

28-30 The Close

Newcastle upon Tyne, Tyne and Wear

Archaeological Excavations: 2007-2010- Full Analysis Report

for

The Tyne and Wear Building Preservation Trust / Buttress (Newcastle)

March 2019



28-30 The Close

Addyman Archaeology

Archaeology Heritage Consultancy Architecture

Addyman Archaeology

The Old Printworks, 77a Brunswick Street, Edinburgh EH7 5HS
admin@addyman-archaeology.co.uk
0131 555 4678

28-30 The Close

Newcastle upon Tyne, Tyne and Wear

Archaeological Excavations: 2007-2010

Job number 0146.00

April 2018

by Kenneth Macfadyen, Tom Addyman and Philip Karsgaard

Contents

Illustrations

Acknowledgements

Executive Summary

1.	<i>Introduction</i>	9
	<i>i. General</i>	9
	<i>ii. Site location</i>	9
	<i>iii. Historical background</i>	11
	<i>a. Evidence for Roman presence</i>	11
	<i>b. Evidence for Medieval occupation</i>	12
	<i>c. Post-Medieval occupation and House Ownership</i>	14
	<i>d. Historic Building Recording Phasing</i>	14
2.	<i>Methodology and Stages of Work</i>	15
	<i>i. Ground floor survey (7-13 November 2007; 4-8 August 2008)</i>	15
	<i>ii. Initial engineering test pits (18-22 August 2008)</i>	15
	<i>iii. Removal of flooring in the front and central rear rooms (10-16 September 2009)</i>	15
	<i>iv. Monitoring of bore-test pits (6 November 2008)</i>	16
	<i>v. General excavation within the centre-rear room (February 2009)</i>	16
	<i>vi. General excavation of the north-west room (May-June 2009)</i>	18
	<i>vii. Excavations within the frontage room (July, October 2009)</i>	18
	<i>a. Excavation for foundations</i>	18
	<i>b. Excavations within area of new entrance to north-east room</i>	18
	<i>viii. Service excavations to the exterior (March 2010)</i>	18
	<i>ix. General excavation methodology</i>	18
3.	<i>Excavation within the centre-rear room</i>	19
	<i>i. Earliest levels – clay sub-soil and possible riverine deposits</i>	19
	<i>ii. Medieval development of the shorefront - 13th-14th century</i>	20
	<i>a. Earliest features and deposits</i>	20
	<i>b. Early waterfront reclamation – primary levels</i>	21
	<i>c. Early waterfront reclamation – overlying levels</i>	21
	<i>d. Discussion</i>	22
	<i>iii. Possible later medieval remains</i>	24
	<i>a. Stone-lined drain (040)</i>	24

b.	<i>Wall footing (048)</i>	24
iv.	<i>Features relating to the construction of the rear wing – c1700</i>	25
a.	<i>Introduction</i>	25
b.	<i>Site preparation</i>	25
c.	<i>Evidence of structural features to the east</i>	26
d.	<i>Discussion</i>	27
v.	<i>Works of c1800 – early 19th century</i>	30
a.	<i>Well (016)</i>	30
b.	<i>Brick-built inlet channel to well</i>	31
c.	<i>Brick-built drain running southwards</i>	31
vi.	<i>Early-mid 19th century brick-built features and existing flagstone floor</i>	32
a.	<i>Capping of the well</i>	32
b.	<i>Flagstone flooring, associated features and make-up</i>	32
4.	<i>Excavation within the north-west room</i>	34
i.	<i>Introduction</i>	34
i.	<i>Earliest levels – clay sub-soil and possible riverine deposits</i>	35
ii.	<i>Medieval development of the shorefront - 13th-14th century</i>	37
a.	<i>Early waterfront reclamation – primary levels</i>	37
b.	<i>Discussion</i>	38
iii.	<i>Possible later medieval remains</i>	38
a.	<i>Stone-lined drain (080)</i>	38
b.	<i>Stone lined drain (065)</i>	38
c.	<i>Stone lined drain (098)</i>	40
d.	<i>Wall footing (052)</i>	42
e.	<i>Slab feature (061)</i>	43
iv.	<i>Building works of the mid-19th century</i>	43
v.	<i>Later 20th century works</i>	44
5.	<i>Excavation within the front room</i>	45
i.	<i>Excavation for foundations</i>	45
a.	<i>Introduction</i>	45
b.	<i>Early deposits</i>	45
c.	<i>Medieval development of the shorefront - 13th-14th century</i>	45
ii.	<i>Excavations within former fireplace</i>	47
a.	<i>Introduction</i>	47
b.	<i>Medieval elements</i>	47
c.	<i>Later works</i>	49
6.	<i>Service Excavations to the Exterior</i>	50
i.	<i>Introduction</i>	50
ii.	<i>Trench excavation</i>	50
a.	<i>General</i>	50
b.	<i>Trench to east</i>	50
c.	<i>Street frontage trench</i>	52
7.	<i>Roman Ceramics by Colin Wallace</i>	55
i.	<i>Summary</i>	55
ii.	<i>Discussion</i>	55
iii.	<i>Catalogue</i>	56
8.	<i>Medieval and Post-medieval Ceramics by Andrew Sage</i>	57
i.	<i>Overview</i>	57
ii.	<i>Pottery from the Centre Rear Room</i>	57
iii.	<i>Pottery from the North-west Room</i>	58

iv.	<i>Pottery from the front room</i>	59
v.	<i>Discussion</i>	59
9.	<i>Clay pipe by Antoine Ruchonnet</i>	59
i.	<i>Introduction</i>	59
ii.	<i>Sample and Methodology</i>	59
iii.	<i>Analysis of the Clay Tobacco Pipes</i>	60
iv.	<i>Discussion</i>	61
v.	<i>Conclusion</i>	61
10.	<i>Glass by Robin Murdoch</i>	62
11.	<i>Faunal Remains by Antoine Ruchonnet</i>	62
i.	<i>Introduction</i>	62
ii.	<i>Methodology</i>	62
iii.	<i>Species and Age at Death</i>	63
iv.	<i>Butchery</i>	63
v.	<i>Metrics, Pathologies and Anomalies</i>	64
vi.	<i>Worked Bone</i>	64
vii.	<i>Discussion & Conclusion</i>	65
12.	<i>Other finds by Antoine Ruchonnet</i>	66
i.	<i>Wood</i>	66
ii.	<i>Metals</i>	68
iii.	<i>Mortars and Plasters</i>	68
iv.	<i>Lithics</i>	68
13.	<i>Shellfish report by Antoine Ruchonnet</i>	69
i.	<i>Methodology</i>	69
ii.	<i>Results</i>	69
iii.	<i>Discussion</i>	70
14.	<i>Leather by Quita Mould</i>	71
i.	<i>Introduction</i>	71
ii.	<i>Methodology</i>	71
iii.	<i>The shoes</i>	71
iv.	<i>The straps</i>	72
v.	<i>The disc 23</i>	72
vi.	<i>Discussion</i>	73
15.	<i>Palaeoenvironmental assessment and analysis by Carrie Armstrong</i>	73
i.	<i>Summary</i>	73
ii.	<i>Method</i>	73
iii.	<i>Results</i>	74
iv.	<i>Discussion</i>	75
16.	<i>Dendrochronological Dating by Coralie Mills</i>	77
i.	<i>Introduction</i>	77
ii.	<i>Methods</i>	77
iii.	<i>Results</i>	77
iv.	<i>Discussion</i>	78
17.	<i>Summary and Discussion</i>	79
i.	<i>Introduction</i>	79
ii.	<i>Roman Occupation</i>	79
iii.	<i>Medieval Occupation and Waterfront Reclamation</i>	79
iv.	<i>Late 17th/Early 18th century Structures</i>	81
v.	<i>Later Alterations</i>	81
18.	<i>References</i>	82

<i>Appendix 1A</i>	<i>Written Scheme of Investigation (WSI) for final phase of archaeological works in 2009</i>	<i>88</i>
<i>Appendix 1B</i>	<i>Context Registers</i>	<i>93</i>
<i>Appendix 1C</i>	<i>Drawing Registers</i>	<i>100</i>
<i>Appendix 1D</i>	<i>Samples Register</i>	<i>103</i>
<i>Appendix 1E</i>	<i>Finds Register</i>	<i>105</i>
<i>Appendix 1F</i>	<i>Photograph Registers</i>	<i>110</i>
<i>Appendix 2A</i>	<i>Medieval and post-medieval Ceramics by Andrew Sage</i>	<i>125</i>
<i>Appendix 2B</i>	<i>Clay pipe catalogue</i>	<i>134</i>
<i>Appendix 2C</i>	<i>Glass Catalogue</i>	<i>136</i>
<i>Appendix 2D</i>	<i>Faunal Remains by Antoine Ruchonnet</i>	<i>137</i>
<i>Appendix 2E</i>	<i>Other finds – wood, metal, mortar & lithics catalogues</i>	<i>155</i>
<i>Appendix 2F</i>	<i>Shell assessment data</i>	<i>160</i>
<i>Appendix 2G</i>	<i>Leather Analyses</i>	<i>163</i>
<i>Appendix 2H</i>	<i>Palaeoenvironmental Analysis</i>	<i>164</i>
<i>Appendix 2I</i>	<i>Dendrochronological Analysis</i>	<i>165</i>

*Illustrations**List of Figures*

Figure 1	Site location and main areas of excavation	10
Figure 2	Map of the possible extent of the Roman Fort at Newcastle (after Graves & Heslop 2013, fig. 3.14) and Roman HER entries in relation to the excavation site at 28-30 The Close.	12
Figure 3	Map of the medieval castle (after Graves & Heslop 2013, fig.5.3) in relation to the excavation site at 28-30 The Close.	13
Figure 4	Plan of excavation areas	17
Figure 5	Sections across areas excavated, centre-rear room	20
Figure 6	Centre-Rear Room plan of excavated features	30
Figure 7	North section, NW room	36
Figure 8	Section across deposits, NW room	36
Figure 9	Plan of upper drains in the NW room	41
Figure 10	Plan of Early Drains [098] and [080], NW room	42
Figure 11	Elevation (top) and plan (bottom) of front room strip foundation trench	46
Figure 12	Masonry walls 108 and 110 and cobbles 111 as exposed	48
Figure 13	Exterior service trench location plan	51
Figure 14	Detail – eastern section across drain 015 as exposed in the side of the cut for drain 005.	52
Figure 15	Shellfish species distribution	70

List of Plates

Plate 1	Remains of early collapsed wall along the north wall foot of the rear room (038), looking east	21
Plate 2	Remains of early collapsed wall along the north wall foot of the rear room (038), looking west	21
Plate 3	Early make-up deposits within the area of the archway in the south wall of the rear room, looking west; note pottery spread, the associated stone rubble deposition (centre – 034), and to right the underlying (008) make-up level; at top the brick walling can clearly be seen to be founded upon a stone predecessor (048)	22
Plate 4	Stone-lined drain (040), looking south, running below early wall footing at top (048)	24
Plate 5	Stone-lined drain (040), detail of drain looking west, following removal of part of fill	24
Plate 6	Brick-built footing (014) for a cross-wall and base of a wooden stair, looking north	27
Plate 7	Area of base of stair, looking east; the walling above preserves the diagonal silhouette of part of the stair timberwork superstructure	27
Plate 8	Vertical view of the eastern side of the excavation area showing the surviving extent of the (014) brick platform, the later sunken stair and paving to top right (005, 043) and later drain to lower left (010); north at top	28
Plate 9	The fragment of the circular brick-built feature, (001), overlying the northern part of the brick platform, (014), looking west; at top abutting the platform are further mortar remains, (036)	29
Plate 10	Brick-built well (016), channel running in from the north (018), and later brickwork relating to capping (017); looking west	31
Plate 11	The (010) brick-built drain as revealed, looking south	32

Plate 12	The (010) brick-built drain and its construction trench following partial removal, (021); note the yellow sandy make-up levels associated with the c1700 works on either side – looking north	32
Plate 13	Flagstone flooring within the central part of the rear room, looking south	33
Plate 14	Masonry stair (005), sunken area and paving as revealed at the NE corner of the room, looking east	33
Plate 15	Pre-excavation photograph showing the extent of the (002) make-up beneath the flagstone floor, with the well (016) encountered in the central part of the room and associated modifications; looking west	34
Plate 16	Pre-excavation view of the interior of the north-west room, looking north	35
Plate 17	Drain (065), middle surviving section, once capstone lifted and emptied, looking north	39
Plate 18	Wall footing 052, sectioned with drain [080] mid ground and alignment of 3 stones to left	40
Plate 19	Feature (061) as seen in the section of late pit (050)	43
Plate 20	Timber (087) with rubble spread (088) to right	47
Plate 21	Masonry walls 108 and 110 and cobbles 111 as exposed	48
Plate 22	Flagged floor (113) as exposed, looking N	49
Plate 23	Drain (101) below flags (113), emptied out. Looking N	49
Plate 24	Brick firebase (106) as first exposed, looking N	49
Plate 25	Brick firebase (106) showing heat damage and wear, looking south	49
Plate 26	Detail of drain 015	52
Plate 27	Wall foundation exposed below ground, 20cm scale	53
Plate 28	Trench extending westwards along the street frontage showing exposed cable(012).	54
Plate 29	SMF002, Stem recut into a new mouthpiece	60
Plate 30	SMF078, Ears of wheat	60
Plate 31	SMF078, Hoeing figure	60
Plate 32	SMF002, Passant figure	61
Plate 33	SMF025, Worked bone awl	64
Plate 34	SMF025, Worked bone awl, bore hole detail	65
Plate 35	SMF025, Worked bone awl, broken off point	65
Plate 36	SMF058, Crustacean shell fragment	66
Plate 37	SMF064, Fish bone assemblage	66
Plate 38	SF049, Stake	67
Plate 39	SF058, Stake	67

Unless otherwise stated, all content is the copyright of Simpson & Brown *Architects* with Addyman Archaeology.

Acknowledgements

The team members that worked at The Close between 2007 and 2009 included Tom Addyman, Kenneth Macfadyen, Sarah Phillips, Amanda Gow and Tanja Romankiewicz.

The formal excavation of the central rear room in February 2009 was principally carried out by Kenneth Macfadyen, Amanda Gow and Tanja Romankiewicz; with some attendance by Tom Addyman. The north-west room was principally excavated by Kenneth Macfadyen with some attendance by Tom Addyman, Amanda Gow and Tanja Romankiewicz.

The frontage room works monitoring and excavation was principally carried out by Kenneth Macfadyen and Tom Addyman. Service Excavations to the exterior of the building were monitored by Kenneth Macfadyen

Helpful comment was provided on site during visits by Jennifer Morrison and David Heslop, and by Martin Roberts of English Heritage.

We gratefully acknowledge the preliminary comments on the pottery recovered from the site by George Haggarty, Peter Addyman and by Jenny Vaughan.

The very helpful assistance of the staff of MGM (Ltd.) during the site works is also gratefully acknowledged.

28-30 The Close

Newcastle upon Tyne, Tyne and Wear

Archaeological Excavations

Executive Summary

A programme of archaeological excavation, recording and monitoring was undertaken by Addyman Archaeology from 2007 to 2010 at 28-30 The Close, Newcastle upon Tyne, as part of the archaeological mitigation for the development of the site. The works comprised analysis of the fabric of the existing building, reported on separately; this report presents the results of the invasive, below-ground excavations within and close to the building footprint. This included broad-exposure excavations in the front range, the central-rear room and the north-western room, internally, as well as the monitoring of groundworks excavated for the installation of services around the building externally.

The external works revealed small drain stubs related to the earlier occupation of the standing building but was otherwise within modern service trenches which had removed all the evidence for previous occupation. The internal excavations revealed a sequence of material, features and deposits, with cultural material beginning with the 3rd century AD Roman occupation of Newcastle. Deposits encountered included a series of artefactually-rich dump deposits related to the extension of the river foreshore during the medieval period. The data recovered from these deposits adds detail to the complex, piecemeal process of waterfront reclamation; at 28-30 The Close, this appears to have taken place in the late 13th to mid-14th centuries, somewhat later than in other plots. From these water-logged deposits were recovered organic finds including leather cobbler's waste and preserved timbers, some of which used as retaining elements for the foreshore reclamation, and a barrel fragment derived from a tree felled a little after 1166 AD. Poorly preserved structural elements of the 14th century – stone drains and wall footings – were also recovered across the building, including a succession of superimposed stone drains in the north-western room. Masonry evidence in the north-east room may also indicate the presence of the earliest textually-attested medieval structural elements on this part of the Newcastle waterfront, the partial remains of an arched cellar.

Sub-floor features related to the late 17th/early 18th century remodelling of the building were also found, including a brick platform, the partial remains of a circular fire installation base, and a relict stair-case footing in the centre-rear room. In the succeeding phase, in the early 19th century, a well structure was installed in the centre-rear room, associated with substantial brick drainage features. With the building's conversion to a warehouse structure in the 19th century, this well was capped with brick structures, and the paved stone surface laid across the existing rooms of the building. The excavations have therefore revealed significant evidence for the occupation and use of the waterfront area of Newcastle from the Roman occupation to modern times.

1. Introduction

i. General

This report presents the results of the archaeological works (monitoring and excavation) at 28-30 The Close, Newcastle, undertaken by Addyman Archaeology for Buttress (Newcastle) / Tyne and Wear Building Preservation Trust, from 2007 to 2010. These works were conducted in advance of and concurrent with the re-development of the site according to the scheme of conservation works devised by Simpson and Brown Architects (contact, Sue Whittle). Suitable provision for archaeological monitoring and investigation formed a planning requirement for the work, imposed by the Tyne and Wear Archaeology Service (case officer, Jennifer Morrison). This formed a separate exercise to the general on-going archaeological recording of the upstanding building, which is reported on in full separately (Addyman Archaeology forthcoming) and in preliminary reports.¹

Preliminary investigations within the ground floor rooms of 28-30 The Close related to engineering concerns for the stability of the superstructure (engineer, Alan Forrest of Wren & Bell; contractors, MGM (Ltd.), contact Lance Rainey) - to understand the sub-floor make-up of underlying deposits, foundation structures, etc.

The archaeological condition required both a watching brief (in relation to the lifting of flagstones) and actual archaeological evaluation (where deeper engineering investigations were required). The latter investigations in turn determined what further below-ground impacts were necessary in order to install suitable flooring make-up and other necessary structural support for the superstructure. The proposed design of these details was made considerably more complex by the discovery of a 19th century well structure within the central rear room – further structural-related investigations (evaluation test pits and bore-tests) were consequently required and a new scheme for structural stabilisation designed.

The extent of the proposed new works to floor areas was finalised in December 2008, which in turn permitted the finalisation of the archaeological response to the proposed ground-breaking – the Written Scheme of Investigation (WSI) included in this report as *Appendix 1A*. The archaeological monitoring of invasive works (floor lifting and test pits) and excavations within the existing building therefore took place in multiple stages; these are summarised in *Section 2* below before description of the results in full.

A record of the programme of archaeological works (addymana1-342633) has been deposited with the Online Access to the Index of Archaeological Investigations (OASIS) website hosted by the Archaeological Data Service.

ii. Site location

28-30 The Close lies on the left (north) bank of the Tyne, just below the Heugh and the Castle Bank (*figure 1*; NZ2505763782). The west side of the site is bounded by the Long Stairs, and to the east are the piers of the High Level Bridge. To the north the land rises sharply up to the castle; the side boundary on that side is a substantial revetted-in retaining wall. The Close, as is discussed more fully in the following section, is therefore situated close to the heart of Roman, medieval and post-medieval Newcastle, in a riverine environment and on or close to land thought to be reclaimed from the 13th century onwards.

¹ See, e.g., Addyman & Kay (1999); G McCombie (2001), including historical research; Addyman Associates (2004).

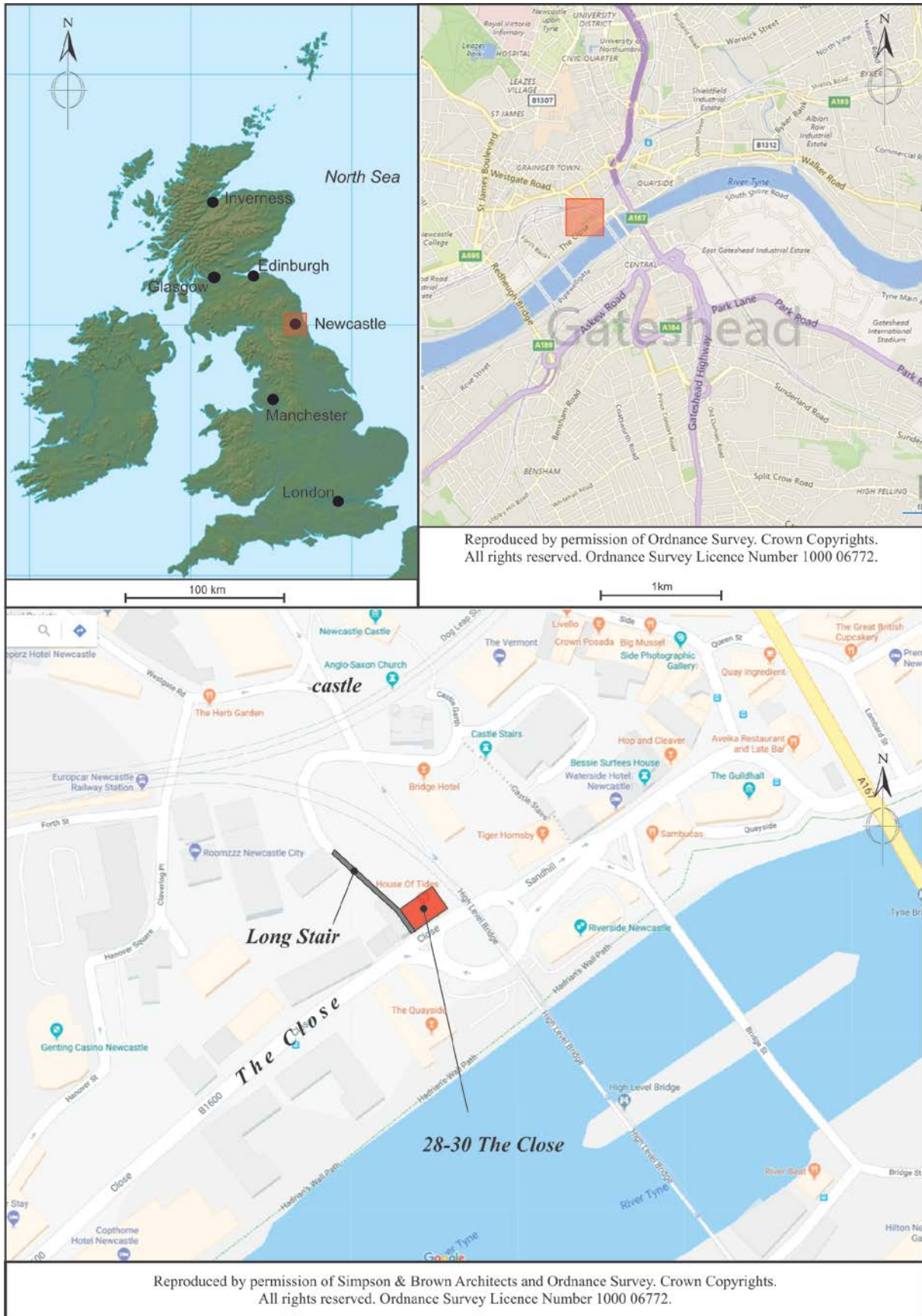


Figure 1 Site location and main areas of excavation

iii. Historical background

a. Evidence for Roman presence

There is some evidence of 1st century Roman activity in the vicinity of the site (*Figure 2*), though it is unclear to what extent this indicates a settled Roman military presence on the Tyne before the construction of Hadrian's Wall. Structural remains are confined to wall foundations encountered below Castle Keep (Spain and Simpson 1930) and linear features of uncertain function below the later Roman Fort (Snape and Bidwell 2002). Further material evidence consists of pre-Hadrianic coins and a trumpet brooch from Castle Garth of mid-1st to mid-2nd century date (Allason-Jones 2002: 211-2). Given the possibility of the existence of both pre-Roman sites of communal importance on the river banks (Graves & Heslop 2013: 24-30) and a major north-south indigenous routeway extending from Gateshead, however, Snape and Bidwell (2002) consider a pre-fort Roman military presence likely at Gateshead and perhaps around the site of the Hadrianic fort as well.

The majority of the Roman evidence, however, is associated with the construction of Hadrian's Wall and the fort below, and extending south of, the Castle (Bidwell & Snape 2002; Snape & Bidwell 2002). This, the fort of *Pons Aelius*, was built in the late second or early third century AD: a dedication to Julia Domna gives a *terminus ante quem* of 213 AD for its construction (Bidwell & Snape 2002: 251-3). The precise location of the associated Roman bridge itself is not known, but has traditionally been placed at the location of the Swing Bridge, with its 18th century and medieval precursors, due both to its location and the finds of altars to Neptune and Oceanus and Antoninus Pius thought to be associated with the bridge. The fort's contemporary *vicus* and associated cemetery appears to have extended to its west (Graves & Heslop 2013: 56-60), at least to the line of Forth Street (Harbottle 1968: 178) and Clavering Place (Rich 1904; White 1865; Spain and Simpson 1930), with a possible temple site near the south end of Orchard Street (Richardson 1844). The majority of the Roman evidence is therefore attested at the top of the Heugh, above the present site.

Topographic analysis (summarised in Graves & Heslop 2013: 12-20) indicates that both the Long Stairs, to the immediate west of the present site, and Castle Stairs, were constructed in existing gullies, providing routes of erosional deposition of early material down the Heugh to the waterside, particularly with storm-water outflows; the Castle Garth is known to be prone to slippage (Longstaffe 1860, 114 n. 134 cited in Graves & Heslop 2013: 54). Less certain is the degree or extent of Roman waterfront activity taking place on the riverbanks before the major land-reclamation activities of the medieval period. A deposit of material containing mid-2nd to mid-3rd century Roman artefacts at the Castle Stairs was interpreted by the excavators as a deliberate roughly contemporary infilling, part of a Roman waterfront (Passmore *et al.* 1991) associated both with riverine exploitation and a route up to the western gate of the fort, though this interpretation is treated with some caution in a recent synthesis (Graves & Heslop 2013: 53-4), given the erosional potential of the slope to bring down material from around the fort itself. However, it would seem unlikely that a waterfront close to a strategic river crossing was *not* exploited in the Roman period, and may have been truncated by later activity (cf. Platell *et al.* 2013: 203).

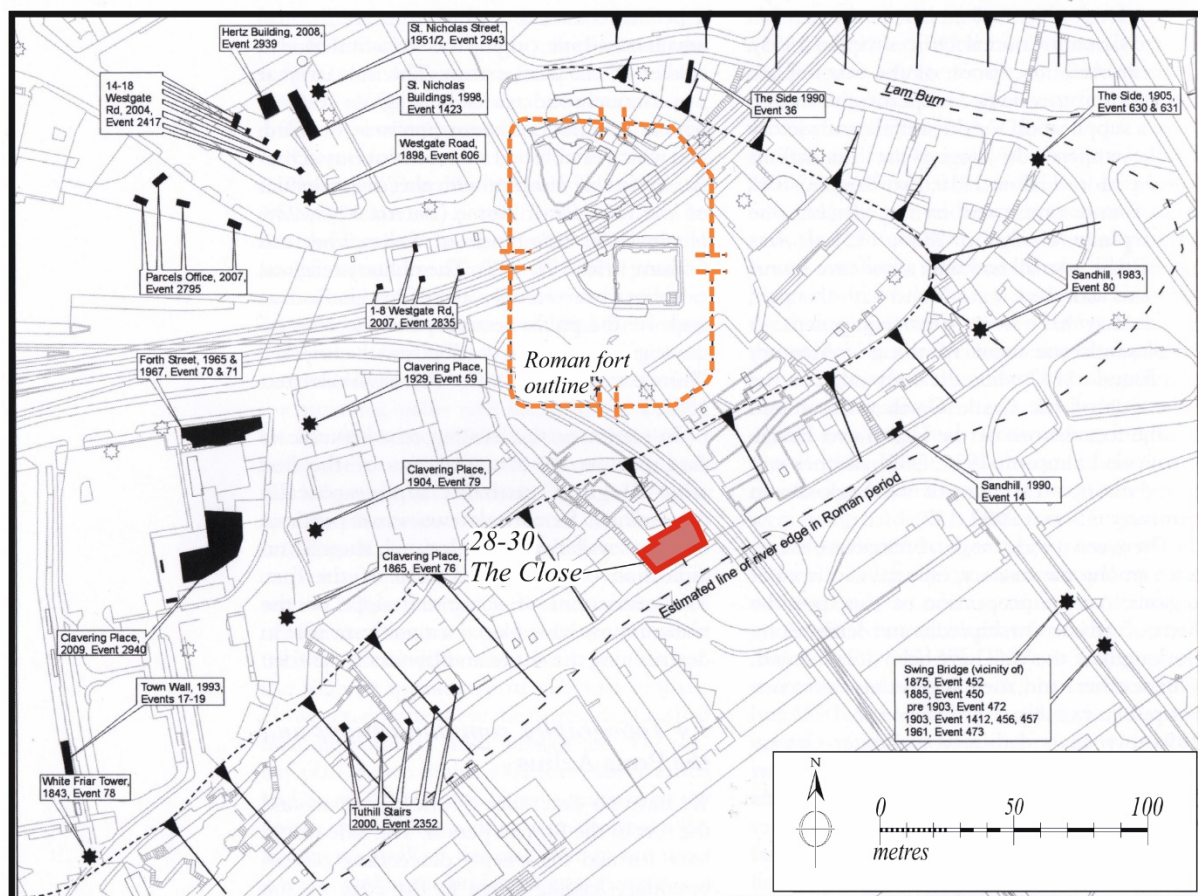


Figure 2 Map of the possible extent of the Roman Fort at Newcastle (after Graves & Heslop 2013, fig. 3.14) and Roman HER entries in relation to the excavation site at 28-30 The Close.

b. Evidence for Medieval occupation

Early Medieval occupation is attested at and around the Roman fort, consisting of mainly mortuary evidence, with burials occurring from around 700 AD onwards, and some fragmentary structural (possibly monastic) remains overlying the fort (summarised in Graves & Heslop 2013: 65ff with Tables 4.1, 4.2). Early Medieval *in situ* features were recovered at The Close (Platell *et al.* 2013), where evidence for terracing cuts in to the rising land at the north edge of the site – activity probably associated with waterfront reclamation – was found in two of the three trenches excavated there. The earliest features associated with this terraced surface included a probable wattle-lined pit, from which AMS dates of 960–1030 cal AD were derived, indicating early occupation in the area pre-dating the Norman castle. As un-terraced natural glacial surfaces were encountered in one of the trenches excavated, the results indicate that the waterfront reclamation, first suggested by Harbottle (1976), was both piecemeal and, in places, earlier than the early 13th century date otherwise indicated for reclamation activities elsewhere (e.g. Nolan *et al.* 1989, 38–9; Fraser *et al.* 1994; Fraser *et al.* 1995; O’Brien *et al.* 1989; Heslop *et al.* 1995; Goodrick *et al.* 1994; Daniels and Cambridge 1974; Ellison *et al.* 1993). The earliest evidence for activity on the Quayside comes from a pottery kiln excavated at Dog Bank: archaeomagnetic dating of it suggested a later 12th century date (O’Brien *et al.* 1988: 31).

Along with the riverine topography of the area, the main structuring element of the later Medieval town would have been the imposition in 1080 of Robert Curthose’s new castle at the top of the Heugh and its associated approaches and properties (cf. figure 3, below). The Close is considered one of the oldest streets in Newcastle, one of its five medieval streets (McCrombie 2001). In the early 13th century it appears as an enclosed piece of ground extending from the river to the castle, named *Le Clos* in 1291 (Fraser *et al.* 1994: 87); a street, the King’s Highway, was constructed across it by 1276-7

(McCrombie 2001: 8; Clack & Harbottle 1976: 118-9, 121-2; Oliver 1924). Property along the Close was early given to the Hospital of the Virgin Mary, in Westgate (Oliver 1924: 11).

The major transformation of the area in the medieval period, from roughly the 13th century onwards (though with some indications of earlier activity as outlined above) was the programme of waterfront reclamation of land on the left bank of the river. Excavations nearby have produced evidence of activity and dumping episodes during which jetties were extended into the river and areas infilled, presumably from material excavated from surrounding or outlying areas (Nolan *et al.* 1989, 38–9; Nolan and Vaughan forthcoming; Fraser *et al.* 1994; Fraser *et al.* 1995; O’Brien *et al.* 1989; Heslop *et al.* 1995; Goodrick *et al.* 1994; Daniels and Cambridge 1974; Ellison *et al.* 1993).

By the early 14th century, properties on the south side of the Close reached to the river edge, and, unlike the Quayside opposite, were furnished with private, rather than public, quays. Early 14th century references describe properties including those possessing a ‘stone chamber,’ described as a cellar with a ‘sollar’ above (McCrombie 2001). The 14th century references also make it clear that much of the waterfront land was in fee to the baronies of Bolbec and Balliol.

The Long Stairs, forming the western boundary of the present site, was also an important and early route connecting the riverside and the upper ground around the castle, with buildings along the frontage of the Long Stairs, perpendicular to the Close. The northern boundary wall, behind the building frontages on The Close, appears also be an early feature, thought to be part of the Castle wall by Longstaffe (1860: 106).

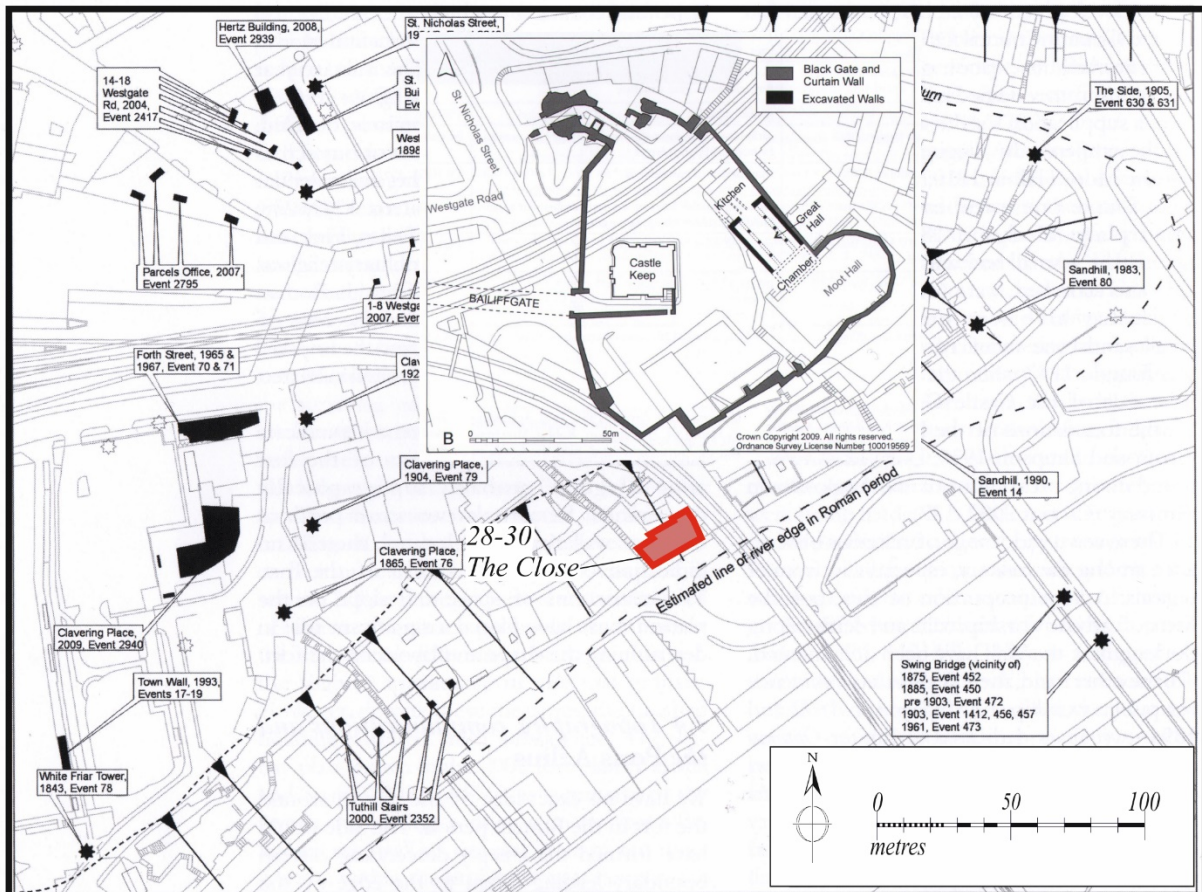


Figure 3 Map of the medieval castle (after Graves & Heslop 2013, fig.5.3) in relation to the excavation site at 28-30 The Close.

c. *Post-Medieval occupation and House Ownership*

Eighteenth century accounts of the houses along the Close contrast their apparently mean frontages with the splendour of their interiors (McCrombie 2001, citing Bourne 1736); Bourne notes that the area, formerly inhabited by grandees, had the appearance of decline. By 1827 the Close was already noted as a mixture of former houses and industrial, warehouse buildings, the trend of warehouse encroachment continuing in the 19th century. With the construction of the High Level Bridge, circulation routes changed for The Close, which became more closely associated with waterfront industries until their decline in the mid-20th century.

By 1430, a deed records the ownership of buildings on both sides of the Long Stair by Roger Thornton, a mayor of Newcastle and an MP, thereafter passed to his heir. By 1618 the property belonged to John Clavering and was lived in by James Clavering, a leading Newcastle merchant, also twice major. The house remained in the ownership of the Claverings until 1751 but was lived in by a succession of tenants. From 1759 to 1801 it was owned and occupied by another family, the Gauls, who ran a business there; then a succession of commercial enterprises occupied the house, mostly as warehousing, until the second half of the twentieth century (McCrombie 2001: 14-23).

d. *Historic Building Recording Phasing*

The previous analytical work on the historic fabric of the standing building (Addyman Associates 2004; Addyman Archaeology forthcoming) suggested a number of phases attributable to the visible fabric. As some of the archaeological, sub-surface features encountered in the works reported on here are contemporary with these phases, they are summarised in the following.

<i>Phase</i>	<i>Description</i>
1	Remains of a masonry structure to the rear of the eastern side of the property, apparently medieval
2 (i,ii,iii)	Remains of three late medieval or early post-medieval properties, not necessarily coeval, with timber-framed facades fronting onto The Close
3	Major reconstruction and reordering as a single property at the beginning of the seventeenth century
4	Rear wing added to the central tenement
5	Major re-ordering in the later 17 th century – c.1700, brick façade, etc
6	Addition of buildings at the rear of the western plot in the later 18 th century – c.1800
7	Conversion into a warehouse in the nineteenth century
8	Partial 'restoration' in c1933-40 by Lord Gort
9	Initial phase of conservation of the 1987-9 by Simpson & Brown Architects for Tyne and Wear Building Preservation Trust

2. Methodology and Stages of Work

Before the main archaeological excavations of the front, central rear, and north-west rooms were undertaken in response to the requirements of the refurbishment and restoration works, several phases of recording and monitoring during invasive works within the footprint of the building also took place. These are described in the following sections *i-iv*; this is followed by brief summaries of the stages of archaeological works whose results are reported on here, and concludes with a description of the methodologies employed in the excavation. The areas excavated are shown on *Figure 4*, below.

i. Ground floor survey (7-13 November 2007; 4-8 August 2008)

Following careful cleaning a general detailed survey was completed of the ground floor, including a record of the historic paving and a number of other individual features within the frontage rooms and central rear room. The general ground floor base plan surveyed by Addyman Associates in May 2004 was upgraded including the addition of paving in August 2007 and was revised in 2008 following better access and systematic cleaning. A drawn and photographic record was made, with individual features described by context (*cf. figure 15*, given at A3 size at the end of this report). The features associated with this floor will be described according to their relevant phase in the results of the excavation below.

ii. Initial engineering test pits (18-22 August 2008)

A series of five small engineering-related test pits were excavated within the ground floor rooms – the central part of the frontage rooms and within the central rear room (*figure 4*). While primarily for engineering purposes these were excavated archaeologically and fully recorded. It was at this point that a ‘test pit’ located in the central part of the rear room revealed a substantial void directly beneath a lifted sandstone paving slab – the discovery of a large well.

iii. Removal of flooring in the front and central rear rooms (10-16 September 2009)

After numbering individual stones on the archaeological survey plan the surviving historic paving was lifted throughout the frontage and centre rear rooms (and retained for re-use). This process was monitored archaeologically. The recovered slabs were initially stored within the back courtyard on site; once this was filled up they were stored outside in the eastern alley, and the remainder removed from site to the contractor’s yard. The slabs were generally 0.60m square of varying thicknesses; a number of these in the back room to the north-east of the well were very thick and heavy and were left in place for the time being. A considerable proportion of the historic flagstones delaminated or fragmented upon lifting and, unless formed of 2 or 3 larger pieces, were not retained. The remainder were numbered by MGM and marked onto a copy of the archaeological survey plan.

The existing concrete floor within the western part of the frontage area was broken out and lifted, along with the underlying sandstone rubble bottoming. Below this was exposed a compact rubbly soil deposit across the area which was not dug into further. The drainage pipe running along the west gable wall foot had been bedded in concrete within the pipe trench.

The brick and studwork partition wall within the east part of the ground floor frontage area was mostly dismantled; part of the south end, with attached alarm electronics, was kept intact. The modern partition within the eastern chamber and fibreboard wall coverings in the same area were also removed. The wooden flooring on either side of the partition wall was taken up - little was revealed below.

Additional sondages were made at this time to further investigate deposits in the area of the well. A north-south aligned test pit was excavated running south from the south side of the well. The excavation was 0.50m wide and ran to the wall foot of the brick interior wall to the south. The purpose of the excavation was to examine the construction of the well and the nature of surrounding deposits. The trench ran along the west side of a substantial and deep sandstone block within the

flagstone flooring (this with a post socket at the top). This was sited to also investigate a stone noted in the earlier excavation and to avoid the socketed flagstone (to the north) which was a deep one considered too large to move at the time by the contractors.

Within the test pit the upper deposits were a mixed hard packed clay and rubble layer (065), 0.10m deep. Below this was a hard packed apparent floor surface (066), composed of sand mixed with lime mortar to the S and small stones to the N - a layer of about 0.1m in depth.

Underlying this was a deep deposit of greyish clay (058) that was hard and compacted at the top, though becoming somewhat softer at depth. This deposit was excavated down to about 0.80m but not bottomed. From within the level a number of sherds of pottery recovered - some certainly medieval, others perhaps later (17th century?). The deposit appeared to abut the brick walling to the south.

This clayey material (058) was cut through by the well. The cut for the well was vertical where seen (this was also excavated down to about 0.80m) and sat about 0.20m from the rear of the well masonry. The fill of the well-cut (the packing between the well cut and the well walling) was of loose rubble and crushed lime mortar (057). From this was recovered 19th century material. The well and surrounding deposits were more fully investigated in the excavations of the central rear room, as described below.

iv. Monitoring of bore-test pits

(6 November 2008)

Bore tests were undertaken – 1 within the rear room, and 2 within the frontage room (see *figure 4* for locations) - to investigate deeper deposits and attempt to locate the underlying rock-head. These tests were monitored archaeologically.

v. General excavation within the centre-rear room

(February 2009)

The discovery of the well necessitated redesign of the proposed ground-reduction and make-up within the rear room in particular. Here a more general, deeper excavation of underlying deposits, to 0.50m below the level of the historic paved surface, was now required in advance of laying a pile-reinforced concrete slab within the area. Following removal of the flagstone floor this effectively required formal excavation of between 0.3m and 0.4m of the underlying deposits. The approach to the excavation is outlined in the Written Scheme of Investigation, *Appendix 1A*.

Though the previous investigative sondages had revealed that significant archaeological deposits would likely be encountered within the rear room the indications were that these would be largely composed of homogenous make-up deposits of probable medieval date (the latter on the basis of a few isolated sherds of pottery). It was therefore anticipated that the underlying deposits would be relatively uncomplicated and a proportion could be sampled by formal excavation and the remainder be removed by the contractors under archaeological supervision.

However, the first stage of excavation between 2-6 February 2009 revealed considerable further complexity, including later 18th century / early 19th century drainage systems, structural remains of probable late 17th or early 18th century date, and further masonry features and more complex dumping activity that were clearly of medieval date. These finds necessitated a change of excavation strategy (in agreement with Jennifer Morrison at a site meeting, 13 February) whereby a much higher proportion of the site was subject to formal archaeological excavation, and only limited areas remained for supervised removal by contractor. This second stage of work was carried out between 23-27 February. Excavations proceeded in the central rear room with the laying-out of north-south and east-west baulks to maintain stratigraphic control, and the room was therefore excavated in four quadrants, *A-D*.



Figure 4 Plan of excavation areas

*vi. General excavation of the north-west room**(May-June 2009)*

The existing floor levels and deposits in the north-west room were high in relation to the rest of the building, and, to provide enough height to make this room a useable space, the existing floor and underlying deposits were required to be lowered by c.0.75m. This reduction in levels also necessitated the underpinning of the room walls; the sensitivity of the deposits here meant that the slots for the underpinning were excavated by hand by Addyman Archaeology staff. The east flank of this room was excavated first, with an east-west aligned cross-baulk maintained for stratigraphic control.

*vii. Excavations within the frontage room**(July, October 2009)**a. Excavation for foundations*

A strip foundation was excavated to the north-west against the foot of the north wall so as to construct a second skin of structural masonry. This was originally excavated by the site contractors until it became clear that artefacts and features of interest were being exposed, with excavation then continued by hand by Addyman Archaeology staff. The trench was 0.50 m wide and 3.5m long and was excavated to a depth of 0.50m.

b. Excavations within area of new entrance to north-east room

As part of the proposed layout for the refurbished building a new entrance was to be broken through the fabric of the north wall of the frontage room to lead into the rear room to the north-east. This was to utilise an existing recess whose rear wall was to be opened up – the point that would cause the least impact on the surrounding historic fabric. The structural history of the recess was complicated, its construction in part involving the breaking away of the east side of a substantial fireplace of early date, much of the lintel of which still remained *in situ* immediately to the east side of the existing recess. At one stage the recess itself had functioned as a fireplace (or oven?) and was provided with its own flue. The interior of that fireplace had subsequently been opened up, the flue blocked off, and the interior possibly converted into a wall cupboard or similar. The masonry and brickwork walling surrounding the recess was unstable in many areas; building works consequently involved much dismantling and rebuilding. During these building works stones of an *in situ* springer course for the former stone vault of the north-east chamber was identified at the point where the rear of the recess was broken through.

The floor area within the recess was reduced to allow a new concrete floor to be laid. Within this area of excavation flagged flooring was found to overlay a drainage channel that in turn overlay brickwork relating to the hearth of the early fireplace. These features were excavated by hand and recorded.

*viii. Service excavations to the exterior**(March 2010)*

In 2010 as part of continuing monitoring of building works both above ground within the upstanding structure, Addyman Archaeology were contacted by CE Electric UK Funding Company/Shiremoor (contact Ian Lloyd, Distribution Engineer), to monitor works and record any archaeological features uncovered within a series of service trenches for electric supply around the exterior of the building.

These trenches were largely excavated at the beginning of March 2010 and recorded on the 4th of March 2010.

ix. General excavation methodology

Where areas were subject to full archaeological excavation, works proceeded according to Addyman Archaeology standards and in accordance with IFA (as it then was) guidelines. Archaeological contexts were assigned context numbers of 3 digits, to distinguish them from the 4-digit standing building elements recorded in the historic building analysis; these context numbers appear in this report in round brackets and in *italics*. Features, contexts, and deposits were recorded on pro-forma sheets. Plans and sections were drawn on permatrace at appropriate scale, usually 1:10 for sections

and 1:20 for plans, and located within the site. These form a permanent archive of drawings. A full photographic record was maintained throughout the works, of digital, black and white print, and colour slide film. Site records were entered on to Excel spreadsheets after excavation, permatrace field drawings scanned and digitised where appropriate to create inked illustrations. Deposits or fills of features deemed to be of artefactual, archaeobotanical or palaeoenvironmental interest were soil sampled for flotation and analysis; each sample received a unique sample number.

This report presents the registers of summary information generated in the archaeological works. *Appendix 1B* gives the context registers for all stages of works; *Appendix 1C* the drawing register; *Appendix 1D*, all soil samples taken; *Appendix 1E* provides the finds register; and *Appendix 1F*, the register of the photographic record. *Appendix 2* with its subsections *A-I* provides specialist analysis of the materials recovered during the stages of work.

3. *Excavation within the centre-rear room*

i. Earliest levels – clay sub-soil and possible riverine deposits

At two points, within a deep sondage beyond the general limit of excavation in the centre-east part of the room, and at the wall foot towards the north-west corner, possible natural deposits were encountered. In the former area the upper part of a mid-brown compacted silt deposit (039) was encountered at a depth of 1.0m below floor surface. This was entirely devoid of cultural material, finds, etc. Bore testing a little further west revealed this deposit to continue to considerable depth of about 1m and underlying layered deposits of similar silts, and sands – likely consistent with river-related natural build-up. These were encountered to the maximum depth of the bore – at about 5m below surface. The rock-head, which clearly must rise above ground surface only a few metres upslope to the N of the building, was not encountered.

Within a localised area at the north-west corner of the room, sealed beneath a later mass of masonry collapse (007), was revealed a deposit of clean orangey-brown clay (041), this again wholly devoid of artefactual material, and whose upper surface sloped gently down to the south (i.e. towards the riverside). This material appears to be consistent with the underlying natural subsoil that is generally encountered in Newcastle excavations (J Morrison pers. comm.). However, while appearing to be a deposit of undisturbed natural, the exposure was so localised that it was difficult to be certain; the presence of rapidly rising ground water in this area may suggest it is undisturbed natural. Further, it is clear from surrounding sites that the geomorphology of the river edge is complex, and flooding events may deposit layers of clean clay overlying sandy lenses containing 13th century material, as was the case where the Town Walls meet the river's edge (Graves & Heslop 2013: 174; Nolan *et al.* 1989).

As just noted the (041) clay deposit was overlain by fallen masonry (007); it seems that this is the same deposit of rubble (in this area assigned 038) that overlies the (039) silty material, and thus the two underlying deposits were encountered at a similar stratigraphic level. It is perhaps curious that to the north-west the rubble directly overlies clean clay – if an undisturbed natural surface one might have expected an overlying topsoil; a possible explanation may be that this was a natural exposure of subsoil revealed by river-scouring, or by slope-wash, or may have been exposed during site preparation (following cutting way of previous topsoils?). Alternatively, this might indicate that the clay layer encountered was a riverine flooding event rather than the basal clay. These early deposits, as well as later stratigraphy, may be seen on *figure 5, below*.

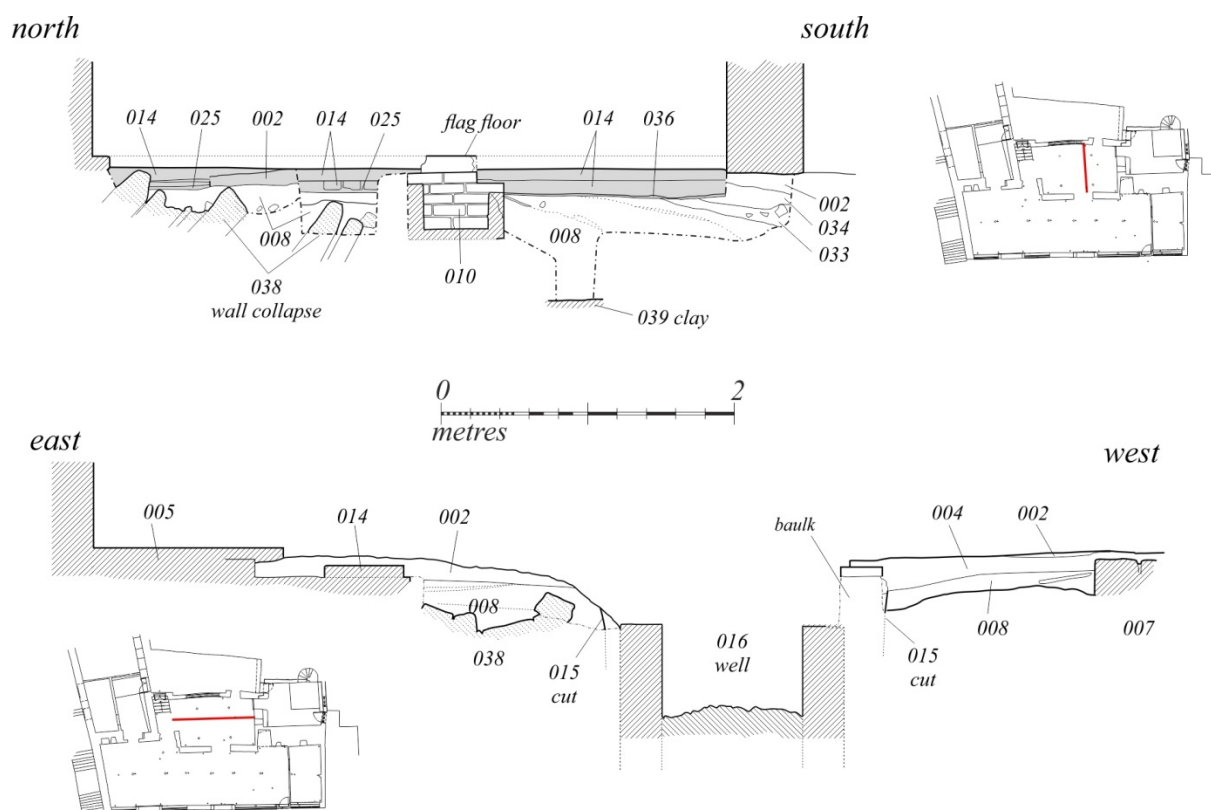


Figure 5 Sections across areas excavated, centre-rear room

ii. Medieval development of the shorefront - 13th-14th century

a. Earliest features and deposits

As noted above, the apparent possible natural deposits were overlain by a substantial mass of rubble-stone (038) (plates 1-2). This consisted of a single level of medium-sized and large un-worked slab-like blocks of local sandstone. Notably most of these stones were steeply inclined or almost vertically-set, particularly at the existing north wall foot. It was initially supposed that the deposit may have been intentionally laid as a dry footing for a masonry wall; however, it was discovered that the deposit extended along much of the north side of the rear room and extended into the mid part of this room. In the centre part of the room (to the north-east of the later well) residues of degraded mortar were encountered amongst the stones – principally the sand aggregate after the leeching of the lime. Evidently this represented the remains of a collapsed mortared rubble-stone wall.

Clearly the wall had fallen or had been pushed down from the north – possibly its footing had run close to the line of the existing north wall of the room or perhaps it had lain somewhat further up-slope.² The wall must certainly have been east-west aligned, running parallel to the riverside and slope contour. The distribution of stones, larger ones towards the edges and smaller ones in the centre, could reflect a wall construction of larger facing stones and small hearting of the wall core. The quantity of rubble-stone in the areas less disturbed by later impacts suggest it must have been substantially built and at least 1.5m in height, and perhaps considerably higher. It may have had the dual function of riverside property boundary for a land unit extending up-slope, and retaining wall. This structure or building was probably contemporary with the early pottery recovered from the later site built-up – thus of firm medieval date.

² perhaps less likely but still a possibility is that a free-standing wall further S was pushed backwards and upslope to the N

Intermingled with the stones throughout and overlying them to a considerable depth was a major deposit of very dark grey-brown humic silt, (008), discussed further in the next section. With regard to the wall it is possible that this had been material upslope that had been retained by the wall – a deep topsoil and associated build-up.



Plate 1 Remains of early collapsed wall along the north wall foot of the rear room (038), looking east



Plate 2 Remains of early collapsed wall along the north wall foot of the rear room (038), looking west

b. *Early waterfront reclamation – primary levels*

It is likely that much of the medieval deposition encountered within the rear room relates to the reclamation of the waterfront area that seems to have begun in the 12th century, with major episodes in the 13th to 15th centuries. That this reclamation was very deliberate and over a large area is suggested by the later 13th century documentation of the presence of a road (the predecessor of the present Close) with buildings on either side, whereas towards the beginning of the same century there is no such suggestion from documents (McCombie, 2001). The remains and deposits encountered within the present excavation appear to be part of this process, now understood to be both piecemeal and complex. The presence of a sherd of Orange-Buff ware associated with (007) and a sherd of Late Reduced Greenware type 4 in (008) suggest a date nearer the mid- 14th than the late- 13th century for these deposits (Sage, *Appendix2A*), a slightly later stage of foreshore reclamation than the earliest 13th century material recovered elsewhere. This may suggest that the clay deposits noted at the base of the small soundings were not the pristine basal geology.

As described in the previous section the earliest build-up encountered was the remains of the collapsed wall (038) that may well have been deliberately pushed down from up-slope. The overlying (008) dark humic deposit was notable for its considerable depth, extent and homogeneity. There was no evidence within it of individual dumpings or lensing; this may support the suggestion that it represents a mass of material re-deposited from further up-slope that may have been deliberately pushed down as part of the reclamation process. Further to the north, where (008) overlay and was intermingled with the remains of the wall (038), its upper extent had been truncated. Further south, from the mid-area of the room southwards, the upper surface of the deposit was traceable; it sloped gently southwards towards the riverside. Clearly deep in many areas, the deposit was recorded to a maximum depth of 0.7m within the abovementioned sondage in the centre-east part of the room.

c. *Early waterfront reclamation – overlying levels*

Along the south side of the room the (008) deposit was found to be overlain in most areas by a sequence of more or less minor dumpings and lenses of material of varying nature (lenses of coal, stony material, humic layers, etc. - 033/034), some of which appear to be domestic in origin. Though

pottery was recovered from a number of these, one particular dumping level produced large numbers of sherds with fresh-edged breaks from a limited number of vessels – perhaps as few as 3-5 – spread within a very localised area (beneath the area of the existing broad arched entrance into the rear room: *plate 3*). The assemblages derived from (034) and (027) contained significant proportions of complete vessels compared with the other dumping deposits on the site it, and it therefore seems likely that they represent midden material associated with early- to mid- 14th century occupation of the site (*Sage, Appendix 2A*). This is consistent with the mortar samples recovered from (034) suggesting this deposit contains residual medieval fragments of mortar (*Ruchonnet, section 12 below, Appendix 2E*).



Plate 3 Early make-up deposits within the area of the archway in the south wall of the rear room, looking west; note pottery spread, the associated stone rubble deposition (centre – 034), and to right the underlying (008) make-up level; at top the brick walling can clearly be seen to be founded upon a stone predecessor (048)

d. Discussion

In summary, these deeply-stratified make-up deposits would appear to relate to the deliberate reclamation of the waterside and the expansion of the townscape of medieval Newcastle into this area – the establishment of The Close, of domestic and commercial properties on either side, and the construction of a waterfront accessible to watercraft. The Javel Groupe excavations across the existing Close and precisely in front of Nos. 28-30 have a very direct bearing on the understanding of the deposits just described (*Nolan & Vaughan forthcoming*). Excavated on the site were a series of masonry quayside structures and jetties that seem to have been established in the 13th century and were successively extended southwards throughout the medieval period and later as more warehouse accommodation and more commodious shore-side facilities were required. These jetties were served by a number of intervening slipways or *groupes* that extended back northwards towards The Close.

A striking feature of the medieval deposition encountered within the present excavation was that it had been consistently truncated, at about 0.25m - 0.30m below existing floor surface level. There are a number of indications within the existing structure of 28-30 The Close to suggest the medieval floor level was very considerably higher than the uppermost surviving *in situ* medieval deposit. Within the western frontage room a fireplace lintel of likely later medieval date now appears somewhat stranded at head height at the west end of the north wall, the existing floor level now some 0.6m – 0.7m below the level of the earlier one. Similarly the original threshold level of the surviving western jamb of an early entrance between the frontage and rear rooms in the area leading to the existing courtyard entrance is similarly stranded some 0.5m – 0.6m above the existing floor level. It is possible that in the rear room truncation of overlying deposits may have been even more pronounced. The truncation appears to have occurred at the end of the 17th century or the very beginning of the 18th – see following section.³

A further observation is that the existing rear room to the north-east, beyond the masonry wall bounding the east side of the excavation area, seems to be the earliest surviving component of the upstanding complex and whose remains still stand two stories in height. The room is stone-walled with a deeply sunken floor; it had evidently been accessed by a stone newel stair that still survives within its north wall and there is apparent evidence for a street-facing entrance to the south. Building recording of this room confirmed the presence of a springing for a stone vaulted ceiling. It thus seems likely that the chamber had been a cellar and, from its few remaining features, certainly of medieval date. That the chamber had been a cellar is supported by the above-described evidence of a considerably higher surrounding medieval ground surface than the existing ground floor level. This type of cellared storage arrangement is common in major medieval trading cities such as London, Southampton, Winchelsea, Norwich, etc.

The original position of the 13th century street remains unresolved and would not have necessarily been directly recoverable within the areas examined by the present excavation. It might be hypothesised that The Close had originally lain at least in part on the site of the existing frontage range, and that it had subsequently migrated further to the south – whether as a result of additional space being made available by further reclamation of the river frontage side, or simply the road being narrowed by the forwards creep of the street frontage on the north side – a well-documented phenomenon. In this scenario the early masonry building, as represented by the walling defining the chamber to the north-east, may have directly fronted onto The Close before the timber-framed predecessors of the present frontage range were erected in the 15th or 16th century. It is possible that this suggestion is supported by the inclination of the Long Stairs, whose lowest part is at a lesser gradient than it is a little further up-hill.

Unfortunately if the down-cutting of deposits has been as draconian as seems to have been the case then the evidence for an earlier street alignment below the floors of the frontage range will have been swept away.

It is possible that the make-up deposits and reclamation exercise are coeval with the construction of the masonry structure to the north-east with its vaulted cellar. However on the east side of the excavation of the centre-rear room it proved impossible to determine whether the masonry at the wall foot cut the (008) reclamation deposit or whether the latter had abutted the former.

³ In contrast further E, within the eastern frontage room, early features seen within the N wall appear today to be at about the correct level in relation to the existing floor – this might suggest that there had been a slight rise in the early micro-topography of this localised area, as one travelled westwards.

iii. Possible later medieval remains

a. Stone-lined drain (040)

Of somewhat uncertain date was a stone-lined drain with mortared masonry walls, stone slab base and cappings, that ran in north-south alignment along the west side of the excavation area - (040) (plates 4-5 and Figure 6). Cut into the medieval deposits from above, its chronological and stratigraphic relationship to these otherwise remained uncertain – whether of similar date or built quite considerably later (late medieval or even early post-medieval). Up-slope the drain had been truncated in a similar manner to the surrounding medieval deposits, the interior partly becoming in-filled with associated debris and finds of varied date. Down-slope the drain clearly ran under the brick-built south wall of the rear room (broadly dated to c1700) and, importantly, an underlying earlier wall footing – (048) of pre-1700 date. Further, the four pottery sherds recovered from the fill (045) of stone-lined drain (040) were very fragmentary and spanned the early- 13th to late-14th century (Sage, Appendix2A). While possibly residual, these sherds may suggest the feature was indeed earlier rather than quite considerably later.



Plate 4 Stone-lined drain (040), looking south, running below early wall footing at top (048)



Plate 5 Stone-lined drain (040), detail of drain looking west, following removal of part of fill

b. Wall footing (048)

The base of the brick-built south wall of the rear room appears to have been built upon the stone footings of a predecessor on broadly the same alignment, (048). At three points along the length of the south wall projecting sections of masonry were revealed, consisting of a single course of large roughly rectangular blocks of sandstone whose northern faces were in very close alignment, an alignment that diverged very slightly from the line of the brick wall as one proceeds eastwards. To the east part of a further course appeared to survive. The heavy tooling apparent on the sandstone blocks' faces indicate they had been substantially dressed back. The base of the brick walling was founded directly upon these stones; further to the east they were also abutted by brick floor constructions of similar date.

Within the sondage below the west side of the arched entrance was revealed a single stone of the south face of the footing; from this the overall width of the footing was calculated to be 0.65m – 0.70m.

The footing (048) appears to have been cut into the surrounding medieval deposits but its actual dating is less clear. It is in the correct position to either have formed part of a masonry footing or plinth for a timber-framed ground floor wall rear wall of the frontage building, or a fully masonry wall rising to first floor level. Whether relating to masonry or timber-framed construction, it is certainly a possibility that the wall on this line was coeval with the existing early common joists surviving within the central part of the frontage range. The northern ends of these timbers are visible within the rear room, encased by the later brickwork. That they have clearly been sawn off suggests that the upper stories of the frontage building may have been jettied to the rear.⁴

However this wall-line does not correspond to the position of an existing relict masonry jamb further to the west, this evidently part of an entrance within the rear wall of the early western frontage building. This entrance lay some 1.5m to the north of the line of the (048) footing. It is possible that the footing contained recycled stonework and that it was built at the same time as the brickwork walling above. The true line of the rear wall of the late medieval frontage structure was thus not established with certainty – possibly it may have lain further to the north.

iv. Features relating to the construction of the rear wing – c1700

a. Introduction

Analysis of the standing building suggests that the gabled rear wing – the area of the centre-rear room – formed part of the modifications to the wider building that are broadly datable to the end of the 17th or very beginning of the 18th centuries – ‘c1700’ (HBR phase 5). Within the area of the rear room it was concluded that a number of features could be grouped within this episode of construction. These included the existing brick-built south wall with its broad arched entrance, the re-facing in brickwork of parts of the east wall, and the entirety of the earlier surviving elements of the part masonry and part timber-framed north wall (substantially restored, with a new gabled top, by the TWBPT with Simpson and Brown Architects in 1989). As noted above the first-floor timber-framed and brick in-filled wall section above the brickwork of the south wall may also be of this date.

b. Site preparation

As already described the pre-existing deposits – early make-up levels, flooring, occupation deposits – and nearly all built features had been systematically truncated in a building-wide reduction of levels. This seems reasonably certainly to be associated with the erection of the existing rear wing and drastic remodelling of the frontage range whereby a new brick-built street frontage and gable walls to east and west were formed. The existing half-timbered, jettied frontages were removed at this stage. Whether this reduction was also related to wider alterations to the exterior street level is not known.

