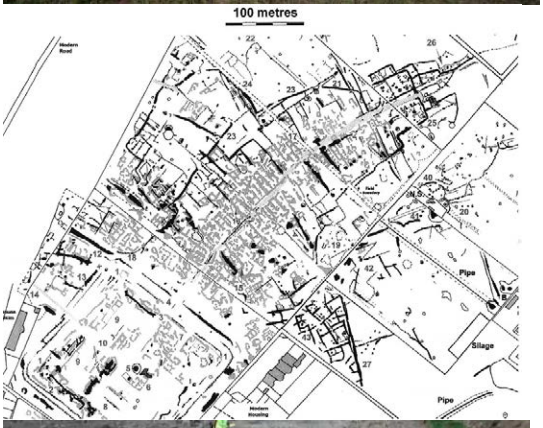


THE MARYPORT ROMAN SETTLEMENT PROJECT,

ARCHAEOLOGICAL EXCAVATIONS 2013-14

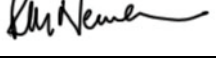
Post-Excavation Assessment Report

Oxford Archaeology North

July 2015

The North of England Civic Trust

Issue No. 2015-16/1642
OA North Ref: L10625
NGR: NY 040 374

Title	**THE MARYPORT ROMAN SETTLEMENT PROJECT, ARCHAEOLOGICAL EXCAVATIONS 2013-14: POST-EXCAVATION ASSESSMENT REPORT**
Authors	John Zant and Stephen Rowland
Derivation	Preceded by: *The Roman Maryport Settlement Project, Cumbria: Archaeological Excavations 2013. Interim Report and Updated Project Design*
Origination date	June 2015
Revisers	John Zant and Stephen Rowland
Date of this, latest, version	July 2015
Version	1
Status	Draft
Summary of changes	
Circulation	Cumbria County Council Historic Environment Service: Mark Brennand and Jeremy Parsons; Roman Maryport Advisory Group: Peter Wilson and David Mason; Senhouse Museum Trust: David Breeze, Rachel Newman; Roman Maryport Archaeological Research Group: Lindsay Allason-Jones; Ian Caruana; Ian Haynes; English Heritage: Mike Collins, Jacqui Huntley, Sue Stallibrass; The North of England Civic Trust: Graham Bell
Required action	Comments to be received by 15/07/15
File name/location	X:/Steve/Projects/L10625 Roman Maryport/P-Ex. Assessment/Assessment report/Assessment_rep_v1_Mwedits.doc
Approval: **Stephen Rowland (Project Manager)**	
Rachel Newman (Project Executive)	
On behalf of English Heritage	

Oxford Archaeology North
Mill 3, Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

Oxford Archaeology Ltd is a Registered Charity No: 285627

Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

CONTENTS

PLATES

TABLES

SUMMARY

In August and September 2013, and again in April and May 2014, Oxford Archaeology North (OA North), on behalf of the former Hadrian's Wall Trust (HWT), undertook a research and community training excavation within the extramural settlement north-east of the Roman fort at Maryport, Cumbria (NY 040 374). The project sought to engage, and train, a wide cross-section of the community in a broad range of fieldwork and post-excavation techniques, and to address a series of academic research questions pertaining to the Maryport site, and to Roman extramural settlements in general. Based on the evidence of an extensive programme of geophysical survey undertaken on the site in 2000-4, a block of four putative Roman building plots on the north side of the main road leading north-east from the fort was selected for investigation.

Following an initial phase of prospection at the beginning of the 2013 season, which included a ground-penetrating radar (GPR) survey and test-pitting, what was thought to be a single building plot was selected for more detailed excavation. Open-area excavation within this putative plot quickly established that it in fact comprised a complete building plot, considerably narrower than was suggested by the geophysical survey data, and substantive parts of two others to the north and south, with a probable external area between the central and southern plots. In accordance with the HWT Project Brief, which envisaged the excavation of as much as possible of a single building plot (including the 'backplot' area to the rear of the street frontage), the fully exposed central plot was chosen for more extensive excavation. The southern and northern plots saw little investigation, other than to establish the presence of stone/stone-footed buildings within them. Following completion of the 2013 field season, an interim report, incorporating an updated project design for the 2014 investigations, was compiled.

The earliest evidence for a human presence on, or in the vicinity of, the site comprised a few residual prehistoric stone artefacts (Period 1), but intensive occupation clearly began in the Roman period. The western edge of the main road leading north-east from the fort (***10542***) was identified, with the three building plots extending westwards from it. Excavation determined that, following its initial construction, the road was resurfaced only once (at least within the area investigated), perhaps in the early third century AD. Within the targeted central plot, the stratigraphically earliest evidence for Roman activity (Period 2) comprised a north/south ditch, located west of, and aligned broadly parallel to, the road. This is not closely dated at present, but is unlikely to pre-date the Hadrianic period (AD 117-38). Its precise significance is also currently unclear; it could represent activity pre-dating the establishment of the building plot (and, possibly, of the extramural settlement as a whole), or it might relate to the earliest phase of occupation within the plot. In either case, it was not certainly associated with any other excavated features or deposits, though the possibility that it was contemporary with poorly stratified features to the west and/or the east cannot be ruled out. The infilled ditch was overlain by the remains of a rectilinear timber building (***12000***; Period 3a), probably a strip building, of which only part could be investigated. Provisional dating evidence suggests that this structure was Hadrianic (or possibly even later). Indeed, the near absence of Flavian/Trajanic samian and other late first- to early second-century pottery from the

site provides a strong indication that the investigated area as a whole saw little activity before the Hadrianic period (at the earliest). Building 12000 was replaced, perhaps in the second half of the second century AD, by another timber structure (Building ***12001***; Period 3b), which could also only be partly investigated. This was probably another strip building, and appears to have occupied a similar footprint to the earlier structure. Following the demolition of Building 12001, perhaps in the late second-early third century AD, the frontage of the central building plot was covered by an extensive accumulation of dark soils containing large amounts of pottery and other rubbish (Period 3c). This may suggest that the plot was wholly or largely abandoned for a time, but during the first half of the third century, a stone- or (perhaps more likely) stone-footed strip-building (Building ***10545***; Period 3d), seemingly of similar size and form to the earlier structures, was constructed. The frontages of the other two plots also contained probable stone-footed strip buildings (Building ***10544*** on the south; Building ***10546*** on the north). However, these were not investigated in any detail, nor were the earlier Roman phases within these plots subject to excavation. The area between the central and southern plots was seemingly external, the principal feature being a paved sandstone surface. The buildings in the central and northern plots were built virtually side by side, separated only by a very narrow gap.

In the central plot, excavation of the area to the rear (west) of the street-frontage buildings revealed a palimpsest of Roman features, including probable wells and/or cisterns, gullies and ditches. At present, these can only be assigned a broadly Roman date (Period 3), due to a lack of stratigraphic links with the street-frontage deposits, but sub-phasing should be possible following detailed analysis of the associated dating evidence. A substantial ditch, extending north to south across the site, may have marked the western boundary of the plot at some stage, though Roman-period features were also found well to the west of this. Whether this indicates that activity expanded across an early plot boundary (as represented by the ditch), or that the ditch indicates a contraction in the occupied area, is currently uncertain.

Provisional dating evidence suggests that Building ***10545***, and probably also Buildings ***10544*** and ***10546*** in the adjacent plots, had been demolished by the end of the third century at the latest. In the central plot, the footings of 10545 were extensively robbed of their stone, and this also appears to have been the case in the neighbouring buildings. Subsequent Roman activity (Period 4) was limited to the cutting of a substantial ditch along the boundary between the central and northern building plots, and the digging of a few shallow pits in the central plot, close to the street frontage. Some of this activity was associated with small quantities of late third- to fourth-century pottery, but generally, pottery of this period was extremely scarce. This, together with the near absence of late third/fourth-century coins from the site (only one possible fourth-century specimen was recovered), strongly suggests that activity declined very sharply sometime during the second half of the third century. For the post-Roman period (Period 5), no evidence of medieval activity was recorded, whilst modern deposits were restricted largely to agricultural soils and possible slight indications of antiquarian investigations.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would particularly like to thank Christian Levett for funding the Roman Maryport Settlement Project, and Nigel Mills and Linda Tuttiett, formerly of Hadrian's Wall Trust, for commissioning the work, and for their ongoing support and advice. The work of the Roman Maryport Advisory Group (RMAG), comprising Pete Wilson, Mark Brennand and David Mason, which provides continuing support and advice to the project, is gratefully acknowledged, as is that of the Roman Maryport Archaeological Research Group (RMARG), in particular David Breeze, Ian Haynes, Lindsay Allason-Jones, and Ian Caruana. The staff of the Senhouse Roman Museum, and especially Jane Laskey, museum manager, are also thanked for their support and assistance. Since the Maryport site is a Scheduled Monument, the project could not have proceeded without the support and advice of Mike Collins, Historic England's Inspector of Ancient Monuments, Hadrian's Wall, who reviewed and approved the original Project Design and the interim report and Updated Project Design for the 2014 season. Jacqui Huntley, Historic England's Science Advisor for Hadrian's Wall, is also thanked for providing advice on the palaeoenvironmental sampling strategy undertaken on the site. Thanks are extended to David Anderson, the tenant of Camp Farm, within which the excavation was situated, and to the land agent, Matthew Bell. OA North is also grateful to Alan Biggins and David Taylor for permitting the use of their geophysical data, and to Alex Turner of Newcastle University, for providing survey data. The ground-penetrating radar survey carried out immediately prior to the commencement of the 2013 excavation was undertaken by GSB Prospection.

OA North is especially grateful to the many volunteers who were involved in the project, and to whom the success of the project was, in no small part, due. This includes not only those who took part in the excavations themselves, or who assisted with the initial work processing the finds and environmental samples, but also those who were able to visit OA North's Lancaster offices in the months following the end of the fieldwork seasons, and who provided an important contribution to the early stages of the post-excavation process. John Laskey, Walter Longcake and John Murray deserve particular thanks for providing valuable assistance with certain practical aspects of the excavations, and Jimm Hunt is thanked for permitting the use of some photographic images for reports and lectures, including Plate 11 in the present report.

In addition, the enthusiastic help provided by children and teachers from the following schools, who also took part in the excavation, is gratefully acknowledged: Dallam School, Milnthorpe; Dearham Primary School; Flimby Primary School; Maryport Church of England Junior School; Netherhall School; Our Lady and St Patrick's Catholic Primary School, Maryport; St John's Church of England Primary School, Crosscanonby.

For OA North, the excavation was directed by John Zant, Jeremy Bradley and Paul Dunn, assisted by Mike Birtles, Vicky Jamieson, David Maron, Becky Wegiel and Al Zochowski; Jemima Woolverton of OA East also assisted. In 2013, David Maron also took a lead role in the vitally important community and outreach elements of the project, being the main point of contact for schools and other interested groups. This

role was undertaken in 2014 by Emma Fishwick. The present report was compiled by John Zant, illustrated by Mark Tidmarsh and edited by Stephen Rowland and Rachel Newman. Stephen also managed the Maryport Roman Settlement Project, and Rachel provided overall quality assurance in her role as Project Executive. The finds, palaeoenvironmental samples, pollen and animal bones were examined and reported on by Christine Howard-Davis, Denise Druce, Mairead Rutherford and Ian Smith respectively, and the Roman coins were identified and reported on by David Shotter.

1. INTRODUCTION

1.1 PROJECT NAME AND REFERENCE NUMBERS

1.1.1 The project is called the Maryport Roman Settlement Project. The unique site code, used for both seasons' fieldwork (*Section 1.2.1*), is RMS 13, whilst the project's OASIS reference (*Section 3.4.1*) is Oxfordar2-169110.

1.2 SUMMARY DESCRIPTION

1.2.1 In May 2013, the former Hadrian's Wall Trust (HWT) commissioned Oxford Archaeology North (OA North) to undertake a research and community training excavation over the course of two field seasons (2013-14) within the extramural settlement north-east of the Roman fort at Maryport, Cumbria (NY 040 374; Fig 1). The work was commissioned on the basis of a Project Design prepared by OA North (2013a), working to a Project Brief prepared by HWT (2013). The significance of the site is recognised in its designation as a Scheduled Monument (SM 27746), and it also forms part of the Frontiers of the Roman Empire: Hadrian's Wall World Heritage Site. The project, for which Scheduled Monument Consent (SMC) was granted on the advice of English Heritage (now Historic England), sought to engage, and train, a wide cross-section of the community by providing access to, and professional supervision of, a broad range of fieldwork techniques, including geophysical survey, test-pit evaluation, and open-area excavation. It also sought to address a series of research questions (*Section 2*) that are fundamental to the Maryport site, and to extramural settlements in general. In addition to the fieldwork, the project included an appropriate programme of archive processing, post-excavation assessment, analysis and publication, in which volunteers were also invited to engage.

1.2.2 An interim report on the results of the first season of fieldwork was compiled early in 2014 (OA North 2014), in advance of that year's investigation. This document included a summary of the results of the initial prospection and the open-area excavation, which was undertaken from 30 July to 27 September 2013, together with a general discussion of the significance of the results. Additionally, the project's original research aims (*Section 2*) were reviewed in the light of the 2013 fieldwork, and a revised series of research aims and priorities (also reproduced in *Section 2*) was presented in the form of an updated Project Design. The present document, which has been prepared following MoRPHE guidance (English Heritage 2006), presents the results of the post-excavation assessment, including a provisionally phased narrative, and quantitative and qualitative assessments of all categories of artefactual and palaeoenvironmental materials recovered from the site. The document highlights the significance of the assessment results in terms of national, regional and local research frameworks, presents a series of updated research aims and objectives, and suggests a programme of further post-excavation analysis, leading to the academic publication of the project's results, and deposition of the project archive.

1.3 ARCHAEOLOGICAL BACKGROUND

1.3.1 The Roman site at Maryport occupies a prominent position overlooking the Solway Firth, to the north of the modern town (Fig 1; Pl 1). It comprises the earthwork remains of an auxiliary fort and an extensive extramural (civil) settlement, the main focus for which appears to have been to the north and north-east of the fort (Fig 2). Much of the site is a Scheduled Monument (SM 27746), and, as part of the Cumbrian coastal defences, the fort formed an integral part of the Hadrianic frontier system in northern England (Breeze 2006, 373-5), the best-known element of which is Hadrian's Wall itself. Today, the site lies within Camp Farm, a nineteenth-century planned farm with *c* 58ha (*c* 144 acres) of land, that was purchased by the HWT in November 2008, and, on the demise of this organisation, was transferred the North of England Civic Trust (NECT).

Plate 1: The HWT-sponsored excavations in 2013, looking north-west across the Solway

1.3.2 Antiquarian interest in Roman Maryport dates back to the sixteenth century, but very little modern excavation had been undertaken until recently. However, highly significant discoveries were made in the extramural settlement during the late nineteenth century. Unquestionably the most important of these occurred in April 1870, when a 'cache' of 17 second-century altars was found (Bruce 1874, 178; 1875) at a location *c* 300m north-east of the fort and *c* 180m east of the site of the archaeological investigations undertaken by OA North (Fig 3). Re-investigation of this site in 2011-12 by Newcastle University (Newcastle University 2012), on behalf of the Senhouse Museum Trust (SMT), revealed that the 'pits' found in 1870 were in fact substantial post-pits, the remains of a large, late Roman (or possibly immediately post-Roman) timber building, or a series of buildings on the same site, in which the altars had been reused as post-packing or post-pads (ibid;

Haynes and Wilmott 2012). The building/buildings may have been associated with a small number of inhumation burials.

1.3.3 With the exception of the 1870 discovery, and the re-investigation undertaken in 2011-12, the only other major programme of fieldwork within the extramural settlement was undertaken by Joseph Robinson in 1880 (Robinson 1881; Bellhouse 1992, 36-56). Robinson's work was wide-ranging, but many of his findings are not published, and the locations of many of his excavation trenches are not known. One of his most notable finds comprised two stone-built structures, one rectangular, the other circular (Bailey 1915), located *c* 180m north-east of the fort and a little over 100m south-east of the HWT-sponsored excavation project (Fig 3), both of which were interpreted as temples (Robinson 1881, 244-7). The rectangular building was the subject of further investigations by Newcastle University in the summer of 2013, when the entire building was once more exposed (Pl 2). This work demonstrated that the structure was indeed a classical temple, and that it had been built over an earlier ditch (I Haynes and T Wilmott *pers comm*). In 2014, the Newcastle team excavated the area to the west and north of this site, revealing the full ground plan of the circular structure (Newcastle University 2015), and a final season of excavation in 2015 will examine the area between the temples and the 2011/12 excavations (I Haynes *pers comm*).

Plate 2: The SMT-sponsored re-excavation of the rectangular temple, looking south-west during the 2013 season

1.3.4 Research on the site of Roman Maryport continued through the twentieth century, although with only limited excavation (Jarrett 1976; Flynn 2006a; 2006b). Of key significance was a programme of extensive geophysical survey undertaken across much of the site between 2000 and 2004 (Biggins and Taylor 2004; Fig 2). This survey resulted in the production of an exceptionally detailed plan of much of the settlement (*op cit*, 114, fig 5.9), and revealed a great variety of features associated with both the fort and the extramural

settlement, including a large number of discrete 'properties' or 'building plots', extending for several hundred metres on both sides of the road leading north-east from the fort's east gate (*ibid*).

1.3.5 Most of the building plots revealed seem to be long and narrow, and appear to have contained at least one rectilinear structure, seemingly of the ubiquitous 'strip building' type (though of widely variable size and internal arrangement), on the street frontage, aligned gable end-on to the street (Fig 3). It was noted (Biggins and Taylor 2004, 113-14) that many of these structures seemed, from the geophysical survey, to be very large, in comparison with similar buildings known from other settlements in the region, with some measuring *c* 25-30m in length and (apparently) up to 11m wide (*ibid*). This, together with the apparent differences in internal arrangements evident from the survey results, suggested a potentially high degree of functional variability. A complex of other features, less well-defined but possibly including the remains of additional rectilinear structures, was also visible in the backlands to the rear of the strip-buildings. Some of the plots appeared to be defined by possible ditched boundaries; indeed, north of the road, the rear of the properties may have been defined by a continuous ditch, though there is evidence of quite intensive activity even well beyond this. The rear of the properties south of the road may have been similarly defined, though this is less clear on the survey plan.

1.3.6 The project sponsored by the HWT can be viewed as complementary to the ongoing research undertaken on behalf of the Senhouse Museum Trust (SMT) by Newcastle University, since it involved the investigation of a seemingly representative sample of the 'ordinary' building plots within the extramural settlement. By contrast, the other project, which seeks to address some of the SMT's main research priorities (SMT 2004), has been focused largely on contextualising and characterising elements that can perhaps be viewed as 'extraordinary' or atypical, specifically the altar cache discovered in 1870 (*Section 1.3.2*) and the putative temples found nearby in 1880 (*Section 1.3.3*).

2. ORIGINAL RESEARCH AIMS AND OBJECTIVES

2.1 INTRODUCTION

2.1.1 The following section reproduces the project's original research aims, framed as a series of research questions and objectives (*Section 2.3.2*), which were originally presented in the Project Design (OA North 2013a). It also reproduces the revised research aims, compiled in the light of the results of the first fieldwork season, which were presented in the interim report (OA North 2014). The academic justification for these can be found in the respective documents, which also include an overview of the relevant research frameworks and research background. The Project Design also identified a series of key research themes (summarised below in *Section 2.2*), together with an assessment of the academic reasoning behind these (*ibid*). The success of the project in addressing the original and revised research aims, and the academic potential of the archaeological data recovered, is discussed in *Section 6*, and an updated series of research aims for post-excavation analysis, publication and archive deposition is presented in an updated Project Design (*Section 7*).

2.2 SUMMARY OF RESEARCH THEMES

2.2.1 The Project Design (OA North 2013a) presented a series of principal research themes for the project, which were identified with reference to several key research documents relevant to Roman Maryport, particularly the research frameworks for Hadrian's Wall (Symonds and Mason 2009a; 2009b) and for North-West England (Brennand 2006; 2007), the draft research framework for Roman Maryport itself (Whyman 2008), and (to a lesser degree) the proposal for an archaeological research programme for Roman Maryport, prepared in 2010 (OA North 2010). The research themes are presented in detail in the Project Design, but can be summarised as follows:

1. The condition and preservation of the archaeological resource, including testing the results of the geophysical surveys;

2. The chronological development of the site, with particular reference to possible pre-Roman occupation, the date at which the settlement was established, and the dating of its decline and eventual abandonment;

3. The form, function and appearance of buildings and other structures;

4. The settlement's inhabitants, including ethnicity, gender, age, social status, beliefs/perceptions and lifestyles;

5. Material culture (artefacts and ecofacts), with particular reference to the settlement's economy, patterns of supply, consumption and production, and socio-economic relationships with the fort garrison and the wider hinterland.

2.3 RESEARCH AIMS AND OBJECTIVES

2.3.1 The project's original research aims, framed as a series of research questions (RQs), conformed to the principal themes detailed in the Project Design, and summarised above (*Section 2.2*), which are referenced in parentheses at the end of each aim. The original research objectives (ROs) were formulated with reference to the research questions, which are also referenced in parentheses at the end of each objective. For the most part, the new research questions, formulated following completion of the first season's fieldwork, pertained to specific aspects of the archaeological remains recorded in 2013, and essentially represented more focused versions of some of the original research aims. In order to reflect this, the new questions were appended as bullet points to the research aims that were considered to be the most relevant, and this has been reproduced below.

2.3.2 ***Research questions:***

RQ1 What is the nature, date, density, extent, and state of preservation of the archaeological remains on the site, and can they be understood in terms of their sequence, relationships and their functions (Theme 1)?

RQ2 Is the evidence of the surviving below-ground archaeological remains consistent with the results of the geophysical surveys undertaken within the extramural settlement (Theme 1)?

RQ3 Is there any evidence for pre-Roman activity within the study area, and if so, can it be characterised and dated? How did the foundation of the extramural settlement impact upon any earlier occupation (Theme 2)?

RQ4 At what date was the extramural settlement established? Does this correlate with the suggested date of the presumed pre-Hadrianic fort at Maryport (Theme 2)?

RQ5 What is the character and function of the earliest buildings and other features within the study area (Theme 2)?

RQ6 What is the chronological span of occupation within the targeted area of the extramural settlement, and how did the character of occupation develop and change throughout this period (Theme 2)?

- Are the different alignments apparent in the latest buildings on the site reflected in earlier occupation phases?

- How do the features in the backplot area relate, spatially and chronologically, to the occupation sequence on the street frontage? Can any clear division between the plots be discerned in this area?

RQ7 At what date was the settlement abandoned, and what is the character of the latest occupation on the site? Is there any evidence for 'sub-Roman' and/or post-Roman activity within the study area, and can this be characterised and dated (Theme 2)?

- What is the nature, date and significance of the stratigraphically late pits and other features that post-date Buildings ***10545*** and ***10546*** (*Section 4.6*)? Do they provide evidence for late Roman or early post-Roman activity on the site?

RQ8 How can the position and internal organisation of the plot be understood in terms of its relationships, both internally and with other elements of the site, such as the main road, and what information does that provide about an understanding of the organisation of the settlement as a whole (Theme 3)?

- Why are Buildings ***10545*** and ***10546*** (*Sections 4.5.10-11*) aligned askew to the latest surface of the main Roman road? Can the stratigraphic and chronological relationship between the buildings and the sequence of road construction and maintenance be established?

- Why is Building ***10544*** (*Section 4.5.9*) aligned differently to Buildings ***10545*** and ***10546***, and what is its stratigraphic and chronological relationship to the main road?

- What is the significance of the difference in alignment between Building 10544 and flagged surface *10681* (*Section 4.5.21*) immediately to the north? Can the stratigraphic relationship between the two be established?

- What is the chronological relationship between the two large ditches (*Sections 4.5.25, 4.6.3*) in the backplot area? Are they broadly contemporary, or do they represent different phases in the development of this boundary?

RQ9 Can the form and function of excavated buildings, features and activity areas be determined for all phases of activity recorded within the study area? Does the organisation and use of elements and parts of the plot change through time, and is this accompanied by changes to the design, function, and status of structures and other features (Theme 3)?

- What is the stratigraphic relationship between Building ***10545*** (*Section 4.5.10*) and deposits in the external area immediately to the south? Can stratigraphic links be established across this area that link the structural histories of Buildings ***10545*** and ***10544***?

- What is the function of the three vertical-sided pits excavated in the backplot area (*Section 4.5.24*)? Were they wells or cisterns, or did they serve some other purpose?

RQ10 Can the project advance understanding of the everyday lives of the occupants of the settlement, through the recovery of artefacts and ecofacts and the characterisation of buildings and other features (Theme 4)?

RQ11 Is there any indication of differentiation of social space within the study area through time, as evidenced, for example, by the form and internal appointment of the excavated buildings, and through the spatial and chronological distribution of artefacts and ecofacts (Theme 4)?

RQ12 Can the ethnic origin, gender and age of the settlement's inhabitants be illuminated through the recovery and analysis of artefacts and ecofacts found in association with excavated buildings and activity areas? Is there any evidence of how people's identities were expressed (Theme 4)?

RQ13 Can the project advance understanding of the nature of civilian-military relationships within extramural settlements, and/or with the indigenous rural population. In particular, is there any evidence to challenge or support the perceived dichotomy between 'military' and 'civilian' spheres of influence, the former traditionally centred within the fort, the latter in extramural areas (Theme 4)?

RQ14 Is there any evidence for religious observation or belief and/or ritual practices within the study area (Theme 4)?

RQ15 Can the project provide evidence for the settlement's economic base, including patterns of supply, trade and exchange, resource exploitation, and for any changes in the economy of the settlement through time (Theme 5)?

RQ16 What evidence can be found for diet and patterns of food consumption, including the production and preparation of food and drink, within the extramural settlement (Theme 5)?

RQ17 Is it possible to identify craft, manufacturing or industrial activities within the study area (Theme 5)?

RQ18 How can the results of the investigation be made available to the wider public in an accessible form, whilst undertaking appropriate archiving of the artefacts and primary data?

RQ19 How can the project engage the local community and the wider public with Maryport's outstanding Roman cultural heritage, and make training in archaeological techniques and practice available to as wide a cross-section of the community as possible?

2.3.3 ***Research objectives:***

ROa Undertake non-intrusive investigation of four building plots, followed by the excavation of a single test pit in each, that will permit the identification of a single plot that, through investigation, will address the greatest number of primary drivers and research questions (RQ1; RQ2);

ROb Undertake an appropriate level of archaeological investigation across the selected building plot, allowing the definition, characterisation, comprehension and interpretation (including function, relative sequence and processes of formation) of all observed deposits and features, and their basic preservation by record through textual, graphical and electronic techniques (all RQs);

ROc Undertake an appropriate finds recovery programme to maximise the collection of artefacts from the site and record their stratigraphic context (all RQs);

ROd Undertake, in consultation with English Heritage (now Historic England), a suitable programme of palaeoenvironmental sampling of well-stratified and uncontaminated deposits (all RQs);

ROe Collate, check, and enter the original site records into a relational database for the purposes of centralisation and ease of interrogation (all RQs);

ROf Process the site survey data, base mapping and digitise scanned-in pre- and post-excavation drawings within a GIS computer package that can be integrated with the site database (all RQs);

ROg Using the processed data, organise context, feature and structure groups, create matrices and undertake provisional assessment and then any appropriate detailed analysis of the on-site stratigraphy. This will permit the best possible understanding of the physical form and functions of, and relationships between, the different individual and composite elements of the site, provision of a chronological framework and also the formulation of an holistic narrative of the site (all RQs);

ROh Undertake processing, cataloguing, stratigraphic integration, assessment and then any appropriate analysis of the artefacts recovered from the fieldwork, in terms of date, origin, quality, form, fabric and function, presence and nature of residues, spatial distribution, preservation, residuality, provenance and comparison with other sites in the region (RQ1; RQ3-7; RQ9-17);

ROi Process, assess then undertake any appropriate palaeoenvironmental and sedimentological analyses of any bulk and monolith samples. This will allow a better understanding of formation processes, on-site activity, and the surrounding environment, as well as maximising recovery of artefacts, material for scientific dating, and faunal remains (RQ3-7; RQ9-12 and RQ15-17);

ROj Undertake processing, cataloguing, stratigraphic integration, assessment and then any appropriate analysis of the faunal remains, in terms of preservation, taphonomy, and spatial distribution, as well as the range and proportion of taxa, the reconstruction of husbandry/exploitation regimes and the comparison of the generated data with those from other sites in the locale and wider region (RQ9-12, RQ15-17);

ROk If any human remains are found, undertake processing, osteological assessment and then any appropriate analysis of any human remains excavated from the site, in order to establish the age, gender and any pathological lesions that might provide clues concerning the lifestyles of these individuals. Combined with the other data from research, the viability for submitting tooth samples for isotope analysis for the elucidation of diet and geographical origin should be established (RQ8 and RQ10), though indications from recent excavations in Roman Maryport suggest that preservation is likely to be poor, and the potential therefore limited;

ROl Review the stratigraphic, artefactual and palaeoenvironmental assessment results, then conduct a programme of scientific dating, as appropriate, of material from securely stratified key deposits (RQ3-7);

ROm Perform spatial analyses to explore the relationships between different features and also between accumulations of artefacts and palaeoenvironmental material belonging to contemporary phases in order to define activity areas and patterns of disposal (RQ5; RQ8-12);

ROn Utilising the Cumbria Archives, the Historic Environment Record, the Senhouse Museum, and other libraries, repositories and sources, undertake a detailed, but targeted, search, collation and interrogation of available published and grey literature reports on the archaeology of the frontier and its hinterland, and excavations of comparable contemporary sites within the close and wider locale (all RQ);

ROo Using information from the above sources, together with Ordnance Survey map data and topographic information, undertake a provisional study of the topographic, landscape and palaeoenvironmental history of the area around the site, so that it can be better understood within the wider environment (RQ15-16);

ROp Compare, and where appropriate integrate, the overall results with the findings from studies of contemporary sites in the region and further afield (all RQ);

ROq Collate and publish in an appropriate medium the results of the analysis of the archaeological project, and submit the final archive (RQ18);

ROr Actively engage the local community and the wider public with the research project, and with Maryport's spectacular Roman heritage, through such things as lectures, school visits, site tours, on-site events and open days, and hands-on archaeological training (RQ19).

3. FIELDWORK METHODOLOGY

3.1 INTRODUCTION

3.1.1 The project was undertaken in accordance with the English Heritage-approved Project Design (OA North 2013a), and with the HWT Project Brief (HWT 2013). All works also complied with the relevant codes of practice and standards and guidance of the Chartered Institute for Archaeologists (CIfA 2014a; 2014b; 2014c). Elements of the methodology were necessarily iterative but, throughout, the methods employed were subject to ongoing discussions with the Roman Maryport Advisory Group (RMAG), and were approved by English Heritage.

3.2 PROSPECTION

3.2.1 ***Provisional selection of building plots:*** in accordance with the Project Brief (HWT 2013, 4, section 4.7), a group of four contiguous building plots (Plots 1-4; Fig 4) on the north side of the main Roman road leading north-east from the fort were selected as the focus of investigation. The rationale behind the selection of this group of plots was presented in the Project Design (OA North 2013a, 44). The programme of prospection investigated all four, testing both the depth of archaeological deposits beneath the modern surface and the level of preservation, in order to allow one plot to be selected as the main focus of the detailed, open-area excavation.

3.2.2 ***Enhanced geophysical survey:*** since previous surveys north-west of the road had involved the use of magnetometry and resistivity (Biggins and Taylor 2004), the survey undertaken as part of the HWT project utilised ground-penetrating radar (GPR), which, under suitable conditions, can provide useful information concerning the presence and depth of archaeological remains. With the assistance of volunteers, the survey was undertaken over most of the area occupied by the four building plots (Fig 3). The data obtained were complementary to Biggins' and Taylor's results, with several features clearly being detected by both studies. A detailed methodology pertaining to the GPR survey was presented in the interim report of the 2013 season (OA North 2014, annexe 1).

3.2.3 The GPR survey suggested that well-defined structural remains were present at a shallow depth (less than 0.4m below ground level) in Plots 2 and 4 (Fig 4). Those within Plot 1 appeared to have particularly deep foundations, down to c 1.3m below ground level. The results at depths of *c* 0.5m-*c* 0.9m below ground level, and deeper in some of the plots, were not especially clear. However, with increasing depth, the presence of cut features, including possible boundary ditches and pits (especially in Plots 2 and 3, in the case of the latter) was apparent at depths exceeding 1.3m below ground level (and up to 2.5m below ground level in the case of some of the pits).

3.2.4 ***Review of LiDAR data:*** LiDAR is essentially a tool for examining topography, earthworks, and cropmarks. Although the pastoral regime

practised on the site was considered unlikely to produce cropmarks, it was felt that LiDAR might have an application in the identification of ditches, banks, and any shallow structural remains. Consequently, the LiDAR tiles for the wider investigation area were imported into a suitable GIS package, in order that the information could be integrated into the results of the geophysical surveys, or simply viewed alone. In the event, the review suggested that this form of data would not be helpful in providing detailed information on any of the four building plots.

3.2.5 ***Impact appraisal:*** in order to provide as much information as possible about the condition of the surviving archaeological resource, including the depth of the latest archaeological deposits beneath the modern surface, and levels of preservation, a review of published data from Joseph Robinson's wide-ranging investigations in 1880 (Robinson 1881) was undertaken. This provided limited evidence on the likely nature of archaeological deposits within the settlement, and their depth below the surface, but it was not possible to ascertain whether or not any of the four building plots selected for evaluation had been investigated/impacted upon by Robinson's investigations.

3.2.6 ***Test-pit evaluation:*** in accordance with the Project Brief (HWT 2013), a single test pit, 3m square, was hand-excavated within each of the four selected building plots (Trenches 1-4 in Plots 1-4; Fig 4). In all four pits, the turf and modern agricultural soil were removed by hand down on to the top of the latest surviving archaeological horizons. These were then cleaned and recorded in the usual way, using written descriptions, scaled drawings and photographs. No excavation took place below this level, and three of the four pits (Trenches 1, 2, and 4) were backfilled mechanically soon after completion of the recording, the archaeology in each being first protected by the laying of a semi-permeable membrane ('Terram'). The fourth trench (Trench 3), within Plot 3, was selected as the site of the open-area excavation, and was therefore subsumed within the boundaries of this much larger trench (Trench 5; *Section 3.3*). Most of the work of opening the test-pits, and also of cleaning and recording the archaeology, was carried out by volunteers, assisted and supervised by a small number of professional archaeologists.

3.3 OPEN-AREA EXCAVATION

3.3.1 ***Position of the archaeological investigation:*** in accordance with the Project Brief, which envisaged the excavation of as much as possible of one complete Roman building plot (HWT 2013), the open-area excavation (Trench 5) was positioned within the boundaries of one of the four building plots identified from the geophysical survey (*Section 3.2.1*). The plot selected for detailed investigation was Plot 3 (Fig 4), which was chosen following consultations with the RMAG, HWT and English Heritage, and the production and approval of a proposal document (OA North 2013b) detailing the rationale behind the selection. On the evidence of the geophysical surveys, Plot 3 was thought to be about 15m wide, and to have covered approximately 1600m^2. In the first instance, therefore, an area 18m wide and *c* 31m long, at its greatest extent, was opened, the turf and topsoil being removed mechanically under constant archaeological supervision down to the top of the latest surviving

archaeological horizon. The uppermost archaeological surface was then cleaned by hand, photographed and planned, prior to the commencement of any further excavation. A metal-detector scan of the surface was also undertaken, in accordance with the procedures set out in the Project Design (OA North 2013a, 49), and the modern topsoil was also scanned. Additionally, sieving of a proportion of the machine-excavated topsoil was undertaken, in order to retrieve as many artefacts as possible from this material. Excavation of archaeological deposits was entirely by hand; both the excavation and recording of archaeological deposits adhered to the methodologies set out in the Project Design (*op cit*, 49-51).

