

AXTON CHASE SCHOOL

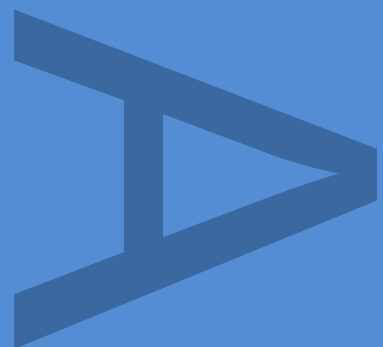
LONGFIELD

KENT

ASSESSMENT OF AN

ARCHAEOLOGICAL

EXCAVATION



KACL 11

MARCH 2012

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

AXTON CHASE SCHOOL
LONGFIELD
KENT

EXCAVATION

Quality Control

Pre-Construct Archaeology Limited			K2582
	Name & Title	Signature	Date
Text Prepared by:	Guy Seddon		March 2012
Graphics Prepared by:	Mark Roughley		March 2012
Graphics Checked by:	Josephine Brown	<i>J. Brown</i>	March 2012
Project Manager Sign-off:	Jon Butler	<i>J. Butler</i>	March 2012

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Ltd
Unit 54
Brockley Cross Business Centre
96 Endwell Road
London
SE4 2PD

**ASSESSMENT OF AN ARCHAEOLOGICAL EXCAVATION AT AXTON
CHASE SCHOOL, LONGFIELD, KENT**

Site Code: KACL11

Report Number: R11177

Central National Grid Reference: TQ 6092 6866

Written and Researched by Guy Seddon

Pre-Construct Archaeology Limited, March 2012

Project Manager: Tim Bradley

Post-Excavation Manager: Jon Butler

Commissioning Client: CgMs Consulting on behalf of Ward Homes

**Contractor: Pre-Construct Archaeology Limited
Unit 54 Brockley Cross Business Centre
96 Endwell Road
Brockley
London
SE4 2PD**

Tel: 020 7732 3925

Fax: 020 7639 9588

Email: tbradley@pre-construct.com

Website: www.pre-construct.com

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CONTENTS

1	Abstract	4
2	Introduction	5
3	Planning Background	8
4	Geology and Topography	12
5	Archaeological and Historical Background	13
6	Archaeological Methodology	15
7	Archaeological Sequence	17
8	Original and Additional Research Questions	26
9	Importance of the Results, Proposals for Further Work and Publication Proposal	28
10	Contents of the Archive	32
11	Acknowledgements	33
12	Bibliography	34

Appendices

1	Context Index	35
2	Lithic Assessment by Barry Bishop	40
3	Roman Pottery assessment by Katie Anderson	43
4	Building Material Assessment by Kevin Hayward	48
5	Roman Coins Assessment by James Gerrard	53
6	Roman Small Finds Assessment by James Gerrard	56
7	Post Roman Small Finds Assessment by Märit Gaimster	59
8	Animal Bone Assessment by Kevin Rielly	61
9	Geoarchaeological Assessment by Chris Green	63
10	Environmental Assessment by QUEST	68
11	OASIS Form	79
12	Kent HER Form	83
13	Finds Quantification Table	84

Illustrations

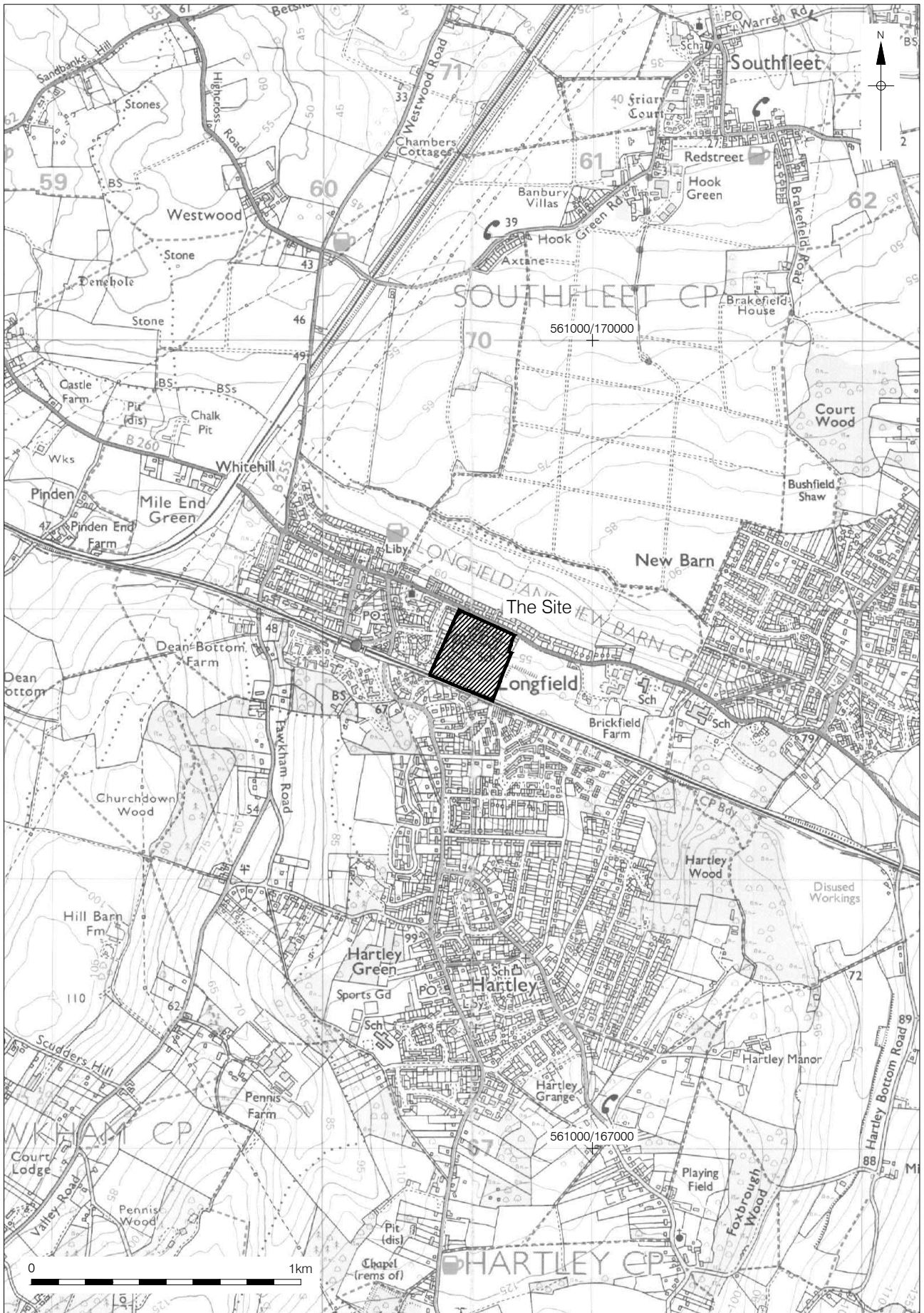
Figure 1	Site location	6
Figure 2	Trench location	7
Figure 3	Multi-Phase Feature Plan	16
Figure 4	Phase 2: Roman 2 nd -3 rd century AD	20
Figure 5	Phase 3: Roman 3 rd -4 th century AD	24
Figure 6	Sections	25

1 ABSTRACT

- 1.1 This report documents the results of an archaeological excavation undertaken by Pre-Construct Archaeology Ltd. on land formerly occupied by Axton Chase School, Longfield, Kent. The report was commissioned by CgMs Consulting on behalf of Ward Homes Ltd. The site is centred on National Grid Reference TQ 6092 6886.
- 1.2 The excavation was undertaken between 22nd August and 9th September 2011, initially running concurrently with the site evaluation, which began two weeks earlier, on 8th August, and was finally completed on 25th August 2011. The findings of the evaluation highlighted eight trenches containing archaeological features and two of these were subsequently incorporated within the area of excavation. No further work was commissioned on the remaining six productive evaluation trenches as the archaeology was deemed too deep to be under threat from the proposed development.
- 1.3 The earliest evidence for human utilisation of the area is provided by struck flints which date to the Mesolithic or Early Neolithic and Bronze Age to Iron Age periods. Although these flints were residual in nature they do indicate occasional low-key and sporadic activity at the site during these periods.
- 1.4 The excavation revealed a number of Roman features, consisting of pits, postholes and ditches indicative of peripheral activity associated with settlement. Some of the features exhibited signs of burning and contained relatively large quantities of burnt flint, probably associated with either cooking or industry.
- 1.5 The features were sealed by a dark, probably Late-Roman soil which contained a large quantity of small finds, mainly coins. The dark soil was in turn sealed by a thick colluvial layer which contained finds from the Roman period onwards.
- 1.6 No features of later date were identified, with the site being used for agricultural purposes through the medieval period and small scale quarrying in the late post-medieval period until the construction of Axton Chase School in the mid 1960s.

2 INTRODUCTION

- 2.1 This report was commissioned by CgMs Consulting on behalf of Ward Homes, and documents the results of an archaeological excavation undertaken by Pre-Construct Archaeology Ltd. on land at Axton Chase School, Longfield, Kent (Fig. 1). The site is centred on National Grid Reference TQ 6092 6886.
- 2.2 An archaeological desk-based assessment of the site had suggested that the site had a good potential for Roman remains (Hawkins, 2008). A subsequent evaluation was undertaken by Pre-Construct Archaeology between 8th and 25th August 2011. This indicated localised areas of untouched, or only minimally truncated geology, overlying which, Roman archaeological remains had survived (Seddon 2011).
- 2.3 Following the findings of the evaluation, the excavation measuring 1073m², (32.00m north-south by 16.60m east-west at its widest) was centred on the north-western corner of the site, the location of the proposed Show Homes. This was machine excavated to the level of the archaeological horizon using a 360° mechanical tracked excavator and was undertaken prior to detailed investigation by members of the archaeological fieldwork team.
- 2.4 The investigations were project-managed for Pre-Construct Archaeology by Tim Bradley and the post-excavation work was managed by Jon Butler. Guy Seddon supervised the archaeological investigations, which were monitored by Wendy Rogers of Kent County Council. The archaeological consultant was Duncan Hawkins of CgMs Consulting.
- 2.5 Once all of the archaeological work has been completed, the site archive, including written, drawn and photographic records, as well as artifactual material, will be deposited with a local museum under site code KACL11.



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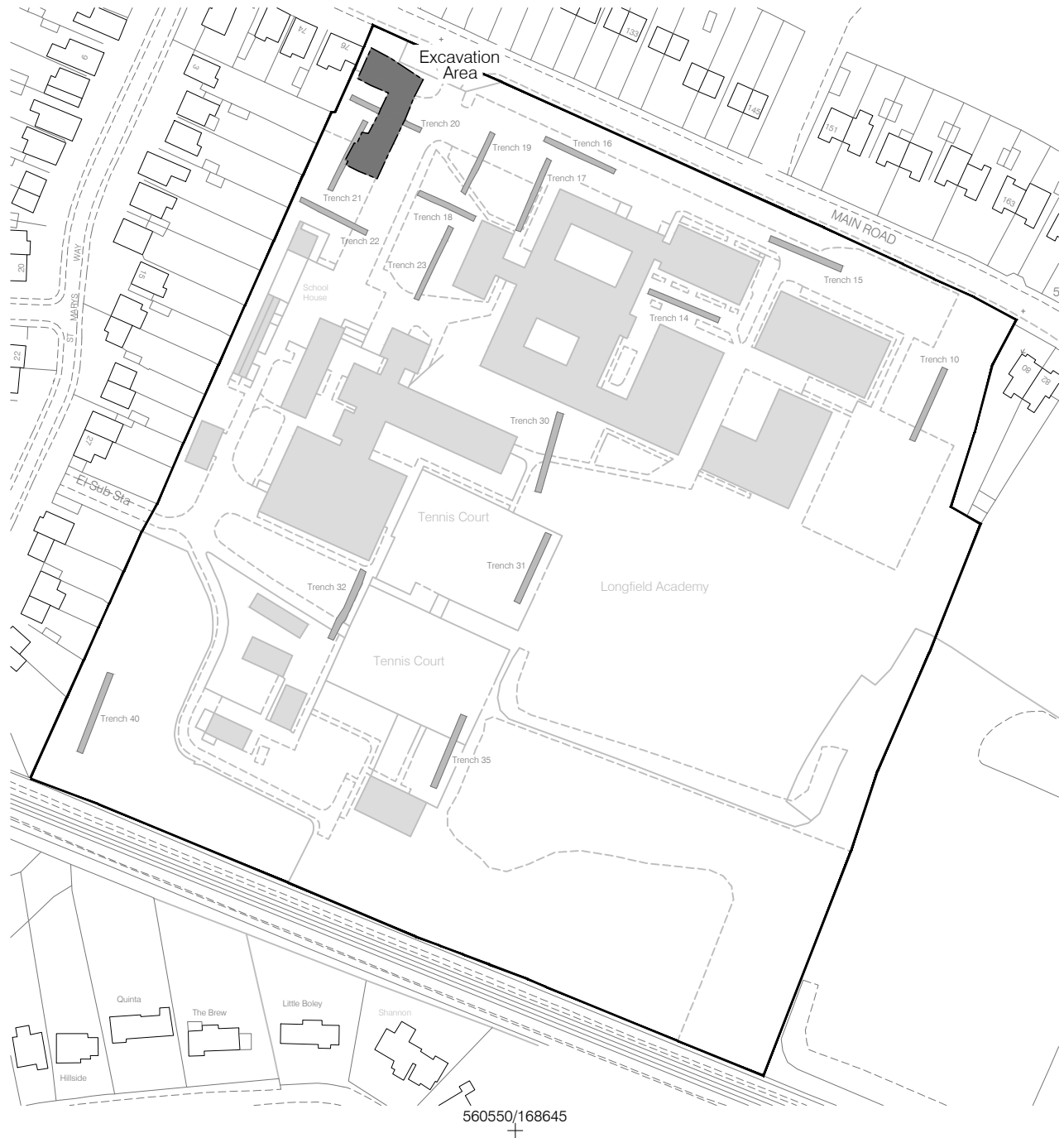
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Figure 1
Site Location
1:20,000 at A4



550650/169025



PCA Evaluation Trenches

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Figure 2
Site and Trench Location Plan
1:2,000 at A4

3 PLANNING BACKGROUND

- 3.1 The study aims to satisfy the objectives of Kent County Council and Dartford Borough Council, which fully recognise the importance of the buried heritage for which they are the custodians.
- 3.2 The site has planning permission for the residential redevelopment of the site. The Local Planning Authority planning reference for the scheme is DA/05/00151/OUT.
- 3.3 In considering any planning application for development, the local planning authorities are bound by the policy framework set by government guidance, by current Development Plan Policy and by other material considerations. At the time that a planning application was submitted for the redevelopment of the Axton Chase School site, national guidance was provided by Department of the Environment, Planning Policy Guidance Note 16 'Archaeology and Planning' (PPG 16). Although this policy has now been superseded by Planning Policy Statement 5: Planning For The Historic Environment (PPS5), the guidance within PPG16 was that observed during the planning process to secure approval for development. The strategic development plan policy framework is provided by the Deposit Kent and Medway Structure Plan (2003), which contains the following policy for the consideration of development proposals affecting archaeological and heritage features:

POLICY QL8: ARCHAEOLOGICAL SITES

THE ARCHAEOLOGICAL AND HISTORIC INTEGRITY OF SCHEDULED ANCIENT MONUMENTS AND OTHER IMPORTANT ARCHAEOLOGICAL SITES, TOGETHER WITH THEIR SETTINGS, WILL BE PROTECTED AND, WHERE POSSIBLE, ENHANCED. WHERE IMPORTANT OR POTENTIALLY IMPORTANT ARCHAEOLOGICAL REMAINS MAY EXIST, DEVELOPERS WILL BE REQUIRED TO ARRANGE FOR ARCHAEOLOGICAL ASSESSMENT AND/OR FIELD EVALUATION TO BE CARRIED OUT IN ADVANCE OF THE DETERMINATION OF PLANNING APPLICATIONS. WHERE THE CASE FOR DEVELOPMENT AFFECTING AN ARCHAEOLOGICAL SITE IS ACCEPTED, THE ARCHAEOLOGICAL REMAINS SHOULD BE PRESERVED IN SITU. WHERE PRESERVATION IN SITU IS NOT POSSIBLE OR JUSTIFIED, APPROPRIATE PROVISION FOR PRESERVATION BY RECORD WILL BE REQUIRED

3.4 Archaeology in Dartford

- 3.4.1 The study aims to satisfy the objectives of Dartford Borough Council, which fully recognises the importance of the buried heritage for which it is the custodian. Development of the Borough is governed by policy set out in the Core Strategy (adopted September 2011).