Certainly within the centre-rear room there was revealed a notably levelled surface at about 0.20m below the existing flooring. At many points it seemed that this had formed a construction surface for the erection of the rear range as suggested by the presence of mortar residues, a compacted level of sand containing further mortar debris, small brick fragments, etc., (004). This layer was very compacted, overall consisting of a rubbly soil deposit. Some post-medieval pottery and 19th century tobacco pipe stems were recovered from the top of this surface at the interface between (004) and (003) above, the latter obviously relating to the overlying deposits. The area of (004) in the vicinity of the well cut [015] was more finds-rich. The make-up of this layer suggests that it was laid down as the

⁴ This is perhaps further supported by the existing half-timbering of the walling above the joists – clearly many of the individual timbers are reused in their present positions; this half-timbered wall section is perhaps of c1700 date – i.e. coeval with the construction of the brick walling immediately below.

lower make-up in possible preparation for the laying of a brickwork or flagstone floor for the c1700 phase structure.

c. *Evidence of structural features to the east*

Within the eastern part of the rear room survived *in situ* remains of a mortared brickwork platform, (014). This had a formed edge on its west side that ran northwards from the eastern jamb of the arched entrance within the south wall, continuing all the way to the north wall. The platform was formed of two courses of horizontally-laid low-fired orange-red terracotta bricks (23cm by 10-11cm by 6cm), the courses stepped at the western edge. The bricks forming the upper course were neatly laid. Towards the east wall of the room the brickwork of the platform had been wholly removed – to the north-east it had been impacted by the construction of a later sunken masonry stair (005), and to the south-east it had simply been dismantled, apparently at the same time. In the latter area mortar residues (011, 012) demonstrated the feature had indeed extended much of the distance to the east wall foot. These overlay a level of mortar, bedding for the lost brickwork of the flooring itself (or possibly bedding for an even earlier floor structure) – (013). For these and contemporary features, see *figure 6*. Two window shards were recovered from context (011), one dating to the latter half of the 17th century and the other to the 18th or early 19th century (Murdoch, section 10 below, *Appendix 2C*).

On its surviving western edge the brickwork was more perished towards its southern end with evidence of apparent wear; by contrast a little further north the edging bricks were excellently preserved. At its south end the surviving brickwork of the west side of the feature seems to have formed the base stage for a wooden stair. The stair had evidently risen eastwards from this point, perhaps to a quarter landing at the room angle (or simply rising around the angle), before continuing again in a further straight flight to the north. Corroborating evidence for this second flight survives upon the east wall of the room, where a diagonal mortar silhouette was readily discernible and coarse stonework existed at the wall face below this line, but above on the stair side, the wall was neatly faced with brickwork (of similar character) and plastered over.

The last decayed vestiges of what seem to have been a series of four aligned vertically-set squared timber members survived to the south along the broken eastern side of the platform; similar evidence of decayed woodwork was seen at the extreme south-east angle of the room (020). Whether these features related to the original construction of the brick platform was not possible to determine, though it is possible they had formed part of the substructure of the stair. That the posts had evidently rested upon the (013) mortar bedding, and the northernmost post appeared to respect a mortar spread in that area (012) suggests they might be coeval with the stair construction.

Upon the upper surface of the platform survived the mortar silhouette of an east-west aligned cross wall of double-brick thickness, this at 1.5m – 1.8m to the north of the south wall of the room (028). This had perhaps formed part of the supporting sub-structure for the stair; it also apparently defined a chamber or recessed area at the north-east corner of the room.

Remnants of set mortar-work in patches along the west side of the brick platform, (036), suggested that more of the room had been paved in brickwork in that direction at the same period.

Within the area to the north-east, and also built upon the brick platform, survived the lower course of the western side of a circular mortared brickwork feature formed of identical bricks as the platform itself (001). This retained the remains of a probable fire-box and splayed grate-opening on its west side. The feature seems to have formed part of a pot-boiler arrangement or light industrial installation that had been accessible from the main part of the rear room further west. The east side of the feature had been truncated by the later steps (005).

d. *Discussion*

The important evidence for the stair adds considerably to the understanding of this part of the standing structure and how it had functioned at this period. The stair rising at this angle may also have extended to second floor level. It seems to have given access between the first floor chambers, evidently the principal accommodation, to what seem to have been service arrangements at least at the lower level of the rear wing. Relating these below-ground remains to the upstanding structure will be examined in more detail in the Historic Building Record report.



Plate 6 Brick-built footing (014) for a cross-wall and base of a wooden stair, looking north

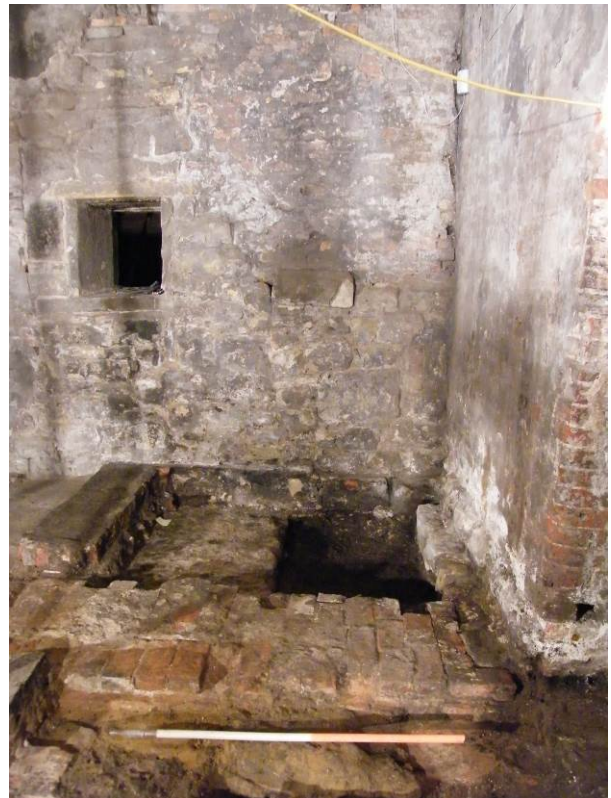


Plate 7 Area of base of stair, looking east; the walling above preserves the diagonal silhouette of part of the stair timberwork superstructure



Plate 8 Vertical view of the eastern side of the excavation area showing the surviving extent of the (014) brick platform, the later sunken stair and paving to top right (005, 043) and later drain to lower left (010); north at top



Plate 9 The fragment of the circular brick-built feature, (001), overlying the northern part of the brick platform, (014), looking west; at top abutting the platform are further mortar remains, (036)

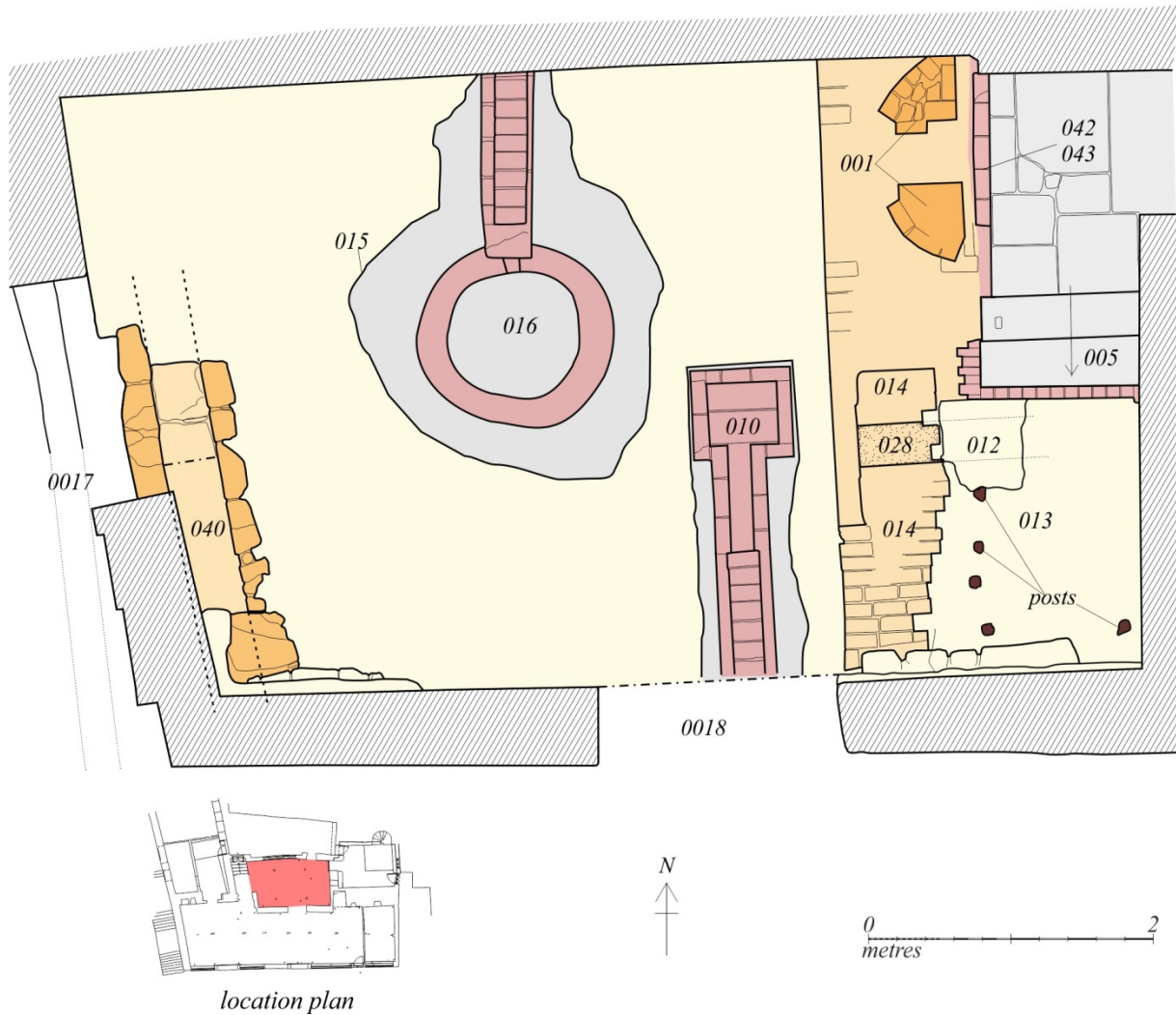


Figure 6 Centre-Rear Room plan of excavated features

v. Works of c1800 – early 19th century

a. Well (016)

A substantial well was revealed at the centre of the room at the evaluation stage, (016) (plate 10). During the excavation most of its details were revealed. It was found to be wholly brick-built down to the maximum depth of exposure of about 2m below floor level; the bricks were header-bedded and set with lime mortar, of coarsely produced *common* type and of larger dimension than those of earlier phases (24cm x 11cm x 6.5cm). The well-sides appeared to be stable though sub-oval rather than circular in plan. At the existing top of the well shaft it was apparent that upper courses of brickwork had been removed and that the well lining had originally risen to a higher level than at present.

Excavation revealed the entirety of the clearly defined well cut (015), see Figure 6 above. From its uppermost edge extended a vertical-sided cut of about 2.0m in diameter. Finds from within the humic, mortar rich and rubble-packed fill of the cut (006) included pottery and a tobacco pipe bowl, the latter suggesting a mid-later 19th century date for the well construction. However, it was revealed that the upper part of the fill had seen secondary disturbance, described in the next section. Finds from further down within the cut fill included sherds of white salt-glazed tablewares of later 18th century date that perhaps suggest a slightly earlier origin for the feature, perhaps c1800 or the following decades. It is also possible that the well may be a much earlier feature whose upper parts were remodelled at this time – unfortunately there was no necessity to empty the fill further.



Plate 10 Brick-built well (016), channel running in from the north (018), and later brickwork relating to capping (017); looking west

b. *Brick-built inlet channel to well*

Running in north-south alignment from beneath the north wall of the rear room to the upper part of the side of the (016) well was a brick-lined water or drainage channel (018). This was formed of similar brick and mortar to that of the well construction itself, it clearly related to the well and sloped down to it, and was likely of the same date. Though the feature was left *in situ*, its clearly defined construction trench was fully revealed, (029). Whether this channel directed water from up-slope into the well or provided a conduit for roof run-off was not determined though the latter is perhaps more likely.

c. *Brick-built drain running southwards*

A little to the east of the well, but not directly associated with it, a further brick-built drainage feature was encountered: an apparent sump, square in plan, with a brick-lined channel running southwards from it, (010) (*plates 11-12*). The feature was neatly constructed of mortared brickwork of very similar character and construction detail as the channel running into the well, (016). The channel extended through the broad arched entrance within the south wall of the rear room, and into the frontage room beyond the limit of excavation; it very gently sloped down in that direction. The feature lay within a well-defined vertically-sided cut, (021). The drain fill (022) was of silty/humic material with considerable rubble content – crushed mortar, some stones and broken brick.



Plate 11 The (010) brick-built drain as revealed, looking south



Plate 12 The (010) brick-built drain and its construction trench following partial removal, (021); note the yellow sandy make-up levels associated with the c1700 works on either side – looking north

vi. Early-mid 19th century brick-built features and existing flagstone floor

a. Capping of the well

The alterations to the upper parts of the well seem to relate to its going out of use: it appears to have been capped-off. The upper sides of the well were reduced in height; a series of timbers were laid over the well shaft about 0.5m-0.6m below existing flagstone floor level. Short straight sections of mortar-bedded brickwork walling (017) were built to the south, west and north, these partly corbelled out over the well-shaft. The section of brickwork to the south employed reused 17th or 18th century bricks, edge-set. It appears that this blocking-off and construction of brickwork related to the laying of the existing flagstone floor - apparently in the mid-later 19th century.

b. Flagstone flooring, associated features and make-up

Following careful cleaning the existing flagstone floor (*plate 13*) was revealed to survive in most areas within the centre-rear room and was recorded *in situ*, see *figure 15*. An area had apparently been considerably disturbed to the south-east, and to the north-east an area of recent concrete flooring extended through the entrance into the rear room to the north-east. Removal of the latter during general reduction of levels revealed well-preserved steps (005) leading down to a paved sunken area (043) that in turn provided access to the entrance itself (*plate 14*). The west side of the sunken area was retained by a single skin of mortared brickwork (042).

Removal of the flagstone flooring revealed an underlying make-up deposit (002) across much of the room interior – generally a mix of sand and crushed lime, but somewhat rubbly at points and generally to a depth of up to 0.10m (*plate 15*).



Plate 13 Flagstone flooring within the central part of the rear room, looking south



Plate 14 Masonry stair (005), sunken area and paving as revealed at the NE corner of the room, looking east



Plate 15 Pre-excitation photograph showing the extent of the (002) make-up beneath the flagstone floor, with the well (016) encountered in the central part of the room and associated modifications; looking west

4. Excavation within the north-west room

i. Introduction

Excavation took place within the southernmost part of the long brick-built range that runs northwards from the rear of the frontage range along the Long Stair, the west boundary of the site. The southern part of this range had been repaired and roofed over during works in c.1990 while the remainder remained roofless and ruinous. The newly-roofed southern compartment was itself sub-divided internally into eastern and western chambers. The floor level within the eastern chamber was substantially reduced and a new concrete floor installed. The present excavation related to reduction of levels and underpinning of walls and the installation of a floor within the western chamber – referred to here as the ‘north-west room’.

The floor of the north-west room lay at a much higher level than the frontage rooms and adjacent spaces, some 1.20m higher. In order to furnish this area with enough head clearance to be a usable space the floor level needed to be lowered considerably. This lowering of the floor was also expected to require some underpinning of the west elevation. These works would severely impact any surviving archaeological deposits which, given the difference in floor levels and the immediate proximity of this chamber to the sharply rising Long Stair on its west side, seemed likely.

Following the initial breaking-out of the concrete flooring (*plate 16*) it became clear some depth of *in situ* archaeology survived below, and some surface finds of pottery of likely 13/14th century date suggested it might be of considerable archaeological significance.

In advance of proposed works a trench was hand-excavated across the room from north to south effectively excavating the eastern half of the room. This gave a clear section through the archaeological deposits right down to apparent underlying natural clay deposits of the former river bank.

Following confirmation of the significance of the archaeological deposition within this area it was decided that the underpinning-related excavations should be conducted by hand by an archaeologist. These deposits were removed in seven rapidly-excavated slots or sondages each up to 1m in width and each excavated beneath the full width of the areas of walling immediately above.



Plate 16 Pre-excavation view of the interior of the north-west room, looking north

i. Earliest levels – clay sub-soil and possible riverine deposits

Within this room the earliest deposit was clearly *in situ* greyish very solid clay (071); this was very homogenous throughout but with a small percentage of rounded stones mixed through. This formed a ridge of clay running from the north-west corner of the room, sloping down to the south and east to below the limit of excavation. The early steps of the Long Stair to the west must have run down the slope of this ridge of clay; the existing steps lie at a somewhat higher. See figures 7 and 8 for sections of these deposits discussed in this and following sections.

The surface of the clay appeared to be very cleanly-defined and perhaps water-washed. Associated with this further to the east at the limit of excavation was a thin deposit of apparently water-borne, loose clean silts (070), grey to light orange in colour. These directly overlay the clay deposit at its lowest exposed extent, here more level than the slope down to the west. This might suggest that the clay beneath was beginning to level out further to the east, forming a water-washed foreshore not much below the base of excavations reached. Recovered from the base of this deposit was one sherd of Roman Samian pottery datable to the first half of the third century AD (Wallace, section 7 below).

The western extent of the (071) clay, beneath the western wall foundations, was exposed in a series of slots during the underpinning. Its surface continued sloping upwards to the north and west before levelling out and beginning to slope down to the west. It was overlain by deposits of washed gravels (082) to the north and sands to the south; these appeared to be water-lain natural river edge deposits. The gravels (082) were washed clean but heavily stained reddish with water-logging; some larger stones were incorporated into this matrix, as well as a quantity of Roman pottery including Central

Gaulish Samian and Black Burnished wares and an incised cookpot fragment (Wallace, section 7, below), all of the first half of the 3rd century AD, as well as animal bone fragments, all notable for their extent of abrasion and water-related staining. These deposits may therefore represent the early riverine foreshore, predating the medieval reclamation dumping activities.

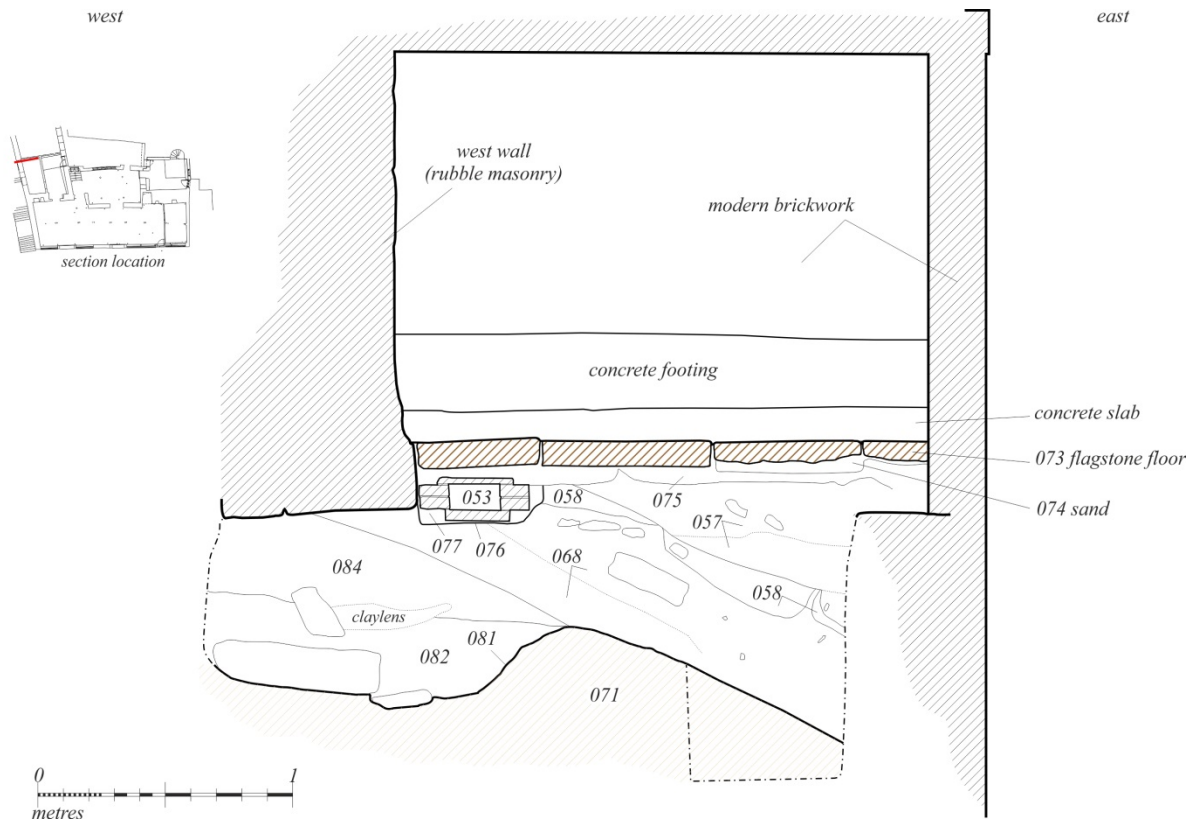


Figure 7 North section, NW room

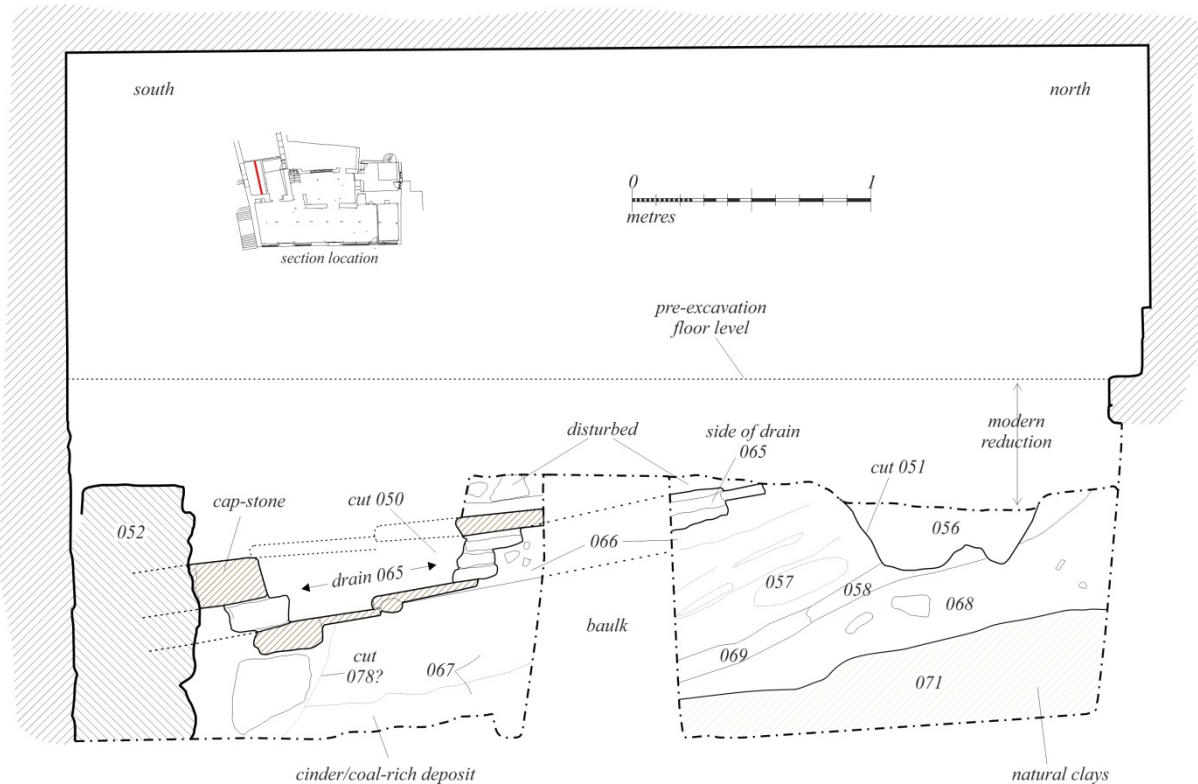


Figure 8 Section across deposits, NW room

ii. *Medieval development of the shorefront - 13th-14th century*

a. *Early waterfront reclamation – primary levels*

The earliest man-made deposits exposed within this room relate to the deliberate infilling of the river's edge in order to extend properties out into the river. Within the north-west room this process appears to be represented by numerous dumps of mostly organic-rich material, deposited from the west to the east and south, with the deposit tip-lines generally following the same sloping profile down as the underlying surface of natural.

The earliest deposit was a very mixed stony silt (083) containing coal fragments, with lenses of dense coal-fragment concentration but elsewhere composed of cleaner silt and clay. This deposit was also partly mixed through with the underlying (082) gravel material. Recovered from (083) was a large thick sherd of a Spanish olive oil amphora of earlier third century AD date.

The next major dumping deposit was a 0.50m deep (at the deepest extent to the north) layer of largely organic waterlogged materials (068), again sloping down to the SE, following the general slope. The deposit was composed of laminations of many lesser dumps and lenses within its general matrix, all relating to fairly rapid infill activity. The individual dumps of material varied from very organic with many small tree branches and twigs preserved in the round, to more cinder-rich deposits, generally of domestic refuse containing a few small rounded stones mixed through. Soil samples were taken from these organic-rich lenses for palaeo-environmental analysis and water-logged organic material retrieval (see Armstrong, Section 15 below).

Also from these layers were recovered a large amount of well-preserved leather off-cuts and identifiable shoe soles, many of which showing signs of wear; they were found throughout the deposits rather than as an isolated dump. One piece was a perforated leather disc, which may have been a simple button, washer or gasket. Most pieces represent the discard from a cobbler's shop where shoes were repaired and refitted (see Mold, section 14 below for full discussion and analysis). Leather elements were also recovered elsewhere within the building from similar waterlogged deposits.

In addition, a large quantity of pottery and bone was recovered from these dump deposits. The pottery was largely of medieval date (late 13th – 14th century types) with around 10% of the assemblage of earlier medieval and Roman types, no doubt residual. (A small concentration of decorated Roman sherds from the same vessel was located within one small lens beneath the foundations near the base of the deposit; this was a small deposit of mixed clay lumps and some small stone fragments: residue from construction elsewhere? This Roman material was also mixed with sherds of medieval type, however). In general – and considering the material derived from the overlying dump deposits (057/067/095) – deposit (068) seems likely to derive from the later 13th century (Sage, *Appendix 2A*). A worked bone awl (SF025) was also recovered (Ruchonnet, *Appendix 2D*).

This deposit (068) was separated from a very similar overlying series of deposits (057/067) by a thin layer of fine silty sand (058) which continued to the south as a narrow lens of rubbly soil (069), apparently part of the same infilling activity. This (057/067) was excavated as (057) north of the cross baulk and (067) to the south, but was clearly the same deposit and generally similar to (068), composed of laminated organic and cinder-rich lenses containing medieval pottery and leather fragments. The upper surface of this deposit sloped evenly down to the south where surviving although there may have been some subsequent truncation during a later construction phase. Though depositionally similar, the pottery from dumping deposits (057/067/095) was markedly different from that from deposit (068), as Roman and early medieval types were completely absent, and the rest of the assemblage suggests a late 13th to early 14th century date (Sage, *Appendix 2A*). In addition the pale buff lime mortar fragments recovered from (067) would support a 13th century date (Ruchonnet, section 12 below, *Appendix 2E*).

b. Discussion

The laminated deposits appear to represent the activities associated with the roughly 13th – 14th century reclamation activities along the river bank. The basal deposits encountered may preserve the earlier embankment of the river before this reclamation process began. In contrast what was revealed within the centre-rear room, where the basal clay was overlain by thin contexts possibly representing *in-situ* Roman water-front activity, the earlier 3rd century AD material found in the basal deposits in the north-west room were intermixed with later medieval material and was clearly residual. The material found in the small areas excavated here include waste material from cobber repair activity as well as domestic refuse but, if related to foreshore reclamation, must be considered tertiary deposits rather than simple discard relating to nearby occupation.

iii. Possible later medieval remains

A number of possible medieval built features were excavated within the southern parts of the room. These features were excavated in separate sections, and had mostly been impacted by later phases of development. They include a large masonry wall foundation (052) and the remains of three probable stone drains (080), (065) and (098) (figures 9 and 10).

a. Stone-lined drain (080)

Possibly the earliest of these built features was the rubble-built drain (080). This feature ran into the excavation area from the east before curving down to the south to disappear beneath masonry wall foundations (052). The sides of the drain were composed of un-bonded rounded boulders forming a rough interior face, with an uneven top. The drain base was partially composed of small flat cobbles or slabs and elsewhere of bare soil. The drain cut (096) was dug in to the surrounding soils (067). Where the drain curved round and continued beneath the masonry (052), the sides were of large squared blocks of sandstone. A single substantial capstone survived within the (052) masonry; any others further north would have been removed by later features, particularly by the later drain (065), whose base sat partly on top of the sides of drain (080).

Probably related to the later construction of (065), the interior of the (080) drain was filled with neatly-packed, small flat rubble stone (079). This may have been laid for a foundation; alternatively, this packing may have been original to drain (080) in which case it may have functioned as a soakaway. However the drain void preserved beneath the single surviving capstone was silted up with soil, not infilled with rubble. The fill of the drain contained Buff White and Scarborough Ware (Sage, Appendix 2A).

To the east drain (080) had, as with all other deposits in the area, been truncated by the late 20th century ground reduction; in addition, its upper parts, to the east of (065), may also have been truncated by a further stone feature (?drain 098).

b. Stone lined drain (065)

This was a substantially-constructed drain (plate 17) whose sides were constructed of un-bonded split sandstone blocks that defined a channel 0.15m high and 0.30m wide that ran down the centre-west part of the room (065). These side stones sat on top of large sandstone slabs which formed the base. These base slabs sit on the top of deposit (057/067), the even surface of which sloped down to the south. Whether this was reduced down this level to form the run for the drain or was the pre-existing top of the underlying deposits remained unclear as almost all of the upper section of (057/067) surrounding the drain had been truncated in historic and recent (20th century) building works. The drain was capped with large sandstone slabs, two of which survived. Its fill contained only mid-13th – 14th century pottery (Sage, Appendix 2A).

The surrounding top of the (057/067) deposit was capped with a thin layer or working surface of sporadic lime mortar (072) mixed with some soil: this appears to be the constructional surface associated with the formation of the drain. Following its construction the ground level was raised with a single deep deposition of a greyish clayey soil with numerous coal fragments mixed evenly throughout. The upper extent of this had been truncated for later flooring.

The north end of the drain and most of its capstones had been graded away during historic ground reduction to lay new flag flooring. The drain was subsequently superseded to the north by a brick-built one (053). The surviving drain was also heavily impacted by two large probable engineers' test pits from the 1980s against the west elevation: one to the north (051) and one to the south (050); these pits removed large segments of the drain construction.

To the south, drain (065) had been cut through and built over by the masonry of (052), making it obsolete as a functioning feature. It must have formerly continued southwards and into the street beyond, either into a street drain or possibly directly into the river. This drain must have related to the use of the building prior to the frontage ground-level reduction, thus before phase 5 of the building sequence ('c.1700').



Plate 17 Drain (065), middle surviving section, once capstone lifted and emptied, looking north

c. *Stone lined drain (098)*

Feature (098) comprised the probable remnants of a rubble-built drain. However its remains had been heavily truncated from above and to the east by the works in the late 20th century. All that remained to the east was one flat-lain sandstone slab, clearly broken along the cut of the 1980s works. Sitting on top of this were two split square sandstone blocks sitting parallel to and on the line of this cut. These may be the last remnants of a drain similar in construction to (065). A further squared stone sitting directly beneath and to the north of this on the same alignment as the side stones may relate to this feature, which possibly also cut through the (080) drain.



Plate 18 *Wall footing 052, sectioned with drain [080] mid ground and alignment of 3 stones to left*

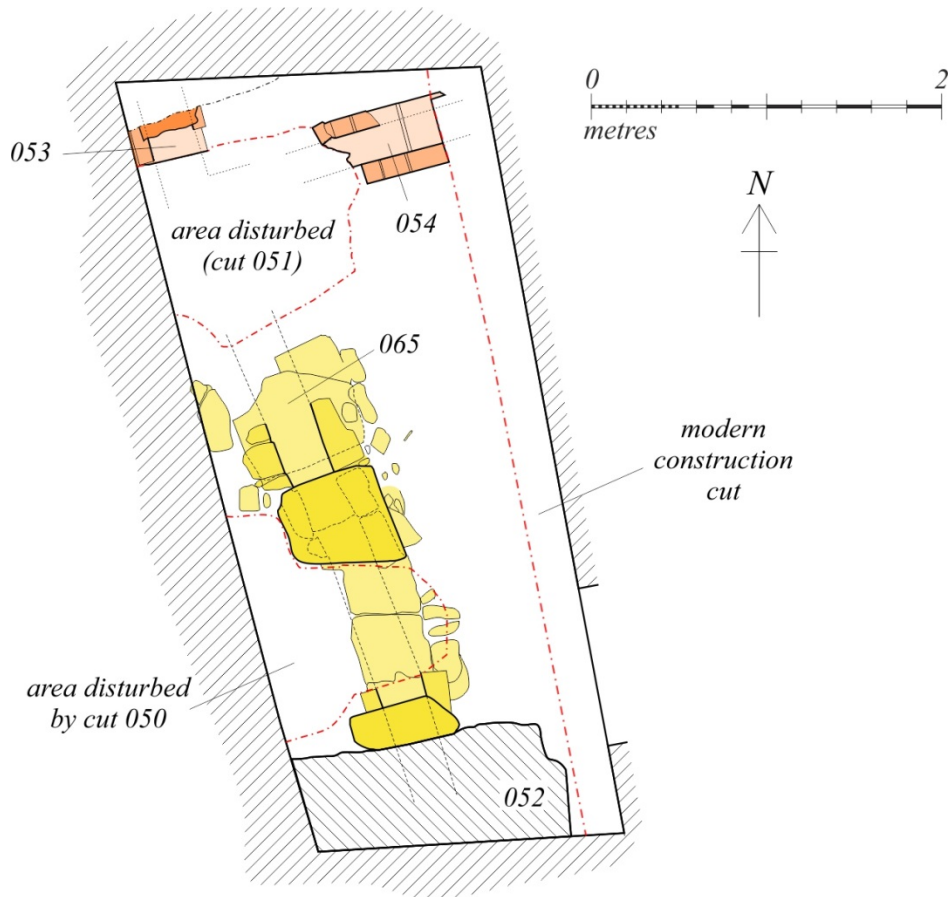


Figure 9 Plan of upper drains in the NW room

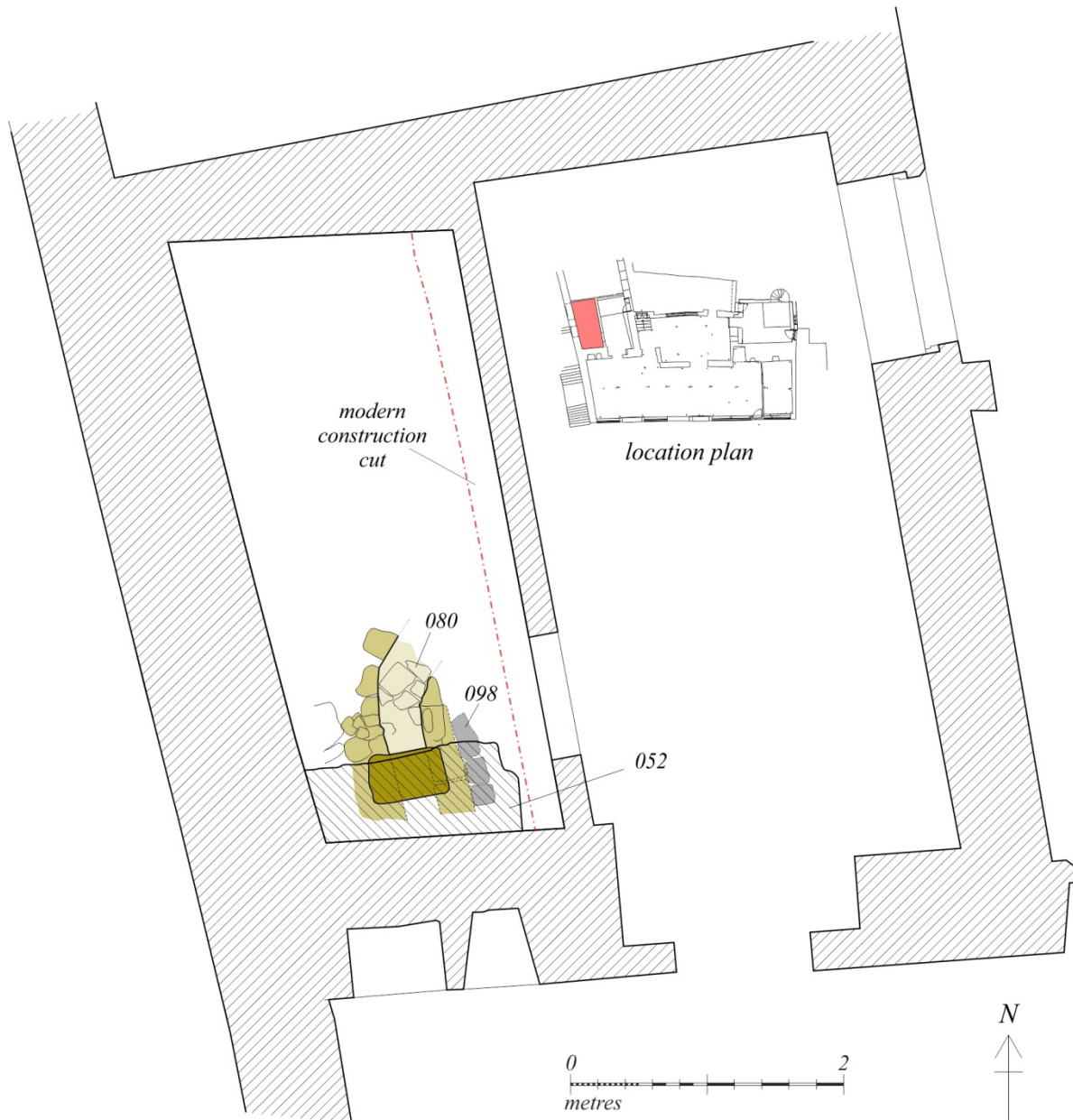


Figure 10 Plan of Early Drains [098] and [080], NW room

d. Wall footing (052)

This was a substantial, well-constructed lime-bonded rubble masonry alignment along the southern extent of the site, exposed 0.50 m wide and to a height of 1m. Its upper and eastern extents had been truncated in the 20th C. Immediately to the south of this feature, a brick back of the current fireplace is built up against it.

To the north the masonry is likely to have been cut through the (067) soils, with a constructional cut (078) tentatively identified. Drain (065), however, had clearly been cut through and built over by this masonry. Its exposed northern face was very rough and not a finished face; it is therefore likely that (052) represents a part of a foundation, possibly of the former frontage.

As the masonry passes over the drain (080) the drain's construction changes from small rounded boulders to large squared blocks with large capstones and it is possible (though not likely given it had been largely demolished and superseded by (065)) that the drain may have been partly rebuilt beneath

the wall. A further explanation for this may have been that the masonry wall found sits on the line of a pre-existing structure and the drain was built more substantially to flow beneath that.

On its south face during dismantling some soot or heat blackening was noted on its face; although this could be transfer through the brick back of the secondary fireplace which abuts this masonry, the areas observed suggested direct contact to fire. If the face had been the back of a fireplace to the south, this could mean that this was still the early frontage-line foundation, but following the historic ground reductions in the front room, the formerly below-ground masonry was newly exposed and incorporated into the back of the fireplace. Alternatively, this masonry could represent a new build retaining wall/fire back following the frontage ground reduction, perhaps associated with the truncation of the then-obsolete, and too high, drain (065).

e. *Slab feature (061)*

A small slab-built feature survived in part at the SW of the room (*plate 19*). It also had been heavily truncated by the 1980s works, to the west by pit cut (050) and to the east by cut (049) for the new partition wall; its upper extent was truncated during floor reduction. All that survived were two (formerly) vertically-set thin sandstone slabs cut into deposit (066), with an earthen floor between, possibly originally forming an open channel. During the earlier works the sides had been pushed over and the space between infilled with a mortar-rich deposit (064). The assemblage from deposit (066) broadly mirrored that from the later dumping deposits described above (057/067/095), late 13th to early 14th century.



Plate 19 Feature (061) as seen in the section of late pit (050)

iv. *Building works of the mid-19th century*

This phase was possibly associated with ground reductions in the frontage room to the south, involving lesser level reduction in the north-west room, the laying of new flooring, new drain installation, and the construction of the brick fireplace elevation to the south.

The lowering of the floor level in the room involved the truncation of all the upper archaeological deposits, as noted above, most notably drain (065). Thereafter a new sandstone flag floor, composed of 2'-wide flags (073) bedded on a mix of sand (074) and cinder (075) bottoming, was laid. Some of these flags were observed still *in situ* below the modern north elevation; others were noted in backfill (055) of the 1980s test-pit (050).

A new drain (053), formed from early brick, was constructed below this new floor. It ran from the NW corner to the S, before turning 90 degrees to the E. This new drain was likely to have been required as a result of drain (065) having been truncated previously and therefore not draining anymore - leading to water build up and flooding. Most of drain (053) was itself removed by cut (051) of the second 1980s test-pit (*figure 9*)

The masonry of (052) appears to have been reduced to just below this floor level during this phase, and a new brick wall/fireplace (093) constructed in the south room, abutting the (052) masonry. Below the floor level the brick work was very rough where it abutted (052), but above the floor level the brickwork formed a coursed good face.

v. *Later 20th century works*

Works in the 1980s heavily impacted the surviving archaeology in the area of the rear rooms to the north-west. A pre-existing single larger room was split in two by a modern brickwork partition wall. In the eastern half of the earlier the *in-situ* archaeology was reduced by at least 1.20m; the cut for this and the partition wall (049) defined the eastern extent of the surviving archaeological deposition within the excavated reduced north-west chamber.

As a part of these works, the flag floor (073) was lifted and mostly removed; two large, presumably engineers' test pits (050) and (051) were dug to examine the foundations of the west elevation, removing large portions of the drains (065) and (053) and associated deposits as they did so. These test-pits were then backfilled in part, with spoil and rubble – most noticeably in pit (050) with floor slabs (redeposited (073) elements) – and following this, concrete was poured, in-filling the cuts of (049), (050) and (051) to obtain a roughly level surface, with a final more substantial concrete floor was lain on top.

5. *Excavation within the front room*

i. *Excavation for foundations*

a. *Introduction*

A strip foundation was excavated within the north-west part of the frontage room, this running along the foot of the north wall (*figure 11*). The purpose of the excavation was to form a trench for the footing of a second skin of structural masonry against the north wall. The trench was initially excavated by the site contractors until it became clear that artefacts and features of interest were being exposed, and excavation was continued by hand by Addyman Archaeology staff.

The trench was 0.50m wide and 3.5m long and was excavated to a depth of 0.50m, at which level the top of a layer of substantial rounded boulders was encountered, mostly towards the west of the trench. The trench was waterlogged and filled rapidly with water, requiring continuous pumping for work to continue.

b. *Early deposits*

At the lowest level reached in the trench – an arbitrary depth dictated by the requirements of the redevelopment rather than a specific archaeological horizon – and concentrated at the western extent of the trench, was a spread of large rounded boulders (*091*). Only the tops of these were partly uncovered at the depths required, and did not appear to be a clearly defined structure but may represent a spread of rubble stone running down to the east, following the general slope of the underlying natural. These were overlain by the waterlogged wooden feature (*087*) and stone scatter (*084*) as described below.

c. *Medieval development of the shorefront - 13th-14th century*

The upper deposits were of waterlogged organic materials (*084/086*), very similar to (*057/067*) in the NW room, immediately to the north. The pottery from these deposits was also similar in date (Sage, *Appendix 2B*). These were largely excavated by the contractors under supervision until some potentially *in situ* deposits were uncovered – notably, a large timber (*087*) – at which point excavation was undertaken by hand by archaeological staff. To the west, (*084/086*) was separated from a lower, similar deposit (*090*) by a thin lens of clay (*085*) sloping down to the east from the western foundations, possibly mirroring the narrow lens (*058/069*) in the northwest room which likewise separated deep organic deposits. From these deposits numerous off-cuts of leather and large sherds of large pottery vessels were recovered. Given the narrowness of the trench, it is possible that these deposits were redeposited within a constructional cut for the wall, the cut of which would extend beyond the trench. The deposits within the trench did appear to abut the masonry rather than be cut by it, although there could have been a cut excavated tight to the founds.

Sitting within the organic-rich deposit (*084*), a large timber (*087*) was uncovered. It was, in part, built over by the later masonry of the standing building. It appeared as a thick length of timber, preserved in the round and apparently unworked except for a shallow, roughly orthogonal notch cut into its upper surface (*plate 20*). Possibly associated with this timber was a spread of small rubble stones (*088*), though it is possible this scatter is merely a discrete dump within the (*084*) deposits. More closely associated with timber (*087*) were two smaller vertically-set posts, up to 10 cm in diameter, which appeared hammered into (or perhaps overlain by) the (*084*) dumped material.

These timber and rubble features may represent the upper part of some early riverside structures, or may be part of the large scale water-front reclamation dumping episodes; the restricted exposures in the excavated trench make a definitive interpretation difficult. If the large timber (*087*) was indeed an *in situ* structural element, then it is notable for lying on a different alignment than all the other structures so far exposed on site.

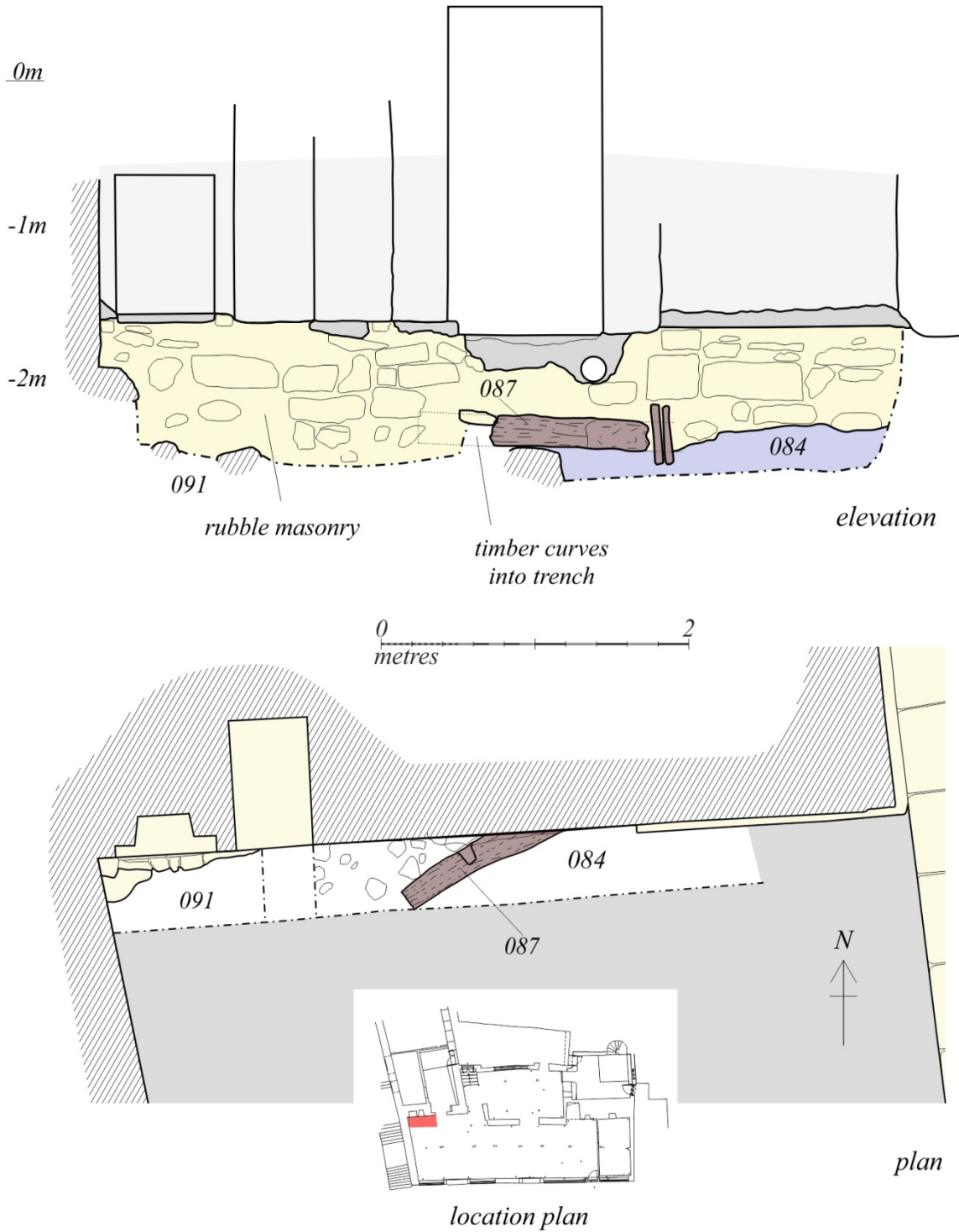


Figure 11 Elevation (top) and plan (bottom) of front room strip foundation trench



Plate 20 Timber (087) with rubble spread (088) to right

ii. Excavations within former fireplace

a. Introduction

As part of the new layout of the building, a new door was to be slapped through the early fabric of the existing north elevation, to lead into the NE room. This was to pass through the recess of an existing fireplace/recess, breaking through the masonry backing. The fireplace recess was a reduction of a much wider fireplace the lintel of which could be seen in the wall face. The construction of this recess entailed infilling the eastern half of the former fireplace with a smaller masonry fireplace. The reduced western part was extended, up cutting through the stone lintel of the wider fireplace. The masonry surrounding this recess was unstable; the eastern side was largely composed of infill of the wider fireplace, and the western side was generally very unstable. Much of this unstable masonry was taken down and rebuilt as part of the present works.

b. Medieval elements

With the stripping away of later brickwork, an architectural find of note was the *in situ* survival of the lowest springer course of cut sandstone blocks, part of the vaulted basement chamber to the north the existing masonry. This apparently earlier phase of masonry was composed of two structural elements, masonry (108) and (110) with cobble paving (111) (plate 21 and figure 12). The (108) masonry was aligned E-W, with an apparent made face to the north, bonded with lime. This well-faced norther side formed the south elevation of the vaulted basement related to the earliest phase of the standing building. Its southern face, by contrast, appeared in the present limited exposure to be rough and uneven, perhaps because it was formerly below-ground foundations, only latterly exposed within ground reduction works.

Associated with masonry (108) was (110), which appeared to be a secondary masonry wall, running S from (108), with sandstone blocks defining its faces. No bonding material was noted within the exposed masonry. Between these two wall elements extended a cobble surface (111). These elements represent the earliest standing masonry structures of the building, and were left intact.



Plate 21 Masonry walls 108 and 110 and cobbles 111 as exposed

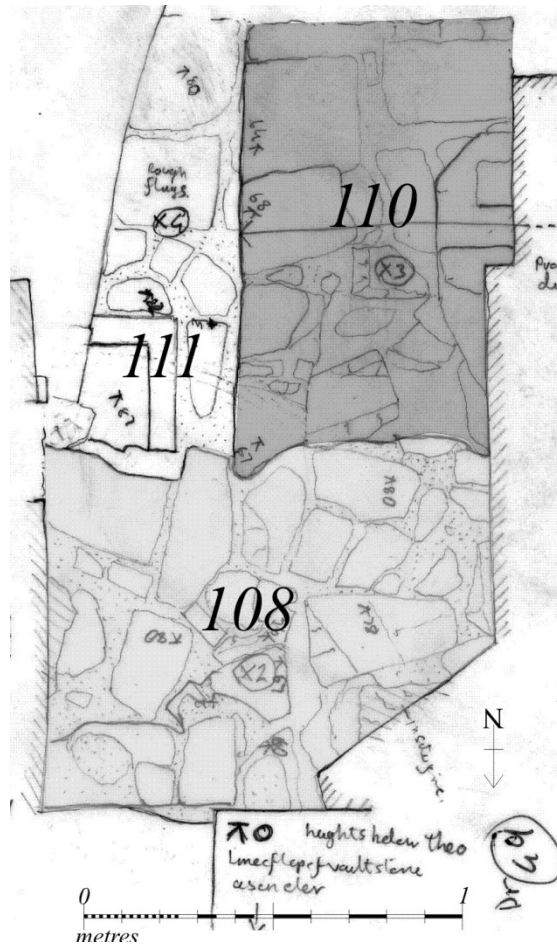


Figure 12 Masonry walls 108 and 110 and cobbles 111 as exposed

c. *Later works*

The floor within the recess was reduced to allow a new concrete floor to be laid; this reduction was excavated by hand, within this excavation a former flagged floor (113) was exposed beneath the latest timber floor (plate 22).



Plate 22 Flagged floor (113) as exposed, looking N



Plate 23 Drain (101) below flags (113), emptied out. Looking N

These flags sat on a mixed mortar rich bedding (114) and were of well-cut square sandstone slabs with a patch of brick in the NW corner. This represented the flooring within the cupboard recess latterly covered over by a secondary timber floor.

Directly underlying the flagstones was a brick built drain (101) apparently running from within the reduced fireplace to the south (plate 23). This was well constructed in lime standing 4 courses high with a mortar base and part capped with slates. The drain was infilled with relatively recent mixed deposits (104), including numerous chewed crisp packets – an apparent rat's nest. This was cut (102/103) through the base of the original fireplace. The east side of the drain was left *in situ* to avoid further undermining the east masonry.

The original full-width fireplace was floored with edge-lain early brick (106) (plates 24-25). These were worn and heat affected on the surface and sloped down towards the front and middle of the fireplace. The back of the fireplace was also of brick (100), (112).



Plate 24 Brick firebase (106) as first exposed, looking N



Plate 25 Brick firebase (106) showing heat damage and wear, looking south

The bricks were bounded to the south by the remnants of a 0.30m-wide rubble masonry foundation possibly for a kerb or the front of a built oven structure. These were bedded on a loose mix of soil and lime mortar (107).

The underlying loose rubble spread (109) had been partly truncated to form the firebase. This spread was a mix of crushed lime mortar soils and small rubble stone, evidently a demolition/levelling layer. Once this was removed, the remnant of 2 walls and a paved area was exposed beneath.

6. Service Excavations to the Exterior

i. Introduction

It was hoped that some early archaeological deposits might have survived the extensive installation of modern services around the building in the trenches excavated to its exterior in 2010, to complement those found within the footprint of the building. However, within the exposed trenches that are the subject of this report only 19th -20th century services were encountered with the single exception of one truncated brick-lined drain that may have dated somewhat earlier, 015. The excavated area was effectively largely contained within the back-fill of these earlier service cuts.

ii. Trench excavation

a. General

The trenching that was monitored can be described in two parts. The first section ran along the east side of the building, within the alleyway towards the street front; the second, longer trench along the street frontage itself – *figure 13*.

b. Trench to east

This section of trench ran southwards from the rear entrance towards the northern end of the east wall of 28-30 The Close. By the entrance itself a larger area of approximately 2m x 1m was excavated. From this, the general pipe trench, 0.45m in width, ran out to the south; it widened to 0.8m as it ran to the street front. The trench was cut through the concrete surfacing of the alleyway into the deposits below to a depth of 0.40-0.50m. These deposits mostly comprised the back-fill around earlier (modern) service piping. The most recent of these, (014), ran southwards from the entrance; this was a modern pipe of the 1980s works at the site that had been noted in an earlier excavation in this area. This ran within a vertically-sided cut about 0.50m wide that had been in-filled with gravel.

A large 0.25m diameter salt-glazed pipe, (005), was encountered, running from north to south; its top lay at 0.15m below the present ground surface at its northern extent, reducing to 0.40m to the south. The north end of this section of piping had been removed, possibly recently. This pipe had in turn been cut through an earlier brick-sided and capped drainage channel with a base formed of inverted pan-tiles, 015, that ran in east/west alignment across the trench, noted within the east section of the cut; this must also have been truncated by the cut for (005) – see *figure 14* and *plate 26*.

The bricks of the drain (015) were hand made with dimensions about 6 x 11cm, of similar character to those seen within the building around well (016) and associated features. It was cut through what appeared to be in situ natural riverside silty sand deposits.



Figure 13 Exterior service trench location plan

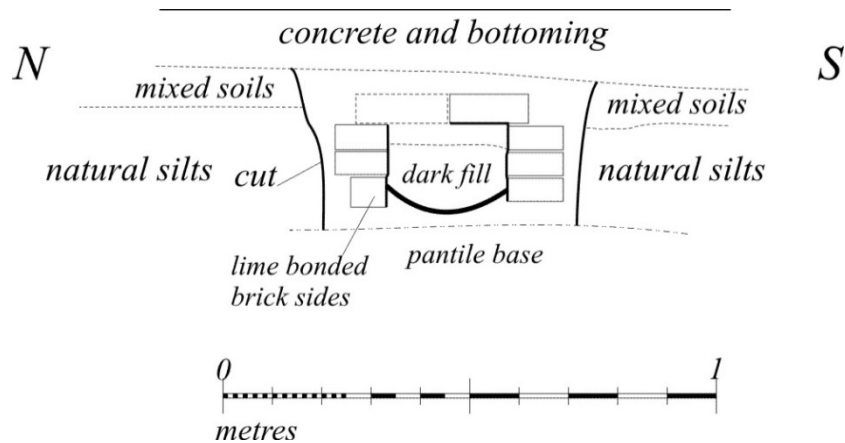


Figure 14 Detail – eastern section across drain 015 as exposed in the side of the cut for drain 005.



Plate 26 Detail of drain 015

c. Street frontage trench

This section of trench ran for 11m along the wall foot of the southern street frontage before stepping out to run along the path side against the rear face of the kerb stones to a depth of 0.30-0.50m; it then continued along the kerb to the western side of the Cooperage building, W of the Long Stair: this was excavated down to the top of the cable (012) at about 0.30m.

The first section along the wall foot lay within the back-fill of a mains electric cable laid within a ceramic pipe, (006). Two north/south aligned 1" diameter lead pipes (002, 003) were encountered at 0.40m below surface towards the eastern end of this trench section; these clearly ran on into the alleyway. The (003) pipe had evidently formerly been jointed onto an iron pipe, now corroded away.

At the SE corner of the building a modern cable, (001), was seen running down the masonry and then into a cast-iron piping bend, and thereafter into ceramic pipes that run off to the SW. Towards the mid-point of the building frontage three more pipes were noted running into the building – (007), a 1" copper pipe; (008), a 1¼" lead pipe; and (013), a 2" modern green plastic pipe – see figure 13.

Where the trench stepped out to the kerb it crossed two further iron pipes running parallel to the building at 1 and 1.2m out from its wall foot – (009), 12.5cm in diameter, and (010), 8cm diameter. These were located at about 0.4m below surface.

Within his trench the wall foundations were partially exposed (*plate 27*). The sandstone wall face continued below ground for 0.20m, better preserved than the upper exposed sections. This showed the masonry to have been detailed with vertical tooling. Within the exposed area, the surviving foundations below this masonry appeared to be a course of brick.



Plate 27 Wall foundation exposed below ground, 20cm scale

Two 1.5cm diameter plastic cables were also noted in this area. (011) appeared to run to a lamppost and (012) possibly ran from this lamppost onwards to the west. The remainder of the western part of the trench followed this cable and lay entirely within the backfill of its trench (or within numerous other electric service cuts seen further to the west – *plate 28*).



Plate 28 Trench extending westwards along the street frontage showing exposed cable(012).

7. Roman Ceramics by Colin Wallace

i. Summary

The Roman pottery from the lower deposits at The Close comprised 60 sherds from ten contexts, with a further single unstratified Roman sherd. The most dateable pieces from Context (068) and Context (082) suggest that the deposits accumulated in the first half of the third century AD. The Roman pottery consists of sherds of late Samian ware, Black-Burnished 2 dishes and cooking pots, Lower Nene Valley colour-coat beakers, an Oxfordshire mortarium, southern Spanish olive-oil amphora and sandy grey, fine grey, shell-tempered and oxidised wares. Several sherds exhibited concretions and surface deposits as if they had been lying in water for some time. One piece bore incised letters, presumably those of the name of a pot's owner.

ii. Discussion

The location, condition and date of the present Roman pottery assemblage combine to give it no little interest. Excavations in the central and extramural (eastern) parts of medieval Newcastle's quayside in the 1980s and early 1990s revealed something of a port area made during the mid-late thirteenth century, commencing with platforms of made-up ground, at the foot of the existing cliff, projecting out into the river and covering what had been tidal mud-flats (O'Brien *et al* 1988, O'Brien *et al* 1989, Ellison *et al* 1993, Goodrick *et al* 1994; summarised in Ellison *et al* 1993, 216). These medieval processes of construction, embankment and infilling seem to have coloured the view taken of the discovery in 1990 of Roman-period dump deposits at the Angel Inn site, below the promontory on which the Roman fort sat (cf Passmore *et al* 1991, 23). That report claimed '*clear evidence of riverside work of the Roman period*' (*op cit*, 17); presumably the Roman pottery in these deposits, of mid second to mid-third-century date (Dore, in Passmore *et al* 1991, 23), resembled material from a Roman-period site rather than the obviously residual, very small/selective amounts of Roman pottery from elsewhere on the Quayside (eg the samian ware from thirteenth-century contexts at the Queen Street site [2 sherds: O'Brien *et al* 1988, 42], from thirteenth-century and later contexts at the Crown Court site [3 sherds: O'Brien *et al* 1989, 143] or seventeenth-century contexts at the Swirle 1990 [1 sherd: Ellison *et al* 1993, 131]).

But this point is not actually addressed or supported in the very short published report, which presents no drawn or quantified pottery. The 1991 report characterises the Angel Inn Phase 1 deposits as clearly different from the Crown Court and central area medieval deposits. Natural at the cliff edge is clay (O'Brien *et al* 1988, 25); out in the flood plain, on the foreshore, the boulder clay was covered by alluvial sands (*op cit*, 154). In some parts of the quayside, medieval rubbish was dumped along with clay, stone and sand during the reclamation process (O'Brien *et al* 1988, 10); dumping against and above the thirteenth-century quay wall at the Crown Court site contained caulking material, cobblers' waste, animal and fish bone, for example (O'Brien *et al* 1989, 149, 167, 177, 182, 193-94). Elsewhere, the sterile, medieval deposits of sand and stone on the foreshore are likely to derive from the dumping of ballast taken from the Thames estuary during the coal-shipping trade (Goodrick *et al* 1994, 230). By contrast the Angel Inn deposits were more in the way of redeposited or disturbed alluvium, containing only pottery (Passmore *et al* 1991, 17-18), less in the way of organic rubbish or deliberate dumping.

A useful recent discussion of military midden deposits (Bishop 2004, 183-85), including the famous *Schutthügel* downslope of the first-century AD base at Vindonissa in Switzerland, provides another starting point for developing our understanding of deposits like the Castle Stairs and the Close ones, in the context of the overlap between forts and extramural settlements. '*The immediate environs of forts should be examined for locations of potential 'rubbish' deposits*', noted the regional ceramic research framework (Evans & Willis 1997, 23). The recent overall research agenda and strategy for the North-East makes useful points about the research now required into the function of forts and the integration of forts and *vici* (R iii: Petts 2006, 148), to which the evidence from the present site can make a contribution.

As to the date, there are currently three horizons for the start of Roman-period activity in the Newcastle area. The first is the shadowy, pre-Hadrianic possibility of an early river crossing of the Tyne at Gateshead (Bidwell & Snape 2002, 256-59). The second is the construction of Hadrian's Wall in the period AD122-27 (Hill 2001, 7-9), including the short-lived Milecastle 4 (maybe abandoned as early as the start of the occupation of the fort: cf. Dore in Harbottle *et al* 1988, 159). To either or both of the first two horizons belong two periods of activity on the Castle Garth site before the construction of the fort (Snape & Bidwell 2002, 15-24). For neither of these two horizons is there currently much, if any stratified Roman pottery from central Newcastle.

The third is the construction of a military base on the promontory above the river and bridge at Newcastle, late in the second or early in the third century AD (Snape & Bidwell 2002, 166-68). The fort was certainly in existence by AD213 and may well be a foundation of the AD200s (Bidwell & Snape 2002, 252). It continued in use to the end of the Fourth century AD (*op cit*, 280), though the nature of the site seems to have changed. Extramural activity is recorded on more of the higher ground, west of the fort (Snape & Bidwell 2002, 5-7); at Forth Street, 1965/67 (Harbottle 1968, 178), the published pottery appears similar to that from the construction levels of the fort (Gillam, in Harbottle 1968, 202-05 & fig 13). A similar date-range can, apparently, be assigned to the assemblage from the new excavations on the same site (Hodgson 2009, 87). A cremation burial rather further away, near the milecastle (Harbottle 1967, 129; Gillam, in Harbottle 1967, 134 & fig 4.1) is likely to be early third-century (Gillam Type 151 lid-seated jar, cf Bidwell & Speak 1994, 228-29). Across the Tyne at Gateshead, on the opposite plateau, the activity on the excavated site at Bottle Bank was also chiefly of late second to third-century date (*op cit*, 89). The Nene Valley colour-coat forms in the recent material, especially the beakers, are commonly dated mid third-century onwards (Howe *et al* 1980, 18, 24); while the ware occurs earlier at the eastern end of Hadrian's Wall, it is commonest later in the century (Snape & Bidwell 2002, 152). The BB2 dish here is one of the later types at South Shields (Bidwell & Speak 1994, 227).

iii. Catalogue

The Roman pottery ought to be recorded to the Ceramic Archive level set out in the Study Group for Roman Pottery's 1994 Guidelines, in order to assign a reasonable date to the assemblage, to give an indication of potential and to lend itself to useful comparison with other contemporary groups from North Britain (not least from a taphonomic point of view). Wares can be linked as far as possible to the published descriptions of the National Roman Fabric Reference Collection and to the terms commonly in use locally.