3.3.2 As noted (*Section 3.3.1*), the width of Trench 5 (north/south) was determined by the perceived width (*c* 15m) of Plot 3. However, once the site had been stripped of modern topsoil and hand-cleaned, it quickly became apparent that it encompassed the width, not of a single, large, plot, but of one, much narrower, plot, the greater part of a second, to the south, and approximately half of a third, to the north. Since the main thrust of the project was to investigate as fully as possible a single building plot, rather than parts of three, discussions were held with all relevant Stakeholders, from which it was decided that the investigation should concentrate on the central plot, since the full width of this was available within the stripped area.

3.3.3 Subsequently, during the 2013 season, Trench 5 was expanded through the machine stripping of a narrow (*c* 7m wide) extension, which extended westwards from the north-west corner of the original trench for approximately 58m (Fig 4). This was opened in order to sample, and characterise, the archaeological remains in the 'backlands' of the central building plot, since the geophysical data suggested that a ditch or ditches, potentially marking the rear boundary of the plot, crossed this area, and a series of large pit-like features was also seemingly present there.

3.3.4 At the end of the 2013 fieldwork season, the entire area of Trench 5 was mechanically backfilled using the topsoil that had been stripped from the area at the beginning of the investigation, and which had been stockpiled adjacent to the trench. Prior to backfilling, particularly sensitive archaeological remains that had not been removed in 2013, principally upstanding fragments of stone walling associated with the latest Roman buildings within the targeted building plots (*Section 4.5.14*), were protected from possible damage with earth-filled sandbags, which were packed around the stonework (Pl 3). Deep features, such as pits and ditches that had been wholly or partially excavated in 2013, were filled with straw bales before the site was reinstated (Pl 4), in order to facilitate the rapid reopening and continued investigation of these features at the beginning of the 2014 season. Immediately prior to backfilling, the whole of Trench 5 was covered with a semi-permeable membrane ('Terram'), above which the topsoil was reinstated. The site was then reseeded, using a grass seed mix recommended by the Camp Farm land agent.

Plate 3: The use of sandbags to protect sensitive archaeological remains prior to backfilling of Trench 5 at the end of the 2013 season, looking west

Plate 4: Filling excavated Roman features with straw bales prior to backfilling and reinstatement of Trench 5 at the end of the 2013 season, looking north

3.3.5 In early April 2014, Trench 5 was reopened for the start of the second field season. The topsoil that had been reinstated at the end of the 2013 season was removed mechanically down to the top of the semi-permeable membrane. However, in order to ensure that the machine did not damage the underlying

archaeology, it was necessary to remove a considerable quantity of earth by hand (Pl 5). Following this, the membrane itself, together with the sandbags and straw bales put down in 2013 (*Section 3.3.4*) were also removed by hand, and the entire trench was hand-cleaned before excavation recommenced. The methodologies employed in the machine stripping of the modern overburden and in the cleaning, excavation and recording of archaeological remains were the same as those used in 2013 (*Section 3.3.1*).

Plate 5: Reopening Trench 5 at the beginning of the 2014 season, looking west

3.3.6 For the most part, the area of Trench 5 stripped in 2014 was the same as that opened in 2013 (*Sections 3.3.2-3*), for, whilst it was envisaged that work would continue to focus primarily on the central building plot, the updated project design (OA North 2014) had identified several new research questions concerned with the relationship of the plot to those adjacent, which were, therefore, also reopened. In particular, it was considered important to try and understand how the archaeological remains recorded in these plots in 2013 articulated, both spatially and chronologically, with those in the central plot, though it was acknowledged that further investigation in these areas would necessarily be minimal. Two significant changes were, however, made to the area investigated in 2014 (Fig 5). On the south side of the 2013 trench, a roughly rectangular area of approximately 100m^2 was not reopened, since it was in the backlands of the southernmost building plot, an area that was not targeted for further investigation. By contrast, and in accordance with both the original and revised research questions for the project (OA North 2013a; 2014), it was considered important to investigate a considerably larger area within the backlands of the central plot, since, in general, such areas have seen little archaeological investigation at other extramural settlements in the region. Consequently, the 7m-wide strip opened in 2013 (*Section 3.3.3*), which had been intended to sample the archaeological potential of this zone, was widened to *c* 12m (Fig 5).

3.3.7 During the 2014 field season, it was found that the street frontage of the central building plot (extending *c* 20m back (west) from the main Roman road) contained a build-up of archaeological stratigraphy, up to *c* 0.25m thick, representing several phases of Roman-period occupation (*Sections 4.4-4.6*). By contrast, the backplot area to the rear exhibited no stratigraphic accumulation, though many archaeological features were recorded there (*Sections 4.5.23-25*), most of which directly cut the natural boulder clay and were sealed by modern agricultural soils. All these were subject to archaeological investigation and recording, with many being fully excavated, though some (particularly long, linear features such as ditches and gullies) were only sampled, with some segments remaining unexcavated. On the street frontage, approximately half of the plot was excavated down to the natural drift geology, but it did not prove possible, in the time available, to excavate the stratigraphy over the rest of this area fully. Consequently, the earlier stratigraphy (*ie* that pre-dating the latest Roman building to occupy the plot (Building ***10545***; *Section 4.5.10*)) was retained *in situ*, as were almost all the archaeological deposits in the northern and southern plots. At the conclusion of the 2014 season, all the remaining archaeological deposits over the whole of Trench 5 were again covered with a semi-permeable membrane and the trench was reseeded following mechanical reinstatement of the topsoil (Pl 6).

Plate 6: Trench 5 backfilled at the end of the 2014 season, prior to reseeding, looking east

3.4 ARCHIVE PROCESSING

3.4.1 To maximise both efficiency and the learning opportunities available to the community, and to hasten the reporting and assessment, as much of the site archive as possible was processed during the fieldwork programme. This included the washing, bagging and labelling of the more robust categories of bulk finds, such as pottery and building materials, bagging, labelling and recording of 'small finds', and the initial sieving of many of the bulk environmental samples. The primary stratigraphic records, principally context sheets and site drawings, were checked on site by OA North project staff, but

opportunities for database entry, scanning of site drawings, and so on, were provided in the weeks and months following completion of both of the fieldwork seasons, at OA North's Lancaster premises. In accordance with the Project Brief (HWT 2013, section 8), an Online Access to the Index of Archaeological Investigations (OASIS) form (reference Oxfordar2-169110) was initiated following completion of the 2013 fieldwork. Prècis of the findings were also prepared for submission to *Britannia*, for inclusion in the 'Roman Britain' round-up in the 2014 and 2015 volumes, and interim statements were prepared, and have appeared, in the Cumberland and Westmorland Antiquarian and Archaeological Society's *Newsletter* (Zant and Rowland 2013a; 2014a), in the 'News' section of *Current Archaeology* (Symonds 2013), and in the *Hadrian's Wall Archaeology* magazine (Zant and Rowland 2013b; 2014b). Finally, the results of the project have been the subject of several public lectures by OA North project personnel, including presentations at the Senhouse Roman Museum in Maryport, at the annual Hadrian's Wall Forum and the Lake District National Park Archaeology Conference, held (respectively) in Hexham and Keswick, at the Roman Frontiers seminar in Edinburgh, and the annual North West Archaeology Forum at Lancaster University. Lectures have also been delivered to (or are planned for) local archaeological and historical societies across the region, at venues including Appleby, Carlisle, Egremont, Lancaster, Leeds, Lytham, Penrith, Preston, Saddleworth and Tebay.

3.4.2 ***Stratigraphic archive:*** following completion of the fieldwork, checked context records were entered into a database that is compatible with that used by the Newcastle University team. Site survey data were also downloaded and processed. Digital photographs were downloaded and labelled in accordance with indices, and many drawings were also digitised.

3.4.3 ***Finds:*** the artefact and faunal assemblages recovered were (where appropriate) cleaned as soon as possible following their excavation, and all finds were appropriately packaged, stored and organised, ready for assessment. As noted (*Section 3.4.1*), most of the more robust finds were processed by volunteers on site. In general, this involved (where appropriate) washing, drying, labelling and packaging of artefacts, according to material type, in stable conditions. All finds processing was undertaken in accordance with the methodologies set out in the Project Design (OA North 2013a, 54-5). All finds are currently stored securely, and in a stable environment, at OA North's Lancaster premises.

3.4.4 ***Palaeoenvironmental samples:*** most of the bulk soil samples taken for general biological analysis in 2013 were sieved on site by volunteers, though many required additional sieving upon completion of the fieldwork, this being undertaken at OA North's Lancaster premises. In light of this, it was felt that it was not worthwhile to process samples on-site during 2014, particularly since, in 2013, it was found that very few volunteers wished to undertake such work, most being keen to take part in the excavation. Consequently, sieving of all samples recovered in 2014 was carried out at OA North's Lancaster premises once the fieldwork had been completed, with much of the work being undertaken by volunteers. All aspects of the palaeoenvironmental sampling

and processing were carried out in accordance with the methodologies set out in the Project Design (OA North 2013a, 55).

4. EXCAVATION RESULTS

4.1 INTRODUCTION

4.1.1 The following section presents a summary of the principal results of the archaeological investigations. In addition to the natural drift geology and a few probable naturally-formed features, remains attributable to five broad chronological phases of human activity (Periods 1-5; Table 1) were recognised during the open-area excavation in Trench 5. The earliest of these (Period 1) comprises the very limited evidence for pre-Roman activity, but the great majority of the archaeological remains recorded can be attributed to the Roman period. This is represented by three broad occupation phases: Period 2, encompassing the very earliest evidence for Roman activity on the site; Period 3, covering the main period of occupation within the extramural settlement; and Period 4, comprising the limited evidence for late Roman activity. On the street frontage of the central building plot, where the full stratigraphic sequence was investigated, Period 3 can be further divided, on stratigraphical and dating evidence, into four sub-phases (Periods 3a, 3b, 3c and 3d). To the rear (west), however, in the backplot area, the lack of horizontal stratigraphy (and of stratigraphic links with the street frontage deposits) meant that it was not possible, at this stage, to identify sub-phases of activity corresponding directly to those on the street. On this part of the site, therefore, features and deposits yielding Roman cultural material could be assigned only to a chronologically broader phase (currently designated as Period 3). It is, however, anticipated that detailed analysis of the associated pottery and other datable artefacts (*Section 6*) will allow some refinement of this.

4.1.2 Most of the Roman remains recorded in the largely unexcavated southern and northern building plots have been assigned to Period 3d (representing the latest phase of intensive activity within the extramural settlement), as have those in the three test-pits that were not subjected to further investigation (Trenches, 1, 2 and 4; *Section 3.2.6*). However, there are no stratigraphic links between these trenches and the open-area investigation, and dating evidence is also very limited. The few post-Roman deposits recorded on the site (including those in the test-pits), all of which are modern, have been assigned to Period 5.

Period	Approximate date	Principal components
1	Prehistoric	Residual stone artefacts
2	Roman (*c* early second century AD)	The primary surface of road ***10542*** with a north/south-aligned ditch to the west, within the central plot
3a	Roman (*c* early/mid-second century AD)	Building ***12000*** on the frontage of the central plot; putative contemporary features/deposits in the backplot currently assigned to Period 3
3b	Roman (*c* mid-late second century AD)	Building ***12001*** on the frontage of the central plot; putative contemporary features/deposits in the backplot currently assigned to Period 3
3c	Roman (*c* mid-late second century AD)	Extensive accumulation of soils in the street frontage area of the central plot. Status of backplot uncertain

3d	Roman (*c* early/mid-third century AD)	Buildings ***10544***, ***10545***, ***10546*** in the southern, central and northern plots, and Building ***10312*** in Trench 4. Also deposits in the external area between the central and southern plots, and in Trenches 1 and 2. Putative contemporary features/deposits in the backlands of the central plot currently assigned to Period 3
4	Roman (*c* late third-fourth century AD)	Probable redefinition of the boundary between the central and northern plots, and the digging of a few pits in the central plot
5	Post-Roman	Modern agricultural soils and possible limited evidence for antiquarian investigations

Table 1: Summary of the main stratigraphic periods identified during the assessment

4.2 TOPOGRAPHY AND DRIFT GEOLOGY

4.2.1 The Roman fort and associated settlement at Maryport occupy a prominent position overlooking the Solway Firth, on a whaleback-shaped coastal bluff rising to *c* 55m aOD (Wilson 1997, 17). To the south and south-east, the bluff is bounded by the River Ellen, and to the east by Barney Gill (Biggins and Taylor 2004, 105, fig 5.2), whilst to the west and north-west are the coastal cliffs of Sea Brows. The natural subsoil, as recorded during the course of the 2013-14 excavations, comprised a pale/mid-orange or orange-brown sandy boulder clay. This was not seen in any of the test-pits, where investigations ceased when the uppermost archaeological levels were reached (*Section 3.2.6*), but it was exposed over large areas during the open-area excavation of Trench 5. Over all but the eastern 20m or so of this trench, the clay lay directly beneath a build-up of modern agricultural soil and topsoil, with a combined thickness of *c* 0.2-0.3m (Period 5; *Section 4.7*). In this area it was also cut by a large number of archaeological features, almost all of which proved to be of Roman date (*Sections 4.5.23-25*). On the eastern edge of the site, beneath the primary metalling of the main Roman road (***10542***; *Section 4.4.1*), the clay was reached at *c* 0.3m below the modern surface, and it lay at a similar depth beneath the Roman stratigraphy on the western street frontage.

4.3 THE PREHISTORIC PERIOD (PERIOD 1)

4.3.1 The earliest evidence for human activity on the site is provided by fragments of two narrow flint blades of probable late mesolithic date (*c* 6500-4000 BC), both unstratified (*Section 5.16.2*), from the open-area excavation. At this time, the region was occupied by small, mobile hunter-gatherer communities who were adept at exploiting a wide range of natural resources (Hodgson and Brennand 2006, 25-8). The Maryport finds are consistent with the wider evidence for late mesolithic activity on the Cumbrian coast, which largely comprises flint scatters on raised beaches and cliff-tops north of St Bees (*op cit*, 25), perhaps indicating the presence of groups exploiting the local marine environment. However, elsewhere in the region there is increasing evidence for the existence of large, possibly seasonal, encampments, which were revisited over prolonged periods. One such has been excavated on the north bank of the River Eden, *c* 3km north-west of Carlisle (Brown *et al* in prep), and it is considered likely that the peoples using such camps ranged widely in pursuit of game and other resources. It is such a transient visitation that is, perhaps, indicated by the mesolithic flints found at Maryport.

4.3.2 The site also yielded two residual stone artefacts, a possible chisel or small axe and a possible faceted tool (*Section 5.16.2*), which may be of neolithic date (*c* 4000-2300 BC). Initial assessment of these items suggests that they may derive from the Langdale industry of the Central Lake District, the products of which are found widely in the region (Hodgson and Brennand 2006), though this requires confirmation. No evidence for activity during the Bronze Age (*c* 2300-700 BC) or the Iron Age (*c* 700 BC-AD 70) was found, nor was there any indication that the site was settled at the time of the initial Roman occupation of the North West, which began around AD 70 (Shotter 2004, 26-8).

4.4 THE EARLIEST ROMAN ACTIVITY (PERIOD 2)

4.4.1 It seems likely that the main road leading north-east from the Roman fort, part of which was investigated during the open-area excavation (***10542***; Fig 6), was a chronologically early feature. Precisely when this was first constructed is, however, far from clear, due in part to a lack of dating evidence for the primary road surface as recorded in Trench 5 (which lay *c* 150m north-east of the fort), but more particularly to the uncertainties surrounding the chronology of the earliest Roman military activity at Maryport. Excavations within the visible stone fort in the 1960s seemingly established that it was built during the reign of the emperor Hadrian (Jarrett 1976), probably in the AD 120s as an element of the Hadrian's Wall frontier system (Breeze 2006, 398). It seems likely, though, that this installation was preceded by an earlier fort (*ibid*), and whilst this remains to be proven, it is therefore conceivable that road ***10542*** was pre-Hadrianic in origin. Even if it was constructed later, it would almost certainly have been in existence before the adjacent building plots were first established (Period 3a; *Section 4.5.4*), which the excavated evidence from the central building plot in Trench 5 suggests did not occur until the Hadrianic period at the earliest (*Sections 6.3.12-13*). A lack of stratigraphic links between the primary road surface (which was composed largely of compacted pebbles and gravel) and the adjacent stratigraphy to the west meant, however, that this could not be proven archaeologically during the Maryport Settlement Project.

4.4.2 With the possible exception of the road itself, the only Roman feature that could be assigned with any confidence to Period 2 was a north/south-aligned ditch (*11009*), situated *c* 10m west of the road and aligned roughly parallel to it (Fig 6; Pl 7). This was up to 1.1m wide and 0.5-0.6m deep, with a roughly U-shaped profile, and had been dug directly into the natural boulder clay, there being no evidence for a buried topsoil overlying the drift geology anywhere within the area investigated. Ultimately, the ditch was deliberately filled with clay and earth following a period when it appears to have silted more gradually. The backfill deposits of mixed earth and clay had clearly undergone a considerable degree of settling subsequent to the construction of timber buildings above the ditch during Period 3, since the floors and other internal deposits within the later structures had slumped markedly over the line of the ditch (Pl 8).

Plate 7: Period 2 ditch 11009*, looking south*

Plate 8: Slumping of a later Roman stone floor (in Period 3d Building **10545***) into Period 2 ditch* 11009*, looking north*

4.4.3 The exact significance of ditch *11009* is currently unclear, and it is not closely dated, though intial indications suggest that it was probably filling during the first half of the second century AD. Stratigraphically, it certainly pre-dated the earliest recorded building within the plot (Period 3a, Building ***12000***; *Section 4.5.4*), and it might, therefore, have been in existence before the plot itself was first established. Alternatively, it could be associated with the initial laying-out of the plot, though it seems to have been located too close to the road to

represent an early incarnation of the western plot boundary, unless the plot was very much shorter than seems to have been the case subsequently.

4.5 DEVELOPMENT OF THE ROMAN EXTRAMURAL SETTLEMENT (PERIOD 3)

4.5.1 Period 3 defines the main period of Roman activity on the site. In accordance with the Project Brief (*Section 1.2.1*), the full sequence of occupation was investigated only in the central building plot, where excavation of the earlier Roman levels was undertaken over a reasonably large area down to the surface of the underlying boulder clay. Within the northern and southern plots, and in the putative external area between the central and southern plots, the stratigraphy at the street frontage was not investigated below the top of the latest Roman levels. In the central plot, Period 3 is characterised principally by three successive buildings fronting the main road. A possible phase of abandonment (or, at least, activity of a markedly different character), seems to have occurred between the demolition of the second structure and the construction of the third. This sequence has been provisionally divided into four sub-phases (Periods 3a-3d). In the backplot area to the rear was a palimpsest of Roman features, including pits, ditches and probable wells and cisterns. Some of these intercut, but the great majority lacked stratigraphic links with the street frontage deposits. It is anticipated that analysis of the associated pottery and other artefacts (*Section 6*) will clarify the chronology of the features in this area, allowing many to be integrated into the sequence of sub-phasing established for the street frontage. However, for the purposes of the present assessment, most of the Roman features in the backplot have been assigned to a less chronologically precise phase (Period 3), indicating that they could be contemporary with any or all of the sub-phases represented by Periods 3a-3d.

4.5.2 Adjacent to the main road, the first two sub-phases (Periods 3a and 3b) were characterised principally by two successive timber buildings within the central plot. The plot does not seem to have been occupied by a building during Period 3c, which appears to have been characterised by a build-up of soils containing a large amount of probable domestic refuse, including pottery. The latest sub-phase (Period 3d) relates to the last intensive occupation on the street frontage, characterised, within each, principally by the construction and occupation of stone, or, more probably, stone-footed, strip-buildings.

4.5.3 The latest deposits within the probable external area between the central and southern plots are also assigned to Period 3d, as are most of the Roman remains exposed in the three test-pits (Trenches 1, 2 and 4) that were not selected for more extensive investigation. In view of the lack of stratigraphic links between the test-pits and the open-area investigation, however, the phasing of the deposits exposed in these areas is necessarily tentative, and is predicated largely on the fact that they were the stratigraphically latest archaeological remains recorded in the respective trenches. In Trench 4, the latest remains included the foundation of a probable timber building, but in Trenches 1 and 2 the recorded deposits appeared to consist wholly or largely

of mixed earth and sandstone rubble, presumably derived from buildings on these areas.

4.5.4 ***The street frontage:*** *Period 3a:* the main feature of this phase within the central property was a timber building (Building ***12000***), the western part of which was almost fully excavated, together with a strip along its southern edge (Fig 6). The walls of this structure comprised continuous foundation trenches, dug directly into the boulder clay, into which wall-posts had been set at regular intervals, the post-settings being evidenced by shallow sockets at the base of the trenches (Pl 9). This was almost certainly an east/west-aligned strip building, approximately 17m long and (possibly) *c* 5m wide (occupying the full width of the plot), placed gable end-on to the road. The front of the structure was poorly preserved, but its western end may have been partitioned-off to create a squarish room. Provisional dating suggests that the building was not erected before the Hadrianic period, and may have been occupied until around the middle of the second century AD.

Plate 9: Construction trench with post sockets for the south wall of Period 3a Building **12000** *(centre) and the stone-filled trench for Period 3b Building* **12001** *(right), looking east*

4.5.5 *Period 3b:* the primary building in the central plot (Building ***12000***; *Section 4.5.4*) was replaced by a second timber strip-building (Building ***12001***) that appears to have occupied a similar footprint to that of the earlier structure (Fig 6), though it may have been slightly longer and wider. Certainly, its south wall was located a little to the south of the primary building. It too had wall-posts set in continuous construction trenches, which, in the north and south walls, were retained in position by stone packing (Pl 9). The shorter, gable-end, wall on the west was also marked by a construction trench, but this contained little or no stone packing, having been backfilled largely with earth. Provisional dating evidence suggests that the building was in use during the second half of the second century, possibly being demolished in the later second century.

4.5.6 *Period 3c:* most of the area of Period 3b Building ***12001*** (*Section 4.5.5*) was subsequently overlain by an extensive build-up of dark grey or grey-brown silty clay soils, up to 0.15m thick, that seemingly covered the whole of the street frontage area of the central plot. These deposits yielded a large assemblage of pottery and other artefacts, but their precise significance is presently unclear. They appear to have accumulated during a period when the street frontage was not occupied by buildings or other obvious occupation features, but whether the plot was completely abandoned at this time is uncertain. The associated pottery assemblage suggests activity on, or in the vicinity of, the plot at this time, but it is not yet clear if this material should be interpreted as rubbish, perhaps deposited in an otherwise unoccupied area, or if it has some other significance. However, the plot boundaries themselves must have been maintained (or records of their positions made), since they were precisely followed when a new strip-building was constructed on the plot in Period 3d (Building ***10545***; *Section 4.5.10*). Provisional dating of the pottery from the Period 3c deposits suggests that they were accumulating from the late second century AD into the earlier third century.

4.5.7 *Period 3d:* stratigraphic evidence indicates that the main Roman road (***10542***) was resurfaced during Period 3d (Pl 10). This was the only time that the excavated section of the road was subject to major repair, though the road as a whole may have been repaired elsewhere along its length. Although the complete width of the road, as established by Joseph Robinson in 1880 (Robinson 1881), was *c* 6.4m wide, only the western 3-3.3m of this was investigated during this project.

*Plate 10: The main road (***10542***), extending north-east from the fort, looking south-west, showing the Period 3d surface*

4.5.8 In the central plot within Trench 5, the street frontage was occupied by a rectilinear stone, or stone-footed, strip-building (Building ***10545***; Fig 6), aligned, like its predecessors, gable end-on to the road (Pl 11). The north and

south walls corresponded almost exactly to the positions of the walls of Phase 3b Building ***12001*** (*Section 4.5.4*), demonstrating that the boundaries must have been maintained during the intervening phase (Period 3c; *Section 4.5.5*), when the plot may have been unoccupied. The frontages of the adjacent plots were also occupied by stone- or stone-footed strip-buildings at this time (Building ***10544*** to the south; Building ***10546*** to the north), whilst the area between the central and southern plots was seemingly external (*Section 4.5.21*). Buildings ***10545*** and ***10546***, though free-standing, were erected virtually side by side, with only a very narrow gap between, and shared precisely the same alignment. Building ***10544***, on the other hand, was aligned somewhat differently, but any significance of this remains unclear. All three appear to have been of similar form and (probably) of similar size, though only ***10545***, 20m long by 4.6m wide, externally, was fully exposed. What was probably the south-west corner of Building ***10544*** was recorded on the extreme southern edge of Trench 5; if correctly identified, this would suggest that the building was approximately 16m long and 5.8m wide, externally. Building ***10546***, to the north, may have been at least 18m long and was over 4m wide, though its full width could not be established, since it extended north beyond the limits of the investigation. The ground plan and dimensions of Building ***10312*** in Trench 4, to the north, could not be determined within the very small area available for investigation.

Plate 11: Building **10545** *(Period 3d), in the central building plot, looking west*

4.5.9 ***Construction and appearance:*** Building ***10545*** comprised a row of three rooms (R1-R3) extending back from the street, with R1, the largest (8 x 3.3m, internally), on the frontage, R2 (5.8 x 3.3m) in the middle, and the smallest room, R3 (3.8 x 3.3m), at the rear. A possible partition was also recorded within Building ***10544*** (Fig 6), sub-dividing that structure into at least two rooms, R1, on the frontage (*c* 7.2 x 4.4m, internally) and R2, behind (*c* 6.2 x 4.4m). No internal walls were recorded in the exposed part of Building ***10546***, but the existence of a possible room attached to the rear (western end) of the building was evidenced by a relatively crude wall footing, comprising large, roughly squared and unbonded sandstone blocks, extending west from the south-west corner. If this was indeed part of an additional room, Building ***10546*** was at least 18m long, but its full length is not known, as no trace of the west wall of the putative back room was found.

4.5.10 In many places, the walls of all three structures had been completely robbed (*Section 4.5.19*) but, where they survived, they were mostly of coursed sandstone rubble, faced on both sides with roughly dressed sandstone blocks (Pl 12). However, the front (east) walls of Buildings ***10544*** and ***10545*** were different (the east wall of Building ***10546*** had seemingly been destroyed by a later ditch within the area investigated (Period 4, *12002*; *Section 4.6.3*)). These were defined by linear settings of large, unbonded sandstone slabs laid directly on the ground (Pl 13). This, together with the fact that the slabs appeared to have suffered wear, suggests that these buildings may have been wholly or partially open to the street, with frontages perhaps consisting of some form of openwork timber construction, and/or incorporating removable wooden shuttering or even double doors. In the case of Building ***10545***, a smaller doorway, *c* 1.5m wide, also existed at the eastern end of the south wall (*ie* at the building's south-east corner, but opening onto the south, not onto the main road). The latest surviving surface of the main road (*Section 4.5.7*) abutted the external face of the east walls of these structures, indicating that the road was resurfaced after the buildings were constructed. The east wall of Building ***10544*** incorporated a reused slab exhibiting some form of incised, curvilinear decoration (*Section 5.16.4*).

Plate 12: Building **10545***: the western part of R2, looking south, showing typical wall construction*

Plate 13: The east (street frontage) wall of Building **10545***, looking south-west*

4.5.11 At the back of Building ***10545***, the walls of R3 also differed from the norm in that they were constructed upon a basal course of much larger, roughly squared, sandstone blocks. Despite these differences, all the walls of this building had been built directly on the contemporary ground surface, without recourse to construction trenches or below-ground foundations. The south wall

of R1, though almost completely destroyed by stone robbing, provided evidence for clay bonding, but no trace of this, or of any other type of bonding medium, was recorded in the building's other walls. Building ***10546***, to the north, differed in that its walls had been set on shallow cobble foundations (Pl 14), but no trace of mortar or clay bonding was noted. To the south, Building ***10544*** was not investigated in sufficient detail for the presence or absence of foundations or a bonding medium to be established.

Plate 14: Building **10546***: section through the south wall, looking west, showing foundation* 10530 *beneath masonry* 10531

4.5.12 In Trench 4, Building ***10312***, which (presumably) occupied a building plot to the north of the northern plot in Trench 5, was seemingly constructed in a very different way to the other Period 3d structures. Within the limited area exposed, a substantial, L-shaped foundation, 0.9m wide (Pl 15), composed of highly compacted, pale orange sandy clay and sub-rounded cobbles, was recorded. This is thought to represent the north-west corner of the building, the greater part of which lay to the south and east. In view of the almost total lack of stone debris within Trench 4, it seems highly probable that the foundation had supported a wholly timber-framed superstructure, perhaps constructed on sill beams and/or posts placed directly on the foundation, though no evidence of these was found.

Plate 15: Trench 4, looking south-west, showing the clay and cobble foundation of Building **10312**

4.5.13 For the most part, the walls of the Period 3d buildings in Trench 5 were 0.6-0.65m wide, and survived to only a single course (*c* 0.1-0.2m) in height, though two small fragments of a second, offset, course remained in the north wall of Building ***10545*** (Pl 16). Whether the buildings were stone-built to roof height, or were of timber-framed construction above stone sills or sleeper walls, cannot be determined. On the one hand, the surviving walls were certainly substantial enough to support a masonry superstructure, but the lack of foundations in Building ***10545***, and the insubstantial character of those provided in Building ***10546***, together with the generally modest quantities of stone rubble and debris associated with all three buildings, suggest that they may have been largely of timber construction. How the buildings were roofed is also unclear, though a sufficient quantity of slate was recovered to suggest that Building ***10545***, at least, may have been slated.

Plate 16: The north wall of Building **10545**, *looking west, showing surviving fragments of an offset second course*

4.5.14 Similarly, it is not known for certain whether any or all of the buildings had more than a single storey, though again, the width of the walls would not preclude this, notwithstanding either the lack of below-ground foundations or the provision of very slight foundations. Indeed, the geophysical evidence, showing both sides of the road seemingly crammed with buildings, each occupying a narrow street frontage (Biggins and Taylor 2004), suggests that space on the street was highly sought after. It would, therefore, be logical to suppose that most plot-holders made maximum use of what little frontage space was available, and an obvious way of achieving this would have been to add an upper storey. In the case of Building ***10545***, potential supporting evidence for this came from the north-west corner of R1, where a possible staircase foundation was recorded (*Section 4.5.17*).

4.5.15 *Interiors:* in Buildings ***10544*** and ***10545***, the street frontage rooms were latterly floored with clay (Pl 17), but in the case of ***10545*** (R1), the primary floor may have been composed of earth and broken sandstone slabs (Pl 18). Building ***10544*** was not investigated below the level of the latest floor, and no internal features were observed. No floors or other internal deposits were recorded in Building ***10546*** either, since most of the interior of this structure had been destroyed within the area investigated by a later ditch (Period 4, *12002*; *Section 4.6.3*).

Plate 17: The clay floor of Building **10544**, *re-exposed at the beginning of the 2014 season, looking west*

Plate 18: Building **10545**, *looking west, showing early earth and sandstone surfaces in R1, with R2 behind*

4.5.16 One of the few notable internal features recorded in R1 of Building ***10545*** was a sub-square area of compacted sandstone fragments (*10646*), *c* 1.2 x 1.4m, at the extreme north-west corner of the room (Pl 19). This was defined on the north and west by the walls of R1, and to the south and east by an edging of large, roughly dressed and unbonded sandstone slabs. On the east side, the upper surfaces of three of these slabs appeared quite heavily worn, as though they had been frequently walked over. The purpose of this feature is not entirely clear, but its corner position, together with the degree of wear evident

on the slabs on its eastern edge, suggest that it may have been the foundation for a staircase or ladder giving access to an upper storey.

Plate 19: Building **10545***: putative 'staircase' foundation* 10646 *in the north-west corner of R1, looking west*

4.5.17 In Building ***10545***, R2 was floored largely with heavy sandstone slabs (Pl 20), some of which had clearly been reused from elsewhere. This was sealed by an accumulation of dark grey silty loam soils, which presumably marked the abandonment of the building. No trace of floor or occupation deposits was found in R3, at the rear of the building, though a few possibly contemporary features were recorded.

Plate 20: Building **10545***: R2, looking north-east, showing the paved floor*

4.5.18 Buildings ***10544*** and ***10546*** have not been closely dated, since they largely remain unexcavated, nor is there any independent dating for the deposits in the external area between the southern and central plots. Provisional assessment of the pottery associated with Building ***10545***, in the central plot, suggests that it was probably built in the earlier part of the third century, but had almost certainly been demolished by the end of the century, at the latest. There is little evidence for activity within the plot following the disuse of this building (Period 4; *Section 4.6*).

4.5.19 *Demolition and robbing*: the only demolition deposit to have survived within the area of Building ***10545*** was a spread of compacted orange-buff sandy clay and sandstone rubble, which covered most of the interior of R1. This had accumulated after most of the stone in the south wall had been removed, and it also extended over part of the levelled masonry of the north wall, as well as the fill of the shallow trench formed by stone robbing at the north-east corner of the building. However, it was cut by the robber trench for the south wall of Building ***10546***, demonstrating that this wall was robbed later than the north and south walls of Building ***10545***. Elsewhere, a spread of sandstone rubble against the outer face of the south wall of R3 in Building ***10545***, almost certainly derived from the collapse or demolition of that feature. This was sealed by a layer of dark soil, part of a more extensive build-up of soil and rubble that spread over the external area between Buildings ***10544*** and ***10545*** at the end of the Roman period (*Section 4.5.21*).

4.2.20 In Trenches 1 (Pl 21) and 2 (Pl 22), to the south of the open-area excavation (*Section 3.2.6*), the latest archaeological deposits comprised mixed earth and sandstone rubble, which covered the whole of both trenches. These lay directly beneath modern agricultural soils, the rubble component presumably deriving from Roman stone- or stone-footed structures occupying building plots to the south of those recorded in Trench 5.

Plate 21: Trench 1, looking east

Plate 22: Trench 2, looking north-west

4.5.21 ***External areas on the street frontage***: Buildings ***10544*** and ***10545***, which occupied, respectively, the southern and central building plots in Trench 5, were *c* 4.5m apart. Since the two structures did not share precisely the same alignment, this narrowed to c 3m further west, at the rear of the buildings. For the most part, this area was not subjected to archaeological investigation, beyond a basic level of hand-cleaning and recording. The principal feature observed was a mostly well-defined and well-constructed surface (*10681*) paved with sandstone slabs (Pl 23), up to 2m wide and extending back from the main street frontage for at least 10m. One of the sandstone slabs forming its northern edge had been crudely incised with the figure of a warrior or an armed deity (*Section 5.16.4*). The northern edge of the surface was particularly clear, since it terminated along a very sharply defined straight edge, defined by a shallow slot or gully, but its eastern and western limits were not clear, since they were obscured by general layers of dark soil that had accumulated after the settlement was abandoned. These deposits were not removed during the investigations, so the relationship of the surface with Building ***10544*** to the south was not established.