- 3.4.2 Policy statements in respect to protecting the buried archaeological resource are contained within the 'Dartford Adopted Plan' (April 1995) which was updated in 2004. The proposed development is subject to the Council's Archaeology policy as set out in the Second Deposit Draft Local Plan:

BE11 Protection of Non Scheduled Sites of Archaeological Value

Planning permission will only be granted for development which would have a detrimental effect upon the remains of non scheduled sites of local, regional or national archaeological value if the importance of the development outweighs the local value of the remains. If planning permission is granted, conditions will be imposed to ensure that the remains are properly recorded, evaluated and, where practicable, preserved.

Para. 10.6.1 Protection of Non Scheduled Sites of Archaeological Value

In addition to the formally scheduled sites, there are others of more local, regional or national importance. The archaeological significance of such sites will be taken into account in assessing the development proposals which might affect them. Developers should consult the Local Planning Authority prior to the submission of a planning application, in order to establish possible archaeological implications of any proposals. In certain cases, developers may be expected to provide information on the nature and quality of any archaeological remains on the site of the proposed development. Development on important archaeological sites should be avoided, but where this is not possible, a full archaeological investigation will be required prior to any development, in consultation with the County Archaeological Officer.

3.5 Archaeology in Kent and the South-East Plan

- 3.5.1 This site is also subject to policies contained within the 'South-East Plan' adopted May 2009. This sets out the regional spatial strategy for the south-east of England, and the following policy is of relevance:

Policy BE6: Management of the Historic Environment

When developing and implementing plans and strategies, local authorities and other bodies will adopt policies and support proposals which protect, conserve and, where appropriate, enhance the historic environment and the contribution it makes to local and regional distinctiveness and sense of place. The region's internationally and nationally designated historic assets should receive the highest level of protection. Proposals that make sensitive use of historic assets

through regeneration, particularly where these bring redundant or under-used buildings, and areas into appropriate use should be encouraged.

Para. 12.15

The historic environment includes the physical evidence of past human activity. It is all around us as part of everyday life, and it is therefore dynamic and continually subject to change. It is not limited to the built environment and archaeological sites, but includes landscapes, both urban and rural and as an example of its great diversity, marine heritage sites around the coast. These environments are fragile and require protection, but also have an enormous potential to contribute to a sense of place and identity and add to the quality of our daily lives through understanding and appropriate management and access.

Para. 12.16

It is widely recognised that the South East has a rich and diverse historic environment. This is a tremendous asset, a precious and irreplaceable expression of our history, heritage and culture, visibly so, where it lies at the heart of local and regional character and sense of place. The historic buildings and landscapes that characterise the region add much to the quality of life that underpins the region's economy. Both the rural landscape and the historic urban fabric influences investment decisions of individuals and businesses. The historic environment is part of the wider environment of the region that is a 'draw' for those investing in the area.

Para. 12.19

Sustainable management of the historic environment through the planning system and other plans and strategies should be based upon an understanding of its significance and vulnerability to change. This is critical given that the pace and scale of change faced by the region. The standardisation of some new development can lead to a dilution of local character, and should be discouraged. Local character assessment, for example historic landscape and urban characterisation, can be a useful tool to inform policy development.

3.5.2 The site is not located within a conservation area or within an area of special character as defined by Dartford Borough Council. There are no Scheduled Ancient Monuments within the development area.

3.5.3 Planning permission was granted for the redevelopment of the site. A schedule of planning conditions was attached to the consent, including Condition 4, which required that:

No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of historic recording in accordance with a written archaeological specification and timetable which has been submitted to an approved by the Local Planning Authority in writing

Reason:

To ensure that historic landscape/building/buried features are properly examined and recorded

- 3.5.4 It was decided that a programme of archaeological evaluation would form appropriate mitigation in this instance; followed if necessary by targeted areas of extended excavation should significant archaeological remains be present. The initial trial trench evaluation of the site found archaeological remains, necessitating a second phase of work, involving the opening up of an extended excavation area.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

- 4.1.1 The British Geological Survey of England and Wales (Sheet 271) states that the underlying geology of the site is of Chalk Bedrock of the Seaford Chalk Formation.
- 4.1.2 On the north of the site the Chalk Bedrock is sealed by Head deposits.
- 4.1.3 Made ground is present across the entire site capping the Chalk Bedrock on the south and the Head deposits on the north.
- 4.1.4 The made ground comprises both worked ground, corresponding with former brickworks and associated quarries and more general made ground associated with the formation of level playing fields in the 1970s and 1980s.
- 4.1.5 During the course of the evaluation it became apparent that in the base of the valley, along the northern bounds of the study site were thick gravel deposits laid by a river at the end of the last ice age.

4.2 Topography

- 4.2.1 The site which is very broadly an indented sub-rectangle, lies in an area of undulating downland toward the base of a dry valley and broadly falls in level from the south at around 65m (west) to 70m OD (east) to north at around 52m (west) to 57m (east).
- 4.2.2 A number of artificially raised and levelled playing fields are present within the southern half of the site, while the school buildings appear to be located on levelled 'terraces' or platforms.
- 4.2.3 A small number of field drains are present within the site but no substantial water courses or bodies of water.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 INTRODUCTION

5.1.1 The archaeological and historical background for the Axton Chase School site was originally discussed in an archaeological desk based assessment produced prior to the implementation of the archaeological programme (Hawkins 2008). The salient points are summarised below.

5.2 Prehistoric

5.2.1 Few Prehistoric finds are recorded within a 1km radius of the study site, though this is likely to reflect the small number of archaeological investigations undertaken in the general area of the site.

5.3 Roman

5.3.1 The Roman period is well represented within a 1km radius of the study site. Construction of farm buildings at TQ 597 689 in 1971 revealed a ditch or pit containing 1st century Romano-British pottery.

5.3.2 A small Romano-British cremation cemetery was recorded in 1931, just north of the study site on the north side of Main Road, with perhaps two or three burials and associated grave goods being represented.

5.3.3 A Roman period Denehole is recorded from 'near Longfield Church'.

5.3.4 An extensive Roman activity or settlement site was recorded to the south of the study site at 'Viewpoint' Wellfield. Among the finds were a series of pits and ditches containing pottery of 2nd and 3rd century AD date, together with a tile oven. Coins, iron and bronze artefacts were recovered.

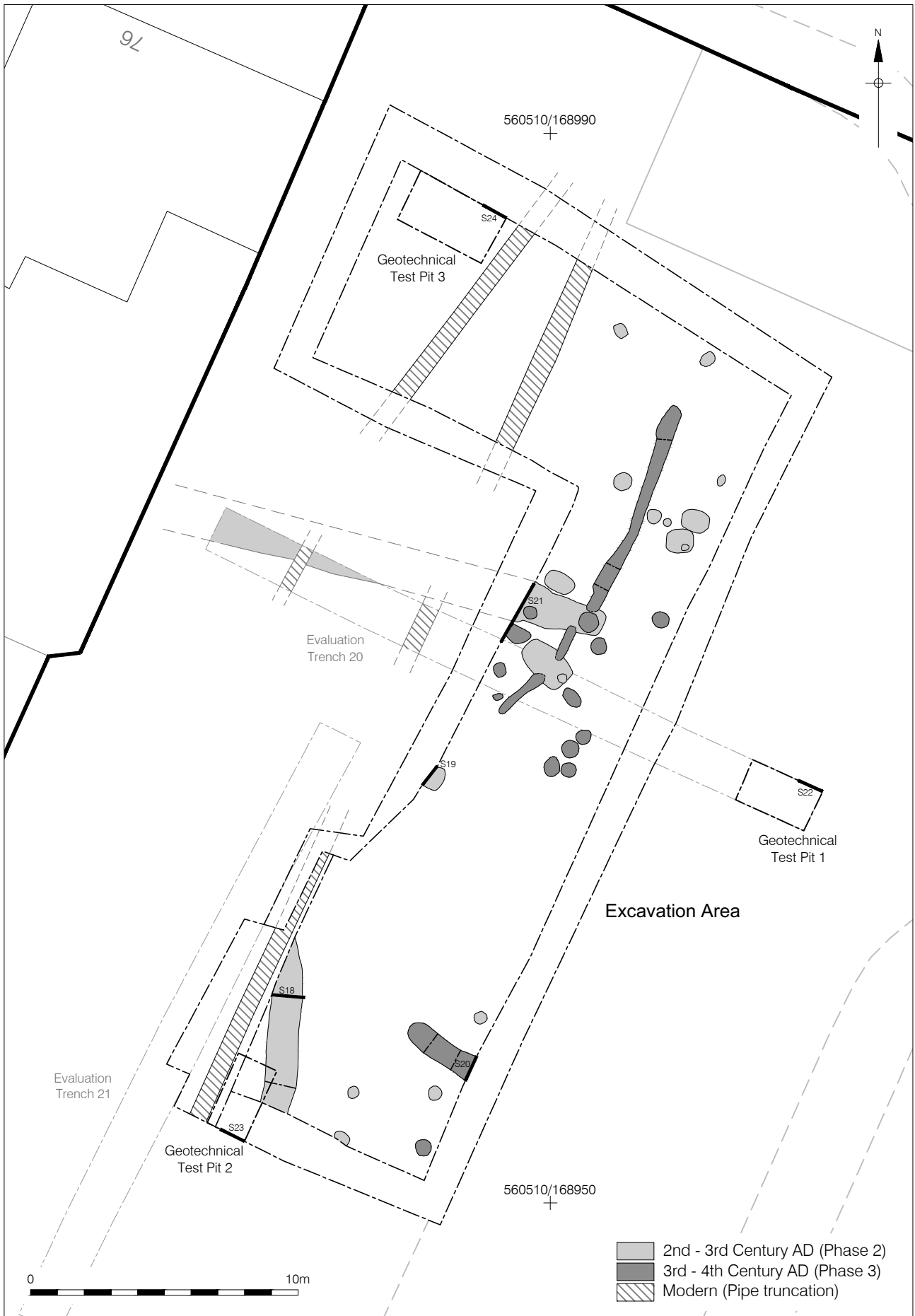
5.3.5 A number of undated cropmark and earthwork features are recorded from air photographs within a 1km radius of the study site. The extent of chance Roman finds from the Longfield area suggests many of these may be contemporary (rectangular enclosure TQ 6103 6899, linear earthwork TQ 6071 6910, rectangular enclosure TQ 6042 6918, rectangular enclosure, TQ 6010 6938, earthworks TQ 6020 6947 and cropmark pit, TQ 6037 6952).

5.4 Anglo Saxon, Early Medieval, Late Medieval and Post-Medieval

- 5.4.1 No finds of Anglo Saxon or early medieval date are recorded within a 1km radius of the study site. The first reference to Longfield is in a land grant of c. AD 945-984. In Domesday Book (1086), it is recorded as 'Langafel'. At this time Longfield was an agricultural estate centre rather than a village and this is how it appears to have remained until the early nineteenth century.
- 5.4.2 The earliest detailed map of the study site is the Longfield Tithe Map of 1847 and the adjacent Hartley Tithe Map of 1846. The whole of the study site is shown as agricultural land (principally arable). This is also how the study site is shown in the first edition Ordnance Survey map of 1868.
- 5.4.3 By 1897 a brick works had been established partly within the site, together with a chalk pit, gravel pit and 'Brickearth' quarry. The Brickworks continued in operation in 1909 passing out of use by 1938.
- 5.4.4 As late as 1962 the study site still comprised predominantly agricultural land.
- 5.4.5 Longfield School (now Axton Chase School) was developed around 1965 and the bulk of the existing school buildings had been constructed by 1971 and the artificially levelled playing fields on the south of the site had been created by 1987.

6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 Following the identification of potentially important archaeological deposits during the evaluation, extended excavation was carried out in the north-eastern corner of the study site, located within the vicinity of evaluation Trenches 20 and 21. The excavation, took place between 22nd August and 9th September 2011. The work was carried out in accordance with the procedures outlined within a Written Scheme of Investigation (Bradley 2011).
- 6.2 The area was mechanically excavated until the top of archaeological deposits were revealed, after which excavation of the archaeological remains continued using the appropriate hand tools.
- 6.3 Metal detecting was conducted between the machine spits down to the archaeological horizon.
- 6.4 Subsequent to the machining and initial cleaning of the extended excavation areas, a site grid was established and an initial pre-excavation plan was drawn at a scale of 1:200.
- 6.5 All exposed archaeological features and layers were then cleaned, excavated and recorded by hand (Fig. 3). For the most part, this involved the excavation of ditch interventions, or the half sectioning of discrete features. Further metal detecting was also conducted during the excavation of the features.
- 6.6 Features were recorded on single context plans at a scale of 1:20 using diametrically stable drafting film, with sections, where appropriate, being drawn at a scale of 1:10. Context numbers were allocated as appropriate, including overarching group numbers for features into which more than one intervention was excavated.
- 6.7 Black and white film, colour transparency and digital photographs were also taken of individual and groups of archaeological features.
- 6.8 Three geoarchaeological test pits were also dug in the excavation area to determine the nature of the natural deposits overlying the chalk bedrock (Fig. 3). The methodology and results are described in Appendix 9.



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Figure 3
Multi-Phase Feature Plan
1:200 at A4

7 ARCHAEOLOGICAL SEQUENCE

7.1 PHASE 1: NATURAL GEOLOGY

7.1.1 The natural geology of the site is discussed in depth in the Geoarchaeological Assessment, (see Appendix 9). In brief, the earliest deposits revealed on site were of fluvial and reworked fluvial layers that were deposited in the valley base at the end of the last ice age.

7.1.2 The earliest deposit, [176], [177], was a greyish brown, coarse, slightly clayey sandy gravel of sub-angular water worn flint with scattered, well rounded flint pebbles. This was overlain by a greyish brown fine to medium clayey sandy gravel of sub-angular water worn flint with scattered larger cobbles, [173], [175]. Overlying this deposit was a reddish brown stony silty sand, [172], [174]. Sealing this was the 'site natural', [96], a pale greyish brown, slightly sandy, coarse gravel of sub-angular water-worn flints with scattered well rounded flint pebbles.

7.2 PHASE 2: 2ND – 3RD CENTURY AD

7.2.1 This phase is represented by two ditches and a small number of pits and postholes, (Fig. 4).

7.2.2 Ditch [145] was excavated as sondage [144] (Section 18 Fig. 6) and located in the south-western corner of the site, running on a north-south alignment. It had a visible length of 6.70m, extending beyond the southern and western limits of excavation, a width of 1.18m and a depth of 0.52m, with moderately sloping sides, concaving in slightly to a rounded base, falling from 50.71m OD in the south to 50.55m OD to the north. The feature was filled with a moderately compact, mid greyish brown sandy, clayey silt, which was recorded as [112] and [143] in the two sondages excavated through the ditch.

7.2.3 East-west aligned ditch [157] extended from the western limit of excavation onto the site for a distance of 3.00m before butt-ending (Section 21 Fig. 6). It had a width of 1.24m and a depth of 0.41m with steep sides and a flattish base. It contained two fills; the primary fill [170] was a loosely compacted light yellowish brown sandy gravel, 0.11m thick, probably formed through natural silting up of the feature. This was sealed by [156], a firmly compacted dark brownish grey sandy, silty clay containing pottery, cbm and slag. The ditch was also seen on the evaluation in the western end of Trench 20 and was given the number [19] which gave it a known length of 15m+. The pottery recovered from the sondages predominantly dated to between the 2nd and 3rd centuries AD. There were however two sherds of Late Roman grog tempered pottery dating to the late 3rd -4th centuries though these could well be intrusive as the ditch is cut by later features at its eastern end where these sherds were located. The

base of the ditch fell from 51.11m OD at its western end, sondage [19] in Trench 20 to a height of 50.77m OD in the east.