Context 027: bodysherd, Central Gaulish samian (NRFRC: LEZ SA 2); date-range, as 068 and 082

Context 067: bodysherd, plain Central Gaulish samian (LEZ SA 2); date-range, as 068 and 082

Context 068: burnt rim sherd, form 79 dish, East Gaulish samian; date-range, as 068 and 082

Context 068: rim sherd, form 79?, Central Gaulish samian (LEZ SA 2), plus greywares; date-range, as 068 and 082

Context 068: rim sherd, f31 bowl, LEZ SA, plus BB2 dish base and cooking-pot rim sherds; date-range, as 068 and 082

Context 068: folded beaker sherds, Lower Nene Valley colour-coat (LNV CC), Gillam 54-type (Guide 42/43); folded beaker sherds, LNV CC, Gillam 53-type (Guide 38/39); plus other LNV CC, LEZ SA 2 form 79? and BB2 cooking-pot sherds; date-range first half C3AD

Context 070: bodysherd, f31 bowl, LEZ SA 2; date-range, as 068 and 082

Context 082: bodysherds, Central Gaulish samian and Black-burnished 2 cooking-pot; date-range, as 068 and 082

Context 082: dish bases and rims, Gillam 319-type (S Shields type 6), Black-burnished 2 ware; folded beaker bodysherd, LNV CC; Gillam 342 (Guide 89) bodysherd, LNV CC; thick white bodysherd, LNV CC; Oxfordshire mortarium base (OXF WH); BB2 cooking-pot sherds, Gillam 115-type (inc shoulder with incised letters), plus sandy grey, fine grey, shell-tempered and oxidised bodysherds; date-range first half C3AD

Context 083: bodysherd, S. Spanish olive-oil amphora (BAT AM 2); date-range, as 068 and 082

Unstratified: flange, form 38 bowl, LEZ SA 2, date-range, as 068 and 082

8. *Medieval and Post-medieval Ceramics by Andrew Sage*

i. Overview

An assemblage of 1127 sherds (23.3kg) of medieval and post-medieval pottery was recorded from the excavations. Although only fragmentary remains of individual vessels were recovered the assemblage was in generally good condition with a high average sherd weight (20.7g).

Just over half the material in the assemblage came from contexts which included small quantities of Roman material mixed in with the medieval, with at least two-thirds attributed to tertiary waterfront reclamation deposits. Whilst only 2% of the assemblage seen by the author comprised early modern types, it is clear from the excavation report that some post-medieval pottery was present in contexts seen by the author but had been separated out prior to recording. Consequently, some caution needs to be applied to the dating provided in this report.

Over half of the assemblage came from the north-west room with smaller quantities coming from the centre-rear and front rooms. The assemblage is dominated by Tyneside Buff-White wares and Buff wares but mid-13th century early sandy wares comprise an important element. A full catalogue with tables and illustrations can be found in *Appendix 2A*.

ii. Pottery from the Centre Rear Room

The bulk of the assemblage from (007) and (008) was dominated by Tyneside Buff White ware and Orange Buff White ware, with only five, very fragmented sherds, of late- 12th/early- 13th century pottery associated with (007). The presence of a sherd of Orange-Buff ware associated with (007) and a sherd of Late Reduced Greenware type 4 in (008) suggest a date nearer the mid- 14th than the late- 13th century for these deposits.

The bulk of the pottery from the centre-rear room came from the sequence of minor dumps (034) that overlay (008). This assemblage differed from the fragmentary assemblages in that it derived from relatively few vessels. Given that the deposits appear relatively complete and domestic in nature, it is notable that, with the possible exception of an oxidised iron-rich sandy ware jar (similar to a group of jars found at nearby Javel Groupe) it did not include known mid- 14th century types identified in the layers below. The assemblage from (027) is similar to that from (034) and was dominated by sherds from just two Buff-White ware vessels and would appear to be later 13th century in date.

The 4 sherds from the fill (045) of stone-lined drain (040) were very fragmentary and spanned the early- 13th to late-14th century. Only 4 sherds, of 13th century date, came from layer (004). The remaining contexts from this room (011, 006, and 023) contained early modern types.

Evidence from the castle, and supported elsewhere, is that the period of transition from Buff-White wares to later reduced greenwares is relatively short (Sage and Vaughan *forthcoming*). If this is the case then the presence of Reduced Greenware type 4 in (008) would indicate that the overlying deposits (034) and (027) either date from the end of the period of Buff-White ware production or are residual deposits, re-deposited from elsewhere. However, given that (034) and (027) contained significant proportions of complete vessels compared with the other dumping deposits on the site it seems more likely that it represents midden material associated with early- to mid- 14th century occupation of the site.

iii. Pottery from the North-west Room

The assemblage from the north-west room was dominated by three main groups of material; that from dumping deposit (068), that from overlying dump (057/067 and associated contexts) and that from deposit (066).

The earliest layer containing medieval pottery from this area was dumping deposit (068). The pottery from this level was very mixed, including Roman to 14th century types, with only small numbers of sherds from individual vessels represented.

There is clearly significant residuality in the assemblage from (068), alongside a small quantity of later- 13th century types are large proportions of earlier material. The assemblage is dominated by early- to mid- 13th century early sandy wares and around 10% of the pottery is Roman. The Roman material and an at least similar, if not greater, percentage of the medieval material (i.e. the South Curtain Wall -type ware, the gritty wares and early glazed sandy wares) is likely to be residual material that tumbled down the slope from the Roman and earlier medieval occupation at the top of the bank and redeposited as part of terracing into the slope as was seen at 46-54 The Close. Buff wares are more dominant than Tyneside type Buff White ware, which is present in relatively small quantities. Later 13th century types include Orange Buff White ware, Berwick-type reduced greenware and Brandsby-type ware are also present in the deposit.

Deposit (068) was divided from the large dumping event above (057/067/095) by layer (058/069). This layer contained only a handful of very fragmentary sherds with a much lower average weight than the layers above and below. This layer included later- 13th to early- 14th century Reduced Greenware types along with a possible sherd of Siegburg proto-stoneware.

The pottery from the series of dumping deposits (057/067/095) above was markedly different from that from deposit (068). There is a marked increase in Tyneside Buff White wares and Scarborough ware with no Roman or late 12th/early 13th century vessels present. The presence of early sandy wares alongside Orange Buff White wares in these deposits shows that they include some proportion of residual material which may be redeposited from elsewhere. However, the presence of a relatively large percentage of Scarborough Ware within these deposits is a strong indicator that they are derived from Quayside/Close households where Scarborough Ware commonly accounts for 10% or upwards of mid- 13th to early- 14th century assemblages. The dating of Orange Buff White wares is not clear but is thought to date to the later part of the Tyneside Buff White ware industry. The lack of early- to mid- 14th century types like Orange Buff ware would suggest a date for the sequence of dumping deposits to sometime around the late- 13th to early 14th century.

Only relatively modest quantities of pottery came from the later medieval features that were excavated in the north-west room. The rubble stone fill (079) of drain (080) contained only 4 sherds of pottery, including Buff White and Scarborough Ware. Likewise the small assemblage from the drain (065) above included only mid- 13th to early 14th century types.

Associated with the wall footing (052) the assemblages from deposits (063 and 094) had relatively high average sherd weights but (063) again included mid- 13th century types (early glazed sandy ware type 2) alongside early- to mid- 14th century types (Tees Valley type B and Orange Buff White ware) strongly suggesting it incorporates redeposited midden material. Although only 10 sherds were recovered from the waterlogged soils (094) re-deposited within the wall they were all of a single, albeit broad, mid- 13th to early 14th century date.

The remaining feature from which any significant quantity (140 sherds) of pottery was recovered was deposit (066) into which sandstone slabs (061) were set. The assemblage from this deposit broadly mirrored that from the later dumping deposits described above (057/067/095).

iv. Pottery from the front room

Only a modest assemblage (170 sherds) of pottery was recovered from waterlogged organic deposits (084/086) excavated within the front room. The assemblage, which was dominated by Tyneside Buff White ware with smaller quantities of early sandy wares, Orange Buff White ware and Scarborough ware, was very similar in character to that from the dumping deposits (057 etc.) in the north-west room. The assemblage has a particularly high average sherd weight (33g) and it should be noted that these deposits were largely excavated by the contractors rather than by archaeological staff and this may have skewed the recovery rate of smaller sherds from these deposits.

v. Discussion

The assemblage from 28 – 30 the Close adds to the evidence for the pattern of development of the riverside frontage from mid- 13th century onwards. The assemblage indicates that large scale reclamation of the river bank may have occurred slightly later here than seen at other excavations west of the Tyne Bridge, where reclamation appeared to date from the early- to mid- 13th century. The evidence from deposit (068) adds to that from the site at 46-54 The Close that reclamation of the river bank initially involved terracing into the slope and throwing this material forward. However, the presence of Early Glazed Ware type 2 and small quantities of Buff White ware in this deposit would indicate that in this instance this is a mid, rather than early, 13th century deposit. There appears to be a hiatus in the process of reclamation before it recommences in the later 13th to early 14th century, with larger dumping deposits of material across most of the excavated area. In the main these deposits appear to originate from households on the quayside and riverside with a ready access to coastal imports like Scarborough Ware. The exceptions to this are the domestic deposits (034) and (027) from the centre-rear room where Scarborough Ware is absent. The evidence from these deposits is that they are relatively late in the period of Buff-White ware production and it may be that Scarborough Ware is no longer readily available to households in the Close by the second quarter of the 14th century.

The lack of mid-14th century types from most of the later features excavated suggests that once the large-scale reclamation occurred during the later 13th or early 14th century development of the area followed very shortly thereafter.

9. Clay pipe by Antoine Ruchonnet

i. Introduction

All clay tobacco pipes were found in four contexts (004), (006), (012) and (057), from within the Central Rear Room and connected to the construction of the well, the bedding for the flagstones or the fill of a brick drain (010). The entire clay tobacco pipe assemblage recovered can be dated to the 19th century.

ii. Sample and Methodology

The clay tobacco pipes analysed for this report were recovered by hand. A total of eight tobacco clay pipe fragments, comprising four bowls and four stems were uncovered. The pipe fragments have been individually examined and a full catalogue can be found in *Appendix 2B*. The cataloguing and recording of the clay tobacco pipe has been done according to the *Guidelines for Recording Clay Tobacco Pipes* (Higgins & Davey, 2004).

The stem bore diameter (shown as B/64 in the table in *Appendix 2B*) is presented in increments of 64th of an inch and only the smallest diameter is measured per fragment. Internal crosses, sometimes found on the internal base of the bowl opposite the stem, are described by their shape. Milling along the rim is measured to the nearest quarter of the circumference; if no milling is present, 0 is entered.

iii. Analysis of the Clay Tobacco Pipes

The bowls recovered were medium sized, straight and decorated, with a pointed spur beneath. The diameter of the stems range from 6.5 – 7.9mm and diameter of the bore-holes ranged from 2.1 – 2.3mm. No surface treatment was observed but, in a few cases, a summary burnishing was noted. All the above indicates a 19th century date for the assemblage. Unfortunately no maker's marks were found on any of the finds, therefore it was not possible to link any of them to a specific manufacturer.

Even though the assemblage is of small size, it contained a few objects of interest. A stem was cut (SF002) and slightly polished to be use as a new mouth piece (see *Plate 29*). The polishing of the break was done in order to avoid harm and cuts, thus indicating that the object was reused and not simply discarded. A decorated bowl (SF078) presents a bucolic scene, with a ripe ear of wheat on the spine (see *Plate 30*), and on one panel, what can be identified as a figure hoeing or ploughing a field, while the other shows a figure *en passant* with both arms raised standing in a ploughed field, probably conducting an agricultural activity (see *Plate 31*). The bowl shows signs of substantial use, the décor is worn and the chamber is heavily soot stained. A similar scene seems to be depicted on another bowl (SF002), with a folded standard or banner or a hay rig on the spine, and two panel with figures *en passant* engaged in uncertain activities in ploughed fields (see *Plate 32*).



Plate 29 SF002, Stem recut into a new mouthpiece



Plate 30 SF078, Ears of wheat



Plate 31 SF078, Hoeing figure



Plate 32 SMF002, *Passant figure*

iv. Discussion

Clay tobacco pipes were first made in Britain as early as the second half of the 16th century, though smoking was a very costly activity (Higgins, 2013). The development of plantations in America and intensive culture in England contributed in lowering the price of tobacco and its accessibility (*ibid.*). As a result, the pipe making industry developed to meet the demand all across the kingdom from the early 16th century to the late 19th century. At first, most were small family businesses, using readily available local clays and could not reach large distribution areas. Industrial production developed during the 19th century, some using mechanical or traditional techniques, increasing pipe production and spread along with the diversity of models (*ibid.*).

The pipe making industry in Newcastle started in 1630-1635 and was already flourishing a decade after its inception (Edwards, 1986). On the eve of the 19th century, 45 pipe makers were based in Newcastle and 95 in Gateshead (*ibid.*).

Based on the bore hole diameter, typology and shape, all the clay pipe fragments recovered can be dated to the mid-19th century (CAFG, 2012). Unfortunately, due to the fragmentary nature of the assemblage, the lack of any maker's mark and the diversity of adorned Victorian clay tobacco pipes, it is impossible to identify the exact maker. It is, however, highly likely that they were locally produced (Oswald, 1983; Graves and Heslop, 2013). Considering the rich clay tobacco manufactures active in and around Newcastle, the lack of earlier clay pipe on the site is surprising (Edwards, 1986, Graves and Heslop, 2013, Nolan and Vaughan, forthcoming).

It is, however, interesting to note that the two ornate bowls (SF002 and SF078) seem to depict agricultural scenes. Considering the proximity of the site to the River Tyne and the sea downstream, naval or maritime scenes might have been expected.

v. Conclusion

It appears that all the clay pipe fragments uncovered at 28-30, The Close, might have been discarded by 19th century workers, working on backfilling the well and the drain (O10), prior to the installation of the flagstone floor. They were probably broken during their work and thrown in while backfilling the features.

10. *Glass by Robin Murdoch*

This small assemblage includes a variety of mainly bottle glass with two shards of window glass and one probable vessel. The two window shards and the probable vessel shard were analysed by pXRF to determine their composition. Both window shards came from context (011) and type A turned out to be a kelp-fluxed glass of c1700-c1835 (Dungworth & Girbal 2011, table1). A full catalogue can be found in Appendix 2C.

Window shard type B, also from (011), is identifiable as a high lime low alkali (HLLA) glass from the 17th century. This type also has a strontium content but not to the extent of the later kelp-fluxed glass. This composition has been seen from several Scottish sites so far. Dungworth did not include this composition in his table because, although he had seen it, none had come from datable sources. However, reading between the lines it seems likely that it is a hybrid HLLA glass made between c1650 and c1700, just before kelp was used for all the alkali in window glass from c1700.

The vessel shard from (006) is unusual in the sense that it has a myriad of small internal cracks which appear to be crisselling. This was a problem in late 17th century glass when glassmakers elsewhere in Europe were trying to replicate the much vaunted Venetian 'cristallo'. The problem appears to have been an excess of fluxing alkali and was fairly quickly remedied (Newman 1987). Analysis of the shard revealed that it had almost an HLLA composition although the calcium level was a bit low, possibly because of leaching. It is not unreasonable to suggest this shard is also late 17th century despite any other diagnostic detail.

The rest of the assemblage consists of mainly wine (possibly ale, the two were very similar) bottle shards dating from the early 18th to late 19th century.

Some of the glass is remarkably seedy (many gas bubbles) suggesting that the manufacturing furnace temperature has been quite low. This might point to French imports, since the French continued with wood fired furnaces long after Britain converted to coal. The lower temperature of the French furnaces did not purge the gas bubbles quite so efficiently.

11. *Faunal Remains by Antoine Ruchonnet*

i. Introduction

Considering the importance of the area and the span of its occupation, analysing the faunal remains allows a glimpse at the table of a Tyne waterfront resident from the 13th to the 19th century. The various works conducted by Addyman Archaeology recovered a total of 377 animal bone fragments. A brief summary of the full report is presented here; a full catalogue of the bones recovered is contained in the site archive in spreadsheet form, with full description of the analysis, summary tables and tabulated figures contained in *Appendix 2D*.

ii. Methodology

The mammalian bones were identified by direct comparison with the Atlas of Animal Bones (Schmid, 1972). When possible, the species were determined, however considering the similarities in the postcranial skeleton of ovids and caprids, sheep and goats are considered as ovicaprids. The avian bones recovered were identified by the same publication (Schmid, 1972).

The bones analysed for this report were recovered by hand during monitoring and excavation. Generally, the bones are in fairly good condition. The surface abrasion is slight to moderate, even on the surviving juvenile individuals' remains. Traces of animal scavenging are visible on one bone.

iii. Species and Age at Death

A variety of domesticated animal species were found in the different assemblages, including cattle (*Bos taurus*), sheep/goat (*Ovis aries* and *Capra aegragus hircus*), pig (*Sus scrofa domesticus*), chicken (*Gallus domesticus*), and greylag goose (*Anser anser*). Some remains that could not be identified to a specific species, but only broad families such as fowl: pigeon (*Columba livia*) or chicken.

Forty-five fragments of fish bones and one fragment of crustacean shell were uncovered, but unfortunately could not be identified to a specific species.

When possible, the individual age at death was assessed. A total of 28 individuals have been aged, 10 pigs, 11 ovicaprid, and 7 cattle.

It appears that generally, the sheep and goats were slaughtered before reaching adulthood, between 1 and 4 years, whereas the cattle was kept for 4 to 6 years before being slaughtered. The pigs were mostly slaughtered before they reached 2 years. This tends to indicate a trend in animal husbandry; pigs reared only for meat were not kept very long, whereas cattle may have been kept as dairy animals and their slaughter postponed. The sheep and goat might have somewhat of an intermediate status, as some appear to be kept for a few years before slaughter while some are killed fairly soon after birth.

A more detailed phase-by-phase analysis, might be possible to establish temporal trends.

iv. Butchery

Some of the remains identified displayed clear signs of butchery. Five types of butchery practices were noted, distinguished by the type of tool used. Knives or blades were used to deflesh the bones, cleavers or hatchets were used to cut through thick cartilage and recalcitrant sinew, saws to either divide the bone or to access the marrow, and lastly diverse tools used to split the diaphysis to access the marrow. One case of drilling was also noted.

Bladed tools were used on cattle, ovicaprid, and goose to remove the flesh from the bone. This can be used on diaphyses and ribs or around tendons, sinew and cartilage attachments. The use of a knife can be either prior to cooking or as a table practice, the knife being used to cut out cooked meat. It can also be used as a skinning tool, to remove the hide from the limbs' extremities.

When knives are not enough to cut through thick tissues or the marrow needs to be exposed, axes, hatchets and cleavers were used. These could also have been cut in that manner to obtain more manageable chunks of meat, such as to fit a cooking pot, to be consumed separately or simply for easier manipulation.

Cutting through thick bone can be more easily and precisely managed by using a saw. Sawing is used for the same reason as hacking, to get to the nutritious marrow. A large number of bones were found to have been split. Usually, splitting is used to access the marrow.

Nearly two fifths of the butchery marks identified on fragments are from a splitting, while more than a third has been hacked. Knife marks make up to 20% of the butchery evidence. Some fragments present more than one type of tool mark. The distribution of butchery marks tends to indicate that the assemblage is from cooking waste and table refuse.

Apart from the single worked bone artefact (presented below), no fragment presented any identifiable mark of manufacturing.

v. *Metrics, Pathologies and Anomalies*

Where possible, the bones were measured following the methodology established in *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Driesch, 1976). Unfortunately, the sample size was very small for each measurement, often leading to a unique measure for each category. Considering the very limited sample, not much could be inferred about the size of the animals.

A few individual presented traces of possible pathology or injury. Two ovicaprid maxillae showed some cavities. It is interesting to note that the cavities are nearly identical. Two cases of pitting on an articular surface were noted on two cattle both from context (057), this is a form of arthrosis.

Lastly, an osteoma was found on the internal surface of the cortical bone of a large ungulate long bone. Osteomas are benign tumours; it is an abnormal build of osseous tissue, although they are more commonly found in the skull.

vi. *Worked Bone*

One worked bone object was uncovered, one awl with the tip broken off. The awl (SF025) was found in one of the deposits, (068), of the 13th century reclamation of the waterfront, and henceforth is at least medieval in date (*Plate 33*). The tool is 87mm long (the tip is missing), 14.3mm wide and 9.5mm thick.



Plate 33 SF025, Worked bone awl

The artefact displays the patina and smoothness of heavy use. One side is the external cortical bone, while the other presents trabeculae, the osseous inner tissue. This tool was crafted from a large ungulate long bone, most likely a cattle metapodium. A 3.2mm diameter hole was bored through near one end (*Plate 34*), the other side is tapered to a point that has been broken off (*Plate 35*).



Plate 34 SF025, Worked bone awl, bore hole detail

Plate 35 SF025, Worked bone awl, broken off point

Considering the versatility of such a tool, it is difficult to infer its use, especially as it was recovered from a deposit (068) from the waterfront reclamation and might very well be a tertiary deposition. In view of the site's close proximity to the river Tyne, however, it might be suggested to be a fishing net repair needle. The smoothness and patina tend to indicate heavy use through rough material, such as the nettle-hemp blend used in fishing nets. Furthermore, the broadness of the object seems to render it impractical for finer sewing. The sharpness of the edge of the break towards the apex tends to indicate that the tool was discarded immediately after the damage and no repair or mending was attempted.

vii. Discussion & Conclusion

The faunal remains assemblage presented only domesticated animals. Looking at the distribution of the 373 bones and fragments recovered, it appears that cattle and ovicaprid, are the most common. The cattle make up to over 35% of the total assemblage, ovicaprid nearly 20%. It is most likely that the small ungulate fragments are most likely to be from ovicaprid, while the large ungulates are likely to be from cattle.

However, as large animals might produce a larger quantity of fragments, it is more accurate to look at the distribution of the Minimum Number of Individuals (MNI). Furthermore, the unidentified fragments and those not assigned to a species are taken out of the count. In that light, the cattle and ovicaprids nearly equalise to around 30% of the identified species. The scarcity of fish, crustacean and fowl might be explained by the relative fragility of their remains and the excavation methods, smaller fragments being easily recovered unless the soil is going through a fine sieve.

Unfortunately, the temporal distribution by phase shows that nearly three quarters of the assemblage was recovered in the waterfront reclamation deposits and are very likely tertiary deposits, rendering any analysis moot. The other phases presented too few remains to be of properly analysed.

Looking at the distribution of the remains over time, it appears, however, that mostly cattle and ovicaprid were consumed around the Close, completed by pigs, chicken, crustaceans and fish. The crustacean shell fragment is likely from a crab (*Plate 36*). The fish bones recovered are rather large, most likely from cod and other salt water fish (*Plate 37*).



Plate 36 SF058, Crustacean shell fragment



Plate 37 SF064, Fish bone assemblage

When compared to other sites around 28-30 The Close (O'Brien *et al.*, 1988, Graves and Heslop, 2013, Nolan and Vaughan, forthcoming), the assemblage appears to be in line with theirs, with the exception of wild animals, such as roe and fallow deer, hare and game birds, absent from the present assemblage. Unfortunately, because of the tertiary deposition of material in order to reclaim the water front, it is impossible to compare the results in detail, in regards to wealth and tastes from the occupants of The Close.

The faunal assemblage recovered at 28-30, The Close compares well to other medieval to post-medieval assemblages from Newcastle, with mutton, beef and pork, complemented with fish and crustaceans. The nature of the assemblage, mostly comprising re-deposition of midden-rich material does not allow conclusions to be drawn towards the consumption of any given household or specifically to a date.

12. Other finds by Antoine Ruchonnet

i. Wood

A total of 140 wood fragments were collected from The Close, from eight different contexts (056), (057), (067), (068), (082), (084), (086), and (087).

Most of the wood fragments collected do not display tool marks and might well have been natural occurrences within the soil used as shore reclamation material. It is, however, likely that the large branches and wood fragments were driven into the ground as stake to hold the soil in place, while the smaller branches might have been woven around the latter to stabilise them. The full catalogue is provided in *Appendix 2E*, Table 1.

Four wood fragments displayed obvious tool marks. Two sharpened stakes, SF49 from (084) (*plate 38*) and SF58 (084) (*plate 39*), were most likely driven into the bank to hold the reclamation material of the river bank. Both are summarily sharpened, SF49 was sharpened by four cuts and SF58 was sharpened by two cuts.



Plate 38 SF049, Stake



Plate 39 SF058, Stake

SF51 (see *Plate 40*) appears to have been worked, though its use and purpose is, however, unclear. It could be the roughly sharpened end of a timber, but it is also possible that this is the remains of the node on a naturally worn trunk, the node being more resilient and durable.



Plate 40 SF051, Unknown object

Lastly, a carved and worked plank, SF53, was found within the 13th century infill (see *plate 41*). This appears to be part of a barrel lid, one side being tapered into a croze bevel to be fitted into a croze groove, while the other side is groove to be fitted with another head plank. Dendrochronological dating was undertaken of this fragment, along with a large oak beam (SF70) recovered from context (087). The results of this are presented in Section 16 and *Appendix 2I*.



Plate 41 SF053, Barrel head

ii. Metals

A total of 13 metal objects were collected from The Close. Two are made of copper alloy, the rest are iron. The iron objects, from contexts (004), (007), (011), (027), (034) and (066) forms an assemblage of rods, strips, spikes and lumps, not directly identifiable to any shape or function, with the exception of SF4, which appears to be a nail or a tack. A full catalogue is provided in *Appendix 2E*, Table 2.

The copper alloy objects are more easily identifiable. SF1 is a four-hole button inscribed with 'T. Colman, Norwich'. The presence of Colman and Norwich brings to mind the mustard factory, founded in 1814. It is, however, unclear if this button is indeed part of a uniform, or a souvenir from the mustard factory. SF71 is composed of iron and copper alloy and could be a fragment of a bracelet with a terminal.

iii. Mortars and Plasters

A total of 10 mortar and plaster samples were collected from The Close, from four different contexts (034), (063), (067), and (086). A full catalogue is provided in *Appendix 2E*, Table 3.

The earliest mortar was found within (034), and was composed of a total of seven lumps. Two of these were possible residual medieval mortar, with coal inclusions, coarse to medium sharp sand aggregate and large leached lumps of high lime mortar, unburnt lime, charcoal and shell inclusions, and fine-medium sand aggregate. Also from medieval infill deposits, the mortar collected from (067) is a soft and chalky pale buff lime mortar with medium-fine aggregate.

A large lump of partially burnt lime, which might have been a mortar inclusion, was found in (063). Lastly, a very small lump of pale creamy-buff high lime plaster, which was faded on one side and sooted, with fine sand aggregate, was found within (086).

iv. Lithics

A total of seven stone objects have been collected from The Close, from three different contexts (007), (034), and (063), and from unstratified material. The material is described in *Table D*, *Appendix 2E*. The material was inspected macroscopically and measured with callipers or hand rules.

A small subrounded and abraded fragment of pumice was retrieved from Context (007). This may be derived from riverine action as pumice is known to be sea-borne.

From Context (063) came a piece of pale grey chert, an elongated sub-crescentic blade flake with cortex remaining on its proximal face. The irregular flake displays no retouch or glossing and is irregular and is therefore probably a piece of core-reduction debitage.

Context (034) produced a flattish piece of micaceous sandstone, one face of which displays some greenish organic staining. While possibly a roof-tile fragment, the piece displays no signs of working. The piece of burnt shale may be derived from a whole set of industrial processes requiring high temperatures.

Unstratified material from the well trench comprised three lithics. Two are dark grey with pale grey mottling very fine grained chert. The first has one face almost entirely covered in remaining cortex with some minor pressure-flake scars at its proximal end; the reverse face displays a heavy hinge-fracture indicative of a strong blow. The hinge fracture and minor pressure flaking on the proximal end may have been used as a cutting edge.

The second grey piece is a roughly trapezoidal thick chunk with all cortexes removed and pressure flake scars and may therefore be an exhausted core or late-stage reduction debris.

The third lithic piece is a mid-yellowish-tan chert piece, roughly trapezoidal and wedge-shaped in section. It has a very flat dorsal surface and an irregular ventral surface which has been further reduced by direct percussion, partially removing the bulb of percussion. The straight distal edge has been further thinned with pressure flakes to produce the distal working/striking edge. The opposing striking heel is flat and unmodified. The piece therefore appears to be a gunspall, a type of gun flint formed by direct percussion. This English type of direct percussion manufacture was later replaced by the French mode of production based on prismatic flakes; the switch in England is thought to have taken place between 1770 and 1800 (Kenmotsu 1990, White 1975). The piece may therefore be assigned to a date before c. 1770. A 17th century provenance for the gunspall seems not unlikely, given the site's location within the Town Walls and proximity to a multiplicity of sites which have produced material from the Civil War period (see, e.g., Graves & Heslop 2013: 237ff, 263-4 and fig 7.19). Graves & Heslop's (2013: 263-4) summary of military and Civil War evidence neglects gunspalls entirely as an artefact type and this lithic therefore presents an additional line of evidence for possible 17th century military activity at the site.

13. *Shellfish report by Antoine Ruchonnet*

i. Methodology

The marine shell was recovered by hand during the different stages of work conducted at 28-30, The Close. Non joining fragments were counted as one. Considering the relatively high state of preservation of the assemblage, its small size, and the completeness of the shells, the total number of shells was used as the minimum number of individual (MNI). When one shell was composed of multiple fitting fragments, it was counted as one. The juvenile individual was considered thusly based on its small size in comparison to the rest of the adult assemblage.

ii. Results

The complete results of the marine shell analysis are given in the Catalogue (*Appendix 2F*). The vast majority of shellfish uncovered were oysters (*Ostrea edulis*), and blue mussel (*Mytilus edulis*), respectively 49% and 45% of the assemblage (*Figure 15*). The other bivalve species was two shells of the ocean quahog (*Artica islandica*). Gastropods were represented by a one shell from a common

periwinkle (*Littorina littorea*) and a single shell from a common limpet (*Patella vulgata*). One juvenile oyster was found (066) among seventeen adult individuals.

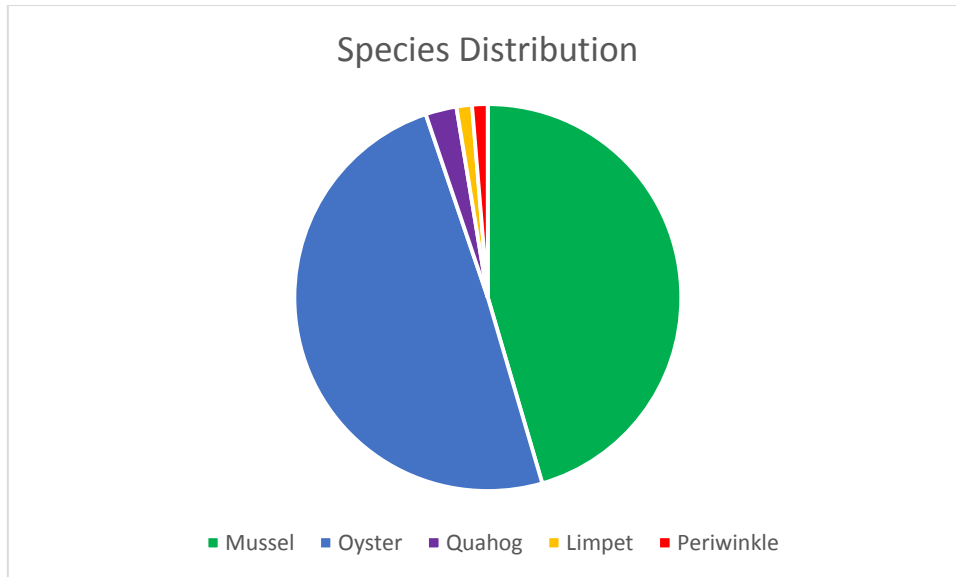


Figure 15 Shellfish species distribution

iii. Discussion

All shellfish uncovered at 28-30, The Close are edible molluscs and popular food in the British Isles since prehistory. This is quite standard for an urban assemblage and represents consumption waste. Considering the proximity of the sea, approximately 10 miles, and the estuary created by the Tyne downstream of the site, it is not surprising to find mostly mussels and oyster shells. Blue mussels live in intertidal area (areas underwater at high tide and above water at low tide), making harvesting them easy. Oysters are found in estuarine and shallow coastal water, they were gathered at low tides or by dredging using oar boats (Coull 1996).

As for the gastropods, periwinkles are usually found on rocky shores over shallow water and are gathered by hand as well (Campbell 1989). Common limpets are found everywhere in Western Europe where they can find an anchorage solid enough (ibid.).

The only species of clam found was the ocean quahog, also known as Icelandic cyprine or black clam, are endemic in the North Atlantic, preferring the subtidal zone (area permanently underwater directly below the intertidal zone). They can then only be gathered by dredging (Campbell 1989).

Over half of the shells were uncovered in context associated with the medieval development of the shore front dated to the later 13th – 14th century [(034), (057), (067), (068), (084), and (086)]. Those deposits were taken from around the area and then used to reclaim the waterfront. It is then very likely that the shells from those contexts are tertiary deposits.

The species present and their distribution is consistent with contemporary sites in Newcastle (Nicholson, 1988, Graves and Heslop, 2013).

The shellfish assemblage uncovered at 28-30, The Close seems to indicate an opportunistic use of the nearby sea resources, either by hand gathering of animals, like mussels, limpets and periwinkles or dredging to harvest oysters and clams.

14. *Leather by Quita Mould*

i. Introduction

Thirty-five items of leather were recovered from the North West Room and the Front Room from deposits associated with the medieval development of the foreshore during the 13-14th centuries. The leather comprised chiefly of shoe parts, along with straps, a disc, and a very small amount of secondary waste. Many of the items were broken and heavily worn, and few were complete.

The largest group of leather (18 items) came from a major dumping deposit (068), 0.50mm deep, in the North West room, comprising several individual small dumping episodes suggesting a short period of deposition. A smaller amount of leather was found in similar humic silt dumping deposits (057/067) directly above (five items) and in mixed waterlogged soils (094) likely re-deposited in a wall foundation cut (one item).

Leather was also recovered from waterlogged organic silts (084) in the Front Room (10 items) with a single item coming from humic, dark brown silt deposits (086/090), similar to those in the North West Room (057/067). The leather found in these two locations did not differ significantly and is considered as a single assemblage below.

ii. Methodology

All the leather recovered has been catalogued for the site archive and working drawings of the principal items have been made. The leather is summarised below, and the full report, drawings and leather catalogue can be found in *Appendix 2G*. The leather catalogue numbers have been used in the text and are given within brackets (), items with working drawings are indicated with an asterisk (*). All measurements are in millimetres (mm), + indicates an incomplete measurement. No allowance has been made for any shrinkage, or expansion, during burial and subsequent storage. Leather species were identified by hair follicle pattern using a low-powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. The grain pattern of sheep and goat skins are difficult to distinguish and have been grouped together as sheep/goat when the distinction could not be made. Similarly, the term bovine has been used when uncertainly arose between mature cattle hide and immature calfskin. Soles and sole repairs are assumed to be of cattle hide, unless stated otherwise.

The leather was excavated between May and July 2009 and has been in storage since this time. Three bags of leather (SF39, 51, 65) had dried out in storage following excavation and as much soil adhered obscuring diagnostic features, the leather was carefully rehydrated, unfolded and washed to allow identification. Following analysis, the leather items were air-dried, rebagged and stored according to expert advice in advance of their deposition in the Great North British Museum.

iii. The shoes

All the shoe parts recovered came from shoes of randed, turnshoe construction. It is estimated that parts from at least ten shoes were present, based on a count of the shoe soles recovered, occurring in both adult and child sizes. This is likely to be an under estimation, however, in view of the highly fragmentary nature and poor condition of the parts recovered. The better preserved turnshoe soles (**10***, **17**, **20***, **24**) were relatively broad with oval toes, of a shape consistent with a date in the 13th and 14th centuries. Three soles (**6**, **25**, **30**) had been made with separate foreparts and seats joined with a seam across the waist, a feature, commonly seen at this time, that allowed the use of smaller pieces of leather, either for economy or repair. Four soles (**1**, **27**, **30**, **32**) had stitching from repair to the tread or seat areas. Sole repair patches, known as clumps, were found occurring separately having been removed from the soles before being thrown away. One clump (**4**) had itself been repaired before being discarded, two (**26**, **34**) had been made from old shoe soles. One sole (**10**), of large adult male size, had been subject to a crude repair by the owner, using leather thong to re-join the shoe upper (now missing) to the sole.

The remains of shoe uppers were fragmentary with few indications of the shoe style surviving. Only one shoe (**35***), from mixed waterlogged soils (094) in the North West Room, had any indication of the shoe style preserved. Though much torn with few diagnostic features surviving, what remained comprised part of an ankle boot, technically an ‘ankleshoe’, of sheep/goatskin, that fastened up the centre front of the foot. The knotted ends of three of the fastenings survived, along with part of a broken toggle-hole strap or the base of a divided lace, showing that the boot had fastened with ‘tailed’ toggles (essentially knotted thongs) or rolled toggles (thongs with rolled ‘button’ terminals) and toggle hole straps. Fastenings of these types have a relatively wide timescale. Ankle boots of this style with a toggle strap fastening have been found in late 13th century deposits in the City of London (Grew and de Neergaard 1988, 59 figure 93). Boots fastening with rolled toggles (Volken Payerne style) and tailed knot fastenings (Volken Feiburg style) were very popular in the late 13th and 14th centuries throughout NW Europe (Volken 2014: 152-3 and figure 209) and occur in 14th and 15th century contexts in the Netherlands (Goubitz variant of Type 75, Goubitz 2001:201 and 204 figure 10a and Goubitz Type 104, Goubitz 2001: 237, 240 figure 9). In Newcastle examples have been found amongst the 13th-14th century assemblage from Queen Street close by (Dixon 1988: 94, 96 nos. 194, 197 and figure 34).

The remains of other shoe uppers of sheep/goatskin (**13, 14, 19**) and bovine leathers (**9, 12, 17*, 18, 21**) were found in dumping (068) in the same room. The front part from an oval-toed ankleshoe or boot (**17***) of cattle hide had no fastening surviving. It had been slashed above the lasting margin, by the wearer, to relieve the pressure on a painful toe joint. A fragment of cattle hide (**18**) had a crude fastening hole for a thong or lace. Another, of worn bovine leather (**21**), had a pair of small thong slots from a drawstring fastening; however, the slots lacked any thong impressions or other wear and appeared unused. Drawstring fastening ankleshoes were found in the 13th-14th century group from Queen Street (Dixon 1988: Nos 192-3, figure 93). Torn fragments of sheep/goatskin (**14, 19**), including a possible piece of topband (**13**) (a narrow strip decorating the top edge of a shoe), may all come from a shoe upper. The larger fragment (**19**), however, had a distinct, oblique fold present that appears original, suggesting it might be torn from a purse. If this is the case, a length of narrow thong with a knotted end (**15**) from the same context may be the drawstring used to close the mouth of the purse, while the narrow strip with grain/flesh stitching (**13**), found with it, may be a ‘bead’ inserted within the seam (**13**), rather than a topband from a shoe.

iv. The straps

Two plain straps of cattle hide with tooled edges (deliberately rounded edges) were found. One (**16**) from the North West Room (068) had been cut from a longer strap. The other (**29***), from the Front Room (084), had a large horizontal slit, 35mm long, running down the centre, and whip stitching at one end where it had been stitched to larger item.

v. The disc 23

A small disc of cattle hide (**23***), 4mm thick, was also found in the dumping deposit in the North West Room (068). The disc has a central hole made by an awl or the tip of a knife blade, the sides are slightly irregularly cut. The disc has a slightly dished profile and the extent of wear, evident on both faces, suggests it was made from a piece of reused leather. The dished appearance may also suggest it had been used as a simple button, examples of which of late medieval and early modern date are known (medieval for example Exeter, Friendship-Taylor 1984: 327, L.20 and figure 184, 20; 17th-early 18th century for example Skálholt, Mould in prep.). That being said, other explanations are possible for such an item. Small perforated discs were used, along with discs of other organic materials such as bone and horn, to make composite handles threaded onto the tangs of knives and other tools. If this disc had been part of such a handle, however, the profile would not be dished, unless by post depositional deformation. Alternatively, the disc may be an offcut from cutting out a washer or gasket from a piece of used leather. Leather washers and gaskets must have been used in large numbers in the pumping equipment needed on board ship.

vi. Discussion

The leather represents cobbling waste that is the remains of unwanted items discarded by a cobbler, once any re-usable leather had been salvaged. It comprises heavily worn shoe parts and a limited range of other items including a discarded seam (2), several with secondary cutting (7 of the 35 items). Amongst the assemblage is a piece of leather (3) cut from a shoe part, found in the North West Room (057), with knife cuts present on the grain surface suggesting it had been used as a temporary cutting platform when on the cobbler's workbench. At this time the cobbler repaired worn shoes and refurbished old shoes for resale. Two waste trimmings of bovine leathers (5, 22) were also found in the North West Room (067, 068); such a small quantity of waste leather is likely to derive from the repair or refurbishment of old shoes rather than the manufacture of new items. Leather found in contemporary deposits at Queen Street was also considered to be cobbling waste (Dixon 1988: 93). Two side-lacing shoes of similar date found further along the road at 46-54 The Close (Platell et al. 2013: 198-200) showed no secondary cutting and appear to be the result of domestic rubbish disposal rather than the disposal of floor sweepings from a workshop.

15. Palaeoenvironmental assessment and analysis by Carrie Armstrong

i. Summary

A wide variety of uncharred botanical remains survive due to the waterlogged conditions. Many of these likely relate to domestic waste deposits or have been accidentally incorporated during infill of the riverside. They include a range of weeds probably deriving from the damp local environment as well as some arable weeds which may have been brought in accidentally with cereal crops. Wild-gathered foodplants are present including fruits and nuts such as plum, bramble and hazelnuts. The presence of fig, an exotic taxa, in two samples provides evidence of some distant trade. Weld, a dye plant was noted in two samples. While charred plant remains were limited the suite of both charred and uncharred remains fits well into the general palaeoenvironmental picture of urban Newcastle during the medieval period.

The charcoal and wood assemblages were dominated by natural or at most minimally-converted roundwood fragments likely largely deriving from the local damp foreshore area and included examples of alder, hazel, oak and willow/poplar. Where working was noted on roundwood this was largely restricted to conversion of one end to rough oblique points or radial splitting. Some of these pieces may potentially be associated with the foreshore reclamation at the property for example as stakes or trimmed to form withies or hurdles. Some larger oak stemwood fragments were also present in the deposits with these tending to show clearer evidence of working. Charcoal was limited and likely derives from domestic hearth waste. The full report with associated tables is presented in *Appendix 2H*.

ii. Method

The bulk samples were manually floated and sieved through a 500µm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ6 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (2010). Habitat classifications follow Preston *et al.* (2002).

Charcoal analysis concentrated on the >4mm fraction of dry-sieved material. Due to the relatively small quantities of charcoal recovered from each sample, all of the available fragments per context were examined. The transverse, radial and tangential sections were examined at up to x500 magnification using a Leica DMLM microscope. Waterlogged wood fragments were hand-washed under cold running water, following English Heritage (2010) guidelines. The items were visually

examined under both natural and artificial light to record any obvious external features such as evidence of working, following the methodologies of Goodburn (1991) and Sands (1997). Maximum dimensions of the wood fragments were recorded. Small roundwood fragments with no visible working were grouped by visual appearance with selected examples identified to species. All fragments with visible working were identified to species. A small wood sample was removed from pieces, avoiding areas of working, to provide unexposed surface sections for species identification. Temporary thin sections in transverse, radial and tangential planes were examined using a Leica DMLM microscope at up to x500 magnification. Identifications were assisted by the descriptions of Hather (2000) and Schweingruber (1990), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

iii. Results

The samples contain material typical of medieval and post-medieval urban sites incorporating domestic waste, with bone (both burnt and unburnt), clinker/cinder pot fragments and coal present in all deposits. Anoxic, waterlogged, preservation is confirmed by the survival of significant numbers of uncharred plant remains, vegetative material and tiny wood fragments in all deposits as well as the retrieval of further larger waterlogged wood pieces from [57] and [84]. The presence of animal and fish bone, marine shell, cultivated grains and wild-gathered food remains demonstrates a range of food sources were utilised.

The charred plant macrofossil assemblages are limited, comprising of a single barley grain from [83], a possible rye grain from [57], and a further indeterminate cereal grain from [84]. By contrast all of the samples contain varied assemblages of uncharred plant remains. The absence of obligate aquatic plants suggests that the deposits were not directly associated with permanent standing water, supporting the interpretation that these deposits rather derive from the damp environs associated with the riverine foreshore. The assemblages include a range of economic plants such as fruitstones of bramble and wild plum, fig and wild seeds and hazel nutshells. Weed seeds such as sedges, hemlock, common chickweed, common nettle, redshank and knotgrass which reflect damp, ruderal conditions and arable weed seeds such as corncockle and wild radish are also present. The results are presented in Table 1, *Appendix 2H*.

Only a small number of charcoal fragments were present in the samples. The charcoal is generally in reasonable condition although some mineral inclusions are noted, especially in material from [83], which in some instances prevents identification. Species present include hazel, alder, heather and oak. Charring was also noted on hand-recovered cf. willow/poplar fragments from [57]. The results are presented in Table 2, *Appendix 2H*.

The uncharred wood analysis highlights the presence of a wider range of species than seen in the charcoal including alder, hazel, oak, willow/poplar and cf. elder and non-native conifer, alongside indeterminate fragments from all samples. The internal structure of the majority of the wood is generally well enough preserved to be able to identify the wood to species, albeit many of the pieces were soft and waterworn and some degradation is noted in many of the pieces. The majority of the pieces consist of small-diameter roundwood fragments although fragments from wood pieces of a variety of sizes, from very small diameter roundwood or twigs, to large branchwood/ stemwood are present. Deposits [57] and [84] contain the majority of identifiable wood fragments.

No evidence of working was present on the majority of the small-diameter wood fragments and these may be of natural origin. However while the pieces largely exhibited limited evidence for any conversion a number of the pieces did have an end worked towards a rough point. These derived from a range of species including hazel, alder, oak and willow/poplar although hazel and alder were most

common. Similarly, some fragments deriving from larger branchwood or stemwood pieces including oak had clearly been worked, generally roughly with a single face flattened. It is possible that many of these may represent rough off-cuts from working of timber. No clear artefacts were determined. The results are presented in *Table 3, Appendix 2H*.

iv. Discussion

The waterlogged conditions have allowed the preservation of a diverse range of uncharred seeds representative of the local environment. A wide variety of taxa were recorded in low abundances. This low abundance/rich diversity has many similarities with other nearby waterfront sites (Hall & Nicholson 1986; Huntley 1994; Archaeological Services 2005, 2007). The plant macrofossils were likely to have largely accumulated accidentally in the deposits, and included taxa from woodland, wetland, arable, grassland and ruderal habitats suggesting a range of habitats in the vicinity. A similar mosaic of habitats was previously noted at The Close (Archaeological Services 2005), Tuthill Stairs (Archaeological Services 2007) and Trinity Court (Archaeological Services 2014) and is supported by documents which discuss the gradual piecemeal reclamation of the riverside area and periods of reconsolidation during the medieval period (Archaeological Services 2005). Many of the plant macrofossils potentially derive from nearby disturbed and waste ground and damp areas, probably relating to species colonizing the river's edge, with scrubby woodland also providing a source of wild fruits, hazelnuts and roundwood. The presence of such woodland nearby has been previously suggested in the riverside area (Archaeological Services 2007) with disturbed ground in the waterfront area perhaps allowing the formation of opportunistic communities of patchy woodland or scrub. Some of the arable weeds such as wild radish and corn marigold may have been harvested and brought to the site with crops or straw and hay brought into the area for animal husbandry purposes, or again may have been growing locally as ruderal weeds.

Economic plant remains such as hazelnut fragments, bramble, plum and fig may have accumulated in the deposit as a result of the disposal of domestic waste. Such assemblages are typical of medieval and post-medieval waterlogged urban deposits seen elsewhere in Newcastle, for example at the Mining Institute (Archaeological Services 2018a), Clavering Place (Archaeological Services 2016), Stephenson Pocket Park (Archaeological Services 2018b) and Half Moon Yard (Archaeological Services 2015a) and in other North-Eastern urban assemblages such as Darlington Town Hall (Archaeological Services 2015b) and Ripon Market Place (Archaeological Services 2011), where they have typically been interpreted as deposits incorporating consumption waste with indicators also reflecting waste ground in the vicinity of the sites.

While the local environs may have been the source of the range of native fruits represented amongst the edible plant remains, some may also have been brought in deliberately from elsewhere for consumption. In particular, the import of dried fruits is reflected by the presence of non-native fig in both [83] and [84]. Although figs can now be grown in the warmest parts of England (Roach 1985) it is more likely that archaeological finds of fig seeds mostly derive from imported 'luxury' dried fruits (Greig 1996). Fig has been noted in Newcastle deposits from the 12th/13th centuries onwards (Archaeological Services 2007, 2018a; Hall & Nicholson 1986; Huntley 1989, 1994). The presence of fig in these deposits emphasizes the importance of distant trade to the town and the relatively high economic and social status of the area during the medieval period.

Weld seeds were present in deposits [70] and [86]. Weld or 'dyer's rocket' can produce a yellow dye with it being particularly associated with the wool trade during the medieval period although it was equally probably cultivated around the country in small garden plots for domestic use. However, weld also grows naturally on areas of disturbed ground and so the single seeds recovered here do not directly suggest deliberate cultivation, with cloth working sites more typically recording abundant weld seeds (McKenna 1992; Hall *et al.* 1984). Low levels of weld have also been observed at The Close (Archaeological Services 2005) Tuthill Stairs (Archaeological Services 2007) and other waterfront sites from this time (Hall & Nicholson 1986).

Only limited charred cereal remains were recorded within the deposits, preventing a detailed analysis of crop use at the site. Such limited quantities of charred remains are typical of sites that have been excavated along the medieval urban waterfront in Newcastle (for example Hall & Nicholson 1986, Huntley 1994, Archaeological Services 2005, 2007). Such low abundance perhaps suggests that processing took place away from the area, with flour being brought in (Archaeological Services 2005). Grain was traded away from the riverside in areas such as the Bigg Market (formerly Beremarket) area, one of a series of markets which once ran from St Andrew's Church in Newgate Street to south of St Nicholas Cathedral (Graves & Heslop 2013). The terms 'bere' (English) and 'bigg' (Scandinavian) refer to barley and this market was where barley, oats and other cereals were sold.

The cereal grains present (barley and cf. rye) as well as the oat and wheat grains previously observed at the site (Archaeological Services 2018c) fit into the wide range of cereals common from medieval and later sites in northern England (Greig 1991; Hall & Huntley 2007). For example, the quayside excavations at Queen Street (Hall & Nicholson 1986), Crown Court (Huntley 1989), Half Moon Yard (Archaeological Services 2015a), 1-7 Westgate Road (Archaeological Services 2009a-b) and Clavering Place (Archaeological Services 2016) all identified a range of crop plants (typically oats, barley, bread wheat, rye and legumes).

While the charcoal assemblages were limited the majority of the fragments from [57] were alder roundwood with moderate or strong ring curvature, similar to the waterlogged wood pieces recovered from this deposit. No examples of charred oak were observed in this context, whereas both fragments of oak stemwood (with tyloses noted) and small-diameter oak roundwood charcoal dominated the small assemblage in [70] and only oak charcoal (including stemwood with tyloses present) was recovered from [86]. Charred heather fragments were present in [83] and [84] but not observed elsewhere. Such charcoal assemblages probably represent the remains of hearth waste, although the small fragment size of the charcoal and the limited number of fragments prevents further conclusions.

The predominance of alder and hazel in the wood assemblages with willow/poplar and oak also noted suggests that such taxa were a readily available resource in the local environment. Similar ranges of species have been recorded at other sites in the area and supported by pollen records of the region as potentially being of local origin (Archaeological Services 2014). Wide growth rings noted in some of the alder fragments may represent the typically fast growth of this moisture- and light-demanding species (Claessens *et al.* 2010), probably reflecting an open environment. A few fragments from [57] contained evidence of insect tracks and greater degradation which may indicate that some wood pieces were lying exposed for periods of time (Lyons & O'Donnell 2009). The recording of a single fragment of non-native conifer (cf. fir) wood in deposit [84] is noteworthy as further reflecting trade into the area. However, the atypically hard fresh condition of this piece in comparison to the soft, waterworn nature of most fragments examined may indicate it is a later, intrusive fragment.

Much of the waterlogged wood was at most minimally converted with the majority of working applied roughly to single ends of roundwood pieces to create oblique points, blunt cuts across the transverse plane, or radial splitting/flattening of larger pieces often approximately towards the centre of the piece. Evidence was often difficult to positively identify or interpret as many of the pieces were water-abraded. The pieces themselves appear to not have been needed for firewood and were either discarded with no further use or were being employed at the river's edge, perhaps as some form of thin stakes or posts, wattle withies or hurdles relating to the river reclamation with a mostly natural and unmodified appearance. While there is no clear evidence from the assemblage for wood management techniques, many of the wood fragments are hazel or alder, and the straightness and lack of forks of these species may indicate the presence of some coppiced poles. Many of the fragments are between 6-10mm in diameter, suggesting some size selection with pieces of these sizes typically being easy to bend and manipulate. Some wider (15mm+) diameter pieces perhaps more suitable for support are also present. Examples of stakes and wicker linings have been found in excavations elsewhere at The Close (Archaeological Services 2005). No evidence of working was present on the majority of the small-diameter wood fragments which were particularly numerous in deposit [57]. Many of these may either

have been used in an unconverted form or be of natural origin. None of the wood from [86] exhibited any evidence of working.

More limited numbers of fragments deriving from larger branchwood or stemwood pieces were present in the deposits, and these also demonstrated conversions. These pieces were often rough with one side following the natural curvature of the wood and the piece typically comprising of a narrow offcut or discard from woodworking. A much greater proportion of these fragments exhibit signs of working than the roundwood. It is possible that many of these may represent rough off-cuts from some working of timber at the site, discarded as waste. The diameter of these wood pieces was generally too wide to be suitable for use as a hurdle upright however further fragments from both [57] and [84] appear roughly squared and may have been utilised as some sort of small structural post, support or plank. No clear artefacts were determined. Such fragments, largely from oak, dominated the wood assemblage from [84], with deposit [57] seeing more mixed proportions with the incorporation of many more roundwood fragment as well as some larger-diameter pieces predominantly from oak.

16. *Dendrochronological Dating by Coralie Mills*

i. Introduction

Two waterlogged oak timbers were submitted for dendrochronological analysis, a small finely made radially split board (Find Number 53 from 068), thought to be part of a barrel head, and an oak log in the round (Find Number 70 from 087) which was largely unworked apart from a crude shallow notch in its upper surface. The full report is presented in *Appendix 2I*.

ii. Methods

Visual assessment showed that both timbers were likely to have more than 60 rings, the guideline minimum for potential dating, although it is also the case that successful dating is more likely where multiple timbers per phase can be sampled, to strengthen the tree-ring signal (English Heritage 1999). Each of the two timbers was sub-sampled for analysis by careful hand sawing at the position where the most rings would be present. In the case of the thin board (Find 53) masking tape was first wrapped securely around the two sections to be sawn, to keep them intact. In the case of the log, a disk was taken near one end where sapwood was adhering and intact to sub-bark edge. The sub-samples were first frozen, and then allowed to thaw slightly before radial tracks across the transverse sections were prepared carefully using hand-held razor blades. Two radii were measured for each timber to improve the reliability of the analysis.

The tree-ring width sequences were measured on a Heidenhain measuring table, under a lowpower microscope, linked to a P.C. Data capture and analysis were undertaken using the 'Dendro' suite of programs (Tyers 1999). The program produces 't' values as a measure of the degree of correlation between sequences, and as a general rule of thumb values above 3.5 are considered to be significant (which is not the same as being necessarily correct), and the length of overlap and the degree of replication also has to be taken into account. Visual cross-matching of the graphed tree-ring width sequences is undertaken alongside statistical comparisons with reference chronologies of known date and provenance.

iii. Results

The small board is radially split from slow-grown oak (*Quercus* sp. L.). It is trapezoid in plan and its surfaces have been finished with hand tools including an axe. The board has a groove in the slightly wider outer edge of the tree-ring sequence of a size sufficient that it would take the next narrow edge of an adjacent board of similar form. There is no sapwood present but it is possible that the outer edge is at or near the heartwood-sapwood boundary, assuming that the woodworker would remove the sapwood yet probably maximize the use of heartwood in manufacturing such boards. The inner edge of the board does not reach the centre of the tree, with an estimated 20 rings missing at centre. This is

not at a broken edge, and the board was deliberately made that way. The very inner growth would probably have created too thin an area of board to be usable. The board is slightly mineralized on its surfaces, to a depth of about 1mm; this caused no problems for analysis. The dendrochronological data for this timber, for the two measured radii (TCN53a and TCN53b), and the resulting combined sequence TCN53, are presented in Table 1, *Appendix 2I*.

The larger timber (Find Number 70), an oak log in the round, is unworked apart from removal of the bark (a valuable resource as tanbark) and a rough shallow notch cut in about half a meter from one end. The sapwood was intact over part of the surface but was soft and crumbly and had probably rotted away in some places. The first radius TCN70a was measured from pith (centre) to sub-bark surface while the second radius (TCN70b) had only partial sapwood. The dendrochronological data for this timber are presented in Table 1, *Appendix 2I*. This timber was from a young tree and had quite an irregular growth pattern with reaction wood in places. This may be why the two measured radii TCN70a and TCN70b did not match each other well, and the analysis proceeded with the longer of the two radii, TCN70a, which itself was measured twice (TCN70a and TCN70ar) and was averaged to become TCNAR2 (Table 1, *Appendix 2I*).

It has proved possible to date the longer-lived of the two timbers, the oak board TCN52 (Table 1, *Appendix 2I*): comparison with reference data has shown it to span AD 1047 to 1151 and to be North British in origin (Table 2, *Appendix 2I*). There is no sapwood present so an allowance needs to be made for the missing sapwood, using the British Isles (95% confidence limits) estimate of 15-60 sapwood rings for oak over 100 years old (Hillam *et al* 1987). Thus we can state a *terminus post quem* for felling of TCN52 as AD 1166. While it isn't certain, it is likely that the outer edge of the board is at or close to the heartwood/sapwood boundary; if so then the felling date range would be around AD1166-1211. It seems likely therefore that the native oak tree from which board TCN52 was made was felled sometime in the later 12th century or the early 13th century.

Unfortunately no reliable dating was forthcoming for TCN70AR2 or any of the single radii from this oak log, despite comparison with a wide range of reference chronologies from the British Isles and further afield. It does not cross-match with TCN52 either. The sequence length of TCN70AR2 at 64 rings is relatively short for dating of a single timber, and furthermore the growth pattern is irregular to the degree that two separate radii do not match each other well, which has probably hindered dating. The character of the timber would suggest it is likely to be local native stuff, and not imported.

iv. Discussion

It has been possible to provide a dendro-date for one of the two waterlogged timbers. The small oak board TCN53, thought to be part of a barrel head, is a fine radially split board, from a mature slow-grown oak, which spans the period AD 1047-1151 and, in the absence of sapwood, was felled sometime after AD 1166. If we assume the outer edge of the board must be close to the heartwood/sapwood boundary then the likelihood is that the board was made in the late 12th or early 13th century. The barrel would probably have been in use for some time before a part of it became deposited at The Close. It was found in Context (068), an organic-rich laminated dump deposit regarded as part of medieval reclamation at the northern shore of the River Tyne at this site. This reclamation is thought to have occurred in about the late 13th to 14th centuries based on pottery and other artefactual evidence. The dendro-date for TCN53 is therefore consistent with the artefactual dating evidence.

Dendrochronological analysis is capable of providing information on the provenance as well as the date of timber, using the technique of dendro-provenancing, although this works best with well replicated data (Bonde *et al* 1997; Daly 2007). Given TCN53 is part of a barrel one could expect transportation to have occurred. The closest match for TCN53 was found with material from the Wasdale Beck Logboat in North West England, and other matches are quite widely spread across Scotland and Northern England (Table 2, *Appendix 2I*). The good match with material from the early burgh at Inverness seems quite surprising at first, but the Inverness material was noted to match well with tree-ring sequences from South West Scotland and Northern England (Crone 2000). It may also

be that there is a widespread common climatic signal in the period represented. It is not possible at this stage to pin down TCN53's provenance more precisely, but it is clearly native North British timber and is not imported from elsewhere.

17. Summary and Discussion

i. Introduction

A recent synthesis of the archaeology of Newcastle (Graves & Heslop 2013: 99) notes that

[i]n the course of the Middle Ages, Newcastle became a major inland port, and a staple for the export of wool from the north of England... [m]uch of the archaeological record relates to the processes by which an improved riverfront infrastructure for sea-borne trade was created'

The excavations at 28-30 The Close add archaeological evidence to this process of waterfront exploitation, not only for the Middle Ages but also, to varying extents, for the preceding Roman occupation of the area; the establishment of the waterfront and its exploitation, and the transformations of the use of the area, from high-status private residences and commercial use, down to the recent refurbishment of the property. The archaeological evidence may be added to the analysis of the historic fabric of the standing building to provide a comprehensive chronological insight into the site.

The archaeological excavations at the site were developer-led and constrained by the requirement of the refurbishment, so that in some cases, particularly for the early periods, areas of investigation were small and limited in extent and depth. Nevertheless, stratigraphic, artefactual and ecofactual, and palaeo-environmental data may be added to the evidence of the historic building recording for all phases of use of the site.

ii. Roman Occupation

Material remains of the earlier third century AD were encountered in contexts in the rear and north-west rooms; the analysis of the ceramic material is here preliminary, but includes late Samian ware, Black-burnished 2 dishes and cooking pots, Lower Nene Valley colour-coat beakers, an Oxfordshire mortarium, S Spanish olive-oil amphora and sandy grey, fine grey, shell-tempered and oxidised wares (Wallace above). These derive from some six contexts across the two rooms; of these, only deposit (070) in the north-west room appears without later medieval material mixed with it. This lower deposit in the northernmost room, closest to the early Roman waterfront, may represent material either eroded from the known third-century AD occupation on Castle Garth, or possibly secondary deposits more directly related to Roman waterfront activity at the base of the Garth. As noted in the Introduction, there are clear erosional pathways – for instance, down the Long Stair, previously a gully or channel, as well as the tendency of the edge of the Heugh to slip after heavy weather events – for Roman material to arrive at the site. The bulk of the Roman material from the site, however, comes from the basal water-logged deposits associated with mid-14th century AD material, incorporated into the deliberate dumping laid down as part of the foreshore reclamation of that period. Whether this clearly residual material is also erosional, deriving from the Castle Garth site and/or surrounding occupation, or from the waterfront occupation of the first half of the third century AD, is not known. Nevertheless, the frequency of the Roman material at 28-30 The Close serves as a reminder that the riverine waterfront exploitation did not begin in the 13th century, and that the Roman occupation of the river-edge itself may have been under-considered given the well-known medieval interventions along the banks.

iii. Medieval Occupation and Waterfront Reclamation

Overlying the alluvial sands and gravels found in the north-west and central-rear rooms, and present in the waterlogged deposits in the front room, were limited exposures of material of apparently early date. These deposits tended towards waterlogging, with well-preserved organic remains, and were

artefactually rich in ceramics and faunal remains. These deposits could be identified as a series of dumps and rapid in-fillings – in the front room, associated with large timber uprights – and can be reasonably certainly related to the waterfront reclamation activity known from a series of nearby sites.

These tertiary deposits can only ever provide rather indirect evidence for waterfront activity of the period, but further post-excavation analysis of the leather, wood, botanical material and ceramics has added to our understanding of the range of activities represented in this material.

In common with the deposits uncovered at the Crown Court site and at Queen Street (O'Brien et al. 1989; Dixon 1988: 93), which produced evidence of cobblers' waste, the material from 28-30 The Close includes late or repair-stage leatherworking material such as shoe-soles. The small quantity of waste leather is likely to derive from the repair or refurbishment of old shoes rather than the manufacture of new items, the common task of a cobbler (Mould, Section 14 & *Appendix 2G*).

The ceramic assemblage adds to the existing evidence from adjacent sites for the pattern of development of the riverside frontage from mid- 13th century onwards. The assemblage indicates that large scale reclamation of the river bank may have occurred slightly later here than seen at other excavations west of the Tyne Bridge, where reclamation appeared to date from the early- to mid- 13th century. The evidence from the dumping deposit in the north-west room adds to that from 46 – 54 The Close that reclamation of the river bank initially involved terracing into the slope and throwing this material forward. However, the ceramic evidence indicates that here this is a mid, rather than early, 13th century deposit. There appears to be a hiatus in the process of reclamation before it recommences in the later 13th to early 14th century, with larger dumping deposits of material across most of the excavated area. In the main these deposits appear to originate from households on the quayside and riverside. The ceramic evidence of later occupation on the site is limited but fits with the general picture of an intensification of occupation along the Close during the early 14th century (Sage, Section 8 & *Appendix 2A*).