Plate 23: Sandstone surface 10681, in the external area between the central and southern building plots, looking west

4.5.22 To the north, Buildings ***10545*** and ***10546***, though built as free-standing structures, were situated virtually side by side, with only a narrow gap, no more than 0.4m wide, between the two. In this narrow, external, strip, the earliest deposit associated with the buildings was a layer of mid-dark brown clay loam, which abutted the external faces of (respectively) their north and south walls. It was overlain by a darker soil that had clearly built up after ***10545*** had been at least partly demolished, since it overlay the levelled masonry of the building's north wall. Its stratigraphic relationship with the south wall of Building ***10546*** had not survived later disturbances, but it was cut by the robber trench that had removed most of the wall, demonstrating that it had accumulated prior to this episode of robbing.

4.5.23 ***The backplot (Period 3):*** most, if not all, of the backplot area that was subject to detailed investigation lay within the boundaries of the central building plot. This area contained numerous Roman features (Fig 7), including two north/south-aligned ditches, several shallower gullies, a series of vertical-sided, rectangular pits, possible wells or water cisterns, and a scatter of generally smaller pits and other, less substantial, features. However, more detailed work on the stratigraphic relationships between these features and (especially) on the associated pottery and artefactual assemblages, will be required before sub-phasing of the remains in this area can be attempted. Nevertheless, it seems clear, from the initial assessment of the pottery from these features, and from the fact that several features intercut, that activity

within the backplot was quite intensive, and probably took place over a fairly prolonged period. This area was seemingly separated from the plot to the north by a shallow ditch, most of which had been destroyed by a larger ditch that was dug along the same boundary in the later Roman period (Period 4; *Section 4.6.3, 12002*).

4.5.24 There was no evidence for the existence of buildings or other structures within the backplot area, where the archaeology was defined principally by a complex of pits/pit-like features, ditches and gullies that had been dug directly into the boulder clay. Of particular note were six vertical-sided, rectangular pits, each *c* 2 x 1-1.5m, which were scattered across the area. The lack of erosion on their sides makes it highly likely that these were originally timber-lined. For the most part, these proved to be *c* 2-2.5m deep, and were filled with homogeneous soils containing only small artefactual assemblages. One, however (*10734*; Fig 7), was excavated to a depth of over 3m, and was augered a further 1.5m or so beneath this, without reaching the base (Pl 24). It seems likely that this was a well, but the function of the other, shallower, features is as yet unclear, though it is possible that they served as water cisterns. Towards the southern edge of the area investigated was a considerably larger, oval pit (*10733*), *c* 3.2m in diameter and 1.6m deep (Pl 25). It was mostly filled with a deposit of dark grey-brown sandy silt, but a considerable amount of sandstone rubble, including several dressed building blocks, had also been tipped into the feature from the south.

Plate 24: Section through the fills of probable well 10734*, looking north*

Plate 25: Section through pit 10733, looking south-west

4.5.25 One of the most significant features investigated in the backplot area was a north-east/south-west-aligned ditch (*10669*; Pl 26), which was first recorded by geophysical survey (Biggins and Taylor 2004, 114, fig 5.9). The survey results indicate that it extended for at least 45m, but only a 6.5m segment lay within the area investigated, though this was fully excavated. It was 2.4m wide and 0.85m deep, with a well-defined, V-shaped profile, and had been filled with a fairly clean, grey-brown sandy silt. The ditch had been recut, possibly on two occasions, and may have defined the western boundary of the building plots at some point. However, the fact that Roman features were found on both sides (*ie* to the east and west) of the ditch suggests that it did not define the plot boundary throughout the lifetime of the settlement. It is not, however, possible to determine at this stage whether the ditch may represent an early boundary that went out of use when the plot was extended westwards or, conversely, a later feature associated with a reduction in the length of the plot. Another possibility is that it defined the boundary between two activity areas.

Plate 26: Ditch 10669, looking south-west

4.6 THE LATEST ROMAN ACTIVITY (PERIOD 4)

4.6.1 With the exception of a few features and deposits that were definitely or probably modern (*Section 4.7*), there was very little indication of activity stratigraphically post-dating the Period 3d strip-buildings (***10544***, ***10545*** and ***10546***) in the southern, central and northern building plots in Trench 5. Indeed, with the exception of general dark soil and rubble spreads, nothing certainly later than ***10544*** was recorded in the southern plot, or in the external area between that building and ***10545*** to the north, though this may have been due, at least in part, to the lack of excavation in these areas. Nor was there any indication of Roman activity post-dating the spreads of earth and rubble recorded in Trenches 1 and 2, south of the open-area excavation, or of activity later than Building ***10312*** in Trench 4, to the north.

4.6.2 In the central plot, demolition material in R1 of Building ***10545***, on the street frontage, was cut by two shallow pits, both located at the north-east corner of the building. The largest (*10535*; Fig 7), a sub-circular feature, *c* 2m in diameter but only 0.3m deep, also cut across the line of the building's north wall. The other, sub-oval pit (*10534*), *c* 1.2 x 0.9m and 0.4m deep, was situated within the building's interior, immediately inside its front wall.

4.6.3 Perhaps the most notable feature assigned to Period 4, however, was a substantial ditch (*12002*), aligned east to west, which was traced along most of the northern edge of Trench 5 (Pl 27). To the west, the ditch extended beyond the limit of the investigation, whilst on the east it terminated adjacent to the western edge of the main Roman road (***10542***), the terminal being marked by a setting of upright, sandstone slabs (Pl 28). Whilst this suggests that the road was still in use, it is clear that Building ***10546***, on the frontage of the northern building plot, was not, since the ditch had been dug, longitudinally, through its

levelled remains, removing the west wall and most of the interior within the area investigated.

Plate 27: Period 4 ditch 12002, *looking east, seemingly representing a later Roman redefinition of the boundary between the central and northern building plots*

Plate 28: Pitched sandstone slabs (bottom right) defining the eastern terminal of Period 4 ditch 12002, *adjacent to road* **10542**, *looking south*

4.6.4 Several segments excavated across ditch *12002* demonstrated that it had a rather variable, U- or V-shaped profile, *c* 1.5-1.8m wide and *c* 0.7m deep, and had been recut once to a similar specification (Pl 29). Both the primary and recut ditches were largely filled with dark soils, some of which contained considerable quantities of sandstone rubble, including dressed facing stones

(Pl 30). The purpose of the ditch is not yet clear, but it may have served to redefine the boundary between the northern and central building plots in the later Roman period, subsequent to the disuse and demolition of the Period 3d buildings that had formerly occupied the street frontage.

Plate 29: A typical section through Period 4 ditch 12002*, looking west, showing the earth and rubble fills of the primary ditch (right) and its recut*

Plate 30: Longitudinal section through the eastern terminal of Period 4 ditch 12002*, looking north, showing the large proportion of building rubble in its fill*

4.6.5 Initial assessment suggests that the site as a whole yielded very little pottery that need date much later than the mid-third century AD (*Section 5.5*). Similarly, only a single coin of possible fourth-century date was recovered (*Section 5.10*), and that was unstratified. Some of the fills of ditch *12002* yielded small quantities of late third- to fourth-century pottery, and a few

sherds of similar date came from the uppermost fills of one or two features in the backlands of the central plot, or from dark soils that accumulated after the Period 3d buildings went out of use. However, most of the pottery recovered from Period 4 deposits appears to date no later than the third century.

4.7 POST-ROMAN ACTIVITY (PERIOD 5)

4.7.1 There was no good evidence for activity on the site between the end of occupation within the investigated area of the Roman extramural settlement and the modern period. Whilst pottery and other artefacts attributable to the early medieval period (fifth- to eleventh century) would hardly be expected, it is noteworthy that not a single potsherd attributable to either the later medieval period (eleventh- to early sixteenth century) or the early post-medieval period (sixteenth-seventeenth century) was recovered from the site. Indeed, even pottery of eighteenth- to twentieth-century date was scarce, the presence of small, late post-medieval potsherds in several otherwise securely stratified Roman levels being almost certainly due to the activities of burrowing animals. It seems probable that much of the masonry was robbed from the Period 3d buildings during the Roman period, rather than later, and, indeed, this can be demonstrated stratigraphically in some cases. That stone robbing also occurred in the post-Roman period may be intrinsically likely, but, with the exception of a few small, late post-medieval potsherds (again, almost certainly intrusive), the fills of robber trenches yielded nothing other than Roman pottery and artefacts.

4.7.2 Over most of Trench 5, and also in the test-pits to the north and south (Trenches 1, 2 and 4), post-medieval deposits were restricted wholly to the modern turf and topsoil, 0.1-0.4m thick, which were removed at the beginning of the investigations. However, towards the eastern edge of the open-area site were a few features that may have resulted from antiquarian works within the area of the Roman settlement, possibly, though not certainly, including Joseph Robinson's wide-ranging investigations undertaken in 1880 (Robinson 1881; *Section 1.4.3*). These comprised two areas of shallow disturbance in the latest surface of the main Roman road (***10542***; Period 3d, *Section 4.5.7*), together with a loose spread of large cobbles (Pl 30), mostly small dolerite erratics, adjacent to the edge of one of these disturbed areas. These had been placed directly onto the road surface itself, but did not appear to serve any purpose, and were directly sealed by modern topsoil. Their precise significance is unclear, but one possibility is that they were thrown up during antiquarian works nearby and placed on the road prior to backfilling.

*Plate 31: A scatter of large cobbles over the latest surface of the main road (***10542***), looking north*

5. MATERIAL ASSESSED

5.1 INTRODUCTION

5.1.1 The entire paper and material archive was examined for the purposes of this assessment. The methods of assessment used varied with the class of data examined, although in each case the work was undertaken in accordance with current guidance provided by Historic England (English Heritage 2006). All classes of finds were examined in full, with observations supplemented by the records generated during the course of the fieldwork and maintained within the project archive. Quantifications are incorporated within the individual assessments.

5.2 AIMS AND OBJECTIVES

5.2.1 The aim of the assessment was to evaluate all classes of data from the investigations, to establish whether the material is of such significance as to warrant further study, and thereafter to formulate a project design for a programme of analysis appropriate to the potential demonstrated by the site archive. A statement of the significance of the results from each element of the archive is given below. These statements are based on the assessment work undertaken, related to the original aims and objectives defined in *Section 2*. The objectives of this assessment can be summarised as follows:

- to assess the quantity, provenance and condition of all classes of material: stratigraphical, artefactual and environmental;
- to comment on the range and variety of that material;
- to assess the potential of the material to address questions raised in the course of the project;
- to formulate any further questions arising from the assessment of the material.

5.2.2 This assessment presents:

- a factual summary, characterising the quantity and perceived quality of the data contained within the site archive;
- a statement of the academic potential of the data (Section 6);
- recommendations for the storage and curation of the data.

5.3 STRATIGRAPHIC RECORDS

5.3.1 ***Quantification:*** in total, 607 individual archaeological contexts were recorded, by means of pro-forma context sheets, scaled drawings (plans and sections), and digital photographs (Table 2). The great majority pertain to features and deposits assigned to the Roman period (Periods 2, 3 and 4), particularly Period 3 and its sub-phases (*Section 4.5*). However, context numbers were also issued

to modern topsoils and agricultural soils, and a few other modern deposits (Period 5; *Section 4.7*).

Category	Quantity
Context records	607
Digital photographs	1053
Black-and-white photographs	392
Plan drawings	136
Section drawings	98

Table 2: Summary of the documentary records

5.3.2 ***Assessment***: the investigations have produced a body of evidence, which has the potential to enable a full characterisation and record of archaeological remains identified within the excavation area. Five broad phases of activity have been identified (*Section 4*), dating from the prehistoric period (Period 1) to modern times (Period 5), though the excavated remains are overwhelmingly attributable to the Roman period (Periods 2, 3 and 4), and clearly relate to the development and occupation of the extramural settlement north-east of the fort. The data are particularly noteworthy since the Roman Maryport Settlement Project represents the first instance where an entire building plot within a Roman extramural settlement was investigated holistically, rather than, as has often been the case, work being restricted to the area of the street frontage. In addition to the written context records, the drawn plans and sections, together with the photographs and other digital data, represent an invaluable aid in all aspects of post-excavation analysis. They also provide a general and detailed pictorial record of the site during excavation.

5.3.3 The main features recorded were a section of the main Roman road leading north-east from the fort, and three building plots extending back from the western edge of the road. One of these was targeted for detailed investigation, and revealed a sequence of three rectilinear structures, probably all strip-buildings, on the street frontage, with contemporary features in the backplot area to the rear. The other two plots were not excavated, but they were also occupied, in their latest phases at least, by probable strip buildings. There was virtually no evidence for post-Roman activity on the site prior to the accumulation of modern agricultural soils and topsoil. Whilst it has proved possible to divide the Roman stratigraphic sequence adjacent to the main road provisionally into a series of sub-phases, this could not be achieved, at this stage, for the Roman remains in the backplot area. However, it may be possible to refine the phasing of this area when a more detailed study of the dating of individual contexts has been undertaken.

5.4 SAMIAN POTTERY

5.4.1 ***Quantification:*** in total, 705 sherds of samian ware, weighing 7.06kg, were recovered during the investigation, representing just over 12% of the total Roman ceramic assemblage from the site (*Section 5.5.1*). The fabric of each sherd was examined under a x20 binocular microscope, and each sherd was catalogued by context. Details of fabric, form, decoration, condition, rim EVEs (Estimated Vessel Equivalents), rim diameter, weight, and date range

were also catalogued, and the presence of wear, repair and graffiti was also systematically recorded.

5.4.2 ***Assessment:*** 579 samian sherds, representing 82% of the total samian assemblage, were recovered from contexts provisionally attributed to the Roman period (Periods 2, 3 and 4). The remaining 126 sherds (18%) came from post-Roman contexts, or were unstratified. With the exception of the very small group of South Gaulish samian from La Graufesenque (*Section 5.4.6*), which seems to be better represented within stratified Roman deposits, there are no major differences between the samian recovered from Roman levels and the residual/unstratified material. Overall, the assemblage has good potential for further analysis (*Section 6*), in order to refine the chronology of Roman occupation and to elucidate questions pertaining to such things as supply networks, site status and the nature of on-site activities.

5.4.3 A provisional calculation suggests that the maximum number of individual vessels represented by the assemblage is 652, with a rim EVE of 9.27. The great bulk of the collection (660 sherds, or 94%, by sherd count) was recovered from the open-area excavation (Trench 5). The group is largely made up of small fragments, often with excoriated surfaces, and this is reflected in the low average weight (*c* 12.5g). Poor preservation is also indicated by the high proportion of unidentified forms, representing 28% of the total assemblage.

5.4.4 That some of the samian (and, presumably, the deposits into which it was initially incorporated) was subject to a degree of post-depositional disturbance and reworking is evidenced by several instances where sherds from the same vessel were recovered from multiple contexts. Non-joining fragments from the same East Gaulish decorated Dr 37 bowl are, for example, recorded in three separate contexts within the backlands of the central building plot, and sherds from another decorated vessel, a Central Gaulish Dr 30, came from a Period 3c soil deposit on the frontage of the central plot and from a context in the backplot.

5.4.5 *Fabrics and forms:* the assemblage as a whole comprises a range of fabrics and forms dating from the late first century AD to the mid-third century. However, the collection is overwhelmingly composed of Central and East Gaulish wares dating to after *c* AD 120, which represent approximately 98% of the total assemblage, by sherd count. The very modest quantities of late first- and early second-century material from La Graufesenque and Les Martres-de-Veyre suggests that there was little or no activity on this part of the settlement site before the Hadrianic period.

5.4.6 ***South Gaulish wares:*** South Gaulish vessels from La Graufesenque are represented by 11 sherds (little more than 1.5% of the total assemblage, by sherd count), with an average weight of only 2.7g. There are no potters' stamps, and dating relies solely on a few decorated vessels, most of which have abraded surfaces. A Dr 18/31 dish of the Montans potter Chresimus, who was active during the Hadrianic period, was found in a Period 3d soil (*10610*) within Building ***10545*** (R2), where it was presumably residual. Hadrianic Montans ware is relatively rare on Hadrian's Wall and its hinterland, but

vessels are known from a few sites, including South Shields (Hartley and Dickinson 1994, 206), Stanwix (Dickinson 2000), Birdoswald (Willis 2000), Housesteads (Dickinson 2009, 488) and Wallsend (*ibid*).

5.4.7 ***Central Gaulish wares:*** the assemblage contains only 11 fragments from the Central Gaulish industry of Les Martres-de-Veyre, which, like the south Gaulish material from La Graufesenque, represents a little over 1.5% of the total collection. A few sherds date to the Trajanic period, but these are relatively small and the only diagnostic piece is unstratified. Such a small quantity of pre-Hadrianic material, though not unusual regionally, is consistent with the paucity of South Gaulish wares in suggesting that there was little activity on the site in the early second century AD. The few Les Martres-de-Veyre products also include several Hadrianic-early Antonine vessels, including decorated bowls by the potter Cettus.

5.4.8 By contrast with the paucity of material from Les Martres-de-Veyre, Central Gaulish wares from Lezoux form by far the largest component of the assemblage, with no less than 552 sherds (458 from stratified Roman deposits), representing over 78% of the entire collection. However, the average sherd weight, at *c* 12g, is quite low, and includes several flakes and unidentifiable forms. The range of forms and potters' styles is nevertheless relatively large, and has the potential to provide important insights into the chronology and status of the site (*Section 6*).

5.4.9 The Hadrianic period is represented by several Dr 18/31 dishes, several examples of the cup form Dr 27, and the flanged bowl form (Curle 1911). Several decorated bowls with styles provisionally attributed to this period are also present in a number of deposits. Antonine material appears to be particularly well-represented in the assemblage, with multiple examples of dish form Dr 31 and cup form Dr 33, two of which bear stamps (Maximus ii and Quadratus ii). The decorated repertoire seems to be dominated by products of Cinnamus ii and his associates, including a stamped example from Trench 4 (*Section 3.2.6*). Samian of the later Antonine period (after *c* AD 160/70) is also present, including a few gritted mortaria, dish form Dr 31R, and three Walters form 79 (1908). A beaker with applied decoration most probably dates to the late second- or early third century AD, this form of decoration being rarer and later than beakers with rouletted or cut-glass decoration (Delage 2003, 185). A similar example is known from the fort at Housesteads (Dickinson 2009, no 31), and another was found at Piercebridge (Ward 2008, 189).

5.4.10 ***East Gaulish wares:*** East Gaulish samian is represented by a group of 128 sherds (with a rim EVE of 1.04), making up approximately 18% of the total samian assemblage. The collection includes examples of wares from several industries that supplied samian to Britain from *c* AD 120 to the mid-third century. The earliest East Gaulish piece is a Hadrianic decorated bowl from La Madeleine, non-joining fragments of which were recovered from three different contexts, albeit in the same part of the site. Although not particularly common, examples of La Madeleine ware are known from other sites on, and in the vicinity of, Hadrian's Wall (Dickinson and Hartley 1978; Dickinson 2009). The rest of the material is from the later industries of Rheinzabern and Trier.

There is only one partial stamp, provisionally assigned to Rheinzabern. Decorated vessels are present, but most of the sherds are small and abraded. The range of forms, though relatively limited, shows that East Gaulish material was reaching the site from the mid-second century to the first half of the third century. Forms typical of the late second- to third century include two mortaria, several bowls of form Dr31R/LUDSb (Ludowici 1927), and Dr38 bowls with plain rims. Sherds from a beaker or jar with overslip buff barbotine decoration, probably a third-century Rheinzabern product, were recovered from three separate contexts. This type of vessel is rare in Britain (Bird 1993, 8), and most of the recorded examples come from south-east England (*ibid*), although one is known from Piercebridge (Ward 2008, 189).

5.4.11 *Use, wear, repair and reuse:* there are 19 examples within the assemblage of evidence for mending or preparation for repair, though only 17 can be attributed to specific forms (3.7% of the number of vessels attributed to forms). This proportion is higher than the average of 2% for military sites in Britain (Willis 2005, table 73), though some individual military assemblages do have similar levels. At Bainesse (Catterick), for example, repaired vessels accounted for 3.7% of the samian from late second- to late third-century phases (Evans 2002, table 26, 415), whilst in the extramural settlement west of the Hadrian's Wall fort at Birdoswald, repairs were recorded on 3.4% of the 58 samian vessels identified (Willis 2005, table 73).

5.4.12 Only three vessels within the Maryport assemblage, two Dr 33 cups and a Dr 38 bowl, display signs of internal wear, a feature that is often idiosyncratic and form-specific (Biddulph 2008). The cups display a similar wear pattern, the main feature of which is a thin band of wear at the internal junction of the base and wall, whilst the bowl has a concentric area of wear on the inside. The use of vessels other than mortaria for grinding is sometimes seen as symptomatic of lower-status sites (*ibid*). However, samian mortaria are well-represented in the Maryport assemblage, as are decorated vessels, neither of which would support the idea of low status.

5.4.13 In addition to the evidence for repair, there are seven fragments of samian that have been reworked to form spindle whorls or gaming counters (*Section 5.9*). Only one partial graffito was noted, though it appears to be a literate example. It comprises two large letters, possibly MI[…, scratched onto the external surface of a Central Gaulish Dr 31R dish that was recovered from a deposit within Period 3b Building ***12001*** (*Section 4.5.5*).

5.4.14 Finally, 29 fragments (*c* 4% of the assemblage) showed evidence of burning, though this material came from 14 different contexts (together with one unstratified sherd). Only one deposit, an extensive spread of soil and debris (*10596*), assigned to Period 3c (*Section 4.5.6*), exhibited any particular concentration, with ten burnt sherds present. However, this context yielded an exceptionally large ceramic assemblage overall (*Section 5.5*), so the presence of several burnt sherds may not be particularly significant.

5.5 OTHER ROMAN POTTERY

5.5.1 ***Quantification:*** in total, 5118 sherds of Roman pottery other than Samian were recovered during the investigations (Table 3). Excluding amphorae and mortaria, the assemblage was dominated by three ware groups, namely Black-burnished ware fabric 1 (BB1), South-Eastern Grey wares and a fine oxidised ware in Severn Valley forms. Unsourced grey wares were also present, largely in BB1- and Black-burnished ware fabric 2 (BB2)-type forms. Smaller quantities of Nene Valley colour-coated ware, imported black slip wares from Trier (with a small number from Central Gaul), BB2, Mancetter-Hartshill mortaria, local mortaria including Rhaetian types, Lower Nene Valley mortaria, black-sand Italian amphora and Dressel 20 oil amphora were also identified.

Type	No sherds	% of total other than samian	% of overall total
Amphorae	708	13.8	12.2
Mortaria	203	4.0	3.5
Other wares	4207	82.2	72.2
Sub-total	***5118***	***100***	***87.9***
Samian	705	-	12.1
Total	**5823**	**-**	**100**

Table 3: Roman pottery by broad type

5.5.2 ***Assessment:*** the assemblage as a whole is in a fair condition. Wares such as the fine, oxidised Severn Valley types, colour-coated wares and some amphora and mortarium sherds had lost surface finishes or had been severely fragmented, a consequence of the acidic soil conditions. However, the grey wares and Black-burnished wares, being more robust, were generally better preserved. The bulk of the assemblage has excellent potential for further analysis (*Section 6*), which should aid refinement of the chronology of Roman occupation and inform research into such topics as production and supply, the character and status of the investigated area of the settlement and the nature of on-site activities.

5.5.3 *Chronology and types:* a preliminary examination suggests that most of the assemblage dates from the early Antonine period to the mid-third century, with much smaller amounts of pottery of the Hadrianic period and of the late third- to fourth century AD also present. No Flavian-Trajanic material was identified in the assemblage. Hadrianic types, though present in small numbers, are also very scarce, but include a few examples of imported roughcast-ware cornice-rim beakers, ring-necked flagons and early to mid-second-century BB1 jars, bowl and dishes. A very few sherds were identified in a gritty oxidised ware, which seems comparable to that made at the Muncaster kilns, though the forms do not appear to be similar, and it therefore seems unlikely that these vessels come from that source. It is possible that the primary phase of the extramural settlement (at least within the area investigated) dates to the Hadrianic period but, if so, it appears either that activity was relatively unintensive, or that the settled area was kept relatively clear of rubbish, including broken pottery, at this time.

5.5.4 The great majority of the datable sherds belong to the mid- to late second century AD and the late second- to mid-third century. Both groups are dominated by BB1 jars, bowls and dishes, and grey-ware copies of these. BB1 flat-rim bowls and dishes and necked everted-rim jars of the mid- to late second century are common, as are grooved flat-rim bowls, grooved- and plain-rim dishes of the late second to mid-third century, and jars with obtuse lattice burnish, of third-century type. Jars with shoulder grooves above the obtuse lattice zone, dating after *c* AD 240, are also present, but jars with splayed rims projecting beyond the girth were not identified, suggesting a marked reduction in activity during the late third- and fourth centuries. Another notable group comprises Severn Valley-type wares, including hooked-, bifid- and frilled- or slashed bifid-rim narrow-necked jars of the second- and third centuries (Webster 1976, nos 4-6 and 10-13). Two sherds in this group derive from tankards and these seem relatively upright, suggesting a second-century date range (*op cit*, nos 39-41). Not all the jars are of true Severn Valley ware. In particular, the slashed bifid-rim types compare better with vessels made in the North West at sites such as Wilderspool (Hartley and Webster 1973, fig 4, nos 11-15) and Walton-le-Dale (Evans in prep).

5.5.5 A particularly noteworthy, and unexpected, feature of the assemblage is the presence, in quite large quantities, of grey wares from the south-east of England, particularly from the vicinity of Mucking, in the Thames Valley. This group has been identified in the eastern sector of Hadrian's Wall (Bidwell 1985, 177-8; Bidwell and Speak 1994, 228-31), where it is dated to the first half of the third century, but such wares are relatively scarce in the North West. At Maryport, too, the bulk of the material from stratified Roman levels derives from third-century contexts, with a few sherds in potentially earlier deposits. Such wares occur in association with grooved, flat-rim BB1 bowls of the late second- to mid-third century and BB1 jars with obtuse lattice, of early- to mid-third-century type, together with early-mid-third-century Rhenish black slip wares and Nene Valley wares. Although no detailed work on the fabrics was carried out at this stage, the identification of Mucking type K jars with diamond rouletting on the shoulder, a decorative feature peculiar to the Mucking kilns (Jones and Rodwell 1973), strongly suggests at least some of the Maryport material derives from this source. In fact, Mucking types J, K and F (*ibid*) are all present in the assemblage, though type K wide-mouthed jars are the most common form. BB2 triangular- and bead-rim bowls/dishes are also present, but not in particularly large numbers. Mucking type F is dated to the third century (Monaghan 1987, type 3L), whilst type J (a necked jar) is a long-lived type, in use from the second- to the fourth century. Type K jars are equivalent to Monaghan type 4A2 (*ibid*), which are dated to the period c AD 120-230/50.

5.5.6 The black slip wares in the assemblage are predominantly of Trier type, datable to the period *c* AD 200-75 (Brulet *et al* 2010, 342-45, 351-6). The Nene Valley wares include scroll beakers, cornice-rim beakers, hunt cups, plain-rim beakers with grooves or rouletting, and a funnel-necked beaker, and can be dated generally to the late second/early third century to the mid-third century (Perrin 1999, 93, 90-2, 90, 93-4). However, all this material is likely to have reached Maryport during the third century, in view of the accepted

date for the appearance of Nene Valley colour-coated ware on the Hadrian's Wall frontier (Bidwell and Speak 1994, 225; Swan *et al* 2009, 605). One beaker, with white-painted decoration, dates from the mid-third century or later, whilst a flagon with an oval-sectioned handle may be attributable to the late second/early third century (Perrin 1999, 98). A similar date can be ascribed to two rather battered, oxidised rim sherds from 'African' lid-seated bowls (Swan 1992).

5.5.7 Preliminary dating of the mortaria from the site supports that suggested by the other wares. Regional oxidised wares are uncommon, though the forms present suggest a Hadrianic-Antonine date, and Antonine Rhaetian types are also represented. However, vessels from the Mancetter-Hartshill industries form the largest group, which largely comprises mid- to late second-century flanged forms and late second- to third-century collared mortaria, and early reeded-rim types. Forms dating after the mid-third century are relatively uncommon, although three mid-third- to mid-fourth-century reeded hammerhead mortaria from Mancetter-Hartshill, and a late third- to fourth-century reeded-rim vessel from the lower Nene Valley were identified, together with two possible fragments of Crambeck white mortarium, datable to the fourth century.

5.5.8 The amphorae assemblage is overwhelmingly composed of Dressel 20 olive oil amphorae from southern Spain, though two black-sand sherds, including an oval-sectioned handle from a third-century almond-rimmed amphora, are also present. Two Dressel 20 rims are provisionally dated to the second half of the second century or the early third century.

5.5.9 In addition to the two possible Crambeck mortarium fragments (*Section 5.5.7*), pottery dating to the late third- to fourth century is represented by little more than 20 sherds, including fragments from up to 13 Crambeck grey-ware vessels, six developed flanged bowls and one Holme-on-Spalding Moor grey-ware jar. A single rim sherd from a calcite-gritted jar of Huntcliff type, datable to after *c* AD 360, is also present. A vesicular fabric with angular voids may also have been calcite-gritted originally, but the only diagnostic sherds derive from Knapton or Dales-type jars, which date from the mid-third- to the early fourth century. What seems clear is that the paucity of Crambeck vessels, developed flanged bowls and late BB1 jars, together with the virtual absence of calcite-gritted wares, is indicative of a marked reduction in the intensity of occupation within the area investigated after the mid-third century.

5.5.10 ***Status and character:*** the military character and connections of the settlement at Maryport are clearly reflected in the proportions of samian ware and amphorae in the pottery collection (Evans 2001), each of which make up approximately 12% of the total ceramic assemblage (Table 3). A superficial consideration of the vessel types represented suggests that beakers are relatively uncommon, whilst flasks and flagons are extremely rare. In place of the latter, narrow-necked jars were probably used as liquid containers. Overall, the assemblage is dominated by medium-necked jars, used for cooking and storage, flat-based dishes and bowls in both BB1 and grey-ware fabrics, and wide-mouthed grey-ware jars. A small number of unusual vessels, including a possible facepot or headpot, a cheese press and a lugged 'cauldron' (Lyons

2009), suggests that certain specialised activities were being carried out within the settlement. The recovery of a fragment from a pipe-clay Venus figurine (*Section 5.9*) is, with the facepot fragment, indicative of religious or ritual activity on, or in the vicinity of, the site.

5.6 POST-ROMAN POTTERY

5.6.1 ***Quantification:*** 582 fragments of post-Roman pottery were recovered, all of it late post-medieval or modern in date. All of the fragments are small and quite abraded.

5.6.2 ***Assessment:*** the assemblage dates predominantly to the mid-late nineteenth century, and comprises sherds from a range of domestic wares typical of that period. Most derive from modern topsoils and agricultural soils, and are likely to have been deposited in the course of agricultural practices such as midden spreading and ploughing. The presence of post-medieval sherds in individual contexts should be noted, in order to address issues of residuality and possible contamination of earlier deposits.

5.7 CLAY TOBACCO PIPES

5.7.1 ***Quantification:*** there are 42 small fragments of clay tobacco pipe. The majority are small stem fragments, with very few bowls.

5.7.2 ***Assessment:*** although in generally good condition, the assemblage of clay tobacco pipe has little relevance to the site, particularly since it mostly comprises small, undiagnostic stem fragments. However, the presence of fragments in individual contexts should be noted, to address issues of residuality and possible contamination of earlier deposits.

5.8 CERAMIC BUILDING MATERIALS

5.8.1 ***Quantification:*** in total, 2250 fragments of stratified ceramic building materials were recovered during the investigations, from 103 individual contexts. The assemblage has yet to be quantified by weight, but most fragments are very small indeed.

5.8.2 ***Assessment:*** as a result of the small size of the fragments, there are few chronologically diagnostic elements, but it is likely that much of the material is of Roman date and, indeed, the majority of fragments derive from stratified Roman deposits. It is clear that some pieces of tegulae-type roof tiles are present, but it does not seem that ceramic tiles were extensively used for roofing in this part of the settlement. The small size and abraded nature of the great bulk of the assemblage suggests that most of the material may have been incorporated into surfaces and other deposits as ‘hardcore’, or was used for other purposes.

5.9 OTHER CERAMIC OBJECTS

5.9.1 ***Quantification:*** the assemblage comprises ten objects, four spindle whorls and five gaming counters, all fashioned from reworked potsherds, and a small fragment of a pipe-clay figurine, probably of Venus.

5.9.2 ***Assessment:*** all the items were recovered from Roman (Period 3) deposits, mostly within the central building plot. The spindle whorls and counters are typical examples of objects that are commonly found at Roman extramural settlement sites in the region, and may be able to enhance an understanding of the kinds of activities that were being undertaken within the settlement (*Section 6*). Most are fashioned from samian-ware fragments, but two of the spindle whorls have been reworked from other Roman potsherds. The figurine, like most figures of this kind in Britain, may have been imported from Gaul (Ferris 2014), but it is conceivable that the Maryport example changed hands several times before reaching the site.

5.10 COINS

5.10.1 ***Quantification:*** in total, 13 coins were recovered from the site, of which nine are certainly or probably Roman and four are modern. Most of the Roman specimens are in a poor and fragile condition as a result of corrosion.

5.10.2 ***Assessment:*** eight of the Roman coins are *aes* denominations, whilst one is a very fragile silver *denarius*, which cannot currently be identified. Three of the *aes* coins are *sestertii*, one certainly of Hadrianic date (AD 117-38), the others as yet unidentified. There are also three certain or possible *asses*, although only one is currently datable, being evidently a Trajanic issue (AD 98-117). The other two coins are fragmentary, but one may possibly date to the reign of Vespasian (AD 69-79), whilst the other is possibly fourth century. Three of the Roman coins are unstratified, but the others were recovered from securely stratified Roman deposits. Whilst further details will eventually emerge, following professional cleaning, it can safely be said that the group as a whole, with the exception of the possible fourth-century specimen, consists of coins lost no later than the second half of the second century AD. The modern coins comprise two pennies and a half-penny of Victoria, and a half-penny of Edward VII.

5.11 COPPER-ALLOY OBJECTS

5.11.1 ***Quantification:*** excluding coins (*Section 5.10*), 32 copper-alloy objects were recovered from the site, of which eight are unstratified. All are in fair to good condition, but most are small and somewhat fragmentary, making them difficult to identify or date.

5.11.2 ***Assessment:*** in view of their condition, few of the objects could be identified as being definitely Roman at this stage, though as most came from securely stratified Roman deposits, it is highly likely that the bulk of the assemblage is of this date. There is a typically second-century finger ring, though this came

from a third-century (Period 3d) deposit in the central building plot, and two probable belt-fittings, one from the backlands of the central plot, the other unstratified. There is also a complete (though fragmentary) spoon bowl, from an internal deposit within Period 3b Building ***12001*** (*Section 4.5.5*). Otherwise, the copper-alloy assemblage largely comprises unidentifiable fragments and post-medieval and modern objects, such as buttons, nails and cartridge cases. The latter group is also difficult to quantify at present, but is unlikely to comprise more than 10-12 objects.

5.12 IRON OBJECTS

5.12.1 ***Quantification:*** approximately 1400 iron objects were recovered during the investigations, all of which are heavily corroded. At least 200 of these are unstratified (most being recovered by metal-detecting of the spoil heaps after the topsoil was stripped), or derive from modern agricultural soils, but the rest of the assemblage derives from securely stratified Roman deposits.