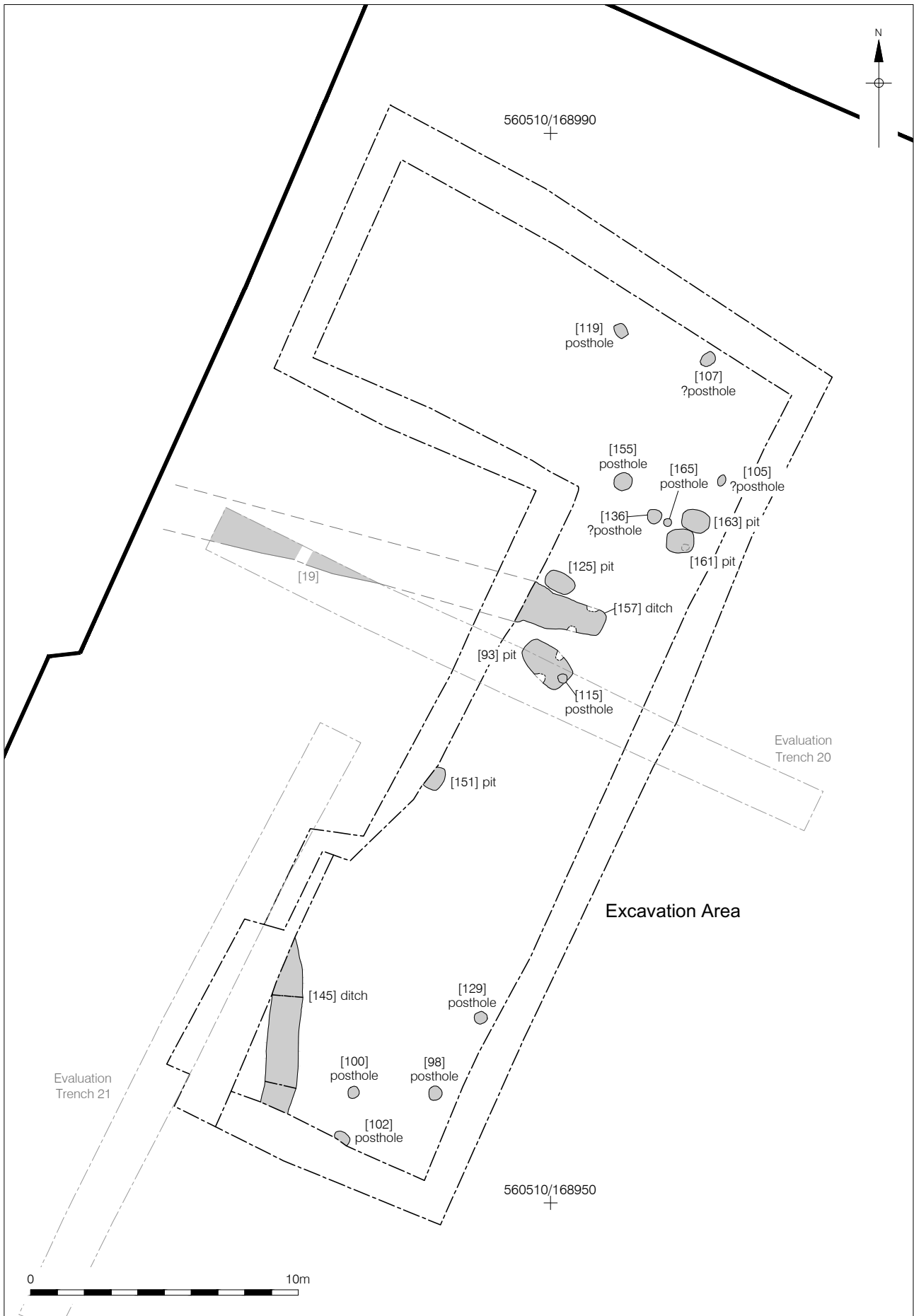
- 7.2.4 It is probable that the ditches [145] and [157] respect each other and could well represent elements of a field system.
- 7.2.5 A total of five pits, [93], [125], [151], [161] and [163] have been allocated to this phase. Pit [93] was sub-oval in plan with a step concaved side and a concaved base, measuring 1.20m north-south by 2.10m east-west with a depth of 0.26m. It contained a single fill, [92], a firmly compact dark brownish grey silty clay containing sherds of pottery dating to the 2nd-4th century AD and cbm. The base of the feature exhibited signs of in-situ burning in the form of heat shattered stones and reddening of the natural into which it was cut.
- 7.2.6 Pit [125] was oval in plan with moderately sloping concaved sides and a concave base measuring 0.74m north-south by 1.26m east-west with a depth of only 0.10m. It contained a single fill of firmly compacted light greyish brown silty sand, [124].
- 7.2.7 Pit [151] was sub-oval in plan with steep concaved sides and a concaved base (Section 19 Fig. 19). It measured 0.89m north-south by 0.66m east-west and had a depth of 0.28m. It had a single fill [150] which was a firmly compacted dark greyish brown silty sand containing a large quantity of burnt flint (just under 4kg). The base of the pit also bore evidence of in-situ burning, with the reddening of the natural deposits into which it was cut. No finds were recovered.
- 7.2.8 Pit [161] was sub-square in plan with slightly concaved sides and a concaved base measuring 1.00m north-south by 0.90m east-west with a depth of 0.19m. The single fill [160] was a firmly compacted dark brown silty clayey gravel. No finds were recovered.
- 7.2.9 Pit [163] was sub-square in plan with very steep, slightly concaved sides and a flat base measuring 1.05m north-south by 0.70m east-west with a depth of 0.62m. It contained a single fill [162] which was a compact dark brown silty, clayey gravel containing pottery dated to 2nd-3rd century AD.
- 7.2.10 Twelve postholes have been assigned to this phase, [98], [100], [102], [105], [107], [111], [115], [119], [129], [136], [155] and [165]. Postholes [98], [100], [102], [111] and [129] were all located to the south-east of the site, whilst [105], [107], [115], [119], [136], [155] and [165] were all positioned towards the north.
- 7.2.11 It is possible that postholes [98], [100], [102], [111] and [129] are associated with each other, forming a double ring of postholes for a circular structure which extends beyond the southern and eastern limits of excavation. It is also possible that postholes [98], [100], [102], [111] form a four post structure, like a granary.

Context No	Dimensions (m)		
	n-s	e-w	depth
98	0.54	0.52	0.23
100	0.49	0.42	0.19
102	0.39+	0.59	0.47
111	0.6	0.62	0.39
129	0.47	0.48	0.37

7.2.12 Ten sherds of pottery were recovered from [110], the fill of posthole [111], which date to the 2nd-4th century AD.

7.2.13 Postholes [105], [107], [115], [119], [136], [155] and [165] are possibly associated with ditch [157] and probably represent field boundaries. Nine sherds of pottery were recovered from [154], the fill of posthole [155] which date to the 2nd-4th century AD.

Context No	Dimensions (m)		
	n-s	e-w	depth
105	0.46	0.28	0.12
107	0.58	0.50	0.11
115	0.34	0.38	0.16
119	0.50	0.60	0.21
136	0.54	0.54	0.11
155	0.68	0.66	0.21
165	0.30	0.30	0.25



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Figure 4
Phase 2 plan, 2nd to 3rd Century AD
1:200 at A4

7.3 PHASE 3: 3rd – 4th CENTURY AD

- 7.3.1 Phase 3 is represented by a ditch, a gully, two pits and a small number of postholes (Fig. 5). Ditch [134], comprising of sondages [131] (Section 20 Fig. 6) and [133], was located in the southeastern corner of the site and ran on an east-west alignment, extending westwards from the eastern limit of excavation by 2.84m and terminated in a butt-end with a width of 1.00m and a depth of 0.34m. Its fill [130], [132] was a firmly compacted mid greyish brown silty sand which contained pottery dating to the 3rd-4th century AD.
- 7.3.2 Gully [142] was comprised of sondages [109], [127] and [140]. It ran on a north-south alignment for a distance of 13.40m with a width of 0.70m and depth of 0.24m. It contained a single fill recorded as [108], [126] and [139] and given the overall group number of [141]. This was a firmly compacted dark brownish grey sandy silt which contained a coin dated to AD 270-290.
- 7.3.3 Pit [95] was positioned against the western limit of excavation (Section 21 Fig. 6). It was sub-ovoid in plan with steeply sloping sides and a concave base measuring 0.62m north-south by 0.82m+ east-west with a depth of 0.24m. It contained a single fill [94] which was a compact dark greyish brown silty clayey gravel from which four sherds of pottery dated to the 3rd-4th century were recovered. It also contained 860g of daub, indicative of the presence of wattle and daub structures in the immediate vicinity. The base of the pit showed signs of in-situ burning with reddening of the natural into which the feature was cut.
- 7.3.4 Pit [138] was oval in plan with steeply sloping sides and a concaved base. It measured 0.56m north-south by 0.82m east-west and had a depth of 0.23m. The single fill of the pit [137] was a compact mid greyish brown silty sandy gravel.
- 7.3.5 Ten postholes [91], [117], [121], [123], [147], [149], [153], [159], [167] and [169] were recorded in this phase.

Context No	Dimensions (m)		
	n-s	e-w	depth
91	0.75	0.74	0.38+
117	0.46	0.52	0.12+
121	0.30	0.32	0.04
123	0.54	0.50	0.07
147	0.74	0.63	0.35
149	0.53	0.56	0.30
153	0.60	0.64	0.14
159	0.58	0.54	0.28
167	0.65	0.66	0.18
169	0.66	0.66	0.46

7.3.6 Postholes [91], [117] and [153] appeared to run on an east-west alignment across the site, on exactly the same alignment as Phase 2 ditch [157]. The postholes [91] and [117] cut into [156], the fill of ditch [157] making it very possible that this group represents a continuation of this earlier boundary. Both postholes [91] and [117] contained pottery dating to the 3rd-4th century AD.

7.3.7 The other postholes in this phase were all situated to the south of this alignment and probably represent the division of the land for farming purposes, either as agricultural fields, for the corralling of livestock or a mixture of the two.

7.4 PHASE 4: LATE ROMAN

7.4.1 This phase is represented by a single layer [59] that sealed the site and lay at a depth of between 51.38 and 51.33m OD (Sections 19, 20, 21 & 24 Fig. 6). It was a very humic, firmly compacted, dark greyish brown clayey silt with a thickness of c. 0.30m that covered the entire site. It contained 66 sherds of pottery, the largest assemblage of any context on site and dated to the 3rd-4th century. Two fragments of box flue tile and a piece of chimney fragment were also recovered from this layer, indicating the presence of a high status masonry structure in the vicinity. A large quantity of Roman small finds were also retrieved from the layer including 47 coins dating to the 3rd and 4th centuries AD, brooches and tweezers (see Appendices 5 and 6).

7.4.2 The nature of this deposit is difficult to determine, it appears to be a buried soil and the finds would strongly suggest a late Roman date. It is possible that the layer is Roman topsoil, however the shallowness of many of the features indicates that between Phase 3 and Phase 4 horizontal truncation of the site has occurred. This may have been caused by bioturbation of the site post-abandonment. It would explain the relative shallowness of the features as the tops of the features and their fills had been lost due to the mixing of deposits caused by bioturbation. The presence of large numbers of small finds and coins might be explained by the presence of a midden or occupation layer that has been mixed by bioturbation.

7.5 PHASE 5: Post Roman

7.5.1 Overlying layer [59] was a thick colluvial layer [58], which had obviously washed down from the ridgeline to the immediate south of the site (Sections 22, 23 & 24 Fig. 6). It was a light yellowish brown, slightly clayey sandy silt with a thickness of c.0.70m. It too contained many small finds, the majority of which were Roman including 27 coins and 2 lead weights, though some were obviously post-Roman, including a musket ball and a Hanseatic cloth seal (see Appendix 7).

- 7.5.2 A late twentieth century layer of hardcore rubble directly sealed colluvial layer [58].
This was associated with the construction of the school and was a bedding layer for the tarmac that provided the current day car park surface.

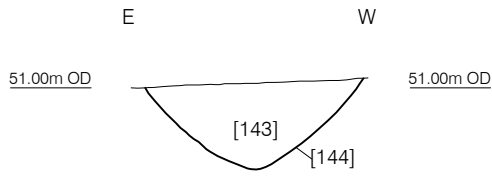


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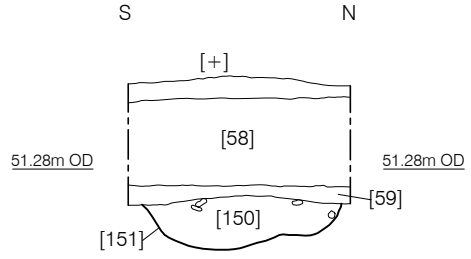
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21/02/12 MR

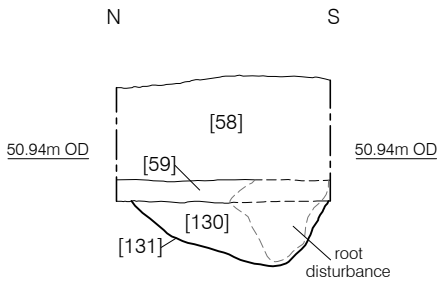
Figure 5
Phase 3 plan, 3rd to 4th Century AD
1:200 at A4



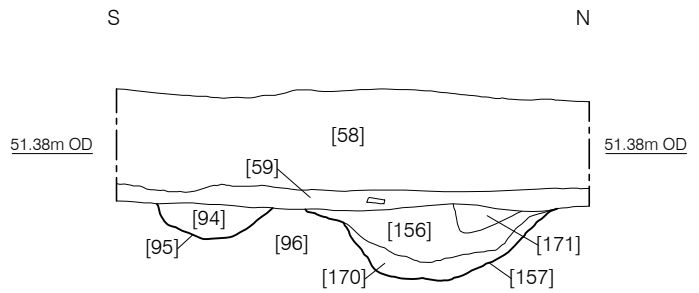
Section 18
North Facing



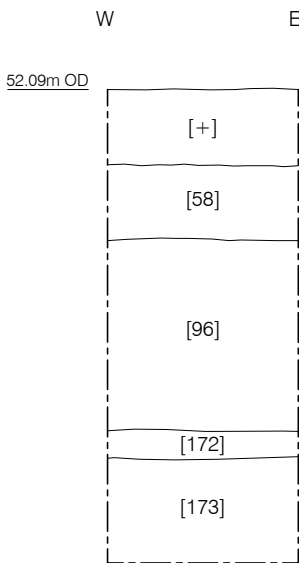
Section 19
East Facing



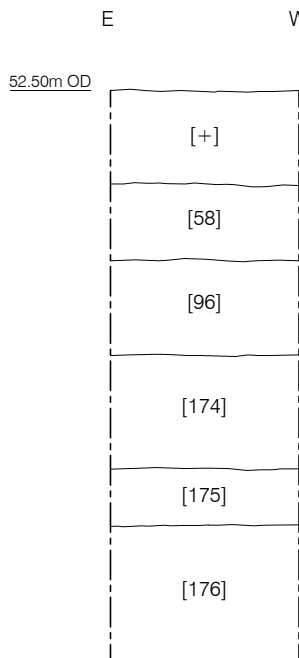
Section 20
West Facing



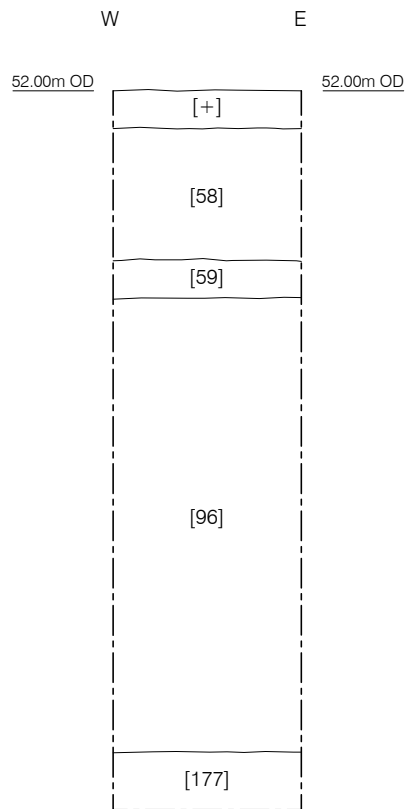
Section 21
East Facing



Section 22
Test Pit 1
South Facing



Section 23
Test Pit 2
North Facing



Section 24
Test Pit 3
South Facing



8 ORIGINAL AND ADDITIONAL RESEARCH OBJECTIVES

8.1 ORIGINAL RESEARCH OBJECTIVES

8.1.1 The Written Scheme of Investigation for archaeological work (Bradley 2011), prepared before the commencement of the excavation phase, outlined a number of broad research objectives that should be addressed by the project:

8.1.2 To understand the character, form and date of any significant archaeological activities present on the site including but not limited to the Roman remains identified during the evaluation

8.1.2.1 The archaeological excavation defined a number of phases of activity on the study site. The earliest evidence of activity is from a small number of residual worked flints dating to the Mesolithic or early Neolithic, indicative of occasional sporadic activity on the site, consistent with the transitory nature of settlement at this time.