Some structural elements are also identifiable as possibly parts of the reclamation processes, including the tumbled masonry (007) and (038) of the centre-rear room which could represent deliberate levelling activity of early structures as part of the reclamation infilling. The waterlogged conditions resulted in good recovery of wood fragments, although there was little evidence of working. The roundwood fragments are likely to have derived from the local damp foreshore area and included examples of alder, hazel, oak and willow/poplar. Where working was noted this was largely restricted to conversion of one end to rough oblique points or radial splitting. It is likely that the large branches and wood fragments were driven into the ground as stakes to hold the soil in place during the foreshore reclamation at the property, while the smaller branches might have been trimmed to form withies or hurdles. Some larger oak stemwood fragments were also present in the deposits with these tending to show clearer evidence of working. Charcoal was limited and likely derives from domestic hearth waste (Ruchonnet, Section 12; Armstrong, Section 15 & *Appendix 2H*).

The palaeoenvironmental assemblage analysis concludes that many of the plant macrofossils potentially derive from nearby disturbed and waste ground and damp areas, probably relating to species colonizing the river's edge, during this period of reclamation as recorded at other excavations in this area of Newcastle. The plant remains recovered are typical of other medieval and post-medieval waterlogged urban deposits seen elsewhere in Newcastle where they have typically been interpreted as deposits incorporating consumption waste with indicators also reflecting waste ground in the vicinity of the sites. The presence of fig in these deposits emphasizes the importance of distant trade to the town and the relatively high economic and social status of the area during the medieval period. Relatively low quantities of charred cereal remains suggest that processing was undertaken elsewhere with flour brought in (Armstrong, Section 15 & *Appendix 2H*).

In addition, early elements of the historic fabric were recovered during the excavations. In the excavations required for the slapping of an entrance through a previous (set of) fireplace(s) in the front room, during which phases of masonry were peeled away, an area of well-cut sandstone masonry was recorded which displayed indications of being the lower courses of the spring of a vault arch. This

masonry, equated with the medieval *Phase 1* masonry of the historic fabric analysis (Addyman Associates 2004; Addyman Archaeology forthcoming) may represent the remnants of the ‘premises in the Close which consisted of ‘a sollar [solar, private apartment] with a cellar’ attested in documents of the 14th century (McCrombie 2001).

Medieval structural elements were also revealed in all areas of excavation. The early wall footing (048) in the centre-rear room may preserved masonry elements coeval with the common joists noted in the front range, relating to a central building, one of the three plots existing before their integration into a single structure. Of the same general phase, one of the recurrent drainage features, drain (040), was also recovered in the centre-rear room. That drainage was a recurrent issue in this period may be seen from the sequence of drains of similar date from the north-west room, (080), (065) and (098), where three stone-built structures were superimposed, each associated with a successive phase of occupation and the associated changing floor levels as the site was modified.

iv. Late 17th/Early 18th century Structures

Amongst the best-preserved structural elements – though, in common with much of the archaeological evidence exposed across the site, truncated by later works – were a series of features exposed in the centre-rear room. These included the brick platform (014) which, with associated features including post-uprights, and the evidence of the standing masonry, appeared to constitute the remains of a previous stair-base of an early house. Timber elements (newel posts, turned balusters, etc.) recovered during the restoration works may be associated with replacements for this stair (see further discussion in Addyman Archaeology forthcoming). Associated or slightly later than this was the partially-revealed sub-circular fire installation: a kiln, oven or bot-boiler base which indicates the extent of the household production and domestic economy associated with the 17th century properties in the Close.

v. Later Alterations

The sub-floor archaeological material is capped at the site by the flagstone floor of the later 18th century – the HBR Phase 6. The subsequent history and alterations to the building is discussed more fully in the report of the building’s historic fabric (Addyman Archaeology forthcoming); here, the recorded flagstone floor and its structural features may be seen on *Figure 15*, given at A3 size at the end of this report, following the Appendices.

18. References

Addyman & Kay 1999 *28-30 The Close, Newcastle upon Tyne, Tyne and Wear. An Architectural and Archaeological Evaluation.* Unpublished report.

Addyman Associates 2004 *28-30 The Close, Newcastle upon Tyne, Tyne and Wear. An Architectural and Archaeological Evaluation.* Unpublished report.

Allason-Jones, L. 2002 'Small Finds.' Pp. 211-33 in Snape and Bidwell 2002.

Archaeological Services 2005 *The Close, Newcastle upon Tyne, Tyne and Wear: post-excavation full analysis.* Unpublished report 1081, Archaeological Services Durham University

Archaeological Services 2007 *Tuthill Stairs, Newcastle upon Tyne: palaeoenvironmental analysis.* Unpublished report 1646, Archaeological Services Durham University

Archaeological Services 2009a *1-7 Westgate Road: plant macrofossil assessment.* Unpublished report 2227, Archaeological Services Durham University

Archaeological Services 2009b *1-7 Westgate Road: plant macrofossil, bone and shell assessment.* Unpublished report 2323, Archaeological Services Durham University

Archaeological Services 2011 *Ripon Market Place, Yorkshire: full analysis.* Unpublished report 2639, Archaeological Services Durham University

Archaeological Services 2014 *55-57 Quayside, Newcastle upon Tyne, Tyne and Wear: palaeoenvironmental assessment.* Unpublished report 3540, Archaeological Services Durham University

Archaeological Services 2015a *Half Moon Yard, Newcastle upon Tyne, Tyne and Wear: post-excavation full analysis.* Unpublished report 3763, Archaeological Services Durham University

Archaeological Services 2015b *Darlington Town Hall, Darlington: post-excavation full analysis.* Unpublished report 3604, Archaeological Services Durham University

Archaeological Services 2016 *Former BEMCO Site, Clavering Place, Newcastle upon Tyne: post-excavation full analysis.* Unpublished Report 3904, Archaeological Services Durham University

Archaeological Services 2018a *Mining Institute, Westgate Road, Newcastle upon Tyne: palaeoenvironmental and animal bone assessment.* Unpublished report 4697, Archaeological Services Durham University

Archaeological Services 2018b *Stephenson Pocket Park, Newcastle upon Tyne: palaeoenvironmental analysis and artefact conservation records.* Unpublished report 4836, Archaeological Services Durham University

Archaeological Services 2018c *28-30 The Close, Newcastle upon Tyne: palaeoenvironmental assessment.* Unpublished report 4740, Archaeological Services Durham University

Baillie, M G L 1977a 'An oak chronology for South Central Scotland', *Tree-Ring Bulletin* Vol 37, 33-44.

Bidwell, P and M. Snape 2002 'The History and Setting of the Roman Fort at Newcastle upon Tyne.' *AA* 31: 251-83.

Bidwell, P T and Holbrook, N 1989 *Hadrian's Wall Bridges*, London

- Bidwell, P and Speak, S 1994 *Excavations at South Shields Roman Fort Volume I*, Newcastle [= Soc Antiq Newcastle Monograph 4]
- Bishop, M C 2004 *Inveresk Gate: Excavations in the Roman Civil Settlement at Inveresk, East Lothian, 1996-2000*, Loanhead
- Bonde, N, Tyers, I & Wazny, T 1997 'Where does the timber come from? Dendrochronological evidence of timber trade in Northern Europe', in Sinclair, A, Slater, E & Gowlett, J (eds) *Archaeological Sciences 1995*, 201-4. Oxford.
- Bown, L. 1988, 'The Pottery' in O'Brien, C, Bown, L, Dixon, S and Nicholson, R, 'The Origins of Newcastle Quayside, Excavations at Queen Street and Dog Bank', *Society of Antiquaries of Newcastle upon Tyne*, Monograph Series 3.
- Cambridge Archaeology Field Group, 2012, *Evolution of Clay Tobacco Pipes in England*.
- Campbell, A.C., Nicholls, J., 1989, *Seashores & Shallow Seas of Britain and Europe*, London: Hamlyn Guides.
- Claessens, H, Oosterbaan, A, Savill, P, & Rondeux, J, 2010 A review of the characteristics of black alder (*Alnus glutinosa* (L.) Gaertn.) and their implications for silvicultural practices. *Forestry* 83 No.2 163-175
- Coull, J.R., 1996, *The Sea Fisheries of Scotland*, Edinburgh: John Donald.
- Crone, A 2000 'Native tree-ring chronologies from some Scottish medieval burghs', *Medieval Archaeology* 44, 201-16
- Crone, A & Baillie, M 2010 'Appendix 5; Perth High Street dendrochronological studies'. In Perry, D, Murray, H, Beaumont James, T & the late Nicholas Q Bogdan, *Perth High Street Archaeological Excavation 1975-1977. Fascicule 1, The excavations at 75-95 High Street and 5-10 Mill Street, Perth*, pp221-5. Perth (Tayside and Fife Archaeological Committee).
- Daly, A 2007 *Timber, trade and tree-rings. A dendrochronological analysis of structural oak timber in Northern Europe, c. AD 1000 to c. AD 1650*. Univ Aarhus; PhD Thesis.
- Daniels, CM and E Cambridge 1974 'New Light on the Sandgate.' *CBA North Archaeo Newsbull* 8: 8-12.
- Darling, M J (ed.) 1994 *Guidelines for the Archiving of Roman Pottery*, London [= SGRP Guidelines Advisory Document 1]
- Dixon, S. 1988 'The Leather'. In O'Brien, C., Brown, L., Dixon, S. and Nicholson, R. *The origins of the Newcastle Quayside*, Society of Antiquaries of Newcastle upon Tyne Monograph 3, 93-103
- von den Driesch, A., *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin, 1976
- Dungworth D & Girbal, B 2011 *Walmer Castle, deal, Kent, Analysis of Window Glass*. English Heritage Research report series, 2-2011, Portsmouth
- Edwards, L.J., 1986, *Tobacco Pipes, Pipemakers, and Tobacconists in Newcastle and Gateshead until C1800: an archaeological study*, University of Durham, MA Thesis.

Ellison, M., G. McCombie, M. Macelvaney, A. Newman, C. O'Brien, N. Taverner and A. Williams 1993 'Excavations at Newcastle Quayside: Waterfront Development at the Swirle,' AA 21: 151-234

English Heritage 1999 *Dendrochronology guidelines*.

<http://www.english-heritage.org.uk/publications/dendrochronology-guidelines/>

English Heritage 2010 *Waterlogged Wood: Guidelines on the recording, sampling conservation and curation of waterlogged wood*. Swindon

Evans, J and Willis, S (eds.) 1997 'Research Framework for the Study of Roman Pottery in the North of Britain', in Willis, S (ed.) *Study Group for Roman Pottery Research Frameworks for the Study of Roman Pottery*, London, 22-29

Franklin, J. 2006, 'Medieval Pottery', in Young, G. 'Excavations carried out at Newgate Street, Newcastle upon Tyne, 1997 – 2000'. *Archaeologia Aeliana*, 5th Series vol. 35

Fraser, R., R. Maxwell and JE Vaughan 1994 'Excavations Adjacent to Close Gate, Newcastle 1988-9,' AA 22: 85-151.

Fraser, R., C. Jamfrey and JE Vaughan 1995 'Excavation on the Site of the Mansion House, Newcastle, 1990,' AA 23: 145-213.

Friendship-Taylor, D.E. 1984 'The leather'. In J.P. Allen *Medieval and post-medieval finds from Exeter, 1971-1980*, Exeter: Exeter City Council and the University of Exeter, 323-333

Gillam, J P 1970 *Types of Roman Coarse Pottery Vessels in Northern Britain*, Newcastle

Goodrick, G Williams, A and O'Brien, C 1994 'Excavations at Newcastle Quayside: The Evolution of Sandgate', *Archaeol Aeliana* 5ser 22 (1994), 219-33

Goodburn, D, 1991 Waterlogged wood and timber as archives of ancient landscapes, in J Coles & D Goodburn (eds) *Wet Site Excavation and Survey*. WARP Occasional Paper 5. Exeter

Goodrick, G., A. Williams and C. O'Brien 1994 'Excavations at Newcastle Quayside: the Evolution of Sandgate,' AA 22: 219-33.

Goubitz O., 1984 The drawing and registration of archaeological footwear, *Studies in Conservation* 29, No 4, 187-196.

Goubitz, O., van Driel-Murray, C. and Groenman-van Waateringe, W. 2001 *Stepping through Time. Archaeological Footwear from Prehistoric Times until 1800*, Zwolle: SPA.

Graves, CP and DH Heslop 2013 *Newcastle upon Tyne the Eye of the North. An Archaeological Assessment*. Oxford: Oxbow/English Heritage.

Greenfield, H.J., Arnold, E.R., *Absolute Age and Tooth Eruption and Wear sequence in Sheep and Goat: Determining Age-at-Death in Zooarchaeology, using Modern Samples*, Journal of Archaeological Science, 35, 2008

Greig, J R A, 1991 The British Isles, in W Van Zeist, K Wasylikowa & K-E Behre (eds) *Progress in Old World Palaeoethnobotany*. Rotterdam

Greig, J, 1996 Archaeobotanical and historical records compared – a new look at the taphonomy of edible and other useful plants from the 11th to the 18th centuries A.D. *Circaea* 12(2), 211-247

- Grew, F. and de Neergaard, M., 1988 *Shoes and Pattens, Medieval finds from excavations in London: 2*. London: HMSO.
- Hall, A R, & Huntley, J P, 2007 *A review of the evidence for macrofossil plant remains from archaeological deposits in northern England*. Research Department Report Series no. 87. London
- Hall, A R, & Nicholson, R, 1986 *The plant remains from excavations at Queen Street, Newcastle upon Tyne, 1984-85*. AML Report New Series 45/86
- Hall, A R, Tomlinson, P R, Hall, R A, Taylor, G W, & Walton, P, 1984 Dyeplants from Viking York. *Antiquity* 58, 58-60
- Harbottle, B 1967 'An excavation at the Gunner Tower, Newcastle upon Tyne, 1964', *Archaeologia Aeliana 4ser* 45 (1967), 123-37
- Harbottle, B 1968 'Excavations at the Carmelite Friary, Newcastle upon Tyne, 1965 and 1967', *Archaeologia Aeliana 4ser* 46 (1968), 163-223
- Harbottle, B Fraser, R and Burton, F C 1988 'The Westgate Road Milecastle, Newcastle upon Tyne', *Britannia* 19 (1988), 153-62
- Hather, J G, 2000 *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London
- Heslop, D. and L. Truman 1993 *The Cooperage, 32-34 The Close: A timber-framed building in Newcastle upon Tyne*. Buildings of Newcastle 1. Newcastle.
- Higgins, D.A., Davey, P.J., 2004, 'Appendix 4: Draft guidelines for using the clay tobacco pipe record sheets' in White S.D., *The Dynamics of Regionalisation and Trade: Yorkshire Clay Tobacco Pipes c1600-1800, The Archaeology of the Clay Tobacco Pipe, XVIII, British Archaeological Reports (British Series 374)*, Oxford.
- Higgins, D.A., 2013, *A Brief Introduction to Clay Tobacco Pipes and their Study*.
- Hill, P R 2001 'Hadrian's Wall from MC0 to MC9', *Archaeologia Aeliana 5ser* 29 (2001), 3-18
- Hillam, J, Morgan, R A & Tyers, I 1987 'Sapwood Estimates and the Dating of Short Ring Sequences', in Ward, R G W (ed), *Applications of Tree-ring Studies. Current Research in Dendrochronology and Related Subjects*, Oxford BAR International Series, 165-185. (=Brit Archaeol Rep Int Ser, 333).
- Hodgson, N (ed.) 2009 *Hadrian's Wall 1999-2009 A Summary of Excavation and Research*, Kendal
- Howe, M D Perrin, J R and Mackreth, D F 1980 *Roman Pottery from the Nene Valley: A Guide*, Peterborough
- Huntley, J P, 1989 The plant remains, in O'Brien, C et al, Excavations at Newcastle Quayside: the Crown Court site. *Archaeol Aeliana 5th series* 17, 141-205
- Huntley, J P, 1994. Plant remains, in Fraser, R., Maxwell, R. & Vaughan, J E (eds) Excavations adjacent to Close Gate, Newcastle 1988-89. *Archaeologia Aeliana, Fifth Series* 22, 134-144.
- Huntley, J P, 2010 *A review of wood and charcoal recovered from archaeological excavations in Northern England*. Research Department Report Series no. 68. London
- Kenmotsu, N. 1990 'Gunflints: A Study.' *Historical Archaeology* 24: 92-124.

- Laxton, RR & Litton, CD 1988 *An East Midlands tree ring chronology and its use for dating vernacular buildings*. Archaeology Section Monograph No. 3, University of Nottingham.
- Lockhart, G.W., 1997, *The Scots and their Fish*, Edinburgh: Birlinn.
- Longstaffe, WHD 1860 'The New Castle Upon Tyne,' *AA* 2/4: 45-139.
- Lyons, S, & O'Donnell, L, 2009 Appendix 8: Integrated wood report for Site 34, Newrath Townland, County Kilkenny. In *N25 Waterford Bypass, Contract 3. Final Report on archaeological investigations at site 34 in the townland of Newrath, County Kilkenny*. Headland Archaeology, unpublished report
- McCrombie, G. 2001 *A Report on the House Known as 28/30 The Close, Newcastle Upon Tyne*. Unpublished report for The Tyne and Wear Building Preservation Trust (Buttress).
- McKenna, W J B, 1992 The environmental evidence, in D H Evans & D G Tomlinson (eds), *Excavations at 33-35 Eastgate, Beverley 1983-86*, 227-35, Sheffield Excavation Reports 3
- Mould, Q. In prep. 'The leather finds' in Lucas, G. (ed.) *Skálholt Excavations 2002-7*. Reykjavik: Institute of Archaeology.
- Newman, H. 1987 *An Illustrated Dictionary of Glass*, London.
- Nicholson, R., 1988, 'The Marine Molluscs and Crustaceans' in O'Brien, C., Bown, L., et al., *The Origins of the Newcastle Quayside*, Newcastle upon Tyne: The Society of Antiquaries of Newcastle upon Tyne.
- Nolan, J., R. Fraser, B. Harbottle, and FC Burton 1989 'The Medieval Town Defences of Newcastle upon Tyne: Excavation and Survey 1986-87,' *AA* 17: 29-78.
- Nolan, J. and J. Vaughan forthcoming '27 The Close, Newcastle upon Tyne. Archaeological Investigation, 1994.' Unpublished draft.
- O'Brien, CF, L. Brown, S. Dixon and R. Nicholson 1988 *The Origins of the Newcastle Quayside. Excavations at Queen Street and Dog Bank*. Monograph Series 3. Newcastle: Society of Antiquarians of Newcastle.
- O'Brien, CF, L. Brown, S. Dixon and R. Nicholson 1989 'Excavations at Newcastle Quayside: the Crown Court Site,' *AA* 17: 141-205.
- Oswald, A., 1983, 'Clay Tobacco Pipes', in Ellison, M., Harbottle, B., *The Excavation of a 17th-century Bastion in the Castle of Newcastle upon Tyne, 1967-81*, *AA* 5 series 11, 135-263.
- Passmore, D O'Brien, C and Dore, J 1991 'Roman Period Riverside Deposits at Castle Stairs, Sandhill', *Archaeol Aeliana* 5ser 19 (1991), 17-24
- Payne, S., *Kill-off Patterns in Sheep and Goats – The Mandibles from Aşvan Kale*, *Journal of Anatolian Studies*, 23, 1973
- Petts, D, & Gerrard, C, 2006 *Shared Visions: The North-East Regional Research Framework for the Historic environment*. Durham
- Platell, AC, JL Mole, CG Cumberpath, A Gutierrez, TS Martin, Q Mould, H Wilmott and C O'Brien 2013 'Excavations at 46-54 The Close, Newcastle upon Tyne,' *AA* 42: 181-206:

- Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora*. Oxford
- Rich, FW 1904 'Two stone coffins of the Roman period, in one of them human bones and an urn,' AA 25: 147-9.
- Richardson, GB 1844 'Account of the discovery of some Roman relics in the western suburbs of *Pons Aelii*,' AA 3: 148-9.
- Roach, F A, 1985 *Cultivated fruits of Britain; their origin and history*. Oxford
- Sage, A. 2009, *An Assessment of the medieval pottery resource from Northumberland*. Unpublished research report for English Heritage.
- Sage, A¹. in manuscript, 'The medieval pottery from archaeological excavations at Tuthill Stairs, Newcastle upon Tyne (NTS04/05)'. Specialist report for Tyne and Wear Museums Archaeology.
- Sage, A². in manuscript, 'The pottery from archaeological excavations at Shotton Northumberland'. Specialist report for Tyne and Wear Museums Archaeology.
- Sage, A and Vaughan, J. in prep, 'The medieval pottery from the castle, Newcastle upon Tyne'
- Sands, R, 1997 *Prehistoric woodworking: the analysis of Bronze and Iron Age toolmarks*. London
- Schmid, E., *Atlas of Animal Bones*, Elsevier, 1972
- Schweingruber, F H, 1990 *Microscopic wood anatomy*. Birmensdorf
- Silver, I.A., "The Ageing of Domestic Animal" in *Science in Archaeology, A Comprehensive Survey of Progress and Research*, Brothwell, D., Higgs, E., (eds.), Basic Books, 1969
- Snape, M. and P. Bidwell 2002 'Excavations at Castle Garth, Newcastle upon Tyne, 1976-92 and 1995-6: the Excavations of the Roman Fort,' AA 31: 1-249.
- Spain, RGB and FG Simpson 1930 'The Roman Wall from Wallsend to Rudchester Burn.' Pp. 496-548 in MH Dodds (ed.), *Northumberland County Hist.* 13.
- Stace, C, 2010 *New Flora of the British Isles*. Cambridge
- Tomber, R and Dore, J 1998 *The National Roman Fabric Reference Collection A Handbook*, London [= MoLAS Monograph 2]
- Tyers, I 1999 *Dendro for Windows Program Guide 2nd edition*. ARCUS Report 50.
- Volken, M. 2014 *Archaeological Footwear: Development of shoe patterns and styles from Prehistory till the 1600's*, Zwolle: SPA-Uitgevers.
- Wenham, G., Fowler, V.R., 1973. *A radiographic study of age changes in the skull, mandible and teeth of pigs*. J. Agric. Sci. 80:451-461.
- White, R. 1865 'Roman stone found at the White Friars', Newcastle.' AA 6: 231-2.
- White, S. W. 1975 'On the Origins of Gunspalls.' *Historical Archaeology* 9: 65-73

Appendix 1A
works in 2009

Written Scheme of Investigation (WSI) for final phase of archaeological

1 Introduction

During 2008 a number of investigations were undertaken in association with services and flooring-related details of the proposed conservation and redevelopment of 28-30 The Close, Newcastle.

These works were subject to Planning requirements imposed by the Tyne and Wear Archaeology Service (case officer Jennifer Morrison) – a condition requiring both a watching brief (in relation to the raising of flagstones) and actual archaeological evaluation (where deeper engineering investigations were required). The latter investigations in turn determined what further below-ground impacts were necessary in order to install suitable flooring make-up and other necessary structural support for the superstructure. The proposed design of these details was made considerably more complex by the discovery of a 19th century well structure within a rear room – further structural-related investigations (evaluation test pits and bore-tests) were required and a new scheme for structural stabilisation designed.

The extent of the proposed new works to floor areas has now been finalised (December 2008). This in turn has permitted the finalisation of the archaeological response to the proposed ground-breaking – this Written Scheme of Investigation or ‘WSI’. Addyman Archaeology has been in discussion and communication with Jennifer Morrison, the Tyne and Wear Archaeology Officer, both during the 2008 works and in relation to the present WSI – this also involved a site meeting with Jennifer Morrison in October 2008 during which detailed proposals were further discussed and the following archaeological approach approved in principle.

2 Proposed ground-works and archaeological response

i General

Archaeological monitoring and evaluation works in 2008 permitted a reasonably detailed appreciation of the issues likely to arise with the proposals for 2009 works. These works included the lifting of the floor slabs throughout the building, engineering trial pits to establish reduction levels and archaeological test pits. The archaeological remains encountered are referred to in relation to each area in the individual sections that follow.

Considerable effort was made to minimise the impact that the proposed design for floor levels, etc. would have upon underlying archaeological deposits. This not only follows the principle of preservation of archaeological remains *in situ* but will considerably reduce the expense that would be involved in more extensive excavation works.

In order to ensure that the proposed works meet the archaeological requirements the following scope of works are proposed (see figure 1 for corresponding information).

All information shall be recorded on Addyman Archaeology standardised recording forms and all archaeologically significant material uncovered shall be drawn at an appropriate scale. The excavation will also be accompanied by comprehensive photographic recording. This shall be primarily in the form of colour digital photographs, but shall be backed up by black and white print photographs.

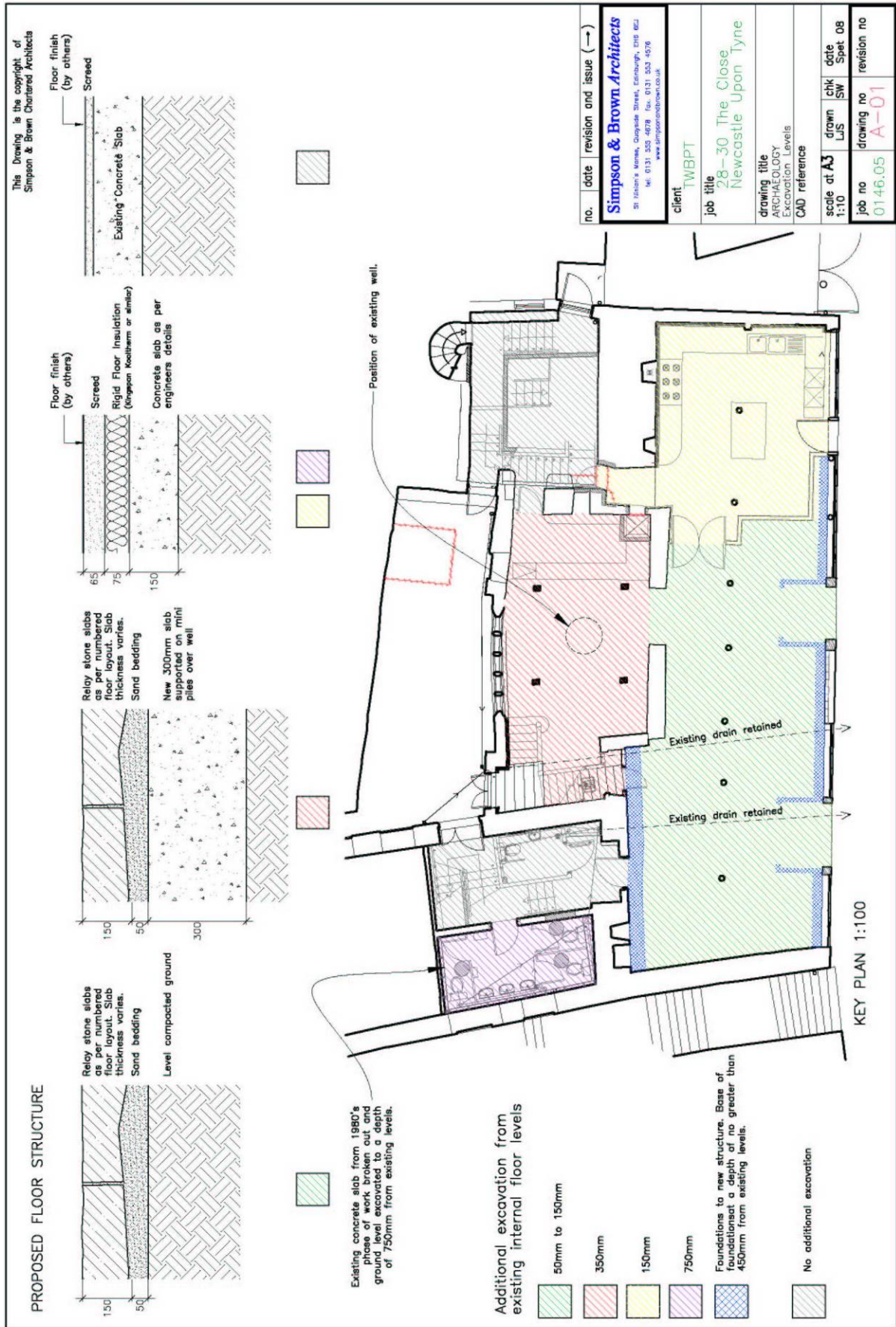


Figure 1: proposed ground reduction levels at The Close

ii Reduction of levels in front room

The main central ground floor area of the structure was originally to be reduced by 500mm from the original ground surface and levelled off. The stone slab floor which previously covered the area has been removed (during the watching brief stage of works in 2008). This removal revealed a compacted surface of re-deposited material and made up ground.

The removal of the stone slab floor and associated bedding sand accounted for the first 200mm of ground level reduction. Because of the varying ground levels, it is now anticipated that the ground in the front room does not require more than 50-150mm of material to be removed to achieve the desired depth of ground level.

The removal of the floor slabs in this room revealed a compacted surface of re-deposited material and made up ground. As the material immediately underlying the stone slab floor is primarily overburden, this will be removed by the site contractor, under watching brief conditions, with recording of the works being carried out by a qualified archaeologist. The contractor will also be responsible for organising the removal of spoil from the site to a suitable location (a skip in the adjoining alleyway has been suggested) and for the removal of this skip.

In the event of potentially significant archaeological remains being revealed during the removal of this material, the reduction of the ground level would be taken over by the archaeological team and all material and features recorded as per Addyman Archaeology recording standards. However, the re-deposited nature of the material below the floor slabs suggest that any potential archaeological remains recovered may not be securely stratified. If this is the case, little post-excavation requirements should apply.

The two drains within the front rooms have not been assessed yet as to whether they can be kept or whether the one contemporary with the stone slab floor requires replacement. If it is decided to replace the drain, any works will be monitored and recorded as part of the works within this section.

iii Foundation trenches in front room

The excavation of foundation trenches in the front room will necessitate the removal of material up to a depth 450mm from the existing ground level. The location of these trenches at the foundations of the structure results in the potential for archaeologically significant material being revealed.

Although sections of the foundations along the frontage were disturbed during works in the 1980s and were partially filled with concrete (as substantial sections of concrete were uncovered during the evaluation stage of works), there is still the potential for sections of these trenches to reveal archaeologically significant material. As a result of this these trenches will have to be excavated by an experienced archaeologist, as will have to be the associated recording works, with spoil removal being undertaken by the site contractor (MGM).

The foundation trench along the back (north) of the room is unlikely to have been disturbed in recent years and therefore has the potential to produce archaeologically significant material. As such this trench will be excavated and recorded by an experienced archaeologist, with spoil removal being carried out by the site contractor. The confined size of these foundation trenches complicates excavation and recording and extra time will be required for this section of works.

iv Reduction of levels in central rear room

The proposed reduction level in the central rear room was 500mm from the existing floor level. The removal of the stone floor slabs (100mm) and bedding sand (50mm) during the watching brief stage of works has left 350mm of remaining deposits to be removed.

The removal of the slabs and bedding sand during the watching brief stage of works in 2008 revealed a 19th century well. The unexpected uncovering of this well, accompanied by the potential for the discovery of archaeologically significant deposits, made it necessary that the reduction of the floor level is to be carried out and recorded by suitably qualified archaeologists.

The removal of spoil from this room, and from the rest of the site, should be carried out by the contractor (MGM). The contractor will also be responsible for the organisation of skips (or an alternative, see above) for the displaced spoil, and their removal from site.

v Reduction of levels in east room

The reduction levels in the east room are of a sufficiently shallow depth (150mm below the current ground surface) that it is felt unlikely that archaeological significant material will be uncovered. As such, the ground reduction in this room will be undertaken by the site contractor under watching brief conditions.

However, in the event that potentially archaeological significant material is uncovered the reduction of the ground level and associated recording would be taken over by the archaeological team.

vi Reduction of levels in northwest room

The reduction of ground levels in the northwest room is 750mm below the current ground level. The uppermost section of the deposits to be removed is composed of a concrete slab from the 1980s phase of work. This slab will be removed by the contractor prior to the main phase of excavation works.

The schedule of work following the removal of the slab will be dependant on what is revealed beneath the slab. An assessment of the deposits revealed below the slab will be undertaken as part of this excavation stage of works and subsequent work will result in one of two options:

1. Potentially archaeologically significant material is revealed. In this case the reduction of the ground level and associated recording will be taken over by an experienced archaeologist, with the removal of spoil being undertaken by the contractor.
2. Material deemed not to be archaeologically significant. In this case the revealed material shall be removed by the contractor, with monitoring of the operations being carried out by the archaeological team. If potentially significant material is uncovered at a greater depth then option 1 shall be implemented.

3 Reporting and archiving

i Data Structure Report

A report has to be produced containing detailed description of the watching briefs and excavations, their findings, and interpretation related to the standing archaeology of the building, and comprising tabulated site records and other metrical data.

This position will also include OASIS reporting, and digitising of contexts and drawings. The report would have to be priced separately, but we hope to combine this with the reporting of the previous evaluation in 2008, that was part of the existing archaeological investigation budget. This should keep reporting costs to a minimum.

4 Post-excavation requirements

i Finds processing and archiving

All the aforementioned archaeological work will require proper processing of finds and site records and possible publication. The extent of this work will closely relate to what may be discovered on site; we will review the implications for post-excavation work after the completion of the on site excavation stage. Current assessment suggests that the levels to be excavated are minimal and that the archaeology to be encountered is not securely stratified, but consists of re-deposited material. The following proposal of works is based on these assumptions. However, as the unexpected recovery of the well feature has demonstrated, works and pricing might substantially increase if significant archaeological remains are recovered.

Because of the re-deposited nature of the material, it is anticipated that any archaeological remains recovered are not securely stratified. If this is the case, the post-excavation requirements should only comprise general processing of finds – washing, cataloguing, etc. preparation of possible samples (estimate of about 5 samples), finds, etc. for specialists and minimal processing and cataloguing of one set of photographic and other records, preparation for archiving, etc. If additional requirements for photo recording are asked for by the council archaeologist, this section of work will have to be revised.

ii Specialists' reports

It is anticipated that reports will be required on particular groups of archaeological finds, particularly pottery, bone, etc. and, perhaps, soil samples. A provision will be made for the specialist analysis of these though, unless unexpected significant discoveries are made, it is not anticipated that this will be a major item of expenditure.

iii Publication

The excavation work within the interior will only likely expose and impact significant early deposits in isolated areas. It is not anticipated that the works will require a major published piece in their own right. However, the results will nevertheless require publishing, in particular with the historic context of the building and this is doubtlessly best done as a section in a general published report. This is envisioned to also contain the recording works of the standing building, nearing completion as part of the present project.

Perhaps the most suitable academic publication is the local antiquarian journal, *Archaeologia Aeliana*, though other outlets might also be considered (eg. *Medieval Archaeology*, *Post-Medieval Archaeology*, etc.).

iv Project Management

The arrangement and management of the processing of finds, specialists work and publication is envisaged to require a day of project management.

Addyman Archaeology 22 January 2009

Appendix 1B Context Registers

2008 Works: Monitoring trial pits and floor clearance

Context No.	Trench	Area	Description	Initials	Date
000		Ground floor	Modern debris running along N edge of the building floor, covering many of the relaid stone slabs [0001] in this area	TOA	21/08/2008
001		Ground floor	<i>Ex-situ</i> stone slabs obviously re-laid at a later date than the rest of the stone slab floor [005] along N edge of building	TOA	21/08/2008
002	STP 1	Front room	Modern service trench. Upper fill of Type 1 material and light creamy brown clayey coarse gravel; lower fill of concrete capping of pipe	TOA	21/08/2008
003	STP 1	Front room	Cobbled pathway running E to W parallel to the building, approx 0.6m N of the wall - associated with the stone slab steps [1002/1003].	SLP	21/08/2008
004	STP 1	Front room	Constructional surface. Crushed and fragmented pink bedrock-derived sandstone material forming a compact surface respecting the N edge of the cobbled path [1003]	SLP	21/08/2008
005		Ground floor	Stone slab floor covering a large percentage of the front and back rooms	SLP	21/08/2008
006		Rear room	Mortar spread. Area of stone slab floor [005] and bricks [015] covered in layer of mortar material. NW corner of Rear room	SLP	21/08/2008
007		Rear room	Rectangular area, sunken and concreted over in the NE corner of Rear room	SLP	21/08/2008
008		Rear room	Line of brick-shaped stones running along E edge of [007]	SLP	21/08/2008
009		Rear room	Disturbed and damaged section of floor [005] in NE, W of [008]	SLP	21/08/2008
010		Rear room	Stone slab in floor [005] with squared post/upright cut	SLP	21/08/2008
011		Rear room	Stone slab in floor [005] with squared post/upright cut	SLP	21/08/2008
012		Rear room	Thin spread of mortar/concrete over stone slabs of floor [005]	SLP	21/08/2008
013		Rear room	Grey concrete material deposited along edge of brick wall at SW corner Rear room	SLP	21/08/2008
014		Rear room	Concrete plinth running along S edge of SW wall of centre-rear room	SLP	21/08/2008
015		Rear room	Area of brick stretcher-laid flooring, SE corner of Rear room	SLP	21/08/2008
016		Rear room	Mortar material, a lump, in centre of Room 2, with a line impression indicating some previous use (location of something now removed)	SLP	22/08/2008
017		Front room	Drain capping of stone slabs, running N to S, located at E edge of stone slab floor [005]	SLP	22/08/2008
018		Front room	Drain capping of stone slabs, running N to S, located in central area of stone slab floor [005]	SLP	22/08/2008
019		Rear room	Spread of concrete/mortar, NW corner of Rear room	SLP	22/08/2008
020		Front room	Rectangular man-hole cover set into concrete floor [021]	SLP	22/08/2008
021		Front room	Concrete floor at E end of Front room	SLP	22/08/2008
022		Front room	Cut for modern service trench [002], cutting stone slab floor [005] and concrete floor [021]	SLP	22/08/2008
023		Front room	Stone ledge against interior N elevation, Walls [1104], [1111]	SLP	22/08/2008
024		Front room	Base of iron weighing station set into stone slab floor [005]	SLP	22/08/2008
025		Front room	Concrete drain W of column base [026]	SLP	22/08/2008
026		Front room	Wooden base of column [1005]	SLP	22/08/2008

Context No.	Trench	Area	Description	Initials	Date
027		Front room	Square drain hole cut into stone slab floor [005]	SLP	22/08/2008
028		Front room	Stone base of column [1003]	SLP	22/08/2008
029		Front room	Brick surround for stone base [028]/column[1003]	SLP	22/08/2008
030	STP 5	Front room	Modern brick-lined drain, curvilinear in plan, extending from drain [027] N and E	SLP	22/08/2008
031		Front room	Timber floor-boards, E end front room	SLP	22/08/2008
032		Front room	Rectangular stone threshold of Fireplace [1136]	SLP	22/08/2008
033		Front room	Chipboarded flooring at E end of building	SLP	22/08/2008
034	STP 2	Front room	Stone foundations of column [1005]	SLP	22/08/2008
035	STP 2	Front room	Brick course/step of stone foundations [034]	SLP	22/08/2008
036	STP 2	Front room	Stone course stepped out and below main foundations [034]	SLP	22/08/2008
037	STP 2	Front room	Bricks below [036]. Noted but unrecorded due to immediate backfilling requirements of test pit	SLP	22/08/2008
038	STP 2	Front room	Iron drainage fixture with pipe connecting to drain [025]	SLP	22/08/2008
039	STP 2	Front room	Yellow silty sand. Bedding for stone slabs [005]	SLP	22/08/2008
040	STP 2	Front room	Mid yellow/brown clay silt with occasional orange clay brick fragments	SLP	22/08/2008
041	STP 2	Front room	Black silty clay deposit	SLP	22/08/2008
042	STP 2	Front room	Dark brown silty clay	SLP	22/08/2008
043	STP 1	Front room	Concrete layer in drain capped with stone slabs [018]	SLP	22/08/2008
044	STP 4	Rear room	Brick well feature	SLP	22/08/2008
045	STP 4	Rear room	Wooden supports underneath stone slab floor [005]	SLP	22/08/2008
050		Rear room	Dark grey-brown/black silt with high density coal fragments. Fills (051); overlies (057)	KmacF	10-16/09/2008
051		Rear room	Brick-built feature, lime-bonded; on top of rotted joists (053)	KmacF	10-16/09/2008
052		Rear room	Void left by rotted joists. 15cm deep	KmacF	10-16/09/2008
053		Rear room	Rotten joists; 7, running NW-SE	KmacF	10-16/09/2008
054		Rear room	Truncation of well along west and east to fit joists [053]	KmacF	10-16/09/2008
055		Rear room	Well built from LFRB, lime bonded, edge-lain, irregular ovoid in plan	KmacF	10-16/09/2008
056		Rear room	Small sandstone slabs lain on top of (053)	KmacF	10-16/09/2008
057		Rear room	Mortar- and cinder-rich loose rubble backfill behind [054] build	KmacF	10-16/09/2008
058		Rear room	Compacted slightly gritty silt with some charcoal flecks	KmacF	10-16/09/2008
059		Rear room	Rubble wall-face of early vaulted chamber; lime-bonded sandstone rubble	KmacF	10-16/09/2008
060		Rear room	Course of mostly cut yellow sandstone; forms springer for vault	KmacF	10-16/09/2008
061		Rear room	Opening through [059] and [060] possible slapping	KmacF	10-16/09/2008
062		Rear room	Brick work, making good wall face above vault (060) once vault removed. LFRB	KmacF	10-16/09/2008
063		Rear room	Rubble masonry above (060), lime-bonded	KmacF	10-16/09/2008
064		Rear room	Window/opening formed within (063), 0.50 x 0.54m. Lintel and sill on E face are formed from reused moulded stones	KmacF	10-16/09/2008
065		Rear room	Mixed compacted grey-brown silty clay containing stone and some LFRB and pantile	KmacF	10-16/09/2008
066		Rear room	Mortar pad(?) - thick deposit compacted sand	KmacF	10-16/09/2008
067		Rear room	Looser grey-brown silty clay, humic - probably same as (065)	KmacF	10-16/09/2008
068		Rear room	Cut for well. Vertical sides, round in plan. Cuts (058), possibly (065)	KmacF	10-16/09/2008

2009-10 Main Excavations: Centre-Rear, North-West, and Front Rooms

Context No.	Room	Area	Description	Initials	Date
001	Rear Room	Quad D	Truncated circular brick fire installation base	KMF	03-Feb-09
002	Rear Room	in all Quads	Mixed deposit of mortar, sand, crushed lime & mixed debris: bottoming for removed slabs	KMF	03-Feb-09
003	Rear Room	in all Quads	Loose mixed dark brown to black gritty silt, with inclusions of lime mortar lumps, ash, cinder, small sub-angular stone. Levelling and constructional trample for flagstone floor	KMF	03-Feb-09
004	Rear Room	Quad A/B	Compacted rubbly soil layer. Lower bottoming for flagstones	KMF	03-Feb-09
005	Rear Room	Quad C/D	Flight of 2 steps leading down to flagstone floor (043)	KMF	03-Feb-09
006	Rear Room	Quad C/D	Fill of well cut (015). Mixed grey-black gritty silt containing rare lime-bonded brick frags and frequent crushed lime mortar flecks	KMF	04-Feb-09
007	Rear Room	Quad B	Rubble masonry collapse. Rubble stone and broken flags. Same as (038)	KMF	04-Feb-09
008	Rear Room	in all Quads	Dark grey-brown humic silt	KMF	04-Feb-09
009	Rear Room	Quad A/B/C	Compact mid-orangey sandy silt below (004).	KMF	04-Feb-09
010	Rear Room	Quad C	Brick drain with square sump orientated N/S in Quad C	KMF	04-Feb-09
011	Rear Room	Quad C	Compacted mortar-rich deposit at SE corner	KMF	04-Feb-09
012	Rear Room	Quad C	Compacted mortar-rich deposit (as 011) with brick and rubble inclusions	KMF	04-Feb-09
013	Rear Room	Quad C	Mortar floor or bedding for removed brick. Lime mortar, slightly uneven surface, 10-30mm thick	KMF	04-Feb-09
014	Rear Room	Quad C	Brickwork platform. 2 courses horizontally lain low-fired orange-red terracotta bricks (23cm by 10-11cm by 6cm)	KMF	04-Feb-09
015	Rear Room	Quad D	Cut for well, c2m diam, straight sided; filled with (006)	KMF	04-Feb-09
016	Rear Room	Quad D	Sub-ovoid brick-built well	KMF	04-Feb-09
017	Rear Room	Quad D	Mortar-bedded brickwork walling: capping of well (016)	KMF	04-Feb-09
018	Rear Room	Quad D	Brick culvert to well (016)	KMF	04-Feb-09
019	Rear Room	Quad C	Mixed yellowish-brown clay and rubble debris to W of platform (014)	TR	04-Feb-09
020	Rear Room	Quad C	Squarish decayed wood post-settings; stair base?	KMF	05-Feb-09
021	Rear Room	Quad C	Linear, straight-sided, cut for drain (010)	KMF	05-Feb-09
022	Rear Room	Quad C	Fill of (021). Brown humic silt with freq rubble, clay and mortar	KMF	05-Feb-09
023	Rear Room	Quad C	Basal fill of drain (010)	KMF	05-Feb-09
024	Rear Room	Quad D	Wall foundation. Lime mortar bedding course with fragments of demolished brickwork	KMF	05-Feb-09
025	Rear Room	Quad D	Pinkish working surface with brick and lime mortar fragments	KMF	05-Feb-09
026	Rear Room	Quad D	Mixed dark brown clayey silt with high density cinder and charcoal inclusions	TR	06-Feb-09
027	Rear Room	Quad C	Mixed lenses of dark organic-rich gritty silt with clay lenses and high density coal, crushed brick and mortar fragments. Not bottomed	KMF	06-Feb-09
028	Rear Room	Quad C	Wall foundations, E/W alignment	KMF	06-Feb-00
029	Rear Room		Foundation trench cut for well culvert (018)	KMF	06-Feb-09
030	Rear Room		Fill of cut (029), mixed loose cinder-rich gritty silt	KMF	06-Feb-09
031	Rear Room	Quad D	Mixed grey sandy clay with frequent large stones	TR	06-Feb-09
032	Rear Room	Quad D	Mid grey heavy clay with large sandstone inclusions. Underlies (031)	TR	06-Feb-09

<i>Context No.</i>	<i>Room</i>	<i>Area</i>	<i>Description</i>	<i>Initials</i>	<i>Date</i>
033	Rear Room		Mixed dark brown clay and coal-rich deposit above (008)	AG	06-Feb-09
034	Rear Room		Very mixed med-dark brownish-grey sandy clay deposit with high density stone	AG	06-Feb-09
035	Rear Room		Possible working surface. Mortar-rich mixed orangey grey with lime mortar inclusions. Overlies (034)	AG	06-Feb-09
036	Rear Room	Quad C + D	Mortar spread W of brick platform (014), truncated by Cut [021]	KMF	24-Feb-09
037	Rear Room	Quad C + D	Degraded timbers at well (016)	AG	24-Feb-09
038	Rear Room	Quad D	Medium and large unworked sandstone rubble blocks. Wall collapse. Same as (007)	KMF	24-Feb-09
039	Rear Room	Quad C	Mid-brown compacted silt. Sterile.	KMF	25-Feb-09
040	Rear Room	Quad A	Stone drain, N-S aligned. Stone slab base and sides.	AG	25-Feb-09
041	Rear Room	Quad B	Clean orangey-brown compact clay. Natural.	AG	25-Feb-09
042	Rear Room	Quad D	Brick party wall, N/S aligned. Cuts floor (014); associated with steps (005). Wall abuts N wall elevation at a step in the wall face	KMF	25-Feb-09
043	Rear Room	Quad D	Flag floor associated with steps (005). Large squared sandstone slabs, showing wear and cracking	KMF	25-Feb-09
044	Rear Room	Quad D	Mixed greyish-brown gritty silt with frequent flecks limestone mortar: bottoming for flags (043)	KMF	26-Feb-09
045	Rear Room	Quad A	Fill of drain (040)	KMF	26-Feb-09
046	Rear Room		Deposit of coal fragments, fairly loose and mixed with soils; middle fill of drain (010)		26-Feb-09
047	Rear Room		Loose cinder-rich upper fill of Drain (010).	KMF	26-Feb-09
048	Rear Room	Quad C	Stone wall footings for pre c1700 wall, now incorporated within S wall		26-Feb-09
049	NW Room		Modern 1980 cut for partition wall. Defines E end of area of excavation	KMF	13-May-09
050	NW Room		Roughly rectangular fairly straight sided cut. S end of room	KMF	13-May-09
051	NW Room		Roughly rectangular fairly straight sided cut. N of room	KMF	13-May-09
052	NW Room		Lime bonded rubble stone masonry wall fragment. Cut by (050), (049)	KMF	13-May-09
053	NW Room		Brick sided drain, 2 courses high with sandstone base and capping. Below flagstone floor	KMF	13-May-09
054	NW Room		Same as (053).	KMF	13-May-09
055	NW Room		Fill of (050). Loose mixed silts with lime mortar and rubble inclusions including fragmented floor flagstones. Modern finds	KMF	13-May-09
056	NW Room		Fill of (051). Loose mixed modern fill (as (055)).	KMF	13-May-09
057	NW Room		Humic silt with high frequency charcoal flecks. Laminated with slight tip lines/lenses sloping down to SE. Same as (067)	KMF	14-May-09
058	NW Room		Clean fine silty sand. Slopes down to S and E. Water-laid sands	KMF	14-May-09
059	-		VOID	-	-
060	NW Room		Modern working surface of 1980s refurbishments after lifting of floor slabs	KMF	15-May-09
061	NW Room		Truncated remnants of sandstone slab feature, probable drain. Vertically-set sandstone slabs, 0.04m thick. Filled by (064). Cut by (049), (050)	KMF	15-May-09
062	NW Room		Loose masonry	KMF	15-May-09
063	NW Room		Loose humic silt with lime mortar inclusions and high density unworked rubble stones. Fill of cut (078)	KMF	15-May-09
064	NW Room		Fill of (061). Loose mixed dark humic silt with frequent lime mortar fragments, some large	KMF	15-May-09

<i>Context No.</i>	<i>Room</i>	<i>Area</i>	<i>Description</i>	<i>Initials</i>	<i>Date</i>
065	NW Room		Stone drain. Aligned N/S. Rough sandstone base and capstones, sides split sandstone blocks. Built into or overlain by (052). Slopes down to S. Cut by (050)	KMF	15-May-09
066	NW Room		Greyish silty clay with frequent coal frags and occasional reddish stones. Build up for floor above drain (065)	KMF	19-May-09
067	NW Room		Laminated lenses of mid to dark-brown humic silt with cinder-rich lenses. Dumping deposit.	KMF	19-May-09
068	NW Room		Humic moist grey-black silts, laminated dump deposits. Organic inclusions	KMF	19-May-09
069	NW Room		Dumping lens of dark silt with high density rubble stones. Overlies (068), underlies (058)	KMF	19-May-09
070	NW Room		Grey to light orangey-brown loose water-laid silts	KMF	19-May-09
071	NW Room		Compacted grey clay with occasional small rounded pebble inclusions. Natural	KMF	19-May-09
072	NW Room		Working surface. Fine black silt with lime-mortar patches	KMF	19-May-09
073	NW Room		Former flag floor. Squared sandstone flags 0.60-0.70m wide, 0.10-12m thick, rough base and sides, bonded in lime mortar. Associated with drain (053)	KMF	19-May-09
074	NW Room		Clean yellowish sand. Bottoming for floor (073)	KMF	19-May-09
075	NW Room		Cinder bottoming for floor (073)	KMF	19-May-09
076	NW Room		Cut for drain (053). Cut deposit (053)	KMF	19-May-09
077	NW Room		Fill of (076). Redeposited mixed yellowish sand with cinder inclusions concentrated at top of deposit	KMF	19-May-09
078	NW Room		Cut for masonry (052)	KMF	19-May-09
079	NW Room		Loose rounded and sub-angular/flat stones below drain (065) and filling drain (080)	KMF	26-May-09
080	NW Room		Stone drain underlying and truncated by drain (065). Unworked bolder sides, flat base of unworked slabs. Cuts (067)	KMF	26-May-09
081	NW Room		Possible cut in (071) or riverine gravels/deposits interface	KMF	26-May-09
082	NW Room		Clean gravels with dark reddish staining	KMF	03-Jun-09
083	NW Room		Mixed laminated silts with coal and rubble inclusions above (082)	KMF	03-Jun-09
084	Front Room		Homogeneous dark black-brown organic silts. Waterlogged.	KMF	03-Jun-09
085	Front Room		Greyish-brown clay. Slopes down to E	KMF	04-Jun-09
086	Front Room		Humic dark black-brown silts. Waterlogged.	KMF	04-Jun-09
087	Front Room		Possible structural timber fragment; in the round and unworked except for top notch	KMF	04-Jun-09
088	Front Room		Concentration of unworked rough angular and asub-angular medium to large stones	KMF	04-Jun-09
089	Front Room		2 vertical-cut timbers, up to 0.10m diam. Set into (084) against masonry of standing building walls	KMF	04-Jun-09
090	Front Room		Humic dark brown-black silt with organic matter, becoming more clay-rich at base of deposit. Top slopes down to E. Waterlogged	KMF	05-Jun-09
091	Front Room		Concentration of large rounded boulders in W. Not fully excavated	KMF	05-Jun-09
092	NW Room		Fill of drain (065)	KMF	10-Jun-09
093	NW Room		Southern brick elevation	KMF	10-Jun-09
094	NW Room		Mixed waterlogged soils likely re-deposited in wall foundation cut	KMF	22-Jul-09
095	NW Room		Laminated deposits of cinder-rich and humic silts (as (057))	KMF	22-Jul-09
096	NW Room		Cut for drain (080)	KMF	22-Jul-09

<i>Context No.</i>	<i>Room</i>	<i>Area</i>	<i>Description</i>	<i>Initials</i>	<i>Date</i>
097	NW Room		Fill of cut (096) for drain (080)	KMF	22-Jul-09
098	NW Room		Possible stone-built sandstone slab drain - single base slab preserved. Cut by modern pit (050).	KMF	22-Jul-09
099	NW Room		Cut for Drain [065]. Truncates underlying (057/067)	KMF	14/07/2009
100	Front Room	Fireplace	Brick backing to fireplace. Low-fired clay bricks bonded in lime mortar	KMF	14/07/2009
101	Front Room	Fireplace	Drain. Low-fired clay bricks bonded in lime mortar, capped with slate. Bricks 0.25 x 0.11 x 0.07m. Underlies floor slabs (113)	KMF	14/07/2009
102	Front Room	Fireplace	Cut for Drain [101]. Straight-sided, flat base. Cuts firebase (106/105/100). Runs from reduced fireplace to E	KMF	14/07/2009
103	Front Room	Fireplace	Post-use fill of drain [102]. Loose mixed gritty silt with crushed lime mortar and rare small brick fragments	KMF	14/07/2009
104	Front Room	Fireplace	Post-use fill of Drain [101]. Mortar-rich silts with slate fragments. Animal burrow contamination	KMF	14/07/2009
105	Front Room	Fireplace	Wall fragment. E/W aligned rough rubble sandstone bonded in lime mortar. 0.30m wide. Runs across fireplace front and bounds brick floor (105) to N	KMF	14/07/2009
106	Front Room	Fireplace	Floor within former fireplace. Edge-lain brick, upper surface with signs of wear and heat action. Bounded to S by (105), to N by (100)	KMF	14/07/2009
107	Front Room	Fireplace	Loose mixed lime mortar and silt with occasional brick fragments. Overlies (109)	KMF	14/07/2009
108	Front Room	Fireplace	Large rubble stone wall foundation, E-W aligned, bonded in lime mortar, well faced on N side, unfaced to S.	KMF	14/07/2009
109	Front Room	Fireplace	Loose rubble concentration south of (105). Possibly degraded top of wall (110)	KMF	14/07/2009
110	Front Room	Fireplace	Rubble masonry wall line. 0.75m wide. N/S aligned. Well-faced with sandstone slabs; smaller rubble core. Appears unbonded (lime leached out?). Abutts (108) to N.	KMF	14/07/2009
111	Front Room	Fireplace	Rough flagstone/cobble surface. Irregular stone elements, 1 certainly reused. S of (108), E of (110)	KMF	14/07/2009
112	Front Room	Fireplace	Brick firebacking. Bricks same as (106) build.	KMF	14/07/2009
113	Front Room	Fireplace	Flagstone floor. Squared cut flags of variable size; patch at NW of brick. Within reduced fireplace	KMF	14/07/2009
114	Front Room	Fireplace	Mixed gritty silt and lime mortar. Bottoming for floor (113)	KMF	14/07/2009
115	Front Room	SE corner	Mortar rubble foundations for brick walling [116]. Lime mortar bonded	KMF/T OA	20/10/2009
116	Front Room	SE corner	Brick wall, N/S aligned, formerly 0.60m wide. Overlies (115). Preserved 1-2 courses high. Bricks 0.25 x 0.11 x 0.05-6m bonded in cream/white lime mortar.	KMF/T OA	20/10/2009
117	Front Room	SE corner	Cut for stone pier base (118). Uneven sided. Cuts masonry (110)	KMF/T OA	20/10/2009
118	Front Room	SE corner	Pier base. Large squared sandstone block	KMF/T OA	20/10/2009
119	Front Room	SE corner	Foundation cut for early wall line (120). Cuts deposit (135)	KMF/T OA	20/10/2009
120	Front Room	SE corner	Masonry footing. N/S aligned. 3 large stone blocks 0.60m wide. 1 small low-fired orangey-red clay brick (13.5cm x 3.8-4cm) noted in build. May be same as (115)	KMF/T OA	20/10/2009
121	Front Room	SE corner	Fill of Cut [119]. Loose orangey-pink to mid-brown gritty silt with small pebbles and lime particles	KMF/T OA	20/10/2009
122	Front Room	SE corner	Cut for pier base (3rd from E). Extends 0.40m S of pier. Cuts (135), (120)	KMF/T OA	20/10/2009
123	Front Room	SE corner	Pier base. 0.55m square sandstone block	KMF/T	20/10/2009

<i>Context No.</i>	<i>Room</i>	<i>Area</i>	<i>Description</i>	<i>Initials</i>	<i>Date</i>
				OA	
124	Front Room	SE corner	Fill of Cut [122]. Mixed gritty silt and degraded lime mortar	KMF/T OA	20/10/2009
125	Front Room	SE corner	Flagstone floor. Tightly cut and laid fine-grained orangey to cream sandstone flags. E extent respects brick party wall (126). Likely same as (113)	KMF/T OA	20/10/2009
126	Front Room	SE corner	Brick partition wall, N/S aligned. 0.10m wide. Overlies pier base (129).	KMF/T OA	20/10/2009
127	Front Room	SE corner	Brick sleeper walls. N/S aligned. Half-brick wide, 1 course high	KMF/T OA	20/10/2009
128	Front Room	SE corner	Cut for pier base (129). Cuts cobbles (136), floor (125)	KMF/T OA	20/10/2009
129	Front Room	SE corner	Pier base (2nd from E). 0.55m square sandstone block	KMF/T OA	20/10/2009
130	Front Room	SE corner	Fill of Cut [128], mixed gritty silt and degraded lime mortar	KMF/T OA	20/10/2009
131	Front Room	SE corner	Cut for pier base against E gable. Cuts cobbles (136)	KMF/T OA	20/10/2009
132	Front Room	SE corner	Pier base against E gable. Squared sandstone block	KMF/T OA	20/10/2009
133	Front Room	SE corner	Fill of Cut [131]. Mixed gritty silts and degraded lime mortar	KMF/T OA	20/10/2009
134	Front Room	SE corner	Fire hearth stone	KMF/T OA	20/10/2009
135	Front Room	SE corner	Mixed, waterlogged (in E) gritty silts. Early infill	KMF/T OA	20/10/2009
136	Front Room	SE corner	Cobble floor. Small rounded cobbles with larger slabs in NE extent	KMF/T OA	20/10/2009
137	Front Room	SE corner	Shallow, u-shaped gully or drain, N/S aligned, in cobble floor (136)	KMF/T OA	20/10/2009
138	Front Room	SE corner	Modern service-cut along frontage interior, 0.90-1.0m wide	KMF/T OA	20/10/2009

External Service Trench

<i>Context No.</i>	<i>Trench</i>	<i>Description</i>	<i>Initials</i>	<i>Date</i>
01	Ext. service	Modern cabling in ceramic and cast iron pipe sections. NE/SW aligned	KMF	04/03/2010
02	Ext. service	Lead service pipes, 1" diam. N/S aligned	KMF	04/03/2010
03	Ext. service	Lead service pipes, 1" diam. Jointed to eroded Fe pipe. N/S aligned	KMF	04/03/2010
04	Ext. service	Iron pipe, 1" diam. E/W aligned	KMF	04/03/2010
05	Ext. service	Ceramic salt-glazed service pipe. 0.25m diam. N/S aligned. Cuts (15).	KMF	04/03/2010
06	Ext. service	Ceramic pipe containing electric mains cable. E/W aligned	KMF	04/03/2010
07	Ext. service	Copper pipe, 1" diam.	KMF	04/03/2010
08	Ext. service	Lead pipe, 1.25" diam	KMF	04/03/2010
09	Ext. service	Iron pipe, 12.5cm diam. E/W aligned	KMF	04/03/2010
10	Ext. service	Iron pipe, 8cm diam. E/W aligned	KMF	04/03/2010
11	Ext. service	Modern plastic service duct to lamppost	KMF	04/03/2010
12	Ext. service	Modern plastic service duct to lamppost	KMF	04/03/2010
13	Ext. service	Modern green plastic service duct. 2" diam.	KMF	04/03/2010
14	Ext. service	Modern service duct. N/S aligned	KMF	04/03/2010
15	Ext. service	Brick-sided and -capped drain with pantile base. E/W aligned. Cut by (05)	KMF	04/03/2010

Appendix 1C Drawing Registers

2007-2008 works

No.	Area	Scale	Type	Date	By	Description
EX-07-01	Ground floor	1:50	Plan	2004	TA	Ground floor ground plan
EX-07-02	Ground floor	1:20	Plan	07-13/11/2007	SLP	Pre-ex plan of ground floor, W extent
EX-07-03	Ground floor	1:20	Plan	07-13/11/2007	SLP	Pre-ex plan of ground floor, central area with flags
EX-07-04	Ground floor	1:20	Plan	07-13/11/2007	SLP	Pre-ex plan, ground floor
EX-07-05	Ground floor	1:10	Plan	07-13/11/2007	SLP	Plan of timber flooring, overlay to EX07-Dwg 01
EX-07-06	Ground floor		Plan	07-13/11/2007	SLP	Pre-ex plan of floor, detail
EX-07-07	Ground floor	1:20	Plan	07-13/11/2007	SLP	Pre-ex plan of floor, extension to Dwgs 2-3
EX-07-08	Ground floor	1:20	Plan	07-13/11/2007	SLP	Pre-ex plan of floor, extension to Dwgs 2-3
EX-07-09	Ground floor		Plan	07-13/11/2007	SLP	Ground floor range, west side with paving
EX-07-10	Ground floor		Plan	13/11/2007	SLP	Ground floor range, east side with paving
EX-07-11	Ground floor		Plan	Aug-08	SLP	Plan of Trial Pit 2
EX-07-12	Ground floor		S.	Aug-08	SLP	Trial Pit 2, west section
EX-07-13	Ground floor		S.	Aug-08	SLP	Trial Pit 2, east section
EX-07-14	Ground floor		Plan	Aug-08	SLP	Ground floor range, central section with paving
EX-07-15	Centre-rear rm	1:20	S.	11/09/2008	KMF	Section below flags [005] at Well
EX-07-16	Centre-rear rm	1:20	Plan	11/09/2008	KMF	Plan of Well top exposed
EX-07-17	Centre-rear rm	1:20	Plan	11/09/2008	KMF	Plan of well once upper deposit removed
EX-07-18	Centre-rear rm	1:20	Plan	11/09/2008	KMF	Plan of slot once (0065) removed
EX-07-19	Centre-rear rm	1:20	Plan	11/09/2008	KMF	Plan of slot once (0067) removed
EX-07-20	Centre-rear rm	1:20	Plan	11/09/2008	KMF	Plan of slot once (0066) removed
EX-07-21	Centre-rear rm	1:20	S.	11/09/2008	KMF	Section through slot
EX-07-22	Centre-rear rm	1:20	S.	11/09/2008	KMF	Section through slot
EX-07-23	Centre-rear rm	1:20	S.	11/09/2008	KMF	Sketch section through agroprop pit
EX-07-24	Centre-rear rm	1:20	S.	11/09/2008	KMF	Section

2009-2010 works

No.	Area	Scale	Type	Date	By	Description
EX-09-01	Rear Room	1:20	Plan	03-Feb-09	KMF	Pre-excavation plan after removal of surface material
EX-09-02	Rear Room	1:20	Plan	04-Feb-09	KMF	Plan during excavation - overlay of Dr #. 001
EX-09-03	Rear Room	1:20	Section	04-Feb-09	KMF	Section through well fill
EX-09-04	Rear Room	1:20	Plan	05-Feb-09	KMF	Overlay to Dr. # 001- Culvert to well exposed
EX-09-05	Rear Room	1:20	Plan	05-Feb-09	TR	Mid-ex of Quad C after removal of (011)
EX-09-06	Rear Room	1:20	Plan	06-Feb-09	TR	Overlay of slot in Quad D after removal of (026)
EX-09-07	Rear Room	1:20	Section	06-Feb-09	TR	Looking E in Seg A - cross section
EX-09-08	Rear Room	1:20	Section	06-Feb-09	TR	Looking W in section B & C - cross section