5.12.2 ***Assessment:*** for the most part, the assemblage is scattered amongst a wide range of contexts from all parts of the site. There are, however, some notable concentrations of objects, for instance in a Period 3c soil (*10596*) in the central plot (*Section 4.5.6*), and in an internal deposit (*10738*) within Period 3b Building ***12001*** (*Section 4.5.5*). Further study of these might allow the identification of specific activities, and may enhance understanding of the construction, appearance and function of some of the excavated structures.

5.12.3 The size and shape of the great majority of the individual objects strongly suggests that they are nails (or fragments of nails) of Manning's type 1b (Manning 1985). There are also considerable numbers of certain or possible hobnails. One significant item, a roughly fist-sized fragment of chainmail, from a Period 3d deposit in the backlands of the central plot, has been cleaned and conserved, and was found to be in good condition. The only other item recognised to date that may be of military origin is a spearhead, from a probable occupation deposit at the rear of Period 3b Building ***12001***, though fragments of several other possible blades are also present in the assemblage. In view of the (perhaps unexpectedly) good condition of the chainmail fragment, cleaning and conservation of a selection of the objects may well reveal more items of interest, currently obscured by corrosion.

5.13 LEAD

5.13.1 ***Quantification:*** there are 20 fragments of lead from the excavations, of which six are unstratified. All are in fair to good condition, but are covered with a light coating of corrosion products.

5.13.2 ***Assessment:*** the small group mainly consists of fragments of sheet, solidified spills and melted fragments, and amorphous objects that are unlikely to be identified; none is chronologically diagnostic, though most derive from stratified Roman contexts.

5.14 GLASS

5.14.1 ***Quantification:*** in total, 239 fragments of glass were recovered during the investigations. An initial scan of the material suggests that 143 of these (*c* 60%) are probably late post-medieval or modern, with 96 fragments (*c* 40%) being of Roman date. All the Roman glass is in good to excellent condition, this level of preservation being typical of the North West.

5.14.2 ***Assessment:*** the great majority of the Roman glass fragments are small and not particularly diagnostic as to form, with few chronologically sensitive features remaining. The assemblage can provisionally be sub-divided into three groups, namely vessel glass, window glass, and other glass objects. A rapid assessment suggests that the best represented vessel form is Isings 50, a very common square, mould-blown storage vessel typical of the first and second centuries AD, which persisted into the early third century (Isings 1957). Other diagnostic fragments are scarce, but fall into the same broad date range. There seems to be a complete absence of strongly coloured and/or cast vessel glass, both regarded as being typical of the first century AD (*ibid*), nor is there anything in the group that need be later in date than the early third century.

5.14.3 There are ten small fragments of Roman matt-glossy window glass, broadly datable to the first- to third century AD (Harden 1961). The assemblage of other artefacts comprises 12 beads, three fragments from two bangles, and a finger ring, all of which are, like the window glass, probably typical of the first- to third century. The beads include two turquoise frit melon beads, and two gold-in-glass beads (Guido 1978), one complete, the other only a fragment. One of the bangles is in an unusual form, consistent with Kilbride-Jones type 3 (Kilbride-Jones 1938), whilst the finger ring, in an almost black glass, is probably Roman, though there are few parallels for this object.

5.14.4 With the exception of a small fragment of high-quality reticella glass, probably dating to the seventeenth- or early eighteenth century, the post-Roman glass is all of late nineteenth- and twentieth-century date.

5.15 INDUSTRIAL DEBRIS AND FIRED CLAY

5.15.1 ***Quantification:*** the excavation produced 314 fragments of industrial debris and 228 fragments of burnt clay. The fragments have yet to be weighed, but are generally small, with only small amounts coming from individual contexts.

5.15.2 ***Assessment:*** a rapid scan suggests that the industrial debris derives principally from secondary iron-working, though some may well be fuel debris, rather than slag, and could have come from domestic hearths. The small size of the fragments, and the small amounts present, seem, at this stage, to suggest that high-temperature industrial activity did not feature highly in the activities undertaken on the site. Some fragment of fired clay bear the imprint of other structural elements, and possibly derive from kilns or ovens None of the industrial material or fired clay is chronologically diagnostic, though most derived from securely stratified Roman levels. There are, in addition, 149

fragments of coal from the site, some of it clearly sea-washed, which might suggest collection from local beaches.

5.16 STONE OBJECTS

5.16.1 ***Quantification:*** in all, 1064 fragments of stone, many of them small pieces of Lakeland-type slate, were recovered. All are in good condition. Some natural objects were also collected (probably beach pebbles), being provisionally identified as whetstones, and the assemblage will thus be significantly reduced as these are weeded out, leaving a smaller number of 'genuine' stone artefacts.

5.16.2 ***Assessment:*** although most of the assemblage is very probably of Roman date (*Section 5.16.3*), four probable prehistoric artefacts were also recovered, though all were residual or unstratified. These comprise two small, narrow-blade flints, probably of late mesolithic date, and two probable neolithic stone tools: a small, polished implement, possibly a chisel, made of tuff; and another fragment of tuff with faceted wear.

5.16.3 Most of the stone collected from Roman deposits can be identified as slate, probably of relatively local origin. There is sufficient present (including an occasional complete or near-complete object, some with peg holes) to suggest that it was employed as roofing material. There do not appear to be any sandstone roofing flags in the assemblage, and quern fragments are also poorly represented, with only one certain example presently identified (from a Period 3 deposit in the backlands of the central building plot). Other Roman finds include a possible turned shale finger-ring (both also from the backplot), several whetstones, possible gaming counters and two fragments of possible shale palettes. Both of the latter have distinctive sets of scratches, which might illuminate their use.

5.16.4 However, perhaps the most notable stone objects are an intaglio, two decorated stones, and the upper part of a portable altar. The intaglio, which came from a fill of one of the possible cisterns in the backplot (*Section 4.5.24*), is fashioned from a probable semi-precious stone, and seemingly depicts a soldier. Both of the decorated stones had been reused in features of Period 3d (broadly third century), one in an external sandstone surface (*10681*) between the central and southern building plots (*Section 4.5.21*), the other seemingly in the footing for the east (street frontage) wall of Building ***10544*** (*Section 4.5.11*). The former (Pl 32) shows a stylised figure, apparently holding a sword and shield, which, if not simply a representation of an armed warrior, may depict some form of warrior deity, similar to that represented on two fragments of sculpture displayed in the Senhouse Roman Museum. The second piece (Pl 33) has crude incised circles and/or spirals, together with other symbols of uncertain form. From its context, the piece is presumed to be of Roman date, though its precise significance remains unclear, and it is not instantly recognisable as Roman work. The altar (Pl 34) came from a Roman deposit in the backlands of the central building plot. Although uninscribed, this is an important addition to the well-known group of altars from the site.

Plate 32: Incised sandstone slab reused in external surface 10681 *between the central and southern building plots*

Plate 33: Sandstone block with incised decoration, possibly reused in the footing for the east wall of Period 3d Building **10544**

Plate 34: The upper part of an uninscribed, portable altar, from a Roman deposit in the backlands of the central building plot

5.17 ANIMAL BONE

5.17.1 ***Quantification:*** some 2092 fragments of animal bone, weighing 2055g, were hand-recovered from 90 stratified Roman deposits during the course of the investigations. Subsequently, wet sieving of 25 bulk soil samples selected with the aim of retrieving bone yielded a further 17,134 fragments, weighing 6621g. Of these 25 samples, 14 derived from contexts that also yielded hand-retrieved bones. In total, therefore, some 19,226 fragments, weighing 8676g, were recovered from 101 discrete contexts on the site. Unstratified material, and fragments recovered from modern (Period 5) deposits, were excluded from the assessment.

5.17.2 ***Assessment:*** the acidic ground conditions on the site were not conducive to the survival of unburnt animal bones. Consequently, the assemblage is composed almost entirely of very small, calcined bone fragments (the average fragment weight of the entire assemblage is little more than 0.4g), mostly varying in size from a few millimetres to *c* 50mm. As such, it does nor lend itself readily to a standard assessment, in which a consideration of measurable bones, ageable teeth and fusion states is usually fundamental (Baker and Worley 2014). Some such data may be recovered by more detailed study, and species identifications are undoubtedly possible for a proportion of the collection at least, but much of the assemblage would not be counted under any diagnostic zone system currently in popular use. Consequently, the material was assessed by fragment count and weight, and a rapid scan was undertaken, at context level, for any specimens that could be identified to species, using standard criteria (Halstead and Collins 1995).

5.17.3 The clacined material is mostly white in colour, though occasional black, blue or white/black/blue fragments are present. That part of the assemblage that is

identifiable to species appears to be dominated by the remains of cattle, with sheep/goat and pig also present in smaller quantities. However, many fragments can be identified only at the level of 'large mammal' (*ie* cattle-sized) or 'medium mammal' (sheep-sized). Very few toe bones were recognised, though other small skeletal elements, such as carpals, are present. Furthermore, the assemblage also appears to contain a large proportion of fragments from the principal meat-bearing limb bones, and some of these show clear evidence for butchery, principally in the form of fine cut marks that may relate to filleting. Additional work will, however, be required in order to determine whether these initial observations provide evidence that the principal meat-bearing elements of the skeleton were being deliberately selected, or whether they are the result of taphonomic biases.

5.17.4 Of the 101 Roman contexts containing bone, only four yielded more than 100 fragments (Table 4), with the great majority containing less than ten. The very large collection from layer *10700*, a dark soil covering the greater part of R3, at the rear of Period 3d Building ***10545*** (*Section 4.5.18*), comprising 16,618 fragments (86% of the total site assemblage, by fragment count), is particularly noteworthy, though most of the pieces are extremely small (with an average weight of 0.4g). Whether this group relates directly to activity within this room, however, and (if so) what the nature of this activity may have been, are presently unknown. The same can also be said of the assemblage of 620 bone fragments from deposit *10738* (Table 4), a probable internal layer within Period 3b Building ***12001*** (*Section 4.5.5*).

Context No	Period	Context type	Building/feature No	Fragment count	Weight (g)	Average fragment weight (g)
10738	3b	Probable internal deposit	Building ***12001***	620	250	0.4
10596	3c	Soil accumulation	-	419	482	1.2
10700	3d	?internal deposit	Building ***10545***	16,618	6689	0.4
10729	3	Pit fill	Pit *10733*	150	230	1.5

Table 4: Summary of contexts yielding over 100 bone fragments

5.18 PLANT MACROFOSSILS AND CHARCOAL

5.18.1 ***Quantification:*** 94 bulk samples from 58 individual Roman contexts were assessed in order to determine their potential for the recovery of plant remains, charcoal and other palaeoenvironmental data. The samples include internal floors and occupation levels within R1 of Period 3d Building ***10545***, in the central building plot (*Section 4.5.10*). These deposits (*10559*, *10573*, *10578*, *10606*, *10607*, *10644*) were sampled on a grid-square pattern to identify any possible foci of activity within the building. Consequently, multiple bulk samples were taken from these contexts. Bulk samples were also taken from a variety of ditches, gullies, pits and other features in the backlands of this plot. The samples assessed were 10-40 litres in size, and 100% of each was processed by hand flotation. The flots were collected onto a 250µm mesh, and the residue washed through a 500µm sieve. Given that the site had little or no potential for the recovery of waterlogged plant remains (wpr), both the flots and residues were hand-dried prior to assessment. The flots were examined

with a Leica MZ6 binocular microscope, and any charred plant remains (cpr) and charcoal was quantified and provisionally identified where possible. Other material, such as bone fragments, ceramic building material (cbm) and metal waste was also quantified. The dried residues were also checked for any residual organic material and finds. Quantification was based on a scale of one to four, where one represents less than five items/fragments, two 6-25, three 26-100, and four more than 100 items/fragments (*Appendix 1*). Identification was aided by comparison with the modern reference collection held at OA North, and with reference to the *Digital Seed Atlas of the Netherlands* (Cappers *et al* 2006) and Hather (2000). Nomenclature follows Stace (2010).

5.18.2 ***Assessment:*** all of the assessed samples contain some charred plant remains (cpr) and/or charcoal (*Appendix 1*), but no waterlogged preservation was recorded. Charred cereal grains, including wheat (*Triticum* sp – glumed and possibly also free-threshing varieties) and barley (*Hordeum vulgare*), are common. The preliminary identification of rye (*Secale cereale*) and possible cultivated oat (*Avena* sp), in a pit within the backplot area, is unexpected in a Roman context, and may be the result of contamination with later material. Cereal chaff is generally rare, though several samples, particularly those taken from the deposits within Building ***10545*** (*Section 4.5.10*), contain abundant culm fragments and culm nodes, suggestive of charred straw. The presence of small grass (Poaceae) seeds, sedge (Cyperaceae) and rush (*Juncus* sp) seeds (including the seed heads) in many of the samples is notable, and it is possible these derived from burnt flooring, thatch, or tinder. Other occasional weed seeds include docks (*Rumex* sp), buttercup (*Ranunculus* sp) and knotweeds (Polygonaceae). Differences in the weed assemblages between feature types can be tentatively identified.

5.18.3 Charcoal is generally well preserved, and is abundant in many of the samples. The assemblages appear to be dominated by oak (*Quercus* sp), with varying quantities of either alder/hazel (*Alnus glutinosa*/*Corylus avellana*) and/or ericaceous roundwood (*eg* heather (*Calluna* sp) or heath (*Erica* sp)). The preliminary evidence suggests that the ericaceous remains may be more closely associated with the deposits within R1 of Building ***10545***, and these levels also yielded small amounts of microscopic metalworking waste, in the form of hammerscale. It is also evident that some of the sampled grid squares within the building contain greater quantities of hammerscale and larger and more abundant charcoal fragments than others, which may reflect differences in the nature of activity in different parts of the room. The dominance of clinkered wood charcoal in many of the samples from all parts of the site, but especially in pit fills, is noteworthy, as is the consistent presence of coal (including some large fragments) in these features. Phase 3c soil deposit *10596* (*Section 4.5.6*) also contained very fine, calcined bone fragments, which may possibly represent the waste from bone working or processing.

5.19 POLLEN

5.19.1 ***Quantification:*** 21 sub-samples from five soil monoliths (all from Roman features) were prepared for pollen assessment (Table 5). Most of the samples came from Period 3 features, including ditches, pits and possible

wells/cisterns, situated in the backlands of the central building plot (*Section 4.5.24*). A single sample from a ditch that probably defined the boundary between the central and northern plots during Period 4 (*Section 4.6.3*) was also assessed. Volumetric samples were taken from the sub-samples and one tablet containing a known number of Lycopodium spores was added so that pollen concentrations could be calculated (Stockmarr 1972). The samples were prepared using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles >170µm, silicates, and cellulose, respectively. The samples were then stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000cs silicone oil. Slides were scanned, at a magnification of 400x, in a rapid assessment, to determine the potential of each sub-sample. Pollen identification was made following the keys of Moore *et al* (1991), Faegri and Iversen (1989), Andersen (1979) for cereal-type identification, and a small modern reference collection. Plant nomenclature follows Stace (2010).

Sample No	Feature	Period	Context No	Depth (m)	Pollen summary	Potential for analysis
70	Ditch *12002*	4	*10725*	0.16	Grass; alder; hazel-type; cereal-type	Yes
			10751	0.24	Sparse pollen	No
			10752	0.44	Grass; alder; hazel-type; ribwort plantain; willow	Yes
71	Ditch *10801*	3	*10721*	0.24	Sparse pollen	No
			10800	0.44	Sparse pollen	No
74	Cistern/well *10928*	3	*10927*	0.20	Alder; hazel-type; ferns; sedges	Yes
			10927	0.40	Alder; hazel-type; ferns; sedges	Yes
			10927	0.60	Alder; hazel-type; heather; charcoal	Yes
			10927	0.80	Alder; hazel-type; grasses; ferns	Yes
			10927	1.00	Alder; hazel-type; Sphagnum; ferns	Yes
			10927	1.10	Alder; cereal-type; ribwort plantain	Yes
75	Pit *10733*	3	*10595*	0.16	Grass; alder; hazel-type; cereal-type	Yes
			10599	0.48	Sparse pollen	No
			10600	0.44	Alder; grass; hazel-type; cereal-type	Yes
83	Cistern/well *10734*	3	*10980*	0.12	Alder, hazel-type, grass, herbs	Yes
			10981	0.36	Alder; hazel-type; grass; heather	Yes
			10982	0.48	Sparse pollen	No
			10983	0.64	Alder; hazel-type; ferns; algae	Yes
			10984	0.88	Hazel-type; alder; grasses	Yes
			10985	0.84	Alder; ribwort plantain; ferns	Yes
			10986	1.00	Alder; hazel-type; herbs; ferns	Yes

Table 5: Summary results of pollen assessment

5.19.2 ***Assessment:*** Several of the sub-samples were found to contain pollen in sufficient quantities to achieve a statistically viable count of up to 300 total land pollen grains, including fern spores, (TLP), at analysis. Others, however, contained little or no pollen.

5.19.3 *Sample 70:* a sample was taken through the fills of Period 4 ditch *12002* (*Section 4.6.3*). Pollen from the lower and upper fills appears to be present in sufficient quantity to permit counts of up to 300 TLP at analysis. The uppermost sub-sample (fill *10725*) contained a single cereal-type grain (possibly wheat or oats (*Triticum* sp/*Avena* sp)), several grass (Poaceae) grains and tree/shrub pollen, including alder (*Alnus glutinosa*), hazel-type (*Corylus avellana*-type) and heather (*Calluna vulgaris*). The lowest fill (*10752*)

contains fewer pollen grains, but probably sufficient to yield a statistically viable count. Microcharcoal is present in both sub-samples.

5.19.4 *Sample 71:* neither of the sub-samples assessed from Period 3 ditch *10669*, the putative boundary feature in the backlands of the central building plot (*Section 4.5.25*) contained sufficient pollen for analysis.

5.19.5 *Sample 74:* a sample was taken through the fills of a vertical-sided, rectangular pit (*10928*) hat may have served as a well or cistern (*Section 4.5.24*). At 0.20-1.10m, pollen is present in sufficient quantity to expect counts of up to 300 TLP grains at analysis. Tree and shrub pollen comprises alder, hazel-type, heather, birch (*Betula* sp) and oak (*Quercus* sp). Herb pollen includes ribwort plantain (*Plantago lanceolata*), mugworts (*Artemisia* sp), devil's bit scabious (*Succisa pra*tensis), dandelion-type (*Taraxacum*-type) and buttercups (Ranunculaceae). Possible cereal-type pollen is present in the lower part of fill *10927*, and microcharcoal is present throughout the sample.

5.19.6 *Sample 75:* the assessment demonstrated that pollen is present in two contexts within the western part of pit *10733*, as excavated in 2014 (*Section 4.5.24*), namely the upper fill (*10595*) and the lower (*10600*). Alder, hazel-type, grasses, ribwort plantain and cereal-type pollen are present.

5.19.7 *Sample 83:* a sample was taken through probable well *10734* in the backlands of the central building plot (*Section 4.5.24*). The deepest sub-sample assessed (fill *10986*) contains relatively common alder and hazel-type pollen, with oak and heather also present. A variety of herb pollen includes occurrences of ribwort plantain, devil's bit scabious, grasses, pollen of the goosefoot family (Amaranthaceae), the daisy family (Asteraceae) and knotgrass (*Polygonum aviculare*). Similar, but less rich, assemblages are also present in fill *10985*, which was directly above *10986*, and *10984*, above that. A sparser pollen assemblage occurs in the next fill up the series of infilling (*10983*), but this includes the freshwater alga *Botryococcus* (sp). This is an important indicator of palaeoenvironmental conditions, and may shed light on the possible function of this feature. A rich pollen assemblage is again present in the uppermost sampled fill (*10980*), including abundant alder, together with hazel-type, birch, oak, elm (*Ulmus* sp), honeysuckle (*Lonicera* sp), heather, knotgrass, ribwort plantain and the goosefoot family. Microcharcoal is also present throughout the sample.

5.20 SCIENTIFIC DATING

5.20.1 Of the 94 bulk samples subjected to assessment of plant macrofossils and charcoal (*Section 5.18*), 58, from 45 individual contexts, are regarded as having potential for radiocarbon dating (*Appendix 1*). Of these, one came from an upper fill (*10951*) of Period 2 ditch *11009* (*Section 4.4.2*), two were recovered from probable internal deposits (*10738, 10933*) in Period 3b Building ***12001*** (*Section 4.5.5*), and a third came from Period 3c soil layer *10596* (*Section 4.5.6*). In total, 20 samples, from eight contexts, recovered from Period 3d deposits within Building ***10545*** (*Section 4.5.16*), have potential for dating. A further three suitable samples came from the fills of

Period 4 ditch *12002*, a potentially late Roman redefinition of the boundary between the central and northern building plots (*Section 4.6.3*). The remaining 31 samples derive from Roman features in the backlands of the central building plot, which are currently assigned to Period 3 (*Section 4.5.23-25*). These include samples from putative plot boundary ditch *10669*, probable well *10734*, and possible cistern *10674*.

6. STATEMENT OF POTENTIAL

6.1 INTRODUCTION

6.1.1 The Maryport Roman Settlement Project has provided an important opportunity to study the origins and development of the extramural settlement north-east of the Roman fort. The archaeological potential of this area had previously been demonstrated by extensive antiquarian investigations (*Sections 1.3.2-3*) and, more recently, by the programme of geophysical survey undertaken in 2000-4 (*Section 1.3.4*; Biggins and Taylor 2004). However, there had been little formal excavation in this area until recently. Indeed, prior to the commencement of the Settlement Project, no archaeological work had been undertaken on the building plots in the heart of the settlement since the nineteenth century, and the chronological history of the settlement was poorly understood. This post-excavation assessment has shown that the current project has yielded highly significant information on the developmental history of the area investigated, and it is envisaged that further detailed analysis of the data recovered will elucidate this further.

6.1.2 In summary, the investigations have yielded important new information on the chronology, morphology and function of a (seemingly) typical building plot within the extramural settlement, including the development of a series of strip buildings and other features on the street frontage, and the character and development of the associated backplot. Part of the main Roman road leading north-east from the fort was also investigated. In addition, the work provided an important opportunity to test the results of earlier geophysical surveys of the site (Biggins and Taylor 2004), as well as the survey carried out as part of the current project (*Section 3.2.2*), by comparing the interpretative results of these surveys with the actual archaeological remains exposed and recorded by excavation.

6.1.3 The following sections provide a discussion of the potential of data derived from the Maryport Roman Settlement Project for analysis, framed in the context of the project's principal research themes and research questions (*Section 2*). The discussion has been compiled with reference both to the results of the post-excavation assessment of the stratigraphical, artefactual and ecofactual data (*Section 5*), and to the relevant research frameworks (*Section 6.2*).

6.2 RESEARCH FRAMEWORKS

6.2.1 In recent years, national, regional and local research documents have been produced that are directly relevant to Roman Maryport. Nationally, two of the more significant documents are English Heritage's (now Historic England) *Research Strategy for the Romano-British Historic Environment* (English Heritage 2012a), and *Britons and Romans: advancing an archaeological agenda* (James and Millett 2001), published by the Council for British Archaeology (CBA). The key regional documents, in which some of the most significant regional research questions pertaining to Roman extramural

settlements have been formulated, are *Frontiers of Knowledge*, the archaeological research framework for Hadrian's Wall (Symonds and Mason 2009a; 2009b), and the research framework for North West England (Brennand 2006; 2007). For Roman Maryport itself, the most significant research agenda is to be found in *Roman Maryport: a research framework* (Whyman 2008), prepared by the York Archaeological Trust, though this is currently available only in draft form. The SMT has also produced a Research Policy (SMT 2004), and the HWT commissioned OA North to prepare a proposal for the development of a strategic archaeological research programme for Roman Maryport (OA North 2010). Cognisance is also taken of *SHAPE 2008: a strategic framework for historic environment activities and programmes in English Heritage* (English Heritage 2008), and the *National Heritage Protection Plan* (NHPP; English Heritage 2012b), which has superseded *SHAPE*.

6.3 POTENTIAL

6.3.1 The following section provides an assessment of the potential of the data generated by the project for analysis, with reference to the key research documents detailed above (*Section 6.1*), and the degree to which the investigations have succeeded in addressing the project's principal research themes and research questions (RQs; *Section 2*). Following the format established both for the initial Project Design (OA North 2013a) and for the interim report produced at the end of the 2013 field season (OA North 2014), the assessment of potential is framed in the context of these research themes and questions.

6.3.2 ***Theme 1: condition and preservation (RQs 1-2):*** prior to the commencement of the project, the depth, complexity and character of archaeological levels across the extramural settlement, and the depth of the latest archaeological deposits beneath the modern surface, were largely unknown (Whyman 2008, section 1.6.3.1). Consequently, one of the most important research priorities identified (*Section 2.3.2*; RQ1) was to seek to establish the condition and character of archaeological remains within the area investigated. This was vital to inform future management of the monument and, more particularly, would enable the results of previous geophysical surveys on the site to be tested. In terms of wider research frameworks, the latter had been highlighted as a key theme in the research strategy of the Hadrian's Wall research framework (Strategy S5; Symonds and Mason 2009b, 43). The point was also made in the resource assessment for the Wall (Symonds and Mason 2009a, 103), and in the Introduction to the research agenda for North-West England (Initiative 1.32; Chitty and Brennand 2007, 24).

6.3.3 For the targeted building plot, including the backlands to the rear of the street frontage, the assessment indicates that the project data have considerable potential for addressing this research topic. The stratigraphic records generated by the detailed investigation of this area, where the full sequence of Roman occupation was recorded, suggest that below-ground preservation of archaeological remains within the plot was, for the most part, extremely good. Though sealed by only a shallow depth of modern agricultural soil (*Section 4.7*), there was little indication that the uppermost levels had been damaged or

disturbed by ploughing or other modern activities. Furthermore, the paucity of Roman pottery and other artefacts within the modern topsoil (including the hand-excavated topsoils in Trenches 1-4) provides circumstantial evidence that later archaeological strata have not been truncated by ploughing and 'reworked' into the ploughsoil.

6.3.4 Generally speaking, there seems to be little indication of disturbance to the site resulting from antiquarian investigations. Within the open-area excavation, two areas of shallow disturbance on and adjacent to the main Roman road (*Section 4.7*) have tentatively been interpreted as evidence of possible antiquarian works. However, this remains uncertain, and the features had, in any case, resulted in only minor damage to the latest road surface, and to a small area immediately adjacent to its western edge.

6.3.5 Within the central building plot, complex and generally well-preserved Roman stratigraphy, up to 0.3m thick, was found adjacent to the street frontage, in a zone, approximately 20m deep, extending back (west) from the edge of the road. There, features and deposits relating to five main phases of activity (Periods 2, 3a, 3b, 3c, 3d and 4; *Section 4*) were recorded. In the earlier phases, some deposits had been damaged by subsequent (Roman-period) activities (for example, the digging of wall-construction trenches), but preliminary assessment suggests that, for the most part, the Roman deposits over much of this area had seen little substantive disturbance. This will permit, during analysis, the recovery of detailed ground plans for each of the structures that had occupied the plot, and facilitate analysis of the structural development, form, character and function of these buildings (see Theme 3; *Section 2.2.1*). Internal features and deposits also seem to be mostly well preserved, which will aid further study of the chronology and function of the structures, though here too further stratigraphic work is needed to assign some of these remains to particular structures/rooms. Presently, the internal organisation of the two earlier buildings (Period 3a, Building ***12000*** (*Section 4.5.4*); Period 3b, Building ***12001*** (*Section 4.5.5*)) is unclear and requires further stratigraphic analysis. The latest building to occupy the plot (Period 3d Building ***10545*** (*Section 4.5.10*)) was sufficiently well preserved for its basic layout to be established, though some points of detail remain to be resolved. However, the walls of this structure had suffered severe disturbance due to stone robbing. The south wall of the adjacent building in the northern plot (Building ***10546***) was similarly robbed and levelled (*Section 4.5.19*), and the walls of Building ***10544*** in the southern plot had seemingly suffered a similar fate (*Section 4.5.19*), though the lack of excavation in this area made the extent of stone robbing difficult to determine.

6.3.6 In addition to considering issues relating to the condition and preservation of archaeological deposits, Theme 1 was concerned with determining whether the surviving, below-ground archaeological remains were consistent with the interpretative results of the geophysical surveys (*Section 2.3.1*; RQ2). Initial indications are that there is, broadly speaking, good correspondence between some stratigraphically later features, such as plot boundaries and the walls of the Period 3d stone- or stone-footed buildings, and geophysical anomalies (OA North 2014). This applies both to the results of the surveys undertaken in

2000-4 (Biggins and Taylor 2004) and the GPR survey carried out at the beginning of the present project. For example, a preliminary consideration of the data suggests that the boundaries of the 'wide' building plot, as postulated from the 2000-4 survey data (*Sections 1.3.4-5*), correspond reasonably well to 'real' elements of the below-ground archaeology (OA North 2014), namely the south wall of Period 3d Building ***10544***, in the southern building plot (though in this case the geophysical anomaly was seemingly *c* 1m north of the actual wall line), and the south wall of Building ***10546***, in the northern plot (Fig 8). However, the complexity of the remains exposed on the street frontage was such that some important structural features were either obscured, overlooked or misinterpreted in the geophysical data. So far as the 2013 GPR survey is concerned, there is a broad correspondence between some of the archaeologically-attested wall-lines and some anomalies recorded in the 0.6-0.9m depth slice (Fig 9). In particular, the south wall of Building ***10546***, in the northern plot, aligns precisely with a linear anomaly that appears (with the benefit of the excavated evidence) to represent both surviving wall masonry and lengths of robber trench. What is probably the northern edge of sandstone surface *10681*, in the external area between Buildings ***10545*** and ***10544*** (*Section 4.5.21*), is also evident, as, perhaps, is Period 4 ditch *12002* (*Section 4.6.3*). The extent to which responses in the lower GPR 'slices' correlate with stratigraphically earlier archaeological features (for example, the walls of the Period 3a and Period 3b buildings) is not yet clear, however, and will require more detailed analysis of the data. That said, there appears to be good potential, from the GPR survey in particular, for the identification of linear responses that may correspond to excavated features.

6.3.7 In the backplot area of the site, too, where the remains were found to consist largely of 'negative' features dug directly into the natural clay, initial consideration suggests good correspondence between features identified by geophysical survey and some of those exposed during the excavation. In particular, the major boundary ditches seen on the geophysical survey plot (Fig 3) can clearly be equated with ditches *10669* and *12002* as excavated in 2013-14 (Fig 4). It seems likely that further consideration of the evidence will reveal concordance between other excavated features and geophysical responses.

6.3.8 ***Theme 2: chronological development (RQs 3-7):*** prior to the commencement of the project, the available evidence suggested that the site of Roman Maryport may have been occupied from the early Bronze Age to the late Roman or early post-Roman period (OA North 2010, 9-11). In view of this, establishing the chronology of the site represented one of the most important research priorities, not only for understanding the site itself (Whyman 2008), but also for the vital contribution such work could make to wider research themes. The need for additional chronological information for most of the features and installations within the frontier zone is identified as a Key Universal Priority in the research agenda for Hadrian's Wall (Symonds and Mason 2009b, 30-1). Agenda point 4.6 of the research agenda (*op cit*, 15) further states that 'many chronological aspects pertaining to extramural settlement remain only imprecisely understood'. Dating of potential pre-Roman and late Roman/early post-Roman occupation levels is identified as

one of the most urgent requirements (*op cit*, 30-1), and also forms an Initiative (3.5) in the North West Roman research agenda (Philpott and Brennand 2007, 57). At a national level, the beginnings of interaction between 'Britons' and 'Romans', and the transition from late Roman to post-Roman traditions are identified as critical research priorities in English Heritage's Roman-period research strategy (English Heritage 2012a, 14-15).

6.3.9 In addition, Agenda point 4.1 of the Hadrian's Wall research framework (Symonds and Mason 2009b, 12) comments that much remains to be learned about the chronology of the Cumbrian coastal forts. This point is also made in the Roman-period research agenda for north-west England (Philpott and Brennand 2007, 61). Whilst the remit of the Maryport Roman Settlement Project is not to investigate the fort itself, dating the earliest levels within the settlement was identified as having the potential to shed important new light on the origins of Roman military activity at Maryport itself. Determining the presence or absence of late Roman (and/or early post-Roman) occupation was also identified as an important research topic, in view of the evidence for the rapid decline and abandonment of many extramural settlements in the North during the late third/early fourth century AD (Symonds and Mason 2009b, 15).

6.3.10 Consequently, several of the research aims presented in the Project Design (OA North 2013a) were concerned with the chronological development of human occupation at Roman Maryport (*op cit*, 9; *Section 2.3.2*). In particular, the possibility of recovering evidence for pre-Roman activity was highlighted, as were the date at which the settlement was established and the date at which it was finally abandoned. The possibility of 'sub-Roman' (*c* fifth-sixth-century) or later, post-Roman, activity on the site was also raised. Overall, the assessment has shown that the excavated data have extremely good potential to advance understanding of the chronological development of the Roman extramural settlement. However, there appears to be little potential for illuminating the chronology of prehistoric and post-Roman activity on the site.

6.3.11 *Prehistory:* the post-excavation assessment indicates that the project has had only very limited success in recovering evidence for prehistoric activity on the site (*Section 2.3.2*; RQ3). No pre-Roman features have been identified, but a limited, perhaps transient, human presence during the late mesolithic and neolithic periods is suggested by a few residual or unstratified stone artefacts (*Section 5.16.2*). Whilst these objects represent a modest addition to the corpus of similar evidence from the Cumbrian coast (Hodgson and Brennand 2006, 25-8), they have little potential for significantly advancing understanding of prehistoric settlement in the area.

6.3.12 *Establishment of the Roman settlement:* before the project commenced, there was little evidence for the date at which the Roman extramural settlement was established. Excavations in 1966 within the known, stone-built fort (Pl 35) suggested that it dated from the reign of the emperor Hadrian (AD 117-38), perhaps originating in the early AD 120s (Jarrett 1976). However, finds of pottery and coins had long suggested a pre-Hadrianic origin for the site (Jarrett 1958; Caruana 1997), and traces of a possible earlier installation were found to the south of the stone fort during limited investigations in 2002 and 2005 (Flynn 2006a; 2006b). It was recognised, therefore, that the dating of the

earliest occupation levels within the settlement was crucial (*Section 2.3.2*; RQ4, RQ5), for if a pre-Hadrianic origin could be proven it would considerably strengthen the argument for a pre-Hadrianic fort, since extramural settlements in Britain were usually established soon after the forts themselves were founded (Sommer 1984, 11).

Plate 35: The stone fort at Maryport, looking south-west, showing the defensive perimeter and the long, narrow trench excavated across the north-east quadrant in 1966

6.3.13 Whilst only a small area of the earliest Roman stratigraphy could be excavated during the project, the assessment demonstrates that the excavated data have extremely good potential to elucidate the chronology of the earliest Roman activity on the site. The ceramic assemblages, in particular, now make it clear that the site saw little or (more probably) no activity before the Hadrianic period. Indeed, whilst the samian evidence (*Section 5.4*) would not be inconsistent with a Hadrianic start date for the investigated area of the settlement, the coarse pottery might suggest an even later date for the beginning of intensive activity, possibly during the early Antonine period (*Section 5.5.3*). The few coins from the site are mostly poorly preserved (*Section 5.10*), but they do not contradict the ceramic dating. The assessment results therefore appear unequivocal in demonstrating that the earliest intensive occupation within the area investigated was contemporary with (or possibly even slightly later than) the establishment of the Hadrianic fort. However, given that the excavation was a considerable distance (*c* 150m) north-east of the fort, this does not rule out the possibility of pre-Hadrianic settlement elsewhere in the vicinity, conceivably in closer proximity to the fort site itself. Further analysis of the pottery and other datable artefacts in conjunction with detailed analysis of the stratigraphy clearly has considerable potential to refine the assessment results further and to shed additional light on this fundamentally important research topic.