8.1.2.2 Struck flints dating to the Middle Bronze Age and Iron Age were also recovered from the site although no features dating to these periods were recorded in the area of excavation. It is possible that the flints are residual and derive from temporary settlement in the immediate vicinity during the seasonal movement of livestock from the lowlands around the Thames Estuary to higher pasture in the North Downs.

8.1.2.3 The earliest activity on the study site that left a permanent imprint on the land appears to have taken place in the 2nd-3rd century AD, with the division of land most probably for cereal cultivation and animal husbandry. This was represented by the digging of ditches and the construction of a possible four post structure (granary). Exploitation of the land for agricultural purposes appears to have continued into the 3rd-4th centuries AD when further boundary features were identified. Some of the earlier boundary alignments also appear to have been maintained, with the replacement of ditches with fence lines.

8.1.2.4 That such a large assemblage of small finds was recovered via metal detecting would indicate that a settlement was in the immediate vicinity. This is also confirmed by the building material retrieved from the site and the presence of box-flue tile might suggest that there was a structure with under-floor heating in close proximity to the study area.

8.1.3 To further clarify the presence of Roman occupation on the site and determine how this occupation compares with other elements in the local landscape

8.1.3.1 The evidence from the excavation suggests that agricultural activity took place on the study site during the Roman period and that it lay on the periphery of a substantial settlement. The majority of the small finds and prestigious cbm related to this period discovered on the site may have been washed down from the ridgeline to the south indicating a more intensely occupied area. However, the shallowness of the features revealed on site and the presence of a mixed dark earth deposit containing frequent coins and small finds might suggest that a concentration of occupation may have been present within the excavation area but masked by bioturbation. The presence of several pits with in situ burning and postholes perhaps forming structures might suggest that at least some form of activity, most likely agricultural, was taking place on the site This reflects the sites location in the highly populated Darenth Valley, with its concentration of bath-houses and villas. Evidence from the immediate area around the site would appear to corroborate this, with Roman field systems and a cremation cemetery being recorded to the immediate north of the site, on the south facing slope of the valley.

8.1.4 To ascertain whether specific agricultural, industrial or ritual activities can be determined from the observed evidence

8.1.4.1 The artefacts retrieved from the site do not give any insight into the specific activities that occurred on or in the environs of the study site. The small finds appear to represent personal items and structural fittings and although the faunal remains are mainly those of livestock these could well be evidence of diet rather than animal husbandry on site. The burnt flints recovered may suggest industrial processes, though they could just as easily reflect food preparation.

8.1.4.2 The features, when taken in association with the known Roman field systems in the immediate vicinity most probably indicate farming on the site and the possible granary would be indicative of this being arable in nature.

9 IMPORTANCE OF THE RESULTS, PROPOSALS FOR FURTHER WORK AND PUBLICATION OUTLINE

9.1 IMPORTANCE OF THE RESULTS

9.1.1 The archaeological remains at Axton Chase are of importance at a local level. The struck flint demonstrates that the site has been visited over a considerable period of time and contributes to the wider picture of movement and the use of landscape in the prehistoric periods.

9.1.2 The features recorded on the site are indicative of an agricultural use of the area in the Roman period and as such add to the knowledge of the local area. Although no masonry structures were found on the site dating to this period there is clear evidence from the ceramic building material recovered that prestigious Roman buildings did exist in the immediate vicinity of the study site, with the box-flue tile showing that at least one of the structures had underfloor heating. The concentration of Roman coins and small finds with a dark deposit suggests that occupation activity was taking place very close if not on the site itself.

9.2 FURTHER WORK

9.2.1 The findings from the site have produced evidence of a number of phases of human activity, various aspects of which require further research. This research should be conducted in line with relevant current archaeological priorities for Kent.

9.2.2 The evidence for earlier prehistoric periods (Mesolithic to Early Neolithic) only occurred as a small assemblage of residual finds. This material indicates a definite presence on at least one occasion and provides a prelude to more permanent occupation of the landscape in later history. A brief mention of this early period should therefore be included in any publication report.

9.2.3 The evidence of Roman activity on the site provides the earliest indication of human impact on the landscape. Although not as extensive as contemporary evidence from other sites in the vicinity, this should be included in a publication report and discussed with reference to other sites in the vicinity.

Lithics

9.2.4 Due to its size and paucity of chronologically diagnostic artefacts, this report (and its accompanying database) is all that is required of the material for the purposes of the archive and no further analytical work is proposed. Short descriptions of both the burnt flint and the struck flint assemblages should be prepared and, along with illustrations of a selection of the more technologically diagnostic struck pieces, included in any published account of the excavations. To this end it would be of advantage to re-appraise the distribution of the burnt flint with full considerations to context, both within individual features and spatially across the site, and, where

appropriate, with regard to the material's relationship with other deposited materials, in order to elucidate its role within the range of activities conducted at the site.

Building materials

- 9.2.4 The heavily abraded roller stamp die [59] and the form of the chimney fragment require further analysis and a summary should be included in a publication report.

Coins

- 9.2.5 Eleven of the Roman coins need cleaning and a report should be included in a publication report.

Roman Small Finds

- 9.2.6 The Roman small finds will require illustration and a full report is required in any publication.

Post Roman Small Finds

- 9.2.7 The post-Roman assemblage from the site is small and as such, primarily of use as a dating tool. However the metal and small finds form an integral component of the finds and should be included in any further publication of the site. This is particularly relevant for the lead cloth seal and the iron punch, which should be x-rayed. The possible iron spur and the rectangular iron buckle would also benefit from x-raying to enable full identification.

Roman Pottery

- 9.2.8 No further work is recommended.

Animal Bone

- 9.2.9 No further work is recommended, however it can be suggested that any salient points within this assessment should be included in any publication.

Environmental

- 9.2.10 Due to the small and fragmentary nature of the environmental remains recovered, the samples provide no potential to characterise further the activities undertaken at the site, agricultural economy, fuel use or the vegetation environment. None of the charcoal or charred macroplant remains is considered suitable for dating or for further analysis. The results of the Mollusca assessment indicate that the environment containing these shells is almost certainly open country throughout the sequence, and with calcareous sediments in all contexts. However, the paucity of other species and their lack of environmental distinction would not justify full or detailed analysis.

9.3 PUBLICATION OUTLINE

- 9.3.1 It is proposed that a short article be published either in the Kent archaeological journal, *Archaeologia Cantiana* or online on the Kent Archaeological Society website










with a linked summary in *Archaeologia Cantiana*. The format of the article will follow that of a typical publication report:

- Abstract
- Introduction
- Geological and topographical background
- Archaeological background
- Archaeological evidence by phase
- Selected finds reports
- Discussion

The illustrations will include:

- Location plans
- Phase plans
- Sections
- Photographs
- Finds illustrations

ID	Task Name	Duration	3/0430/0407/0514/0521/0528/0504/0611/0618/0625/0602/0709/0716/0723/0730/0706/0813/0820/0827/0803/0910/0917/0924/0901/1008/1015/1022/1029/10											
			May '12	Jun '12	Jul '12	Aug '12	Sep '12	Oct '12	N					
1	Project manager	5 days	[Gantt bar: May 3-7, Oct 1-5]											
2	Supervisor	10 days	[Gantt bar: May 3-13, Sep 10-20]											
3	CAD illustrations	5 days	[Gantt bar: Jun 18-23, Aug 13-18]											
4	Lithics	3 days	[Gantt bar: May 3-5, Jun 11-13]											
5	Building materials	3 days	[Gantt bar: May 3-5, Jul 16-18]											
6	Roman coins	3 days	[Gantt bar: Jun 11-13, Aug 13-15]											
7	Roman small finds	3 days	[Gantt bar: Jun 18-20, Aug 27-29]											
8	Post Roman small finds	1 day	[Gantt bar: May 3]											
9	Conservation	2 days	[Gantt bar: May 3-4, Jun 18-19]											
10	Finds illustrations	3 days	[Gantt bar: May 3-5, Jul 23-25]											
11	Product of draft	0 days	◆ 15/10											

Project: axton chase publication progr. Date: Tue 13/03/12	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

10 CONTENTS OF THE ARCHIVE

THE WRITTEN RECORD	
MATERIAL	QUANTITY
Context Sheets	177
Sample Sheets	12
Plans	57
Sections	24
Photographs	47 digital, 69 B&W negatives, 70 colour slides
THE ARTEFACTS	
MATERIAL	QUANTITY
Pottery	1 box
CBM	2 boxes
Lithics	1 box
Coins	82
Small Finds	48 objects
Animal Bone	1 box
Stone	2 pieces
THE ENVIRONMENTAL ARCHIVE	
MATERIAL	QUANTITY
Bulk Samples	12

11 ACKNOWLEDGEMENTS

- 11.1 Pre-Construct Archaeology Ltd. would like to thank Duncan Hawkins of CgMs Consulting for commissioning the work on behalf of Ward Homes, who funded the fieldwork. Thanks also Wendy Rogers, who monitored the archaeological fieldwork on behalf of Kent County Council.
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- 11.3 Finally, thanks to all those who worked on the site, Richard Archer, Jim Heathcotte, Ceilidh Hammill and Aiden Turner, whose contribution is greatly appreciated. Thanks also to Sophie White for technical support.

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APPENDIX 1: CONTEXT INDEX

Site Code	Context No.	Trench	Plan	Section / Elevation	Type	Description	Date	Phase
KACL11	58	Area A	*	19, 20, 21, 22, 23, 24	Layer	Colluvium	Post Roman	5
KACL11	59	Area A	*	19, 20, 21, 24	Layer	Roman Soil	Late Roman	4
KACL11	90	115/220	*	*	Fill	Fill of [91]	3rd-4th C	3
KACL11	91	115/220	91	*	Cut	Posthole	3rd-4th C	3
KACL11	92	110/215, 115/215	*	*	Fill	Fill of [93]	2nd-3rd C	2
KACL11	93	110/215, 115/215	93	*	Cut	Pit	2nd-3rd C	2
KACL11	94	110/215, 110/220	*	21	Fill	Fill of [95]	3rd-4th C	3
KACL11	95	110/215, 110/220	95	21	Cut	Pit	3rd-4th C	3
KACL11	96	Area A	*	18, 19, 20, 21, 22, 23, 24	Layer	Natural	Natural	1
KACL11	97	115/200	*	*	Fill	Fill of [98]	2nd-3rd C	2
KACL11	98	115/200	98	*	Cut	Posthole	2nd-3rd C	2
KACL11	99	115/200	*	*	Fill	Fill of [100]	2nd-3rd C	2
KACL11	100	115/200	100	*	Cut	Posthole	2nd-3rd C	2
KACL11	101	115/195, 115/200	*	*	Fill	Fill of [102]	2nd-3rd C	2
KACL11	102	115/195, 115/200	102	*	Cut	Posthole	2nd-3rd C	2
KACL11	103	110/220, 110/225	*	*	*	Void	*	*

KACL11	104	115/225	*	*	Fill	Fill of [105]	2nd-3rd C	2
KACL11	105	115/225	105	*	Cut	Posthole	2nd-3rd C	2
KACL11	106	115/230	*	*	Fill	Fill of [107]	2nd-3rd C	2
KACL11	107	115/230	107	*	Cut	Posthole	2nd-3rd C	2
KACL11	108	115/220	*	*	Fill	Fill of [109]	3rd-4th C	3
KACL11	109	115/220	142	*	Cut	Ditch	3rd-4th C	3
KACL11	110	115/200	*	*	Fill	Fill of [111]	3rd-4th C	3
KACL11	111	115/200	111	*	Cut	Posthole	3rd-4th C	3
KACL11	112	110/195, 110/200	*	*	Fill	Fill of [113]	2nd-3rd C	2
KACL11	113	110/195, 110/200	145	*	Cut	Ditch	2nd-3rd C	2
KACL11	114	115/215	*	*	Fill	Fill of [115]	2nd-3rd C	2
KACL11	115	115/215	115	*	Cut	Posthole	2nd-3rd C	2
KACL11	116	110/220	*	*	Fill	Fill of [117]	3rd-4th C	3
KACL11	117	110/220	117	*	Cut	Posthole	3rd-4th C	3
KACL11	118	110/230	*	*	Fill	Fill of [119]	2nd-3rd C	2
KACL11	119	110/230	119	*	Cut	Posthole	2nd-3rd C	2
KACL11	120	110/215	*	*	Fill	Fill of [121]	3rd-4th C	3
KACL11	121	110/215	121	*	Cut	Posthole	3rd-4th C	3
KACL11	122	110/215	*	*	Fill	Fill of [123]	3rd-4th C	3
KACL11	123	110/215	123	*	Cut	Posthole	3rd-4th C	3
KACL11	124	112/220	*	*	Fill	Fill of [125]	2nd-3rd C	2
KACL11	125	112/220	125	*	Cut	Pit	2nd-3rd C	2
KACL11	126	110/225, 115/225	*	*	Fill	Fill of [127]	3rd-4th C	3
KACL11	127	115/205	142	*	Cut	Ditch	3rd-4th C	3
KACL11	128	115/205	*	*	Fill	Fill of [129]	2nd-3rd C	2
KACL11	129	115/200	129	*	Cut	Posthole	2nd-3rd C	2
KACL11	130	115/200	*	20	Fill	Fill of [131]	3rd-4th C	3
KACL11	131	115/200	134	20	Cut	Ditch	3rd-4th C	3

KACL11	132	115/200	*	*	Fill	Fill of [133]	3rd-4th C	3
KACL11	133	115/200	134	*	Cut	Ditch	3rd-4th C	3
KACL11	134	115/200	134	20	Group No	Ditch	3rd-4th C	3
KACL11	135	115/225	*	*	Fill	Fill of [136]	2nd-3rd C	2
KACL11	136	115/225	136	*	Cut	Posthole	2nd-3rd C	2
KACL11	137	115/215	*	*	Fill	Fill of [138]	3rd-4th C	3
KACL11	138	115/215	138	*	Cut	Pit	3rd-4th C	3
KACL11	139	110/220	*	*	Fill	Fill of [140]	3rd-4th C	3
KACL11	140	110/220	142	*	Cut	Ditch	3rd-4th C	3
KACL11	141	115/220, 115/225	*	*	Fill	Fill of [142]	3rd-4th C	3
KACL11	142	115/220, 115/225	142	*	Group No	Ditch	3rd-4th C	3
KACL11	143	110/200, 110/205	*	18	Fill	Fill of [144]	2nd-3rd C	2
KACL11	144	110/200, 110/205	145	18	Cut	Ditch	2nd-3rd C	2
KACL11	145	110/195, 110/200, 110/205	145	18	Group No	Ditch	2nd-3rd C	2
KACL11	146	115/215	*	*	Fill	Fill of [147]	3rd-4th C	3
KACL11	147	115/215	147	*	Cut	Posthole	3rd-4th C	3
KACL11	148	115/215	*	*	Fill	Fill of [149]	3rd-4th C	3
KACL11	149	115/215	149	*	Cut	Posthole	3rd-4th C	3
KACL11	150	110/210	*	19	Fill	Fill of [151]	2nd-3rd C	2
KACL11	151	110/210	151	19	Cut	Pit	2nd-3rd C	2
KACL11	152	115/220	*	*	Fill	Fill of [153]	3rd-4th C	3
KACL11	153	115/220	153	*	Cut	Posthole	3rd-4th C	3
KACL11	154	110/225	*	*	Fill	Fill of [155]	2nd-3rd C	2
KACL11	155	110/225	155	*	Cut	Posthole	2nd-3rd C	2