No.	Area	Scale	Type	Date	By	Description
EX-09-09	Rear Room	1:10	Section	06-Feb-09	AG	N facing section across doorway
EX-09-10	Rear Room	1:20	Section	06-Feb-09	AG	Section through [013] and (027)
EX-09-11	Rear Room	1:20	Plan	06-Feb-09	KMF	Plane of (019/010) - Quad C & D
EX-09-12	Rear Room	1:20	Plan	06-Feb-09	KMF	LOE Plan of sondage
EX-09-13	Rear Room	1:20	Section	06-Feb-09	KMF	E-W section across site
EX-09-14		1:10	Plan	24-Feb-09	TA	Excavating (039) pottery spread - S entrance
EX-09-15		1:20	Section	24-Feb-09	AG	E section of Quads C & D
EX-09-16		1:20	Plan	24-Feb-09	KMF	Trace over of printed plan
EX-09-17		1:20	Plan	25-Feb-09	KMF	Plan of Flags [063/062]
EX-09-18		1:20	Section	25-Feb-09	KMF	N-S section along - after (010)
EX-09-19		1:20	Elevation	26-Feb-09	KMF	Elevation of projecting wall found - S elevation
EX-09-20		1:20	Plan	26-Feb-09	KMF	Plan of [038/040]
EX-09-21	NW Room	1:20	Plan	13-May-09	KMF	Pre-ex plan
EX-09-22		1:20	Section	15-May-09	KMF	W section - SE Quad
EX-09-23		1:20	Plan	15-May-09	KMF	Plan of [050] excavated and (058) exposed
EX-09-24		1:20	Plan	15-May-09	KMF	Plan of (063) - Post-ex
EX-09-25		1:20	Plan	15-May-09	KMF	Plan of [020] after removal of (068)
EX-09-26		1:20	Plan	15-May-09	KMF	(057) removed and (068) exposed
EX-09-27		1:20	Plan	15-May-09	KMF	(068) and drain exposed
EX-09-28		1:20	Section	21-May-09	KMF	N section continued at LOE
EX-09-29		1:20	Section	21-May-09	KMF	W section across site
EX-09-30		1:20	Section	22-May-09	KMF	E-W baulk section
EX-09-31		1:20	Plan	26-May-09	KMF	Plan of [065] drain exposed - S half
EX-09-32		1:20	Plan	26-May-09	KMF	Plan of [080] after removal of [065] and [079]
EX-09-33		1:20	Section	27-May-09	KMF	E-W section along back of (052), (065) and (080)
EX-09-34		1:20	Section	03-Jun-09	KMF	W section NW corner shows (082)
EX-09-35		1:20	Plan	03-Jun-09	KMF	Plan of [081]
EX-09-36		1:20	Section	03-Jun-09	KMF	N section W half
EX-09-37		1:20	Plan	03-Jun-09	KMF	Plan after the top of [084] exposed
EX-09-38		1:20	Plan	03-Jun-09	KMF	Plan once [051] emptied out - NW Quad
EX-09-39	Front Room	1:20	Plan	04-Jun-09	KMF	Plan Front Room trench shows (085) and (057) timber
EX-09-40		1:20	Section	05-Jun-09	KMF	Baulk section
EX-09-41	Front Room	1:20	Elevation	05-Jun-09	KMF	N elevation of front room
EX-09-42		1:20	Section	05-Jun-09	KMF	Sketch S section
EX-09-43		1:20	Plan	09-Jun-09	KMF	Addition to Dwg. # 031 - [065] exposed
EX-09-44		1:20	Plan	09-Jun-09	KMF	Plan of [080]
EX-09-45		1:20	Plan	12-Jun-09	KMF	Plan of fireplace as exposed
EX-09-46		1:20	Plan	12-Jun-09	KMF	Plan of fireplace as exposed - sectioned
EX-09-47		1:20	Plan	12-Jun-09	KMF	Plan of fireplace as exposed - sectioned
EX-09-48		1:20	Section	12/06/2009	KMF	Section across fireplace
EX-09-49		1:20	Plan		KMF	Excavation of fireplace, front range
EX-09-50		1:20	Plan		KMF	Excavation of fireplace, front range

<i>No.</i>	<i>Area</i>	<i>Scale</i>	<i>Type</i>	<i>Date</i>	<i>By</i>	<i>Description</i>
EX-09-51		1:20	Plan		KMF	Excavation of fireplace, front range
EX-09-52		1:20	Elevation		KMF	Elevation through fireplace
EX-09-53		1:20	Plan	20/10/2009	KMF	Plan of wall foundations [115]/[116]
EX-09-54		1:20	Plan	08/12/2009	TOA	Ground floor: Eastern frontage room, early floor and property boundary
EX-09-55		1:100	Plan	04/03/2010	KMF	Plan of exterior service trench

Appendix 1D Samples Register

Sample No.	Trench	Area	Context	Size	Date	Taken by	Description
001	Rear Room		008	10L	06-Feb-09	KMF	Dark grey-brown humic silt
002	Rear Room		008	10L	06-Feb-09	KMF	Dark grey-brown humic silt
003	Rear Room		008	10L	06-Feb-09	KMF	Dark grey-brown humic silt
004	Rear Room		008	10L	06-Feb-09	AG	Dark grey-brown humic silt
005	Rear Room		008	10L	06-Feb-09	KMF	Dark grey-brown humic silt
006	Rear Room	Quad C sondage	008	10L	24-Feb-09	KMF	from base of context, below drain (010)
007	Rear Room		034	10L	24-Feb-09	TOA	within entrance area
008	Rear Room		039	10L	25-Feb-09	KMF	possible river silt, below (008)
009	Rear Room		045	10L	26-Feb-09	KMF	Drain fill – high quantity of medieval pot
010	Rear Room	-	?007	small bag	18-May-09	KMF	
010	NW Room	NE Quad	057	10L	15-May-09	KMF	NE Quad NW Room top of deposit
011	NW Room	NE Quad	057	10L	15-May-09	KMF	NE Quad NW Room upper fill
012	NW Room	SE Quad	066	10L	15-May-09	KMF	SE Quad Upper 15cm
013	NW Room	SE Quad	066	10L	15-May-09	KMF	SE Quad 15-40cm
014	NW Room	SE Quad	067	10L	18-May-09	KMF	SE Quad
015	NW Room	SE Quad	067	10L	19-May-09	KMF	SE Quad lowest
016	NW Room	NE Quad	068	10L	19-May-09	KMF	NE Quad - top of deposit
017	NW Room	NE Quad	068	20L	19-May-09	KMF	NE Quad - top of deposit 0.70m below floor level
018	NW Room	NE Quad	068	10L	19-May-09	KMF	NE Quad - Base of deposit
019	NW Room	NE Quad	070	10L	20-May-09	KMF	NE Quad - Bottom deposit on top of natural
020	NW Room	NE Quad	071	10L	20-May-09	KMF	NE Quad - 'Natural' clay
021	NW Room	SE Quad	067	10L	20-May-09	KMF	SE Quad - SE Quad - Lowest cinder/coal rich dep
022	NW Room		066	10L	26-May-09	KMF	E-W Baulk during removal - Clean sample of deposit
023	NW Room		067	10L	26-May-09	KMF	E-W Baulk during removal - Clean sample of deposit
024	NW Room		064	small bag	18-May-09	KMF	Fill of drain [061]
025	NW Room	NW Corner	083	5L	03-Feb-09	KMF	Build up deposit - NW corner
026	NW Room		082	10L	03-Feb-09	KMF	Gravelley deposit
027	NW Room		084	10L	03-Feb-09	KMF	Waterlogged soil from front room
028	NW Room	NW Corner	082	10L	03-Feb-09	KMF	NW corner gravelley deposit
029	Front Room		084	10L	03-Jun-09	KMF	Waterlogged deposit
030	Front Room		086	10L	04-Jun-09	KMF	Waterlogged deposit - west half

<i>Sample No.</i>	<i>Trench</i>	<i>Area</i>	<i>Context</i>	<i>Size</i>	<i>Date</i>	<i>Taken by</i>	<i>Description</i>
031	Front Room		085	10L	05-Jun-09	KMF	Front room clay layer
032	NW Room		092	10L	10-Jun-09	KMF	Fill of drain [065]
033	NW Room	NW Quad	067	10L	09-Jun-09	KMF	(067) NW quad. Organic rich lens
034	NW Room		052	small bag	10-Jun-09	KMF	Masonry mortar sample
035	NW Room		093	small bag	10-Jun-09	KMF	Mortar sample of brick elevation to South

Appendix 1E Finds Register

Bag No.	Trench	Context No.	Artefact Material	Artefact Type	Quantity
1	Rear Room	003	metal, Cu alloy	coin	1
2	Rear Room	006	ceramic	pot	3
2	Rear Room	006	clay, fired	clay pipe	2
3	Rear Room	006	ceramic	pot	2
3	Rear Room	006	clay, fired	clay pipe	1
4	Rear Room	004	bone	animal	12
4	Rear Room	004	ceramic	pot	4
4	Rear Room	004	clay, fired	clay pipe	1
4	Rear Room	004	metal, Fe	?nail	1
5	Rear Room	011	ceramic	pot	1
6	Rear Room	012	clay, fired	clay pipe	1
7	Rear Room	027	bone	animal	4
7	Rear Room	027	ceramic	pot	1
7	Rear Room	027	ceramic	pot	40
7	Rear Room	027	ceramic	pot	22
8	Rear Room	023	ceramic	pot	8
8	Rear Room	023	glass	artefactual	2
9	Rear Room	008	ceramic	pot	1
10	Rear Room	006	ceramic	pot	3
11		023	clay, fired	clay pipe	2
11	Rear Room	023	glass	bottle	1
12	Rear Room	006	ceramic	pot	1
13	Rear Room	008	ceramic	pot	
14	Rear Room	008	ceramic	pot	
15	Rear Room	034	ceramic	pot	3
16	Rear Room	045	ceramic	pot	4
17	Rear Room	002	ceramic	pot	2
18	Rear Room	034	clay, fired	unidentified	2
18	Rear Room	034	mortar	lime mortar	2
18	Rear Room	034	stone	mixed	2
19	Rear Room	027	ceramic	pot	4
19	Rear Room	027	metal, Fe	unidentified	1
20	Rear Room	034	mortar	lime mortar	5
21	-	066	ceramic	pot	46
21	-	066/067	bone	animal	9
21		066/067	ceramic	pot	46
21	-	066/067	mollusc	shell	6
22	-	057	leather	leather	
22	-	057	leather	leather	1
22	-	057	leather	leather	1
22	-	057	wood	wood	4
23	-	066	bone	animal	18
23		066	ceramic	pot	32
23		066	metal, Fe	unidentified	1
23	-	066	mollusc	shell	21
24	-	068	bone	animal	16
24		068	ceramic	pot	13
24		068	ceramic	pot	31
24	-	068	mollusc	shell	1
24	-	068	wood	wood	

Bag No.	Trench	Context No.	Artefact Material	Artefact Type	Quantity
24	-	068	wood	wood	
25	-	068	bone	animal	20
25	-	068	bone	animal	1
25		068	ceramic	pot	23
25		068	ceramic	pot	1
25	-	068	ceramic	pot	19
25	-	068	ceramic	pot	7
25	-	068	clay, fired	furnace lining	5
25		068	coal		1
25	-	068	leather	leather	
25		068	mollusc	shell	1
25	-	068	wood	wood	
26	-	067	bone	animal	2
26	-	067	ceramic	pot	6
27	-	067	ceramic	pot	3
28		067	bone	animal	2
28		067	ceramic	pot	18
28		067	clay, fired	brick	1
29	-	069	bone	animal	1
29	-	069	ceramic	pot	6
30	-	057	ceramic	pot	4
31	-	068	leather	leather	
33	-	068	bone	animal	21
33		068	bone	animal	21
33		068	bone	animal	
33		068	mollusc	shell	5
34		066	bone	animal	5
34		066	ceramic	pot	20
34		066	mollusc	shell	2
35	-	067	bone	animal	7
35		067	ceramic	pot	26
35			leather	leather	
36	-	068	leather	leather	
37	-	057	bone	animal	Numerous
38	-	068	ceramic	pot	26
38	-	068	ceramic	pot	3
39	-	068	ceramic	pot	13
39	-	068?	leather	leather	
40	-	079	ceramic	pot	4
41	-	070	ceramic	pot	1
42	-	067	bone	animal	6
42	-	067	ceramic	pot	18
42	-	067	ceramic	pot	1
42	-	067	leather	leather	1
42	-	067	wood	wood	
43	-	066	ceramic	pot	1
44		068	ceramic	pot	14
44		068	ceramic	pot, tile	28
45		082	bone	animal	2
45		082	ceramic	pot	9
45		082	ceramic	pot	21
46	-	056	ceramic	pot	5

<i>Bag No.</i>	<i>Trench</i>	<i>Context No.</i>	<i>Artefact Material</i>	<i>Artefact Type</i>	<i>Quantity</i>
46	-	056	wood	wood	
47	-	068	bone	animal	14
47	-	068	ceramic	pot	1
47	-	068	mollusc	shell	numerous
47	-	068	wood	wood	
48	Front Room	084	bone	animal	1
48		084	bone	animal	1
48		084	bone	animal	5
48	Front Room	084	ceramic	pot	43
48		084	coal/shale?	coal/shale?	3
48	-	084	leather	leather	
48		084	mollusc	shell	1
48	Front Room	084	wood	wood	
49	Front Room	084	bone	animal	1
49	Front Room	084	ceramic	pot	10
49	-	084	leather	leather	
49	Front Room	084	wood	wood	
50	-	086	bone	animal	5
50		086	ceramic	pot	15
50	-	086	ceramic	pot	32
50	-	086	leather	leather	
50	-	086	mollusc	shell	2
50	-	086	mortar	lime mortar	1
51	Front Room	084	bone	animal	21
51	Front Room	084	ceramic	pot	53
51	Front Room	084	coal		1
51	-	084	leather	leather	
51	Front Room	084	mollusc	shell	1
51	Front Room	084	wood	wood	
52	-	083	ceramic	pot	1
53	-	068	wood	timber plank	
54	-	082	ceramic	pot	1
55	-	ex situ	leather	leather	
56	-	068	ceramic	tile	1
57	-	068	bone	animal	13
57	-	068	ceramic	pot	1
57	-	068	mollusc	shell	2
58	-	067	bone	animal	12
58		067	ceramic	pot	1
58		067	ceramic	pot	38
58		067	ceramic	tile	1
58	-	067	mollusc	shell	3
58		067	mollusc	shell	2
58		067	mortar	lime mortar	1
58	-	067	wood	wood	
59	-	068	ceramic	pot	13
59	-	068	wood	wood	
60	-	058	ceramic	pot	2
60	-	068	leather	leather	
61	-	067	bone	animal	2
61	-	067	bone	animal	7
61		067	ceramic	pot	66

<i>Bag No.</i>	<i>Trench</i>	<i>Context No.</i>	<i>Artefact Material</i>	<i>Artefact Type</i>	<i>Quantity</i>
61	-	067	coal	-	1
61		067	coal/shale?	coal/shale?	1
61	-	067	wood	wood	
62	-	066	bone	animal	5
62		066	ceramic	pot	37
62		066	coal/shale?	coal/shale?	1
63	Front Room	084	bone	animal	2
63	-	084	ceramic	pot	10
63	Front Room	084	leather	leather	
63	Front Room	084	mollusc	shell	2
64	-	057	bone	animal	26
64	-	057	mollusc	shell	3
65	Front Room	084	bone	animal	9
65	Front Room	084	ceramic	pot	12
65	Front Room	084	leather	leather	
65	Front Room	084	mollusc	shell	2
67	-	057	leather	leather	
68		057	ceramic	pot	29
69	-	057	bone	animal	4
70	Front Room	087	wood	large timber	1
71	-	082	bone	animal	7
71		082	metal, Cu alloy and ?Fe	rivet	1
71	-	082	wood	wood	1
72	-	094	ceramic	pot	10
73	-	094	leather	leather	
74	-	095	bone	animal	5
74	-	095	ceramic	pot	31
75	NW Room	?057	ceramic	pot	1
76	-	-	ceramic	pot / object	3
76	-	-	stone	flint flake	3
76	-	-	stone	flint	3
77	-	065	bone	animal	1
77	-	065	ceramic	pot	7
77	-	065	mollusc	shell	1
78		057	ceramic	pot	2
78	-	057	clay, fired	clay pipe	1
78	-	057	clay, fired	clay pipe	1
79	-	067	ceramic	pot	3
79	-	067/065	ceramic	pot	3
80	stray		glass	bottle	7
81	-	-	ceramic	pot	1
81	-	-	ceramic	pot	1
-	Rear Room	006	ceramic	pot	2
-	Rear Room	006	glass	artefactual	1
-	Rear Room	011	glass	artefactual, architectural	7
-	Rear Room	011	metal, Fe	nails, rivets, hook	7
-	within S entrance to room	034	bone	animal	8
-	within entrance to rear room	034	ceramic	pot	22
-	within	034	ceramic	pot	54

<i>Bag No.</i>	<i>Trench</i>	<i>Context No.</i>	<i>Artefact Material</i>	<i>Artefact Type</i>	<i>Quantity</i>
	entrance to rear room				
-	within S entrance to room	034	ceramic	pot	29
-	-	034	metal, Fe	?nail	1
-	within S entrance to room	034	mollusc	shell	3
-	-	057	bone	animal	23
-	-	057	bone	animal	1
-	-	057	ceramic	pot	1
-	-	057	ceramic	pot	60
-	-	057	ceramic	pot	3
-	-	057	coal		1
-	-	057	mollusc	shell	13
-	-	063	bone	animal	4
-	-	063	bone	animal	8
-	-	063	ceramic	pot	8
-	-	063	ceramic	pot	1
-	-	063	ceramic	pot	28
-	-	063	coal		1
-	-	063	mollusc	shell	3
-	-	063	stone	flint flake	1
-	-	068	bone	animal	8
-	-	068	ceramic	pot	1
-	-	068	ceramic	pot	1
-	-	068	leather	leather	1
-	-	068	mollusc	shell	4
-	-	-	bone	animal	2
-	-	-	ceramic	pot	7
-	-	-	ceramic	pot	1
-	-	?007	bone	animal	9
-	-	?007	bone	animal	15
-	-	?007	ceramic	pot	40
-	-	?007	ceramic	pot	13
-	-	?007	metal, Fe	unidentified	2
-	-	?007	stone	pumice	1
-	Room to rear w vault	from wall	bone	animal	3
-	Room to rear w vault	from wall	bone	animal	1
-	-	063	mortar	lime mortar	1
-	-	068	wood	wood	2
-	-	-	paper	wallpaper	1
-	-	?007	mollusc	shell	3

Appendix 1F

Photograph Registers

Black and White Print

Roll	Frame	Aspect	Area	Date	Description	Taken by
EX-1	1 (9)	W	Centre rear range	03/02/2009	Pre-excavation shot - General	KMF
EX-1	2 (13)	W	Centre rear range	03/02/2009	Pre-excavation shot of possible oven [001]	KMF
EX-1	3 (14)	E	Centre rear range	03/02/2009	Pre-excavation shot - General	KMF
EX-1	4 (15)	SE	Centre rear range	03/02/2009	Pre-excavation shot - General	KMF
EX-1	5 (16)	SE	Centre rear range	03/02/2009	Pre-excavation shot - General	KMF
EX-1	6 (17)		Centre rear range		Interior wall elevation	KMF
EX-1	7 (18)		Centre rear range		Interior wall elevation	KMF
EX-1	8 (19)		Centre rear range		Interior wall elevation	KMF
EX-1	9 (20)	W	Centre rear range	03/02/2009	[001] Oven pre-excavation shot of interior	KMF
EX-1	10 (21)		Centre rear range		Interior /pre-ex	KMF
EX-1	11 (22)		Centre rear range		Interior wall elevation	KMF
EX-1	12 (23)		Centre rear range		Interior wall elevation	KMF
EX-1	13 (24)		Centre rear range		Interior wall elevation	KMF
EX-1	14 (25)		Centre rear range		Interior wall elevation	KMF
EX-1	15 (26)		Centre rear range		Interior wall elevation	KMF
EX-1	16 (27)		Centre rear range		Interior wall elevation	KMF
EX-1	17 (28)	W	Centre rear range		Pre-excavation shot	KMF
EX-1	18 (29)	NW	Centre rear range		Pre-excavation shot	KMF
EX-1	19 (30)	W	Centre rear range		Pre-excavation shot	KMF
EX-1	20 (31)		Centre rear range		Pre-ex/wall elevation	KMF
EX-1	21 (32)		Centre rear range		Pre-ex/wall elevation	KMF
EX-1	22 (33)		Centre rear range		Well [016] with cut fill partially removed	KMF
EX-1	23 (34)		Centre rear range		Interior pre-ex/wall elevation	KMF
EX-1	24 (35)		Centre rear range		Interior pre-ex/wall elevation	KMF
EX-1	25 (36)		Centre rear range		Interior pre-ex/wall elevation	KMF
EX 2	1	-	Centre rear range	06/02/2009	Working shot	KMF
EX 2	2	-	Centre rear range	06/02/2009	Working shot	KMF
EX 2	3	V	Centre rear range	06/02/2009	Well after removal of later event	KMF
EX 2	4	V	Centre rear range	06/02/2009	Well after removal of later event	KMF
EX 2	5	N	Centre rear range	06/02/2009	Well after removal of later event	KMF
EX 2	6	W	Centre rear range	06/02/2009	Well after removal of later event	KMF
EX 2	7		Centre rear range	06/02/2009	Detail of culvert leading to well	KMF
EX 2	8		Centre rear range	06/02/2009	Detail of cut for drain [010] emptied of fill (022)	KMF
EX 2	9	W	Centre rear range	06/02/2009	Quad C - doorway mid-excavation shot	KMF
EX 2	10	S	Centre rear range	06/02/2009	Quad D slot section	KMF
EX 2	11	E	Centre rear range	06/02/2009	Quad D slot	KMF
EX 2	12	SE	Centre rear range	06/02/2009	Quad A - E section	TR
EX 2	13		Centre rear range	06/02/2009	Quad C - removal down to (008)	TR
EX 2	14		Centre rear range	06/02/2009	Quad C - Section through doorway	TR
EX 2	15		Centre rear range	06/02/2009	Quad C - Section through doorway	TR
EX 2	16		Centre rear range	06/02/2009	Quad C - Section through doorway	TR
EX 2	17		Centre rear range	06/02/2009	Quad B - W section	TR
EX 2	18		Centre rear range	06/02/2009	Quad B - W section	TR
EX 2	19		Centre rear range	06/02/2009	W-E section W half	TR
EX 2	20	V	Centre rear range	23/02/2009	Brick drain [010] fully excavated	KMF
EX 2	21	V	Centre rear range	23/02/2009	Brick drain [010] fully excavated	KMF
EX 2	22	V	Centre rear range	23/02/2009	Well [016]	KMF
EX 2	23	V	Centre rear range	23/02/2009	Well [016]	KMF

Roll	Frame	Aspect	Area	Date	Description	Taken by
EX 2	24	V	Centre rear range	23/02/2009	NE corner; [001] circular feature	KMF
EX 2	25	V	Centre rear range	23/02/2009	NE corner; [001] circular feature	KMF
EX 2	26	V	Centre rear range	23/02/2009	[014] brick floor	KMF
EX 2	27	V	Centre rear range	23/02/2009	[014] brick floor	KMF
EX 2	28	V	Centre rear range	23/02/2009	[001] circular feature to NE	KMF
EX 2	29	V	Centre rear range	23/02/2009	[001] circular feature to NE	KMF
EX 2	30	NE	Centre rear range	23/02/2009	General view with Drain [010] and brick floor [014]	KMF
EX 2	31	NE	Centre rear range	23/02/2009	[010] drain - detail	KMF
EX 2	32	N	Centre rear range	23/02/2009	[010] drain - detail	KMF
EX 2	33	E	Centre rear range	23/02/2009	[010] drain, detail of N end	KMF
EX 2	34	N	Centre rear range	23/02/2009	[014] brick floor - general	KMF
EX 2	35	E	Centre rear range	23/02/2009	[014] brick floor - S end	KMF
EX 2	36	W	Centre rear range	23/02/2009	Well [016]	KMF
EX 3	1-2	-	Centre rear range	23/02/2009	Film ID Shot	KMF
EX 3	3	NE	Centre rear range	23/02/2009	Drain [010] 'chamber' emptied	KMF
EX 3	4	S	Centre rear range	23/02/2009	Drain [010] demolished - S section across door shows layered fill of Drain	KMF
EX 3	5	N	Centre rear range	23/02/2009	Drain [010] demolished - shows cut emptied	KMF
EX 3	6	E	Centre rear range	23/02/2009	Brick [014] once (002) removed exposing mortar bedding	KMF
EX 3	7	E	Centre rear range	23/02/2009	Drain [010] demolished - shows E elevation of cut	KMF
EX 3	8	NE	Centre rear range	23/02/2009	Drain [010] demolished - chamber demolished to LOE	KMF
EX 3	9	V	Centre rear range	24/02/2009	[034] pottery spread within S entrance area	KMF
EX 3	10	V	Centre rear range	24/02/2009	[034] pottery spread within S entrance area - Detail	KMF
EX 3	11	N	Centre rear range	24/02/2009	Collapsed wall [038] once (008) removed	KMF
EX 3	12	E	Centre rear range	24/02/2009	Collapsed wall [038] once (008) removed	KMF
EX 3	13	V	Centre rear range	24/02/2009	Collapsed wall [038] once (008) removed	KMF
EX 3	14	SE	Centre rear range	24/02/2009	SE corner wall foundations	KMF
EX 3	15	S	Centre rear range	24/02/2009	SE corner wall foundations - S elevation	KMF
EX 3	16	E	Centre rear range	24/02/2009	E elevation - wall foundations exposed	KMF
EX 3	17	S	Centre rear range	24/02/2009	S elevation wall foundations in evaluation trench	KMF
EX 3	18	S	Centre rear range	25/02/2009	Quad B - after removal of (008) - stones	AG
EX 3	19	E	Centre rear range	25/02/2009	General view drain [040]	KMF
EX 3	20	NE	Centre rear range	25/02/2009	Quad C - mortar bedding (014) bricks removed	KMF
EX 3	21	NE	Centre rear range	25/02/2009	Quad C - mortar bedding (014) bricks removed	
EX 3	22	N	Centre rear range	25/02/2009	Flag floor and steps [005]	KMF
EX 3	23	V	Centre rear range	25/02/2009	Flag floor and steps [005]	KMF
EX 3	24	E	Centre rear range	25/02/2009	Flag floor and steps [005]	
EX 3	25	W	Centre rear range	26/02/2009	Drain 040 exposed	KMF
EX 3	26	S	Centre rear range	26/02/2009	Drain 040 exposed	KMF
EX 3	-	N	Centre rear range	26/02/2009	[043] flags removed	KMF
EX 3	27	N	Centre rear range	26/02/2009	Brick (014) removed shows bedding	KMF
EX 3	-	W	Centre rear range	26/02/2009	Brick (014) removed shows bedding	KMF
EX 3	28	V	Centre rear range	26/02/2009	Quad D (038) exposed	KMF
EX 3	29	V	Centre rear range	26/02/2009	Quad D (038) exposed	KMF
EX 3	30	V	Centre rear range	26/02/2009	Quad D (038) exposed	
EX 3	31	W	Centre rear range	26/02/2009	Quad D (038) exposed	KMF

<i>Roll</i>	<i>Frame</i>	<i>Aspect</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>Taken by</i>
EX 3	32	NW	Centre rear range	26/02/2009	Quad D (038) exposed	KMF
EX 3	33	SW	Centre rear range	26/02/2009	W-E section, E end at LOE	KMF

Colour Slide

<i>Roll</i>	<i>Frame</i>	<i>Aspect</i>	<i>Date</i>	<i>Description</i>
EX-1	1	W	03/02/2009	Pre-excavation shot - General
EX-1	2	W	03/02/2009	Pre-excavation shot of possible oven [001]
EX-1	3	E	03/02/2009	Pre-excavation shot - General
EX-1	4	W	03/02/2009	Oven [001] pre-excavation shot of interior
EX-1	5	E	03/02/2009	Oven [001] pre-excavation shot of interior
EX-1	6	W	03/02/2009	Oven [001] mid-excavation
EX-1	7	W	03/02/2009	Pre-excavation shot of well cut/fill
EX-1	8	W	03/02/2009	Half section of well cut/fill
EX-1	9	W	03/02/2009	Wall line [007] first exposed
EX-1	10	W	03/02/2009	Wall line [007] first exposed
EX-1	11	V	03/02/2009	Wall line [007] first exposed
EX-1	13-36	-	-	Void
EX-1	37		06/02/2009	Slot in Quad D after removal of (026)
EX-2	1-7	-	06/02/2009	Void
EX-2	8	W	06/02/2009	Quad C - doorway mid-excavation shot
EX-2	9	S	06/02/2009	Quad D slot
EX-2	10	E	06/02/2009	Quad D slot
EX-2	11-14	SE	06/02/2009	Void - film under/not exposed
EX-2	15		06/02/2009	Section W in Quad B/across section
EX-2	16-17		06/02/2009	Void - film under/not exposed
EX-2	18	V	23/02/2009	Brick drain [010] fully excavated
EX-2	19	V	23/02/2009	Brick drain [010] fully excavated
EX-2	20	V	23/02/2009	Well [016]
EX-2	21	V	23/02/2009	Well [016]
EX-2	22	V	23/02/2009	General view
EX-2	23	V	23/02/2009	NE corner [001] circular feature
EX-2	24	V	23/02/2009	[014] brick floor
EX-2	25	V	23/02/2009	[014] brick floor
EX-2	26	V	23/02/2009	[001] circular feature to NE
EX-2	27	V	23/02/2009	[001] circular feature to NE
EX-2	28	NE	23/02/2009	General
EX-2	29	NE	23/02/2009	[010] drain - detail
EX-2	30	N	23/02/2009	[010] drain - detail
EX-2	31	E	23/02/2009	[010] drain, detail of N end
EX-2	32	N	23/02/2009	[014] brick floor
EX-2	33	E	23/02/2009	[014] brick floor, S end
EX-2	34	W	23/02/2009	[016] well
EX-2	35	N	23/02/2009	[016] well
EX-2	36	E	23/02/2009	[016] well
EX-2	37	E	23/02/2009	[016] well
EX-3	1		23/02/2009	Film ID shot
EX-3	2	S	23/02/2009	Drain [010] demolished - S section across door shows fill of drain
EX-3	3	N	23/02/2009	Drain [010] demolished - shows cut emptied
EX-3	4	E	23/02/2009	Drain [010] demolished- shows E elevation of cut
EX-3	5	NE	23/02/2009	Drain [010] - chamber demolished to LOE

<i>Roll</i>	<i>Frame</i>	<i>Aspect</i>	<i>Date</i>	<i>Description</i>
EX-3	6	SE	23/02/2009	Drain [010] demolished in S section and E section with top layers
EX-3	7	E	24/02/2009	Brick [014] (S half) once (002) removed exposing mortar bedding to W
EX-3	8	NE	24/02/2009	Brick [014] (S half) once (002) removed exposing mortar bedding to W
EX-3	9	E	24/02/2009	Brick [014] (S half) once (002) removed and working surface to W
EX-3	10	W	24/02/2009	(002) removed, working surface exposed
EX-3	11	-	24/02/2009	void
EX-3	12	-	24/02/2009	void
EX-3	13	-	24/02/2009	void
EX-3	14	N	24/02/2009	Quad D - Collapsed wall (078), (008) removed
EX-3	15	E	24/02/2009	Quad D - Collapsed wall (078), (008) removed
EX-3	16	V	24/02/2009	Quad D - Collapsed wall (078), (008) removed
EX-3	17	SE	24/02/2009	SE corner E elevation - wall foundations exposed
EX-3	18	S	24/02/2009	SE corner S elevation - wall foundations exposed
EX-3	19	-	-	void
EX-3	20	S	24/02/2009	Wall foundation S elevation in original evaluation trench
EX-4	1	N	13/04/2009	NW room: Pre-excavation shot
EX-4	2	N	13/04/2009	NW room: Pre-excavation shot
EX-4	3	S	13/04/2009	NW room: Pre-excavation shot
EX-4	4	S	13/04/2009	NW room: Pre-excavation shot
EX-4	5	N	13/04/2009	Once overburden cleared away and surface cleaned - N half
EX-4	6	N	13/04/2009	Once overburden cleared away and surface cleaned - N half
EX-4	7	W	13/04/2009	Once overburden cleared away and surface cleaned - detail of drain
EX-4	8	S	13/04/2009	Once overburden cleared away an surface trowelled - S half
EX-4	9	W	13/04/2009	Detail of cut [050] with stone
EX-4	10			
EX-4	11			
EX-4	12			
EX-4	13			
EX-4	14	W		SE Quad, W section
EX-4	15	W		Once fill (051) removed from cut [050]
EX-4	16	E		Once fill (051) removed from cut [050] - E section of cut
EX-4	17	E		061 half removed and emptied
EX-4	18	W		Rubble within 063 exposed
EX-4	19	V		Rubble within 063 exposed
EX-4	20	W		Drain [065] exposed
EX-4	21	N		(058) removed, (068) exposed
EX-4	22	-		VOID
EX-4	23	N		(070) exposed once (068) removed
EX-4	24	N		NE Quad, N section, once 071 reduced to LOE
EX-4	25	NW		SE Quad, 067 removed, top of 067 exposed
EX-4	26	NW		SE Quad, N elevation
EX-4	27	N		End of excavation, general view to N
EX-4	28	N		End of excavation, general view to N
EX-4	29	W		End of excavation, view into room showing drain
EX-4	30	S		End of excavation, general view to S
EX-4	31	S		End of excavation, general view to S
EX-4	32	S		End of excavation, general view to S
EX-4	33	NE		End of excavation, NE Quad, E section
EX-4	34	NE		End of excavation, NE Quad, E section
EX-4	35	N		End of excavation, NE Quad, S and E section
EX-4	36	S		NE Quad, S section

Roll	Frame	Aspect	Date	Description
EX-4	37	N & NW		NE Quad, N and W section
EX-5	1	W	26/05/2009	SW hole once 050 cleaned out drain exposed
EX-5	2	W	26/05/2009	SW hole once 050 cleaned out drain exposed
EX-5	3	S	26/05/2009	SW hole once 050 sectioned across drain
EX-5	4	N/V	26/05/2009	SW hole once 050 cleaned - drain plan
EX-5	5	S	26/05/2009	SW hole once drain [005] base lifted and general cleanup shows stones below
EX-5	6	W	26/05/2009	SW hole once drain [005] base lifted and general cleanup shows stones below
EX-5	7	W	26/05/2009	Drain [065] cut through and through 079 below shows cut and drain
EX-5	8	S	26/05/2009	Drain [065] cut through and through 079 below shows cut and drain
EX-5	9	S	26/05/2009	Drain [065] cut through and through 079 below shows cut and drain
EX-5	10	S	26/05/2009	Drain [065] cut through and through 079 below shows cut and drain
EX-5	11	NW	27/05/2009	W-E section completed
EX-5	12	S	27/05/2009	W-E section across back of (052) through [065] and [080]
EX-5	13	SW	27/05/2009	Detail of cut for 080
EX-5	14	SW	27/05/2009	Detail of cut for 080
EX-5	15	SW	27/05/2009	Detail of cut for 080
EX-5	16	N	02/06/2009	NW Quad, drain cut exposed
EX-5	17	N	02/06/2009	NW Quad, drain cut exposed
EX-5	18	W	02/06/2009	NW Quad, xxxx in situ in 068 below wall
EX-5	19	W	02/06/2009	NW Quad, xxxx in situ in 068 below wall
EX-5	20	W	02/06/2009	NW Quad, once 068 removed shows 082
EX-5	21	W	02/06/2009	NW Quad, once 068 removed shows 082
EX-5	22	W	02/06/2009	NW Quad, once 068 removed once 082 removed
EX-5	23	W	02/06/2009	NW Quad, once 068 removed once 082 removed
EX-5	24	W	02/06/2009	NW Quad, once 082 cut through N shows W section below wall
EX-5	25	W	02/06/2009	NW Quad, once 082 cut through N shows W section below wall
EX-5	26	W	02/06/2009	NW Quad, once 082 cut through N shows W section below wall
EX-5	27	NW	02/06/2009	NW Quad, N section W half once excavated below wall
EX-5	28	NW	02/06/2009	NW Quad, N section W half once excavated below wall
EX-5	29	N	03/06/2009	Front room timber as exposed
EX-5	30	N	03/06/2009	Front room timber as exposed
EX-5	31	N	03/06/2009	Front room timber as exposed
EX-5	32	E	04/06/2009	Front room, E half of trench
EX-5	33	E	04/06/2009	Front room, E half of trench
EX-5	34	E	04/06/2009	Front room, E half of trench - E section
EX-5	35	E	04/06/2009	Front room, E half of trench - E section
EX-6	1	N	09/06/2009	Drain [065] excavated
EX-6	2		09/06/2009	Film ID
EX-6	3	N	09/06/2009	Drain [065], base shown, sides and (066) removed
EX-6	4	NW	09/06/2009	Drain [065], base shown, sides and (066) removed
EX-6	5	NW	10/06/2009	E-W section through [080], central section
EX-6	6	S	10/06/2009	Rear of (052) masonry and [080] drain
EX-6	7	S	10/06/2009	Rear of (052) masonry and [080] drain
EX-6	8	W	10/06/2009	Section through (052) showing (080)
EX-6	9	S	10/06/2009	Section through (052) showing (080)

Digital

Frame	Type	Date	Description	By
AA0146-MON-001	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-002	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-003	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-004	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-005	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-006	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-007	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-008	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-009	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-010	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-011	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-012	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-013	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-014	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-015	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-016	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-017	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-018	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-019	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-020	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-021	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-022	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-023	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-024	Digital	Aug-08	Monitoring of floor clearance - flagstone floor exposed	SLP
AA0146-MON-025	Digital	Aug-08	Worksing shot - Boreholing	
AA0146-MON-026	Digital	Aug-08	Worksing shot - Boreholing	
AA0146-MON-027	Digital	Aug-08	Borehole core exposed post-ex	
AA0146-MON-028	Digital	Aug-08	Borehole area post-ex	
AA0146-MON-029	Digital	Aug-08	Borehole area post-ex	
AA0146-MON-030	Digital	Aug-08	Borehole area post-ex	

Test-Pit Monitoring

Frame	Facing	Date	Description	By
AA0146-STP-001	N	21/08/2008	STP1 - Pre excavation	SLP
AA0146-STP-002	N	21/08/2008	STP1 - Pre excavation	SLP
AA0146-STP-003	E	21/08/2008	STP1 - Pre excavation	SLP
AA0146-STP-004	W	21/08/2008	STP1 - Pre excavation	SLP
AA0146-STP-005	W	21/08/2008	STP1 - Pre excavation	SLP
AA0146-STP-006	N	21/08/2008	STP1 - Removal of stone slab floor [005]	SLP
AA0146-STP-007	S	21/08/2008	STP2 - Working shot of excavation	SLP
AA0146-STP-008	ESE	21/08/2008	STP2 - Working shot of excavation	SLP
AA0146-STP-009	ENE	21/08/2008	STP2 - Excavated pit	SLP
AA0146-STP-010	S	21/08/2008	STP2 - Excavated pit	SLP
AA0146-STP-011	S	22/08/2008	STP4 - Removal of stone slab floor [005]	SLP
AA0146-STP-012	E	22/08/2008	STP4 - Void evident in stone slab floor [005]	SLP
AA0146-STP-013	S	22/08/2008	STP4 - Brick well [044] evident under stone slab floor [005]	SLP
AA0146-STP-014	S	22/08/2008	STP4 - Brick well [044] evident under stone slab floor [005]	SLP
AA0146-STP-015	N	22/08/2008	STP4 - Brick well [044] evident under stone slab floor [005] and wooden supports [045]	SLP
AA0146-STP-016	W	22/08/2008	Detail of damaged area of floor at SW corner of Room 2	SLP
AA0146-STP-017	W	22/08/2008	Detail of damaged area of floor at SW corner of Room 2	SLP

<i>Frame</i>	<i>Facing</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146-STP-018	W	22/08/2008	Detail of damaged area of floor at SW corner of Room 2	SLP
AA0146-STP-019	W	22/08/2008	STP5 - Brick drain underneath stone slab floor [005]	SLP
AA0146-STP-022	S	22/08/2008	STP2 - Post excavation showing column foundations [034-037]	SLP
AA0146-STP-023	S	22/08/2008	STP2 - Post excavation showing column foundations [034-037]	SLP
AA0146-STP-024	S	22/08/2008	STP2 - Post excavation showing column foundations [034-037]	SLP
AA0146-STP-025	N	22/08/2008	STP2 - Post excavation showing ground deposits [005, 039-042]	SLP
AA0146-STP-026	N	22/08/2008	STP2 - Post excavation showing ground deposits [005, 039-042]	SLP
AA0146-STP-027	E	22/08/2008	STP1 - Post excavation showing W facing section of slot, service trench [004]	SLP
AA0146-STP-028	E	22/08/2008	STP1 - Post excavation showing W facing section of slot, service trench [004]	SLP
AA0146-STP-029	N	22/08/2008	STP1 - Post excavation showing W facing section of slot, service trench [004]	SLP
AA0146-STP-030	N	22/08/2008	STP1 - Post excavation showing W facing section of slot, service trench [004]	SLP
AA0146-STP-031	E	22/08/2008	STP1 - Post excavation showing W facing section of slot, service trench [004]	SLP
AA0146-STP-032	NNE	22/08/2008	STP1 - Post excavation showing section which may have archaeological deposits relating to medieval	SLP
AA0146-STP-033	S	22/08/2008	STP5 - Post excavation	SLP
AA0146-STP-034	E	22/08/2008	STP5 - Post excavation	SLP
AA0146-STP-035	E	22/08/2008	STP5 - Post excavation showing slightly deeper hole where the foundations of wall were reached	SLP
AA0146-STP-036	N	22/08/2008	STP5 - Post excavation; S facing section of pit	SLP
AA0146-STP-037	S	22/08/2008	STP4 - Post excavation	SLP
AA0146-STP-038	S	22/08/2008	STP4 - Post excavation	SLP

Excavations

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_001	W	Centre rear range	03-Feb-09	Pre ex shot general	Kmcf
AA0146_EXC_002	W	Centre rear range	03-Feb-09	Pre ex shot possible kiln 001	Kmcf
AA0146_EXC_003	E	Centre rear range	03-Feb-09	Pre ex shot general	Kmcf
AA0146_EXC_004	S	Centre rear range	03-Feb-09	Pre ex shot Quad A – no flash	AG
AA0146_EXC_005	S	Centre rear range	03-Feb-09	Pre ex shot Quad A – flash	AG
AA0146_EXC_006	W	Centre rear range	03-Feb-09	Pre ex shot possible kiln 001, interior	Kmcf
AA0146_EXC_007	E	Centre rear range	03-Feb-09	Pre ex shot possible kiln 001, interior	Kmcf
AA0146_EXC_008	W	Centre rear range	03-Feb-09	Pre ex shot possible kiln 001, mouth showing heat affected sands	Kmcf
AA0146_EXC_009	E	Centre rear range	03-Feb-09	Pre ex shot possible kiln 001, mouth showing heat affected sands	Kmcf
AA0146_EXC_010	W	Centre rear range	03-Feb-09	Mid ex 001	Kmcf
AA0146_EXC_011	E	Centre rear range	03-Feb-09	Mid ex 001	Kmcf
AA0146_EXC_012	W	Centre rear range	03-Feb-09	Mid ex 001	Kmcf
AA0146_EXC_013	W	Centre rear range	03-Feb-09	Pre ex of well cut 015 and fill 006	Kmcf
AA0146_EXC_014	W	Centre rear range	03-Feb-09	Mid ex of well cut 015 and fill 006	Kmcf
AA0146_EXC_015	W	Centre rear range	04-Feb-09	Wall line 007 first exposed	Kmcf
AA0146_EXC_016	W	Centre rear range	04-Feb-09	Wall line 007 first exposed	Kmcf
AA0146_EXC_017	V	Centre rear range	04-Feb-09	Wall line 007 first exposed	Kmcf
AA0146_EXC_018	V	Centre rear range	04-Feb-09	Wall line 007 first exposed	Kmcf
AA0146_EXC_019	S	Centre rear range	04-Feb-09	Quad A – pre ex 009	Kmcf
AA0146_EXC_020	W	Centre rear range	04-Feb-09	Quad D – pre ex well culvert 018	KMF
AA0146_EXC_021	V	Centre rear range	04-Feb-09	Pre ex well culvert/general well shot	KMF
AA0146_EXC_022	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_023	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_024	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR

Frame	Facing	Area	Date	Description	By
AA0146_EXC_025	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_026	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_027	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_028	S	Centre rear range	05-Feb-09	Quad C – mid ex, after removal of 011	TR
AA0146_EXC_029	E	Centre rear range	04-Feb-09	Quad B after removal of 004 – no flash	TR
AA0146_EXC_030	E	Centre rear range	04-Feb-09	Quad B after removal of 004 – flash	TR
AA0146_EXC_031	V	Centre rear range	05-Feb-09	Oven and brick floor from above	Kmcf
AA0146_EXC_032	V	Centre rear range	05-Feb-09	Oven and brick floor from above	AG
AA0146_EXC_033	V	Centre rear range	05-Feb-09	Oven and brick floor from above	AG
AA0146_EXC_034	VE	Centre rear range	05-Feb-09	Oven and brick floor from above	AG
AA0146_EXC_035	VE	Centre rear range	05-Feb-09	Oven and brick floor from above	AG
AA0146_EXC_036	V	Centre rear range	05-Feb-09	Oven base	AG
AA0146_EXC_037	V	Centre rear range	05-Feb-09	Oven base	AG
AA0146_EXC_038	S	Centre rear range	05-Feb-09	View along brick floor to S	AG
AA0146_EXC_039	S	Centre rear range	05-Feb-09	View along brick floor to S	AG
AA0146_EXC_040	N	Centre rear range	05-Feb-09	View along brick floor to N	AG
AA0146_EXC_041	E	Centre rear range	05-Feb-09	Southern half of brick floor	AG
AA0146_EXC_042	W	Centre rear range	05-Feb-09	Wall found exposed on brick floor	AG
AA0146_EXC_043	W	Centre rear range	05-Feb-09	Wall found exposed on brick floor	AG
AA0146_EXC_044	W	Centre rear range	05-Feb-09	Oven base	AG
AA0146_EXC_045	W	Centre rear range	05-Feb-09	Oven base	AG
AA0146_EXC_046	E	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (019)	TR
AA0146_EXC_047	E	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (019)	TR
AA0146_EXC_048	N	Centre rear range	05-Feb-09	014 brick floor mid ex, after removal of 019, with drain cut 021	TR
AA0146_EXC_049	N	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (019) with drain out	TR
AA0146_EXC_050	W	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (012)	TR
AA0146_EXC_051	W	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (012)	TR
AA0146_EXC_052	W	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (012)	TR
AA0146_EXC_053	W	Centre rear range	05-Feb-09	[014] brick floor mid-ex after removal of (012)	TR
AA0146_EXC_054	E	Centre rear range	05-Feb-09	Seg D reddish/mortary area around prop	TR
AA0146_EXC_055	E	Centre rear range	05-Feb-09	Seg D reddish/mortary area around prop	TR
AA0146_EXC_056	N	Centre rear range	05-Feb-09	Seg D reddish/mortary area around prop	TR
AA0146_EXC_057	E	Centre rear range	05-Feb-09	Seg D reddish/mortary area around prop	TR
AA0146_EXC_058	S	Centre rear range	05-Feb-09	Quad A – slot through 008	AG
AA0146_EXC_059	S	Centre rear range	05-Feb-09	Quad A – slot through 008 and wall behind	AG
AA0146_EXC_060	SW	Centre rear range	05-Feb-09	Quad A – slot through 008 and mid ex capping stones for drain 040	AG
AA0146_EXC_061	E	Centre rear range	05-Feb-09	Quad A --W facing section – no flash	AG
AA0146_EXC_062	E	Centre rear range	05-Feb-09	Quad A -- W facing section – flash	AG
AA0146_EXC_063	S	Centre rear range	05-Feb-09	Quad A -- W facing section	AG
AA0146_EXC_064	S	Centre rear range	05-Feb-09	Quad D – slot, after removal of 024/025	TR
AA0146_EXC_065	E	Centre rear range	05-Feb-09	Quad D – slot, after removal of 024/025	TR
AA0146_EXC_066	E	Centre rear range	05-Feb-09	Quad D – slot, after removal of 026	TR
AA0146_EXC_067	N	Centre rear range	05-Feb-09	Quad D – slot, after removal of 026	TR
AA0146_EXC_068	E	Centre rear range	06-Feb-09	Quad D – slot, after removal of 024/025	TR
AA0146_EXC_069	E	Centre rear range	06-Feb-09	Quad D – slot, after removal of 024/025	TR
AA0146_EXC_070	S	Centre rear range	06-Feb-09	Quad D – slot, after removal of 024/025	TR
AA0146_EXC_071	S	Centre rear range	06-Feb-09	027 removed to level of excavation	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_072	S	Centre rear range	06-Feb-09	027 removed to level of excavation, section through	KMF
AA0146_EXC_073	V	Centre rear range	06-Feb-09	Well after removal of later event	KMF
AA0146_EXC_074	V	Centre rear range	06-Feb-09	Well after removal of later event	KMF
AA0146_EXC_075	N	Centre rear range	06-Feb-09	Well after removal of later event	KMF
AA0146_EXC_076	W	Centre rear range	06-Feb-09	Well after removal of later event	KMF
AA0146_EXC_077	N	Centre rear range	06-Feb-09	Detail of culvert leading to well	KMF
AA0146_EXC_078	N	Centre rear range	06-Feb-09	Detail of culvert 018 after cap brick removed	KMF
AA0146_EXC_079	V	Centre rear range	06-Feb-09	Detail of culvert 018 after cap brick removed	KMF
AA0146_EXC_080	V	Centre rear range	06-Feb-09	Detail of culvert 018 after cap brick removed	KMF
AA0146_EXC_081	S	Centre rear range	06-Feb-09	Detail of well 010, after emptying of cut 021	KMF
AA0146_EXC_082	S	Centre rear range	06-Feb-09	Detail of well 010, after emptying of cut 021	KMF
AA0146_EXC_083	S	Centre rear range	06-Feb-09	Detail of well 010, after emptying of cut 021	KMF
AA0146_EXC_084	V	Centre rear range	06/02/2009	Quad C, doorway, mix ex	AG
AA0146_EXC_085	V	Centre rear range	06/02/2009	Quad C, doorway, mix ex	AG
AA0146_EXC_086	V	Centre rear range	06/02/2009	Quad C, doorway, mix ex	AG
AA0146_EXC_087	S	Centre rear range	06-Feb-09	Quad D – slot and south facing section	TR
AA0146_EXC_088	S	Centre rear range	06-Feb-09	Quad D – slot and south facing section	TR
AA0146_EXC_089	S	Centre rear range	06-Feb-09	Quad D – slot and south facing section	TR
AA0146_EXC_090	E	Centre rear range	06-Feb-09	Quad D – slot	TR
AA0146_EXC_091	N	Centre rear range	06-Feb-09	Quad D – slot and north facing section	TR
AA0146_EXC_092	S	Centre rear range	06-Feb-09	Quad C – slot in doorway, north facing section – no flash	AG
AA0146_EXC_093	S	Centre rear range	06-Feb-09	Quad C – slot in doorway, north facing section – flash	AG
AA0146_EXC_094	SE	Centre rear range	06-Feb-09	Quad A – E facing section – no flash	AG
AA0146_EXC_095	SE	Centre rear range	06-Feb-09	Quad A – E facing section – flash	AG
AA0146_EXC_096	S	Centre rear range	06-Feb-09	Quad C – slot in entranceway, mid ex	AG
AA0146_EXC_097	S	Centre rear range	06-Feb-09	Quad C – slot in entranceway, mid ex	AG
AA0146_EXC_098	W	Centre rear range	06-Feb-09	Quad C- slot removed down to 008	AG
AA0146_EXC_099	W	Centre rear range	06-Feb-09	Quad C- slot removed down to 008	AG
AA0146_EXC_100	S	Centre rear range	06-Feb-09	Quad C – slot in entranceway, north facing section	AG
AA0146_EXC_101	N	Centre rear range	06-Feb-09	Quad D – S facing section, north end	TR
AA0146_EXC_102	N	Centre rear range	06-Feb-09	Quad D – S facing section, north end	TR
AA0146_EXC_103	N	Centre rear range	06-Feb-09	Quad D – S facing section, north end	TR
AA0146_EXC_104	S	Centre rear range	06-Feb-09	Quad B – N facing section	KMF
AA0146_EXC_105	S	Centre rear range	06-Feb-09	Quad B – N facing section	KMF
AA0146_EXC_106	V	Centre rear range	23-Feb-09	Brick drain [010] fully excavated	KMF
AA0146_EXC_107	V	Centre rear range	23-Feb-09	Brick drain [010] fully excavated	KMF
AA0146_EXC_108	V	Centre rear range	23-Feb-09	Well [016] fully exposed	KMF
AA0146_EXC_109	V	Centre rear range	23-Feb-09	Well [016] fully exposed	KMF
AA0146_EXC_110	V	Centre rear range	23-Feb-09	Well [016] fully exposed	KMF
AA0146_EXC_111	V	Centre rear range	23-Feb-09	Quad D – feature [001] and surrounding area	KMF
AA0146_EXC_112	V	Centre rear range	23-Feb-09	Quad D – feature [001] and surrounding area	KMF
AA0146_EXC_113	V	Centre rear range	23-Feb-09	Quad C – brick floor [014]	KMF
AA0146_EXC_114	V	Centre rear range	23-Feb-09	Quad C – brick floor [014]	KMF
AA0146_EXC_115	V	Centre rear range	23-Feb-09	Quad D – feature [001]	KMF
AA0146_EXC_116	V	Centre rear range	23-Feb-09	Quad D – feature [001]	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_117	NE	Centre rear range	23-Feb-09	General view – Quads C and D	KMF
AA0146_EXC_118	NE	Centre rear range	23-Feb-09	Quad C – drain [010] detail	KMF
AA0146_EXC_119	N	Centre rear range	23-Feb-09	Quad C – drain [010] detail	KMF
AA0146_EXC_120	E	Centre rear range	23-Feb-09	Quad C – drain [010], detail of N end, ‘man hole’	KMF
AA0146_EXC_121	N	Centre rear range	23-Feb-09	Quad C – brick floor [014], general view	KMF
AA0146_EXC_122	E	Centre rear range	23-Feb-09	Quad C – brick floor [014], general view	KMF
AA0146_EXC_123	E	Centre rear range	23-Feb-09	Quad C – brick floor [014], general view	KMF
AA0146_EXC_124	W	Centre rear range	23-Feb-09	Well [016], general view	KMF
AA0146_EXC_125	N	Centre rear range	23-Feb-09	Well [016], general view	KMF
AA0146_EXC_126	E	Centre rear range	23-Feb-09	General view of Quads C and D	KMF
AA0146_EXC_127	E	Centre rear range	23-Feb-09	General view of Quads C and D	KMF
AA0146_EXC_128	S	Centre rear range	23-Feb-09	Drain [010], general view	TOA
AA0146_EXC_129	S	Centre rear range	23-Feb-09	Drain [010], general view	TOA
AA0146_EXC_130	S	Centre rear range	23-Feb-09	Drain [010], general view	TOA
AA0146_EXC_131	S	Centre rear range	23-Feb-09	Drain [010]	KMF
AA0146_EXC_132	SE	Centre rear range	23-Feb-09	Brick floor [014], junction with wall	KMF
AA0146_EXC_133	S	Centre rear range	23-Feb-09	Brick floor [014], footings of S wall	KMF
AA0146_EXC_134	S	Centre rear range	23-Feb-09	Brick floor [014], footings of S wall	KMF
AA0146_EXC_135	S	Centre rear range	23-Feb-09	Drain [010], demolished, south section across doorway	KMF
AA0146_EXC_136	S	Centre rear range	23-Feb-09	Drain [010], demolished, south section across doorway - detail	KMF
AA0146_EXC_137	N	Centre rear range	23-Feb-09	Drain [010] demolished and cut [021] emptied	KMF
AA0146_EXC_138	E	Centre rear range	23-Feb-09	Drain [010], E section	KMF
AA0146_EXC_139	NE	Centre rear range	23-Feb-09	Drain [010], chamber at north end at level of excavation	KMF
AA0146_EXC_140	SE	Centre rear range	23-Feb-09	Drain [010] – showing drain construction and lip layers in section	KMF
AA0146_EXC_141	E	Centre rear range	24-Feb-09	Bricks [014] (shelf) once 002 to west removed, exposing mortar to west	KMF
AA0146_EXC_142	NE	Centre rear range	24-Feb-09	Bricks [014] (shelf) once 002 to west removed, exposing mortar to west	KMF
AA0146_EXC_143	E	Centre rear range	24-Feb-09	Bricks [014] (shelf) once 002 to west removed, exposing mortar to west and working surface to west	KMF
AA0146_EXC_144	W	Centre rear range	24-Feb-09	Quad C after removal of (002), exposing working surface	KMF
AA0146_EXC_145	W	Centre rear range	24-Feb-09	Quad C, E facing section, S end – no flash	AG
AA0146_EXC_146	W	Centre rear range	24-Feb-09	Quad C, E facing section, S end – flash	AG
AA0146_EXC_147	S	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_148	S	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_149	V	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_150	W	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_151	V (W)	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_152	V	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_153	V	Centre rear range	24-Feb-09	[034] pottery deposit; in area of S entrance	TOA
AA0146_EXC_154	N	Centre rear range	24-Feb-09	Wall collapse [038] after removal of (008)	KMF
AA0146_EXC_155	E	Centre rear range	24-Feb-09	Wall collapse [038] after removal of (008)	KMF
AA0146_EXC_156	V	Centre rear range	24-Feb-09	Wall collapse [038] after removal of (008)	KMF
AA0146_EXC_157	V	Centre rear range	24-Feb-09	Wall collapse [038] after removal of (008)	KMF
AA0146_EXC_158	SE	Centre rear range	24-Feb-09	Quad C – SE corner of room, wall founds exposed	KMF
AA0146_EXC_159	S	Centre rear range	24-Feb-09	Quad C – SE corner of room, wall founds exposed	KMF
AA0146_EXC_160	S	Centre rear range	24-Feb-09	Quad C – SE corner of room, wall founds exposed	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_161	S	Centre rear range	25-Feb-09	Quad B – stones 007 after removal of (008)	AG
AA0146_EXC_162	S	Centre rear range	25-Feb-09	Quad B – stones 007 after removal of (008)	AG
AA0146_EXC_163	S	Centre rear range	25-Feb-09	Quad B – stones 007 after removal of (008)	AG
AA0146_EXC_164	S	Centre rear range	25-Feb-09	Quad B – stones 007 after removal of (008)	AG
AA0146_EXC_165	E	Centre rear range	25-Feb-09	Quad B – stones 007 after removal of (008)	AG
AA0146_EXC_166	S	Centre rear range	25-Feb-09	Quad A – stone drain [040] – pre ex	AG
AA0146_EXC_167	W	Centre rear range	25-Feb-09	Quad A – stone drain [040] – pre ex	AG
AA0146_EXC_168	W	Centre rear range	25-Feb-09	Quad A – stone drain [040] – pre-ex	AG
AA0146_EXC_169	S	Centre rear range	25-Feb-09	Quad A – stone drain [040] – pre ex	AG
AA0146_EXC_170	E	Centre rear range	25-Feb-09	Quad C – mortar bed below [014] once bricks removed	KMF
AA0146_EXC_171	NE	Centre rear range	25-Feb-09	Quad C – mortar bed below [014] once bricks removed	KMF
AA0146_EXC_172	N	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_173	V	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_174	E	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_175	E	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_176	S	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_177	S	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_178	S	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_179	W	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_180	W	Centre rear range	25-Feb-09	Quad D – flag floor 043/steps	KMF
AA0146_EXC_181	N	Centre rear range	25-Feb-09	Quad D – flag floor 043 being lifted	KMF
AA0146_EXC_182	W	Centre rear range	26-Feb-09	Quad A – drain 040	KMF
AA0146_EXC_183	W	Centre rear range	26-Feb-09	Quad A – drain 040	KMF
AA0146_EXC_184	S	Centre rear range	26-Feb-09	Quad A – drain 040	KMF
AA0146_EXC_185	S	Centre rear range	26-Feb-09	Quad A – drain 040	KMF
AA0146_EXC_186	N	Centre rear range	26-Feb-09	Quad D – after removal of 043, shows top of underlying disturbed (008)	KMF
AA0146_EXC_187	N	Centre rear range	26-Feb-09	Quad D – after removal of bricks [014], showing mortar bed below	KMF
AA0146_EXC_188	W	Centre rear range	26-Feb-09	Quad D – after removal of bricks [014], showing mortar bed below	KMF
AA0146_EXC_189	V	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_190	V	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_191	V	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_192	V	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_193	V	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_194	W	Centre rear range	26-Feb-09	Quad D – 038 fully exposed	KMF
AA0146_EXC_195	NW	Centre rear range	26-Feb-09	Quad D – 038 fully exposed, whole quad	KMF
AA0146_EXC_196	NW	Centre rear range	26-Feb-09	Quad D – 038 fully exposed, whole quad	KMF
AA0146_EXC_197	SW	Centre rear range	26-Feb-09	E-W section, E end at level of excavation	KMF
AA0146_EXC_198	SW	Centre rear range	26-Feb-09	E-W section, E end at level of excavation	KMF
AA0146_EXC_199	W	Centre rear range	26-Feb-09	N-S section - S half	KMF
AA0146_EXC_200	W	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_201	W	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_202	W	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_203	W	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_204	E	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_205	E	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_206	SE	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_207	E	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_208	E	Centre rear range	26-Feb-09	Final LOE shot	KMF
AA0146_EXC_209	V	Centre rear range	26-Feb-09	W end of room – final level of excavation	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_210	V	Centre rear range	26-Feb-09	W end of room – final level of excavation	KMF
AA0146_EXC_211	V	Centre rear range	26-Feb-09	Mid section of room – final LOE	KMF
AA0146_EXC_212	V	Centre rear range	26-Feb-09	Mid section of room – final LOE	KMF
AA0146_EXC_213	V	Centre rear range	26-Feb-09	Mid section of room – final LOE	KMF
AA0146_EXC_214	V	Centre rear range	26-Feb-09	Mid section of room to E – final LOE	KMF
AA0146_EXC_215	V	Centre rear range	26-Feb-09	Mid section of room to E – final LOE	KMF
AA0146_EXC_216	V	Centre rear range	26-Feb-09	Mid section of room to E – final LOE	KMF
AA0146_EXC_217	V	Centre rear range	26-Feb-09	Mid section of room to E – final LOE	KMF
AA0146_EXC_218	V	Centre rear range	26-Feb-09	Mid section of room to W – final LOE	KMF
AA0146_EXC_219	V	Centre rear range	26-Feb-09	Mid section of room to W – final LOE	KMF
AA0146_EXC_220	V	Centre rear range	26-Feb-09	Mid section of room – LOE	KMF
AA0146_EXC_221	V	Centre rear range	26-Feb-09	Mid section of room to W – final LOE	KMF
AA0146_EXC_222	V	Centre rear range	26-Feb-09	Mid section of room to W – final LOE	KMF
AA0146_EXC_223	W	Centre rear range	26-Feb-09	Quad A – mid ex drain 040	KMF
AA0146_EXC_224	W	Centre rear range	26-Feb-09	Quad A – mid ex drain 040	KMF
AA0146_EXC_225	W	Centre rear range	26-Feb-09	Quad A – mid ex drain 040	KMF
AA0146_EXC_226	S	Centre rear range	26-Feb-09	Quad A – mid ex drain 040	KMF
AA0146_EXC_227	S	Centre rear range	26-Feb-09	Quad A – mid ex drain 040	KMF
AA0146_EXC_228	NW	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_229	N	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_230	N	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_231	S	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_232	S	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_233	S	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_234	S	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_235	NE	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_236	SW	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_237	SW	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_238	SW	NW room	11-May-09	Pre-excavation view	TA
AA0146_EXC_239	N	NW room	13-May-09	Pre-ex to N	KMF
AA0146_EXC_240	N	NW room	13-May-09	Pre-ex to N	KMF
AA0146_EXC_241	S	NW room	13-May-09	Pre-ex to S	KMF
AA0146_EXC_242	S	NW room	13-May-09	Pre-ex to S	KMF
AA0146_EXC_243	N	NW room	13-May-09	Pre-ex to N with debris cleared	KMF
AA0146_EXC_244	N	NW room	13-May-09	Pre-ex to N with debris cleared - detail of drain	KMF
AA0146_EXC_245	N	NW room	13-May-09	Pre-ex to N with debris cleared - detail of drain	KMF
AA0146_EXC_246	S	NW room	13-May-09	Once debris cleared away and surface trowelled - S half	KMF
AA0146_EXC_247	W	NW room	13-May-09	Once debris cleared away and surface trowelled - Detail of cut [050]	KMF
AA0146_EXC_248	NW	NW room	13-May-09	Detail of cut [050] shows flatstone/capstone in section	KMF
AA0146_EXC_249	N	NW room	13-May-09	N half - no scale	KMF
AA0146_EXC_250	W	NW room	13-May-09	SW corner shows mortared rubble lump as first exposed	KMF
AA0146_EXC_251	V	NW room	13-May-09	NE corner vertical view of brick drain	KMF
AA0146_EXC_252	V	NW room	13-May-09	NE corner vertical view of brick drain	KMF
AA0146_EXC_253	N	NW room	13-May-09	NW corner detail of drain	KMF
AA0146_EXC_254	N	NW room	13-May-09	NW corner detail of drain	KMF
AA0146_EXC_255	N	NW room	13-May-09	Pre-ex showing setting-out for trench	KMF
AA0146_EXC_256	N	NW room	13-May-09	N end of room 1 once (057) mostly excavated	KMF
AA0146_EXC_257	E	NW room	13-May-09	E section NE Quad once (057) removed	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_258	S	NW room	13-May-09	S section NE Quad once (057) removed	KMF
AA0146_EXC_259	S	NW room	13-May-09	SE Quad under ex.	KMF
AA0146_EXC_260	N	NW room	15-May-09	NE Quad once (057) removed (056) exposed	KMF
AA0146_EXC_261	N	NW room	15-May-09	NE Quad once (057) removed (056) exposed	KMF
AA0146_EXC_262	N	NW room	15-May-09	NE Quad once (057) removed (056) exposed	KMF
AA0146_EXC_263	W	NW room	15-May-09	SE Quad - W facing half-section	KMF
AA0146_EXC_264	W	NW room	15-May-09	SE Quad - W facing half-section	KMF
AA0146_EXC_265	W	NW room	15-May-09	SE Quad - W facing section - detail of rubble stone	KMF
AA0146_EXC_266	V	NW room	15-May-09	SE Quad - Drain vertical shot	KMF
AA0146_EXC_267	V	NW room	15-May-09	SE Quad - Drain vertical shot	KMF
AA0146_EXC_268		NW room	15-May-09	Section across drain	KMF
AA0146_EXC_269	W	NW room	17-May-09	Once fill (055) removed from cut [050]	KMF
AA0146_EXC_270	E	NW room	17-May-09	Once fill (055) removed from cut [050], showing back of E section	KMF
AA0146_EXC_271	E	NW room	17-May-09	Once fill (055) removed from cut [050], showing back of E section	KMF
AA0146_EXC_272	E	NW room	17-May-09	Once fill (055) removed from cut [050], showing back of E section	KMF
AA0146_EXC_273	E	NW room	18-May-09	061 emptied out and half removed	KMF
AA0146_EXC_274	E	NW room	18-May-09	061 emptied out and half removed	KMF
AA0146_EXC_275	W	NW room	18-May-09	Rubble exposed	KMF
AA0146_EXC_276	V	NW room	18-May-09	Rubble exposed	KMF
AA0146_EXC_277	W	NW room	18-May-09	Rubble exposed	KMF
AA0146_EXC_278	W	NW room	18-May-09	Rubble exposed	KMF
AA0146_EXC_279	V	NW room	18-May-09	Rubble exposed	KMF
AA0146_EXC_280	W	NW room	18-May-09	Drain [065] exposed	KMF
AA0146_EXC_281	W	NW room	18-May-09	Drain [065] exposed	KMF
AA0146_EXC_282	N	NW room	19-May-09	(058) removed, (068) exposed	KMF
AA0146_EXC_283	N	NW room	19-May-09	(058) removed, (068) exposed	KMF
AA0146_EXC_284	N	NW room	20-May-09	(070) exposed once (068) removed	KMF
AA0146_EXC_285	N	NW room	20-May-09	(070) exposed once (068) removed	KMF
AA0146_EXC_286	N	NW room	20-May-09	(070) exposed once (068) removed	KMF
AA0146_EXC_287	N	NW room	20-May-09	(070) exposed once (068) removed	KMF
AA0146_EXC_288	N	NW room	20-May-09	N section once (071) reduced to LOE	KMF
AA0146_EXC_289	N	NW room	20-May-09	N section once (071) reduced to LOE	KMF
AA0146_EXC_290	N	NW room	20-May-09	N section once (071) reduced to LOE	KMF
AA0146_EXC_291	NW	NW room	20-May-09	SE Quad (067) removed, (067) exposed	KMF
AA0146_EXC_292	NW	NW room	20-May-09	SE Quad N elevation	KMF
AA0146_EXC_293	NW	NW room	20-May-09	SE Quad N elevation	KMF
AA0146_EXC_294	N	NW room	20-May-09	SE Quad N elevation - Flash	KMF
AA0146_EXC_295	N	NW room	20-May-09	End of excavation - general view to N	KMF
AA0146_EXC_296	N	NW room	20-May-09	End of excavation - general view to N	KMF
AA0146_EXC_297	W	NW room	20-May-09	End of excavation - general view into room showing drain	KMF
AA0146_EXC_298	W	NW room	20-May-09	End of excavation - general view into room showing drain	KMF
AA0146_EXC_299	NW	NW room	20-May-09	End of excavation - SE Quad N section	KMF
AA0146_EXC_300	NW	NW room	20-May-09	End of excavation - SE Quad N section	KMF
AA0146_EXC_301	N	NW room	20-May-09	End of excavation - SE Quad N section	KMF
AA0146_EXC_302	NW	NW room	20-May-09	End of excavation - SE Quad N and W section	KMF
AA0146_EXC_303	S	NW room	20-May-09	End of excavation - General view to S	KMF