6.3.14 Assessment of the charred plant remains from the site (*Section 5.18*) indicates that there is potential for undertaking radiocarbon dating on material from an

upper fill of Period 2 ditch *11009* (*Section 4.4.2*), which represents the stratigraphically earliest Roman feature recorded on the street frontage. However, given the relatively wide date ranges generated by radiocarbon assay (at a 95% confidence level), which can, in some cases, span up to two centuries, it seems likely that radiocarbon dating would not be worthwhile in this instance. It would appear that none of the deposits associated with the earliest building erected within the central plot (Period 3a; Building ***12000*** (*Section 4.5.4*)) have any potential for scientific dating.

6.3.15 *The* floruit *of the Roman settlement:* assessment has shown that the bulk of the pottery recovered from the investigations is broadly datable to the period from the mid-second century AD to the mid-third century (*Section 5.5*), and it seems evident that further study of the ceramic assemblages in particular has the potential to refine the chronology of this period further. The relatively few other datable artefacts from the site, including the coins, are (with a very few exceptions) of similar date. It would seem, therefore, that the main period of occupation spanned little more than a century (*Section 2.3.1*; RQ6). During this time, the frontage of the central building plot saw three main phases of activity, represented by the construction of a probable strip-building (Period 3b; Building ***12001***), followed by the accumulation of deposits soil and rubbish (Period 3c) and, lastly, the construction of a new, stone- or stone-footed strip building (Period 3d; Building ***10545***). The chronology of this sequence requires further detailed analysis, but the assessment results suggest that Building ***12001*** may be broadly of later second-century date, with the putative phase of abandonment characterising Period 3c occurring during the late second/early third century, and Period 3d commencing sometime during the first half of the third century. Similar evidence is not available for the adjacent building plots, since these were not excavated. Consequently, it is not possible to address the question (OA North 2014, 17) of whether the differing building alignments evident in the latest (Period 3d) structures on the site were reflected in earlier occupation phases. In Trench 4, the clay-and-cobble foundation for the north-west corner of Building ***10312*** (Pl 36) cut a layer of dark soil that yielded mid-late second-century pottery, which may provide a *terminus post quem* for this structure.

Plate 36: Trench 4: the clay and cobble foundation marking the north-west corner of Building **10312**, *looking north*

6.3.16 Assessment of the charred plant remains from the buildings indicates that 23 samples from 11 individual deposits attributed to the principal phase of occupation (two from Period 3b, one from Period 3c; 20 from Period 3d) have potential for radiocarbon dating (*Section 5.20*). In view of the wide date ranges usually generated by this dating method (at a 95% confidence level), it is, however, likely that the results would be of little value in refining the chronology of occupation.

6.3.17 In the backlands of the central plot, sub-phasing of the Roman remains was not feasible during the assessment since, given the lack of stratigraphy in this area (*Sections 4.5.23-25*), phasing will be predicated largely upon further, detailed analysis of the pottery and other datable artefacts associated with individual features. Consequently, for assessment purposes, all the features in this area were assigned to a chronologically broad stratigraphic phase (Period 3). However, it seems clear that detailed analysis of the artefactual assemblages associated with these features (especially the pottery), possibly in conjunction with a programme of scientific dating (*Section 6.3.18*), has the potential to establish chronological links between this area and the occupation sequence on the street frontage. This should allow at least some of the backplot features to be integrated into the more detailed sub-phasing provisionally established on the street frontage. Potentially, therefore, it should be possible to advance present understanding of how the features in this area relate, spatially and chronologically, with the occupation sequence on the street (*Section 2.3.2*; RQ6). In terms of evidence for plot divisions in the backlands (*Section 2.3.2*; RQ6), preliminary indications are that the boundary between the central and northern plot was marked initially by a ditch or gully that was redefined in the late Roman period by the cutting of ditch *12002* (Period 4). There is, as yet, no clear evidence for the southern plot boundary.

6.3.18 *The end of the Roman settlement:* it seems clear, even on the limited evidence provided by the initial assessment, that the area investigated was largely

abandoned sometime during the second half of the third century AD. Assessment of the ceramic assemblages in particular leaves no reasonable doubt that this is the case (*Section 5.5*), and the other categories of finds assessed are also largely devoid of late third- to fourth-century material. This, of itself, represents an important advance in knowledge (*Section 2.3.1*; RQ7), and it is therefore evident that further work on the latest Roman stratigraphy, together with the associated pottery and other artefacts/ecofacts, has considerable potential to elucidate the chronology and nature of this decline. Particularly notable is the absence of the abundant late third-century radiate coinage (particularly the crude copies of official issues) and (with one possible exception) the almost equally common 'small change' of the period *c* AD 330-50 (*Section 5.10*). The only feature on the site to have yielded a notable (though still relatively modest) collection of late third/fourth-century pottery is Period 4 ditch *12002*, which appears to represent a redefinition of the boundary between the central and northern building plots (*Section 2.3.1*; RQ7). Precisely when this occurred is not yet clear, but stratigraphic evidence proves that it took place after the demolition of Period 3d Building ***10546***. Within the central plot itself, only two shallow pits, located next to the main road, could be attributed to Period 4 on stratigraphic grounds, since both post-dated the demolition of Period 3d Building ***10545***. Elsewhere, a few late third/fourth-century potsherds came from the upper fills of a handful of features in the backplot; a possible fourth-century coin was unstratified.

6.3.19 On this evidence, it is likely that the central plot was completely abandoned in the later Roman period, with ditch *12002* perhaps relating to occupation in the adjacent plot to the north, and the few late Roman sherds elsewhere representing rubbish generated by off-site activity. If this is the case (and more work on the stratigraphy, in conjunction with the principal dating evidence is required in order to illuminate this further), the evidence would seem to be broadly consistent with that from other extramural settlements in the North (Bidwell and Hodgson 2009, 33-4; Hodgson 2009, 35-6), which suggests abandonment or contraction of the settled areas outside forts in the late Roman period. At Maryport, the wider evidence makes it clear that the settlement was not abandoned completely in the fourth century, since there are clear indications of continued occupation in some areas into the late fourth century at least (OA North 2010). Contraction of the settled area to a smaller 'core' remains a possibility, though the data from the area investigated in 2013-14 suggest that the situation may have been more complex than this, with some building plots (including the central plot) abandoned whilst adjacent areas continued to be occupied. That individual plots should have differing occupational histories in the late Roman period should, perhaps, occasion no surprise. Indeed, a similar phenomenon is attested at the northern Lanes in Carlisle, where a plot formerly occupied by a stone house was abandoned during the third century, whilst the plot next door continued in use into the late fourth century (Zant and Howard-Davis in prep).

6.3.20 Assessment of the charred plant remains (*Section 5.18*; *Appendix 1*) demonstrated that three bulk samples from Period 4 ditch *12002* have potential for radiocarbon dating. It is also probable that some of the features in the backplot that yielded small amounts of late Roman pottery (*Section 6.2.19*)

also contain material suitable for radiocarbon assay. Whilst the wide date ranges usually generated by this method (at a 95% confidence level), normally render it unsuitable for dating Roman levels that are already reasonably well dated through associated pottery and other artefacts, it may be worthwhile targeting some of the features containing late Roman pottery, to attempt to refine the date at which these features were in use.

6.3.21 *Post-Roman Activity:* the assessment has demonstrated that the site saw very little activity, except, presumably, for agriculture, at any point during the post-Roman period (*Section 2.3.2*; RQ7). Consequently, the small amout of post-Roman data generated by the project (Period 5) have little potential for analysis, beyond a brief description of the stratigraphic remains assigned to this period and the production of catalogues of post-Roman materials for inclusion within the project archive. In terms of stratigraphic evidence, and with the exception of modern turf and topsoil, the only likely post-Roman deposits found on the site comprised amorphous areas of disturbance recorded on and adjacent to the main Roman road (*Section 4.7*), which are tentatively interpreted as deriving from antiquarian activities. The date at which the robbing of much of the stonework of the Period 3d buildings (***10544***, ***10545***, ***10546***) occurred is, for the most part, uncertain. It is conceivable that some took place in the post-Roman period, possibly at broadly the same date (*c* eighteenth-nineteenth-century) as stone robbing is attested within the Roman fort (Wilson 1997, 17). However, at this stage it is considered most likely that the bulk of the stone robbing attested on the site is of later Roman date, and a Roman date for the robbing can, indeed, be demonstrated stratigraphically in some parts of the site.

6.3.22 In terms of finds, although over 580 fragments of post-Roman pottery were recovered (*Section 5.6*), the assemblage consists entirely of small and abraded fragments of late post-medieval (*c* late eighteenth- to twentieth century) date, with no medieval material present. In addition, there are 42 equally small fragments of clay tobacco pipes (*Section 5.7*), 143 pieces of post-Roman glass (*Section 5.14*), all but one of which (a possible late seventeenth- to early eighteenth-century fragment) are modern, and four late nineteeth- to early twentieth-century coins (*Section 5.10*). The great majority of the post-Roman finds came from modern topsoils, or are unstratified. In the case of the pottery, detailed work on the stratigraphic and spatial distribution of the remainder has not yet been attempted. However, it is clear that quite a few sherds were intrusive in otherwise securely stratified Roman deposits, and it seems probable that this was largely due to the actions of animals, since the remains of several burrows were found during the investigations.

6.3.23 ***Theme 3: form, function and appearance (RQs 8-9):*** establishing the form, or structure, of extramural settlements is recognised as a key research priority in the research agenda for Hadrian's Wall (Symonds and Mason 2009b, 14-15; Agenda point 4.7), where it is noted that there are limitations 'when it comes to assessing the development and range of services available', and also that there 'are a series of outstanding questions relating to the relationship between them and their associated forts' (*op cit*, 14). More generally, the urgent need for excavation at extramural settlement sites is a recurring theme in Romano-

British studies, both at a national level (*eg* James 2001, 88), and regionally. The research agenda for north-west England states that 'the organisation, phasing, population and buildings of the *vici* [*ie* extramural settlements] all require exploration' (Philpott and Brennand 2007, 64).

6.3.24 Given the limited scale of the Maryport Roman Settlement Project, it was considered unlikely that the data recovered would significantly advance understanding of broader questions relating to the overall size and spatial organisation of extramural settlements. However, it was felt that there was considerable potential to address many of the more specific questions raised in the Hadrian's Wall Research Framework, including those relating to the range of services and activities offered, and the form, function and appearance of buildings (Symonds and Mason 2009b, 15). The post-excavation assessment has confirmed that the excavated data do indeed have considerable potential to address many of these topics.

6.3.25 The project's research aims (OA North 2013a, 22-4; *Section 2.3.1*) include questions concerning the internal organisation of the targeted (central) building plot, and how this articulated with external features such as the main road and the adjacent plot boundaries *(Section 2.3.1*; RQ8). Initial stratigraphic assessment has shown that the road itself had only two major phases of surfacing (at least within the area investigated), the latest of which probably occurred in the third century, since the metalling respected the east wall of Period 3d Building ***10545***. The relationship of the primary metalling to the occupation sequence within the plot requires further investigation, as do the spatial and stratigraphic relationships between the plot boundaries and adjacent occupation areas. The lack of excavation within the northern building plot means that there is generally little potential for understanding its developmental relationship with the central plot. Similarly, the fact that the southern plot saw no detailed investigation means that it will not be possible to explore why Period 3d Building ***10544*** was aligned differently to other, seemingly broadly contemporary, features, including Buildings ***10545*** and ***10546*** in the central and northern plots (*Section 2.3.1*; RQ8). Limited excavation of earlier levels was carried out immediately south of the central plot, however, within what appears to have been an external area in Period 3d (*Section 4.5.21*). Further work on the stratigraphy and associated finds from this area is required in order to determine how (or even if) the deposits articulate with the occupation sequence in the central plot, both chronologically and spatially (*Section 2.3.1*; RQ9).

6.3.26 What does seem clear, from the stratigraphic assessment, is that the boundaries of the central plot were carefully maintained, since the position of the north and south walls of the successive street-frontage buildings shifted by only a few centimetres during the Roman period. It is, perhaps, of some interest that these alignments survived the putative abandonment of the plot during Period 3c (*Section 4.5.6*), being respected by the walls of Period 3d Building ***10545*** and (in the case of the northernmost boundary) by Period 4 ditch *12002*. This suggests the possibility that records of plot boundaries across the settlement were made and then maintained during the Roman period. In accordance with a revised research questions posed at the end of the 2013 season (OA North

2014, 18), the stratigraphic and ceramic assessments have also established the chronological relationship between the two major boundary ditches in the backplot area (*10669*, *12002* (*Sections 4.5.25*; *4.6.3*)), proving that the east/west ditch (*10669*) is the earlier.

6.3.27 In terms of internal organisation, the street frontage of the central plot appears to have been occupied, for most of its lifetime, by strip-buildings. This represents by far the most common form of building found in Roman settlements, both in Britain and on the Continent (Sommer 1984; 2006, 123; Perring 2002, 55-60), including the larger national and regional urban centres such as London (Perring and Roskams 1991) and Carlisle (McCarthy 1990; Zant and Howard-Davis in prep). Typically, these structures were aligned gable end-on to the main road, in order to maximise access to the street frontage, and this was clearly the case at Maryport, as both the excavated evidence and the geophysical survey data (Biggins and Taylor 2004) demonstrate. Whilst the broad form of these structures has been established, however, their function and appearance require further study, though it seems clear that detailed, integrated analysis of the associated stratigraphy, artefacts and ecofacts has considerable potential to shed light on these fundamental research topics (*Section 2.3.1*; RQ9).

6.3.28 In terms of appearance, it is clear from the stratigraphic assessment that the earliest buildings were wholly timber-framed and of post-in-trench construction, though construction techniques changed subtly through time. The latest building in the plot (Period 3d; Building ***10545***) was probably timber-framed above low stone sleeper walls, but further stratigraphic analysis is need to confirm this. Evidence for the external appearance of the buildings, and internal appointments, is currently limited, but further work on the relevant artefactual assemblages, particularly the ceramic building materials, fired clay/daub, and stone, may well illuminate these further. It is already evident, from the paucity of ceramic roofing materials, that none of the structures had tiled roofs. The presence of slate, including a few near-complete examples, suggests that this material may well have been utilised for roofing, though the spatial and stratigraphic distribution of the assemblage is required in order to determine whether or not it is associated with a particular structure or phase. This is also true of the ten small fragments of window glass recovered (*Section 5.14*). Such a small assemblage is unlikely to indicate the presence of structures with glazed windows, though the possibility cannot be completely discounted at this stage.

6.3.29 The evidence from Britain and elsewhere in the north-western provinces of the Roman Empire suggests that strip buildings of the kind recorded during the Maryport project served a range of functions (Perring 2002, 55; Sommer 2006, 123-8). In this regard, the assessment has provided several tantalising indications of the potential of the artefactual and environmental data to inform questions of the function and status of the excavated buildings. For example, assessment of the (almost exclusively calcined) animal-bone assemblage has highlighted a concentration of bone in a probable internal deposit within Period 3b Building ***12001*** (*Section 5.17.4*), and a very large number of tiny bone fragments came from a layer in (or adjacent to) R3, at the rear of Period

3d Building ***10545***. Whether this is evidence of possible craft activity, in the form of bone-working waste, or represents some form of food processing, requires further study. Building ***12001*** also yielded a concentration of iron objects (*Section 5.12*), most, as yet, unidentified, whilst another concentration of ironwork in a Period 3c deposit may have been incorporated into refuse deposited when the plot was temporarily abandoned. Initial assessment of the bulk soil samples (*Section 5.18*) indicates the presence of hammerscale, indicative of secondary iron working, within R1, on the frontage of Building ***10545***, but perhaps in insufficient quantity to suggest that smithing actually took place there. In the same deposits, an apparent concentration of ericaceous roundwood charcoal, derived from heather and/or heath, suggests that this material was deliberately selected as fuel for some form of activity, but what this may have been is currently unclear. The form of the east (street frontage) wall of this room (and of the building as a whole) suggests that it may have been shuttered, allowing it to be 'opened-up' to the street (*Section 4.5.11*). It was initially suggested (Symonds 2013) that this might point to R1 having been a shop, though the assessment data are, perhaps, more consistent with its interpretation as a workshop. Finally, the fact that the three excavated rooms within Building ***10545*** were floored with different materials (earth and clay in R1; heavy sandstone flags in R2; probable earth in R3) further suggests that they may have had different functions.

6.3.30 In view of the above, it is highly likely that detailed study of the stratified assemblages of finds and palaeoenvironmental material recovered from Roman deposits will generate considerably more data pertaining to the kinds of activities that were being carried on within the excavated buildings. This will, in turn, also potentially shed light on possible changes to the function and status of the buildings and other features through time (*Section 2.3.1*; RQ9).

6.3.31 It is evident that, in the backplot, given that many of the excavated features intercut, that the organisation of this area changed during the lifetime of its occupation, as was the case on the street frontage. In particular, it is of interest that there are numerous Roman features on both sides of the substantial east/west ditch (*10669*) that may have formed the western boundary of the plot at some time (*Section 4.5.25*). Precisely what this means is not clear, though it could suggest either that activity expanded over an earlier, redundant, boundary, or, conversely, that the ditch was a later feature, marking a contraction in the occupied area of the backplot. Alternatively, it could be postulated that the ditch had never been a boundary feature, but served some other purpose, though this is, perhaps, unlikely in view of its size and form. Clearly, further work on the associated pottery and other datable artefacts is needed to refine the sequence of activity in this area further, and to establish a chronological framework that will enable this sequence to be linked with that on the street.

6.3.32 Analysis of the artefactual and palaeoenvironmental assemblages associated with these features also has the potential to shed light on the kinds of activities that were carried on within the backplot and, perhaps, within the street frontage buildings with which these features were presumably associated. For example, possible concentrations of clinkered wood and coal fragments in

some features may suggest their proximity to specific activity areas, or at least that they were receiving refuse from such areas, but further work is needed to elucidate the precise significance of this. Whilst the assessment has established that there is no waterlogged preservation of environmental materials within the backplot features, several have been shown to contain quite well-preserved pollen from a wide range of taxa (*Section 5.19*), analysis of which has the potential to shed light on local vegetation and environmental conditions. The presence of a freshwater alga in the fill of a feature provisionally identified as a well also provides an indicator of the potential of the pollen assemblage to provide evidence pertaining to the function of specific features within the backplot area (*Section 2.3.1*; RQ 9).

6.3.33 ***Theme 4: the inhabitants (RQs 10-14):*** in any project seeking to advance understanding of Roman extramural settlement in Britain, it is the inhabitants who must be the main focus of research, since archaeology is first and foremost about people. Essentially, all the research aims developed for the Maryport Roman Settlement Project seek to address, in one way or another, an overarching question, namely, who were the people of Roman Maryport, and how did they live out their lives? Theme 4 articulates this question explicitly through a series of more specific research aims, which seek to advance understanding of the everyday lives of the inhabitants of the targeted building plot (RQ10), and to shed light on specific aspects of these, including social status (RQ11), ethnic origins, demographic make-up and expressions of identity (RQ12), potential civilian/military interactions (RQ13) and religious beliefs and/or ritual practices (RQ14).

6.3.34 In recent years, the issue of ethnicity and social status, together with gender, age and questions of cultural assimilation, have formed important research priorities in Roman archaeology (*eg* Allason-Jones 2001; Hill 2001; James 2001; Symonds and Mason 2009a, 147-52). Consequently, it forms an important research topic in both the Hadrian's Wall research agenda (Symonds and Mason 2009b, 15 (Agenda 4.8), 24 (Agenda 7.3)) and the research agenda for north-west England (Philpott and Brennand 2007, Initiative 3.22). Since the area investigated lay well away from the settlement's principal cemeteries, it was envisaged that there would probably be no potential to address these issues through analysis of human remains (OA North 2013a), and indeed, in the event the project yielded no human bone. However, it was appreciated that these questions could also potentially be addressed through other analyses, including a study of the form and internal appointment of buildings, and artefactual/ecofactual analyses (*ibid*).

6.3.35 The assessment has demonstrated that the excavated data have good potential to yield significant information on the everyday lives of the inhabitants of the targeted building plot, and, to a certain extent, to address questions relating to their social status, gender, and possible interactions with the nearby military garrison. However, at this stage there does not seem to be a great deal of potential to inform on issues of ethnicity or age. Broadly speaking, the inhabitants appear to have had access to a similar range and quantity of material goods as those of similar extramural settlements elsewhere in the region, for example that associated with the fort at Brougham, near Penrith

(Zant in prep). There, the amounts of pottery and other artefacts recovered during excavations in the settlement south and south-east of the fort in 2008 are, in general terms, comparable to those found at Maryport. Such settlements clearly had access to a much greater diversity of 'Romanised' goods than contemporary 'native' farmsteads in the North West, such as that at Barker House Farm, near Lancaster (OA North 2003; Zant and Bagwell in prep), which yielded only a handful of Roman potsherds. However, they do not contain anything like the quantity and range of artefacts found at the larger urban centres such as Carlisle (*eg* McCarthy 1990; Zant and Howard-Davis in prep), nor are artefactual assemblages from extramural settlements usually as large or diverse as those excavated from the region's forts (*eg* Howard-Davis 2009).

6.3.36 Overall, it is evident from the assessment data that the inhabitants of the targeted plot at Maryport lived reasonably well, certainly considerably above mere subsistence level. The stratigraphic evidence (*Section 4.5*) indicates that the excavated structures, though largely unremarkable in form, appearance or internal appointments, were substantial and well constructed. It is possible, perhaps even likely, that some or all of the buildings had a second storey (though it may not be possible to prove this beyond all doubt), which would have enhanced the lifestyle of the inhabitants through the provision of extra living/storage space and (possibly) space for other, more specialised activities. The uses to which the buildings were put require further detailed study, but the finds and palaeoenvironmental assessments hint at a range of activities, potentially including small-scale industrial/craft processes, such as metalworking and bone working (*Section 6.3.29*). The associated ceramic assemblages, on the other hand, together with most of the other artefact groups, which include glassware, items of personal ornament and gaming counters (see Theme 5; *Sections 6.3.43-47*), are suggestive of a largely domestic milieu, albeit one where access to the military supply network was readily available (*Section 6.3.45*).

6.3.37 The ceramic assemblage, comprising nearly 6000 sherds, represents by far the largest collection of artefactual material recovered from the site (*Sections 5.4, 5.5*). As such, it has the best potential of any of the artefact groups, most of which were comparatively small, to shed light on various aspects of life within the plot. The assemblage is, unsurprisingly, dominated by 'everyday' kitchen wares, many of which were probably produced fairly locally. Glimpses of more specialised processes are occasionally provided, such as a fragment of a ceramic cheese press (*Section 5.5.10*) and potsherds fashioned into spindle whorls, for spinning woollen yarn (*Section 5.9*). It is, perhaps, likely that these activities took place within a domestic context, supplying the everyday needs of the immediate household, though the possibility that they represent evidence of a 'cottage industry' cannot be completely ruled out, particularly in view of the fact that at least one of the excavated buildings (Period 3d, Building ***10545***) could have had a shop front opening onto the main road (*Section 4.5.11*). The presence of several potsherds fashioned into gaming counters provides a glimpse of what was undoubtedly a popular leisure activity, since such objects (including examples in glass and stone, as well as

ceramics) are frequent finds from both military and 'civilian' sites across the region, for example within the fort at Carlisle (Howard-Davis 2009).

6.3.38 In addition to the 'everyday' wares, the pottery assemblage also includes a high proportion of comparatively high-status, imported, wares, principally samian (*Section 5.4*) but also fineware beakers from the Rhineland and Central Gaul (*Section 5.5.1*). Spanish olive oil amphorae are also well represented, but only a few sherds of Italian wine amphorae were found (*Section 5.5.8*). Beakers also appear uncommon, whilst flagons and flasks are very rare, the latter perhaps being replaced as liquid containers by narrow-mouthed jars. This may suggest a fairly modest level of prosperity, and, indeed, the assemblage as a whole is typical of those recovered from extramural settlements elsewhere in the region (*Section 5.5.10*).

6.3.39 Whilst it seems highly likely that there was a considerable degree of interaction between the inhabitants of the region's extramural settlements and the garrisons of the adjacent forts (Sommer 1984; 2006; James 2001), very little direct evidence for this was found during the Maryport project. The geophysical surveys undertaken across the settlement as a whole (Biggins and Taylor 2004) suggest that the street frontages were occupied by narrow building plots of regular form and size. If this is the case, and the excavated evidence from the Settlement Project would appear to provide confirmation (at least in the third-century phases), it would suggest that the plots were laid out by some form of centralised authority, which in the context of Roman Maryport can only have been the army. Whether the military were also responsible for constructing the first buildings to occupy these plots, or if that was left to the occupants, is not known. In this, the stratigraphic data recovered from the project have the potential to provide a contribution, since it seems clear that the earliest building recorded in the central plot (Period 3a, Building ***12000***) utilised earthfast posts set in continuous construction trenches. This post-in-trench method is characteristic of that employed in early Roman military buildings across the North, for example in the first fort at Carlisle (Zant 2009). However, whether the Maryport evidence indicates direct military involvement in the construction of Building ***12000***, remains unclear.

6.3.40 The best evidence for the essentially 'military' nature of the settlement, at least in terms of its economic base, comes from the pottery assemblage. This includes imported vessels, particularly samian ware and amphorae, in quantities indicative of a military connection (Evans 2001), together with a wide range of locally produced wares and forms derived from many of the principal British production centres, including the Mancetter-Hartshill, Dorset BB1 and Nene Valley industries (*Section 5.5.1*), all of which were major suppliers to the Roman army. The fact that decorated vessels make-up a significant proportion of the samian assemblage (25% of sherds, 34% of vessels) further suggests a strong military link, and is consistent with the data from other extramural settlements in the region (Willis 2005, table 35 and chart 14). All of this doubtless reflects the fact that the inhabitants of the settlement had access to goods reaching Maryport through the military supply network. Other evidence for military influence is sparse, being limited to the recovery of an iron spearhead and a large fragment of chainmail (*Section*

5.12). However, whilst the latter is overtly military in character, the spearhead could conceivably be a hunting weapon with no military connotations. The presence of two frit melon beads in the finds assemblage (*Section 5.14*) may also have military connotations, since it has been suggested such beads may have an affinity with Roman cavalry (Price and Cottam 2000), perhaps being used as harness decorations or the like. Many such beads were, for example, recovered from early levels within the fort at Carlisle (Howard-Davis 2009), which was certainly garrisoned by cavalry during the late first century AD (Zant 2009).

6.3.41 Similarly, there is relatively little in the assessed data that can illuminate aspects of gender, though the recovery of several items of personal ornament, including finger rings and glass bangles (*Section 5.14*), hints (as might be anticipated) at the presence of women, as may the discovery of a few glass beads. There also appears to be little potential in the data for addressing questions relating to the ethnicity or age of the plot's inhabitants. There are, for example, no ceramic forms suggestive of the presence of certain ethnic groups, as has been postulated, for example, at Carlisle (Swan *et al* 2009). Nor is there anything that can be said to indicate the presence of children, though it seems highly probable that they were present on the site in the Roman period. Literacy within the population is seemingly evidenced by a single, fragmentary graffito (*Section 5.4*), scratched onto the exterior of a samian dish in Period 3b Building ***12001***.

6.3.42 Evidence for religion and spiritual beliefs, though also limited, is, however, present in the finds assemblages, in the form of a fragment of a pipeclay figurine of Venus (*Section 5.9*), a facepot sherd (*Section 5.5.10*) and the upper part of a portable altar (*Section 5.16*). Since all of these artefacts came from the backplot area, further work on their precise stratigraphic position is needed in order to relate them to the phases of activity provisionally identified on the street frontage. In addition, there are also two examples of incised graffito, found on reused sandstone slabs attributed to Period 3d (*Section 5.16*), both of which might also have religious significance. The significance of these is currently unclear, but one appears to depict an armed figure, possibly another representation of the 'armed deity', presumably a local 'native' god, depicted on two other stones from Maryport that are displayed in the Senhouse Roman Museum (Coulston 1997). The other seems to consist of fairly crude, curvilinear, motifs, possibly including spirals and circles. It is worthy of note that a classical Roman temple was located only *c* 100m east of the site (T Wilmott *pers comm*). Whilst this may have been constructed largely for the use of the military garrison, it seems likely that it to some extent also served the local civilian community.

6.3.43 ***Theme 5: material culture (RQS 15-17):*** from the early stages of the project, analysis of items of material culture and environmental remains recovered from the investigations was envisaged as being of fundamental importance for advancing understanding of all aspects of life in the extramural settlement (Whyman 2008, section 2.4.1.1-5). This included questions pertaining to site chronologies (see also Theme 2), economy, diet, trade/supply, ethnicity and social dynamics (Allason-Jones 2001; Hill 2001; see also Theme 4), as well as

determining the function and status of specific buildings and activity areas (see Theme 3). Assessment of the assemblages recovered during the project suggests that they have considerable potential to advance understanding in many of these areas of research, and also to provide important information on matters of production, procurement and consumption, issues outlined in Agenda 6 (Production and Procurement) of the Hadrian's Wall research agenda (Symonds and Mason 2009b, 21-2). As is pointed out in the resource assessment for Hadrian's Wall (Symonds and Mason 2009a, 147), the quantity and range of products and foodstuffs attested at extramural settlements implies the existence of complex systems of supply and demand, and probably also indicates on-site production and considerable commercial activity. However, whilst the economy of these settlements must have been of considerable importance to that of the wider frontier zone, it remains poorly understood (*ibid*; Symonds and Mason 2009b, 15).

6.3.44 Consequently, research questions relating to the material culture of the Roman settlement at Maryport, including evidence pertaining to its economy (RQ15), patterns of production, supply and consumption (RQ16), and evidence for industrial and craft activities (RQ17) were identified in the Project Design (OA North 2013a, 21-2). The paucity of Roman coins from the site (*Section 5.10*) might give the impression that the economy of the settlement was not integrated into the wider monetary economy to any significant degree. However, a lack of early Roman coinage is characteristic of most Roman sites in the region, excepting only those overtly military sites, such as forts, which were garrisoned during the late first- to mid-second centuries AD (Shotter 2009).

6.3.45 Initial impressions from the pottery assessments (*Sections 5.4, 5.5*) suggest that the Roman ceramics are, for the most part, typical of those recovered from other extramural settlements in the region. In particular, the relatively high proportions of decorated samian ware and amphorae within the assemblage point to a significant military contribution to the site economy (Evans 2001), which doubtless reflects the settlement's close links with the region's military supply network. The potential of the pottery to contribute important new information was, however, highlighted during the assessment of the coarse pottery assemblage, which recorded a significant quantity of grey-ware forms from the Thames Valley, broadly datable to the late second- to third century (*Section 5.5.5*). Since such wares are normally scarce in the North West (R Leary *pers comm*), the presence of this material at Maryport was unexpected, and requires explanation, since it has potentially important implications for patterns of supply and procurement. Further analysis of the pottery itself, and of its stratigraphic and spatial distribution across the site, is therefore required, both to refine understanding of the chronology and origins of this material, and to understand what it might mean for the economy of the site. Can it, for example, be shown that the distribution of this material is restricted, both in time and space, to a particular phase/area of the site, which might imply that it represents a 'one off' consignment, or does the evidence indicate a relatively prolonged and sustained period of supply and use?

6.3.46 The potential of the assessed data to illuminate aspects of diet is clearly limited by the paucity of animal bones, which did not survive the inimical soil conditions unless burnt/charred, and the lack of waterlogged preservation of plant remains. Nevertheless, the assemblages clearly have some potential to address this topic, since the charred plant remains assessed include several varieties of cereal grains, and probable cereal pollen was recorded in some of the assessed monolith samples (*Section 5.19*). The bones, though extremely fragmentary, seemingly derive largely from the principal domesticates (cattle, sheep/goat and pig), and it may be possible, through analysis, to determine the relative proportions of these taxa. Certain concentrations of burnt bone (*Section 5.17*) hint at possible areas of food production or craft activities (bone working?), whilst the composition of the assemblage hints at the possible deliberate selection of meat-bearing elements of the skeleton; however, analysis is needed to expand upon these initial impressions. Generally speaking, the absence, from the artefact assemblages, of tools associated with manufacture or craftworking is notable, though several iron blades or blade fragments of (currently) indeterminate form and function were recovered (*Section 5.12*). The only other obvious tool from the site is what appears to be the broken blade from a turf-cutter, which came from R2 in Building ***10545***. However, iron was doubtless a valuable commodity to the inhabitants of the settlement, and it seems likely that broken tools and other equipment would normally have been recycled (Lambrick and Robinson 2009, 288).

6.3.47 The collection of 11 spindle whorls, an artefact associated with the spinning of woollen yarn, is comparable in size to those recovered from other extramural settlements in the region, for example at Brougham, where 14 were recovered from excavations in the settlement south of the fort (Zant in prep), Metalworking debris and other industrial residues, though present in small quantities, including from the interior of Period 3d Building ***10545*** (*Section 4.5.16*), are seemingly too scarce to suggest significant on-site metalworking activity, though additional work on the stratigraphic distribution of this may advance current understanding. Similar analysis of the coal fragments recovered from the site (*Section 5.18*) may also provide a contribution to this area of research.

6.4 CONCLUSION

6.4.1 In summary, it is clear, from the results of the present assessment, that the Roman Maryport Settlement Project has succeeded in addressing most of the research themes and questions posed in the original Project Design (OA North 2013a) and in the updated Project Design (OA North 2014). Assessment of the stratigraphic, artefactual and palaeoenvironmental evidence has demonstrated that the bulk of the data have high potential to significantly advance understanding of the origins, character and development of the Roman extramural settlement. Furthermore, it is evident that detailed analysis of most of the datasets will elucidate, for the first time, the everyday lives of people who, over several generations, lived and worked within what appears to have been a 'typical' plot located in the very heart of the settlement.

7. UPDATED PROJECT DESIGN

7.1 INTRODUCTION

7.1.1 Following completion of the first season of excavation in September 2013, the project's original research aims, framed as a series of research questions (RQs) in the Project Design (OA North 2013a), were revised in an updated Project Design (OA North 2014). This was compiled in the light of the results of the 2013 fieldwork, which permitted a series of new research questions to be formulated in advance of the 2014 investigations. Both the original research aims and the revised research questions are reproduced in *Section 2* of the present report. Since the new questions essentially represented more focused versions of some of the original research aims, they were appended as bullet points to the research aims that were considered to be the most relevant (*Section 2*). One of the most important objectives of the present assessment was to determine the success of the Roman Maryport Settlement Project in addressing these research aims, and to evaluate the academic potential of the data for further analysis.

7.1.2 From the results (*Section 5*), it is evident that the project has succeeded in addressing, to a greater or lesser degree, all five of the original research themes (*Section 2..2.1*). The assessment has also demonstrated that the majority of the research aims, including both the original aims and the revised questions formulated at the end of 2013, remain valid. However, it is clear that, in a few cases, the data recovered have little or no potential to address certain of the research questions, but, on the other hand, the assessment has itself generated several new questions. As in 2013, these updated research questions (URQs) pertain, for the most part, to existing aims. In order to reflect this, the existing aims are listed below (*Section 7.2*), with the URQs being appended to those that are considered to be the most relevant. Those existing research questions (or, in some cases, particular elements of questions) that cannot, on the evidence of the assessment, be addressed to any significant degree by the project data are reproduced below in a smaller and paler font. *Section 7.3* presents a series of updated research objectives (UROs) that need to be achieved in order to address the updated research questions.