KACL11	156	110/220, 115/220	*	21	Fill	Fill of [157]	2nd-3rd C	2
KACL11	157	110/220, 115/220	157	21	Cut	Ditch	2nd-3rd C	2
KACL11	158	115/215	*	*	Fill	Fill of [159]	3rd-4th C	3
KACL11	159	115/215	159	*	Cut	Posthole	3rd-4th C	3
KACL11	160	115/225	*	*	Fill	Fill of [161]	2nd-3rd C	2
KACL11	161	115/225	161	*	Cut	Pit	2nd-3rd C	2
KACL11	162	115/225	*	*	Fill	Fill of [163]	2nd-3rd C	2
KACL11	163	115/225	163	*	Cut	Pit	2nd-3rd C	2
KACL11	164	115/225	*	*	Fill	Fill of [165]	2nd-3rd C	2
KACL11	165	115/225	165	*	Cut	Posthole	2nd-3rd C	2
KACL11	166	115/220	*	*	Fill	Fill of [167]	3rd-4th C	3
KACL11	167	115/220	167	*	Cut	Posthole	3rd-4th C	3
KACL11	168	115/215	*	*	Fill	Fill of [169]	3rd-4th C	3
KACL11	169	115/215	169	*	Cut	Posthole	3rd-4th C	3
KACL11	170	110/220, 115/220	*	21	Fill	Fill of [157]	2nd-3rd C	2
KACL11	171	110/220, 115/220	*	21	Fill	Fill of [157]	2nd-3rd C	2
KACL11	172	GeoArch TP1	*	22	Layer	Silty Sand	2nd-3rd C	1
KACL11	173	GeoArch TP1	*	22	Layer	Medium coarse Flint Gravels	Natural	1
KACL11	174	GeoArch TP2	*	23	Layer	Fine Sandy Clay	Natural	1
KACL11	175	GeoArch TP2	*	23	Layer	Fine Gravel with large Flint Cobbles	Natural	1
KACL11	176	GeoArch TP2	*	23	Layer	Coarse Gravels with paler patches	Natural	1

KACL11	177	GeoArch TP3	*	24	Layer	Reddish Gravel with Chalk Pebbles	Natural	1
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APPENDIX 2: LITHIC ASSESSMENT

Barry John Bishop

Introduction

Archaeological excavations at the above site resulted in the recovery of 87 pieces of struck flint and just over 5kg of unworked burnt flint fragments. This report quantifies and discusses the material, assesses its potential and significance, and recommends any further work required for the material to achieve its full research potential. A full catalogue detailing the material's distribution within individual contexts is presented in the archive catalogue.

Quantification

Type	Decoritication Flake	Core Modification Flake	Flake	Blade	Flake Fragment	Chip	Core	Conchoidal Chunk	Retouched	Burnt Flint (n.)	Burnt Flint (wt:g)
No.	12	7	25	2	18	16	2	4	1	445	5305
%	13.8	8.0	28.7	2.3	20.7	18.4	2.3	4.6	1.1		

Table 1: Quantification of Lithic Material from Axton Chase School

Burnt Flint

A total of 5305g of unworked burnt flint was recovered from 13 separate contexts, all dated to the Romano-British period. By far the largest quantities came from pit [151] which furnished just under 4kg. Quantities exceeding 100g were recovered from six of the other contexts. The flint comprised thermally fractured nodular fragments and virtually all of it had been intensively burned, resulted in it acquiring a uniform grey colour and becoming heavily 'fire-crazed'. Burnt flint can arise incidentally from hearth use but the quantities present here and the high degree to which it has been heated is suggestive of deliberate production, perhaps during food production or from a variety of craft or industrial processes (eg Smith 1977, 111; Barfield and Hodder 1987; Barfield 1991; Jeffery 1991).

Struck Flint

The 87 pieces of struck flint were recovered predominantly from Romano-British contexts with two pieces recovered from the overlying colluvium, and all are likely to have been residually deposited. The struck flint was manufactured from mottled translucent black / opaque grey flint, typical of that

from the North Downs. Original cortex tended to be rough and many thermal fracture scars are present, indicating it came from superficial deposits close to the parent chalk, as present in the vicinity of the site. As would be expected from a residual assemblage, its condition varied and there is a high proportion of broken flakes, although most pieces are not heavily abraded and it is likely that, as a whole, it was recovered from close to where originally discarded.

The assemblage includes a few blades and other thin and competently produced flakes, most notably those from posthole [165], which are most likely to date to the Mesolithic or Early Neolithic periods. The bulk, however, consists of opportunistically struck thick flakes with wide unmodified striking platforms. Two cores were also recovered. One has a series of flakes struck centripetally from the internal surface of a thermally split nodular fragment, the other has a few flakes struck from the end of a nodular fragment but had subsequently been used as a hammerstone. The single retouched flake recovered consists of a large flake that has a series of small flakes removed from across its ventral surface, making a crudely denticulated implement. A few flakes have edge damage that could have accrued from use but the assemblage's overall condition precludes positively identifying these. The flakes, cores and retouched pieces are most typical of the flintworking traditions of the later second or first millennium BC.

Discussion of the Struck Flint

A small number of struck pieces are characteristic of flintworking traditions of the Mesolithic/Neolithic, indicating occasional low-key and sporadic activity at the site, consistent with the transitory nature of settlement during these periods. The bulk of the assemblage was more characteristic of the flintworking traditions of the Middle Bronze Age to Iron Age periods. It has been argued that by this time flintworking was increasing becoming subsumed within the domestic sphere and therefore predominantly undertaken within settlements or their associated field systems (Young and Humphrey 1999; McLaren 2009). No evidence of permanent settlement during the later prehistoric period was forthcoming at the site although it is possible that the assemblage derives from a temporary and insubstantial settlement, possibly associated with seasonal movement of stock from the lowlands around the Thames Estuary to the higher ground of the North Downs. Such forms of transhumance are argued as being important in north Kent during the later Bronze and Iron Ages, as they were during the historic period (Mudd 1994; Bishop and Bagwell 2005).

Significance and Potential

The unworked burnt flint was probably deliberately produced as part of cooking or industrial processes and therefore has the potential to contribute to understandings of the range of activities undertaken at the site. The struck flint demonstrates that the site had been visited over a considerable period of time and remains the sole evidence recovered for occupation during the prehistoric period. Although somewhat limited by itself, it does contribute to wider understandings of movement and landscape use during both the Mesolithic/Early Neolithic and the later prehistoric period and can add to any future syntheses of the prehistory of this area.

Recommendations

Due to its size and paucity of chronologically diagnostic artefacts, this report (and its accompanying database) is all that is required of the material for the purposes of the archive and no further analytical work is proposed. Short descriptions of both the burnt flint and the struck flint assemblages should be prepared and, along with illustrations of a selection of the more technologically diagnostic struck pieces, included in any published account of the excavations. To this end it would be of advantage to re-appraise the distribution of the burnt flint with full considerations to context, both within individual features and spatially across the site, and, where appropriate, with regard to the material's relationship with other deposited materials, in order to elucidate its role within the range of activities conducted at the site.

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APPENDIX 3: ROMAN POTTERY ASSESSMENT

Katie Anderson

Introduction

An assemblage totalling 247 sherds of Roman pottery, weighing 5329g and representing 4.46 EVEs was recovered from the archaeological excavation. All of the pottery was examined and recorded in accordance with the guidelines laid out by the Study Group for Roman Pottery (Darling 1994). Sherds were sorted within context by fabric, with unsourced wares of the same type e.g. greywares grouped together. Details of form, decoration, usewear and date were recorded along with any other information deemed important.

Assemblage Composition

The assemblage comprised small to large sherds with a relatively high mean weight of 21.6g, although this figure is affected by the presence of several large sherds of amphora (including three handles), that had a mean weight of 276g. Many sherds were noted as being fairly fresh, although there were a number that were abraded/heavily abraded, suggesting that they had not been deposited straight after breakage, or else may have been redeposited from earlier features. The assemblage broadly dates from the mid/late 2nd century AD to the 4th century AD, although there was a apparent peak in the later 3rd-4th century AD.

A range of vessel fabrics were identified (see Table 1), with coarsewares dominating the assemblage, representing 95% in total. This is typical for Roman rural sites. Sandy greywares were the most commonly occurring fabric type (145 sherds, weighing 1795g), and although a number of different greyware fabrics were identified, none of them could be sourced. Therefore for the purposes of this report, the fabrics have been amalgamated into two groups; coarse sandy greywares and fine sandy greywares. Other coarseware fabrics included late Roman grog-tempered wares which represented 13.8% of the assemblage. These are late Roman in date (later 3rd-4th century AD) and therefore are a very useful chronological marker.

A total of 11 imported sherds were recorded, comprising four Central Gaulish Samian sherds and seven Late Baetican amphora sherds. As discussed above, the amphora sherds were all large in size and included two handles and broadly date 2nd-3rd century AD. The Samian sherds were much smaller and fairly abraded, with a mean weight of just 5.3g. One sherd from a Dragendorff 31 was identified, along with one decorated body sherd, depicting part of a man. The remaining two sherds were non-diagnostic body sherds. The size and condition of these sherds is not surprising given that, with the exception of the decorated body sherd (context 18), the three remaining Samian sherds are likely to be residual, occurring alongside much later dating sherds.

Romano-British finewares were limited to two Nene Valley colour-coated sherds, included one imitation Dr36, dating 3rd-4th century AD, as well as one Oxfordshire and one Hadham red-slipped wares, also dating 3rd-4th century AD.

Fabric	No.	Wt(g)
Black-slipped ware	3	38
Buff sandy ware	4	38
Central Gaulish Samian	4	21
Colour coated ware	1	3
Coarse sandy greyware	135	1695
Fine sandy greyware	10	100
Late Grog tempered ware	34	811
Hadham red-slipped ware	1	9
Late Baetican amphora	7	1482
Nene Valley colour-coat	2	22
Oxfordshire red-slipped ware	1	29
Oxidised sandy ware	10	626
Red-slipped ware	2	37
Reduced sandy ware	29	344
Shell-tempered ware	4	74
TOTAL	247	5329

Table1: All Roman pottery by fabric

The range of vessel forms identified was fairly limited, with 72% of the assemblage comprising non-diagnostic sherds (Table 2). Of the forms that could be identified, jars were the most frequently occurring totalling 30 sherds (1569g). Within this category a number of different types of jar were recorded, including everted rim jars and several necked jars with beaded rims. Rim diameters ranged from 10cm to 28cm, highlighting different functions from storage to the preparation and serving of foodstuffs.

Form	No.	Wt(g)
?Cheese press	1	33
Amphora	7	1482
Beaker	2	8
Bowl	16	321
Dish	13	191
Jar	30	1569
Unknown	178	1725

TOTAL	247	5329
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Table 2: Vessel forms

Both bowls and dishes were fairly well represented, which included several different forms. For example, six beaded, flanged bowls dating 3rd-4th century AD were identified, along with one corrugated bowl (2nd-4th century AD). One stamped/roulette bowl sherds was recorded dating 3rd-4th century AD. There was less variety within the dish category, with straight-sided dishes (2nd-3rd century AD) being the most commonly occurring. Along with the seven amphora sherds (which are possibly from a single vessel), two beaker body sherds were recorded. One of these was from a Nene Valley colour-coat. Finally one possible cheese-press was recovered from context [58].

Contextual Analysis

Pottery was recovered from a total of 19 different contexts, albeit in varying quantities (see Table 3). For the purposes of this report, a selected number of contexts have been selected for more in-depth discussion.

Context [59], a Roman buried soil, contained the largest quantity of material from any context, with a total of 66 sherds, weighing 1429g (27%). The pottery from this context had a high mean weight of 21.7g, which is perhaps because it was the latest dating Roman feature on the site. It is worth noting that although there were sherds dating 3rd-4th century AD, there were also several sherds dating 2nd-3rd century AD, which implies that earlier material had somehow become incorporated into this Late Roman buried soil. A further 37 sherds (1170g) were collected from a second Roman buried soil, context [17], having an even higher mean weight of 31.6g. 19 sherds of Roman pottery were caught up in a later colluvium [58].

Context	No.	Wt(g)	Date	Feature Type
17	37	1170	2nd-4th AD	Colluvium
18	1	5	2nd-3rd AD	Ditch
32	4	22	3rd-4th AD	Ditch
39	30	287	2nd-4th AD	Post hole
49	14	175	3rd-4th AD	Topsoil RB
58	19	433	3rd-4th AD	Colluvium post RB
59	66	1429	3rd-4th AD	RB buried soil
60	5	65	2nd-4th AD	Post hole
90	3	31	3rd-4th AD	Post hole
92	3	257	2nd-4th AD	Pit
94	4	826	3rd-4th AD	Pit

110	10	121	2nd-4th AD	Post hole
116	15	135	3rd-4th AD	Post hole
130	1	24	3rd-4th AD	Ditch
146	4	7	RB	Post hole
154	9	46	2nd-4th AD	Pit
156	16	224	2nd-4th AD	Ditch
162	5	67	2nd-3rd AD	Pit
166	1	5	3rd-4th AD	Post hole
TOTAL	247	5329	x	

Table3: All Roman pottery by Context

A sizable quantity of pottery was recovered from postholes. Context [39] a single posthole fill, contained 30 sherds of pottery, weighing 287g. The relatively low mean weight of 9.6g suggests that the sherds may have been redeposited from elsewhere, or else may have been left on the surface for some time before being deposited. The only diagnostic sherds from this feature comprised two sherds from greyware straight-sided dish (2nd-3rd century AD) and a single sherd from a greyware beaded, flanged bowl (3rd-4th century AD). 38 sherds, weighing 364g were recovered from six further postholes, ranging in date from the 2nd-4th century AD.

21 sherds weighing 1196g were collected from four different pits. Although the number of sherds is low, the mean weight is very high at 57g. Contexts [92] and [94] in particular contained some very large and unabraded sherds, including four jars (3rd-4th century AD) and an amphora sherd, which must have been deposited very soon if not immediately after breakage.

A somewhat surprisingly small quantity of pottery was recovered from ditches, totalling just 22 sherds weighing 275g, with the context [156] containing 16 sherds (224g). This included two Late Roman grog-tempered sherds dating late 3rd-4th century AD. The small number of sherds recovered from ditches may suggest either that much of the material from the site was being deposited in other features, or that this excavation was located on the outskirts of a settlement.

Discussion

Overall this assemblage is fairly typical of a Late Roman rural settlement. The fabrics and forms identified suggest that although most of the pottery was obtained from the local area, the site did have access to goods from outside of the immediate locale, including a small number of imported wares. The presence of the amphora, which was traded for its contents rather than as vessels in their own rights, suggests it was not only pottery networks that the site utilised.

Although many sherds within the assemblage were non-diagnostic and could only be broadly dated 2nd-4th century AD, the presence of Late Roman grog tempered sherds, as well as a small number of Oxfordshire and Hadham red-slipped wares, which date to the late 3rd-4th century AD, suggest that this site peaked during the Late Roman period. It is of note that there is no evidence of Roman activity prior to the mid 2nd century AD.

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APPENDIX 4: BUILDING MATERIAL ASSESSMENT

Kevin Hayward

Introduction and Aims

Three boxes of ceramic building material and stone were recovered from the evaluation and excavation at the site at Axton Chase School.

This small sized assemblage (105¹ examples, 13.4kg) was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman ceramic building material and stone from the Phase 2 and 3 ditches and pits and Phase 4 buried soil and Phase 5 colluvium.
- Make recommendations (If any) for further work and retention of important pieces.

Methodology

The building material was examined using the London system of classification with a fabric number allocated to each object. The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10).