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_304	S	NW room	20-May-09	End of excavation - General view to S	KMF
AA0146_EXC_305	S	NW room	20-May-09	End of excavation - General view to S	KMF
AA0146_EXC_306	NE	NW room	20-May-09	End of excavation - NE Quadrant, E section	KMF
AA0146_EXC_307	NE	NW room	20-May-09	End of excavation - NE Quadrant, E section	KMF
AA0146_EXC_308	N	NW room	20-May-09	End of excavation - NE Quadrant, N and E section	KMF
AA0146_EXC_309	S	NW room	20-May-09	NE Quad - S section	KMF
AA0146_EXC_310	S	NW room	20-May-09	NE Quad - S section	KMF
AA0146_EXC_311	NE	NW room	20-May-09	NE Quad - W section	KMF
AA0146_EXC_312	NW	NW room	20-May-09	NE Quad - W and N section	KMF
AA0146_EXC_313	NW	NW room	20-May-09	NE Quad - W and N section	KMF
AA0146_EXC_314	NW	NW room	20-May-09	NE Quad - W and N section	KMF
AA0146_EXC_315	NW	NW room	20-May-09	NE Quad - W and N section	KMF
AA0146_EXC_376	N	NW room	09/06/2009	Drain [065] mid part exposed	KMF
AA0146_EXC_377	N	NW room	09/06/2009	Drain [065] mid part exposed	KMF
AA0146_EXC_378	N	NW room	09-Jun-09	Drain [065] - fill removed	KMF
AA0146_EXC_379	N	NW room	09-Jun-09	Drain [065] - fill removed	KMF
AA0146_EXC_380	N	NW room	09-Jun-09	Drain [065] - fill and capstone removed	KMF
AA0146_EXC_381	N	NW room	09-Jun-09	Drain [065] - fill and capstone removed	KMF
AA0146_EXC_382	N	NW room	09-Jun-09	Drain [065] - fill and capstone removed	KMF
AA0146_EXC_383	NW	NW room	09-Jun-09	Drain [065] - general view showing slope	KMF
AA0146_EXC_384	N	NW room	09-Jun-09	Drain [065] Sides and (066) removed	KMF
AA0146_EXC_385	NW	NW room	09-Jun-09	Drain [065] Sides and (066) removed	KMF
AA0146_EXC_386	N	NW room	10-Jun-09	Section in mid Quad	KMF
AA0146_EXC_387	N	NW room	10-Jun-09	Section in mid Quad - shows natural slope	KMF
AA0146_EXC_388	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_389	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_390	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_391	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_392	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_393	S	NW room	10-Jun-09	(052) and drain [080]	KMF
AA0146_EXC_394	S	NW room	10-Jun-09	Detail of sooting/burning on face of (052)	KMF
AA0146_EXC_395	S	NW room	10-Jun-09	Detail of sooting/burning on face of (052)	KMF
AA0146_EXC_396	SW	NW room	10-Jun-09	Detail of sooting/burning on face of (052)	KMF
AA0146_EXC_397	W	NW room	10-Jun-09	Section through (052) showing [080]	KMF
AA0146_EXC_398		NW room	10-Jun-09	Section through (052) showing [080]	KMF
AA0146_EXC_399		NW room	10-Jun-09	Section through (052) showing [080]	KMF
AA0146_EXC_400	N	Front range	18/01/2010	General view of pavement (to E), dwarf wall (in centre) and wall footing (in W)	TR
AA0146_EXC_401	N	Front range	18/01/2010	General view of pavement (to E), dwarf wall (in centre) and wall footing (in W)	TR
AA0146_EXC_402	N	Front range	18/01/2010	General view of pavement (to E), dwarf wall (in centre) and wall footing (in W)	TR
AA0146_EXC_403	E	Front range	18/01/2010	General view of pavement (in background), dwarf wall (in middle ground) and wall footing (in foreground)	TR
AA0146_EXC_404	E	Front range	18/01/2010	General view of pavement (in background), dwarf wall (in middle ground) and wall footing (in foreground)	TR
AA0146_EXC_405	W	Front range	18/01/2010	Detail of dwarf wall (in foreground) and wall footings (in background)	TR
AA0146_EXC_406	W	Front range	18/01/2010	Detail of dwarf wall (in foreground) and wall footings (in background)	TR
AA0146_EXC_407	E	Front range	18/01/2010	Detail of dwarf wall (in foreground) and pavement (in background)	TR
AA0146_EXC_408	E	Front range	18/01/2010	Detail of dwarf wall (in foreground) and pavement (in background)	TR

<i>Frame</i>	<i>Facing</i>	<i>Area</i>	<i>Date</i>	<i>Description</i>	<i>By</i>
AA0146_EXC_409	N	Front range	18/01/2010	Detail of dwarf wall (to W) and pavement (to E); possible drain to E of dwarf wall	TR
AA0146_EXC_410	N	Front range	18/01/2010	Detail of dwarf wall (to W) and pavement (to E); possible drain to E of dwarf wall	TR
AA0146_EXC_411	S	Front range	18/01/2010	Detail of pavement (to E); possible drain to W of pavement	TR
AA0146_EXC_412	S	Front range	18/01/2010	Detail of pavement (to E); possible drain to W of pavement	TR
AA0146_EXC_413	E	Front range	18/01/2010	Detail of pavement in SE corner of front room	TR
AA0146_EXC_414	E	Front range	18/01/2010	Detail of pavement in SE corner of front room	TR
AA0146_EXC_415	E	Front range	18/01/2010	Detail of pavement in SE corner of front room with S end of wall footings (to N)	TR
AA0146_EXC_416	E	Front range	18/01/2010	Detail of pavement in SE corner of front room with S end of wall footings (to N)	TR
AA0146_EXC_417	E	Front range	18/01/2010	Detail of pavement in SE corner of front room with S end of wall footings (to N)	TR
AA0146_EXC_418	NW	Front range	18/01/2010	General view of room with steel matting prepared for concrete floor	TR
AA0146_EXC_419	NE	Front range	18/01/2010	General view of room with steel matting prepared for concrete floor	TR

*Appendix 2A Medieval and post-medieval Ceramics by Andrew Sage***1. OVERVIEW**

An assemblage of 1127 sherds (23.3kg) of medieval and post-medieval pottery was recorded from excavations carried out by Addyman Archaeology. Although only fragmentary remains of individual vessels were recovered the assemblage was in generally good condition with a high average sherd weight (20.7g).

Just over half the material in the assemblage came from contexts which included small quantities of Roman material mixed in with the medieval, with at least two-thirds attributed to tertiary waterfront reclamation deposits. Whilst only 2% of the assemblage seen by the author comprised early modern types, it is clear from the excavation report that some post-medieval pottery was present in contexts seen by the author but had been separated out prior to recording. Consequently, some caution needs to be applied to the dating provided in this report.

Over half the assemblage came from the north-west room; smaller quantities were recovered from the centre-rear room and front room. The assemblage is dominated by Tyneside Buff-White wares and Buff wares but mid-13th century early sandy wares comprise an important element.

Table aa. Summary of ceramic types by excavated area.

Fabric type	Total		Centre-rear Room		NW Room		Front Room	
	Sh	Wt	Sh	Wt	Sh	Wt	Sh	Wt
Roman	18	407			17	404	1	3
Other lt 12th - e 13th c. types	13	160			13	160		
Early Sandy wares	159	2396	9	66	130	1973	20	357
Buff types	129	2209	8	26	109	1973	12	210
Tyneside Buff White Wares	618	13939	192	3780	299	6379	127	3780
Orange Buff White Wares	37	1536	10	256	22	412	5	868
Orange Buff wares	18	242	18	242				
Reduced greenwares	26	588	1	26	24	541	1	21
Late reduced greenwares	6	260	1	17	5	243		
Tweed Valley ware	8	230			8	230		
Tees Valley wares	3	68			3	68		
Scarborough wares	44	978	6	41	34	906	4	31
Other Yorkshire wares	4	65	2	11	2	54		
Continental imports	6	39			6	39		
Other Medieval	14	146			14	146		
Cistercian ware	6	18	6	18				
Early modern types	15	55	13	51	2	4		
Total	1127	23.3kg	266	4.5kg	688	13.5kg	170	5.3kg

The ceramic assemblage suggests on this site that reclamation of the waterfront in this area may have occurred a little later than seen elsewhere on the north side of the Close, for example at Tuthill Stairs, with large scale reclamation not occurring until the later- 13th or early 14th century. The evidence of later occupation on the site is limited but fits with the general picture of an intensification of occupation along the Close during the early 14th century.

2. POTTERY FROM THE CENTRE-REAR ROOM

It was not clear if the pottery recorded from the rubble collapse (007) was from this feature or was from the overlying deposit (008) which was intermingled with (007) in places (Macfadyen et al 2018, 19). The bulk of the assemblage from (007) and (008) was dominated by Tyneside Buff White ware and Orange Buff White ware, with only 5, very fragmented sherds, of late- 12th/early- 13th century pottery associated with (007). The presence of a sherd of Orange-Buff ware associated with (007) and a sherd of Late Reduced Greenware type 4 in (008) suggest a date nearer the mid-14th than the late- 13th century for these deposits.

The bulk of the pottery from the centre-rear room came from the sequence of minor dumps (034) that overlay (008). This assemblage differed from the fragmentary assemblages in that it derived from relatively few vessels. Given that the deposits appear relatively complete and domestic in nature, it is notable that, with the possible exception of an oxidised iron-rich sandy ware jar (similar to a group of jars found at nearby Javel Groupe) it did not include known mid- 14th century types identified in the layers below. The assemblage from (027) is similar to that from (034) and was dominated by sherds from just two Buff-White ware vessels and would appear to be later 13th century in date.

The 4 sherds from the fill (045) of stone-lined drain (040) were very fragmentary and spanned the early- 13th to late-14th century. Only 4 sherds, of 13th century date, came from layer (004). The remaining contexts from this room (011, 006, and 023) contained early modern types.

Evidence from the castle, and supported elsewhere, is that the period of transition from Buff-White wares to later reduced greenwares is relatively short (Sage and Vaughan *forthcoming*). If this is the case then the presence of Reduced Greenware type 4 in (008) would indicate that the overlying deposits (034) and (027) either date from the end of the period of Buff-White ware production or are residual deposits, re-deposited from elsewhere. However, given that (034) and (027) contained significant proportions of complete vessels compared with the other dumping deposits on the site it seems more likely that it represents midden material associated with early- to mid- 14th century occupation of the site.

3. POTTERY FROM THE NORTH-WEST ROOM

The assemblage from the north-west room was dominated by three main groups of material; that from dumping deposit (068), that from overlying dump (057/067 and associated contexts) and that from deposit (066).

Ctx	Pot Range	Spot Date
002	19C	19C
004	E13 M14	- M13 - L13
006	E14 M19	- M18 - M19
007?	M12 M14	- E14 - M14
008	E13 – 15	M14
011	M18 M19	- M18 - M19
023	L15 M19	- L18 - M19
027	L13	E14 - M14
034	E13 M14	- E14 - M14
045	E13 M14	- L13 - M14

Table bb. Context dating for the centre-rear room

Ctx	Pot Range	Spot Date
-----	-----------	-----------

The earliest layer containing medieval pottery from this area was dumping deposit (068). The pottery from this level was very mixed, including Roman to 14th century types, with only small numbers of sherds from individual vessels represented.

There is clearly significant residuality in the assemblage from (068), alongside a small quantity of later- 13th century types are large proportions of earlier material. The assemblage is dominated by early- to mid- 13th century early sandy wares and around 10% of the pottery is Roman. The Roman material and an at least similar, if not greater, percentage of the medieval material (i.e. the South Curtain Wall -type ware, the gritty wares and early glazed sandy wares) is likely to be residual material that tumbled down the slope from the Roman and earlier medieval occupation at the top of the bank and redeposited as part of terracing into the slope as was seen at 46-54 The Close. Buff wares are more dominant than Tyneside type Buff White ware, which is present in relatively small quantities. Later 13th century types include Orange Buff White ware, Berwick-type reduced greenware and Brandsby-type ware are also present in the deposit.

Deposit (068) was divided from the large dumping event above (057/067/095) by layer (058/069). This layer contained only a handful of very fragmentary sherds with a much lower average weight than the layers above and below. This layer included later- 13th to early- 14th century Reduced Greenware types along with a possible sherd of Siegburg proto-stoneware.

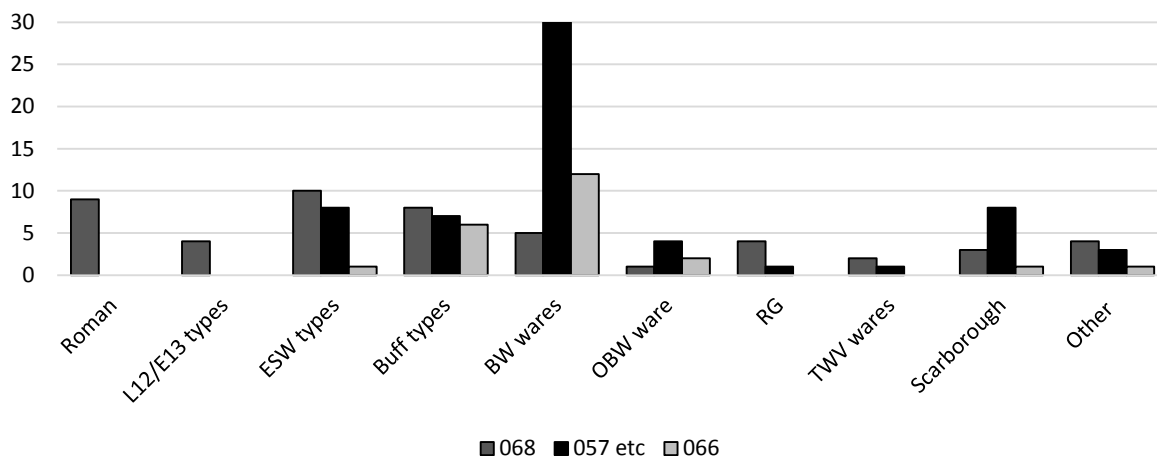


Table dd: Number of vessels represented in main groups of pottery from the north-west room.

The pottery from the series of dumping deposits (057/067/095) above was markedly different from that from deposit (068). Table dd shows the marked increase in Tyneside Buff White wares and Scarborough ware with no Roman or late 12th/early 13th century vessels present. The presence of early sandy wares alongside Orange Buff White wares in these deposits shows that they include some proportion of residual material which may be redeposited from elsewhere. However, the presence of a relatively large percentage of Scarborough Ware within these deposits is a strong indicator that they are derived from Quayside/Close households where Scarborough Ware commonly accounts for 10% or upwards of mid- 13th to early- 14th century assemblages. The dating of Orange Buff White wares is not clear but is thought to date to the later part of the Tyneside Buff White ware industry. The lack of

056	ROMAN M14	-	E14 - M14
057	ROMAN 19	-	19 (M13?)
058	E13 - L16		E14?
063	E13 - M14?		E14 - M14?
065	M13 - L14		L13 - E14?
066	M13 - M14		E14 - M14
067	ROMAN M14	-	E14 - M14
068	ROMAN M14	-	M13?
069	E13 - E14?		E13 - L13?
079	E13 - E14		M13 - L13
094	M13 - M14		E14
095	M13 - E14		M13 - L13?

Table cc. Context dating for the north-west room

early- to mid- 14th century types like Orange Buff ware would suggest a date for the sequence of dumping deposits to sometime around the late- 13th to early 14th century.

Only relatively modest quantities of pottery were excavated from the later medieval features in the north-west room. The rubble stone fill (079) of drain (080) contained only 4 sherds of pottery, including Buff White and Scarborough Ware. Likewise the small assemblage from the drain (065) above included only mid- 13th to early 14th century types.

Associated with the wall footing (052) the assemblages from deposits (063 and 094) had relatively high average sherd weights but (063) again included mid- 13th century types (early glazed sandy ware type 2) alongside early- to mid- 14th century types (Tees Valley type B and Orange Buff White ware) strongly suggesting it incorporates redeposited midden material. Although only 10 sherds were recovered from the waterlogged soils (094) re-deposited within the wall they were all of a single, albeit broad, mid- 13th to early 14th century date.

The remaining feature from which any significant quantity (140 sherds) of pottery was recovered was deposit (066) into which sandstone slabs (061) were set. The assemblage from this deposit broadly mirrored that from the later dumping deposits described above (057/067/095).

4. POTTERY FROM THE FRONT ROOM

Only a modest assemblage (170 sherds) of pottery was recovered from waterlogged organic deposits (084/086) excavated within the front room. The assemblage, which was dominated by Tyneside Buff White ware with smaller quantities of early sandy wares, Orange Buff White ware and Scarborough ware, was very similar in character to that from the dumping deposits (057 etc) in the north-west room. The assemblage has a particularly high average sherd weight (33g) and it should be noted that these deposits were largely excavated by the contractors rather than by archaeological staff and this may have skewed the recovery rate of smaller sherds from these deposits.

Ctx	Pot Range	Spot Date
084	ROMAN - M14	E14
086	M13 - M14	L13?

Table dd. Context dating for the centre-rear room

5. POTTERY CATALOGUE

Many of the types present in the assemblage have been detailed elsewhere or will be detailed in the forthcoming report on the medieval pottery from the Castle so will not be dealt with in detail in this catalogue.

A small range of late- 12th and early- 13th century types were concentrated in the dumping deposits excavated in the north-west room. These included; **Buff Hard Sandy ware (BHS)**, identified as pre-dating the construction of the stone curtain wall of the castle; a small number of **Gritty wares**, all of which appeared to be early to mid- 13th century types (BUFPGR, Fig A1.394); and **South Curtain Wall type (SCW)**, which has been dated to the first half of the 13th century. These all appeared alongside mid- to late- 13th century types so are certainly residual and are likely to have been redeposited from elsewhere rather than reflecting evidence of occupation on the site during the early 13th century.

Early Sandy wares (Fig A1:80 ESW2) in the assemblage are predominantly **Early Glazed ware types 1 and 2 (EGSW1/2)** but earlier types, including late- 12th to early- 13th century **Early Glazed ware type 3 (EGSW3)** are present, particularly within deposit (068). The presence of Orange Buff White ware in the dumping deposits from the north west and front rooms (068 and 057 etc) alongside Early glazed ware type 2 (generally considered a mid- 13th century type) would strongly suggest that the majority of the early sandy wares are residual on this site. Analysis of the pottery from the Castle has shown that

EGSW1/2 comes at the end of the Early Sandy ware industry and overlaps with the production of Buff White wares for a period of time. At Tuthill Stairs to the east of this site it was a dominant component of the early reclamation deposits and an important part of early occupation deposits.

Buff and Buff Sandy wares (Fig A1:120 *BUFP*) are common in early-/mid-13th to early-/mid- 14th century assemblages across north East England and two kiln sites have been excavated; Aldin Grange near Durham (Vaughan *in manuscript*) and Shotton near Cramlington, Northumberland (Sage *in manuscript*).

Tyneside Buff White ware (BW Fig A2: 302, 325; BW C Fig A1:316) dominates the assemblage. This major industry has been well recorded from sites across Tyneside as well as sites in County Durham and Northumberland. The type has been divided into several major sub-types; **Buff White Pink ware** (*BWP*), typically seen as coming earlier in the sequence of production; **Hard Buff White ware** (*BWH*) and **Orange Buff White ware** (*OBW*) both seen as later developments. Here **Sandy Buff White ware** (*BWS*) has also been identified, this type has been identified by the author in rural assemblages to the west of Newcastle and may represent the output of a separate production centre.

As previously noted only a few sherds of mid- 14th century **Orange Buff ware** (*OB*) were present in the assemblage. This type appears to be a very late development of Buff-White ware but also shares some characteristics of Later Reduced Greenwares. A coarser **oxidised iron rich sandy ware** (*OXIRS* Fig A3:56) has also identified in early to mid-14th century levels on several sites in Newcastle, including at Tuthill Stairs (Sage *in manuscript*) and Javel Groupe (Vaughan *pers com*), as on those sites handled jars appear to be the predominant form in this type.

A group of finer **Reduced Greenware** (*RG/RG SANDY*) jugs were identified in 13th and early- 14th century levels at the castle and several sherds and fabrics of this type were identified here. As at the castle several vessels had evidence of being highly decorated with applied pellet and/or scale decoration. Also present were sherds of **Berwick-type later reduced greenwares** (*LRGBER*). They are included within this group as they appear to have early- rather than mid- 14th century origins.

Only a very small number of **Late Reduced Greenware** (*LRG/RG4*) sherds were recorded, indicative of the largely pre- mid- 14th century date of the excavated deposits.

Regional imports were dominated by **Scarborough ware** (*SCARB* Fig A4) but also included **Tweed Valley wares** (*TWV*), **Tees Valley wares** (*TVA/TVB*) and a small number of other Yorkshire wares (York Glazed ware and Brandsby-type ware. As with other sites alongside the Tyne waterfront in Newcastle **Scarborough ware** forms a small but significant element. The proportion of Scarborough Ware on this site is somewhat lower (5 – 8%) than that from mid- to late- 13th century deposits from Tuthill Stairs (c.10%), providing further evidence that Scarborough wares were concentrated on waterfront sites in Newcastle but in particular to sites (Queen Street and Crown Court) below the Tyne bridge where Scarborough ware represents up to 20% of the assemblage. Beyond the quayside the proportion of Scarborough ware in assemblages drops rapidly (only 3% at the Castle and at Blackfriars) (Franklin 2006, 61). It is discussed elsewhere that this pattern appears to have more to do with availability rather than status (Sage and Vaughan *in prep*). The evidence from here needs to be treated with some caution as Scarborough ware is concentrated in the tertiary deposits and absent from the early- to mid-14th century deposits in the centre-rear room. But taken with the evidence from Tuthill Stairs, the lower percentage of Scarborough ware from both sites may reflect the position of the Close above the Tyne Bridge and away from the immediate area where ships cargos were unloaded. Whilst status may have not dictated who owned and used Scarborough ware its prevalent use on the quayside would have led to it being associated with merchants and those associated with their activities.

A very small number of **North French** and **Saintonge** type sherds were present in the assemblage. A single sherd of **Seigburg** proto-stoneware was present.

6. DISCUSSION

The assemblage from 28 – 30 the Close adds to the evidence for the pattern of development of the riverside frontage from mid- 13th century onwards. The assemblage indicates that large scale reclamation of the river bank may have occurred slightly later here than seen at other excavations west of the Tyne Bridge, where reclamation appeared to date from the early- to mid- 13th century. The evidence from deposit (068) adds to that from 46 – 54 The Close that reclamation of the river bank initially involved terracing into the slope and throwing this material forward. However, the presence of Early Glazed Ware type 2 and small quantities of Buff White ware in this deposit would indicate that in this instance this is a mid, rather than early, 13th century deposit. There appears to be a hiatus in the process of reclamation before it recommences in the later 13th to early 14th century, with larger dumping deposits of material across most of the excavated area. In the main these deposits appear to originate from households on the quayside and riverside with a ready access to coastal imports like Scarborough Ware. The exceptions to this are the domestic deposits (034) and (027) from the centre-rear room where Scarborough Ware is absent. The evidence from these deposits is that they are relatively late in the period of Buff-White ware production and it may be that Scarborough Ware is no longer readily available to households in the Close by the second quarter of the 14th century.

The lack of mid-14th century types from most of the later features excavated suggests that once the large-scale reclamation occurred during the later 13th or early 14th century development of the area followed very shortly thereafter.

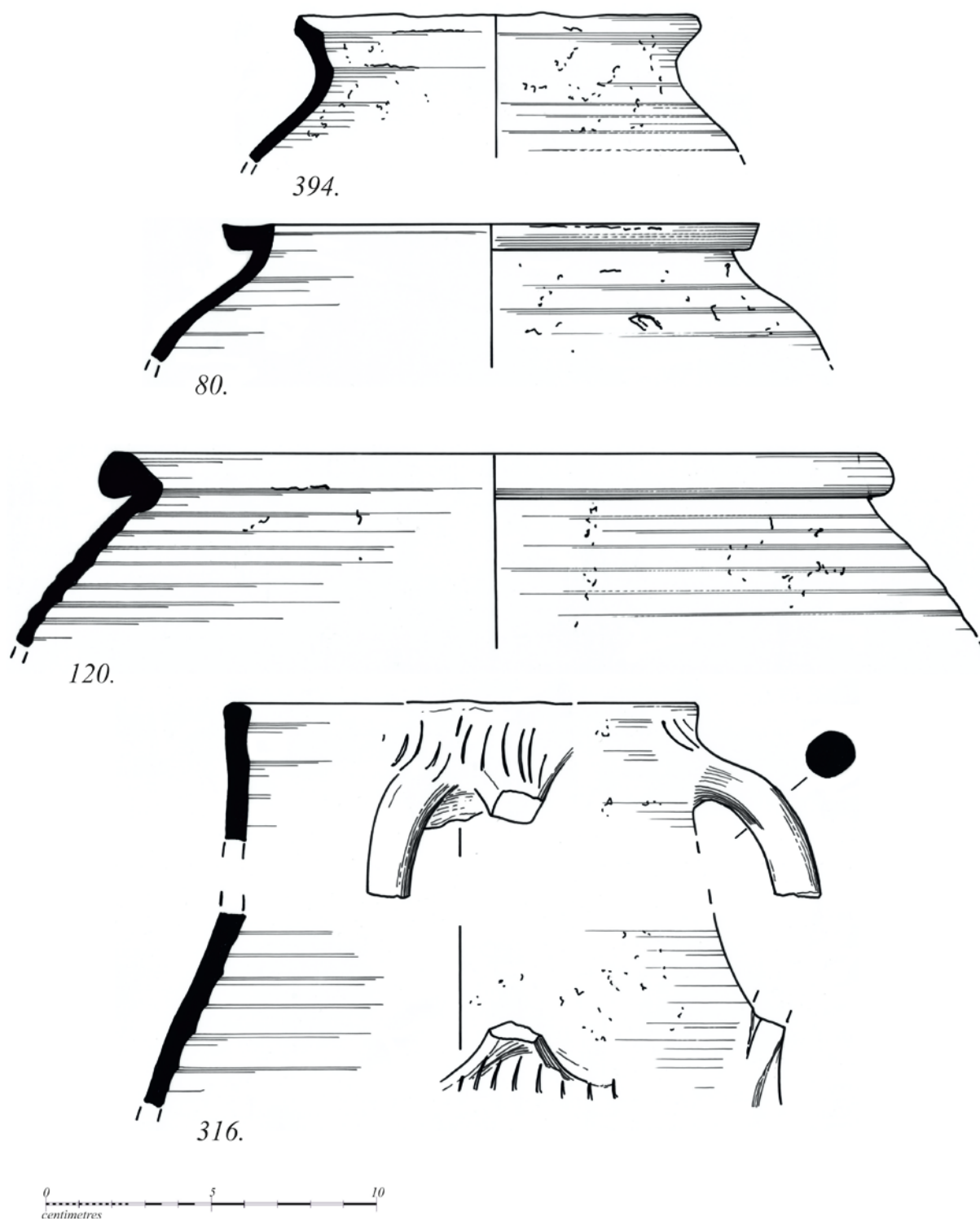


Figure A1: 394. Buff Pink Gritty ware. Jar (068); 80. Early Sandy ware type 2. Jar (057); 120. Buff ware. Jar (063); 316. Coarse Buff White ware. Jug (084)

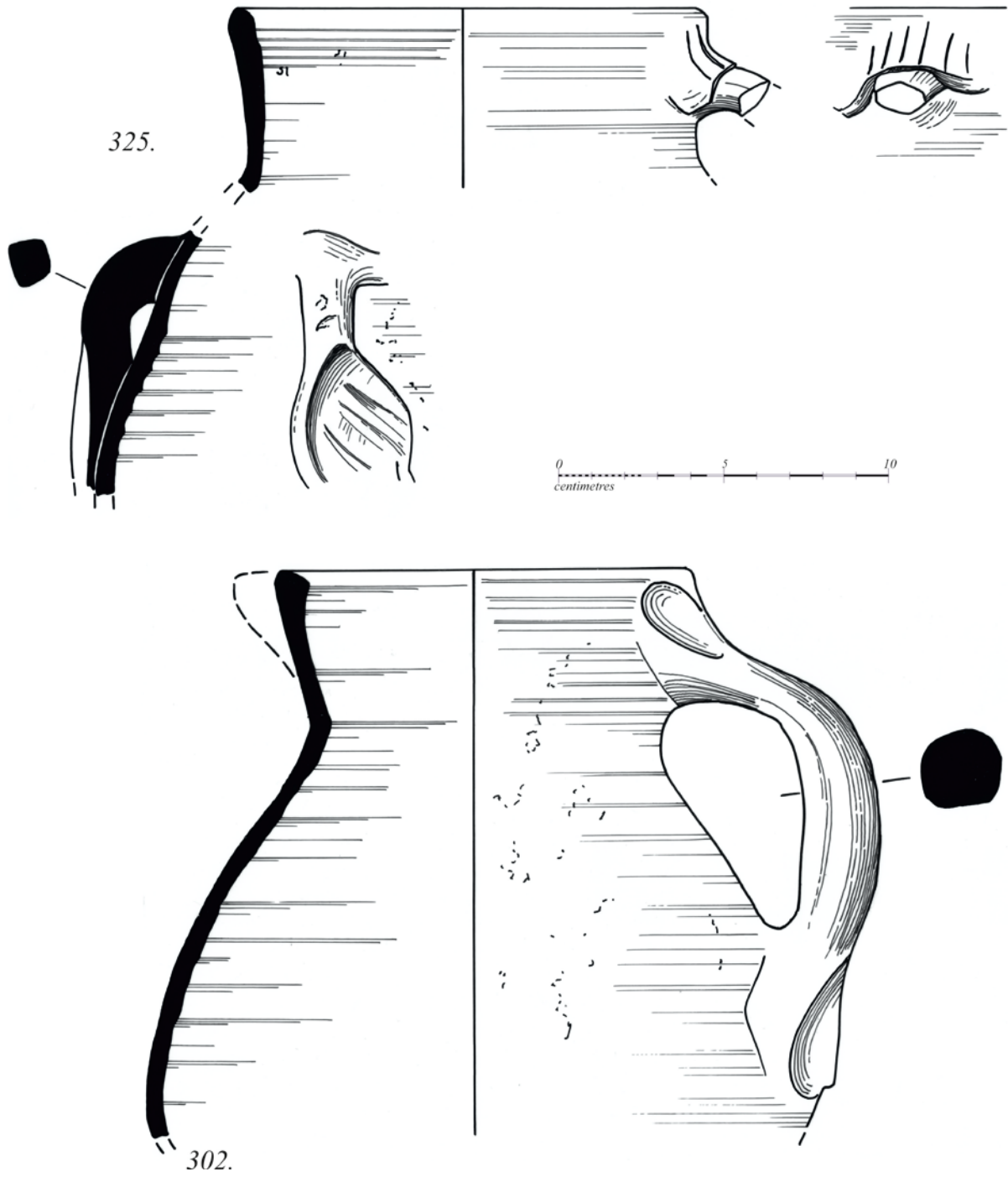


Figure A2: 325. Tyneside Buff White ware. Jug (084); 302. Tyneside Buff White ware. Jug (084)

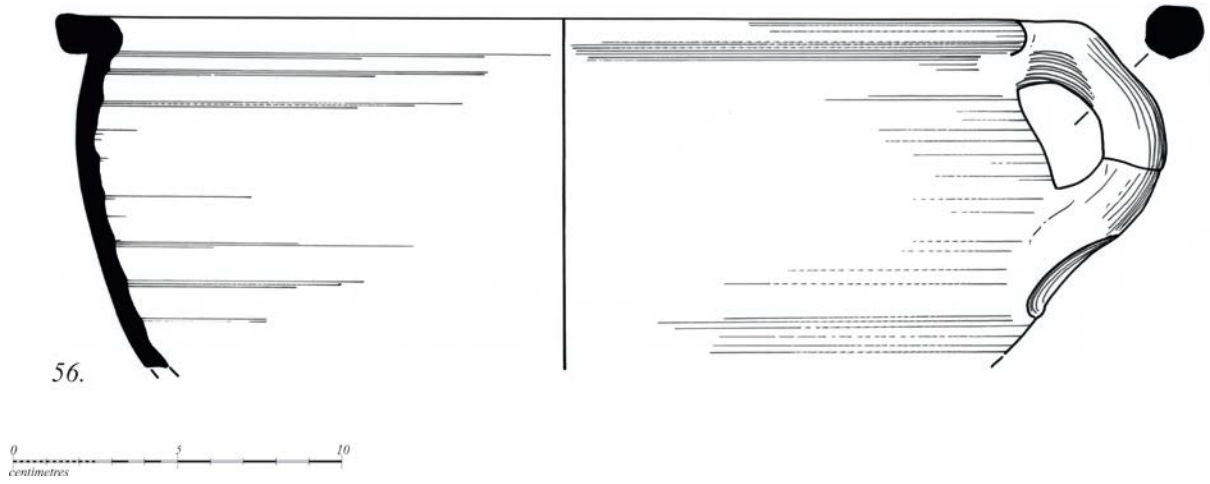


Figure A3: 56. Oxidised iron-rich sandy ware. Jug (034)

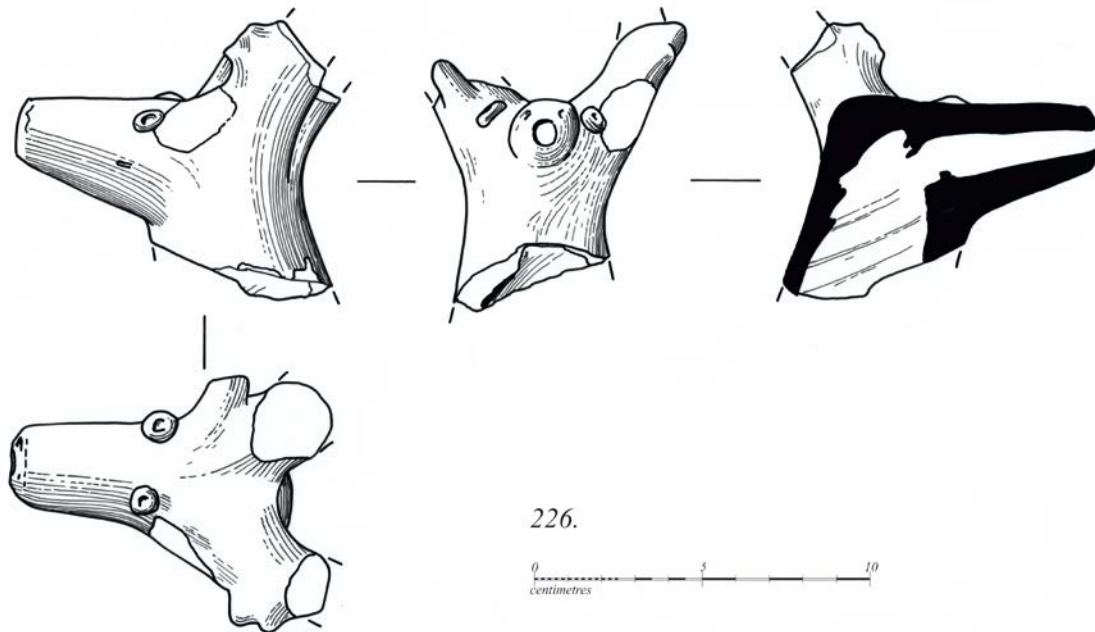


Figure A4: 226. Scarborough ware type 1. Aquamanile (067)

Appendix 2B Clay pipe catalogue

Context	Feature/ Trench	Area	Bag No.	Quantity per Finds#	Bowl	Stem	Mouthpiece	Stem Bore B/64	T i p		B o w l			Surface Treatment	Date	Measurements (in mm)	Comments
									Type	Finish	Internal Cross	Milling M/4	Rim				
(012)			6	1		X		6/64						Accreted		Length: 39.8, Width: 7.1 - 7.7, Bore Hole: 2.3	Stem fragment, no visible seam, slightly square section.
(004)		Quad A	4	1		X		5/64						Average Burnishing		Length: 61.2, Width: 6.5 - 7.9, Bore Hole: 2.2	Stem fragment, no visible seam, slightly ovoid section.
(006)			2	2	X	X		6/64			-	0	-	-	19th	Height: 37.9, Width: 18.6, Bore Hole: 2.3	Decorated bowl fragment (Two panels, each with a <i>passant</i> figure, and stanchion along the spine), visible seam, no decoration or stamp on heel.
(006)			2	2		X	X	8/64	Cut (Recut)	No				Average Burnishing		Length: 64.2, Width: 7.3, Bore Hole: 2.7	Stem fragment, no visible seam, round section. The mouth piece seems to have been broken off then slightly bevelled and polished to avoid being cut while smoking.
(023)	[010]		11	2	X	X		5/64						Average Burnishing	19th	Length: 27.5, Width: 7.2, Bore Hole: 2.1	Neck fragment, visible seam on the bowl, ovoid section. The heel presents no mark.
(023)	[010]		11	2		X		6/64						No	19th	Length: 45.6, Width: 6.9, Bore Hole: 2.3	Stem fragment, visible seam, circular section.
(006)	Well		3	1	X	X		5/64						Average Burnishing	19th	Height: 33.8, Length: 25.9, Width: 17.0, Bore Hole: 2.2	Neck fragment, visible seam on the bowl, circular section. The heel

																		presents no mark. The spine of the bowl is decorated with a <i>palmette</i> .
(006)	Well		78	1	X						T	0	Cut	-	19th	Height: 38.6, Length: 13.7, Width: 18.8		Bowl fragment, decorated (ear of wheat on the spine, two panels, one very fragmentary showing a figure hoeing, the other showing a <i>passant</i> figure, both arm raised, standing on ploughed fields), T shaped internal cross. Heavy soot stained.

Appendix 2C Glass Catalogue

Abbreviations:

WB – wine bottle

WG – window glass

FB – firebright

SR – string ring

Catalogue

Context

011 Part WB base, very dark green (black) with patches of blotchy ginger coloured corrosion. Original diameter c90mm, sharp angle through base ring, Late 18th, possibly early 19th century.

Second small shard similar, possibly same bottle.

Two shards very pale dull green, light corrosion, some secondary surfaces. Possible WB and no later than 18th century based on condition

Small shard neck WB? pale dull green, intrusive gingery corrosion, probably 18th c.

Shard WG, type A, pale aqua with patchy silvery coloured corrosion. 1.8-1.9mm thk.

Shard WG, type B, very pale green, light buff coloured corrosion. 1.6-1.7mm thk.

023(11) Part neck and lip wine or ale bottle, black FB, enhanced lip over poorly applied downturned SR. No earlier than c1760 and possibly as late as 1st quarter 19th.

023(8) Body shard bottle in slightly dulled pale dull green, not enough to assess shape but condition would suggest late 18th to early 19th c.

Small shard possibly from same.

006 Small shard vessel, thin very pale green with intrusive blotchy corrosion (ginger) and myriad small cracks (crisselling?)

(80) Body shard in pale aqua with light corrosion, possibly from 'egg' bottle. Letters 'RA' embossed along bottle side, 2nd half 19th c.

3 shards probable WB mainly FB black glass from quite small diameter bottle, <90mm diameter. Belling evident and light 'orange peel' on outer surface. Early 19th c

Two upper body shards from cylindrical bottle, pale yellow green, very seedy. Poor quality glass or possible French import. Shape similar to 3-piece mould type but no obvious mould marks. Probably 19th c but could be earlier

Part lower neck and shoulder from WB, pale dull green, variable blotchy corrosion, 18th c, (possibly early)

Appendix 2D

Faunal Remains by Antoine Ruchonnet

Introduction

The building located at 28-30, The Close lies on the left bank of the Tyne, just below the Heugh and the Castle Bank. The west side is bounded by the Long Stairs and by the piers of the High Level Bridge to the east. The land rises sharply up to the new castle to the north. The Close is situated close to the heart of Roman, medieval and post-medieval Newcastle, in a riverine environment and on or close to land thought to be reclaimed from the 13th century onwards. Due to its location, the site is extremely important as an urban medieval and post medieval habitation, on the banks of the Tyne, in close proximity where the eponymous Roman Bridge once stood.

Considering the importance of the area and the span of its occupation, analysing the faunal remains allows a glimpse at the table of a Tyne waterfront resident from the 13th to the 19th century. The various works conducted by Addyman Archaeology uncovered a total of 377 animal bone fragments.

Methodology

The mammalian bones were identified by direct comparison with the *Atlas of Animal Bones* (Schmid, 1972). When possible, the species were determined, however considering the similarities in the postcranial skeleton of ovids and caprids, sheep and goats are considered as ovicaprids. The avian bones recovered were identified by the same publication (Schmid, 1972).

Sample

The bones analysed for this report were recovered by hand during the monitoring and excavation conducted at 28-30, The Close from 2007 to 2010. Generally, the bones are in fairly good condition. The surface abrasion is slight to moderate, even on the surviving juvenile individuals' remains. Traces of animal scavenging are visible on one bone.

Species

A full catalogue of the bones uncovered is presented in the archive as an Excel spreadsheet. A summary of the number of identified species (NISP) can be found in **Table A**. The minimum number of individual (MNI) is shown in **Table B**.

A variety of domesticated animal species were found in the different assemblages, including cattle (*Bos taurus*), sheep/goat (*Ovis aries* and *Capra aegragus hircus*), pig (*Sus scrofa domesticus*), chicken (*Gallus domesticus*), and greylag goose (*Anser anser*). Some remains that could not be identified to a specific species, but only broad families such as fowl: pigeon (*Columba livia*) or chicken.

Forty-five fragments of fish bones and one fragment of crustacean shell were uncovered, but unfortunately could not be identified to a specific species.

Age at Death

When possible, the individual age at death was assessed (see **Table C**, for details). Age estimations were based on dental wear (Payne, 1973, Wenham and Fowler, 1973, and Grant, 1982, Greenfield and Arnold, 2008), tooth eruption (Silver, 1969) and epiphyseal fusion (Silver, 1969). Due to the fragmentary nature of the assemblage, many age estimations are quite broad. Teeth not recovered in a mandible have not been aged.

A total of 28 individuals have been aged, 10 pigs, 11 ovicaprid, and 7 cattle (*Figure 1*).

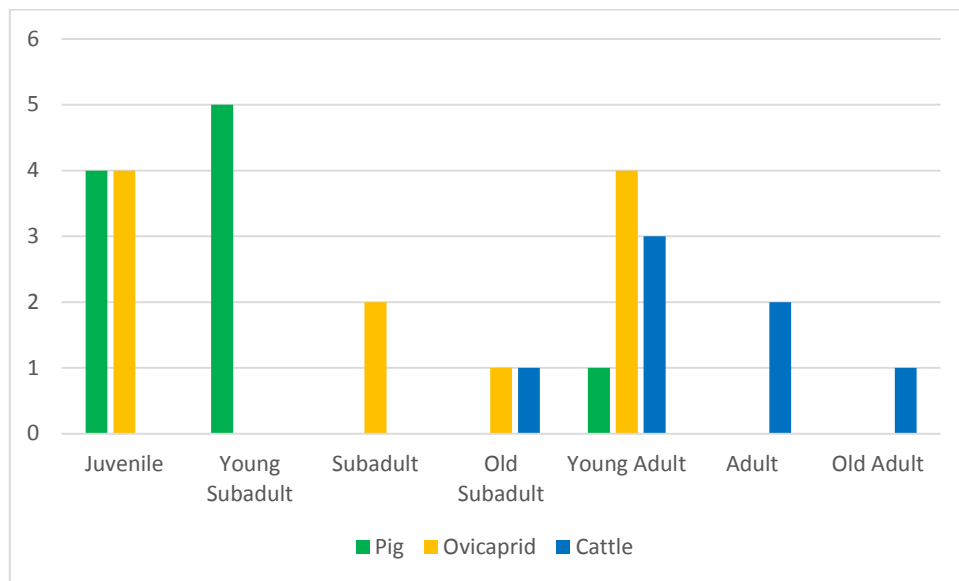


Figure 1 Age Classes by Species

It appears that generally, the sheep and goats were slaughtered before reaching adulthood, between 1 and 4 years, whereas the cattle was kept for four to six years before being slaughtered. The pigs have been mostly slaughtered before they reached two years. This tends to indicate a trend in animal husbandry; pigs reared only for meat were not kept very long, whereas cattle, may have been kept as dairy animal, hence their slaughtering being postponed. The sheep and goat might have somewhat of an intermediate status, as some appear to be kept for a few years before slaughter while some are killed fairly soon after birth.

A more detailed, by phase analysis, might be possible to establish temporal trends.

Butchery

Some of the remains identified presented clear signs of butchery (see **Table D** for details). Five types of butchery practices were noted, separated by the type of tool used. Knives or blades were used to deflesh the bones, cleavers or hatchets were used to cut through thick cartilage and recalcitrant sinew, saws to either divide the bone or to access the marrow, and lastly diverse tools used to split the diaphysis to access the marrow. One case of drilling was also noted.

Bladed tools were used on cattle, ovicaprid, and goose to remove the flesh from the bone. This can be used on diaphyses and ribs or around tendons, sinew and cartilage attachments. The use of a knife can be either done prior to cooking or a table practice, the knife being used to cut out cooked meat. It can also be used as a skinning tool, to remove the hide from the limbs extremities.

When knives are not enough to cut through thick tissues or the marrow needs to be exposed, axes, hatchets and cleavers were used. These could also have been cut in that manner to obtain more manageable chunks of meat, such as to fit a cooking pot, to be consumed separately or simply for easier manipulation.

Cutting through thick bone can be more easily and precisely managed by using a saw. Sawing is used for the same reason as hacking, to get to the nutritious marrow.

A large number of bones were found to have been split. Usually, splitting is used to access the marrow.

Nearly two fifths of the butchery mark identified on fragments are from a splitting (*Figure 2*), while more than a third have been hacked. Knife marks make up to 20% of the butchery evidence. Some fragments present more than one type of tool mark. The distribution of butchery marks tends to indicate that the assemblage is from cooking waste and table refuse.

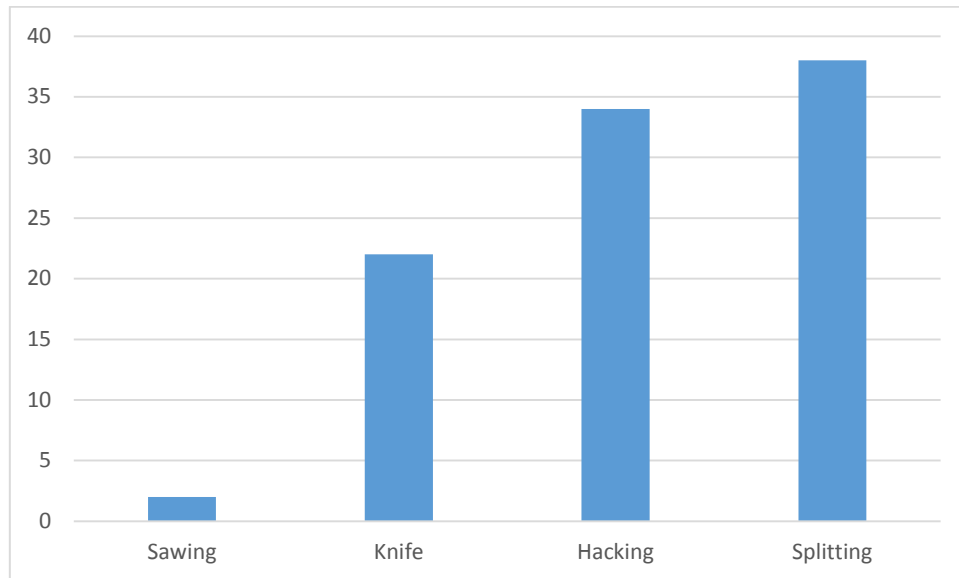


Figure 2 Butchery mark distribution

Apart from the single worked bone artefact (presented below), no fragment presented any identifiable mark of manufacturing.

Metrics

When possible, the bones were measured following the methodology established in *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Driesch, 1976). All the measurements taken are found in **Table E**. All measures are in millimetres and were taken using sliding callipers, a tape measure or an osteometric board.

Unfortunately, the sample size is very small for each measurement, often leading to a unique measure for each category. Considering the very limited sample, not much could be inferred about the size of the animals.

Pathologies and Anomalies

A few individual presented traces of possible pathology or injury. Two ovicaprid maxillae showed some cavities (*Figure 3 and 4*). It is interesting to note that the cavities are nearly identical.



Figure 3 SMF058, Ovicaprid maxilla, the first premolar is caried



Figure 4 SMF064, Ovicaprid maxilla, the first premolar is caried

Two cases of pitting on an articular surface were noted on two cattle (*Figure 5 and 6*). Both from context (057), this is a form of arthrosis.



Figure 5 SMF--, Cattle metacarpal showing pitting on the articular surface



Figure 6 SMF64, Cattle mandible showing pitting on the articular surface

Lastly, an osteoma was found on the internal surface of the cortical bone of a large ungulate long bone (*Figure 7*). Osteomas are benign tumours; it is an abnormal build of osseous tissue, although they are more commonly found in the skull.

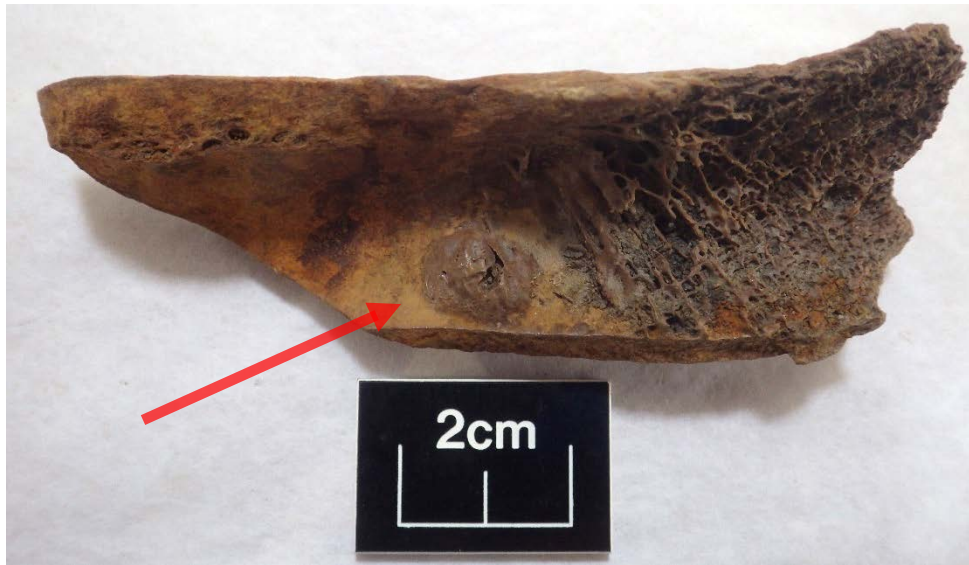


Figure 7 SMF071, Osteoma on a large ungulate long bone

Worked Bone

One worked bone object was uncovered during the works conducted at 28-30, The Close, one awl with the tip broken off.

The awl (SMF025) was found in one of the deposits, (068), of the 13th century reclaim of the waterfront, and henceforth is at least medieval in date (*Figure 8*). The tool is 87mm long (the tip is missing), 14.3mm wide and 9.5mm thick.



Figure 8 SMF025, Worked bone awl

The artefact presents the patina and smoothness of heavy use. One side is the external cortical bone, while the other presents trabeculae, the osseous inner tissue. This tool was crafted from a large ungulate long bone, most likely a cattle metapodium. A 3.2mm diameter hole was bored through near one end (*Figure 9*), the other side is tapered to a point that has been broken off (*Figure 10*).



Figure 9 SMF025, Worked bone awl, bore hole detail Figure 10 SMF025, Worked bone awl, broken off point

Considering the versatility of such a tool, it is difficult to infer its use, especially as it was recovered from a deposit (068) from the waterfront reclaim and might very well be a tertiary deposition. It can be, however, hypothetically assumed that, in view of the close proximity to the river Tyne, a fishing net repair needle. The smoothness and patina tend to indicate heavy use through rough material, such as the nettle-hemp blend used in fishing nets. Furthermore, the broadness of the object seems to render it impractical for sewing. The sharpness of the edge of the break towards the apex tends to indicate that the tool was discarded immediately after the damage and no repair or mending was attempted.

Discussion

The faunal remains assemblage from the site of 28-30, The Close presented only domesticated animals. Looking at the distribution of the 373 bones and fragments recovered, it appears that cattle and ovicaprid is the most common, as shown in *Figure 11*. The cattle make up to over 35% of the total assemblage, ovicaprid nearly 20%. It is most likely that the small ungulate fragments are most likely to be from ovicaprid, while the large ungulates are likely to be from cattle.

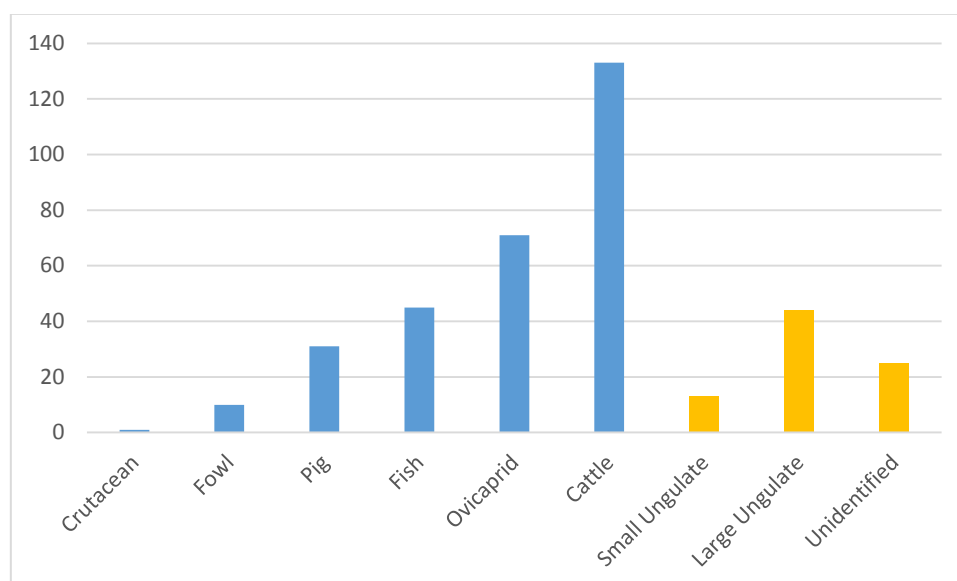


Figure 11 Distribution of the Number of Identified Specimens (NISP)

It is, however, more accurate to look at the distribution of the Minimum Number of Individuals (MNI), as large animals might produce a larger quantity of fragments (see *Figure 12*). Furthermore, the unidentified fragments and those not assigned to a species are taken out of the count. In that light, the cattle and ovicaprids nearly equalise to around 30% of the identified species. The scarcity of fish, crustacean and fowl might be explained by the relative fragility of their remains and the excavation methods, smaller fragments being easily recovered unless the soil is going through a fine sieve.

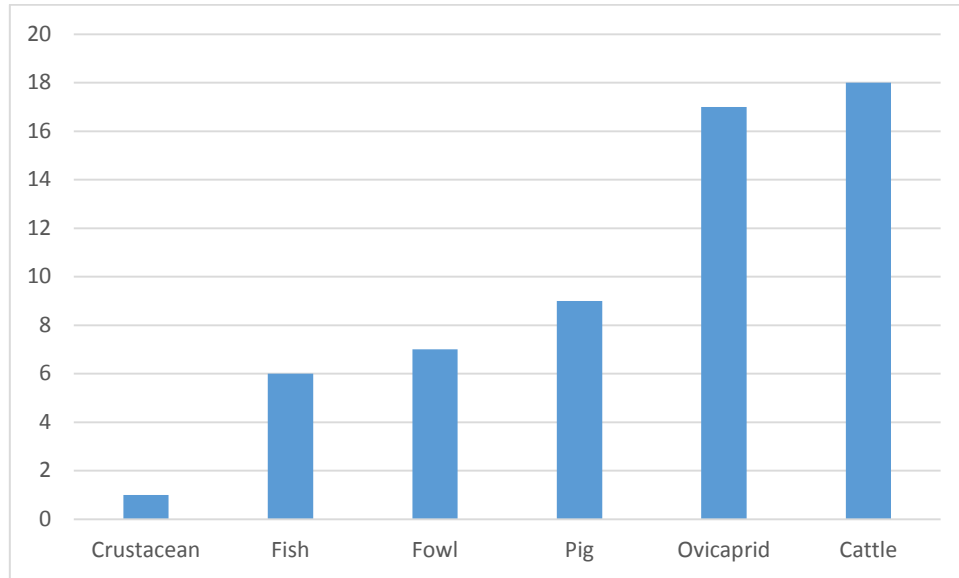


Figure 12 Distribution of the Minimum Number of Individual (MNI)

Unfortunately, the temporal distribution by phase shows that nearly three quarters of the assemblage was recovered in the 13th century waterfront reclamation deposit and are very likely tertiary deposit, rendering any analysis moot. The other phases presented too few remains to be of properly analysed.

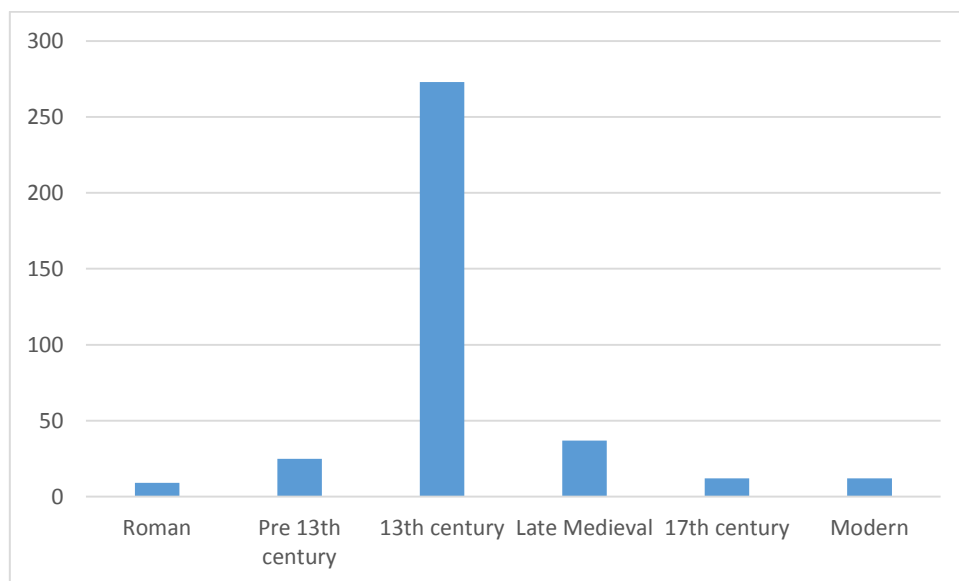


Figure 13 Distribution by phases

Looking at the distribution of the remains over time, it appears, however, that mostly cattle and ovicaprid were consumed around the Close, completed by pigs, chicken, crustaceans and fish. The crustacean shell fragment is likely from a crab (see *Figure 14*). The fish bones recovered are rather large, most likely from cods and other salt water fish (see *Figure 15*).



Figure 14 SMF058, Crustacean shell fragment



Figure 15 SMF064, Fish bone assemblage

When compared to other sites around 28-30 The Close (O'Brien *et al.*, 1988, Graves and Heslop, 2013, Nolan and Vaughan, forthcoming), the assemblage appears to be in line with theirs, with the exception of wild animals, such as roe and fallow deer, hare and game birds, absent from the present assemblage. Unfortunately, because of the tertiary deposition of material in order to reclaim the water front, it is impossible to compare the results in detail, in regards to wealth and tastes from the occupants of The Close.

Conclusion

The faunal assemblage recovered at 28-30, The Close compares well to other medieval to post medieval assemblages from Newcastle, with mutton, beef and pork, complemented with fish and crustaceans. The nature of the assemblage, consisting mostly of the re-deposition of midden-rich material does not allow conclusions to be drawn towards the consumption of any given household or specifically to a date.

References

von den Driesch, A., *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin, 1976

Greenfield, H.J., Arnold, E.R., *Absolute Age and Tooth Eruption and Wear sequence in Sheep and Goat: Determining Age-at-Death in Zooarchaeology, using Modern Samples*, Journal of Archaeological Science, 35, 2008

Graves, C.P., Heslop, D.H., 2013, *Newcastle upon Tyne, The Eye of the North, An archaeological Assessment*, Oxford.

Nolan, J., Vaughan, J., Forthcoming, *27 The Close, Newcastle upon Tyne Archaeological Investigation, 1994*.

O'Brien, C., Bown, L., *et al.*, 1988, *The Origins of the Newcastle Quayside*, Newcastle upon Tyne: The Society of Antiquaries of Newcastle upon Tyne.