7.1.3 This section follows the guidance of Historic England (formerly English Heritage) regarding the formulation of updated research aims (English Heritage 1991; 2006). The URQs have been formulated with reference to the archaeological potential of the excavated remains, as established by the present assessment, and in accordance with the national, regional and local academic priorities and initiatives set out in *Section 6.2*.

7.2 EXISTING AND UPDATED RESEARCH QUESTIONS (URQS)

RQ1 What is the nature, date, density, extent, and state of preservation of the archaeological remains on the site, and can they be understood in terms of their sequence, relationships and their functions (Theme 1)?

URQ1 To what extent does the Roman occupational sequence correlate with the sequences of activity recorded both within the fort and in the SMT-sponsored investigations undertaken elsewhere in the settlement?

RQ2 Is the evidence of the surviving below-ground archaeological remains consistent with the results of the geophysical surveys undertaken within the extramural settlement (Theme 1)?

RQ3 Is there any evidence for pre-Roman activity within the study area, and if so, can it be characterised and dated? How did the foundation of the extramural settlement impact upon any earlier occupation (Theme 2)?

RQ4 At what date was the extramural settlement established? Does this correlate with the suggested date of the presumed pre-Hadrianic fort at Maryport (Theme 2)?

URQ2 Can the apparent Hadrianic/Antonine dating of the earliest Roman activity on the site be refined, and if so, how does this correlate with the occupational history of the fort and other parts of the settlement?

RQ5 What is the character and function of the earliest buildings and other features within the study area (Theme 2)?

URQ3 Is there any evidence for military involvement in the earliest phases of the settlement, and particularly in the construction of the earliest building (Building ***12000***, *Section 4.5.4*) within the targeted plot?

RQ6 What is the chronological span of occupation within the targeted area of the extramural settlement, and how did the character of occupation develop and change throughout this period (Theme 2)?

- Are the different alignments apparent in the latest buildings on the site reflected in earlier occupation phases?

- How do the features in the backplot area relate, spatially and chronologically, to the occupation sequence on the street frontage? Can any clear division between the plots be discerned in this area?

URQ4 Can the provisional interpretation of Period 3c as representing a phase of abandonment within the targeted plot be sustained, or are other explanations possible? Can the date at which the putative abandonment occurred be refined, and does the dating correlate with evidence from elsewhere in Roman Maryport?

RQ7 At what date was the settlement abandoned, and what is the character of the latest occupation on the site? Is there any evidence for 'sub-Roman' and/or post-Roman activity within the study area, and can this be characterised and dated (Theme 2)?

- What is the nature, date and significance of the stratigraphically late pits and other features that post-date Buildings ***10545*** and ***10546*** (*Section 4.6*)? Do they provide evidence for late Roman or early post-Roman activity on the site?

URQ5 Can the date of the latest activity attributed to Period 3d, and in particular that which occurred within the targeted building plot (including Building ***10545***), be refined?

URQ6 What is the nature, date and significance of Period 4 ditch *12002* (Section 4.6.3)? Can the artefacts and ecofacts recovered from its fills shed light on the character and date of the late Roman activity and environment on, or in the vicinity of, the area investigated?

URQ7 What is the spatial distribution of the latest Roman (late third- to fourth-century) pottery and other artefacts from the site? Can this shed light on the nature and location of the latest Roman activity within or adjacent to the targeted building plot?

URQ8 Can the chronology of the latest Roman activity on the site be refined through a targeted programme of radiocarbon dating?

RQ8 How can the position and internal organisation of the plot be understood in terms of its relationships, both internally and with other elements of the site, such as the main road, and what information does that provide about an understanding of the organisation of the settlement as a whole (Theme 3)?

- Why are Buildings ***10545*** and ***10546*** (*Sections 4.5.10-1*1) aligned askew to the latest surface of the main Roman road? Can the stratigraphic and chronological relationship between the buildings and the sequence of road construction and maintenance be established?

- Why is Building ***10544*** (*Section 4.5.9*) aligned differently to Buildings ***10545*** and ***10546***, and what is its stratigraphic and chronological relationship to the main road?

- What is the significance of the difference in alignment between Building ***10544*** and flagged surface *10681* (*Section 4.5.21*) immediately to the north? Can the stratigraphic relationship between the two be established?

- What is the chronological relationship between the two large ditches (*Sections 4.5.25, 4.6.3*) in the backplot area? Are they broadly contemporary, or do they represent different phases in the development of this boundary?

URQ9 How does the earliest surface of the main Roman road articulate, stratigraphically and spatially, with the earliest buildings and other features within the targeted plot?

URQ10 Does the initial impression that the boundaries of the targeted plot were carefully maintained throughout the Roman period stand up to detailed scrutiny? If so, what can be deduced from this about the organisation of the settlement?

RQ9 Can the form and function of excavated buildings, features and activity areas be determined for all phases of activity recorded within the study area?

Does the organisation and use of elements and parts of the plot change through time, and is this accompanied by changes to the design, function, and status of structures and other features (Theme 3)?

- What is the stratigraphic relationship between Building ***10545*** (*Section 4.5.10*) and deposits in the external area immediately to the south? Can stratigraphic links be established across this area that link the structural histories of Buildings ***10545*** and ***10544***?

- What is the function of the vertical-sided pits excavated in the backplot area (*Section 4.5.24*)? Were they wells or cisterns, or did they serve some other purpose?

URQ11 What is the stratigraphic, spatial and chronological relationship between the features in the backlands of the targeted plot and the full sequence of buildings and other remains recorded on the street frontage to the east?

RQ10 Can the project advance understanding of the everyday lives of the occupants of the settlement, through the recovery of artefacts and ecofacts and the characterisation of buildings and other features (Theme 4)?

RQ11 Is there any indication of differentiation of social space within the study area through time, as evidenced, for example, by the form and internal appointment of the excavated buildings, and through the spatial and chronological distribution of artefacts and ecofacts (Theme 4)?

RQ12 Can the gender, ethnic origin, and age of the settlement's inhabitants be illuminated through the recovery and analysis of artefacts and ecofacts found in association with excavated buildings and activity areas? Is there any evidence of how people's identities were expressed (Theme 4)?

RQ13 Can the project advance understanding of the nature of civilian-military relationships within extramural settlements, and/or with the indigenous rural population. In particular, is there any evidence to challenge or support the perceived dichotomy between 'military' and 'civilian' spheres of influence, the former traditionally centred within the fort, the latter in extramural areas (Theme 4)?

URQ12 Can the stratigraphic and spatial distribution of the few artefacts with possible military affinities recovered shed light on civilian-military relationships?

RQ14 Is there any evidence for religious observation or belief and/or ritual practices within the study area (Theme 4)?

URQ13 Can the stratigraphic and spatial distribution of artefacts with certain or possible religious or votive significance shed light on the spiritual beliefs or ritual practices of those who lived in the targeted building plot ?

RQ15 Can the project provide evidence for the settlement's economic base, including patterns of supply, trade and exchange, resource exploitation, and for any changes in the economy of the settlement through time (Theme 5)?

URQ14 What is the significance, in terms of the site's economy and (especially) its supply networks, of the significant quantities of pottery from the Thames Valley area recovered from the investigations?

URQ15 Can analysis of the non-local stone recovered from the site, especially the slate, shed light on patterns of supply and resource exploitation?

RQ16 What evidence can be found for diet and patterns of food consumption, including the production and preparation of food and drink, within the extramural settlement (Theme 5)?

URQ16 What does the apparent paucity of ceramic vessels associated with drinking (eg beakers, flagons and jugs), and also of wine amphorae, tell us about the diet, economy and status of the site's inhabitants?

URQ17 Is the initial impression that meat-bearing components dominate the animal-bone assemblage borne out by further analysis, and if so, what are the implications for patterns of food preparation and consumption on the site?

RQ17 Is it possible to identify craft, manufacturing or industrial activities within the study area (Theme 5)?

URQ18 Does the very high concentration of small bone fragments found at the rear of Period 3d Building ***10545*** (*Section 5.17*) signify possible craft activity, or might it be related to food preparation (see URQ17).

URQ19 Can analysis of the stratigraphic distribution of metalworking debris, metal objects, fired clay, charcoal and coal fragments elucidate possible manufacturing or industrial activities?

RQ18 How can the results of the investigation be made available to the wider public in an accessible form, whilst undertaking appropriate archiving of the artefacts and primary data?

URQ20 How can the results of the Roman Maryport Settlement Project be integrated, collated and synthesised in order to create a coherent, accessible narrative of the origins and development of human activity on the site?

URQ21 How best can the results of the project be integrated with those of other recent investigations in the extramural settlement, to present the story of Roman Maryport in an holistic, academically rigorous, yet accessible form?

RQ19 How can the project engage the local community and the wider public with Maryport's outstanding Roman cultural heritage, and make training in archaeological techniques and practice available to as wide a cross-section of the community as possible?

7.3 UPDATED RESEARCH OBJECTIVES

7.3.1 The updated research objectives (UROs) of the post-excavation programme have been formulated with reference to the updated research questions (*Section 7.2*), which are referenced in parentheses at the end of each objective. It is considered that these objectives will be applied to all the data gathered during the excavations.

UROa Undertake detailed analysis of the on-site stratigraphy. This will permit the best possible understanding of the physical form of, and relationships between, the different elements of the site, the provision of a refined chronological framework, and also the formulation of an holistic narrative of the site (all URQs).

UROb Analyse the individual and site-wide morphology, arrangement, and juxtaposition of features, particularly identifiable structures and feature groups, so that they might be compared with other contemporary sites in the region (URQ1, URQ3-4, URQ9-11).

UROc Undertake analysis of the pottery assemblage recovered from the site, in terms of date, origin, form, fabric and function, spatial distribution, preservation, residuality, provenance and comparison with other sites in the locale and wider region (URQ2-7, URQ13-14, URQ16).

UROd Undertake processing, cataloguing, stratigraphic integration, assessment and then any appropriate analysis of the other artefacts recovered, in terms of date, origin, quality, form, fabric and function, presence and nature of residues, spatial distribution, preservation, residuality, provenance and comparison with other sites in the region (URQ1-7; URQ11; URQ15, URQ19).

UROe Undertake palaeoenvironmental and sedimentological analyses of bulk and monolith samples with analytical potential, as determined by the present assessment. This will potentially allow a better understanding of local vegetation and environmental changes, site formation processes, on-site activity, and changes in land-use (URQ1, URQ6, URQ8-9, URQ18-19).

UROf Conduct a programme of radiocarbon dating of material from selected late Roman features, and from selected features in the backplot, as identified by the site stratigraphy and/or other dating evidence (URQ8, URQ11).

UROg Perform spatial analyses to explore the relationships between different features, and also between artefacts and palaeoenvironmental material belonging to contemporary phases, to attempt to define different activity areas and elucidate patterns of disposal (URQ9-3, URQ19).

UROh Collate, integrate and synthesise the stratigraphic, artefactual and paleoenvironmental data generated by the analysis to create a coherent narrative of the occupational sequence recorded by the investigations (URQ20).

UROi Compare the overall results of the analysis with the results of archaeological investigations of similar sites in the region (URQ5, URQ1-2, URQ4).

UROj Undertake detailed, but targeted, documentary research, in order to aid the contextualisation and interpretation of the site. This should include collation and interrogation of available published and grey literature reports on appropriate elements of the archaeology of the region, excavations of comparable sites within the close and wider locale, and aerial photographic sources (URQ1-2, URQ4).

UROk Using appropriate sources, undertake a rapid review of the landscape and palaeoenvironmental history of the immediate area. Such an appraisal should focus principally on those aspects that would elucidate the development of the Roman extramural settlement, though limited work to aid basic understanding of the pre-Roman and post-Roman landscapes could also be under taken (URQ1, URQ6).

UROl Prepare texts and illustrations, then collate and publish in an appropriate medium the results of the project, and prepare and submit the final archive (URQ21).

8. METHOD STATEMENT

8.1 INTRODUCTION

8.1.1 The following tasks are required to fulfil the updated research objectives outlined in *Section 7.3* and will, when complete, contribute to addressing the project's updated research questions (*Section 7.2*). The work will ultimately allow for the preparation of a publication text and an integrated project archive.

8.2 PROGRAMME STRUCTURE

8.2.1 The post-excavation programme, designed to address the updated research questions outlined in Section 7.2, will be divided into the following stages:

- post-excavation analysis, including cataloguing of all relevant data;
- submission of selected samples for scientific dating;
- documentary research;
- synthesis;
- preparation of draft publication text and illustrative material;
- publication and archive deposition.

8.3 MANAGEMENT, MONITORING AND REVIEW

8.3.1 ***Task 1:*** management and monitoring tasks have been built into the project. These will include project monitoring, advice and co-ordination, problem solving, and conducting meetings with project staff and all interested external parties. The management structure adopted for the fieldwork phase of the project (OA North 2013a) will be retained during analysis.

8.3.2 Reviews of the project will include the specialists and the OA North staff who are undertaking the analysis, those OA North personnel responsible for managing the project and providing an executive overview, and the members of the RMAG (*Section 3.1.1*). These reviews will provide an opportunity for all involved to present and receive information, to discuss the research aims, and permit an exchange of ideas. All specialists will be consulted following editing and prior to publication of their reports. In addition, there will be regular project review meetings, which will take place at six-monthly intervals throughout the preparation of the report.

8.4 PROCESSING AND TRANSPORT OF ARTEFACT ASSEMBLAGES

8.4.1 ***Task 2:*** at an early stage in the analytical programme, arrangements will be made to transport all relevant assemblages to the appropriate external

specialists (in those instances where the specialists do not already have the material) to facilitate analysis and reporting of the material. Conversely, on the completion of this work, material will need to be received from the specialist, sorted and checked against database records.

8.5 STRATIGRAPHY: ANALYSIS AND SYNTHESIS

8.5.1 Task 3: the stratigraphic data will need to be studied in greater detail in order to refine the provisional phasing (*Section 4*). More detailed structural analysis will be undertaken on complex features and feature/deposit groups, including the excavated buildings and the feature groups in the backlands of the targeted building plot. Existing matrices will require revision and redrafting, taking into account any amended phasing, following which a draft stratigraphic narrative will be produced. This will form the basis of the stratigraphic section of the publication report (*Section 8.19*).

8.5.2 Once the data have been analysed and a stratigraphic narrative completed, it will be possible to prepare phase plans. Such plans are a prerequisite for specialist analysis of the relevant artefact assemblages, and they will also form the basis of many of the illustrations in the publication report. Analysis and synthesis of the results of specialist analysis of some classes of finds, and especially the pottery, will, however, contribute to the site phasing. Consequently, these data will require integration into the stratigraphic narrative, which will, therefore, require a degree of revision once the specialist analyses have been completed (*Section 8.18*).

8.6 DIGITAL DATA IN THE ANALYSIS PHASE

8.6.1 ***Task 4:*** the database compiled during the initial stages of the post-excavation work will require some revision and updating. This will include the updating of phasing information, the embedding of links to digital photographs, digitised site drawings, and so on, as appropriate. It is proposed that all the digital data will be combined to provide a three-dimensional model of the structures. This will be used to create plans, elevations, cross-sections and oblique views of the datasets.

8.7 SAMIAN WARE

8.7.1 The samian ware recovered during the Roman Maryport Settlement Project represents a good-sized assemblage from an important extramural settlement associated with the Hadrian's Wall frontier system. Detailed analysis of the collection is required in order to contribute to the refinement of the site chronology, and to advance understanding of the supply and use of samian at such sites in the frontier zone.

8.7.2 ***Task 5:*** the assemblage was fully quantified at the assessment stage (*Section 5.4*), so no further work is required in terms of basic recording. However, it is likely that a small number of additional samian sherds will be found amongst the rest of the Roman pottery assemblage during analysis, and these will require recording and adding to the current dataset.

8.7.3 ***Tasks 6-10:*** detailed analysis of the decorated vessels (Task 6) and potters' stamps (Task 7) will be carried out, in order to refine the chronology of the assemblage and to advance understanding of changes in the supply of samian to the site. Rubbings of the decorated pieces will also be produced (Task 8), for use as illustrative material in the site archive and the publication report. The small collections of repaired, reworked and burnt samian will also require further analysis (Task 9), and the single graffito will be identified and reported on (Task 10).

8.7.4 ***Tasks 11-14:*** following the refining of the site phasing and the definition of the principal feature/deposit groups, the updated stratigraphic information will be added to the samian database (Task 11). Functional and spatial analyses of the stratified samian groups will then be undertaken (Task 12), and the assemblage will be compared with others from similar sites in the region, particularly within the Hadrian's Wall frontier zone (Task 13). Following completion of the analyses, a draft report suitable for publication will be prepared (Task 14).

8.8 OTHER ROMAN POTTERY

8.8.1 ***Task 15:*** further study of the Roman pottery assemblage will be crucial to almost every aspect of the site analysis, including refining the chronology of the occupational sequence, elucidating the changing nature of pottery supply and use, and facilitating comparisons with other extramural settlements in the region. Although the pottery other than the samian has been grouped, during assessment, into broad ware groups (*Section 5.5*), detailed analysis of the fabrics and forms is required, in order to identify production centres and refine chronologies. For example, the group of gritty, oxidised wares from the site (*Section 5.5.3*) will be compared with pottery from the Muncaster kilns, to attempt to determine if any of this material derives from this local production centre. The assemblage of pottery from stratified Roman contexts will be fully quantified by fabric and form, sherd count, weight and equivalent vessel estimate (EVE). Records will be made of information such as vessel class, cross-context sherd joins and evidence for burning and repair. These data will then be entered onto the pottery database, and detailed catalogues will be produced. Roman pottery from post-Roman contexts, together with unstratified material, will be quantified to basic archive level, in accordance with the Study Group for Roman Pottery's guidelines (Darling 2004; Willis 2004). The analysis will examine in detail the following elements of the pottery assemblage:

- Chronological range;
- Character and status of Roman occupation as indicated by the types of pottery vessels present;
- Functional aspects of the assemblage;

- Evidence for functional variation across the site, and through time, as evidenced by the spatial and stratigraphic distribution of different pottery types;

- Evidence for how different wares and vessel types were used and curated, in the form of sooting, scorching, repair, graffito and possible residues;

- Changes in the supply and character of the ceramic assemblage over time.

8.8.2 ***Tasks 16-18:*** in addition to the overall analysis of the pottery assemblage, several specific tasks will also be needed. Provisional identification of the mortaria fabrics will require confirmation by Kay Hartley, who will also identify the two mortarium stamps recovered (Task 16), and uncertain amphorae identifications will be checked by David Williams (Task 17). A sample of the unusual assemblage of Thames Valley greywares from the site will be analysed by neutron activation analysis (Task 18), in order to confirm their origin.

8.8.3 ***Tasks 19-21:*** examples of all the major ceramic forms recovered from stratified Roman contexts will be drawn (Task 19), both for the site archive and for publication. However, only a small number of residual or unstratified vessels, principally forms that are not otherwise represented in the stratified assemblage, will require illustration. Comparative material from similar sites in the region will be studied (Task 20), and a draft report suitable for publication will be produced (Task 21).

8.9 POST-ROMAN POTTERY AND CLAY TOBACCO PIPES

8.9.1 ***Tasks 22-23:*** the assemblages of post-Roman pottery and clay tobacco pipes from the site have no potential for further analysis (*Sections 5.6, 5.7*). However, basic catalogues of these materials, arranged by context, will be compiled for deposition in the project archive.

8.10 CERAMIC BUILDING MATERIALS

8.10.1 ***Tasks 24-25:*** analysis of the ceramic building materials from stratified Roman contexts (Task 24) will begin with a quantification of the assemblage by fragment count and weight for each context. Diagnostic fragments of building material (for example tegula and imbrex roofing tiles or bricks) will be recorded by context, and the data entered to the project database. An analysis of the spatial and stratigraphic position of the material will be undertaken, in order to shed light on relative quantities of brick and tile in different parts of the site and across the period of Roman occupation. This may elucidate changes in deposition patterns and use. On completion of the analysis, a draft publication report will be produced and an archive catalogue will be compiled (Task 25).

8.11 THE COINS

8.11.1 ***Tasks 26-28:*** the small group of Roman coins will require cleaning by a qualified conservator and conservation in order that a full examination can be made (Task 26). They will then be identified, catalogued and compared with the assemblages from other excavations in Maryport and from similar sites in the region, and a draft report will be produced (Task 27). The few post-Roman coins recovered are all modern, and have no potential for further analysis, though a catalogue will be compiled for the project archive (Task 28).

8.12 OTHER ROMAN FINDS

8.12.1 ***Tasks 29-37:*** in the first instance, all iron objects from stratified Roman contexts that are not demonstrably nails will be subject to x-radiography, as necessary (Task 29). Selected ironwork, together with all the stratified Roman copper-alloy objects, will be despatched for specialist cleaning and conservation (Task 30), in order to facilitate analysis and to prepare them for long-term archival storage, in accordance with relevant guidelines (Walker 1990; Museums and Galleries Commission 1992). All identifiable, stratified Roman finds will be grouped according to a series of material and functional categories, within which they will be analysed and reported, and the database records of the assemblages will be checked and updated. This work will encompass the assemblages of copper-alloy objects (Task 31), ironwork (Task 32), lead (Task 33), ceramic objects (Task 34), glass (Task 35), metalworking debris and fired clay (Task 36), and stone objects (Task 37). For each material category, items for illustration will be selected and a catalogue produced, relating objects to their stratigraphic context. Catalogues will include descriptions and basic comparanda, though exceptional objects will be accorded full academic discussion. Discussion will be based around the significance of the assemblage as a whole to the interpretation of the site, and its implications locally and regionally. All the assemblages will be compared with those from similar sites in the region, and a draft publication report will be prepared.

8.13 OTHER POST-ROMAN FINDS

8.13.1 ***Task 38:*** as with the post-Roman pottery and clay tobacco pipes (*Sections* 5.6, 5.7), the small collection of other post-Roman finds is entirely modern, and has no potential for further analysis. However, a basic catalogue of the material, ordered by context, will be prepared for deposition in the project archive.

8.14 ANIMAL BONE

8.14.1 ***Task 39:*** although the animal bone assemblage is characterised by highly fragmented, burnt material (*Section 5.17*), it merits analysis for its potential to contribute towards elucidating various aspects of occupation within the targeted building plot, including patterns of food preparation, consumption and waste disposal. Analysis will seek to characterise the assemblage, including

classification, where possible, by species, skeletal element and bone fragment type, and the data will be added to the project database. This will permit initial impressions on the composition of the assemblage (*Section 5.17*) to be tested, both in terms of species representation and possible biases in the presence or absence of certain skeletal elements. However, the extremely fragmentary nature of the material, together with the fact that unburnt bones did not survive, may limit the degree to which such analyses can be sustained.

8.14.2 ***Task 40:*** detailed consideration of the spatial and stratigraphic position of the bone will also be undertaken, since this may shed important light on patterns of refuse disposal, food preparation and consumption, and might even identify areas where bone working was undertaken. Similarly, comparison between the distribution of bone and of other artefactual materials could indicate whether bone was disposed of in much the same way as other rubbish, or was treated differently.

8.14.3 ***Tasks 41-43:*** following the detailed analytical work, the assemblage will be compared with collections from comparable sites in the region (Task 41), and, in view of its fragmentary and burnt state, a search of literature relating to skeletal element survival in heavily burnt bone collections will also be undertaken (Task 42). The results of the analysis, and a discussion of their significance, will be included in a draft publication report (Task 43), and full catalogues will be prepared for deposition in the project archive.

8.15 CHARRED PLANT REMAINS (CPR) AND CHARCOAL

8.15.1 ***Tasks 44-46:*** of the 94 bulk samples assessed for CPR and charcoal (*Section 5.18*), 19 were found to have some potential for further CPR analysis and 31 for analysis of the wood charcoal (*Appendix 1*). However, as many of the assessed samples came from the same context (some internal floor and occupation deposits were sampled in a grid fashion), it is not necessarily the case that all these samples should be fully analysed and reported on. Instead, in the first instance, they will be subjected to more detailed assessment (Task 44), following which a selection will undergo detailed analysis (Task 45) and reporting for publication (Task 46).

8.15.2 For the CPR analysis, 10-40 litres of each sample will be processed by either hand flotation or using a modified Siraf-type flotation machine. The resulting flots will be collected onto a 250µm mesh, air-dried, and examined with a Leica MZ6 binocular microscope. The charred material will extracted and identified where possible, and waterlogged seeds and other material will be recorded. Charred plant remains will be counted, since there is a statistical relationship between types of remains (*eg* cereals, chaff, and weed seeds), which can assist interpretation of the crop-husbandry stages represented. Identification will be aided by comparison with the modern-reference collection held at OA North and with reference to the *Digital seed atlas of the Netherlands* (Cappers *et al* 2006). Nomenclature will follow Stace (2010). Analysis of the charcoal will follow standard procedures, where *c* 100-150 fragments (or the entire sample if less than this) >2mm in size will be extracted and identified. Initially, the charcoal will be sorted into groups based

on features visible in transverse section, using a Leica MZ6 binocular microscope at up to x40 magnification. Representative fragments of each group will then be fractured to reveal both radial and tangential sections, which will permit examination under a Meiji incident-light microscope at up to x400 magnification. Identifications will be made with reference to Schweingruber (1990a; 1990b), Hather (2000), and modern reference material.

8.16 POLLEN

8.16.1 ***Tasks 47-51:*** assessment of the pollen from five momolith samples (*Section 5.19*) demonstrated that parts of two were worthy of analysis. One of these (sample 83) was taken though the lower fills of a Period 3 well or cistern (*10734*) in the backlands of the central building plot (*Section 4.5.24*), whilst the other (sample 70) came from a lower fill in Period 4 ditch *12002*. The latter probably represents a late Roman redefinition of the boundary between the central and northern plots (*Section 4.6.3*).

8.16.2 The sediments in the selected monoliths will be described and cleaned prior to sub-sampling for pollen. Volumetric samples will be taken from six sub-samples from monolith sample 70, and a further 15 from monolith sample 83, at vertical intervals of 40mm (Task 47). A tablet containing a known number of Lycopodium spores will be added, so that pollen concentrations can be calculated (Stockmarr 1972). The samples will be prepared (Task 48) using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles greater than 170μm, silicates, and cellulose, respectively. The samples will then be stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000cs silicone oil. Slides will be analysed (Task 49) at a magnification of x400 by ten equally spaced traverses across at least two slides to reduce the possible effects of differential dispersal on the slides (Brooks and Thomas 1967), or at least until 100 total land pollen and spores are counted. Pollen identification will follow the keys of Moore *et al* (1991), Faegri and Iversen (1989), and a small modern reference collection. Charcoal particles greater than 5μm will also be recorded (Peglar 1993). Plant nomenclature and non-pollen palynomorph (NPP) taxonomy will follow Stace (2010) and van Geel (1978) respectively. The analysis will result in the production of a draft report suitable for publication (Task 50) and an accompanying pollen diagram (Task 51).

8.17 SCIENTIFIC DATING

8.17.1 ***Task 52***: as already noted (*Sections 6.3.16, 6.3.18, 6.3.21*), radiocarbon dating is often of only limited value for refining the dating of Roman-period sites, because of the wide date ranges that are normally generated by this method. Consequently, it is intended that, initially at least, radiocarbon assay will be restricted to up to five charred samples recovered from deposits that are certainly or possibly of later Roman (*c* late third- to fourth-century) date. At least two samples from Period 4 ditch *12002* (*Section 4.6.3*) will be dated (from separate excavated segments), and three others will be taken from other features that have yielded late Roman pottery, though the assessment suggests

that late Roman material is extremely sparse across the site (*Section 5.5*). Final selection of these samples will be made after analysis of the Roman pottery has been completed, though initial impressions of the distribution of late Roman pottery in the site suggests that most (with the exception of the pottery in ditch *12002* itself) comes from features in the backplot area. Selection of charred materials for dating will be made during the course of the palaeoenvironmental analysis (*Section 5.18*). The samples will be appropriately packaged and despatched to the Scottish Universities' Environmental Research Centre (SUERC) at East Kilbride for dating.

8.18 INTEGRATION OF DATASETS AND SYNTHESIS

8.18.1 ***Task 53:*** the information gathered from the analysis of the finds and palaeoenvironmental materials will be reviewed and integrated into the stratigraphic narrative. This will allow re-interpretation of the site using a thematic approach.

8.19 PRODUCTION OF PUBLICATION REPORT

8.19.1 ***Tasks 54-60:*** following completion of all elements of the stratigraphic, artefactual and environmental analyses, an overview and discussion of the data will be produced, placing the site in its regional and national context (Task 54). In order to discuss the significance of the site fully, and to find comparators for the excavated data, a degree of library research will be required in order to reference and obtain relevant specialist literature (Task 55). Introductory and preliminary sections will also be produced for the report, and a full bibliography will be prepared (Task 56). Additional line illustrations to accompany the introductory and discursive chapters of the report will be drafted, as required (Task 57), and a series of plates will be selected to provide additional illustrative material for the report (Task 58). Specialist reports will be subject to internal revision (Task 59), and will be submitted to the authors after editing for their comments (Task 60).

8.19.2 ***Tasks 61-64:*** the completed stratigraphic, artefactual and environmental texts, together with all the associated illustrations, will then be edited and compiled into a draft report suitable for publication (Task 61). The precise publication format will be the subject of discussions with the RMAG at a review meeting to be held on 15th July 2015. Following final editing of the report (Task 62), it will be submitted to appropriate referees for formal review (Task 63), after which the referees' comments will be integrated into the report (Task 64).

8.20 ARCHIVE PREPARATION AND DEPOSITION

8.20.1 ***Task 65:*** on completion of the project, a full and professionally ordered project archive will be compiled (Task 65), prior to deposition with the Senhouse Roman Museum, which has agreed to receive the material. Deposition of an ordered and indexed archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the Chartered Institute for Archaeologists (CIfA) in the Institute's *Code of Conduct* (CIfA 2014d). The collated results of each stage of the project will

form the basis of the archive, which will be compiled to professional standards in accordance with Historic England (formerly English Heritage) and other guidelines (English Heritage 1991; 2006; Walker 1990).

9. RESOURCES AND PROGRAMMING

9.1 PROGRAMME

9.1.1 Key project stages and milestones are outlined in Table 6.

Stage	Description	Dates
1	Public engagement	Complete
1	Notices to EH and CCCHES	Complete
3a	Interim report on the first season's fieldwork, and an updated project design for the second season	Complete
2b	Season 2, fieldwork	Complete
3b	Assessment of the data from all fieldwork stages; updated project design for project stages 4 and 5	Complete
4	Analysis and production of draft text for publication	September 2015-August 2017
4	Published material for dissemination	September 2017-April 2018
5	Archive for submission to the SMT	March 2018

Table 6: Summary of key project stages and timetable milestones

9.2 TASK LIST

Task	Objective	Method	Task description
			Management
1	All	8.3.1-2	Management, monitoring and project review
			Transport
2	All	8.4.1	Transport of materials to specialists and collection from specialist
			Stratigraphy
3	UROa; UROb	8.5.1-2	Stratigraphic analysis and synthesis, including revision of provisional site phasing and updating of site matrices and database
			Digital data
4	UROa; UROb	8.6.1	Updating/revision of digital data
			Samian ware
5	UROc	8.7.1-2	Record any additional sherds found amongst the other Roman pottery during analysis
6	UROc	8.7.3	Analyse decorated (moulded) vessels
7	UROc	8.7.3	Analyse potters' stamps
8	UROc	8.7.3	Produce rubbings of decorated sherds
9	UROc	8.7.3	Analyse repaired, reworked and burnt sherds
10	UROc	8.7.3	Identify and report samian graffito
11	UROc	8.7.4	Add updated stratigraphic information to samian database
12	UROc	8.7.4	Undertake functional and spatial analyses of the samian assemblage
13	UROc	8.7.4	Undertake comparative analysis of ceramic assemblages from similar sites in the region

14	UROc	8.7.4	Prepare draft publication report
			Other Roman pottery
15	UROc	8.8.1	Analyse the assemblage
16	UROc	8.8.2	Confirm provisional identification of mortaria fabrics and identify two mortarium stamps
17	UROc	8.8.2	Identify uncertain amphorae forms/fabrics
18	UROc	8.8.2	Undertake neutron activation analysis of selected Thames Valley grey wares
19	UROc	8.8.3	Illustrate representative sample of ceramic forms
20	UROc	8.8.3	Undertake comparative analysis of ceramic assemblages from similar sites in the region
21	UROc	8.8.3	Prepare draft publication report
			Post-Roman pottery and clay tobacco pipes
22	UROc	8.9.1	Compile archive catalogue of post-Roman pottery
23	UROd	8.9.1	Compile archive catalogue of clay tobacco pipes
			Ceramic building materials
24	UROd	8.10.1	Analyse the assemblage, including detailed quantification and spatial/stratigraphic analyses
25	UROd	8.10.1	Prepare draft publication report
			Coins
26	UROd	8.11.1	Clean and conserve Roman coins
27	UROd	8.11.1	Analyse Roman coins and prepare draft publication report
28	UROd	8.11.1	Compile archive catalogue of post-Roman coins
			Other Roman finds
29	UROd	8.12.1	Undertake x-radiography of iron objects, as necessary
30	UROd	8.12.1	Clean and conserve selected iron and copper-alloy objects
31	UROd	8.12.1	Analyse copper-alloy assemblage, and prepare draft publication report
32	UROd	8.12.1	Analyse iron assemblage, and prepare draft publication report
33	UROd	8.12.1	Analyse lead assemblage, and prepare draft publication report
34	UROd	8.12.1	Analyse ceramic objects and prepare draft publication report
35	UROd	8.12.1	Analyse glass assemblage, and prepare draft publication report
36	UROd	8.12.1	Analyse metalworking debris and fired clay assemblages, and prepare draft publication report
37	UROd	8.12.1	Analyse stone objects, and prepare draft publication report
			Other post-Roman finds
38	UROd	8.13.1	Compile archive catalogue of other post-Roman finds
			Animal bone
39	UROd	8.14.1	Analyse animal bone assemblage
40	UROd	8.14.2	Undertake detailed analysis of the spatial and stratigraphic position of the assemblage
41	UROd	8.14.3	Undertake comparative analysis of ceramic assemblages

			from similar sites in the region
42	UROd	8.14.3	Literature search for comparative assemblages of burnt bone
43	UROd	8.14.3	Prepare draft publication report
			Charred plant remains and charcoal
44	UROe	8.15.1-2	Detailed assessment of bulk samples
45	UROe	8.15.1-2	Analyse selected bulk samples
46	UROe	8.15.1-2	Prepare draft publication report
			Pollen
47	UROe	8.16.1-2	Sub-sample monoliths selected for analysis
48	UROe	8.16.1-2	Prepare sub-samples selected for analysis
49	UROe	8.16.1-2	Analyse sub-samples
50	UROe	8.16.1-2	Prepare draft publication report
51	UROe	8.16.1-2	Prepare pollen diagram for publication
			Scientific dating
52	UROf	8.17.1	Select five samples for radiocarbon dating and despatch to SUERC for dating
			Integration of datasets and synthesis
53	UROg; UROh	8.18.1	Synthesise information from finds and environmental analyses and integrate with stratigraphic narrative
			Production of publication report
54	UROi	8.19.1	Produce overview and discussion of all data
55	UROj; UROk	8.19.1	Library research
56	UROl	8.19.1	Prepare introductory and preliminary sections, and compile bibliography
57	UROl	8.19.1	Prepare line illustrations
58	UROl	8.19.1	Select plates
59	UROl	8.19.1	Revise specialist reports
60	UROl	8.19.1	Submit specialist reports to authors for comment
61	UROl	8.19.2	Edit texts, illustrations and tables and compile into draft publication report
62	UROl	8.19.2	Final editing
63	UROl	8.19.2	Submit report for peer review
64	UROl	8.19.2	Integrate referees' comments
65	UROl	8.20.1	Compile project archive to professional standards and submit archive to receiving museum

9.3 BUDGET

9.3.1 All funding for the project is in place, and the programme has been designed to meet the budget available. The project has a fixed budget envelope that will see the investigation through to completion (Table 7). The project is currently proceeding to time and budget.