Roman Ceramic Building Material 59 examples 12kg

Only Roman ceramic building material is represented at this site. A wide range of fabrics (see below) have been identified with over half of the assemblage, (30 examples, 6.1kg) recovered from the Phase 4 buried soil [59] It was only from this horizon that high status bath-house roller stamp and comb box flue material was recovered along with a chimney fragment. All material was found in a fragmentary condition, some of it having been used on more than one occasion.

Fabrics

Early Roman Sandy Group 2815 (2452; 2459a; 3004; 3006) AD 50-160 18 examples 4.5kg (37% weight)

Late Roman Sandy Group 2459b; (AD 120-250) 2459c (AD 140-250) 6 examples 1.2kg (9.6% weight)

Radlett Group (Hertfordshire) 3023; 3060 (AD 50-120) 8 examples 858g (7.1% weight)

Wealden Silty Group 3018; (AD 100-120) 3028; (AD60-120) 3238 (AD71-100) 24 examples 4.3kg (36% weight)

¹ Excluding individual fragments of daub

Hampshire Fabric Group 3009 (AD 100-120) 2 examples 1.1kg (8.8% by weight)

Late Calcareous Fabric 2457 (AD 140-300) 1 example 135g

With the proximity of the Darent Valley to the Wealden Clays, it is not surprising that over one third (36%) of the assemblage has the silty fabric so characteristic of late first to early second century AD ceramic building material. Another third (37%) has the common early sandy fabric group 2815. Other early fabrics are represented by the Radlett and Hampshire Groups.

Later second to third century AD calcareous and sandy fabrics are present forming about (10%) - nearly all of which is found in the Phase 4 buried soil horizon [59]. This feature also contains a much higher proportion of the silty fabrics and is under represented by the sandy group.

Roofing Material

Tegulae and tile are very common throughout the site in a range of fabrics. Of note is the very distinctive very tall flange profile of the silty 3018 tegulae from [59].

Brick

The only substantial fragment of brick from the Roman topsoil of the evaluation [17] was 47mm thick and probably represented a pedalis or Lydion. This, like quite a number, have been vitrified indicating their use in a heated structure possibly a hypocaust from a bath-house.

Box-Flue

Two fragments of box-flue, both from the Phase 4 buried soil horizon [59] were recovered. One example imprinted with a roller stamp in fabric 3009 is highly distorted by heat. It was not possible to provide an exact match with an example from Corpus of Relief Pattern Tile (Black & Betts 1994) although it looks as if the pattern has two inward pointing arrows. Another silty fabric is represented by a medium comb in an arrow shape. Both attest to the presence of a heated masonry structure in the vicinity.

Chimney Fragment

Also from [59] was a circular finger-pressed chimney fragment – possibly related to a bath-house structure nearby.

Daub

3102 186 examples 1.3kg

Burnt calf brown and unburnt red daub with abundant chaff inclusions are present from a number of Roman contexts in particular [94] (860g) attesting to the presence of wattle and daub structures in the vicinity.

Stone 1 example 73g

3129 Finely laminated sandstone – Greensand probably Lower Greensand (Hythe Beds) Maidstone area.

A small polished hone associated with the Phase 4 buried soil [59] represented the only example of worked stone from the assemblage. The use of hard fine sandstones and calcareous sandstones from the North Downs for sharpening tools and weapons is attested to at many Roman sites throughout south-east England and London.

Phase Summary

Bringing together the building material from the evaluation [17] [18] [49] [60] and the excavation [58] [59] [90] [92] [94] [154] [155] [156] [162] it is immediately apparent that the assemblage is entirely Roman in character.

Phases 2 & 3: Roman

All of the ceramic building material recovered from the pit and posthole fills [90] [92] [94] [154] [162] and ditch fill [156] consist of early (late first to mid second century) tile, brick and daub manufactured from the London brickearth clays (fabric group 2815) with occasional examples from the Wealden clays and Hertfordshire (Radlett Group). The exception is a late Roman (AD 140-300) calcareous tile fabric from [162]. This attests to some masonry and wattle and daub structures in the vicinity.

Phase 4: Roman Abandonment?

Given that the buried soil [59] seals a majority of the site it is not surprising that over half the building material recovered comes from this context. Not only is there considerably more material, but nearly all of the later mid second century to third century tile and brick fabric (2459b; 2459c) is present here. It is here that there is also a small concentration of early second century bath-house material including a roller stamp die and combed box-flue tile in silty Wealden fabric and part of a chimney.

Phase 5: Post Roman

Ceramic material from a layer of colluvium [58] was also Roman in character.

Distribution

Context	Fabric	Form	Size	Date range of material	Latest material	dated	Spot date	
17	3006; 2452	Roman Tegulae, Imbrex and Brick	4	50	160	50	160	50-160
18	3238; 2452	Roman Brick	3	50	160	50	160	71-160+
49	3004; 3023; 3102	Daub; Roman Brick; Imbrex	5	1500BC	1666	1500BC	1666	50-160+
58	2452; 3009; 2459b; 3060	Roman Tile; Tegulae	4	50	250	120	250	120-250+
59	3238; 3009; 3018; 2459a;	Roman Tile; Tegulae,	31	1500BC	1666	1500BC	1666	140-250+

Context	Fabric	Form	Size	Date range of material	Latest material	dated	Spot date	
	2459c;; 2452; 3006; 2459b; 3129; 3023	Imbrex, Brick, Box Flue Roller Stamp; Hone Stone; Chimney; Daub						
60	3102	Daub	1	1500BC	1666	1500BC	1666	50-400+
90	3238	Roman Tile	1	71	100	71	100	71-100+
92	2815; 3018; 3102	Roman Tile 3 Brick and daub		1500BC	1666	1500BC	1666	50-400+
94	3102	Daub	190	1500BC	1666	1500BC	1666	50-400+
150	3102	Daub	13	1500BC	1666	1500BC	1666	50-400+
154	3102; 2459a; 3023;2815	Burnt Daub; 9 Roman Tile		1500BC	1666	1500BC	1664	50-160+
156	2459a; 3023; 3028	Roman Tile and 4 Tegulae		50	160	50	160	60-160+
162	2457; 3006	Roman Tile	2	50	300	140	300	140-300+

Summary

This small group of discarded Roman ceramic building material, stone and daub no doubt reflects the sites proximity to the intensely farmed and populated Cray and Darent Valley (Boyce 2010) with its concentration of isolated bath-houses and villas such as Darent and Lullingstone. Although no Roman structures were found on site there is clear evidence from the ceramic building material assemblage at KACL11 for Roman building(s) nearby. The presence of roller stamped and combed box-flue tile show that at least one of these structures was early would have had underfloor heating. Whether this is one of the isolated bath-house structures or a much larger villa cannot be ascertained from the limited material evidence.

Recommendations

Significance

This small group of discarded Roman ceramic building material, stone and daub no doubt reflects the site's proximity to the intensely farmed and populated Cray and Darent Valley (Boyce 2010) with its concentration of isolated bath-houses and villas such as Darent and Lullingstone. Although no Roman structures were found on site there is clear evidence from the ceramic building material assemblage at KACL11 for Roman building(s) nearby. The presence of roller stamped and combed box-flue tile show that at least one of these structures would have had underfloor heating. Whether this is one of the isolated bath-house structures or a much larger villa cannot be ascertained from the limited material evidence.

The form of the heavily abraded roller stamp die [59] and the form of the chimney fragment requires further analysis (Ian Betts) and a small section c.300-400 words would summarise these findings in a publication report of the site.

Bibliography

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Boyce, K., 2007.. The implications of isolated Roman Bath-Houses in the Roman Cray Valley *London Archaeologist* 11 (10), 260-264.

APPENDIX 5: ROMAN COIN ASSESSMENT

James Gerrard

The excavation produced 82 Roman coins. These ranged in date from a *sestertius* of Trajan AD 98-117 and a *dupondius* of Marcus Aurelius to a Constantinian FEL TEMP REPARATIO *nummus* of the late fourth century. The coins have been recorded in an Access database that is available from the archive.

Almost all of the coins came from colluvial deposits [58] and the late Roman layer [59]/[17]. This group of coinage was dominated by late third century radiates. However, early fourth-century coins included Constantinian *folles* and *nummi* were present in smaller numbers. A group of radiates and *nummi* are highly unlikely to have coexisted together in a hoard and thus it seems likely that these coins represent 'site finds', rather than an ancient group or hoard that has been dispersed. None of the coins are particularly unusual, although the FEL TEMP REPARATIO *nummus* was struck at Thessalonica. The coins suggest activity at (or close by) the site from the middle of the third century until the middle of the fourth century. There should be a coin report and catalogue in any publication. Eleven coins require cleaning by a conservator before any publication report can be written.

Context	SF Number	Date	Reece Period	Clean
108	0	270-290	14	
59	119	270-290	14	
59	107	270	14	
59	106	176-177	8	
59	105	270-290	14	
59	104	270-273	13	
59	103	C3/C4		yes
59	102	253-268	13	yes
59	101	330-335	17	
59	100	270-273	14	
59	99	270-290	14	
59	98	335-341	17	
59	97	270-290	14	
59	62	324-330	17	
59	60	318-324	16	
59	59	270-290	14	
59	58	300-325		yes

Context	SF Number	Date	Reece Period	Clean
59	57	330-348	17	
59	56	268-270	13	
59	55	270	14	
59	54	270-290	14	
59	53	270-290	14	
59	52	335-341	17	
59	51	268-270	13	
59	50	270-290	14	
59	49	330-335	17	
59	48	270-290	14	
59	47	270	14	
59	46	355-361	18	
59	45	270-290	14	
59	44	C3/C4		
59	43	337-341	17	
59	42	268-270	13	
59	41	337-341	17	
59	40	286-293	14	
59	39	270-290	14	
59	38	293-296	14	
59	37	269-270	13	
59	36	260-268	13	
59	35	260-268	13	
59	34	C3/C4		yes
59	33	318-324	16	
59	32	270-273	14	
59	31	C3/C4		yes
59	30	270-290	14	
59	29	270-290	14	
59	28	260-268	13	
59	27	316-317	15	
58	90	341-348	17	
58	89	270-290	14	

Context	SF Number	Date	Reece Period	Clean
58	88	270-290	14	
58	87	335-341	17	
58	86	c3/c4		
58	85	c3/c4		yes
58	84	C3/C4		
58	83	270-290	14	
58	82	270-273	14	
58	81	c3/c4		yes
58	80	330-335	17	
58	79	C3/C4		yes
58	78	335-341	17	
58	77	270-290	14	
58	76	284-296	14	
58	75	c3/c4		yes
58	74	C1/C2		
58	73	323-324	16	
58	20	270-290	14	
58	19	330-335	17	
58	18	270-290	14	
58	17	270-290	14	
58	16	c3/c4		yes
58	15	313-314	15	
58	14	C1/C2		yes
58	13	293-296	14	
58	12	286-293	14	
18	1	268-270	13	
17	6	C3/C4		
17	5	270-290	14	
17	4	268-270	13	
17	3	c1/c2		
0	2	98-117	5	

Table 1: Summary listing of the coins

APPENDIX 6: ROMAN SMALL FINDS ASSESSMENT

James Gerrard

The excavations produced 40 small finds. This figure includes a number of possibly post-Roman items. There is also a stone sphere of natural origin (Dr K. Hayward pers. comm.) (<118> [156]).

The Romano-British objects include a plate brooch with blue enamelled decoration <61> [59] (Mackreth 2011, Type Plate 2.g3), a fragment from a Nauheim derivative brooch and an incomplete Colchester derivative brooch. A small pair of copper-alloy tweezers <109> [59], a copper-alloy handle <63> [59] and a double-spiked loop [59] are items of note. Two lead weights with suspension loops (one of which is of biconical form) <67> & <68> [58] may also be significant as weights and measures are uncommon in rural contexts. The absence of bone objects is noteworthy as hairpins and needles are generally common finds, but may be due to the fact that most objects were recovered utilising a metal detector.

It is difficult to interpret the small finds assemblage. Taken along with the coins it seems to represent a spread of Romano-British material culture that includes personal items, money and also structural fittings like nails and double-spiked loops. Given the diversity of material it seems unlikely that this is a 'votive' assemblage'.

The brooches, weights and other items will require illustration and a full report is required in any publication.

Mackreth, D., 2011. *Brooches in Late Iron Age and Roman Britain*. Oxford, Oxbow.

Context	SF	Obj Name	Material	Complete	Functional Category	Date	Comments
17	7	Stud	Cu	No	11		Head from a large circular stud, decorated with four concentric rings
17	8	Obj	Cu	No	18		Subrectangular amorphous sheet with ?fixing hole at one end
17	9	Obj	Pb	Yes	18		Subrectangular lead sheet with indentation in one side
17	10	Obj	Pb	Yes	18		Cast lump
17		Nails	Fe		11		3 nails
39	11	Worked Bone	Bone		16		Rectangular frag

49		Nail	Fe		11		
58	21	Sheet	Cu	No	18		Sheet, poorly preserved, possible traces of fixing holes along one edge
58	22	Sheet	Cu	No	18		Folded sheet, possibly related to SF21
58	0	Nail	Fe	Yes	11		Nail with square head
58	23	Brooch	Cu	No	1	C1	Spring and upper part of Nauheim derivative brooch
58	66	Sheet	Cu	No	18		Two sheet frags
58	68	Weight	Pb	No	6		Weight with iron suspension loop
58	67	Weight	Pb	No	6		Biconical weight with iron suspension loop
58	70	Obj	Fe	No			Amorphous lump
58	71	Link?	Cu	No	11		Broken chain link?
58	72	Obj	Cu	No	18		Rectangular sheet with groove running longitudinally
58	92	Buckle	Cu	No	1		Small buckle
58	93	Hobnail	Fe	Yes	1		
58	94	Obj	Cu	No	18		Some signs of decoration
58	96	Sheet	Cu	No	18		
58		Nail	Fe		11		
59	109	Tweezers	Cu	Yes	2	Roman	
59	63	Handle	Cu	No	4	Roman	Handle with concave sides topped by a reel and knob. The base also has a reel and traces of iron suggest it fitted an iron object
59	64	Ferrule?	Cu	No	11		
59	65	Knife?	Fe	No	10		Rectangular 'blade' tapering to a point. Not easily paralleled in Manning
59	0	Double spiked loop	Fe	Yes	11		

59	61	Brooch	cu	No	1	C2+	Circular plate brooch Mackreth Plate 2.g3. Central reserved annulus, a zone of raised dots, floowowed by an outer zone fo enamelled blue decoration, with a scalloped outer edge. Missing pin
59	0	Nails	Fe		11		15 nails
59	0	Waste	Pb		18		18 frags
59	108	Brooch	Cu	No	1	C1+	Colchester derivative brooch, incomplete, unperforated catchplate, missing pin.
59	115	Polisher?	Stone		10		Cuboid stone with rounded edges
90	113	Obj	Fe		18		
103	112	Flint	stone		10		
108	111	Obj	Fe		18		
114	0	Stud	Fe		11		
141	116	Obj	Fe		18		
141		Nail	Fe		11		
154	117	Sheet	Fe		11		Sheet with fixing hole
162		Nail	Fe		11		

APPENDIX 7: METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster

A handful of post-medieval objects were retrieved from the widespread colluvium layer [58]. The finds are listed in the table below. The earliest identifiable object is the disc of a cloth seal featuring the Hanseatic double-headed eagle (sf 25), probably dating from the late 16th or early 17th centuries and intended for cloth exported from England (cf. Egan 1994, 116-117). Two further finds may be late medieval or early post-medieval in date; a curved iron object (sf 26), possibly the neck part of a spur, and a near-complete iron punch (sf 120). Punches like this were used as metalworking tools, and the neck on the shaft would have facilitated holding the punch with a tong while piercing the hot metal (Ottaway 1992, 516). A narrow rectangular iron buckle (sf 24) may be from a horse harness and is most likely of later post-medieval date, as is the probable ribbed iron nut (sf 69). The small machine-made copper-alloy fragment (sf 95) could be WW2 shell shrapnel.

Recommendations

The metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. This is particularly relevant for the lead cloth seal and the iron punch, which should be x-rayed. The possible iron spur and the rectangular iron buckle would also benefit from x-raying to enable full identification.