Payne, S., *Kill-off Patterns in Sheep and Goats – The Mandibles from Aşvan Kale*, *Journal of Anatolian Studies*, 23, 1973

Schmid, E., *Atlas of Animal Bones*, Elsevier, 1972

Silver, I.A., "The Ageing of Domestic Animal" in *Science in Archaeology, A Comprehensive Survey of Progress and Research*, Brothwell, D., Higgs, E., (eds.), Basic Books, 1969

Wenham, G., Fowler, V.R., 1973. *A radiographic study of age changes in the skull, mandible and teeth of pigs*. *J. Agric. Sci.* 80:451–461.

Table A: Number of Identified Species by Context

Bag Numbers	Context Number	Cattle	Ovicaprid	Pig	Fowl	Fish	Crustacean	Large Ungulate	Small Ungulate	Unidentified	Total
-	Within Wall		2								2
-	?007	4	1	2	1	7				10	25
4	004		3		4			1	4		12
-	034	1	1	1	1					4	8
-/37/64/69	057	16	16	4		11		7	4	3	61
-	063	7	4					1			12
77	065		1								1
23/34/62	066	13	2	5	1	4				3	28
21	066/067	3	1	1				2	2		9
26/28/35/42/58/61	067	14	11	4		3	1	7	1	1	42
-/24/25/33/47/57	068	39	18	8	2	20		13	1	3	104
29	069								1		1
45/71	082	4						4		1	9
48/51/65	084	21	11	5	1			9			47
50	086	5									5
74	095	4		1							5
-	U/S	2									2
	Total	133	71	31	10	45	1	44	13	25	373

Table B: Minimum Number of Individuals by Context

Bag Numbers	Context Number	Cattle	Ovicaprid	Pig	Fowl	Fish	Crustacean	Large Ungulate	Small Ungulate	Total
-	Within Wall		1							1
-	?007	1	1	1	1	1				5
4	004		1		1			1	1	4
-	034	1	1	1	1					4
-/-/37/64/69	057	3	3	1		2		1	1	11
-	063	1	1					1		3
77	065		1							1
23/34/62	066	1	1	1	1	1				5
21	066/067	1	1	1				1	1	5
26/28/35/42/58/61	067	1	3	1		1	1	1	1	9
-/24/25/33/47/57	068	2	2	1	2	1		1	1	10
29	069								1	1
45/71	082	1						1		2
48/51/65	084	3	1	1	1			1		7
50	086	1								1
74	095	1		1						2
-	U/S	1								1
	Total	18	17	9	7	6	1	8	6	72

Table C: Individual Age at Death

Bag Number	Context Number	Species	Bone	Age	Age Class	Methods
-	?007	Sus	Maxillary Tooth	< 1 -1.5 years	Juvenile	Wenham & Fowler, 1973
64	057	Bos	Cervical Vertebra	< 5 years	Young Adult	Silver, 1969
64	057	Ovicaprid	Femur	< 3 - 3.5 years	Young Adult	Silver, 1969
-	057	Sus	Mandible	0.5 - 1 year	Juvenile	Silver, 1969
-	057	Ovicaprid	Mandible	0.5 - 1 year	Juvenile	Silver, 1969
-	057	Ovicaprid	Mandible	3 - 4 years	Young Adult	Silver, 1969
-	057	Ovicaprid	Mandible	1 - 3 years	Subadult	Silver, 1969
23	066	Sus	Mandible	0.5 - 2 years	Young Subadult	Silver, 1969
35	067	Ovicaprid	Tibia	3 - 3.5 years	Young Adult	Silver, 1969
42	067	Sus	Humerus	> 1 year	Juvenile	Silver, 1969
42	067	Ovicaprid	Calcaneus	> 2.5 - 3 years	Old Subadult	Silver, 1969
58	067	Ovicaprid	Maxilla	3 - 6 years	Young Adult	Payne, 1973
58	067	Ovicaprid	Mandible	0.5 - 1 year	Juvenile	Payne, 1973
25	068	Ovicaprid	Mandible	1 - 3 years	Subadult	Payne, 1973
25	068	Bos	Mandibular Tooth	6 - 8 years	Adult	Grant, 1982
24	068	Sus	Mandibular Tooth	<1 year and 4 months	Juvenile	Silver, 1969
24	068	Bos	Maxillary Tooth	6 - 8 years	Adult	Grant, 1982
-	068	Sus	III Metatarsus	< 2 years	Young Subadult	Silver, 1969
47	068	Ovicaprid	Mandibular Tooth	6 - 12 months	Juvenile	Payne, 1973
47	068	Sus	Maxillary Tooth	>1.5 -2 years	Young Subadult	Silver, 1969
47	068	Sus	Mandibular Tooth	< 1 year - 1.5 year	Young Subadult	Silver, 1969
33	068	Bos	Tibia	< 3.5 - 4 years	Young Adult	Silver, 1969
57	068	Bos	Cervical Vertebra	< 5 years	Young Adult	Silver, 1969
57	068	Sus	Femur	< 3.5 years	Young Adult	Silver, 1969
71	082	Bos	Mandibular Tooth	< 3 years	Old Subadult	Grant, 1982
63	084	Sus	Tibia	< 2 years	Young Subadult	Silver, 1969
48	084	Bos	Maxillary Tooth	7 - 9 years	Old Adult	Grant, 1982
65	084	Ovicaprid	Mandible	0.5 - 1 year	Juvenile	Silver, 1969

Table D: Butchery

Bag Number	Context Number	Species	Bone	Type
-	-	Bos	Mandible	Splitting
-	-	Bos	Metacarpus	Splitting
4	004	Small Ungulate	Long Bone	Hacking
64	057	Bos	Metatarsus	Hacking
64	057	Bos	Rib	Hacking
64	057	Bos	Mandible	Hacking
64	057	Sus	Rib	Hacking
-	057	Bos	Rib	Hacking
-	057	Bos	Rib	Hacking
-	057	Bos	Rib	Hacking
-	057	Sus	Rib	Hacking
-	057	Sus	Rib	Hacking
64	057	Bos	Mandible	Knife
64	057	Ovicaprid	Rib	Knife
64	057	Ovicaprid	Rib	Knife
-	057	Ovicaprid	Scapula	Knife and Hacking
64	057	Bos	Metacarpus	Splitting
-	057	Bos	Metatarsus	Splitting
-	057	Large Ungulate	Long Bone	Splitting
-	057	Large Ungulate	Long Bone	Splitting
-	057	Large Ungulate	Metatarsus	Splitting
-	063	Bos	Rib	Knife
23	066	Bos	Rib	Hacking
23	066	Bos	Rib	Hacking
62	066	Ovicaprid	Rib	Hacking
62	066	Bos	Metacarpus	Splitting
62	066	Bos	Radius	Splitting
21	066/067	Sus	Humerus	Hacking
42	067	Bos	Radius	Hacking
61	067	Bos	Rib	Hacking
58	067	Sus	Rib	Hacking
58	067	Bos	Radius	Hacking and Splitting
26	067	Bos	Rib	Knife
35	067	Ovicaprid	Tibia	Knife
58	067	Large Ungulate	Long Bone	Splitting

Bag Number	Context Number	Species	Bone	Type
61	067	Large Ungulate	Unknown	Splitting
58	067	Large Ungulate	Long Bone	Splitting
58	067	Large Ungulate	Tibia	Splitting
33	068	Bos	Rib	Hacking
33	068	Bos	Rib	Hacking
57	068	Bos	Rib	Hacking
24	068	Anser	Humerus	Knife
24	068	Bos	Rib	Knife
24	068	Bos	Rib	Knife
24	068	Bos	Radius	Knife
25	068	Bos	Rib	Knife
25	068	Bos	Rib	Knife
25	068	Ovicaprid	Rib	Knife
25	068	Ovicaprid	Rib	Knife
-	068	Bos	Rib	Knife
33	068	Bos	Tibia	Knife and Splitting
33	068	Bos	Rib	Knife and Splitting
50	068	Bos	Thoracic Vertebra	Sawing
50	068	Bos	Humerus	Sawing
25	068	Bos	Metatarsus	Splitting
25	068	Large Ungulate	Radius	Splitting
33	068	Bos	Long Bone	Splitting
33	068	Bos	Long Bone	Splitting
33	068	Bos	Long Bone	Splitting
57	068	Bos	Femur	Splitting
57	068	Large Ungulate	Long Bone	Splitting
57	068	Ovicaprid	Humerus	Splitting
57	068	Ovicaprid	Humerus	Splitting
71	082	Bos	Calcaneus	Hacking
71	082	Bos	Femur	Hacking and Splitting
71	082	Large Ungulate	Long Bone	Hacking and Splitting
71	082	Large Ungulate	Long Bone	Hacking and Splitting

Bag Number	Context Number	Species	Bone	Type
71	082	Large Ungulate	Long Bone	Hacking and Splitting
71	082	Large Ungulate	Long Bone	Splitting
48	084	Bos	Mandible	Hacking
51	084	Bos	Pelvis	Hacking
51	084	Large Ungulate	Radius	Hacking
51	084	Ovicaprid	Humerus	Hacking
65	084	Bos	Radius	Hacking
65	084	Bos	Metatarsus	Hacking
65	084	Ovicaprid	Femur	Hacking
51	084	Bos	Rib	Knife
51	084	Bos	Rib	Knife
65	084	Bos	Humerus	Knife and Hacking
48	084	Large Ungulate	Long Bone	Splitting
51	084	Large Ungulate	Radius	Splitting
65	084	Large Ungulate	Radius	Splitting
65	084	Ovicaprid	Metatarsus	Splitting
74	095	Bos	Rib	Knife
-	U/S	Bos	Rib	Hacking

Table E: Metrics**Cattle**

Bone	Measurement	Range	Mean	Number
Thoracic vertebra	Breadth of the cranial articular surface	27	-	1
	Breadth of the caudal articular surface	29.6	-	1
	Height of the cranial articular surface	24.4	-	1
	Height of the caudal articular surface	26.1	-	1
Humerus	Trochlear breadth	63	-	1
Radius	Proximal breadth	62.6 - 76.2	69.4	3
	Breadth of proximal articular surface	63.1	-	1
Calcaneus	Length	110.5	-	1
	Breadth	33.2	-	1
Metacarpus	Proximal breadth	45.4 - 50.3	47.85	4
	Distal breadth	45.7 - 47.6	46.65	2
Metatarsus	Proximal breadth	41.4 - 50.8	46.1	3
	Distal breadth	51.4 - 57.3	54.35	5
Pelvis	Length of the acetabulum	60.1	-	1
Proximal Phalanx	Length of the peripheral half	47.3 - 52.4	49.85	3
	Proximal breadth	23.5 - 26.7	25.1	3
	Breadth of the diaphysis	20.0 - 23.1	21.55	3
	Distal breadth	24.4 - 24.6	24.5	3
Distal Phalanx	Diagonal length of the sole	73.6	-	1
	Length of the dorsal surface	52.2	-	1
	Middle breadth of the sole	26.5	-	1

All measures are in mm.

Ovicaprid

Bone	Measurement	Range	Mean	Number
Mandible	3 : Length gonion - M3	40.5	-	1
	5 : Length gonion - P2	87.6	-	1
	6 : Length	63.8 - 99.5	81.65	2
	7: Length of the cheek tooth row	54.7 - 72.6	63.65	2
	8 : Length of the molar row	39.4 - 53.6	46.5	3
	9 : Length of the premolar row	14.3 - 22.9	18.6	3
	12 : Height of the vertical ramus	47.7	-	1
	13 : Middle height of the vertical ramus	48.6	-	1
	15a : Height of the mandible behind M3	26.1 - 29.8	27.95	2
	15b : Height of the mandible in front of M1	15.5 - 20.9	18.2	3
	15c : Height of the mandible in front of P2	11.5 - 16.2	13.85	3
Maxilla	21 : Length of the cheek tooth row	61.6 - 65.5	63.55	2
	22 : Length of the molar row	38.2 - 42.5	40.35	2
	23 : Length of the premolar row	21.4 - 25.2	23.2	2
Metacarpus	Proximal breadth	20.6 - 23.1	21.85	2
	Breadth of the diaphysis	20	-	1
Metatarsus	Proximal breadth	39.3 - 43.2	41.25	2
Proximal Phalanx	Length	31.5	-	1
	Proximal breadth	10.7	-	1
	Breadth of the diaphysis	8.8	-	1
	Distal breadth	8.5	-	1

All measures are in mm.

Goose

Bone	Measurement	Range	Mean	Number
Humerus	Length	92.7	-	1
	Proximal breadth	8.1	-	1
	Diagonal of the distal end	10.5	-	1

All measures are in mm.

Table F: Phases

Context Numbers	Date	Cat tle	Ovica prid	P i g	Fo wl	Fi sh	Crutac ean	Large Ungul ate	Small Ungul ate	Unident ified	Tota l
082	Roman	4						4		1	9
007	Pre 13th century	4	1	2	1	7				10	25
034/057/067/068/ 069/084/086/095	13th century	100	57	2 3	4	34	1	36	7	11	273
066	Late Medieval	16	3	6	1	4		2	2	3	37
063	17th century	7	4					1			12
004	Modern		3		4			1	4		12

Appendix 2E Other finds – wood, metal, mortar & lithics catalogues

Table A Wood catalogue

<i>Bag Number</i>	<i>Context Number</i>	<i>Area</i>	<i>Date</i>	<i>Initials</i>	<i>Quantity</i>	<i>Description (measurements in mm)</i>
22	057	NE Quad	-	-	2	1x Hard wood, circular fragment, probably a node, (ø 12.6) / 1x Hard wood, rectangular fragment, no tool mark visible, could have been cut, (122.8 x 10.6 x 9.1)
24	068	NE Quad	21/05/2009	KmacF	1	Hard wood (Birch), branch fragment (111.5 x ø 28.6 - 20.2)
25	068	NE Quad	21/05/2009	KmacF	6	1x Twig (41.6 x ø 6.4) / 3x Unknown fragment (35.6 / 33.4 / 22.1) / 1x Hard wood rectangular, no tool mark visible, could have been cut, (41.3 x 14.4 x 5.7) / 1x Hard wood curved rectangular, no tool mark visible, could have been cut, (62.3 x 29.6 x 5.6)
36	068	-	-	-	31	22x Twig fragments, (from 16.8 x ø 2.0 to 136.4 x ø 8.0) / 6x Unknown small fragments / 3x Hard wood, flat fragments, no tool mark visible, could have been cut or chips from fabrication, (largest: 78.8)
42	067	-	-	KmacF	1	Hard wood, natural fragment, (65.3)
46	056	NW Quad	02/06/2009	KmacF	1	Hard wood rectangular fragment, no tool mark visible, could have been cut, (47.8 x 20.0 x 6.8)
47	068	-	03/02/2009	KmacF	7	Hard wood natural fragments, (length: 110.1 / 82.3 / 75.0 / 68.1 / 67.2 / 51.0 / 22.0)
48	084	Front Room, East Half	04/06/2009	KmacF	8	1x Twig fragment, (43.2 x ø 10.9) / 7x Hard wood, flat fragments, no tool mark visible, could have been cut or chips from fabrication, (from 16.6 to 48.8)
49	084	Front Room, West Half	04/06/2009	KmacF	2	1x Twig (100.3 x ø 12.5) / 1x Hard wood, rectangular fragment, tool mark visible, (TM: 32.7 x 23.7 / 25.9 x 14.2 / 10.2 x 20.4), roughly cut in a point in one end, probably a stake, (90.4 x 36.8 x 30.9)
50	086	-	-	-	3	2x Twig fragments (46.7 / 58.2) / 1x Hard wood, flat fragment, no tool mark visible, could be a chip from fabrication (43.8 x 31.7 x 2.9)

<i>Bag Number</i>	<i>Context Number</i>	<i>Area</i>	<i>Date</i>	<i>Initials</i>	<i>Quantity</i>	<i>Description (measurements in mm)</i>
51	084	Front Room, East Half	04/06/2009	KmacF	11	3x Twig fragments, (largest: 24.5 x ϕ 9.0) / 1x Coal (23.4 x 23.0 x 17.0) / 5x Unknown small fragments / 1x Hard wood, flat fragment, no tool mark visible, could have been cut or chips from fabrication, (48.7) / 1x Hard wood, large irregular shaped fragment, tool mark visible, could be worked, could be a natural node, (148.1 x 109.2 x 46.8)
53	068	From Underpinning	02/06/2009	KmacF	3	2x Hard wood, flat fragment, no tool mark visible, could have been cut or chips from fabrication / 1x Hard wood (Oak?), plank, tool mark visible, possibly a barrel head, tapering with one groove opposite the tapered end
58	067	-	09/06/2009	KmacF	32	10x Twig fragments, (from 26.4 x ϕ 5.2 to 101.8 x ϕ 10.3) / 16x Hard wood, flat fragments, no tool mark visible, could be chips from fabrication, (largest 60.0 x 38.6) / 1x Hard wood, curved fragment, no tool mark visible, could have been cut, (115.7 x 21.6 x 14.0) / 6x Unknown small fragments / 1x Hard wood, triangular fragment, tool mark visible (80.8), cut at one end into a point, stake (101.3 x 41.1 x 28.0)
59	068	-	09/06/2009	AG	1	Hard wood, very small fragment of burnt wood, (19.0 x 4.4 x 2.5)
61	067	Mid Quad	-	-	17	4x Twig fragments, (from 24.9 x ϕ 5.5 to 20.0 x ϕ 17.7) / 12x Hard wood, flat fragments, no tool mark visible, could have been cut or chips from fabrication, (largest: 56.6 x 41.7)
70	087	Front Room	09/06/2009	KmacF	1	Hard wood, large section of timber, sampled for dendrochronology, (400.0 x ϕ 200.0)
71	082	NW Quad	03/06/2009	KmacF	1	Hard wood, rectangular fragment, no tool mark visible, could have been cut, (64.9 x 11.7 x 7.9)
-	086	-	-	KmacF	2	Twig fragments (31.4 x ϕ 9.6 / 31.0 x ϕ 6.4)
22II	057	NE Quad	-	-	4	Twig fragments (56.4 x ϕ 10.0 / 35.5 x ϕ 8.9 / 32.0 x ϕ 5.2 / 31.5 x ϕ 8.4)
24II	068	NE Quad	-	-	6	2x Twig fragments (55.6 x ϕ 13.8 / 27.0 x ϕ 5.2) / 4x Hard wood, unknown fragments, no tool mark visible, (37.1 / 34.9 / 22.8 / 8.2)

Table B Metals catalogue

<i>Bag No.</i>	<i>Area</i>	<i>Trench</i>	<i>Context No.</i>	<i>Context Description</i>	<i>Material</i>	<i>Quantity</i>	<i>Object Description/ Interpretation</i>	<i>Comments</i>	<i>Recorded By</i>	<i>Date</i>
1	Quad B	Rear Room	003	Loose mixed soil and debris floor churn associated with (002)	CuA	1	Coin		TR	04/02/09
71	NW Quad		082		CuA	1	Corroded CuA rivet / decorative nail, with 2-rimmed head		KMF	03/06/09
4	Quad A	Rear Room	004	hard packed rubble soil layer, bottoming	Ferrous Metal	1	1 possible nail, with corroded residue		AG	04/02/09
	Quad C	Rear Room	011	mortary rubble layer in S corner	Ferrous Metal	7	3 medium nails, 1 hook, 3 small unidentified, 1 large unidentified		TR	04/02/09
19	at SE corner of room	Rear Room	027		Ferrous Metal	1	unidentifiable lump		TOA	24/02/09
			034	within entrance to rear room	Ferrous Metal	1	corroded, possible nail shaft, medium size		AG	01/02/09
23	SE Quad		066	mix of upper and lower part of context	Ferrous Metal	1	unidentified lump with wood residue in corrosion		KMF	-
			?007		Ferrous Metal	2	unidentified disc-shaped lumps, ?buttons		KMF	18/05/09
					Total	15				

Table C Mortar and plaster catalogue

<i>Bag Number</i>	<i>Context Number</i>	<i>Area</i>	<i>Date</i>	<i>Initials</i>	<i>Quantity</i>	<i>Description</i>	<i>Date</i>
58	067	Mid quad	09/06/2009	KmacF	1	Pale buff lime mortar, soft chalky, medium-fine aggregate	
-	063	-	-	KmacF	1	Large lump of partially burnt lime, possibly a mortar inclusion	
18	034	Within south entrance of rear room	22/02/2009	TOA	2	Lumps of possible medieval mortar (residual?), coal inclusion, coarse - medium sharp sand aggregate	?Medieval
50	086	-	04/06/2009	KmacF	1	Very small lump of pale creamy - buff high lime plaster, fazed on one side, sooted, fine sand aggregate	
20	034	Within south entrance of rear room	24/02/2019	TOA	5	Large leached lumps of high lime mortar, unburnt lime, charcoal and shell inclusions, fine - medium sand aggregate	

Table D Lithics catalogue

<i>Bag Number</i>	<i>Context Number</i>	<i>Area</i>	<i>Date</i>	<i>Initials</i>	<i>Quantity</i>	<i>Description</i>	<i>Dimensions (in mm)</i>
-	?007	-	18/05/2009	KmacF	1	Clinker? / Pumice	24.2 x 20.5 x 9.8
-	063	Lower part	-	KmacF	1	Pale grey chert with cortex, bifacial scars, early debitage	98.4 x 31.7 x 11.6
18	034	Rear room	18/05/2009	KmacF	2	One micaceous sandstone (roof tile?), one shale fragment	Shale: 72.4 x 61.0 x 17.6 / Sandstone: 89.1 x 78.9 x 16.1
76	-	Well trench	-	KmacF	3	Flints, two dark grey, one yellow-brown tool with edge gloss?	Tool: 37.5 x 24.8 x 12.0 / Flints: 64.5 x 29.2 x 13.9 / 41.4 x 26.1 x 16.5

Appendix 2F Shell assessment data

<i>Bag Number</i>	<i>Context Number</i>	<i>Feature Number</i>	<i>Date</i>	<i>Initials</i>	<i>Species</i>	<i>Quantity</i>	<i>Comments</i>	<i>Date</i>
-	?007	-	18/05/2009	KmacF	Oyster	2		
					Mussel	1		
-	034	Within S entrance to room [rear]	22/02/2009	TOA	Mussel	3		13 - 14th Century
64	057	-	09/06/2009	AG	Mussel	3		
-					Limpet	1	Patella Vulgata	
-	057	NE Quad	-	KmacF	Oyster	2		13 - 14th Century
-					Mussel	5		
-	063	-	-	KmacF	Oyster	2		
77	065	-	16/09/2008	KmacF	Oyster	1		
34	066	-	-	-	Oyster	2		
21	066	SE Quad	15/05/2009	KmacF	Oyster	6		
					Oyster	18	One juvenile	
23	066	SE Quad	-	KmacF	Mussel	1		
					Periwinkle	1	Common periwinkle	
61	067	Mid Quad	09/06/2009	KmacF	Mussel	3		
					Quahog	1	Arctica islandica	13 - 14th Century
58	067	? Quad	09/06/2009	KmacF	Oyster	1		
24	068	NE Quad	21/05/2009	KmacF	Mussel	1		
								13 - 14th Century
33	068	-	26/05/2009	AG	Mussel	5		
57	068	NE Quad	09/06/2009	KmacF	Mussel	2		
25	068	NE Quad	21/05/2009	KmacF	Mussel	1		

<i>Bag Number</i>	<i>Context Number</i>	<i>Feature Number</i>	<i>Date</i>	<i>Initials</i>	<i>Species</i>	<i>Quantity</i>	<i>Comments</i>	<i>Date</i>
-	068	-	-	KmacF	Mussel	3	One complete with two sides	
47	068	-	03/06/2009	KmacF	Mussel	5	With numerous small fragments of mussel shell	
65	084	Front room trench	09/06/2009	KmacF	Oyster	1		13 - 14th Century
63	084	Front room	09/06/2009	KmacF	Quahog	1	Arctica islandica	
					Oyster	1		
48	084	-	04/06/2009	KmacF	Mussel	1		
51	084	? Front room E half	-	Contractors	Oyster	1		
50	086	E half	?4/06/09	KmacF	Oyster	1		13 - 14th Century
					Mussel	1		
						Total	77	

Species Distribution		
Species	Quantity	Percentage
Mussel	35	45.45%
Oyster	38	49.35%
Quahog	2	2.60%
Limpet	1	1.30%

Periwinkle	1	1.30%
Total	77	100.00%
Date		
Date	Quantity	Percentage
13 - 14th	43	55.8441558

Appendix 2G Leather Analyses

[this page is blank; the report follows overleaf]

The leather from 28-30 The Close, Newcastle Upon Tyne, Tyne and Wear (AA0146)

©Quita Mould 2018

Submitted to Addyman Archaeology 25th September 2018

Methodology

All the leather recovered has been catalogued for the site archive and working drawings of the principal items have been made. The leather is summarised below, and the full leather catalogue is appended to this document. The leather catalogue numbers have been used in the text and are given within brackets (), items with working drawings are indicated with an asterisk (*). All measurements are in millimetres (mm), + indicates an incomplete measurement. No allowance has been made for any shrinkage, or expansion, during burial and subsequent storage. Leather species were identified by hair follicle pattern using a low-powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. The grain pattern of sheep and goat skins are difficult to distinguish and have been grouped together as sheep/goat when the distinction could not be made. Similarly, the term bovine has been used when uncertainly arose between mature cattle hide and immature calfskin. Soles and sole repairs are assumed to be of cattle hide, unless stated otherwise. The terms employed are those in common use in the archaeological literature, the seams, constructions and drawing conventions are fully described by Goubitz (Goubitz 1984; Goubitz et al. 2001) and Volken (2014).

Condition: The leather was excavated between May and July 2009 and has been in storage since this time. It is wet and washed. It is in good, robust condition and is currently stored wet in double, self-sealing, polythene bags. While wet it should be kept cool and the light excluded. Three bags of leather (SF39, 51, 65) had dried out in storage following excavation and, as much soil adhered obscuring diagnostic features, the leather was carefully rehydrated, unfolded and washed to allow identification.

Introduction

Thirty-five items of leather were found at excavations at 28-30 The Close, Newcastle. They were recovered from the North West Room and the Front Room from deposits associated with the medieval development of the foreshore during the 13-14th centuries. The leather comprised chiefly of shoe parts, along with straps, a disc, and a very small amount of secondary waste. Many of the items were broken and heavily worn, and few were complete.

The North West Room: The largest group of leather (18 items) came from a major dumping deposit (068), 0.50mm deep, comprising several individual small dumping episodes suggesting a short period of deposition. The leather occurred throughout the deposit and not as a single dumping episode (Macfadyen et al. 2018: 35). A smaller amount of leather was found in similar humic silt dumping deposits (057/067) directly above (5 items) and in mixed waterlogged soils (094) likely re-deposited in a wall foundation cut (1 item).

The Front Room: Leather was recovered from waterlogged organic silts (084) in the Front Room (10 items) with a single item coming from humic, dark brown silt deposits (086/090), similar to those in the North west Room (057/067).

The leather found in these two locations did not differ significantly and is considered as a single assemblage below.

The shoes

All the shoe parts recovered came from shoes of randed, turnshoe construction. It is estimated that parts from at least ten shoes were present, based on a count of the shoe soles recovered, occurring in both adult and child sizes. This is likely to be an under estimation, however, in view of the highly fragmentary nature and poor condition of the parts recovered. The better preserved turnshoe soles (**10***, **17**, **20***, **24**) were relatively broad with oval toes, of a shape consistent with a date in the 13th and 14th centuries. Three soles (**6**, **25**, **30**) had been made with separate foreparts and seats joined with a seam across the waist, a feature, commonly seen at this time, that allowed the use of smaller pieces of leather, either for economy or repair. Four soles (**1**, **27**, **30**, **32**) had stitching from repair to the tread or seat areas. Sole repair patches, known as clumps, were found occurring separately having been removed from the soles before being thrown away. One clump (**4**) had itself been repaired before being discarded, two (**26**, **34**) had been made from old shoe soles. One sole (**10**), of large adult male size, had been subject to a crude repair by the owner, using leather thong to re-join the shoe upper (now missing) to the sole.

The remains of shoe uppers were fragmentary with few indications of the shoe style surviving. Only one shoe (**35***), from mixed waterlogged soils (094) in the North West Room, had any indication of the shoe style preserved. Though much torn with few diagnostic features surviving, what remained comprised part of an ankle boot, technically an 'ankleshoe', of sheep/goatskin, that fastened up the centre front of the foot. The knotted ends of three of the fastenings survived, along with part of a broken toggle-hole strap or the base of a divided lace, showing that the boot had fastened with 'tailed' toggles (essentially knotted thongs) or rolled toggles (thongs with rolled 'button' terminals) and toggle hole straps. Fastenings of these types have a relatively wide timescale. Ankle boots of this style with a toggle strap fastening have been found in late 13th century deposits in the City of London (Grew and de Neergaard 1988, 59 figure 93). Boots fastening with rolled toggles (Volken Payerne style) and tailed knot fastenings (Volken Feiburg style) were very popular in the late 13th and 14th centuries throughout NW Europe (Volken 2014: 152-3 and figure 209) and occur in 14th and 15th century contexts in the Netherlands (Goubitz variant of Type 75, Goubitz 2001:201 and 204 figure 10a and Goubitz Type 104, Goubitz 2001: 237, 240 figure 9). In Newcastle examples have been found amongst the 13th-14th century assemblage from Queen Street close by (Dixon 1988: 94, 96 nos. 194, 197 and figure 34).

The remains of other shoe uppers of sheep/goatskin (**13**, **14**, **19**) and bovine leathers (**9**, **12**, **17***, **18**, **21**) were found in dumping (068) in the same room. The front part from an oval-toed ankleshoe or boot (**17***) of cattle hide had no fastening surviving. It had been slashed above the lasting margin, by the wearer, to relieve the pressure on a painful toe joint. A fragment of cattle hide (**18**) had a crude fastening hole for a thong or lace. Another, of worn bovine leather (**21**), had a pair of small thong slots from a drawstring fastening, however, the slots lacked any thong impressions or other wear and appeared unused. Drawstring fastening ankleshoes were found in the 13th-14th century group from Queen Street (Dixon 1988: Nos 192-3, figure 93). Torn fragments of sheep/goatskin (**14**, **19**), including a possible piece of topband (**13**) (a narrow strip decorating the top edge of a shoe), may all come from a shoe upper. The larger fragment (**19**), however, had a distinct, oblique fold present that appears original, suggesting it might be torn from a purse. If this is the case, a length of narrow thong with a knotted end (**15**) from the same context may be the drawstring used to close the mouth of the purse, while the narrow strip with grain/flesh stitching (**13**), found with it, may be a 'bead' inserted within the seam (**13**), rather than a topband from a shoe.

The straps

Two plain straps of cattle hide with tooled edges (deliberately rounded edges) were found. One (**16**) from the North West Room (068) had been cut from a longer strap. The other (**29***), from the Front

Room (084), had a large horizontal slit, 35mm long, running down the centre, and whip stitching at one end where it had been stitched to larger item.

The disc 23

A small disc of cattle hide (**23***), 4mm thick, was also found in the dumping deposit in the North West Room (068). The disc has a central hole made by an awl or the tip of a knife blade, the sides are slightly irregularly cut. The disc has a slightly dished profile and the extent of wear, evident on both faces, suggests it was made from a piece of reused leather. The dished appearance may also suggest it had been used as a simple button, examples of which of late medieval and early modern date are known (medieval for example Exeter, Friendship-Taylor 1984: 327, L.20 and figure 184, 20; 17th-early 18th century for example Skálholt, Mould in prep.). That being said, other explanations are possible for such an item. Small perforated discs were used, along with discs of other organic materials such as bone and horn, to make composite handles threaded onto the tangs of knives and other tools. If this disc had been part of such a handle, however, the profile would not be dished, unless by post depositional deformation. Alternatively, the disc may be an offcut from cutting out a washer or gasket from a piece of used leather. Leather washers and gaskets must have been used in large numbers in the pumping equipment needed on board ship.

The nature of the assemblage

The leather represents cobbling waste, that is the remains of unwanted items discarded by a cobbler, once any re-usable leather had been salvaged. It comprises heavily worn shoe parts and a limited range of other items including a discarded seam (**2**), several with secondary cutting (7 of the 35 items). Amongst the assemblage is a piece of leather (**3**) cut from a shoe part, found in the North West Room (057), with knife cuts present on the grain surface suggesting it had been used as a temporary cutting platform when on the cobbler's workbench. At this time the cobbler repaired worn shoes and refurbished old shoes for resale. Two waste trimmings of bovine leathers (**5, 22**) were also found in the North West Room (067, 068); such a small quantity of waste leather is likely to derive from the repair or refurbishment of old shoes rather than the manufacture of new items. Leather found in contemporary deposits at Queen Street was also considered to be cobbling waste (Dixon 1988: 93). Two side-lacing shoes of similar date found further along the road at 46-54 The Close (Platell et al. 2013: 198-200) showed no secondary cutting and appear to be the result of domestic rubbish disposal rather than the disposal of floor sweepings from a workshop.

References

- Dixon, S. 1988 'The Leather'. In O'Brien, C., Brown, L., Dixon, S. and Nicholson, R. *The origins of the Newcastle Quayside*, Society of Antiquaries of Newcastle upon Tyne Monograph 3, 93-103
- Friendship-Taylor, D.E. 1984 'The leather'. In J.P. Allen *Medieval and post-medieval finds from Exeter, 1971-1980*, Exeter: Exeter City Council and the University of Exeter, 323-333
- Goubitz O., 1984 The drawing and registration of archaeological footwear, *Studies in Conservation* 29, No 4, 187-196.
- Goubitz, O., van Driel-Murray, C. and Groenman-van Waateringe, W. 2001 *Stepping through Time. Archaeological Footwear from Prehistoric Times until 1800*, Zwolle: SPA.
- Grew, F. and de Neergaard, M., 1988 *Shoes and Pattens, Medieval finds from excavations in London: 2*. London: HMSO.

Macfadyen, K., Addyman, T. and Karsgaard, P. 2018 *28-30 The Close, Newcastle Upon Tyne, Tyne and Wear Archaeological Excavations: 2007-2010*. Unpublished report for The Tyne and Wear Building Preservation Trust/ Buttress (Newcastle) May 2018.

Mould, Q. In prep. 'The leather finds' in Lucas, G. (ed.) *Skálholt Excavations 2002-7*. Reykjavik: Institute of Archaeology.

Platell, A.C., Mole, J. L., Cumberpatch, C. G., Gutierrez, A., Martin, T. S., Mould, Q., Wilmott, H. and O'Brien, C. 2013 'Excavations at 46-54 The Close, Newcastle upon Tyne,' *Archaeologia Aeliana* 42, 181-206.

Volken, M. 2014 *Archaeological Footwear: Development of shoe patterns and styles from Prehistory till the 1600's*, Zwolle: SPA-Uitgevers.

Catalogue of leather from 28-30 The Close, Newcastle Upon Tyne, Tyne and Wear (AA0146) In context order

Context 057

1 Leather turnshoe sole, left foot, adult size, cut. Part of a sole with a petal-shaped tread, distinct waist of medium width and a wide upper seat area. Edge/flesh seam, stitch length 8mm. The toe and seat have been cut off as has the right edge (medial side) area at the great toe joint. The sole edge at the area of the little toe has been worn away. Worn stitching from the attachment of clump repair runs obliquely across the tread and across the upper seat. Incomplete. Leather cattle hide. Surviving length 135mm, width tread 81+mm, waist 48mm, seat 69mm. **AA0146, 057, SF22.1**

2 Leather cut down seam. Whip stitched edge/flesh seam, stitch length 5mm, cut from a larger item, presumed to be a shoe upper, and discarded. Complete. Leather worn cattle hide c. 3mm thick. Length 154+mm, width 4-9mm. **AA0146, 057, SF 22.2**

3 Leather offcut/cutting platform. Piece with cut and broken edges; a slightly curving cut edge, a straight cut edge and the beginning of a third cut edge, the rest are broken. A pair of small holes, spaced 20mm apart, are present c. 30mm from the straight edge. A series of at least eight small, random holes (not stitch holes) are close to the broken edges with a series of horizontal and vertical scored lines cutting through the grain surface only suggesting it had been used as a temporary cutting platform. Leather worn (not heavily) bovine, cattle hide 2.5mm thick. Surviving length 110+mm, width 60mm. **AA0146, 057, SF67**

Context 067

4 Leather clump repair. Oval-shaped piece, worn away down one side with tunnel stitching around the edge of the flesh side of the remaining original edges. A line of heavily worn stitch holes runs obliquely across the grain side of the clump marking where a second repair patch had been attached. Leather worn, but not excessively, cattle hide max 6mm thick. Complete. Length 109mm, surviving width 62+mm. **AA0146, 067, SF35**

5 Leather secondary waste trimming. Trimming slightly tapering in width, torn at each end. Leather heavily grained but worn bovine c. 2mm thick. Length 99+mm, width 5-10mm. **AA0146, 067, SF42**

Context 068

6 Leather turnshoe two-part sole seat, right foot, adult size. Complete sole seat with edge/flesh seam, stitch length 8mm, continuing across the waist area. The seat is worn and the seam is broken away around the exterior (lateral) edge. Now distorted and with a U-shaped profile. Leather cattle hide. Length 93mm, width c. 85mm. **AA0146, 068, SF25.1**

7 Leather clump repair, cut. Complete clump repair worn away down the right side with the left side cut off. Worn tunnel stitching on the flesh side along the surviving edges. Leather cattle hide. Length 82mm, width 51mm. **AA0146, 068, SF25.2**

8 Leather rand. Rand 10mm wide with butted edge/flesh seam, stitch length 7mm. Incomplete. **AA0146, 068, SF25.3**

9 Leather upper fragments. Three fragments broken from shoe upper, each with an area of butted edge/flesh seam, stitch length 3mm surviving. Incomplete. Leather worn bovine max 3mm thick. 69+x50mm; 66+x47+mm, 58+x36+mm. **AA0146, 068, SF25.4**

10 Leather turnshoe sole, right foot, adult size. Complete sole with oval toe, wide petal-shaped tread, medium/wide waist and long wide seat. Edge/flesh seam, stitch length 7mm, the edge of the seam worn off at the great toe joint, little toe joint and exterior (lateral) of seat. Heavily worn with a hole in the centre of the tread. Large oval holes are present along the entire length of the inner (medial) edge and at the exterior seat from thonging from a crude repair to attach the upper to the sole. Leather thong, 4mm wide, survives in three of the holes. Leather cattle hide. Length 290mm, tread width 108mm, waist width 57mm, seat width 70mm. Estimated equivalent shoe size Adult 9(43)-10(44.5). **AA0146, 068, SF31.1**

11 Leather turnshoe sole fragment, cut. Sole fragment with edge/flesh seam, stitch length 7-8mm and two cut edges, other edges worn and torn away. Incomplete. Leather cattle hide. Surviving length 100+mm, max width 62+mm. **AA0146, 068, SF31.2**

12 Leather shoe upper fragments. Fragment of **lasting margin**, with small stitch holes above from a repair, cut from a shoe upper. Incomplete. Leather worn presumed bovine, c. 2mm thick. Surviving length 96+mm, max width 14mm. **Upper** fragment, now torn into 2 and possibly 3 pieces, with a butted edge/flesh seam, stitch length 3mm, other edges broken. Incomplete. Leather worn bovine c. 2.5mm thick. Surviving length 85+x55+mm. Small fragment of broken **edge/flesh seam**. Incomplete. 27+x5+mm. **AA0146, 068, SF31.3**

13 Leather topband or bead. Narrow strip with a grain/flesh seam, stitch length 5mm either a topband or possibly a flat rand or bead for a seam. Complete. Leather unworn sheep/goatskin 1mm thick. Length c. 85mm, width 4-5mm. **AA0146, 068, SF31.4**

14 Leather fragment. Small fragment of thin leather with no distinguishing features surviving, now folded and torn. Incomplete. Leather sheep/goatskin c. 1mm thick. **AA0146, 068, SF31.5**

15 Leather drawstring. Narrow thong with knotted end, the other end is torn. Incomplete. Leather worn, presumed bovine, c. 2mm thick. Length 212+mm, width 3mm. **AA0146, 068, SF31.6**

16 Leather strap, cut. Plain strap with tooled (rounded) edges, a concave curving edge has been cut in one end, the other end is torn off. Upper (grain) and lower (flesh) surfaces are worn. Incomplete. Leather cattle hide 3mm thick. Surviving length 193+mm, width 18mm. **AA0146, 068, SF31.7**

17 Leather shoe upper, probably left foot, adult size. One-piece upper, forepart only, now broken into two pieces. Lasting margin, stitch length 5-6mm. The upper has a large hole worn through the oval toe, the throat area is broken, with a small area of the bottom of the side seam remaining on the right (inner medial) side. A vertical slash, 90mm in length, is present running 30mm above the lasting margin from the toe to the waist area to relieve the pressure on a painful toe joint. Incomplete. Leather worn cattle hide c. 2.5mm thick. Had dried out, carefully rehydrated and unfolded. Length toe to side seam c. 212mm. **AA0146, 068, SF39**

18 Leather fragment. Fragment with all edges torn. A small V-shaped cut with the two sides rolled back to make a thong slot or fastening hole is present, with the impression from a narrow thong passing through the hole from the interior (flesh side) to the exterior (grain side). Incomplete. Leather delaminating bovine max. 3mm thick. 93+x42+mm. **AA0146, 068, SF60.1**

19 Leather small panel. Rectangular piece with plain cut edges and an area torn away from one corner of one of the shorter sides. A row of small stitch or tack holes runs along the surviving short side, worn away in the centre but clearly visible toward each end. No stitch impressions are visible on the grain or flesh side suggesting they made be tack holes. A fold running close to this edge at a slightly oblique angle appears original. Incomplete. Leather sheep/goatskin c. 1.5mm thick. Length 181mm, max width 52mm, min width 43mm. **AA0146, 068, SF60.2**

20 Leather turnshoe sole, right foot, adult size. Complete sole with oval toe, petal-shaped tread, wide waist and seat. Edge/flesh seam, stitch length 7mm. Heavily worn with a hole worn through at the toe and in the tread, the little toe area and the exterior (lateral) seat worn away. No sign of repair. Length 264mm, tread width 98mm, waist width 60mm, seat width 73+mm. Estimated equivalent shoe size Adult 6(39.5). Also 3 pieces of **rand** 8mm wide. **AA0146, 068, SFNN.1**

21 Leather upper fragment, heavily worn. Sub-rectangular fragment with a heavily worn grain/flesh seam, stitch length 10-15mm along the one straight edge. Grain/flesh stitch holes also occur in a more random pattern around the other torn/worn edges. A pair of small thong slots, 3mm long and spaced 10mm apart, are present c. 20mm from the straight edge, no wear impressions are visible and they appear unused. Possibly a repair patch made from a shoe part. Incomplete. Leather worn bovine c. 2mm thick. 110+x80mm. **AA0146, 068, SFNN.2**

22 Leather waste, secondary. Elongated triangular trimming, the tapering end now torn. Almost complete. Leather unworn cattle hide c. 3.5mm thick. Length 112+mm, width max 33mm, min 10mm. **AA0146, 068, SFNN.3**

23 Leather disc. Hand cut disc with central, awl or knife made hole. The hole contains iron corrosion products, but this may be secondary. Now with a slightly dished profile, worn on both surfaces. Complete. Leather worn cattle hide max 4mm thick. Diameter 35mm. **AA0146, 068, SFNN.4**

Context 084

24 Leather turnshoe sole, right foot, adult size. Complete sole with oval toe, petal-shaped tread, medium waist and long medium/wide seat. Edge/flesh seam, stitch length 5mm. Hole worn through at the toe and the exterior (lateral) side of the tread area worn away with a hole broken in the centre. No repair. Complete. Length 245mm, tread width 95mm, waist width 40mm, seat width 60+mm. Estimated equivalent shoe size Adult 4(37). **AA0146, 084, SF48.1**

25 Leather two-part turnshoe sole forepart, left foot, child size. Complete sole forepart with oval toe, petal-shaped tread and medium waist. Edge/flesh seam, stitch length 6mm around edge and

continues across the lower waist. No pronounced wear but the seam is worn at the inner (medial) tread area. Complete. Length 131mm, tread width 68mm, waist width 33mm, lower waist width 39mm. **AA0146, 084, SF48.2**

26 Leather clump repair. Very heavily worn shoe bottom component with edge/flesh seam, stitch length 6-7mm, just visible running down the left side and heavily worn tunnel stitching around the edges. Appears to be a clump repair piece cut from the waist area of a turnshoe sole. Complete. Length 82mm, width 62mm. NB barely legible label interpreted as (084) SF49. **AA0146, 084, SF49.**

27 Leather turnshoe sole, left foot, adult size. Sole with oval toe, petal-shaped tread, medium waist, torn away across the upper seat area. Edge/flesh seam, stitch length 7mm. Worn tunnel stitching on the grain side from a repair clump to the tread. The edge of the seam is worn away at the toe, with a hole worn through the centre of the tread and at the little toe joint. Now broken in two across the lower tread. Had dried out, carefully rehydrated and unfolded. Incomplete. Surviving length 172+mm, tread width 83mm, waist width 41mm, upper seat width 49+mm. **AA0146, 084, SF51.1**

28 Leather turnshoe sole, left foot, child/adolescent size. Sole with lower part of petal-shaped tread, medium waist and seat, upper tread and toe area broken off and missing. Edge/flesh seam, stitch length 7mm. Edge of the seam broken away at the tread, down right side and lower edge of seat. No sign of repair. Large iron concretion on the flesh side at the waist (does not penetrate to the grain side). Had dried out, carefully rehydrated and unfolded. Incomplete. Surviving length 148+mm, tread width 74mm, waist width 31mm, seat width 43+mm. **AA0146, 084, SF51.2**

29 Leather strap. Strap with plain cut, tooled (rounded) edges. One straight end has worn ?whip stitching, the other is torn. A large horizontal slit, 35mm long, runs horizontally along the middle of the strap c. 18mm from the stitched edge. Incomplete. Leather worn bovine c.2.5mm thick, delaminating on the flesh side. Had dried out, carefully rehydrated and unfolded. Surviving length 150+mm, width 15mm. **AA0146, 084, SF51.3**

30 Leather two-part turnshoe sole forepart, right foot, adult size. Complete sole forepart with oval toe, petal-shaped tread and medium waist. Edge/flesh seam, stitch length 7mm. Seam much worn around the edge, worn at the great toe area and a hole worn through the tread at the great toe joint. Heavily worn stitching on grain side from a repair to the inner (media) side of the tread and toe. Now folded. Complete. Length 204mm, tread width 98mm, waist width 45mm, lower waist width 55mm. **AA0146, 084, SF63**

31 Leather turnshoe sole, right foot, adult size. Forepart of sole with oval toe, petal-shaped tread and medium waist, torn away obliquely across the waist and the seat missing. Edge/flesh seam, stitch length 7-8mm. Now broken into two large pieces and one small piece of seam. Sole is worn away at the toe and a large hole worn at the centre of the tread and along the seam. No sign of repair. Incomplete. Had dried out, carefully rehydrated. Surviving length 211+mm, tread width 105mm, waist width c. 50mm. **AA0146, 084, SF65.1**

32 Leather turnshoe sole seat. Seat area torn from a heavily worn sole torn away obliquely across the upper seat area. A heavily worn edge/flesh seam, stitch length 8mm, on the left side with three larger holes from repair, possibly peg holes. The other edges are worn away. Does not join or belong to SF65.1. Incomplete. Had dried out, carefully rehydrated. Surviving length 68+mm, width 54+mm. **AA0146, 084, SF65.2**

33 Leather turnshoe sole fragment. Fragment of heavily worn leather with a curving worn edge, other edges are both worn and torn away. No stitching or other diagnostic features survive but wear

suggests it is broken from a sole seat. Incomplete. Surviving length 88+mm, width 49+mm. **AA0146, 084, SF65.3**

Context 086/090

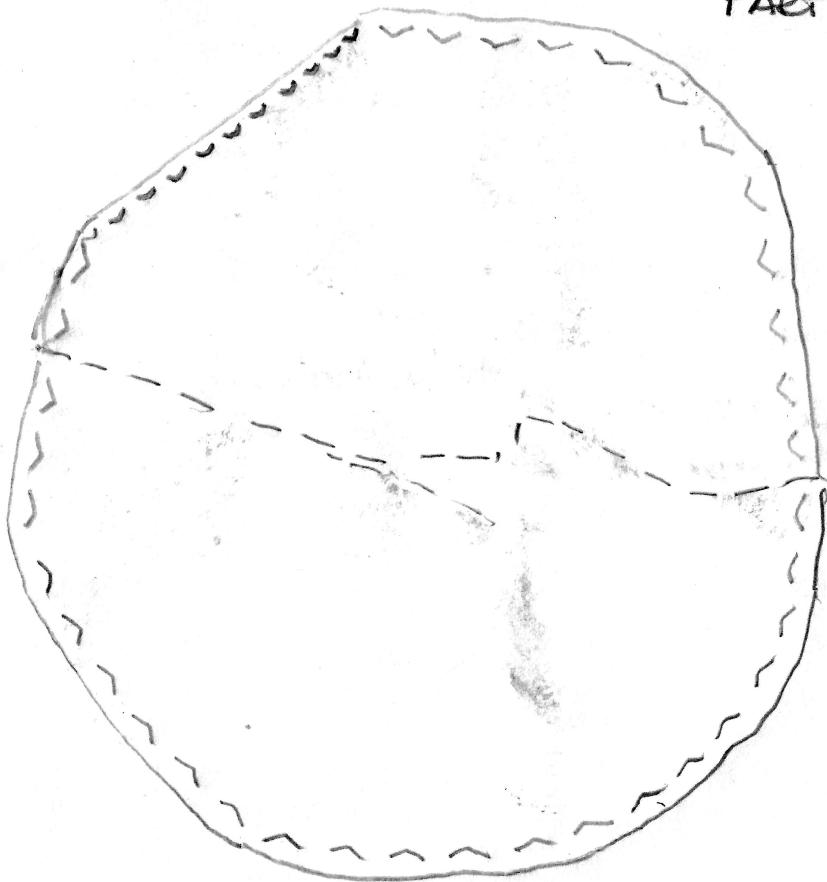
34 Leather turnshoe sole/clump repair, cut, left foot, adult size. Forepart of sole with oval toe and petal-shaped tread cut away across the lower tread area. A small area of edge/flesh seam survives on the left (lateral) side for c. 40mm, the rest of the seam has been cut off down the left and right sides. Oval toe area worn away and centre of tread is broken where the leather is much thinned. A worn turnshoe sole that has been cut down to make a clump repair. Complete. Length 118mm, tread width 96mm. **AA0146, 086/90, SF55.**

Context 094

35 Leather turnshoe, toggle fastening, fragmentary. Shoe parts, principally upper fragments of sheep/goatskin, torn into several pieces. **Turnshoe sole**, small piece torn from the edge of a turnshoe sole from the right side of an oval toe, with an edge/flesh seam, stitch length 7mm. Incomplete. c. 72+x15+mm. **Rand** fragment, 8mm wide, stitch length 6mm. **Upper** fragment (working drawing A), sub-rectangular fragment now torn into 5 joining pieces A straight edge/flesh seam that extends into the beginning of a very heavily worn, broken edge with occasional grain/flesh stitches from the lasting margin, with impression and matching stitching on flesh side to attach the heel stiffener (see below). The edge/flesh seam meets a second at a right angle, this has a thong present on the grain side with a knotted tail on the flesh side. The opposite edge is very heavily worn and torn but the knotted tails of a further two thongs are present on the flesh side. Incomplete. Leather heavily worn. 176+170+mm. Matching **heel stiffener**, one side broken, with lasting margin, stitch length 6mm, and whip stitched top edge. Incomplete. Leather heavily worn ?bovine 2mm thick. Height 75mm surviving length 65+mm. **Upper** fragment (working drawing B), comprising 3 joining pieces, with an angled edge/flesh butted seam, stitch length 6mm continuing into a V-shaped edge/flesh butted seam, stitch length 3mm. Incomplete. Leather heavily worn sheep/goatskin c. 2mm thick. Estimated 170+x130+mm. **Upper** fragment, rectangular piece with a straight butted edge/flesh seam, stitch length 5mm, meeting a straight, finely whip stitched edge/flesh butted straight seam at a right angle. Incomplete. Leather sheep/goatskin c. 1.5mm thick. 60+x54+mm. **Upper insert** (working drawing c), sub-circular piece, now torn into 2 joining pieces, with a butted edge/flesh seam, stitch length 5mm around the edge, but changing for c. 45mm into a straight, more finely stitched seam, stitch length 2-3mm. Complete. Leather sheep/goat 2mm thick. 114x113mm. **Upper** fragment, sub-rectangular with a straight butted edge/flesh seam meeting a straight, finely whip stitched edge/flesh butted seam at right angles Incomplete. Leather sheep/goatskin 2mm thick. 54+x61+mm. **Topband**, piece of narrow, folded topband 3mm wide, curving. Surviving length c. 58mm. Split thong fragment, torn from a **toggle fastening**. Surviving length 35mm, max width 8mm. Other small fragments broken from the upper. **AA0146, 094, SF73**

The Close, Newcastle (0914) Δ 73c

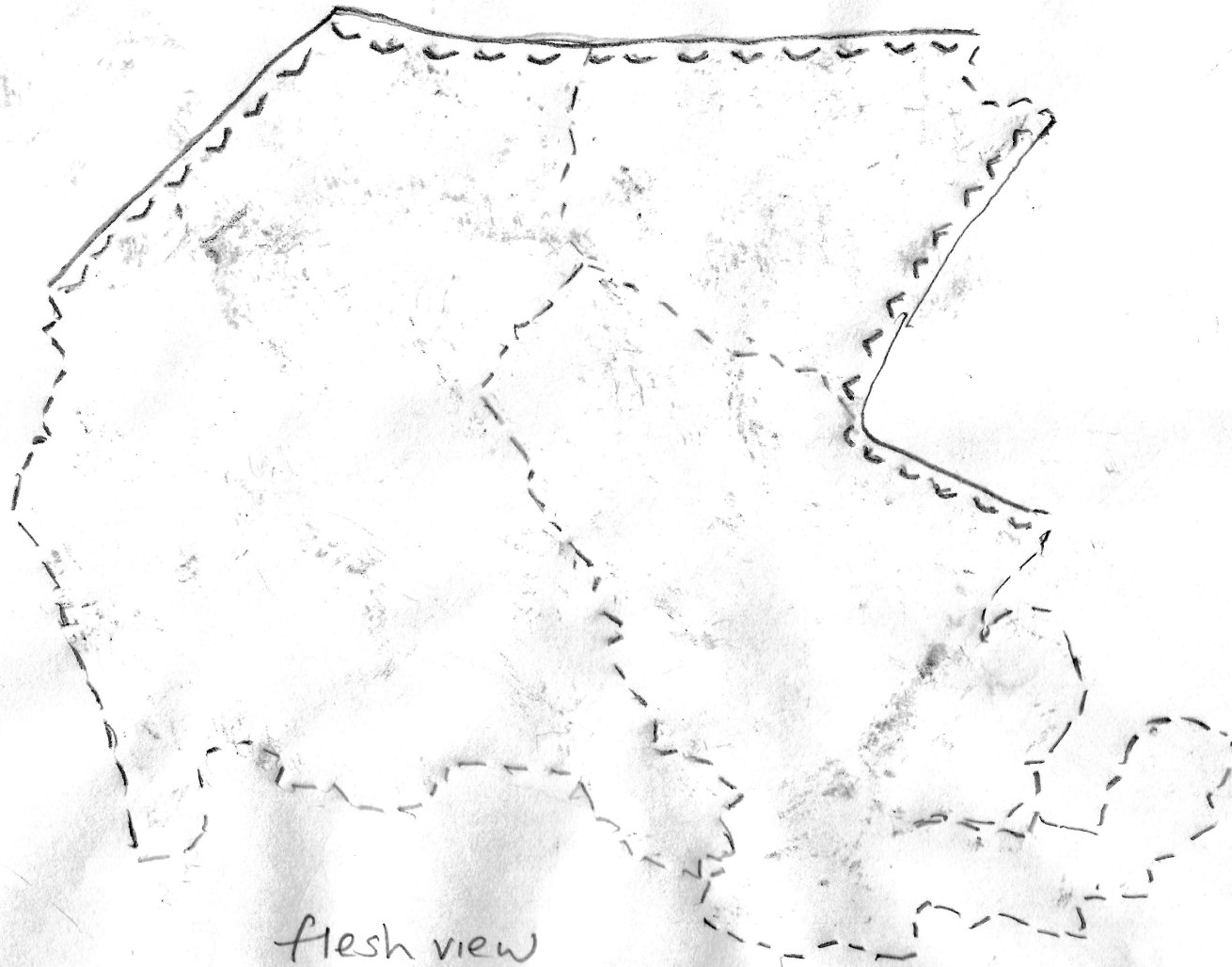
PART OF CAT N^o. 35



flesh view
scale 1:1.

B.

The Close, Newastle (0914) Δ 73 B
PART OF CAT NO. 35

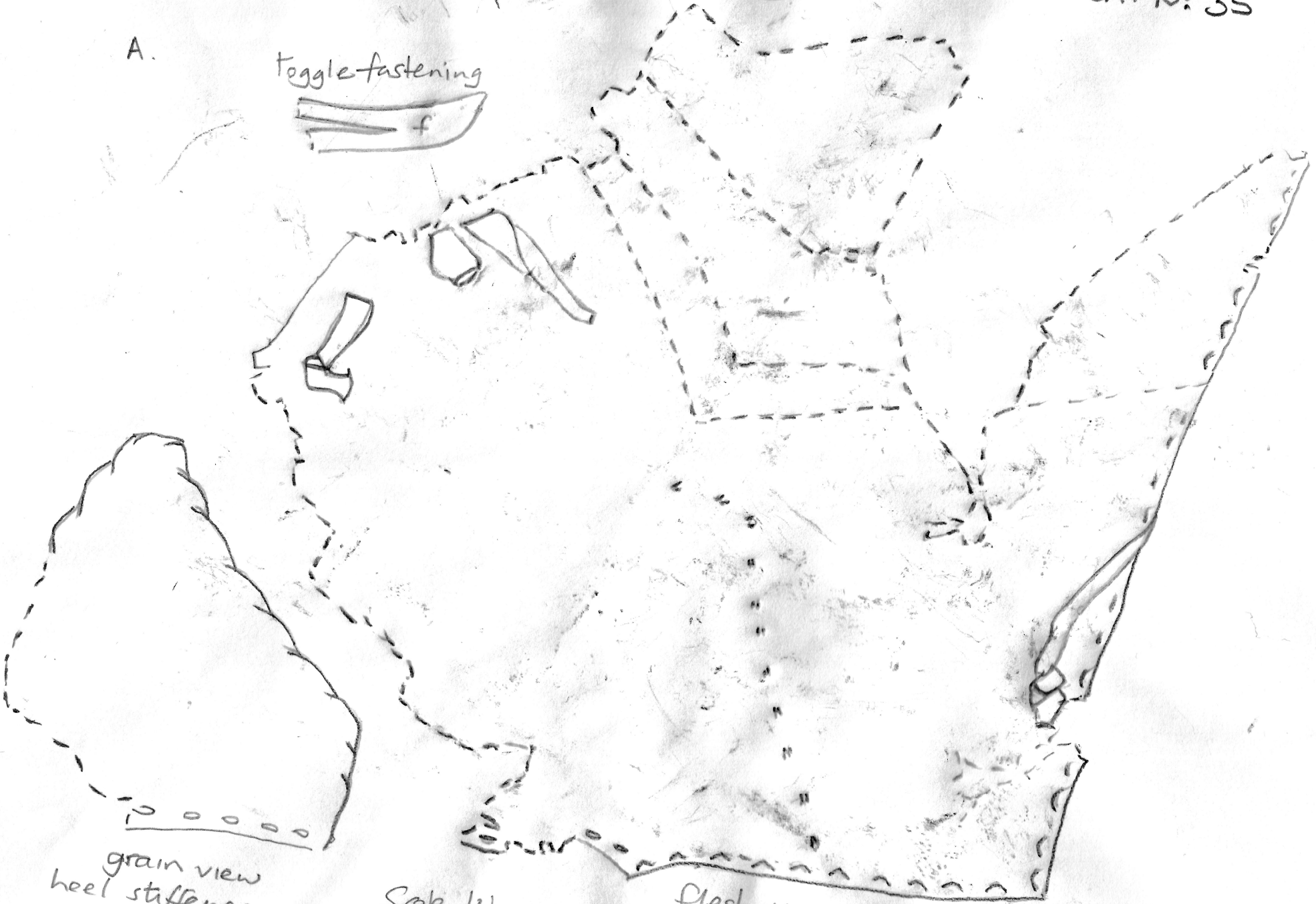


flesh view
Scale 1:1

The Close, Newcastle (094) Δ 73A PART OF CAT N° 35

A.

toggle fastening

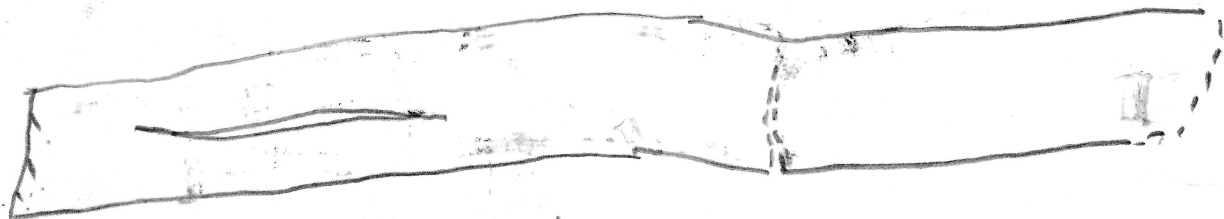


grain view
heel stiffener

Scale 1:1

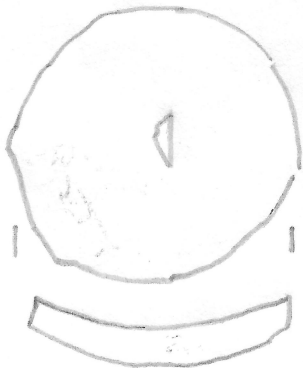
flesh view
upper.