Project Stage	**Financial year**					**Total**
	2013-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	
1+2	£103,203.72					£ 103,203.72
3a	£ 7806.60					£ 7806.60
3b		£19,451.40				£ 19,451.40
4		£17,645.04	£ 26,467.56	£ 24,181.86		£ 68,294.46
5					£ 1244.40	£ 1244.40
Total	**111,009.72**	**£ 37,096.44**	**£ 26,467.56**	**£ 24,181.86**	**£ 1244.40**	**£199,999.98**

Note: Costs include overheads, expenses and VAT

Table 7: Financial summary by project stage and financial year

10. BIBLIOGRAPHY

Allason-Jones, L, 2001 Material culture and identity, in James and Millett 2001, 19-25

Andersen, S Th, 1979 Identification of wild grass and cereal pollen, *Danmarks Geologiske Undersogelse 1978*, 69-92

Bailey, J B, 1915 Catalogue of Roman inscribed and sculpted stones, coins, earthenware, etc, discovered in and near the Roman fort at Maryport, and preserved at Netherhall, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **15**, 135-72

Baker, P, and Worley F, 2014 *Animal bones and archaeology: guidelines for best practice*, London

Bellhouse, R, 1992 *Joseph Robinson of Maryport: archaeologist extraordinary*, Otley

Berglund, B E, and Ralska-Jasiewiczowa, M, 1986 Pollen analysis and pollen diagrams, in B E Berglund (ed), *Handbook of Holocene palaeoecology and palaeohydrology*, Chichester, 455-84

Biddulph, E, 2008 Form and function: the experimental use of samian ware, *Oxford J Archaeol*, **27(1)**, 91-100

Bidwell, P, 1985 *The Roman fort of Vindolanda at Chesterholm, Northumberland*, London

Bidwell, P, and Hodgson, N, 2009 *The Roman army in northern England*, Newcastle upon Tyne

Bidwell, P, and Speak, S, 1994 *Excavations at South Shields Roman fort: Volume I*, Newcastle upon Tyne

Biggins, J A, and Taylor, D J A, 2004 The Roman fort and *vicus* at Maryport: geophysical survey, 2000-2004, in R J A Wilson and I D Caruana (eds), *Romans on the Solway: essays in honour of Richard Bellhouse*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **31**, Kendal, 102-33

Bird, J, 1993 Third-century samian ware in Britain, *J Roman Pottery Stud*, **6**, 1-14

Breeze, D J, 2006 *J Collingwood Bruce's Handbook to the Roman Wall*, 14th edn, Newcastle upon Tyne

Brennand, M (ed), 2006 *The archaeology of north-west England: an archaeological research framework for the north-west region. Volume 1: resource assessment*, Archaeol North West, **8**, Manchester

Brennand, M (ed), 2007 *Research and archaeology in north-west England: an archaeological research framework for the north-west region. Volume 2: research agenda and strategy*, Archaeol North-West, **9**, Manchester

Brooks, D, and Thomas, K W, 1967 The distribution of pollen grains on microscope slides: the non-randomness of the distribution, *Pollen et Spores*, **9**, 621-9

Brown, F, Clark, P, Dickson, A, Gregory, R A, and Zant, J, in preparation *The development of the landscape to the west of Carlisle: the archaeology of the Carlisle Northern Development Route*

Bruce, J C, 1874 On the altars recently found in the Roman camp at Maryport, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **1**, 175-88

Bruce, J C, 1875 *Lapidarium Septentrionale*, London and Newcastle upon Tyne

Brulet, R, Vilvorder, F, and Delage, R, 2010 *La céramique Romaine en Gaule du Nord. Dictionnaire des céramiques: la vaisselle à large diffusion*, Turnhout

Cappers, R T J, Bekker, R M, and Jans, J E A, 2006 *Digitalezadenatlas van Nederland: digital seed atlas of the Netherlands*, Groningen

Caruana, I D, 1997 Maryport and the Flavian conquest of North Britain, in R J A Wilson, *Roman Maryport and its setting: essays in memory of Michael G Jarrett*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **28**, Kendal, 40-51

Chartered Institute for Archaeologists (CifA), 2014a *Standards and guidance for the preparation of archaeological excavations and watching briefs*, Reading

CIfA, 2014b *Standards and guidance for the collection, documentation, conservation and research of archaeological materials*, Reading

CIfA, 2014c *Standards and guidance for archaeological excavation*, Reading

CIfA, 2014d *Code of conduct*, Reading

Chitty, G, and Brennand, M, 2007 An archaeological research framework for the North-West Region: research agenda introduction, in Brennand 2007, 7-30

Coulston, J C N, 1997 The stone sculptures, in R J A Wilson, *Roman Maryport and its setting: essays in memory of Michael G Jarrett*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **28**, Kendal, 112-31

Curle, J, 1911 *A Roman frontier post and its people: the fort at Newstead in the parish of Melrose*, Glasgow

Darling, M J, 2004 Guidelines for the archiving of Roman pottery, *J Roman Pottery Stud*, **11**, 67-75

Delage, R, 2003 Les sigillées du Centre de la Gaule, in Société Française d'Etude de la Céramique Antique en Gaule, *Actes du Congrès de Saint-Romain-en-Gal*, Marseille, 183-90

Dickinson, B, 2000 Samian ware, in I Caruana, Observations in the vicus of Stanwix Roman fort on the site of the Miles MacInnes Hall 1986, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **100**, 62-6

Dickinson, B, 2009 The samian ware, in A Rushworth, *Housesteads Roman fort - the grandest station. Excavation and survey at Housesteads, 1954–95, by Charles Daniels, John Gillam, James Crow and others*. ***2***: *the material assemblages*, Engl Heritage Archaeol Rep, London, 488-98

Dickinson, B, and Hartley, B, 1978 The samian, in G H Smith, Excavations near Hadrian's Wall at Tarraby Lane, 1976, *Britannia*, **9**, 19-57

English Heritage (EH), 1991 *Management of archaeological projects*, 2nd edn, London

EH, 2006 *Management of research projects in the historic environment (MoRPHE)*, London

EH, 2008 *A strategic framework for historic environment activities and programmes in English Heritage (SHAPE)*, London

EH, 2012a *Research strategy for the Roman-period historic environment*, London

EH, 2012b *National Heritage Protection Plan*, London

Evans, J, 2001 Material approaches to the identification of different Romano-British site types, in James and Millett 2001, 26-35

Evans J, 2002 Synthesis of the Catterick pottery, in P R Wilson, *Cataractonum. Roman Catterick and its hinterland: excavations and research, 1958-1997*, CBA Res Rep, **128**, York, 246-9

Evans, J, in prep The Roman pottery, in P Gibbons, C Howard-Davis, and A Olivier, *Excavations at Walton-le-Dale, Lancashire, 1981-3 and 1996-7*

Faegri, K, and Iversen, J, 1989 *Textbook of pollen analysis*, 4th edn, Chichester

Ferris, I, 2014 A pipeclay pseudo-Venus figurine from Binchester Roman fort, County Durham, in R Collins and F McIntosh (eds), *Life in the limes: studies of the people and objects of the Roman frontiers*, Oxford, 105-8

Flynn, P A, 2006a *Report of an archaeological evaluation at Sea Brows, Maryport, Cumbria*, unpubl rep

Flynn, P A, 2006b *Interim report of an archaeological excavation at Sea Brows, Maryport*, Cumbria, unpubl rep

Guido, M, 1978 *The glass beads of the prehistoric and Roman periods in Britain and Ireland*, Rep Res Comm Soc Antiq London, **35**, London

Hadrian's Wall Trust (HWT), 2013 *Specification for programme of archaeological works, associated reporting and public engagement*, unpubl doc

Halstead, P, and Collins, P, 1995 *Sheffield animal bone tutorial. Taxonomic identification of the principal limb bones of common European farmyard animals and deer: a multimedia tutorial*, Archaeol Consortium, TL TP, Univ Glasgow, Glasgow

Harden, D, 1961 Domestic window glass, Roman, Saxon and medieval, in E M Jope (ed), *Studies in building history: essays in recognition of the work of B H StJ O'Neal*, London, 39-63

Hartley, B, and Dickinson, B, 1994 The samian ware, in Bidwell and Speak 1994, 206-8

Hartley, K F, and Webster, P V, 1973 The Romano-British kilns near Wilderspool. *Archaeol J*, **130**, 77-104

Hather, J G, 2000 *The identification of the northern European woods: a guide for archaeologists and conservators*, London

Haynes, I, and Wilmott, T, 2012 New excavations at Maryport, *Hadrian's Wall Archaeol (2012)*, Durham, 16-22

Hill, J D, 2001 Romanisation, gender and class: recent approaches to identity in Britain and their possible consequences, in James and Millett 2001, 12-18

Hodgson, J, and Brennand, M, 2006 Prehistoric period resource assessment, in Brennand 2006, 23-58

Hodgson, N (ed), 2009 *Hadrian's Wall 1999-2009, a summary of recent excavation and research*, Kendal

Howard-Davis, C (ed), 2009 *The Carlisle Millennium Project: excavations in Carlisle 1998-2001. Volume 2: finds*, Lancaster Imprints, **15**, Lancaster

Isings, K, 1957 *Roman glass from dated finds*, Groningen

James, S, 2001 Soldiers and civilians: identity and interaction in Roman Britain, in James and Millett 2001, 77-89

James, S, and Millett, M (eds), 2001 *Britons and Romans: advancing an archaeological agenda*, CBA Res Rep, **125**, York

Jarrett, M G, 1958 The pre-Hadrianic occupation of Roman Maryport, *Trans Cumberland Westmorland Antiq Archaeol Soc*, n ser, **58**, 63-7

Jarrett, M G, 1976 *Maryport: a Roman fort and its garrison*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **22**, Kendal

Jones, M U, and Rodwell, W J, 1973 The Romano-British pottery kilns at Mucking, *Trans Essex Archaeol Soc*, **5**, 13-47

Kilbride-Jones, H E, 1938 Glass armlets in Britain, *Proc Soc Antiq Scot*, **72**, 366-95

Lambrick, G, and Robinson, M, 2009 *The Thames through time: the archaeology of the gravel terraces of the Upper and Middle Thames. The Thames Valley in late prehistory: 1500 BC-AD 50*, Thames Valley Landscapes Monog, **29**, Oxford

Ludowici, W, 1927 *Katalog V: stempel namen und Bilder römischer töpfer aus meinen ausgrabungen in Rheinzabern, 1901-14*, Munich

Lyons, A, 2009 A ceramic suspended cauldron found at Scole Romano-Celtic temple, *J Roman Pottery Stud*, **14**, 91-4

McCarthy, M R, 1990 *A Roman, Anglian, and medieval site at Blackfriars Street, Carlisle*, Cumberland Westmorland Antiq Archaeol Soc, Res Ser, **4**, Kendal

Manning, W H, 1985 *Catalogue of the Romano-British iron tools, fittings, and weapons in the British Museum*, London

Monaghan, J, 1987 *Upchurch and Thameside Roman pottery: a ceramic typology for northern Kent, first to third centuries AD*, BAR Brit Ser, **173**, Oxford

Moore, P D, Webb, J A, and Collinson, M E, 1991 *Pollen analysis*, 2nd edn, Oxford

Museum and Galleries Commission, 1992 *Standards in the museum care of archaeological collections*, unpubl doc

Newcastle University, 2012 *Excavations at Camp Farm, Maryport: interim report for the 2011 and 2012 seasons*, unpubl rep

Newcastle University, 2015 *The Roman Temples Project, Maryport: draft interim report for the 2014 season*, unpubl rep

OA North, 2003 *South West Campus, Lancaster University: evaluation and excavation*, unpubl rep

OA North, 2010 *Roman Maryport: civilians and soldiers on the north-west frontier. Written proposal for the development of a strategic archaeological research programme*, unpubl rep

OA North, 2013a *The Maryport Roman Settlement Project, Cumbria: project design for archaeological investigations and public engagement*, unpubl doc

OA North 2013b *The Maryport Roman Settlement Project, Cumbria: proposal for an open-area excavation*, unpubl doc

OA North, 2014 *Maryport Roman settlement project, archaeological excavations 2013: interim report and updated project design*, unpubl rep

Peglar, S M, 1993 The mid-Holocene *Ulmus* decline at Diss Mere, Norfolk, UK: a year by year pollen stratigraphy from annual laminations, *Holocene*, **3**, 1-13

Perrin, J R, 1999 Roman pottery from excavations at and near to the Roman small town of *Durobrivae*, Water Newton, Cambridgeshire, 1956-5, *J Roman Pottery Stud*, **8**, 1-145

Perring, D, 2002 *The Roman house in Britain*, Abingdon

Perring, D, and Roskams, S P, 1991 *The early development of Roman London to the west of the Walbrook*, CBA Res Rep, **70**, London

Philpott, R, and Brennand, M, 2007 The Romano-British period research agenda, in Brennand 2007, 55-76

Price, J, and Cottam, S, 2000 Glass, in K Buxton and C Howard-Davis, *Bremetenacum: excavations at Roman Ribchester 1980, 1989-90*, Lancaster Imprints, **9**, Lancaster, 279-93

Robinson, J, 1881 Notes on the excavations near the Roman camp, Maryport, during the year 1880, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 1 ser, **5**, 237-57

Schweingruber, F H, 1990a *Microscopic wood anatomy*, 3rd edn, Birmensdorf

Schweingruber, F H, 1990b *Anatomy of European woods*, Bern

Senhouse Museum Trust (SMT), 2004 *The Senhouse Museum Trust, Maryport research policy*, unpubl doc

Shotter, D C A, 2004 *Romans and Britons in north-west England*, 3rd edn, Lancaster

Shotter, D C A, 2009 The Roman coins, in Howard-Davis 2009, 679-86

Sommer, C S, 1984 *The military vici of Roman Britain*, BAR Brit Ser, **129**, Oxford

Sommer, C S, 2006 Military *vici* in Roman Britain revisited, in R J A Wilson (ed), *Romanitas: essays on Roman archaeology in honour of Sheppard Frere on the occasion of his ninetieth birthday*, Oxford, 95-145

Stace, C, 2010 *New flora of the British Isles*, 3rd edn, Cambridge

Stockmarr, J, 1972 Tablets with spores used in absolute pollen analysis, *Pollen et Spores*, **13**, 615-21

Swan, V G, 1992 Legio VI and its men: African legionaries in Britain, *J Roman Pottery Stud*, **5**, 1-33

Swan, V G, McBride, R M, and Hartley, K F, 2009 The coarse pottery, in Howard-Davis 2009, 566-660

Symonds, M F A (ed), 2013 Maryport's Roman retail, *Current Archaeol*, **285**, 10

Symonds, M F A, and Mason, D J P (eds), 2009a *Frontiers of knowledge: a research framework for Hadrian's Wall, part of the Frontiers of the Roman Empire World Heritage Site. Volume 1: resource assessment*, Durham

Symonds, M F A, and Mason, D J P (eds), 2009b *Frontiers of knowledge: a research framework for Hadrian's Wall, part of the Frontiers of the Roman Empire World Heritage Site. Volume 2: research agenda and strategy*, Durham

van Geel, B, 1978 A palaeoecological study of Holocene peat bog sections in Germany and the Netherlands, *Rev Palaeobot Palynol*, **25**, 1-120

Walker, K, 1990 *Guidelines for the preparation of excavation archives for long-term storage*, UKIC, London

Walters, H, 1908 *Catalogue of the Roman pottery in the Departments of Antiquities, British Museum*, London

Ward, M, 2008 The samian ware, in H E M Cool and D J P Mason (eds), *Roman Piercebridge: excavations by D W Harding and Peter Scott 1969-1991*, Architect Archaeol Soc Durham Northumberland, **7**, Durham, 169-96

Webster. P V, 1976 Severn Valley ware: a preliminary study, *Trans Bristol Gloucestershire Archaeol Soc*, **94**, 18-46

Whyman, M, 2008 *Roman Maryport: a research framework*, York Archaeol Trust, unpubl rep

Willis, S, 2000 *Dated catalogue and assessment of the samian pottery from the 'Time Team' excavations at Birdoswald*, 1999, unpubl rep

Willis, S (ed), 2004 The Study Group for Roman Pottery: research framework document for the study of Roman pottery in Britain, *J Roman Pottery Stud*, **11**, 1-20

Willis, S. 2005 Samian pottery, a resource for the study of Roman Britain and beyond: the results of the English Heritage funded samian project. An e-monograph, *Internet Archaeol*, **17**, http://intarch.ac.uk/journal/issue17/willis_index.html

Willis, S, 2011 Samian ware and society in Roman Britain and beyond, *Britannia*, **42**, 167-242

Wilson, R J A, 1997 Maryport from the first to fourth centuries: some current problems, in R J A Wilson, *Roman Maryport and its setting: essays in memory of Michael G Jarrett*, Cumberland Westmorland Antiq Archaeol Soc, Extra Ser, **28**, Kendal, 17-39

Zant, J, 2009 *The Carlisle Millennium Project, excavations in Carlisle 1998-2001. Volume 1: stratigraphy*, Lancaster Imprints, **14**, Lancaster

Zant, J, in preparation *The Roman extramural settlement at Brougham: the excavations of 2008*

Zant, J, and Bagwell, M, in preparation Excavation of a Romano-British rural settlement at Barker House Farm, Lancaster

Zant, J, and Howard-Davis, C, in preparation *Roman and medieval Carlisle: the northern Lanes, excavations 1978-82. Volume 1: the Roman period*

Zant, J, and Rowland, S, 2013a The Maryport Roman Settlement Project, 2013, *Cumberland Westmorland Antiq Archaeol Soc Newsletter*, **74**, 11

Zant, J, and Rowland, S, 2013b The Maryport Roman Settlement Project, *Hadrian's Wall Archaeol*, **4**, 28-30

Zant, J, and Rowland, S, 2014a The Maryport Roman Settlement Project, 2014, *Cumberland Westmorland Antiq Archaeol Soc Newsletter*, **76**, 6

Zant, J, and Rowland, S, 2014b The Maryport Roman Settlement Project, 2014, *Hadrian's Wall Archaeol*, **5**, 29-35

FIGURES

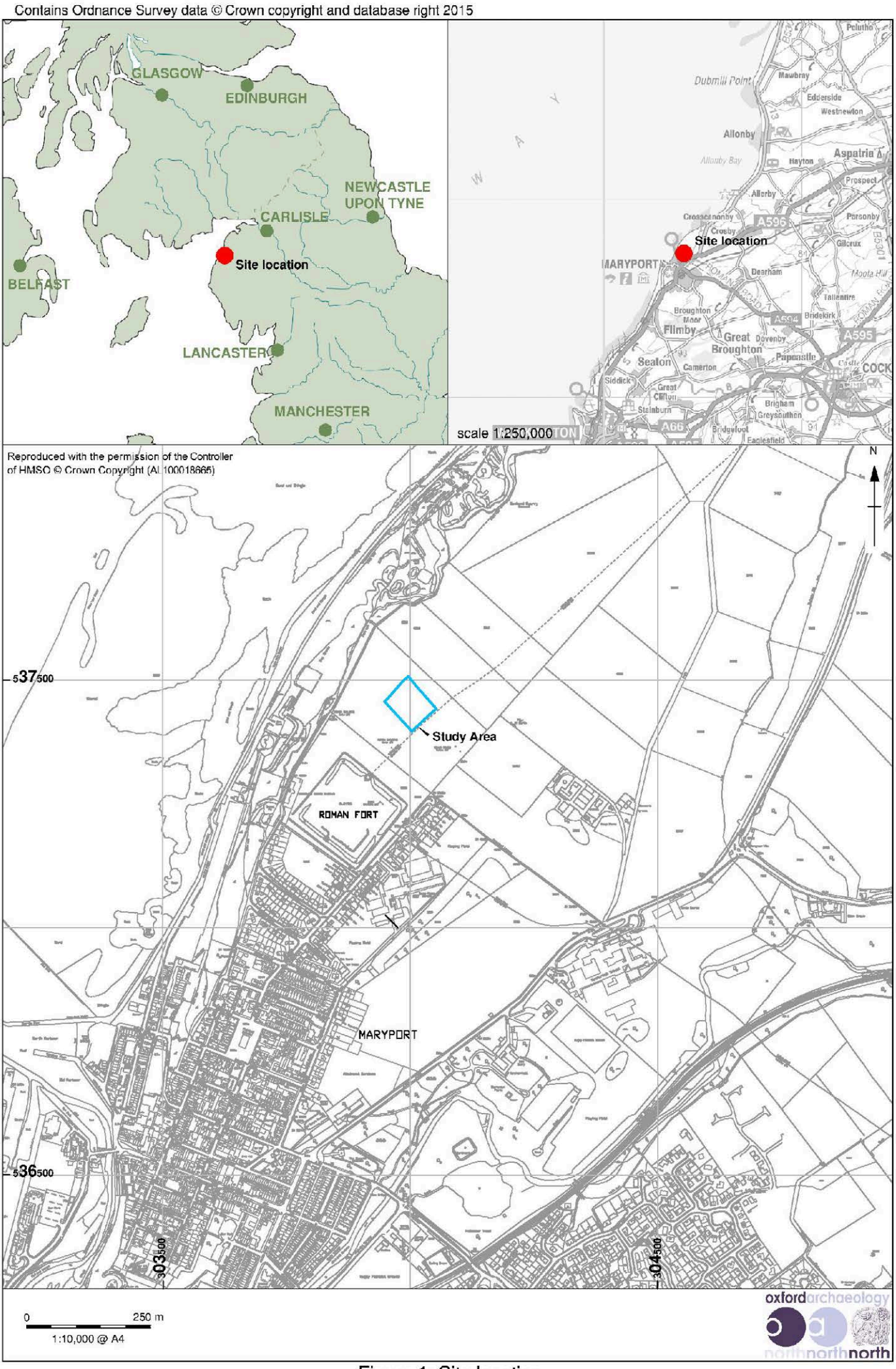
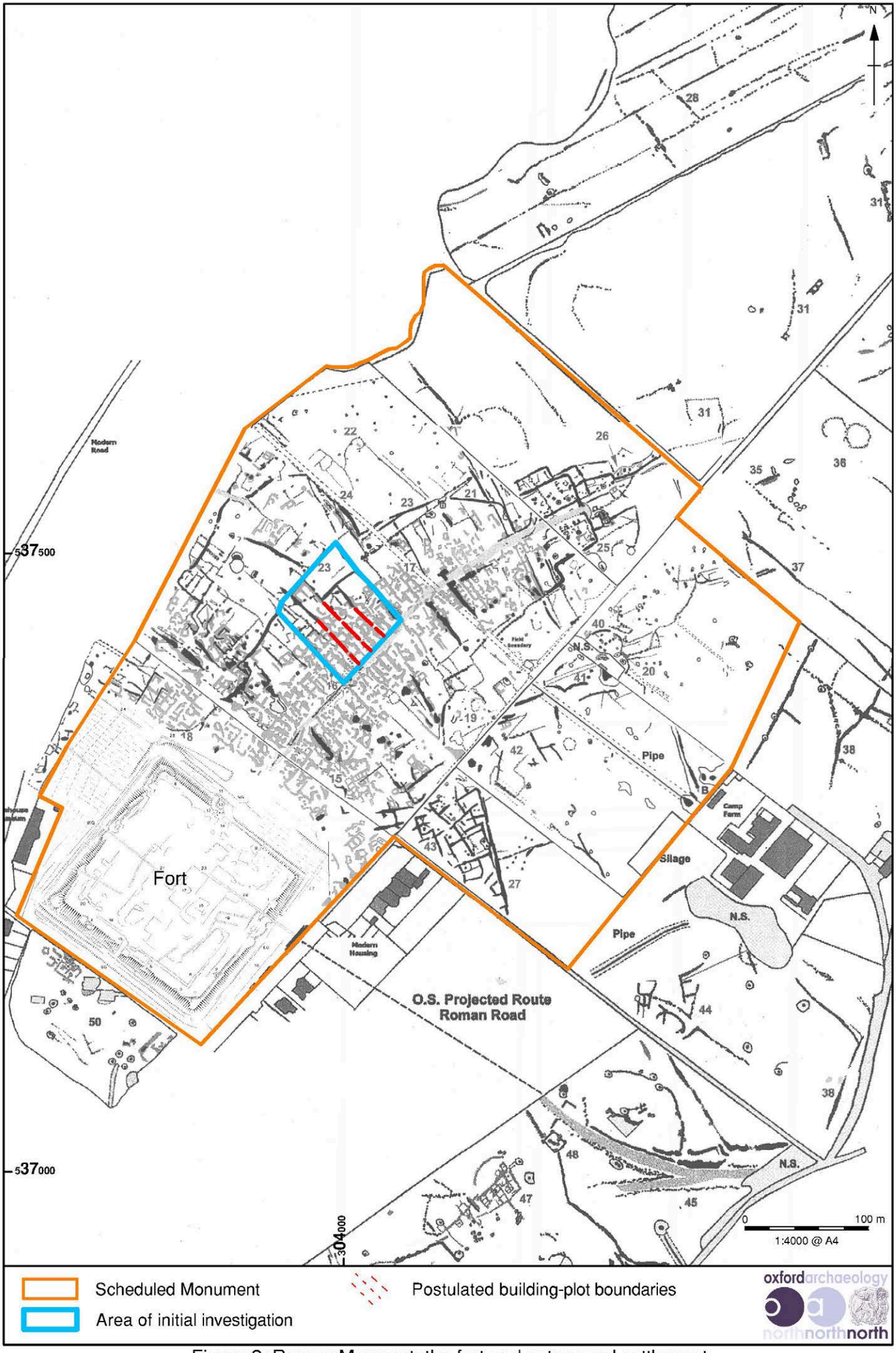


Figure 1: Site location



SR\L10625\AMS\June 2015

Figure 2: Roman Maryport: the fort and extramural settlement
(after Lax and Blood 1997, fig 3.1; Biggins and Taylor 2004, fig 5.6)

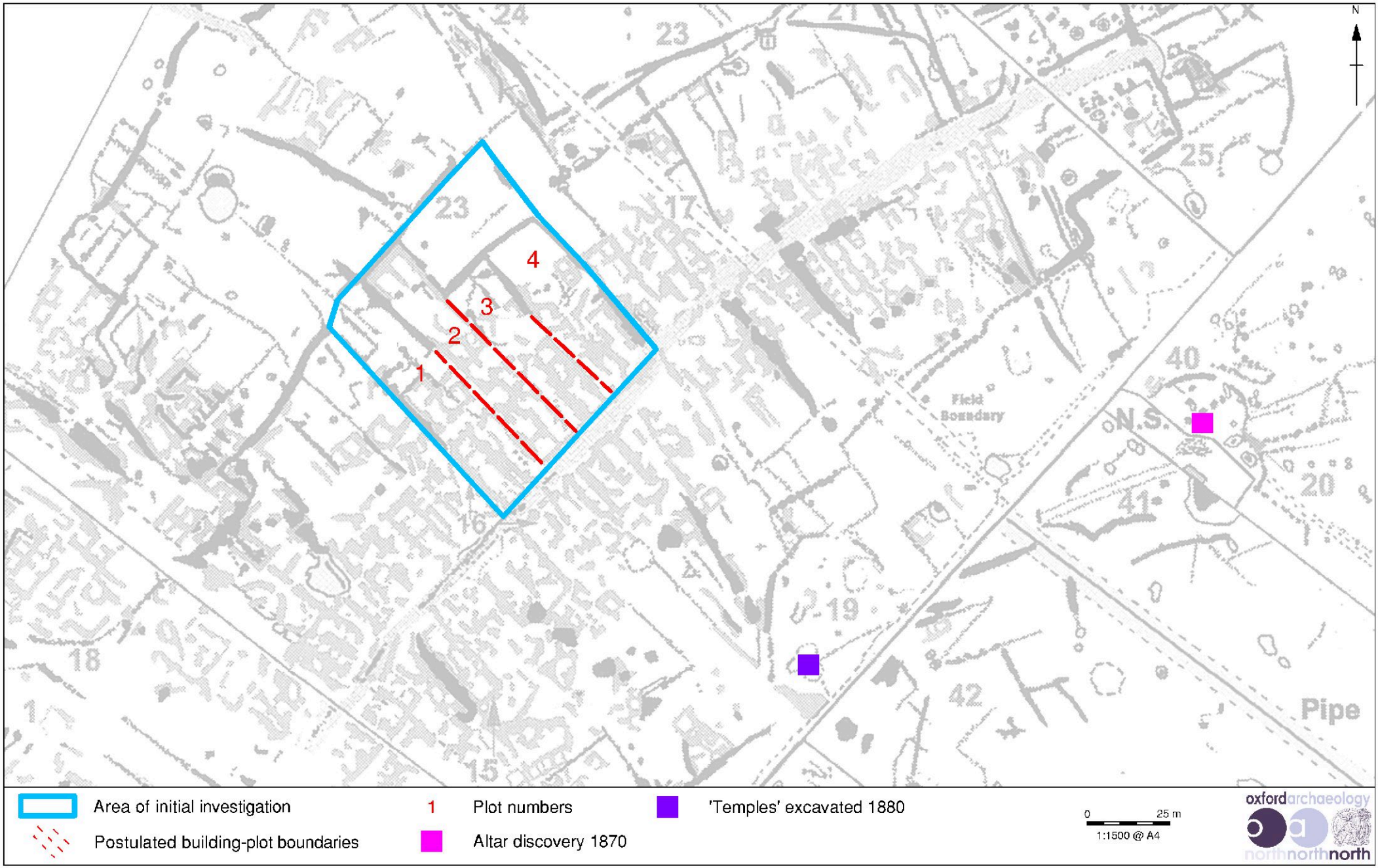


Figure 3: The layout of the extramural settlement, derived from geophysical survey (after Biggins and Taylor 2004, fig 5.9), showing Plots 1-4

Figure 4: Location of Trenches 1-5 (2013), the boundaries of the GPR survey, and Plots 1-4, overlain on the irterpretative plot of the 2000-4 geophysical survey programme (Biggins and Taylor 2004)

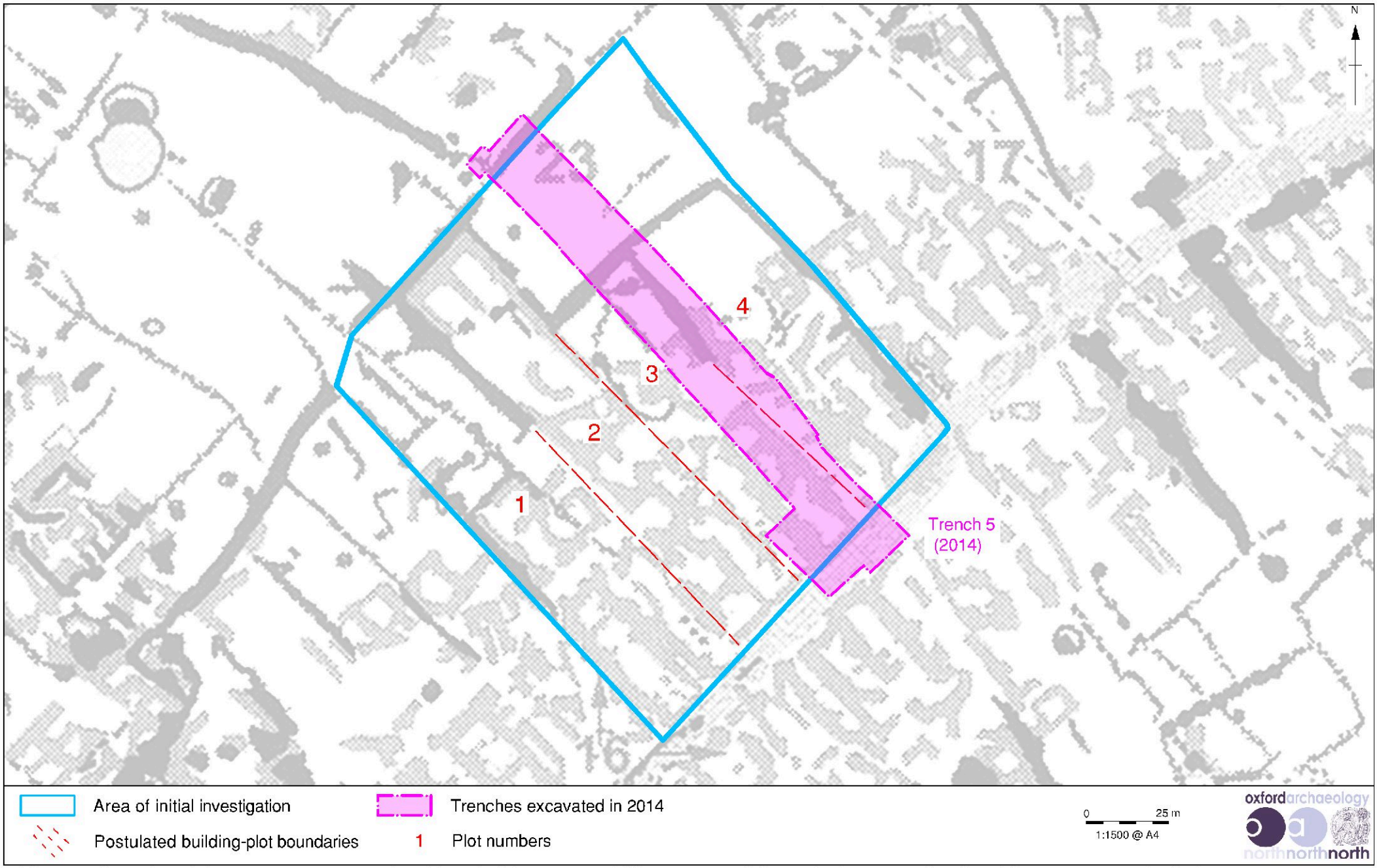


Figure 5: Location of the open-area excavation (Trench 5) in 2014, and Plots 1-4, overlain on the interpretative plot of the 2000-4 geophysical survey programme (Biggins and Taylor 2004)

