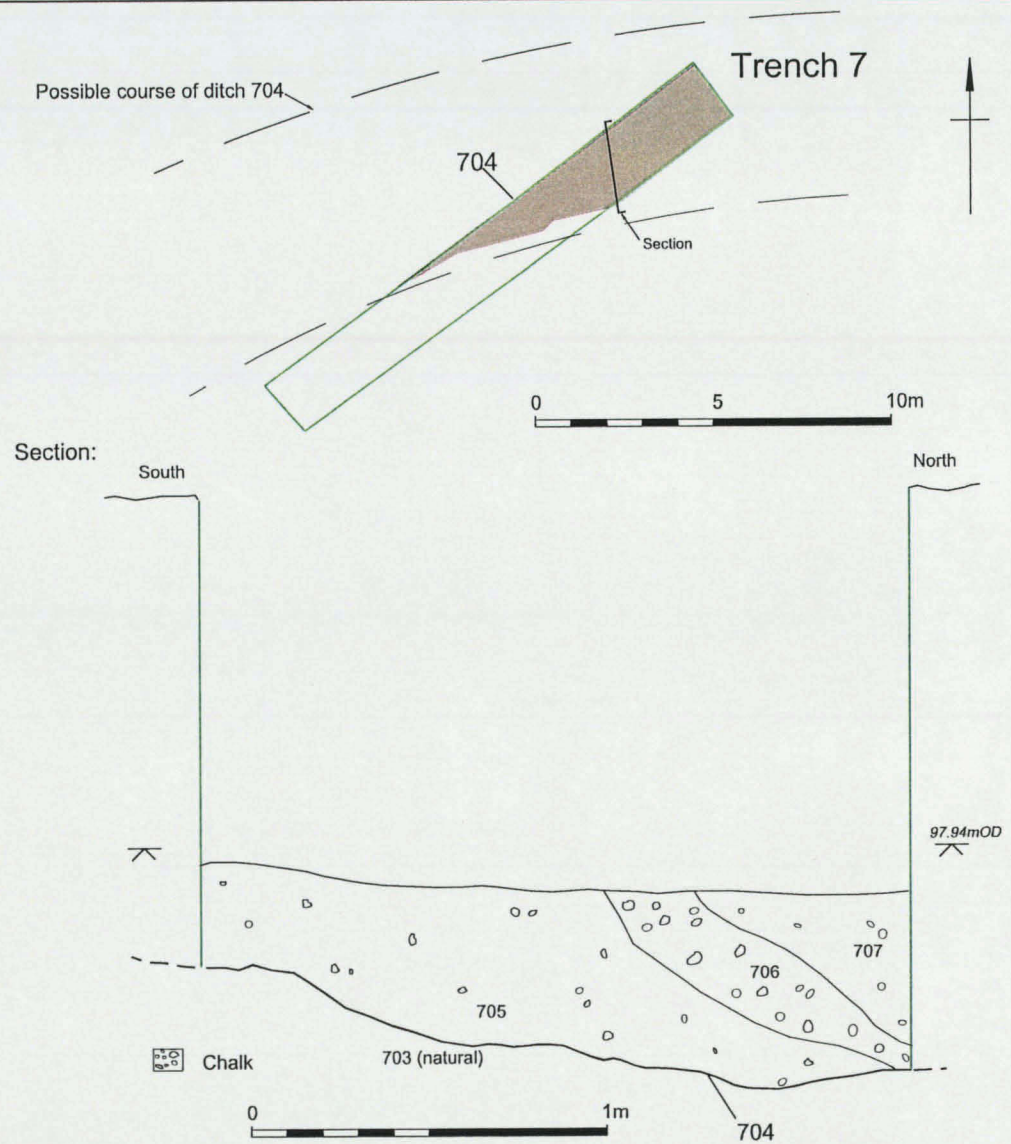
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Site location and trench layout plan

Figure 1



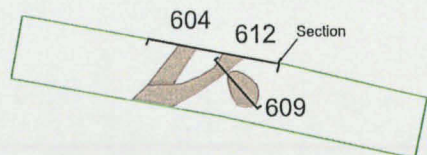
Trench 7 looking to the west



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Trench 6



0 5 10m

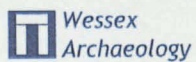
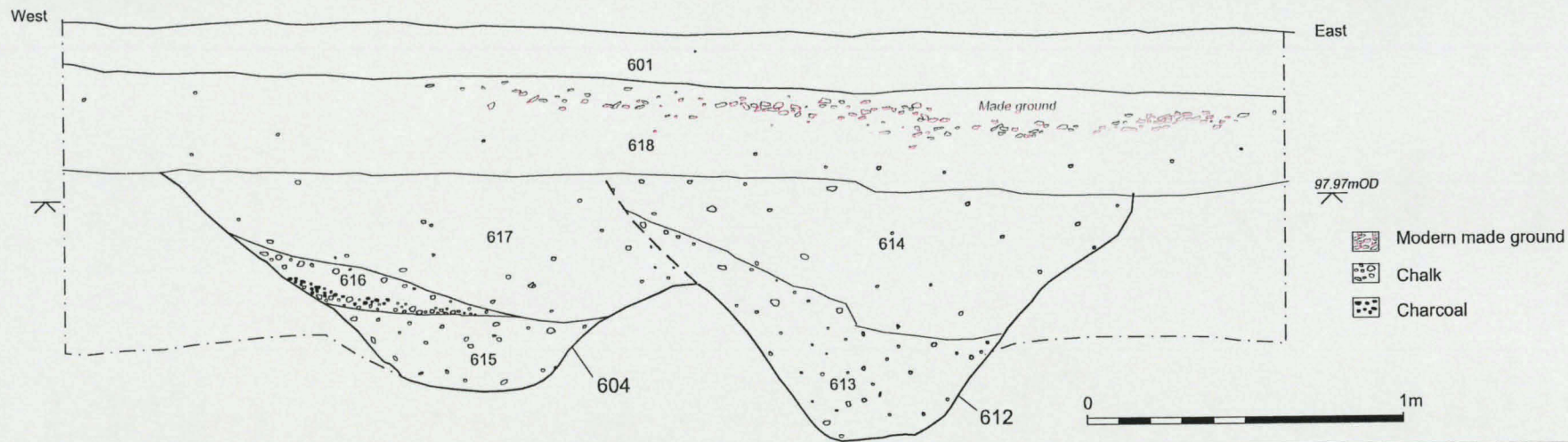


Section looking to the north



Horse skull in pit 609, looking to the south-west

Section:



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Romano-British features in Trench 6

Figure 3



Plate 1: Typical section through one of the modern parallel cuts 1804 looking south



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