References

- Egan, G., 1994. *Lead Cloth Seals and Related Items in the British Museum*. British Museum Occasional Paper 93.
- Ottaway, P., 1992. *Anglo-Scandinavian ironwork from 16-22 Coppergate*, The Archaeology of York 17/6, London.

context	sf	description	recommendations
17	120	near-complete iron punch; rectangular-section necked shaft with thick circular head; L 120mm; from Roman topsoil	x-ray
58	24	rectangular iron buckle with iron pin; 28 x 55mm; probably from horse harness	x-ray
	25	folded bifacial disc of lead cloth seal; one side with the Hanseatic double-headed eagle, the other illegible; diam. c.25mm	
	26	fragment of curved iron object with an oval extension at the apex; W 40mm; possibly the heel part of a spur	x-ray
	69	iron ?nut; melon-shaped with vertical ribs; ht. 20mm; diam. 27mm	
	91	lead shot; diam. 9mm	
	95	fragment of machine-made copper-alloy object with overlapping concentric sheeting; ? WW2 shell shrapnel	

KACL11: Post-medieval metal and small finds

APPENDIX 8: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

This site, situated in the Darent Valley, provided evidence for Roman occupation with various Roman features cut through natural deposits, sealed by a Roman soil and a thick layer of colluvium. The deposits revealed a hand collected animal bone assemblage amounting to just 30 fragments, all taken from the Roman topsoils. There is a high level of fragmentation amongst the context collections, however, the preservation (surface condition) of the bones is generally good (slight to no root etching).

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered.

Description of faunal assemblage by phase

The site stratigraphy has been provisionally divided into 5 phases, as follows: - 1 – Natural, 2 – Roman-2nd-3rd century; 3 – Roman 3rd-4th century; 4 – Late Roman; 5 – Post-Roman. Phase 4 refers to the aforementioned Roman soils, in which was found a number of Roman coins, small finds and ceramic building material fragments. (see Table 1).

	Context	17	18	49	59	60	90	154	162	
	Phase	4	2	4	4	2	3	2	2	
		Roman soil	Fill of ditch	Roman soil	Roman soil	Fill of posthole	Fill of posthole	Fill of pit	Fill of pit	
Species										
Cattle		5	2	2	4		1		1	
Cattle-size				6	4	1		1		
Equid					1					
Sheep-size				1	1					
Total		5	2	9	10	1	1	1	1	30

Table 1. Species representation within the Roman deposits

There were single fragments found within pits [155] and [163] and postholes [61] and [91]; 2 bones from ditch [19]; and 24 fragments from Phase 4 topsoil deposits [17], [49] and [59]. The collection, mainly composed of cattle and cattle-size pieces, is almost entirely represented by small limb bone fragments, with the notable exception of a highly fragmented and relatively complete equid mandible. This mandible is from a medium sized animal (comparisons to Roman data in the PCA animal bone archives) and was no more than about 7 years old (calculated using crown heights after Levine 1982).

Conclusion and recommendations for further work

The level of fragmentation noted within these collections can perhaps be accounted for by a heavy degree of redeposition, as perhaps might be expected within an agricultural soil. It is no surprise to find these bones associated with artefacts covering a wide date range, probably including a large part of the Roman occupation period. This is undoubtedly a limiting factor concerning any further analysis, as indeed is the rather small quantity of bones which with the exception of the equid mandible, also fail to provide any age or size data.

While no further work can be recommended it can be suggested that any salient points within this assessment should be included in any later site reports.

References

Levine, M., 1982. The use of crown height measurements and eruption-wear sequences to age horse teeth. In B. Wilson, C. Grigson and S. Payne (eds.) *Ageing and sexing animal bones from archaeological sites*. BAR Brit Ser 109, Oxford, 223-250.

APPENDIX 9: GEOARCHAEOLOGICAL ASSESSMENT

C.P. Green

Quaternary Scientific (QUEST), School of Human and Environmental Sciences, University of Reading,

INTRODUCTION

This report summarises the findings arising out of the geoarchaeological field investigation undertaken by *Quaternary Scientific* in connection with the proposed development at Longfield, Kent. Three test pits (Test Pits 1-3, see Fig. 3) were observed within the excavation area of the site (TQ 605 689) in order to record the sequence of deposits overlying the chalk bedrock, to evaluate their potential for further geoarchaeological investigation, and to identify any artefacts within the deposits.

THE SITE

The site is in school grounds on the floor of a substantial dry valley that leads down in a generally WNW direction to join the valley of the River Darent just south of Dartford. The site is about 7.0km upstream from the confluence with the Darent, at a point where the valley floor is at a level of c.52m OD and the valley sides are noticeably asymmetrical. The south-facing slope rises quite steeply to a level of c.90m OD and the north-facing slope rises more gently to merge with the rising ground forming the dip-slope of the North Downs.

The site lies close to the axis of the dry valley on ground that slopes up very gently to the south. The British Geological Survey (1:50,000 Sheet 271 Dartford 1998) shows the valley floor, including the northern part of the site, underlain by Head, defined as 'silt, sand and clay with variable gravel, chalky in places'. The bedrock underlying the Head is the Upper Chalk and the site extends southward onto this formation. The nearby valley side to the south is mapped as Made Ground and there is clear topographic evidence that the site as a whole has been levelled, probably by both cut and fill when the school and its playing fields were put in place. It is also significant in relation both to the superficial geology and past land-use in the immediate vicinity that an adjoining property to the east of the site is called Brickfield Farm. Historic maps (Hawkins 2008) record the development and extent of the brickfield.

A previous investigation (Green 2007) on the dry valley floor at a distance of c.1km up-valley from the present site of investigation, revealed a slightly uneven and locally pinnacled surface of the chalk at a depth of between 1.5m and 2.0m bgs with recorded relief amplitude of 0.65m. At the eastern end of this site the chalk was immediately overlain by chalky flint gravel with a clean sandy matrix which was interpreted as a water-laid deposit representing a fairly high energy fluvial environment.

In all the sediment sequences recorded at this site, the modern soil (or Made Ground) was underlain by a coarse to very coarse flint rubble in a more or less sparse 'brickearth' matrix. This rubble either rested directly on the pinnacled surface of the chalk or became less stony downward passing down into chalky, almost stoneless clayey silts. In some places this fine-grained sediment was succeeded downward by another unit of flint rubble, but at the eastern end of the site, as noted above, it rested on water-laid chalky flint gravel. No organic remains or artefacts were recovered from these sediments.

METHODS

Field investigations

To determine the sequence of deposits overlying the chalk bedrock, three test pits were opened at the site, in or immediately adjacent to an area of archaeological investigation where the ground had been taken down to the level of a buried soil from which numerous Roman artefacts were being recovered, between c.0.75m and 1.00m bgs.

Representative sections were measured in each trench (Fig. 6) and were described in the field, using standard procedures for recording unconsolidated sediment, noting the composition (gravel, sand, clay, silt and organic matter) and thickness of the unit (Tables 1 to 3).

RESULTS

Lithostratigraphic descriptions

Table 1: Lithostratigraphic field description of Trench 1, Longfield, Kent

Depth (m OD)	Unit	Descriptions
52.09-51.69	3	Made Ground beneath tarmac surface; sharp contact with:
51.69-51.29	2	Reddish brown; stony clay. Long axis of stones aligned parallel to ground surface; sharp contact with:
51.29-50.29	1c	Pale greyish brown; very slightly clayey free-running medium gravel; sharp contact with:
50.29-50.14	1b	Strong reddish brown; silty sand; sharp contact with:
50.14-49.59	1a	Greyish brown; medium to coarse sandy gravel of sub-angular water-worn flint (up to 200mm long dimension) with a few well-rounded flint pebbles (mainly <40mm)

Table 2: Lithostratigraphic field description of Trench 2, Longfield, Kent

Depth (m OD)	Unit	Descriptions
53.00-52.10	4	Made ground with large diameter pipe resting on remnant of dark greyish brown buried soil; well marked transition to:
52.10-51.20	3	Reddish brown; sparsely stony silty sand ('brickearth') becoming increasingly stony downward; well-marked transition to:
51.20-50.40	2	Bright reddish brown; stoneless fine sandy clay; 0.6m on north side of section and feathering out southward; sharp contact with:
50.40-50.10	1b	Greyish brown; fine to medium clayey sandy gravel of sub-angular water-worn flint with scattered larger cobbles, passing down to coarser gravel with pockets of pale yellowish brown clayey gravel
50.10-49.40	1a	Greyish brown; coarse slightly clayey sandy gravel of sub-angular water worn flint (up to 200mm) with scattered well-rounded flint pebbles.

Table 3: Lithostratigraphic field description of Trench 3, Longfield, Kent

Depth (m OD)	Unit	Descriptions
52.00-51.10	3	Dark greyish brown; stony sandy clay/clayey sand (top soil) passing down to brown stony clayey sand (colluvial deposit) passing down gradually to:
51.10-50.90	2	Greyish brown stony clayey silty sand (buried soil – with Roman artefacts); very sharp contact with:
50.90-48.20	1	Pale greyish brown; free-running (dry) slightly sandy coarse gravel of sub-angular water-worn flint (up to 300mm long dimension) with scattered well-rounded flint pebbles; becoming redder and more clayey in the lowermost 0.5m where very scattered small (up to 30mm) well-rounded chalk pebbles were present; patchy calcium carbonate reprecipitation on clast surfaces.

SUMMARY OF THE FIELD INVESTIGATIONS AND INTERPRETATION

The deposits overlying the Chalk on the floor of the dry valley at this site are substantially thicker than those recorded on the dry valley floor about 1km up-valley (Green 2007). Up-valley, the Chalk was encountered at levels between 1.5m and 1.9m bgs where the ground surface was at c.57m OD. At

the present site, where the ground surface is at about 52.0m OD, the Chalk was not seen in any of the trenches down to a level c.3.80m below the ground surface in Test Pit 3. However, the presence of chalk clasts in the lower part of the gravel in Test Pit 3 suggests that the surface of the Chalk was not far below the bottom of the trench. Despite the marked difference in the thickness of the deposits between the two sites, the sediment sequences were broadly similar, consisting of fluvial gravels overlain by colluvial deposits (Head).

In Test Pits 1 and 3 at the present site, the lowest units in the sediment sequences (Unit 1) consisted largely of free-running flint gravel, incorporating, in Test Pit 3, water-worn clasts up to 300mm (long dimension). These gravels reflect deposition from a very energetic fluvial environment and probably represent torrential flow over frozen ground during the spring melt under periglacial conditions.

Overlying these torrent gravels in Test Pits 1 and 3 were sandy silty clays of colluvial origin (Test Pit 1, Unit 2; Test Pit 3, Units 2 and 3). In Test Pit 3, at the base of this colluvial sequence, Unit 2, represents a buried soil which elsewhere in the site has yielded large numbers of Roman artefacts.

In Test Pit 2, no undisturbed fluvial gravels were observed. The lower part of the sediment sequence was occupied by colluvial deposits (Units 1-3) which consisted largely of slightly reworked and redeposited, clay-enriched fluvial sands and gravels. The upper part of this sequence (Unit 3) comprised a rather stony silty sand, probably equivalent to the material being exploited in the former brickfield close to the eastern edge of the site. The upper part of the sediment sequence in Test Pit 2 was largely obscured by previous trenching and groundwork, but appeared to resemble the upper part of the sequence in Test Pit 3, comprising a stony fine-grained deposit, at the base of which a buried soil could be recognised. Several artefacts of probable Roman age were recovered from this horizon immediately prior to the opening of the trench.

The juxtaposition of fluvial and reworked fluvial deposits indicated in the contrast between Test Pit 2 and Test Pits 1 and 3, was clearly illustrated on the floor of the area from which the post-Roman colluvium and Roman soil had been removed during archaeological investigations. Here, sharp contacts between the two sediment types could be traced on the ground, demonstrating that the infill beneath the dry valley floor is the product of an interaction between fluvial deposition and colluvial reworking of sediments on the valley floor. The burial of the 'Roman' soil indicates that the introduction of colluvial sediment to the valley floor continued during the historic period.

RECOMMENDATIONS

Apart from the character of the sediment itself, nothing was seen in the trenches at Axton Chase School, Longfield that might add to an understanding of the pre-Roman infill beneath the dry valley floor. In spite of careful scrutiny of the sediments as they were lifted and deposited from the trenches,

no artefacts were observed or recovered. There is therefore no reason to undertake further work within the area of the present archaeological investigations.

REFERENCES

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APPENDIX 10: ENVIRONMENTAL ASSESSMENT

K. Le Hégarat, L. Allott, T. Walker and D.S. Young

Quaternary Scientific (QUEST), School of Human and Environmental Sciences, University of Reading,

INTRODUCTION

This report summarises the findings arising out of the environmental archaeological assessment undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at Axton Chase School, Longfield, Kent (Site Code: KACL11). The aim of the environmental archaeological assessment was to examine the potential of the samples for providing information relating to the functions of the features sampled, the activities carried out at the site, and the local vegetation environment.

METHODS

Bulk soil samples were taken during the course of the archaeological work at Axton Chase School, Longfield to establish the presence of environmental remains such as charred macroplant remains, charred wood, bones and Mollusca and to assess their potential to provide information relating to the site. Samples were processed by Pre-Construct Archaeology Ltd using flotation. In total, the flots from eleven bulk samples as well as the charcoal and charred macrobotanical remains extracted from the residues of six samples were submitted for assessment. This material came from twelve samples extracted from deposits which are provisionally dated to the Roman period. Three samples are from pit deposits, six from postholes and three from ditches. This assessment aims to provide an overview of the sample contents and assesses their potential to provide information relating to the past vegetation environment and the nature of the features sampled.

Charcoal fragments and charred macroplant remains extracted from the residues were weighed and an overview of the sample contents recorded in Table 1. Flots were also measured and weighed before being scanned under a stereozoom microscope at x7-45 magnification and an overview of their contents was recorded (Table 2). Preliminary identifications of macrobotanical remains have been made using modern comparative material and reference texts (Cappers *et al.* 2006; Jacomet 2006; NIAB 2004). Nomenclature used follows Stace (1997). Abundance and preservation of the macrobotanical remains have been recorded to establish their potential for further analysis. Mollusca remains were assessed using a low-power stereo microscope (x7-40 magnification). Identifications were made to species level where possible using a reference collection and Cameron (2008) as aids when necessary.

RESULTS AND INTERPRETATION OF THE ARCHAEOBOTANICAL ASSESSMENT

These samples have produced little archaeobotanical material. Overall, the flots were very small (ten of the eleven flots measured <4mm). They were rich in land Mollusca and they also produced varying quantities of uncharred material including sediment and uncharred vegetation such as leaf fragments, roots and infrequent uncharred seeds of the goosefoot (*Chenopodiaceae*) family and birch (*Betula* sp.) tree fruits.

Flots and residues contained very small assemblages of wood charcoal fragments. Many of these fragments were small measuring <2mm in size although several larger fragments 2-4mm and >4mm were also recorded. Although charcoal fragments are generally well preserved no identifications have been obtained as overall the assemblages were too small to provide significant information regarding fuel use or the past woody environment, and such small assemblages need not reflect activities associated with the infilling of these features. Charred macroplant remains were also scarce with samples <1>, <2>, <4>, <5>, <7> and <10> producing small quantities of barley (*Hordeum vulgare*), wheat (*Triticum* sp.), possible rye (cf. *Secale cereale*) and indeterminate cereal caryopses. None of the samples contained more than five cereal grains. A single charred fragment of a possible wild/weed seed was recorded in sample <9> [150] and indeterminate charred plant remains were present in samples <2> and <7>. Sample <4> contained a single wheat glume base although this was not well enough preserved to determine the taxon represented. On the whole preservation of these charred macroplant remains was particularly poor. A single fish bone was present in sample <10> and a single fly pupa was noted in sample <4>. The flot from sample <6> produced seven hammerscale spheroids.