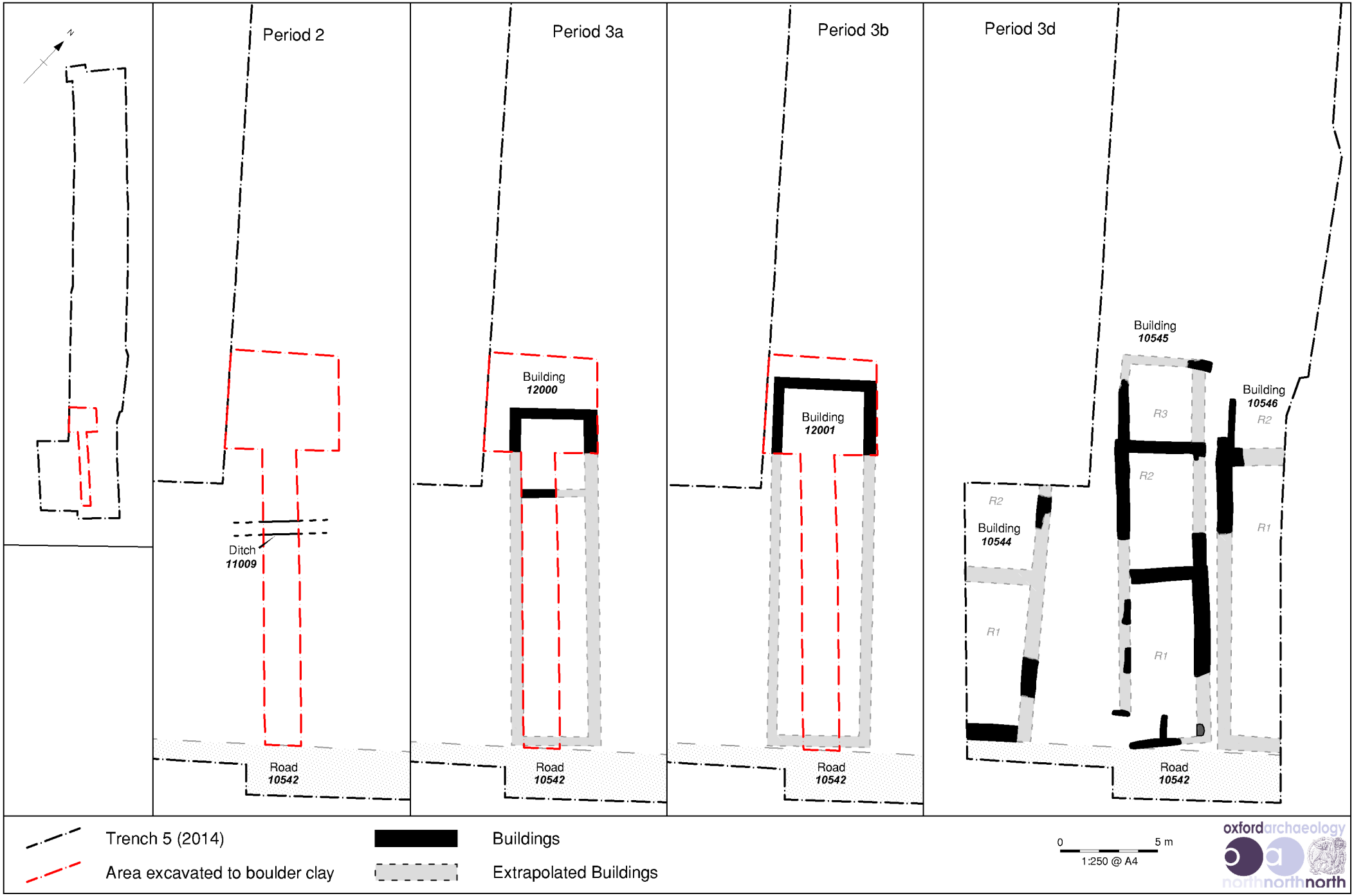


Figure 6: Plan of the main occupation phases on the street frontage of the central building plot (Period 2 and Periods 3a-3b), and the adjacent plots (Period 3d)

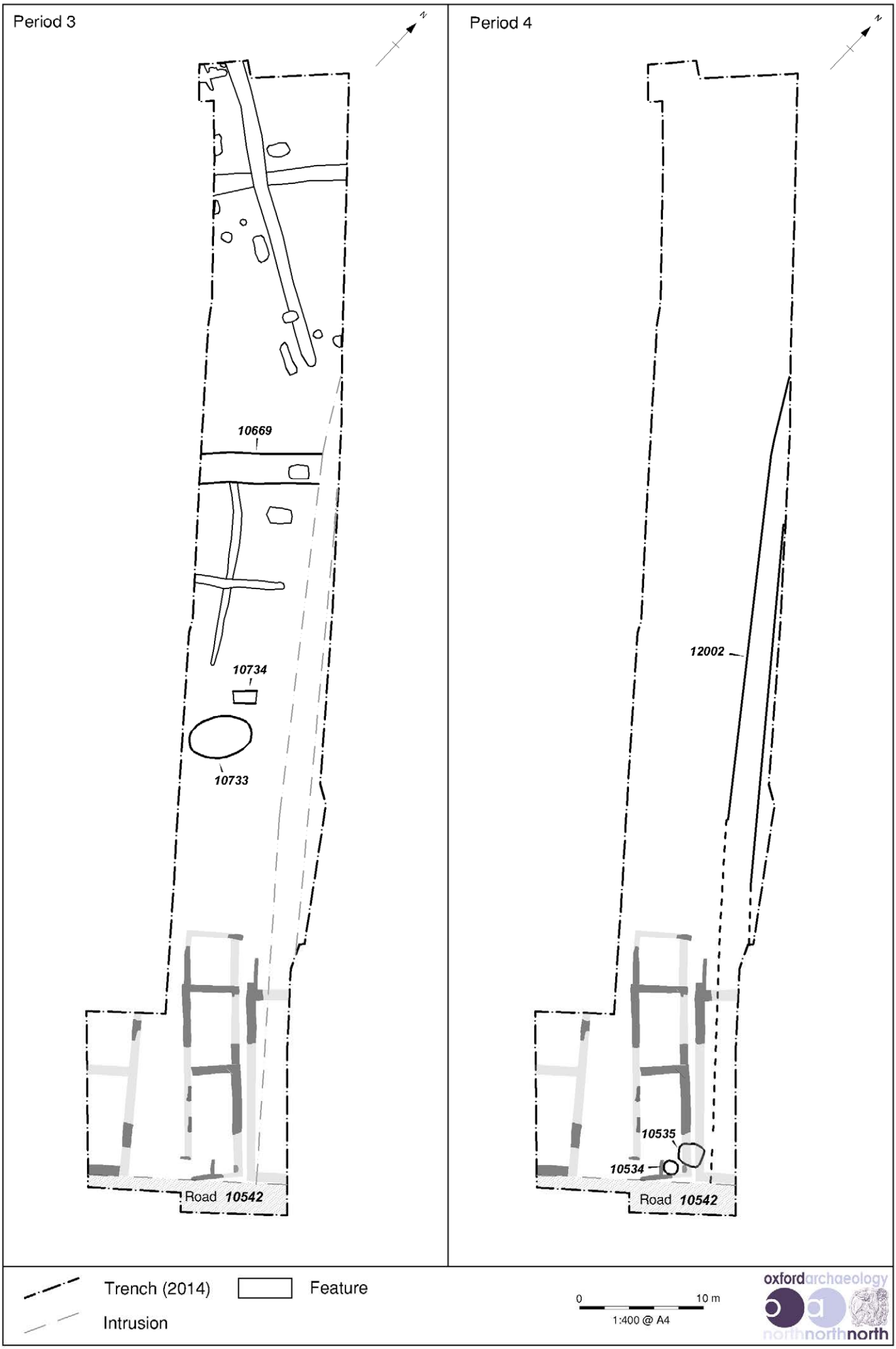


Figure 7: Plans of Period 3 (the backplot of the central building plot) and Period 4

Figure 8: The postulated boundaries of Plot 3, as evidenced by geophysical survey data, and an interpretative plan of Period 3d Buildings ***10544***, ***10545*** and ***10546***, superimposed on an aerial photography montage of Trench 5 in 2013

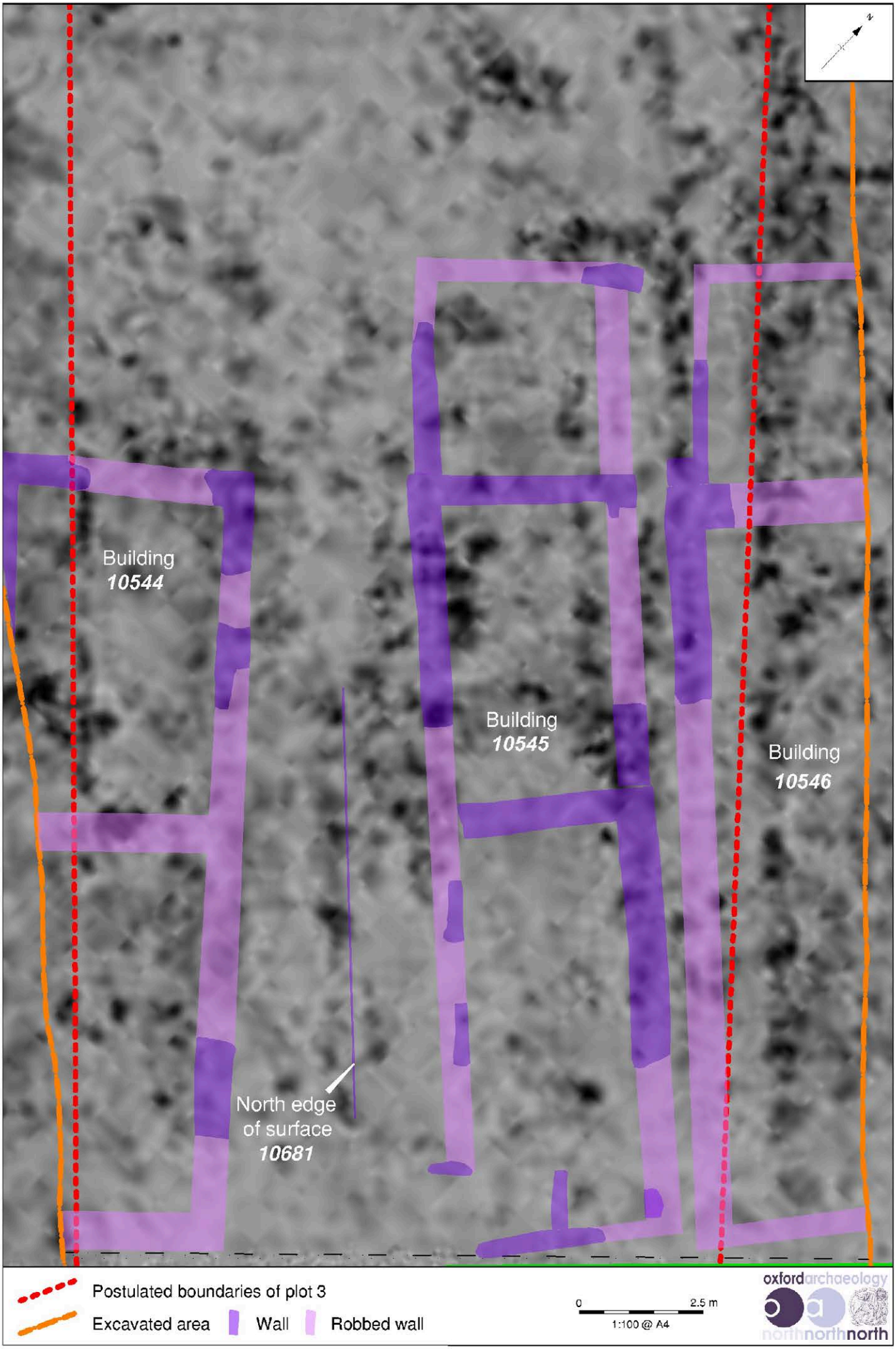


Figure 9: Interpretative plans of Period 3d Buildings ***10544***, ***10545*** and ***10546,*** superimposed on GPR anomalies recorded at 0.6-0.9m below the surface

APPENDIX 1 RESULTS OF CHARRED PLANT REMAINS AND CHARCOAL ASSESSMENT

Sample No	Context No	Context type	Provisional Period	Sample volume l (approx)	Flot volume ml	Flot description	Plant remains	Charcoal	CPR Potential	Charcoal Potential	Radiocarbon dating Potential
1	*10547*	Occupation deposit, R2, Building ***10545***	3d	10	650	Charcoal >2mm (4), Roots (3), Coal (1), CBM (2)	-	Mostly *Quercus*	-	Yes	-
2	*10511*	Fill of ditch *12002*	4	20	900	Charcoal >2mm (4), Roots (3), HAVM (4), CBM (2), Metalworking waste (1)	CPR (3) Cereals including *Triticum* sp and *Hordeum vulgare* (2), Rachis (1), Culm nodes (1), Weed seeds (2), *Corylus avellana* (1), moss stems (2)	*Quercus* and Ericaceous wood	Yes	Yes	Yes
3	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	50	Charcoal >2mm (1), Roots (3), Bone (1), HAVM (1), Metalworking waste (1)	CPR (1) Cyperaceae, *Carex* lenticular, Poaceae, *Rumex acetosa*	-	-	-	-
4	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	230	Charcoal >2mm (2/3), Roots (4), Coal (1), Clinker (3), Calcined bone (1)	CPR (1) Cerealia indeterminate, Cyperaceae	*Quercus*, *Fraxinus* and *Alnus/Corylus*	-	-	Yes
5	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	200	Charcoal >2mm (2/3), Bone (2), Roots (4), Coal/HAVM (3)	CPR (1) *Raphanus* pod, *Eleocharis*	*Alnus/Corylus*, Ericaceous wood, *Fraxinus* and *Quercus*	-	-	Yes
6	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	30	Charcoal >2mm (2)	-	-	-	-	

7	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	40	Charcoal >2mm (3), Coal/HAVM (2)	CPR (3) Culm fragments and nodes, Cyperaceae, *Danthonia*, *Ranunculus repens*-type	*Alnus/Corylus* and Ericaceous wood	Yes	-	Yes
8	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	40	Charcoal >2mm (2), Roots (3), Bone (1), HAVM (2)	CPR (2) *Carex*, Cyperaceae	-	-	-	-
9	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	20	Charcoal >2mm (1), Insects (1), Roots (1)	-	-	-	-	-
10	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	60	Charcoal >2mm (2), Roots (4), HAVM (1), Coal (some >10mm fragments) (1)	CPR (2) Cyperaceae, *Carex* lenticular, *Ranunculus repens*-type	-	-	-	-
11	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	20	Charcoal >2mm (2), Roots (3)	CPR (1) Culm nodes WPR *Carex* trigonous	-	-	-	-
12	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	50	Charcoal >2mm (1), Culm node (1), Hammerscale (1), HAVM (1),	CPR (3) Cerealia indeterminate (1), chaff (1), Weed seeds (3) *Rorippa*, *Ranunculus repens*, Poaceae, *Carex*, straw (2)	*Quercus* and diffuse porous wood	Yes	-	Yes
13	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	120	Charcoal >2mm (2), Roots (4)	CPR (1) *Rumex acetosa*, Cyperaceae, *Carex*	-	-	-	-
14	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	400	Charcoal >2mm (1), Roots (4), Coal (1)	CPR (1) Cyperaceae, *Carex*, *Polygonum aviculare*	-	-	-	-
15	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	30	Charcoal >2mm (2), Roots (3)	CPR (1) Cyperaceae/*Carex*, Poaceae	-	-	-	-

16	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	30	Charcoal >2mm (2), Roots (2), Coal (1)	CPR (1) *Rumex acetosella*	-	-	-	-
17	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	500	Charcoal >2mm (2), Roots (4), Calcined bone (1), Bone (1)	CPR (2) Cerealia indeterminate and *Hordeum*, *Carex* lenticular	-	-	-	Yes
18	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	200	Charcoal >2mm (2), Roots (4)	CPR (2) Poaceae, Cyperaceae/*Carex*	-	-	-	-
19	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	70	Charcoal >2mm (1), Roots (2)	CPR (1) *Carex* trigonous	-	-	-	-
20	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	30	Charcoal>2mm (1), Roots (4)	CPR (1) Cyperaceae/*Carex*, Poaceae, *Juncus*	-	-	-	-
21	*10578*	Floor deposit, R1, Building ***10545***	3d	10-20	10	Charcoal >2mm (1), HAVM (3), Coal (3)	CPR (1) Cyperaceae	*Quercus*	-	-	-
22	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	30	Charcoal >2mm (1), Roots (4)	CPR (2/3) *Plantago*, *Ranunculus repens*, Cyperaceae	-	-	-	-
24	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	400	Charcoal >2mm (3), Roots (4), Coal (including >10mm fragments) (2), HAVM (3), Ceramic (1)	CPR (2) *Triticum* cf *aestivum*, *Rumex acetosa*, Cyperaceae, Poaceae stems	*Quercus* and Ericaceous wood	-	-	Yes
25	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	50	Roots (3)	CPR (2) *Ranunculus repens*, Cyperaceae, Poaceae	Indeterminate roundwood	-	-	Yes
26	*10644*	Occupation deposit, R1, Building ***10545***	3d	30	300	Charcoal >2mm (2/3), Coal/HAVM (2), Metalworking waste (2), Roots (3)	CPR (2) Cereals including *Hordeum vulgare* and indeterminate, Cyperaceae	Ericaceous wood, *Quercus*, *Alnus/Corylus*	-	-	Yes

27	*10661*	Fill of ditch *10669*	3	40	200	Charcoal >2mm (4), Roots (4), Metalworking waste (1), Coal (2), HAVM (2), CBM (2), Ceramic (1)	CPR (1) Cereals, *Hordeum vulgare*, *Triticum*, Brassicaceae	Well-preserved *Alnus/Corylus* roundwood and immature *Quercus*	-	Yes	Yes
28	*10559*	Floor deposit, R1, Building ***10545***	3d	10-20	90	Charcoal >2mm (2), Roots (4)	CPR (1) *Plantago*, *Persicaria lapathifolia*, *Carex* trigonous, *Rumex acetosella*, Cyperaceae	-	-	-	-
29	*10729*	Fill of pit *10733*	3	30	400	Charcoal >2mm (4), HAVM (4), Bone (1), Roots (3), Ceramic (1), Calcined bone (3), Wood clinker? (4)	CPR (3) Cereals including *Triticum* and *Hordeum vulgare*, Culm node, *Prunella*, *Galium*, *Rumex acetosa*, *Juncus* seed head, Poaceae and moss stems	*Quercus* and Ericaceous wood	Yes	Yes	Yes
30	*10730*	Fill of pit *10733*	3	20	40	Charcoal >2mm (2/3), Roots (3), HAVM (2)	CPR (2) Cereals including *Hordeum*, *Plantago*, Fabaceae, *Linum usitatissium*, *Ranunculus repens*-type	*Alnus/Corylus*, *Fraxinus* and other diffuse porous wood	-	-	Yes
31	*10731*	Fill of cistern/well *10734*	3	40	250	Charcoal >2mm (3), Coal (1), HAVM (2), Calcined bone (1)	CPR (2) Cereals including *Triticum* and *Hordeum*, *Carex* trigonous, Cyperaceae, Fabaceae	Mixed-*Quercus*, *Fraxinus*, *Alnus/Corylus* and other diffuse porous wood	-	-	Yes
32	*10610*	Soil deposit, R2, Building ***10545***	3d	50	600	Charcoal >2mm (4), HAVM (2), Roots (4), Pot (1)	CPR (3) Cerealia indetermnate, Culm nodes, *Triticum spelta* Glumes, *Bromus*, Cyperaceae, *Chenopodium album*, Fabaceae	*Quercus*	-	Yes	Yes

33	*10573*	Occupation deposit, R1, Building ***10545***	3d	30	70	Charcoal >2mm (4), HAVM (2)	CPR (3) Cereals including *Triticum* and *Hordeum*, Glumes, Culm nodes, Cyperaceae, *Plantago*, *Persicaria lapathifolia*, Poaceae seeds and stems, *Juncus* seed heads	*Quercus*	Yes	Yes	Yes
34	*10573*	Occupation deposit, R1, Building ***10545***	3d	30	50	Roots (3), Metalworking waste (1), HAVM (1)	CPR (3) Cereals including *Triticum*, Cyperaceae, *Ranunculus repens*, Poaceae seeds and stems, *Juncus* seed heads	-	Yes	-	Yes
35	*10606*	Occupation deposit, R1, Building ***10545***	3d	20	200	Charcoal (2), Roots (4), HAVM (1)	CPR (1) Culm fragments and nodes, Cyperaceae, *Juncus* seed heads	-	-	-	-
36	*10606*	Occupation deposit, R1, Building ***10545***	3d	40	600	Charcoal >2mm (4), HAVM (4), Coal (2), Hammerscale (2)	CPR (4) Cereals including *Triticum* and *Hordeum*, Culm/nodes, Cyperaceae	-	Yes	Yes	Yes
37	*10606*	Occupation deposit, R1, Building ***10545***	3d	20	400	Charcoal >2mm (3), Roots (4), HAVM (1)	CPR (1) Cyperaceae	-	-	-	-
38	*10606*	Occupation deposit, R1, Building ***10545***	3d	20	800	Charcaol >2mm (3); Calcined bone (1), HAVM (1)	CPR Weed seeds (1)	-	-	-	-
39	*10606*	Occupation deposit, R1, Building ***10545***	3d	30	250	Charcoal >2mm (4), Roots (4), HAVM (2)	CPR (4) Cerealia indeterminate, Culms/nodes, Cyperaceae, *Bromus*, *Juncus*	-	Yes	-	Yes
40	*10606*	Occupation deposit, R1, Building ***10545***	3d	30	900	Charcoal >2mm (4), Metalworking waste (3), HAVM (3), Roots (4), Bone (1)	CPR (3) Cereals including *Triticum*, Culms/nodes, *Plantago*, Cyperaceae, *Juncus*	*Quercus* and diffuse porous wood. Including >10mm fragments	Yes	Yes	Yes

41	*10607*	Occupation deposit, R1, Building ***10545***	3d	40	400	Charcoal (4), HAVM (4), CBM (1), Calcined bone (1), Roots (4), Bone (1), Coal (1), Metalworking waste (2)	CPR (3/4) Cereals including *Triticum*, Culms/nodes, Poaceae stems, *Plantago*, *Juncus* seed heads, *Raphanus* pod, *Danthonia*, *Chenopodium*, *Ranunculus repens*-type	*Quercus*, *Alnus/Corylus* and other diffuse porous wood	Yes	Yes	Yes
42	*10607*	Occupation deposit, R1, Building ***10545***	3d	30	500	Charcoal >2mm (4), Roots (4), HAVM (4), Calcined bone (1), Small mammal bone (1), Metalworking waste (2)	CPR (4) Cereals including *Triticum*, Culms/nodes, glume bases, Cyperaceae, Poaceae, *Bromus*, *Ranunculus repens*-type	Ericaceous wood, *Quercus*, *Alnus/Corylus* and other?	Yes	Yes	Yes
43	*10607*	Occupation deposit, R1, Building ***10545***	3d	40	400	Charcoal >2mm (4), Roots (4), HAVM (2), CBM (1), Metalworking waste (2)	CPR (3) Cereals including *Triticum* and *Hordeum*, Culms/nodes, Brassicaceae, Poaceae, *Rumex acetosella*, Cyperaceae, *Juncus*, Fabaceae	Ericaceous wood and *Quercus*	-	Yes	Yes
44	*10607*	Occupation deposit, R1, Building ***10545***	3d	40	600	Charcoal >2mm (3/4), Roots (4), HAVM (4), Metalworking waste (4)	CPR (4) Cereals including *Hordeum* and *Triticum*, Culms/nodes, *Calluna*, Brassicaceae, Cyperaceae, *Bromus*, *Fragaria*, *Juncus*, *Plantago*	Ericaceous wood and *Quercus*	Yes	Yes	Yes
45	*10607*	Occupation deposit, R1, Building ***10545***	3d	40	600	Charcoal >2mm (4), Roots (4), HAVM (2), Iron nails (2)	CPR (3) Cereals, Cyperaceae, *Juncus*	-	-	-	Yes
46	*10728*	Fill of pit *10736*	3	40	250	Charcoal >2mm (3/4), Roots (3), Coal/HAVM (1), Wood clinker? (4), Metalworking waste (1)	CPR (1) Glume	*Quercus*, Maloideae, *Alnus/Corulus*, Ericaceous wood	-	Yes	Yes

47	*10826*	Fill of pit *10736*	3	40	550	Charcoal >2mm (3), Roots (3), HAVM (4), Calcined bone (2), Metalworking waste (1), Wood clinker? (4)	CPR (1) Cereals, *Plantago*, rhizomes	*Quercus*, *Alnus/Corulus*, Ericaceous wood	-	Yes	Yes
48	*10606*	Occupation deposit, R1, Building ***10545***	3d	40	400	Charcoal >2mm (4), Roots (4), Calcined bone (1), HAVM (1)	CPR (3) Culms/nodes/bases, *Rumex acetosa*	*Quercus*, *Alnus/Corulus*, Ericaceous wood	-	Yes	Yes
49	*10700*	?Occupation deposit, R3, Building ***10545***	3d	40	5	Charcoal >2mm (1), Calcined bone (2)	-	*Prunus* sp	-	-	Yes
50	*10597*	Fill of pit *10714*	3	10	25	Charcoal >2mm (2), Roots (3)	CPR (1) Cerealia indeterminate	-	-	-	Yes
51	*10767*	Fill of pit *10766*	3	30	Residue	Charcoal >2mm (2/3), Wood clinker? (2), Coal (2)	-	*Quercus* and Ericaceous wood	-	-	Yes
52	*10782*	Fill of gully *10781*	3	30	70	Charcoal >2mm (2/3), Roots (3), Wood clinker? (4), Metalworking waste (1), Coal (1)	CPR (2) Cereals and *Bromus*	-	-	-	Yes
53	*10780*	Fill of pit *10779*	3	30	50	Charcoal >2mm (2/3), Roots (2), Wood clinker? (3)	CPR (1) Weed seeds and Poaceae stems	-	-	-	-
54	*10761*	Fill of ditch *12002*	4	30	40	Charcoal >2mm (4), Roots (2), Wood clinker? (3), Coal (1)	CPR (2) Cereals and weed seeds	*Quercus* and Ericaceous wood	-	Yes	Yes
55	*10778*	Fill of cistern/well *10777*	3	30	Residue	Charcoal >2mm (1), Wood clinker? (4), Coal (1)	-	*Quercus* glassy	-	-	-
56	*10765*	Fill of pit/posthole *10764*	3	40	150	Charcoal >2mm (3), Roots (3), Wood clinker? (3), Coal (1)	CPR (1) Weed seeds	-	-	-	-

57	*10733*	Fill of gully *10781*	3	10	40	Charcoal >2mm (2), Roots (2), Calcined bone (1)	-	-	-	-	-
58	*10815*	Fill of pit *10814*	3	20	Residue	Charcoal >2mm (4), Coal (1)	CPR (1) Culm node	*Quercus* and *Alnus/Corylus* roundwood	-	Yes	Yes
59	*10704*	External soil layer	3	30	1200	Charcoal >2mm (4), Roots (2), HAVM (4), Bone/calcined bone (2), Wood clinker? (2)	CPR (3) Cereals including *Triticum*, *Corylus avellana*, Culm nodes, *Prunus*?, *Bromus*, Fabaceae, Poaceae	*Quercus* and *Alnus/Corylus*, >10mm fragments	Yes	Yes	Yes
60	*10851/ 3563*	Fill of gully *10850*	3	20	500	Charcoal >2mm (4), Metalworking waste (2), Wood clinker? (2), Calcined bone (1)	CPR (3) Cereals, Culm nodes, *Corylus avellana*, *Agrostemma?*	*Quercus* and *Alnus/Corylus*	Yes	Yes	Yes
61	*10849/ 3564*	Occupation deposit, Building ***12001***	3b	20	350	Charcoal >2mm (4), Metalworking waste (2), Wood clinker? (3), Calcined bone (1)	CPR (3) Cereals, Culm nodes, *Corylus avellana*, *Raphanus* pod	*Quercus* and *Alnus/Corylus*	Yes	Yes	Yes
62	*10860*	Fill of pit *10859*	3	30	160	Charcoal >2mm (3/4), Roots (3), Metalworking waste (2), Wood clinker? (2)	CPR (2) Cereals, *Corylus avellana*, *Raphanus* pod	*Quercus* and *Alnus/Corylus*, >10mm fragments	-	Yes	Yes
63	*10866*	Fill of pit *10852*	3	20	150	Charcoal >2mm (4), Roots (3), Coal/HAVM (2), Calcined bone (1), Metalworking waste (2), Wood clinker? (2)	CPR (2) Cereals, *Corylus avellana*, *Raphanus* pod	*Quercus*, *Fraxinus* and *Alnus/Corylus*	-	Yes	Yes
64	*10752*	Fill of ditch *12002*	4	30	80	Charcoal >2mm (3), Roots (2), Coal (1), Metalworking waste (1), Wood clinker? (3)	CPR (1) Cereals	*Quercus* and *Alnus/Corylus*	-	-	Yes
65	*10721*	Fill of ditch *10720*	3	30	50	Charcoal >2mm (2), Roots (1)	CPR (1) Cereals and weed seeds	-	-	-	Yes

67	*10599*	Fill of pit *10733*	3	40	100	Charcoal >2mm (3/4), Roots (3), Wood clinker? (2)	CPR (1) Cereals, *Danthonia*	*Quercus*, Maloideae, *Alnus/Corulus*, Ericaceous wood	-	-	Yes
68	*10600*	Fill of pit *10733*	3	30	40	Charcoal >2mm (4), Roots (3), Calcined and uncalcined bone (2)	CPR (1) Cereals and weed seeds	*Quercus*, *Alnus/Corulus*, Ericaceous wood	-	Yes	Yes
69	*3051*	Fill of pit *10850*	3	10	150	Charcoal >2mm (2/3), Roots (2), Calcined bone (1)	CPR (1) Cereals and weed seeds	-	-	-	Yes
72	*10911*	Fill of posthole *10910*	3	10	50	Charcoal >2mm (2), Roots (2), Bone (2)	CPR (1) *Corylus avellana*	-	-	-	Yes
73	*10927*	Fill of cistern/well *10734*	3	40	Residue	Charcoal >2mm (3), Wood clinker? (4) some encrusted with daub/burnt clay, Calcined bone (3) very fine (processing?)	-	*Quercus* and *Alnus/Corylus*	-	Yes	Yes
76	*10977*	Fill of pit *10979*	3	30	Residue	Charcoal >2mm (1), Wood clinker? (4), Coal (2), Dressed stone? (1)	-	*Quercus* roundwood	-	Yes	Yes
77	*10980*	Fill of cistern/well *10991*	3	30	Residue	Charcoal >2mm (2), Wood clinker? (4) some encrusted with daub/burnt clay	CPR (1) *Corylus avellana*	*Quercus* and *Alnus/Corulus*	-	-	Yes
78	*10843*	Fill of pit *10802*	3	30	400	Charcoal >2mm (4), Roots (2), Wood clinker? (4), Coal (1)	CPR (2) Cereals, Culm nodes	*Quercus* and *Alnus/Corulus*	-	Yes	Yes
79	*10957*	Fill of pit *10956*	3	10	130	Charcoal >2mm (2/3), Calcined bone (1), Metalworking waste (1)	CPR (2) Cereals including possible *Triticum aestivum*, *Secale* and *Avena*?	*Quercus* and *Alnus/Corulus*	Yes	-	Yes

80	*10950*	?Occupation deposit, Building ***12000***	3a	10	200	Charcoal >2mm (4), Metalworking waste (1), Calcined bone (1)	CPR (3) Cereals including possible *Triticum aestivum* and *Avena*, Culm nodes, Glumes, *Stellaria media?*	*Quercus* and *Alnus/Corylus*	Yes	Yes	Yes
81	*10951*	Fill of ditch *11009*	2	30	60	Charcoal >2mm (3), Roots (2), Wood clinker? (3), Coal (1)	CPR (2) Cereals, Culm nodes	*Quercus*, *Fraxinus*, *Alnus/Corulus* including a single *Quercus* 'rod' fragment	-	-	Yes
82	*10983*	Fill of cistern/well *10674*	3	10	500	Charcoal >2mm (4), Calcined bone (1), Wood clinker? (4)	CPR (2) Cereals, Culms, tubers, *Chenopodium*, *Potamogeton*, *Rumex*, *Prunella*, *Juncus*, Poaceae, Cyperaceae, unknowns	*Quercus* and *Alnus/Corylus*	Yes	Yes	Yes
84	*10905*	Fill of posthole *10904*	3	10	20	Charcoal >2mm (1), Roots (2)	-	-	-	-	-
85	*11016*	Fill of posthole *11017*	3	10	30	Charcoal >2mm (3), Roots (1), Wood clinker? (3)	CPR (1) Cereals, *Corylus avellana*	*Quercus* and *Alnus/Corulus*	-	-	Yes
86	*10880*	Fill of posthole *10879*	3	10	20	Charcoal >2mm (2), Roots (2), Coal (1)	CPR (1) Cereals and weed seeds	-	-	-	Yes
87	*10901*	Fill of posthole *10900*	3	10	30	Charcoal >2mm (2), Roots (2)	-	-	-	-	-
88	*10871*	Fill of posthole *10870*	3	10	20	Charcoal >2mm (1), Roots (2), Wood clinker? (4)	-	-	-	-	-
89	*10882*	Fill of posthole *10881*	3	10	30	Charcoal >2mm (1), Roots (3)	-	-	-	-	-
90	*11068*	External deposit	3	10	25	Charcoal >2mm (2), Roots (2)	-	-	-	-	-

92	*10933*	External deposit	3	10	150	Charcoal >2mm (1)	CPR (4) Cereals including glumed *Triticum*, Culms/nodes/bases, Cereal straw, *Bromus*, Cyperaceae	-	Yes		Yes
93	*10901*	Fill of posthole *10900*	3	10	80	Charcoal >2mm (2), Roots (2)	CPR (4) Cereals, Cyperaceae, unknown	-	-	-	Yes
94	*10738*	Occupation deposit, Building ***12001***	3b	30	800	Charcoal >2mm (4), Roots (3), Calcined bone (2)	CPR (2) Cereals	*Quercus* and *Alnus/Corylus* including 'rod' fragments	-	Yes	Yes
95	*10769*	Fill of pit/posthole *10768*	3	10	150	Charcoal >2mm (4), Roots (2), Bone (1)	-	Mature *Quercus*	-	Yes	-
96	*10596*	External deposit	3c	20	190	Charcoal >2mm (4), Roots (2), Calcined and uncalcined bone (4), very fine (processing?), daub/burnt clay (3), CBM (2), wood clinker? (4)	CPR (2) Cereals including *Triticum* and *Hordeum*, *Corylus avellana*	*Quercus* and *Alnus/Corylus* roundwood	-	Yes	Yes
-	*10609*	Fill of *in situ* pottery vessel, R1, Building ***10545***	3d	?	20	Charcoal >2mm (2), Roots (2), CBM (4)	CPR (2) Culm fragments, Poaceae, Cyperaceae	-	-	-	-
-	*10609*	Fill of *in situ* pottery vessel, R1, Building ***10545***	3d	?	70	Charcoal >2mm (2), Roots (4), CBM (4), Metal? (1)	CPR (2) Culm fragments, Poaceae, Cyperaceae, *Juncus* seed head	-	-	-	-
-	*10614*	External surface	3	?	50	Calcined bone (4) very fragmented	-	-	-	-	-

Plant remains are scored on a scale of 1-4, where 1 is rare (up to five items) and 4 is abundant (>100 items).
CPR=charred plant remains, CBM= ceramic building material, HAVM=heat-affected vesicular material; WPR=waterlogged plant remains

Assessment of the charred and waterlogged plant remains from the Maryport Roman Settlement

Oxford Archaeology North
Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t: (01524 541000
f: (01524) 848606
e: oanorth@oxfordarch.co.uk
w: www.oxfordarch.co.uk

Director and Chief Executive:
Gill Hey BA PhD MIfA FSA

Private Limited Company Number: 1618597

Registered Charity Number: 285627

Registered Office: Oxford Archaeology Ltd.
Janus House, Osney Mead, Oxford, OX2 0ES