The Close, Newcastle (084) Δ 51.3 CAT NO 29

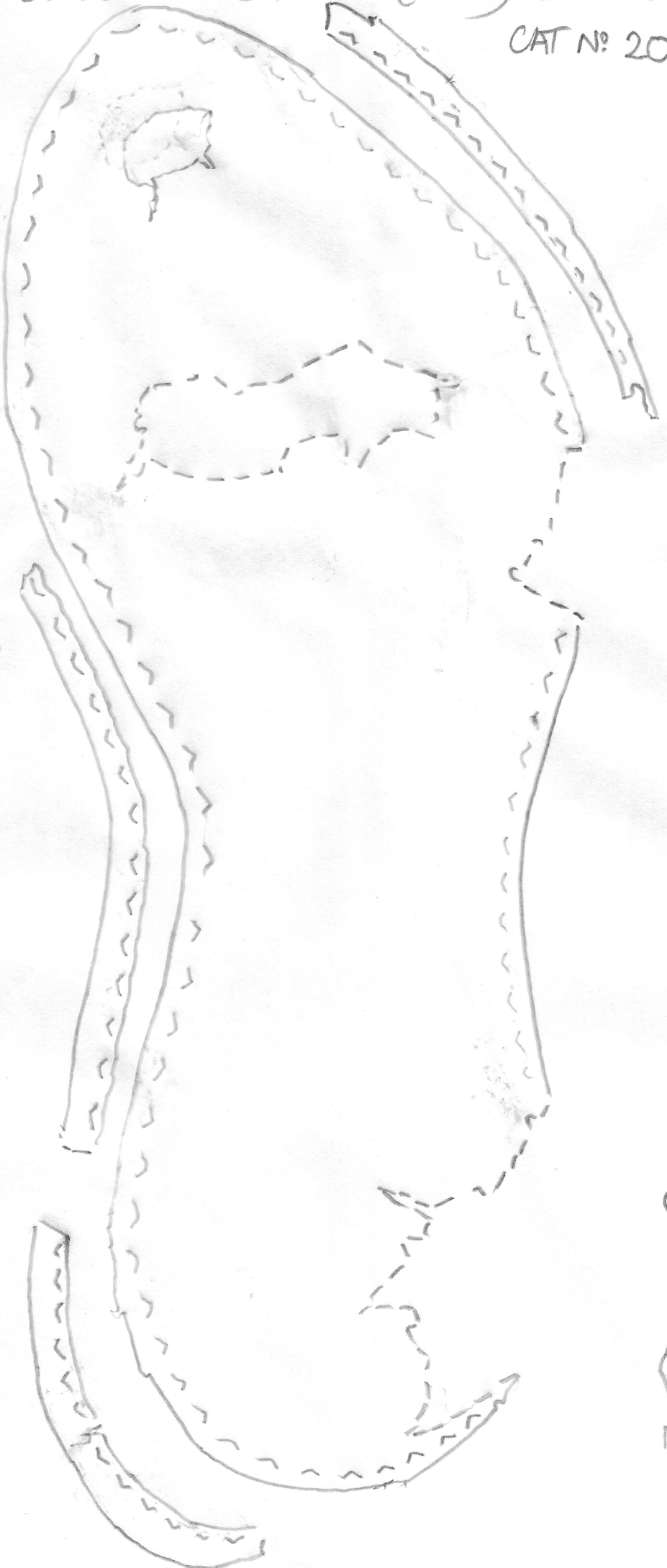


flesh view
Scale 1:1

(068) Δ NN. 4
CAT N. 23



The Close Newcastle (068) Δ NN.1
CAT No 20

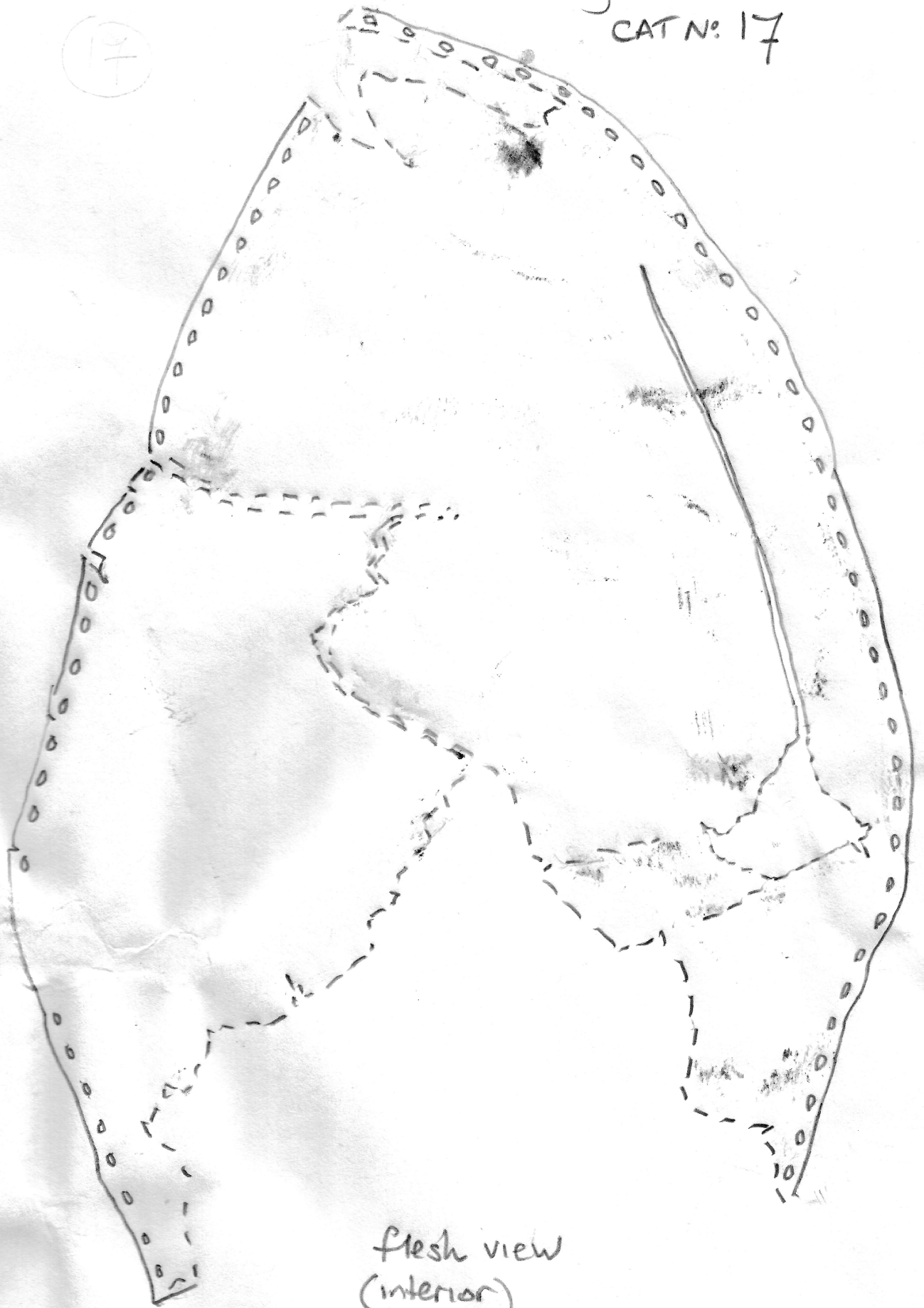


Col
-

The Close, Newcastle (068) Δ39

CAT N^o. 17

17

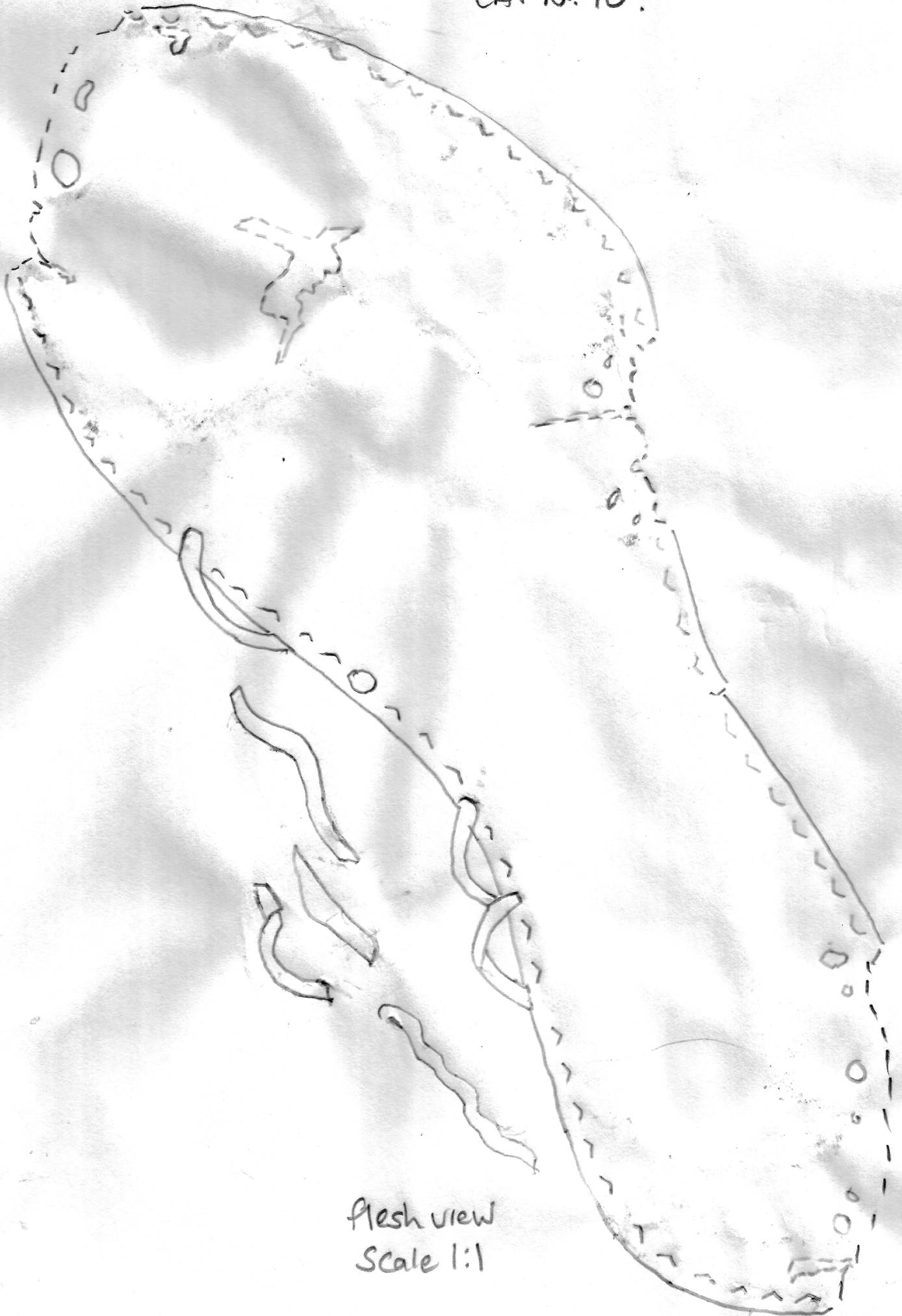


flesh view
(interior)
Scale 1:1

The Close, Newcastle

(068) Δ3D.1

CAT No. 10.



flesh view
Scale 1:1

Appendix 2H Palaeoenvironmental Analysis

[this page is blank; the report follows overleaf]

ARCHAEOLOGICAL
SERVICES
DURHAM UNIVERSITY

on behalf of
Addyman Archaeology

28-30 The Close
Newcastle
Tyne and Wear

palaeoenvironmental analysis

report 4954
December 2018

Contents

1.	Summary	1
2.	Project background	2
3.	Methods	2
4.	Results	3
5.	Discussion	4
6.	Sources	7
	Appendix 1: Data from palaeoenvironmental analysis	9
	Appendix 2: Detailed results from charcoal analysis	11
	Appendix 3: Detailed results from wood analysis	12

1. Summary

The project

- 1.1 This report presents the results of palaeoenvironmental analysis of seven bulk samples taken during archaeological works at 28-30 The Close, Newcastle, Tyne and Wear and analysis of both wood fragments recovered from these samples and associated hand-recovered wood fragments.
- 1.2 The works were commissioned by Addyman Archaeology, and conducted by Archaeological Services Durham University.

Results

- 1.3 A wide variety of uncharred botanical remains survive due to the waterlogged conditions. Many of these likely relate to domestic waste deposits or have been accidentally incorporated during infill of the riverside. They include a range of weeds probably deriving from the damp local environment as well as some arable weeds which may have been brought in accidentally with cereal crops. Wild-gathered foodplants are present including fruits and nuts such as plum, bramble and hazelnuts. The presence of fig, an exotic taxa, in two samples provides evidence of some distant trade. Weld, a dye plant was noted in two samples. While charred plant remains were limited the suite of both charred and uncharred remains fits well into the general palaeoenvironmental picture of urban Newcastle during the medieval period.
- 1.4 The charcoal and wood assemblages were dominated by natural or at most minimally-converted roundwood fragments likely largely deriving from the local damp foreshore area and included examples of alder, hazel, oak and willow/poplar. Where working was noted on roundwood this was largely restricted to conversion of one end to rough oblique points or radial splitting. Some of these pieces may potentially be associated with the foreshore reclamation at the property for example as stakes or trimmed to form withies or hurdles. Some larger oak stemwood fragments were also present in the deposits with these tending to show clearer evidence of working. Charcoal was limited and likely derives from domestic hearth waste.

2. Project background

Location and background

- 2.1 Archaeological works were conducted by Addyman Archaeology at 28-30 The Close, Newcastle. This report presents the results of analysis of plant macrofossils, wood and charcoal from seven bulk samples and associated hand-recovered wood fragments. The samples derive from possible foreshore reclamation and reconsolidation layers, with properties on the south side of The Close believed to reach to the water's edge, and overlying occupation deposits within the property. The samples are of probable medieval date.

Objective

- 2.2 The objective of the scheme of works was to analyse the palaeoenvironmental remains within the samples as well as further hand-recovered wood pieces in order to provide information about the activities undertaken, diet and patterns of consumption, the palaeoenvironment and evidence of industrial activity within the town.

Dates

- 2.3 The samples and hand-recovered wood fragments were received by Archaeological Services on 24th June 2009. Analysis and report preparation was conducted between 19th November and 16th December 2018.

Personnel

- 2.4 Analysis and report preparation was conducted by Dr Carrie Armstrong. Sample processing was by Jeffrey Lowrey, Ben Matus, Alice Naylor and Laura Watson.

Archive

- 2.5 The Addyman Archaeology project number is **0146**. The flots and finds are currently held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University awaiting collection. The charred plant remains and selected uncharred material will be retained at Archaeological Services Durham University.

3. Methods

- 3.1 The bulk samples were manually floated and sieved through a 500 μ m mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ6 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (2010). Habitat classifications follow Preston *et al.* (2002).
- 3.2 Charcoal analysis concentrated on the >4mm fraction of dry-sieved material. Due to the relatively small quantities of charcoal recovered from each sample, all of the available fragments per context were examined. The transverse, radial and tangential sections were examined at up to x500 magnification using a Leica DMLM microscope. Waterlogged wood fragments were hand-washed under cold running water, following English Heritage (2010) guidelines. The items were visually

examined under both natural and artificial light to record any obvious external features such as evidence of working, following the methodologies of Goodburn (1991) and Sands (1997). Maximum dimensions of the wood fragments were recorded. Small roundwood fragments with no visible working were grouped by visual appearance with selected examples identified to species. All fragments with visible working were identified to species. A small wood sample was removed from pieces, avoiding areas of working, to provide unexposed surface sections for species identification. Temporary thin sections in transverse, radial and tangential planes were examined using a Leica DMLM microscope at up to x500 magnification. Identifications were assisted by the descriptions of Hather (2000) and Schweingruber (1990), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University.

- 3.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

4. Results

- 4.1 The samples contain material typical of medieval and post-medieval urban sites incorporating domestic waste, with bone (both burnt and unburnt), clinker/cinder pot fragments and coal present in all deposits. Anoxic, waterlogged, preservation is confirmed by the survival of significant numbers of uncharred plant remains, vegetative material and tiny wood fragments in all deposits as well as the retrieval of further larger waterlogged wood pieces from [57] and [84]. The presence of animal and fish bone, marine shell, cultivated grains and wild-gathered food remains demonstrates a range of food sources were utilised.
- 4.2 The charred plant macrofossil assemblages are limited, comprising of a single barley grain from [83], a possible rye grain from [57], and a further indeterminate cereal grain from [84]. By contrast all of the samples contain varied assemblages of uncharred plant remains. The absence of obligate aquatic plants suggests that the deposits were not directly associated with permanent standing water, supporting the interpretation that these deposits rather derive from the damp environs associated with the riverine foreshore. The assemblages include a range of economic plants such as fruitstones of bramble and wild plum, fig and wild seeds and hazel nutshells. Weed seeds such as sedges, hemlock, common chickweed, common nettle, redshank and knotgrass which reflect damp, ruderal conditions and arable weed seeds such as corncockle and wild radish are also present. The results are presented in Appendix 1.
- 4.3 Only a small number of charcoal fragments were present in the samples. The charcoal is generally in reasonable condition although some mineral inclusions are noted, especially in material from [83], which in some instances prevents identification. Species present include hazel, alder, heather and oak. Charring was also noted on hand-recovered cf. willow/poplar fragments from [57]. The results are presented in Appendix 2.
- 4.4 The uncharred wood analysis highlights the presence of a wider range of species than seen in the charcoal including alder, hazel, oak, willow/poplar and cf. elder and non-native conifer, alongside indeterminate fragments from all samples. The

internal structure of the majority of the wood is generally well enough preserved to be able to identify the wood to species, albeit many of the pieces were soft and waterworn and some degradation is noted in many of the pieces. The majority of the pieces consist of small-diameter roundwood fragments although fragments from wood pieces of a variety of sizes, from very small diameter roundwood or twigs, to large branchwood/ stemwood are present. Deposits [57] and [84] contain the majority of identifiable wood fragments.

- 4.5 No evidence of working was present on the majority of the small-diameter wood fragments and these may be of natural origin. However while the pieces largely exhibited limited evidence for any conversion a number of the pieces did have an end worked towards a rough point. These derived from a range of species including hazel, alder, oak and willow/poplar although hazel and alder were most common. Similarly, some fragments deriving from larger branchwood or stemwood pieces including oak had clearly been worked, generally roughly with a single face flattened. It is possible that many of these may represent rough off-cuts from working of timber. No clear artefacts were determined. The results are presented in Appendix 3.

5. Discussion

- 5.1 The waterlogged conditions have allowed the preservation of a diverse range of uncharred seeds representative of the local environment. A wide variety of taxa were recorded in low abundances. This low abundance / rich diversity has many similarities with other nearby waterfront sites (Hall & Nicholson 1986; Huntley 1994; Archaeological Services 2005, 2007). The plant macrofossils were likely to have largely accumulated accidentally in the deposits, and included taxa from woodland, wetland, arable, grassland and ruderal habitats suggesting a range of habitats in the vicinity. A similar mosaic of habitats was previously noted at The Close (Archaeological Services 2005), Tuthill Stairs (Archaeological Services 2007) and Trinity Court (Archaeological Services 2014) and is supported by documents which discuss the gradual piecemeal reclamation of the riverside area and periods of reconsolidation during the medieval period (Archeological Services 2005). Many of the plant macrofossils potentially derive from nearby disturbed and waste ground and damp areas, probably relating to species colonizing the rivers edge, with scrubby woodland also providing a source of wild fruits, hazelnuts and roundwood. The presence of such woodland nearby has been previously suggested in the riverside area (Archaeological Services 2007) with disturbed ground in the waterfront area perhaps allowing the formation of opportunistic communities of patchy woodland or scrub. Some of the arable weeds such as wild radish and corn marigold may have been harvested and brought to the site with crops or straw and hay brought into the area for animal husbandry purposes, or again may have been growing locally as ruderal weeds.
- 5.2 Economic plant remains such as hazelnut fragments, bramble, plum and fig may have accumulated in the deposit as a result of the disposal of domestic waste. Such assemblages are typical of medieval and post-medieval waterlogged urban deposits seen elsewhere in Newcastle, for example at the Mining Institute (Archaeological Services 2018a), Clavering Place (Archaeological Services 2016), Stephenson Pocket Park (Archaeological Services 2018b) and Half Moon Yard (Archaeological Services

2015a) and in other North-Eastern urban assemblages such as Darlington Town Hall (Archaeological Services 2015b) and Ripon Market Place (Archaeological Services 2011), where they have typically been interpreted as deposits incorporating consumption waste with indicators also reflecting waste ground in the vicinity of the sites.

- 5.3 While the local environs may have been the source of the range of native fruits represented amongst the edible plant remains, some may also have been brought in deliberately from elsewhere for consumption. In particular, the import of dried fruits is reflected by the presence of non-native fig in both [83] and [84]. Although figs can now be grown in the warmest parts of England (Roach 1985) it is more likely that archaeological finds of fig seeds mostly derive from imported 'luxury' dried fruits (Greig 1996). Fig has been noted in Newcastle deposits from the 12th/13th centuries onwards (Archaeological Services 2007, 2018a; Hall & Nicholson 1986; Huntley 1989, 1994). The presence of fig in these deposits emphasizes the importance of distant trade to the town and the relatively high economic and social status of the area during the medieval period.
- 5.4 Weld seeds were present in deposits [70] and [86]. Weld or 'dyer's rocket' can produce a yellow dye with it being particularly associated with the wool trade during the medieval period although it was equally probably cultivated around the country in small garden plots for domestic use. However, weld also grows naturally on areas of disturbed ground and so the single seeds recovered here do not directly suggest deliberate cultivation, with cloth working sites more typically recording abundant weld seeds (McKenna 1992; Hall *et al.* 1984). Low levels of weld have also been observed at The Close (Archaeological Services 2005) Tuthill Stairs (Archaeological Services 2007) and other waterfront sites from this time (Hall & Nicholson 1986).
- 5.5 Only limited charred cereal remains were recorded within the deposits, preventing a detailed analysis of crop use at the site. Such limited quantities of charred remains is typical of sites that have been excavated along the medieval urban waterfront in Newcastle (for example Hall & Nicholson 1986, Huntley 1994, Archaeological Services 2005, 2007). Such low abundance perhaps suggests that processing took place away from the area, with flour being brought in (Archaeological Services 2005). Grain was traded away from the riverside in areas such as the Bigg Market (formerly Beremarket) area, one of a series of markets which once ran from St Andrew's Church in Newgate Street to south of St Nicholas Cathedral (Graves & Heslop 2013). The terms 'bere' (English) and 'bigg' (Scandinavian) refer to barley and this market was where barley, oats and other cereals were sold.
- 5.6 The cereal grains present (barley and cf. rye) as well as the oat and wheat grains previously observed at the site (Archaeological Services 2018c) fit into the wide range of cereals common from medieval and later sites in northern England (Greig 1991; Hall & Huntley 2007). For example, the quayside excavations at Queen Street (Hall & Nicholson 1986), Crown Court (Huntley 1989), Half Moon Yard (Archaeological Services 2015a), 1-7 Westgate Road (Archaeological Services 2009a-b) and Clavering Place (Archaeological Services 2016) all identified a range of crop plants (typically oats, barley, bread wheat, rye and legumes).
- 5.7 While the charcoal assemblages were limited the majority of the fragments from [57] were alder roundwood with moderate or strong ring curvature, similar to the

waterlogged wood pieces recovered from this deposit. No examples of charred oak were observed in this context, whereas both fragments of oak stemwood (with tyloses noted) and small-diameter oak roundwood charcoal dominated the small assemblage in [70] and only oak charcoal (including stemwood with tyloses present) was recovered from [86]. Charred heather fragments were present in [83] and [84] but not observed elsewhere. Such charcoal assemblages probably represent the remains of hearth waste, although the small fragment size of the charcoal and the limited number of fragments prevents further conclusions.

- 5.8 The predominance of alder and hazel in the wood assemblages with willow/poplar and oak also noted suggests that such taxa were a readily available resource in the local environment. Similar ranges of species have been recorded at other sites in the area and supported by pollen records of the region as potentially being of local origin (Archaeological Services 2014). Wide growth rings noted in some of the alder fragments may represent the typically fast growth of this moisture- and light-demanding species (Claessens *et al.* 2010), probably reflecting an open environment. A few fragments from [57] contained evidence of insect tracks and greater degradation which may indicate that some wood pieces were lying exposed for periods of time (Lyons & O'Donnell 2009). The recording of a single fragment of non-native conifer (cf. fir) wood in deposit [84] is noteworthy as further reflecting trade into the area. However, the atypically hard fresh condition of this piece in comparison to the soft, waterworn nature of most fragments examined may indicate it is a later, intrusive fragment.
- 5.9 Much of the waterlogged wood was at most minimally converted with the majority of working applied roughly to single ends of roundwood pieces to create oblique points, blunt cuts across the transverse plane, or radial splitting/flattening of larger pieces often approximately towards the centre of the piece. Evidence was often difficult to positively identify or interpret as many of the pieces were water-abraded. The pieces themselves appear to not have been needed for firewood and were either discarded with no further use or were being employed at the river's edge, perhaps as some form of thin stakes or posts, wattle withies or hurdles relating to the river reclamation with a mostly natural and unmodified appearance. While there is no clear evidence from the assemblage for wood management techniques, many of the wood fragments are hazel or alder, and the straightness and lack of forks of these species may indicate the presence of some coppiced poles. Many of the fragments are between 6-10mm in diameter, suggesting some size selection with pieces of these size typically being easy to bend and manipulate. Some wider (15mm+) diameter pieces perhaps more suitable for support are also present. Examples of stakes and wicker linings have been found in excavations elsewhere at The Close (Archaeological Services 2005). No evidence of working was present on the majority of the small-diameter wood fragments which were particularly numerous in deposit [57]. Many of these may either have been used in an unconverted form or be of natural origin. None of the wood from [86] exhibited any evidence of working.
- 5.10 More limited numbers of fragments deriving from larger branchwood or stemwood pieces were present in the deposits, and these also demonstrated conversion. These pieces were often rough with one side following the natural curvature of the wood and the piece typically comprising of a narrow offcut or discard from woodworking. A much greater proportion of these fragments exhibit signs of working than the

roundwood. It is possible that many of these may represent rough off-cuts from some working of timber at the site, discarded as waste. The diameter of these wood pieces was generally too wide to be suitable for use as a hurdle upright however further fragments from both [57] and [84] appear roughly squared and may have been utilised as some sort of small structural post, support or plank. No clear artefacts were determined. Such fragments, largely from oak, dominated the wood assemblage from [84], with deposit [57] seeing more mixed proportions with the incorporation of many more roundwood fragment as well as some larger-diameter pieces predominantly from oak.

6. Sources

- Archaeological Services 2005 *The Close, Newcastle upon Tyne, Tyne and Wear: post-excavation full analysis*. Unpublished report **1081**, Archaeological Services Durham University
- Archaeological Services 2007 *Tuthill Stairs, Newcastle upon Tyne: palaeoenvironmental analysis*. Unpublished report **1646**, Archaeological Services Durham University
- Archaeological Services 2009a *1-7 Westgate Road: plant macrofossil assessment*. Unpublished report **2227**, Archaeological Services Durham University
- Archaeological Services 2009b *1-7 Westgate Road: plant macrofossil, bone and shell assessment*. Unpublished report **2323**, Archaeological Services Durham University
- Archaeological Services 2011 *Ripon Market Place, Yorkshire: full analysis*. Unpublished report **2639**, Archaeological Services Durham University
- Archaeological Services 2014 *55-57 Quayside, Newcastle upon Tyne, Tyne and Wear: palaeoenvironmental assessment*. Unpublished report **3540**, Archaeological Services Durham University
- Archaeological Services 2015a *Half Moon Yard, Newcastle upon Tyne, Tyne and Wear: post-excavation full analysis*. Unpublished report **3763**, Archaeological Services Durham University
- Archaeological Services 2015b *Darlington Town Hall, Darlington: post-excavation full analysis*. Unpublished report **3604**, Archaeological Services Durham University
- Archaeological Services 2016 *Former BEMCO Site, Clavering Place, Newcastle upon Tyne: post-excavation full analysis*. Unpublished Report **3904**, Archaeological Services Durham University
- Archaeological Services 2018a *Mining Institute, Westgate Road, Newcastle upon Tyne: palaeoenvironmental and animal bone assessment*. Unpublished report **4697**, Archaeological Services Durham University
- Archaeological Services 2018b *Stephenson Pocket Park, Newcastle upon Tyne: palaeoenvironmental analysis and artefact conservation records*. Unpublished report **4836**, Archaeological Services Durham University
- Archaeological Services 2018c *28-30 The Close, Newcastle upon Tyne: palaeoenvironmental assessment*. Unpublished report **4740**, Archaeological Services Durham University
- Claessens, H, Oosterbaan, A, Savill, P, & Rondeux, J, 2010 A review of the characteristics of black alder (*Alnus glutinosa* (L.) Gaertn.) and their implications for silvicultural practices. *Forestry* **83** No.2 163-175
- English Heritage 2010 *Waterlogged Wood: Guidelines on the recording, sampling conservation and curation of waterlogged wood*. Swindon

- Goodburn, D, 1991 Waterlogged wood and timber as archives of ancient landscapes, in J Coles & D Goodburn (eds) *Wet Site Excavation and Survey*. WARP Occasional Paper **5**. Exeter
- Graves, C P, & Heslop, D H, 2013 *Newcastle upon Tyne, the eye of the North: an archaeological assessment*. Oxford
- Greig, J R A, 1991 The British Isles, in W Van Zeist, K Wasylkova & K-E Behre (eds) *Progress in Old World Palaeoethnobotany*. Rotterdam
- Greig, J, 1996 Archaeobotanical and historical records compared – a new look at the taphonomy of edible and other useful plants from the 11th to the 18th centuries A.D. *Circaea* **12(2)**, 211-247
- Hall, A R, & Huntley, J P, 2007 *A review of the evidence for macrofossil plant remains from archaeological deposits in northern England*. Research Department Report Series no. **87**. London
- Hall, A R, & Nicholson, R, 1986 The plant remains from excavations at Queen Street, Newcastle upon Tyne, 1984-85. AML Report New Series **45/86**
- Hall, A R, Tomlinson, P R, Hall, R A, Taylor, G W, & Walton, P, 1984 Dyeplants from Viking York. *Antiquity* **58**, 58-60
- Hather, J G, 2000 *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London
- Huntley, J P, 1989 The plant remains, in O'Brien, C *et al*, Excavations at Newcastle Quayside: the Crown Court site. *Archaeol Aeliana* 5th series **17**, 141-205
- Huntley, J P, 1994. Plant remains, in Fraser, R., Maxwell, R. & Vaughan, J E (eds) Excavations adjacent to Close Gate, Newcastle 1988-89. *Archaeologia Aeliana*, Fifth Series **22**, 134-144.
- Huntley, J P, 2010 *A review of wood and charcoal recovered from archaeological excavations in Northern England*. Research Department Report Series no. **68**. London
- Lyons, S, & O'Donnell, L, 2009 Appendix 8: Integrated wood report for Site 34, Newrath Townland, County Kilkenny. In *N25 Waterford Bypass, Contract 3. Final Report on archaeological investigations at site 34 in the townland of Newrath, County Kilkenny*. Headland Archaeology, unpublished report
- McKenna, W J B, 1992 The environmental evidence, in D H Evans & D G Tomlinson (eds), *Excavations at 33-35 Eastgate, Beverley 1983-86*, 227-35, Sheffield Excavation Reports **3**
- Petts, D, & Gerrard, C, 2006 *Shared Visions: The North-East Regional Research Framework for the Historic environment*. Durham
- Preston, C D, Pearman, D A, & Dines, T D, 2002 *New Atlas of the British and Irish Flora*. Oxford
- Roach, F A, 1985 *Cultivated fruits of Britain; their origin and history*. Oxford
- Sands, R, 1997 *Prehistoric woodworking: the analysis of Bronze and Iron Age toolmarks*. London
- Schweingruber, F H, 1990 *Microscopic wood anatomy*. Birmensdorf
- Stace, C, 2010 *New Flora of the British Isles*. Cambridge

Appendix 1a: Data from palaeoenvironmental analysis- residue and flot contents

Context	57		70	83	84		86
Sample	10	11	19	25	27	29	30
Volume processed (l)	5	5	8	5	9	10	5
Volume of flot (ml)	90	175	250	210	575	920	470
<i>Residue contents</i>							
Bone (calcined) indet. frags	(+)	-	(+)	(+)	(+)	(+)	(+)
Bone (unburnt) indet. frags	++	+	+	+	++	++	+++
Bone (unburnt) fish	++	+++	(+)	-	++	++	+
Clinker / cinder	++	++++	+	++	+++	+++	+++
Coal	+	++++	+	+	++	+++	++
Coal shale	++	+	-	+	+	+++	(+)
Fired clay / CBM	+	(+)	+	-	+	+	-
Glass (number of fragments)	-	-	-	-	-	1	-
Hammerscale	-	-	+	-	-	-	-
Marine shell	+	(+)	+	-	++	++	+
Metal-based remains Fe	-	-	-	-	-	+	-
Mortar	(+)	(+)	-	-	++	(+)	-
Nail Fe	-	-	-	-	-	-	-
Pot (number of fragments)	4	5	6	1	12	9	2
Slag	(+)	-	-	-	-	-	-
Wood	-	-	-	++	+	+	+
<i>Flot matrix</i>							
Bone (calcined) indet. frags	-	-	-	(+)	-	-	-
Bone (unburnt) indet. frags	-	-	-	-	-	-	(+)
Bone (unburnt) fish	-	-	-	-	-	(+)	-
Charcoal	-	+	++	(+)	(+)	(+)	(+)
Clinker / cinder	++	+++	++	+	+	+	-
Coal / coal shale	+++	(+)	+	+	+	+	+
Earthworm egg case	(+)	-	+	-	-	-	+
Heather twigs (charred)	-	-	-	+	-	-	-
Insect / beetle	-	+	+	(+)	-	(+)	++
Roots (modern)	-	-	-	-	+	-	+
Vegetative material (uncharred)	-	-	++++	++	++++	+++	++
Wood	++	+	++++	++	+++	++++	+++

(+): trace; +: rare; ++: occasional; +++: common; ++++: abundant

Appendix 1b: Data from palaeoenvironmental analysis- plant macrofossils

Context		57		70	83	84		86
Sample		10	11	19	25	27	29	30
<i>Charred remains (total count)</i>								
(c) <i>Cerealia</i> indeterminate	grain	-	-	-	-	-	1	-
(c) <i>Hordeum</i> sp (Barley species)	grain	-	-	-	1	-	-	-
(c) cf. <i>Secale cereale</i> (cf. Rye)	grain	-	1	-	-	-	-	-
<i>Waterlogged remains (abundance)</i>								
(a) <i>Agrostemma githago</i> (Corncockle)	seed	-	-	-	1	-	-	-
(a) <i>Chrysanthemum segetum</i> (Corn Marigold)	achene	-	-	2	-	-	1	1
(a) <i>Euphorbia helioscopia</i> (Sun Spurge)	seed	-	-	-	-	-	1	-
(a) <i>Raphanus raphanistrum</i> (Wild Radish)	pod	-	2	2	-	1	1	1
(a) <i>Solanum nigrum</i> (Black Nightshade)	seed	-	-	-	1	-	-	-
(a) <i>Spergula arvensis</i> (Corn Spurrey)	seed	-	-	1	-	-	-	-
(d) <i>Reseda luteola</i> (Weld, Dyer's Rocket)	seed	-	-	1	-	-	-	1
(g) <i>Stellaria graminea</i> (Lesser Stitchwort)	seed	-	-	1	1	-	-	-
(r) <i>Hyoscyamus niger</i> (Henbane)	seed	-	-	-	1	-	1	-
(r) <i>Lamium</i> sp (Dead-nettles)	nutlet	-	-	3	-	-	-	-
(r) <i>Lapsana communis</i> (Nipplewort)	achene	-	-	2	-	-	-	1
(r) <i>Persicaria lapathifolia</i> (Pale Persicaria)	nutlet	-	-	-	-	-	-	1
(r) <i>Persicaria maculosa</i> (Redshank)	nutlet	1	1	3	2	3	1	2
(r) <i>Polygonum aviculare</i> (Knotgrass)	nutlet	-	1	3	-	1	-	1
(r) <i>Stellaria media</i> (Common Chickweed)	seed	1	1	2	-	-	-	-
(r) <i>Urtica dioica</i> (Common Nettle)	achene	-	-	3	2	-	2	-
(t) <i>Corylus avellana</i> (Hazel)	nutshell frag.	2	3	3	3	2	3	2
(t) <i>Ficus carica</i> (Fig)	seed	-	-	-	2	-	2	-
(t) <i>Prunus domestica</i> (Plum)	fruitstone	-	-	1	-	-	-	-
(t) <i>Prunus spinosa</i> (Sloe)	fruitstone	-	-	-	-	-	1	-
(t) <i>Rosa canina</i> (Dog-rose)	fruitstone	-	-	1	-	-	-	-
(t) <i>Rubus fruticosus</i> agg. (Bramble)	fruitstone	2	2	1	1	1	1	1
(t) <i>Sambucus nigra</i> (Elder)	fruitstone	1	-	2	1	2	-	-
(w) <i>Carex</i> sp (Sedges)	biconvex nutlet	-	1	1	-	2	2	1
(w) <i>Carex</i> sp (Sedges)	trigonus nutlet	1	1	2	2	-	2	-
(w) <i>Conium maculatum</i> (Hemlock)	fruit	-	-	-	2	-	-	1
(w) Cyperaceae undiff. (Sedge family)	nutlet	-	-	-	-	-	2	1
(w) <i>Eleocharis</i> sp (Spike-rushes)	nutlet	-	-	-	-	-	1	2
(w) <i>Ranunculus flammula</i> (Lesser Spearwort)	achene	-	1	1	-	-	1	1
(w) <i>Scirpus</i> sp (Club-rushes)	nutlet	-	-	-	-	-	-	1
(x) Ameranthaceae undiff. Goosefoot family)	seed	-	1	-	-	-	-	-
(x) Brassicaceae undiff. (Cabbage family)	seed	-	2	2	1	2	-	2
(x) Caryophyllaceae undiff. (Pink family)	seed	-	-	-	1	-	-	-
(x) <i>Chenopodium</i> sp (Goosefoots)	seed	-	1	2	2	2	1	1
(x) <i>Cirsium</i> / <i>Carduus</i> sp (Thistles)	achene	-	-	2	1	-	-	1
(x) Fabaceae undiff. (Pea family)	seed capsule	-	-	-	-	-	1	-
(x) <i>Potentilla</i> sp (Cinquefoils)	achene	-	-	-	3	2	2	1
(x) <i>Ranunculus</i> subgenus <i>Ranunculus</i> (Buttercup)	achene	2	1	3	3	3	2	3
(x) <i>Rumex</i> sp (Docks)	nutlet	-	-	1	-	-	1	-
(x) <i>Stachys</i> sp (Woundworts)	nutlet	-	-	1	-	-	-	-
(x) <i>Viola</i> sp (Violets)	seed	-	-	-	-	-	-	2
Indeterminate seed		-	1	-	-	-	-	-

[a-arable; c-cultivated; d-dye; g-grassland; r-ruderal; t-tree/shrub; w-wet/damp ground; x-wide niche.

Waterlogged remains are scored from 1-5 where 1: 1-2; 2: 3-10; 3: 11-40; 4: 41-200; 5: >200]

Appendix 2: Detailed results from charcoal analysis

Context	57	70	83	84		86
Sample	11	19	25	27	29	30
<i>Charcoal (g/number of fragments)</i>						
<i>Alnus glutinosa</i> (Alder)	0.319 (7F)	0.130 (1F)	-	0.032 (3F)	0.022 (1F)	-
cf. <i>Alnus glutinosa</i> (cf. Alder)	-	-	0.061 (2F)	-	0.007 (1F)	-
<i>Alnus glutinosa</i> / <i>Betula</i> sp (Alder/Birches)	0.056 (1F)	-	-	-	-	-
cf. <i>Betula</i> sp (cf. Birches)	0.095 (1F)	-	-	-	-	-
<i>Calluna vulgaris</i> (Heather)	-	-	0.092 (1F)	0.030 (1F)	-	-
<i>Corylus avellana</i> (Hazel)	-	0.092 (2F)	-	-	0.008 (1F)	-
<i>Quercus</i> sp (Oak)	-	0.058 (4F)	0.043 (1F)	-	-	0.051 (2F)
% of fragments > 4mm analysed	100	100	100	100	100	100
Charcoal >4mm analysed (g)	0.470	0.280	0.196	0.062	0.037	0.051
No. of fragments >4mm analysed	9	7	4	2	3	2

[F = number of charcoal fragments]

Appendix 3: Detailed results from wood analysis

Context	Sample	EC?	Dimensions* (mm)	Wood species	Notes	
57	11	x	30.59 x 3.51	Too small to ID	BP, RW. Full bark-pith span present, naturally broken ends.	
57	32	?	27.13 x 7.80	Alder	BP, one naturally broken end, other potentially trimmed to oblique point with single cut- unclear.	
57	32	?	35.29 x 10.32	Alder	BP, naturally broken ends, possible area of flattening down length of wood, perhaps to trim side shoot- no clear toolmarks.	
57	32	X	118.53 x 33.51	Alder	BP, large straight RW piece, strong ring curvature. 12 rings. natural broken ends.	
57	32	X	100.59 x 28.97 x 14.49*	Alder	BP, flattened oval cross section. Potentially compressed/twisted wood fragment around knot- large diameter RW.	
57	32	X	50.70 x 24.30 x 10.60*	Alder	BA, unworked large diameter RW or SW fragment. Weak ring curvature. Modern damage across fragment, no original faces left. Roughly sub-rectangular to triangular profile. 8+rings.	
57	32	X	55.17 x 19.30 x 27.78*	Alder	BA, unworked large diameter RW or SW fragment. Compressed/distorted to sub-oval shape. 4+rings. Modern damage.	
57	32	✓	56.75 x 10.98 x 12.79*	Alder	Thin wood "chip" from SW or large-diameter RW. Possible offcut from trimming/working. One flattened face. Minimally worked with most natural. Moderate curvature. 2+ rings.	
57	32	X	26.81 x 8.89	Alder	BP, naturally broken ends. Species identified.	
57	32	X	34.54 x 7.76		BP, naturally broken ends. Species identified.	
57	32	X	37.73 x 5.50		BP, naturally broken ends. Species identified.	
57	32	X	40.14 x 7.87		BP, naturally broken ends.	
57	32	X	48.99 x 7.51		BP, naturally broken ends.	
57	32	X	33.33 x 7.69		BP, naturally broken ends.	
57	32	X	37.71 x 7.71		BP, naturally broken ends.	
57	32	X	55.73 x 6.81		BP, naturally broken ends.	
57	32	X	41.89 x 7.42		BP, naturally broken ends.	
57	32	X	37.08 x 7.82		BP, naturally broken ends.	
57	32				Bark	Bark fragment.
57	32	X	51.00 x 9.69		cf. Elder	BP in patches, naturally broken ends.
57	32	X	39.77 x 8.04	Hazel	BA, no apparent conversion, naturally broken ends. Species identified.	
57	32	X	43.20 x 6.01		BA, no apparent conversion, naturally broken ends. Species identified.	
57	32	X	42.66 x 7.41		BA, no apparent conversion, bark-boundary present, naturally broken ends.	
57	32	X	41.77 x 6.54		BA, no apparent conversion, naturally broken ends- 7 rings.	
57	32	X	42.71 x 13.97		Knotty fragment- appears naturally split. Very broken, no original faces left. Species identified. 5+rings.	
57	32	✓	42.39 x 45.63 x 9.53*	Hazel	Sub-square to diamond profile wood fragment. Flattened radially to create two parallel faces, other two faces are cut roughly slightly oblique across fragment. No toolmarks surviving. From large diameter RW/SW piece. Weak ring curvature, 5+ rings noted.	
57	32	?	54.33 x 30.93 x 8.44*	Hazel	Thin semi-oval profile. Compressed. Possibly roughly worked to flatten one side, unclear on other. 3 clear cutmarks on various angles to trim piece- possible offcut of working on larger piece. No clear signatures. Weak ring curvature, from large diameter RW or SW.	
57	32	?	33.34 x 18.06 x 10.34*	Hazel	Quarter circle profile. Small diameter RW. Unclear if deliberately cut radially into quarter-circle profile, faces worn. 5 rings pith-bark. Moderate curvature. BP.	
57	32	✓	53.08 x 23.34 x 8.26*	Hazel	Thin wood "chip" from SW or large-diameter RW. Possible offcut from trimming/working. One flattened face, and one facet cutting obliquely across the piece at one end. Minimally worked with most faces natural. Moderate curvature. 9+ rings.	
57	32	✓	48.16 x 16.48 x 12.63*	Hazel	Thin wood piece created from SW or large-diameter RW. Possible rough working towards thinner shape. 1 face flattened with two distinct cutmarks noted. Other face broken. Cut to shallow oblique point at one end. 5+rings. Moderate ring curvature.	
57	32	?	41.92 x 10.98	Indeterminate	Poor condition, one naturally broken end and areas of damage along fragment. 1 end potentially trimmed flat across piece but unclear and waterworn.	
57	32	?	76.30 x c. 23.00	Oak	Bark partially present. Minimally worked large RW fragment. Quarter-circle profile, possibly two radial cuts to quarter although toolmarks unclear. 1 possible notch chopped into wood at one end though again unclear, other end broken. 8 rings, weak curvature.	
57	32	?	49.24 x 16.87 x 21.33*	Oak	BP, Minimally worked large RW fragment- rough quarter circle present. Quarter circle to trapezoid profile. Cut radially on two faces to form quarter circle from natural RW curvature 14+ rings, moderate curvature.	
57	32	✓	50.96 x 13.42 x 13.72*	Oak	BA, minimally worked large RW fragment- rough quarter circle present. Quarter circle profile. Cut radially on two faces to form quarter circle from natural wood profile curvature. A further cut to possibly taper piece towards shallow oblique point (end now broken). 3+ rings, moderate curvature.	
57	32	X	46.51 x 14.20 x 11.61*	Oak	SW fragment, with sub-rectangular profile. 1 face clearly trimmed to flatten, unclear if rest similarly worked (waterworn). Tyloses visible. Multiple rings (10+) noted.	
57	32	?	77.64 x 19.42 x 5.60*	Oak	Long thin wood fragment from sub- bark region. Sub rectangular profile. Waterworn. Slight insect damage. 12+ rings. Possible remnant created from bark removal, although no clear toolmarks.	

57	32	✓	50.99 x 11.60	Oak	Oval to circular profile RW. 4 rings, strong ring curvature. 1 end cut into wood, stopping at a knot, forming a long rough tapering point breaking into a notch at the knot. The other end cut across at a shallow oblique angle (some modern damage to this end).
57	32	?			5 very thin wood fragments rectangular in profile, two with BP. No obvious working- possible offcuts from ?trimming. Too thin for species ID.
57	32	X	49.06 x 0.95		BP, naturally broken ends.
57	32	X	42.08 x 2.03		BP, naturally broken ends.
57	32	X	42.86 x 4.47		BP, naturally broken ends.
57	32	X	25.97 x 4.03		BP, naturally broken ends.
57	32	X	41.64 x 3.96	Too small for ID	BP, naturally broken ends.
57	32	X	23.34 x 3.41		BP, naturally broken ends.
57	32	X	20.93 x 6.14		BP, naturally broken ends.
57	32	?	35.36 x 5.37		BP, one naturally broken end, other end possibly converted to point with cut into main body of wood forming notch at top of long tapering oblique point. Unclear.
57	32	X	26.63 x 4.12		BA, naturally broken ends.
57	32	X	36.92 x 4.88		BP, naturally broken ends.
57	32	?	33.48 x 6.34		BP, one end naturally broken end other possibly broken or converted roughly to short tapering point, unclear.
57	32	X	22.82 x 3.74		BP, naturally broken ends.
57	32	X	24.26 x 1.91		BP, naturally broken ends.
57	32	?	39.03 x 17.87 x 9.75*	Unidentifiable	Extremely waterworn and degraded fragment from large diameter RW or SW- roughly square profile. Insect damage visible. No obvious working but very poor soft condition.
57	69	X	66.64 x 14.86		BA, RW fragment with smaller diameter offshoot- main diameter measured. Species identified.
57	69	X	43.95 x 9.61		BP, RW fragment with small diameter offshoot- main diameter measured. Species identified.
57	69	X	34.01 x 14.89		BA, RW fragment with smaller diameter offshoot- main diameter measured.
57	69	X	48.03 x 7.33	Alder	BP in patches, naturally broken ends, soft condition, small diameter RW. Species identified.
57	69	X	39.40 x 13.94		BP in patches, naturally broken ends, soft condition, small diameter RW.
57	69	X	41.73 x 9.93		BP in patches, naturally broken ends, soft condition, small diameter RW.
57	69	?	23.86 x 13.64 x 4.88*	Alder	BP in patches, naturally broken ends, soft condition, small diameter RW (strong ring curvature). Piece roughly sub-square in profile potentially trimmed down faces although too waterworn for marks of conversion to be clear.
57	69	✓	51.57 x 12.61	Alder	BP in patches, soft and waterworn, 1 end naturally broken, other end cut to oblique point.
57	69	✓	63.50 x 8.58	Alder	BP, 1 end naturally broken, other end cut with two facets towards rough point- now broken.
57	69	?	43.20 x 22.81 x 14.83*	Alder	BP, semicircular RW fragment. Ends naturally broken. Somewhat twisted/compressed. Soft condition. No clear evidence of deliberate splitting.
57	69	X	52.38 x 27.48 x 10.76*	Alder	BP, wood fragment, thin and potentially compressed. No obvious evidence for working. Moderate ring curvature. 8+rings.
57	69	x	72.51 x 6.84 x 3.99*	Bark	Bark fragment.
57	69	X	35.07 x 10.47 x 2.63*	Bark	Bark fragment.
57	69	✓	46.18 x 10.96	cf. Hazel	BP, RW fragment. Strong ring curvature- 8 rings. Charred and blackened. Both ends cut across face.
57	69	?	82.76 x 13.13	cf. Hazel	BP, RW fragment, one natural broken end. Other end unclear if waterworn oblique rough cut to long tapering point, or natural break- no conversion marks visible- waterworn.
57	69	✓	80.08 x 16.11	cf. Willow/Poplar	BA, RW fragment, naturally broken ends, some charring and blackening along piece.
57	69	✓	52.28 x 17.46	cf. Willow/Poplar	BA, RW fragment, naturally broken ends, some charring and blackening along piece.
57	69	✓	60.91 x 5.27	Hazel	BP, one end converted to shallow point with two distinct cutmarks, other end possibly trimmed obliquely across piece under knot (unclear).
57	69	✓	57.63 x 7.37	Hazel	BP, one end naturally broken, other end deliberately squared across wood piece.
57	69	✓	65.83 x 9.65	Hazel	BP, one end naturally broken, other end trimmed to sharp point with two distinct cutmarks.
57	69	✓	73.62 x 17.99	Hazel	BP, RW fragment, naturally broken ends, BP. Strong Ring curvature- 7 rings. Charred and blackened 1 end.
57	69	X	89.77 x 31.85	Hazel	BP, RW fragment, one natural broken end. Other end possibly formed into rough point- unclear as no obvious facets or conversion marks visible due to condition of wood.
57	69	✓	49.49 x 26.22 x 5.85*	Hazel	BA, large diameter RW/SW fragment. Roughly thin-rectangular profile. One end broken, other potentially cut at a shallow oblique angle (unclear). 9+ rings.
57	69	✓	14.69 x 43.11	Hazel	BA, circular-oval cross section. Slightly compressed. Long RW piece, no side trimming. One end broken, other converted to shallow point using single oblique cut. Poor soft condition. 9-10 rings
57	69	✓	42.11 x 14.30	Hazel	BA, RW with strong ring curvature. Halved radially with semi-circular profile. Worked to shallow oblique point at one end with single cut. Modern break to other end of fragment. 6+ rings.
57	69	✓	80.61 x 68.81 x 7.64*	Oak	SW tyloses visible) Roughly sub-rectangular profile, one broken side. Two sides clearly roughly flattened, no obvious toolmarks. ?Plank fragment.
57	69	✓	77.15 x 18.94 x 10.20*	Oak	SW (tyloses visible). Roughly square profile. Modern damage on one end. Radial split with notch created by one broken cut. Minimally worked.
57	69	✓	73.67 x 27.17 x 9.23*	Oak	SW (tyloses present) fragment. Profile roughly parallelogram with two opposing sides worked at shallow parallel angles across grain to form matching short oblique sides. Unclear if other sides are similarly flattened. 5+rings. Poor condition.

57	69	?	73.89 x 29.21 x 15.58*	Oak	Thin semi-circular fragment. Modern damage. Ends appear broken. Piece potentially split approximately radially though unclear due to preservation- may be natural. 15+rings.
57	69	✓	39.16 x 33.14 x 12.78*	Oak	SW fragment (tyloses visible). Roughly worked to thin narrow triangular piece through radial flattening. 4+rings.
57	69	?	62.14 x 26.48 x 12.26*	Oak	Oval cross-section. Both ends broken. Large diameter RW/SW fragment (no tyloses noted). One side appears unworked/broken, with other side potentially flattened. Both ends broken. 7+ rings.
57	69	✓	41.28 x 14.42 x 10.52*	Oak	Quarter-circle profile. RW cut radially with 1 end broken, other end fashioned into rough central point with two separate cuts visible. Weak ring curvature. 2+ rings.
57	69	X	81.23 x 8.79	Hazel	BP, naturally broken ends, small diameter RW. Species identified.
57	69	X	87.13 x 9.06		BP, naturally broken ends, small diameter RW. Species identified.
57	69	X	67.70 x 7.92		BP, naturally broken ends, small diameter RW.
57	69	X	55.37 x 6.60		BP, naturally broken ends, small diameter RW.
57	69	X	50.21 x 5.77		BP, naturally broken ends, small diameter RW.
57	69	X	73.64 x 7.24		BP, naturally broken ends, small diameter RW.
57	69	X	41.52 x 6.03		BP, naturally broken ends, small diameter RW.
57	69	X	60.26 x 7.87		BP, naturally broken ends, small diameter RW.
57	69	X	32.1 x 8.91		BP, naturally broken ends, small diameter RW.
57	69	X	37.11 x 5.05		BP, naturally broken ends, small diameter RW.
57	69	X	37.51 x 3.78		BP, naturally broken ends, small diameter RW.
57	69	X	53.00 x 4.70		BP, naturally broken ends, small diameter RW.
57	69	X	41.19 x 4.44	BP, naturally broken ends, small diameter RW.	
57	69	✓	53.96 x 6.76	Willow/Poplar	BA, naturally broken ends, small diameter RW. Charring and blackening to one end.
57	69	X	76.92 x 7.6	Willow/Poplar	BA, naturally broken ends, small diameter RW. Species identified.
57	69	X	57.78 x 10.89		BA, naturally broken ends, small diameter RW. Species identified.
57	69	X	48.9 x 6.16		BA, naturally broken ends, small diameter RW.
57	69	X	26.54 x 5.64		BA, naturally broken ends, small diameter RW.
57	69	X	33.00 x 4.94		BA, naturally broken ends, small diameter RW.
84	27			Bark	Bark fragment.
84	27	✓	31.42 x 11.73 x 8.20*	Conifer cf. Fir	BA. Both ends converted into rough tapering points parallel to each other. No toolmarks visible. No clear evidence of conversion on other faces though may have been trimmed longitudinally to remove side shoots or bark- slightly sub-square profile created. Water-worn but unusually hard condition. 11 rings. Moderate ring curvature.
84	29	X	30.36 x 8.49	Alder	BP, naturally broken ends.
84	29	X		Bark	Bark fragment, no wood present.
84	29	✓	47.05 x 20.55 x 14.89*	Oak	Semi-charred fragment, weak ring curvature- fragment from within large diameter RW or SW piece. Unclear marks of conversion to one end but areas of possible flattening on one side, to roughly rectangular profile and cut to shallow oblique point at one end. Other end poor condition and no working visible- natural break likely.
84	29	?	43.22 x 16.51 x 7.22*	Oak	Thin flat wood fragment, sub-rectangular in profile, water worn and soft. BP and 8 rings. ?Trimmed bark piece. No clear evidence of conversion.
84	29	X	35.91 x 15.65 x 11.12*	Oak	Sub-rectangular wood fragment, no clear evidence of working. Weak curvature. 5+ rings visible.
84	29	✓	30.31 x 29.28 x 16.32*	Oak	Trapezoid to squared cross section of weak ring curvature fragment from large diameter RW or SW. 16 rings. Two faces broken and unclear, but two faces trimmed longitudinally to form squared profile of piece. ?post or plank fragment.
84	29	X	26.21 x 14.94 x 6.37*	Oak	Fragment from oak SW (tyloses present), no original faces present- potentially trimmed to flatten on one side although this is unclear. 5+ rings, weak ring curvature.
84	29	X	26.78 x 8.30	Unidentified	RW fragment, mostly BP with too little wood surviving to allow identification. All ends broken.
84	29	X	23.98 x 2.90	Too small to ID	BP, naturally broken ends.
84	29	X	18.28 x 2.60		BP, naturally broken ends.
84	29	X	26.42 x 4.74		BA, naturally broken ends.
84	29	X	26.60 x 4.34		BP, naturally broken ends.
86	30	X	42.11 x 17.11		Alder
86	30	X	16.52 x 4.91	Too small to ID	BP, naturally broken ends.
86	30	X	21.11 x 3.64		BP, naturally broken ends.
86	30	X	9.31 x 6.71		BP, naturally broken ends.
86	30	X	31.20 x 12.54		Willow/Poplar

EC= Evidence of Conversion. Measurements (length by diameter where a complete diameter span measurement possible, otherwise length by width by fragment depth recorded (indicated by *)). RW- Roundwood, SW- Stemwood, BP- Bark Present, BA- Bark Absent.

Appendix 2I Dendrochronological Analysis

[this page is blank; the report follows overleaf]

28-30 The Close, Newcastle upon Tyne: Dendrochronological analysis of oak timbers

Coralie M Mills
September 2018



28-30 The Close, Newcastle upon Tyne: Dendrochronological analysis of oak timbers

Prepared for Addyman Archaeology

Author Coralie M Mills

Project No. 0161

Date of Report September 2018

Enquiries to Dr Coralie Mills
Dendrochronicle
31/3 Brighton Place
Edinburgh EH15 1LL

T: 0131 258 3199

W: www.dendrochronicle.co.uk

E: coralie.mills@dendrochronicle.co.uk



Illus 1 Oak board TCN53, probably part of a barrel head, from Context 068

1 Introduction

Two waterlogged oak timbers were submitted for dendrochronological analysis, a small finely made radially split board (Find Number 53 from *Context 068*), thought to be part of a barrel head, and an oak log in the round (Find Number 70 from *Context 087*) which was largely unworked apart from a crude shallow notch in its upper surface, as further described in Macfadyen *et al* 2018 (see their Plate 20).

2 Methods

Visual assessment showed that both timbers were likely to have more than 60 rings, the guideline minimum for potential dating, although it is also the case that successful dating is more likely where multiple timbers per phase can be sampled, to strengthen the tree-ring signal (English Heritage 1999). Each of the two timbers was sub-sampled for analysis by careful hand sawing at the position where the most rings would be present. In the case of the thin board (Find 53) masking tape was first wrapped securely around the two sections to be sawn, to keep them intact. In the case of the log, a disk was taken near one end where sapwood was adhering and intact to sub-bark edge. The sub-samples were first frozen, then allowed to thaw slightly before radial tracks across the transverse sections were prepared carefully using hand-held razor blades. Two radii were measured for each timber to improve the reliability of the analysis.

The tree-ring width sequences were measured on a Heidenhain measuring table, under a low-power microscope, linked to a P.C. Data capture and analysis were undertaken using the 'Dendro' suite of programs (Tyers 1999). The program produces 't' values as a measure of the degree of correlation between sequences, and as a general rule of thumb values above 3.5 are considered to be significant (which is not the same as being necessarily correct), and the length of overlap and the degree of replication also has to be taken into account. Visual cross-matching of the graphed tree-ring width sequences is undertaken alongside statistical comparisons with reference chronologies of known date and provenance.

3 Results

The small board (Find Number 53, Illus 1) is radially split from slow-grown oak (*Quercus* sp. L.). It is trapezoid in plan and its surfaces have been finished with hand tools including an axe. The board has a groove in the slightly wider outer edge of the tree-ring sequence of a size sufficient that it would take the next narrow edge of an adjacent board of similar form. There is no sapwood present but it is possible that the outer edge is at or near the heartwood-sapwood boundary, assuming that the woodworker would remove the sapwood yet probably maximize the use of heartwood in manufacturing such boards. The inner edge of the board does not reach the centre of the tree, with an estimated 20 rings missing at centre. This is not at a broken edge, and the board was deliberately made that way. The very inner growth would probably have created too thin an area of board to be usable. The board is slightly mineralized on its surfaces, to a depth of about 1mm; this caused no problems for analysis. The dendrochronological data for this timber, for the two measured radii (TCN53a and TCN53b), and the resulting combined sequence TCN53, are presented in Table 1.

The larger timber (Find Number 70), an oak log in the round, is unworked apart from removal of the bark (a valuable resource as tanbark) and a rough shallow notch cut in about half a meter from one end. The sapwood was intact over part of the surface but was soft and crumbly and had probably rotted away in some places. The first radius TCN70a was measured from pith (centre) to sub-bark surface while the second radius (TCN70b) had only partial sapwood. The dendrochronological data for this timber are presented in Table 1. This timber was from a young tree and had quite an

irregular growth pattern with reaction wood in places. This may be why the two measured radii TCN70a and TCN70b did not match each other well, and the analysis proceeded with the longer of the two radii, TCN70a, which itself was measured twice (TCN70a and TCN70ar) and was averaged to become TCNAR2 (Table 1).

Table 1 Tree-ring samples data

Dendro code	Total rings Measured	Centre (PO=pith offset estimate)	Sapwood rings (+SV=plus spring vessels only)	Outer Edge B = sub-bark surface, H/S= heart/sap boundary	Average ring width (mm)	Comment
TCN53a	104	PO -20	0	Possible H/S	1.40	Radius a spans Relative Years 1 to 104
TCN53b	104	PO -20	0	Possible H/S	1.43	Radius b spans Relative Years 2 to 105
TCN53	105	PO -20	0	Possible H/S	1.42	DATED SPAN AD1047-1151
TCN70a	64	Centre	18 + SV	B	1.82	Radius a spans Relative Years 1 to 64
TCN70ar	63	Centre	19 + SV	B	1.78	Radius ar spans Relative Years 2 to 64
TCN70AR2	64	Centre	19 + SV	B	1.79	Radius a and ar combined. NOT DATED
TCN70b	50	Centre	8	Nothing (Not B)	1.48	No good match with TCN70a or ar

It has proved possible to date the longer-lived of the two timbers, the oak board TCN52 (Table 1): comparison with reference data has shown it to span AD 1047 to 1151 and to be North British in origin (Table 2). There is no sapwood present so an allowance needs to be made for the missing sapwood, using the British Isles (95% confidence limits) estimate of 15-60 sapwood rings for oak over 100 years old (Hillam *et al* 1987). Thus we can state a *terminus post quem* for felling of TCN52 as AD 1166. While it isn't certain, it is likely that the outer edge of the board is at or close to the heartwood/sapwood boundary; if so then the felling date range would be around AD1166-1211. It seems likely therefore that the native oak tree from which board TCN52 was made was felled sometime in the later 12th century or the early 13th century.

Table 2 Comparisons of TCN53 at AD 1047-1151 with oak reference chronologies.

Reference chronology	Span of reference chronology	t-value	Reference / source
WASDALE , Wasdale Beck logboat, Windermere, North West England	AD 995-1214	6.12	Cathy Tyers pers comm
INVERNESS INVMA52, NE Scotland	AD 933-1169	5.89	Crone pers comm
SCOTLAND , South West/ Central Scotland regional composite chronology	AD 946-1975	4.90	Baillie 1977
HARTLEPOOL HARTLPL, NE England	AD 951-1212	4.72	J Hillam pers comm
CARLISLE ANNTWLL2 Annetwell St, NW England	AD 930-1219	4.64	C Tyers pers comm
LINCLUDEN Q2928 single timber, SW Scotland (in SCOTLAND master)	AD 1068-1434	4.55	Baillie & Brown pers comm.
CARLISLE CARL_MED, Carlisle Medieval composite	AD 893-1600	4.21	Baillie & Brown pers comm
ELGIN WELL ELGIN2x8 NE Scotland	AD 908-1290	4.20	Crone pers comm
PERTH PERTHx9, Central Scotland	AD 949-1204	3.96	Crone & Baillie 2010
EAST MIDLANDS, ENGLAND NEW_EM	AD 882-1981	3.80	Laxton & Litton 1988
CAERLAVEROCK Q2855 single timber, SW Scotland (In SCOTLAND master)	AD 1045-1249	3.59	Baillie & Brown pers comm

Unfortunately no reliable dating was forthcoming for TCN70AR2 or any of the single radii from this oak log, despite comparison with a wide range of reference chronologies from the British Isles and further afield. It does not cross-match with TCN52 either. The sequence length of TCN70AR2 at 64 rings is relatively short for dating of a single timber, and furthermore the growth pattern is irregular to the degree that two separate radii do not match each other well, which has probably hindered dating. The character of the timber would suggest it is likely to be local native stuff, and not imported.

4 Discussion

It has been possible to provide a dendro-date for one of the two waterlogged timbers submitted for analysis from excavations at The Close in Newcastle. The small oak board TCN53, thought to be part of a barrel head, is a fine radially split board, from a mature slow-grown oak, which spans the period AD 1047-1151 and, in the absence of sapwood, was felled sometime after AD 1166. If we assume the outer edge of the board must be close to the heartwood/sapwood boundary then the likelihood is that the board was made in the late 12th or early 13th century. The barrel would probably have been in use for some time before a part of it became deposited at The Close. It was found in Context 068, an organic-rich laminated dump deposit regarded as part of early medieval reclamation at the northern shore of the River Tyne at this site. This reclamation is thought to have occurred in about the 13th to 14th centuries based on pottery and other artefactual evidence (Macfadyen *et al* 2018, 35). The dendro-date for TCN53 is therefore consistent with the artefactual dating evidence.

Dendrochronological analysis is capable of providing information on the provenance as well as the date of timber, using the technique of dendro-provenancing, although this works best with well-replicated data (Bonde *et al* 1997; Daly 2007). Given TCN53 is part of a barrel, then one could expect transportation to have occurred. The closest match for TCN53 was found with material from the Wasdale Beck Logboat in North West England, and other matches are quite widely spread across Scotland and Northern England (Table 2). The good match with material from the early burgh at Inverness seems quite surprising at first, but the Inverness material was noted to match well with tree-ring sequences from South West Scotland and Northern England (Crone 2000). It may also be that there is a widespread common climatic signal in the period represented. It is not possible at this stage to pin down TCN53's provenance more precisely, but it is clearly native North British timber and is not imported from elsewhere.

5 Acknowledgements

I am grateful to Addyman Archaeology for commissioning this work on behalf of their clients, to Antoine Ruchonnet for his help and to my fellow dendrochronologists for their assistance.

6 References

- Baillie, M G L 1977a 'An oak chronology for South Central Scotland', *Tree-Ring Bulletin* Vol 37, 33-44.
- Bonde, N, Tyers, I & Wazny, T 1997 'Where does the timber come from? Dendrochronological evidence of timber trade in Northern Europe', in Sinclair, A, Slater, E & Gowlett, J (eds) *Archaeological Sciences 1995*, 201-4. Oxford.
- Crone, A 2000 'Native tree-ring chronologies from some Scottish medieval burghs', *Medieval Archaeology* 44, 201-16

Crone, A & Baillie, M 2010 'Appendix 5; Perth High Street dendrochronological studies'. In Perry, D, Murray, H, Beaumont James, T & the late Nicholas Q Bogdan, *Perth High Street Archaeological Excavation 1975-1977. Fascicule 1, The excavations at 75-95 High Street and 5-10 Mill Street, Perth*, pp221-5. Perth (Tayside and Fife Archaeological Committee).

Daly, A 2007 *Timber, trade and tree-rings. A dendrochronological analysis of structural oak timber in Northern Europe, c. AD 1000 to c. AD 1650*. Univ Aarhus; PhD Thesis.

English Heritage 1999 *Dendrochronology guidelines*.

<http://www.english-heritage.org.uk/publications/dendrochronology-guidelines/>

Hillam, J, Morgan, R A & Tyers, I 1987 'Sapwood Estimates and the Dating of Short Ring Sequences', in Ward, R G W (ed), *Applications of Tree-ring Studies. Current Research in Dendrochronology and Related Subjects*, Oxford BAR International Series, 165-185. (=Brit Archaeol Rep Int Ser, 333).

Laxton, RR & Litton, CD 1988 *An East Midlands tree ring chronology and its use for dating vernacular buildings*. Archaeology Section Monograph No. 3, University of Nottingham.

Macfadyen, K, Addyman, A & Karsgaard, P 2018 28-30 *The Close, Newcastle upon Tyne, Tyne and Wear: Archaeological excavations 2007-2010*. Report for The Tyne and Wear Building Preservation Trust / Buttress.

Tyers, I 1999 *Dendro for Windows Program Guide 2nd edition*. ARCUS Report 50.