SIGNIFICANCE AND POTENTIAL OF THE ARCHAEOBOTANICAL ASSESSMENT

Botanical remains were very limited in these samples and therefore their significance is also limited. Sampling confirmed the presence of uncommon cereal crops, a single wild/weed seed and a single chaff component. Wheat, hulled barley and probable rye were used at the site; however, the glume base identified in posthole [17] <4> was in a poor state of preservation and it was impossible to determine if it indicates the presence of emmer or spelt. Although the charred crop remains recovered from the samples from Axton Chase School suggest some cultivation, the assemblage is too small and too poorly preserved to satisfactorily assess the scale of arable activities at the site. During the Roman period, spelt (*Triticum spelta*) was the principal cereal grown in England followed by a smaller amount of hulled barley (Greig 1991). Recent excavations in the area have revealed that although spelt was the dominant wheat grown in Kent (Campbell 1998), emmer was also in use during the Roman period (Davis 2006; Stevens 2006). Pelling (2008) has suggested that in the south-east both

hulled wheat species could have been cultivated side by side or even together. The presence of rye in Roman contexts is uncommon in Britain, however it has been recorded at Verulamium and York (Behre 1992) as well as from Perry Oak, Heathrow (Challinor 2006a).

Charcoal fragments in these assemblages were too few to provide significant information regarding fuel use, the composition of the woodland environment or evidence for management of fuel and timber resources. Sites in the local area such as Pepperhill, Northfleet (Challinor 2006b) and Northumberland Bottom, Southfleet (Challinor 2006c) have produced larger assemblages of charcoal. Although at Pepperhill the funerary assemblages are almost exclusively composed of oak wood, at Northumberland Bottom Challinor (2006c) recorded both oak and hazel being used as fuel within a Romano-British corn drier. The hammerscale spheroids recovered from posthole/pit fill context [116] may indicate some industrial activity in the vicinity of the site; however, their exact origin is uncertain.

Table 1: Results of the residue quantification of samples from Axton Chase School, Longfield, Kent (Site Code: KACL11)

Provisional date	Sample Number	Context	Context / deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charred botanicals (other than charcoal)	Weight (g)
Roman	1	92	Fill of Pit [93]	40	40	*	<2	*	<2	* <i>Triticum</i> sp. (1)	<2
Roman	2	94	Fill of Pit [95]	40	40			*	<2		
Roman	3	104	Fill of Posthole [105]	10	10	*	<2	**	<2		
Roman	4	106	Fill of Posthole [105]	20	20			**	<2		
Roman	10	156	Fill of Ditch [157]	40	40	**	<2	**	<2		

Key: Residue quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and weights in grams

Table 2: Results of the flot quantification of samples from Axton Chase School, Longfield, Kent (Site Code: KACL11)

Sample number	Context number	Context/deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Weight (g)	Flot volume (ml)	Volume scanned	Uncharred %	Sediment %	Seeds/fruits uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Insects, Fly Pupae etc min	Fish, amphibian, small mammal bone	Land Snail Shells	Industrial debris hammerscale	
1	92	Fill of Pit [93]	40	40	<2	2	2	10	20	* Chenopodiaceae	*	*	**	*	<i>Triticum</i> sp. (1), Cerealia (1)	+									**	40%	
2	94	Fill of Pit [95]	40	40	2	2	2	3	2	* Chenopodiaceae, <i>Betula</i> sp.	*	*	*	*	Cerealia (1), cf. <i>Hordeum vulgare</i> sp. (1)	+			*	CPR (1)	+			***	80%		
4	106	Fill of Posthole [107]	20	20	<2	4	4	68	2			*	*	<i>Triticum</i> sp. (1), Cerealia (1)	+			*	indet. glume base (1)	+	*	FP (1)		**	27%		
5	108	Fill of Ditch [109]	40	40	4	2	2	5	28	* Chenopodiaceae, <i>Betula</i> sp.		*	*	*	<i>Triticum</i> sp. (1)	+								***	65%		

Sample number	Context number	Context/deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Weight (g)	Flot volume (ml)	Volume scanned	Uncharred %	Sediment %	Seeds/fruits uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Insects, Fly Pupae etc min	Fish, amphibian, small mammal bone	Land Snail Shells	Industrial debris hammerscale
6	116	Fill of Posthole/ small Pit [117]	20	20	<2	2	2	2	23	* <i>Betula</i> sp.			*												*** 73 %	*
7	118	Fill of Posthole [119]	30	30	10	5	25	85	8	* Chenopodiaceae			*	*	cf. <i>Secale</i> sp. (1)	+			*	CPR	+				** 5%	
9	150	Fill of Pit [151]	-	-	<2	2	2	2	1	* Chenopodiaceae			***				*	indet. seed frag. (1)	+						*** 83 %	

Sample number	Context number	Context/deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Weight (g)	Flot volume (ml)	Volume scanned	Uncharred %	Sediment %	Seeds/fruits uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Insects, Fly Pupae etc min	Fish, amphibian, small mammal bone	Land Snail Shells	Industrial debris hammerscale
10	156	Fill of Ditch [157]	40	40	<2	3	3	2	12	* Chenopodiaceae, <i>Betula</i> sp.	*	*	*		* <i>Triticum</i> sp. (1), cf. <i>Hordeum</i> sp. (1), Cerealia (3)	+ to ++								* (1)	f 82 %	***
11	164	Fill of Posthole [165]	-	20	2	<	<2	20	12	* Chenopodiaceae	*	*												*** 62 %		
12	168	Fill of Posthole [169]	10	10	<2	2	<2	15	50		*	*												* 20 %		

Sample number	Context number	Context/deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Weight (g)	Flot volume (ml)	Volume scanned	Uncharred %	Sediment %	Seeds/fruits uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Insects, Fly Pupae etc min	Fish, amphibian, small mammal bone	Land Snail Shells	Industrial debris hammerscale
8	126	Fill of Ditch terminus [126]	40	40	<2	2	<2	1	14	* <i>Betula</i> sp.			*												*** 85 %	

Key: Flot quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and preservation (+ = poor, ++ = moderate, +++ = good)

RESULTS AND INTERPRETATION OF THE MOLLUSCA ASSESSMENT

The preservation of the shells in these samples is reasonably good, although as many of the shells are very thin and fragile there is moderate damage in most of the samples. The molluscs are entirely land shells, with the exception of two samples (samples <1> and <10>) which also contain fragments of *Ostrea edulis*, the common edible oyster; the fragments in <10> are larger than in <1>, but there are no intact valves. The results of the Mollusca assessment are displayed in Table 3.

One species vastly outnumbers all the others: *Cecilioides acicula*, which is present in all but one sample, sometimes with many hundreds of specimens in a single sample. Many of the shells in context [94] seem relatively fresh in that the shell is still translucent. This is a burrowing shell, capable of living up to 2m below ground surface, and is therefore of very little value in environmental interpretation. It lives in calcareous areas and is common in areas that have been recently cultivated. It is considered to be a recent introduction to the British fauna, there being no confirmed Holocene fossil records; records claiming its presence in prehistoric sites are all likely to be erroneous due to its burrowing nature (Evans 1972, 168; Kerney 1999). Other species of land shell are relatively scarce, with only two contexts containing more than 10 shells (contexts [94] and [108]). All of the species are either open country or wide-ranging in their habitat preferences, there being no shade loving taxa. Context [94] is the level with the greatest number of both species and shells, and is therefore likely to be a more stable sediment than other contexts. Three contexts ([118], [126] and [150]) have no shells other than *Cecilioides*, and are likely to be unstable.

Table 3: Results of the Mollusca assessment of flot and residue samples from Axton Chase School, Longfield, Kent (Site Code: KACL11)

Context	(92)	(94)	(104)	(106)	(108)	(116)	(118)	(126)	(150)	(156)	(164)	(168)
Sample	<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>	<9>	<10>	<11>	<12>
Land shells												
<i>Vertigo pygmaea</i>		R								S		
<i>Vallonia costata</i>		S								S		
<i>Vallonia excentrica</i>		R		R						R		S
<i>Vallonia pulchella</i>		R			R							
<i>Vallonia</i> sp.		R			C							
<i>Cecilioides acicula</i>	A	AA		A	A	AA	C	AA	AA	AA	A	C
<i>Ashfordia granulata</i>		S										
Other Hygromidae/Helicidae		C	S	R	R	R				S	R	S
Marine shells												
<i>Ostrea edulis</i>	R									R		

Key: Abundance: S = single specimen; R (rare) = 2-10 specimens; C (common) = 11-50 specimens; A (abundant) = 51-100 specimens; AA (very abundant) = >100 specimens.

CONCLUSION AND RECOMMENDATIONS

Due to the small and fragmentary nature of the environmental remains recovered, the samples provide no potential to characterise further the activities undertaken at the site, agricultural economy, fuel use or the vegetation environment. None of the charcoal or charred macroplant remains is considered suitable for dating or for further analysis. The results of the Mollusca assessment indicate that the environment containing these shells is almost certainly open country throughout the sequence, and with calcareous sediments in all contexts. However, the paucity of other species and their lack of environmental distinction would not justify full or detailed analysis.

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APPENDIX 11: OASIS FORM

OASIS ID: preconst1-116156

Project details

Project name	An Archaeological Excavation at Axton Chase School, Longfield, Kent
Short description of the project	Prior to redevelopment as a housing estate an open area excavation was conducted at Axton Chase School, Longfield Kent which revealed a number of Roman features, namely pits, ditches and postholes, (some possibly forming a granary), indicative of peripheral activity associated with settlement. Some of the features contained relatively large quantities of burnt flint, probably associated with either cooking or industry. The features were sealed by a dark, probably Late-Roman soil which contained a large quantity of small finds, mainly coins. The dark soil was in turn sealed by a thick colluvial layer which contained finds from the Roman period onwards.
Project dates	Start: 22-08-2011 End: 09-09-2011
Previous/future work	No / No
Any associated project reference codes	KACL11 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Community Service 1 - Community Buildings
Monument type	POSTHOLES Roman
Monument type	PITS Roman
Monument type	DITCHES Roman
Significant Finds	WORKED FLINTS Late Mesolithic
Significant Finds	POTTERY Roman
Significant Finds	BUILDING MATERIAL Roman
Significant Finds	COINS Roman
Significant Finds	BROOCHES Roman
Significant Finds	WORKED FLINTS Bronze Age
Investigation type	'Part Excavation'
Prompt	Planning condition

Project location

Country	England
Site location	KENT DARTFORD LONGFIELD AND NEW BARN Axton Chase School, Longfield
Postcode	DA3 7PH
Study area	1073.00 Square metres
Site coordinates	TQ 6092 6866 51.3935953010 0.313287818526 51 23 36 N 000 18 47 E Point

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	CgMs Consulting
Project design originator	Duncan Hawkins
Project director/manager	Tim Bradley
Project supervisor	Guy Seddon
Type of sponsor/funding body	Construction/housing
Name of sponsor/funding body	Ward Homes

Project archives

Physical Archive recipient	Local museum
Physical Contents	'Animal Bones','Ceramics','Metal','Worked stone/lithics'
Digital Archive recipient	Local museum
Digital Contents	'Animal Bones','Ceramics','Metal','Stratigraphic','Survey','Worked stone/lithics'
Digital Media available	'Spreadsheets','Text'
Paper Archive recipient	Local Museum
Paper Contents	'Animal Bones','Ceramics','Metal','Stratigraphic','Survey','Worked stone/lithics'
Paper Media available	'Context sheet','Diary','Photograph','Plan','Report','Section','Unpublished Text'

Project bibliography

1

Publication type	Grey literature (unpublished document/manuscript)
Title	Assessment of an Archaeological Excavation at Axton Chase School, Longfield, Kent
Author(s)/Editor(s)	Seddon, G.
Date	2012
Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	Brockley
Description	A4 Grey literature report
<hr/>	
Entered by	Jon Butler (jbutler@pre-construct.com)
Entered on	7 March 2012

APPENDIX 12: KENT SMR FORM

Site name: Axton Chase School	
Site address: Axton Chase School, Longfield, Kent	
Summary: Prior to redevelopment as a housing estate an open area excavation was conducted at Axton Chase School, Longfield Kent which revealed a number of Roman features, including pits, ditches and postholes, (some possibly forming a granary), indicative of peripheral activity associated with settlement.	
District/Unitary: Dartford	Parish: Longfield and New Barn
NGR (centre of site: 8 figures): (NB if large or linear site give multiple NGRs) TQ 6092 6866	
Type of archaeological work (delete)	
Excavation	
Date of recording: 22/08/2011 – 09/09/2011	
Unit undertaking recording: Pre-Construct Archaeology Ltd	
Geology: Post glacial Gravels	
Title and author of accompanying report: Assessment of an Archaeological Excavation at Axton Chase School, Longfield, Kent. Guy Seddon	
Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate): A small assemblage of residual flints dating to the Mesolithic - Early Neolithic and Bronze Age to Iron Age indicates early utilisation of the site. The excavation revealed a number of Roman features, namely pits, postholes and ditches indicative of peripheral activity associated with settlement. Some of the features contained relatively large quantities of burnt flint, probably associated with either cooking or industry. The features were sealed by a dark, probably Late-Roman soil which contained a large quantity of small finds, mainly coins. The dark soil was in turn sealed by a thick colluvial layer which contained finds from the Roman period onwards.	
Location of archive/finds: PCA Ltd	
Contact at Unit: Guy Seddon	Date: 29/02/2012

APPENDIX 13: FINDS QUANTIFICATION TABLE

Context No.	Finds Type	Date
9	Burnt Flint	Unknown
17	Pottery	Roman
	Iron Nails	Roman
	Animal Bone	Roman
18	Pottery	Roman
	CBM	Roman
	Cua Coin	Roman
	Slag	Roman
	Animal Bone	Roman
21	Iron Nail	19th/20th Century
32	Pottery	Roman
39	Pottery	Roman
	Worked Bone	Roman
49	Pottery	Roman
	CBM	Roman
	Animal Bone	Roman
58	Pottery	Roman
	CBM	Roman
	Struck Flint	Middle Bronze Age - Iron Age
	26 Cua Coins	Roman
	4 Cua Strap Ends	Roman
	Cua Plate	Roman
	Cua Clasp	Roman
	Fe Buckle	Roman
	Cua Buckle	Roman
	Pb Token	Post-Med
	2 Fe Objects	Unknown
	2 Pb Weights	Roman
	Fe Bead	Post-Med
	Pb Musket Ball	Post-Med
	Fe Hobnail	Roman
	Cua Leaf Motif	Roman
59	44 Cua Coins	Roman
	2 Cua Brooches	Roman
	Cua Handle	Roman
	Cua Ring Fragment	Roman
	Fe Knife	Roman
	Cua Tweezers	Roman
	Smoothed Stone	Roman
60	Pottery	Roman
	Burnt Flint	Roman
	Animal Bone	Roman
92	Pottery	Roman
	CBM	Roman
94	Pottery	Roman
	Burnt Clay	Roman
97	Struck Flint	Middle Bronze Age - Iron Age
108	Cua Coin	Roman

	Fe Object	Roman
110	Pottery	Roman
116	Pottery	Roman
130	Pottery	Roman
143	Struck Flint	Middle Bronze Age - Iron Age
145	Burnt Flint	Roman
	Struck Flint	Middle Bronze Age - Iron Age
146	Pottery	Roman
150	Slag	Roman
154	Pottery	Roman
	CBM	Roman
	Struck Flint	Middle Bronze Age - Iron Age
156	Pottery	Roman
	CBM	Roman
158	Burnt Flint	Roman
162	Pottery	Roman
164	Struck Flint	Mesolithic-Neolithic
166	Pottery	Roman
168	Burnt Flint	Roman

PCA

PCA SOUTHERN
UNIT 54
BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD
BROCKLEY
LONDON SE4 2PD
TEL: 020 7732 3925 / 020 7639 9091
FAX: 020 7639 9588
EMAIL: info@pre-construct.com

PCA NORTHERN
UNIT 19A
TURSDALE BUSINESS PARK
DURHAM DH6 5PG
TEL: 0191 377 1111
FAX: 0191 377 0101
EMAIL: info.north@pre-construct.com

PCA CENTRAL
7 GRANTA TERRACE
STAPLEFORD
CAMBRIDGESHIRE CB22 5DL
TEL: 01223 845 522
FAX: 01223 845 522
EMAIL: mhinman@pre-construct.com

