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# **NORTH PENNINES ARCHAEOLOGY LTD**

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Client Report CP808

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**ARCHAEOLOGICAL  
EXCAVATION ON  
LAND AT  
SHAW'S WIEND,  
APPLEBY-IN-  
WESTMORLAND,  
CUMBRIA**

**FOR  
MR MICHAEL BIRKBECK**

**NY 6840 2011**

**OASIS ID northpen3-74955**

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## SUMMARY

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In September 2009 North Pennines Archaeology Ltd, commissioned by Mr Tom Woof of Development Planning Solutions Ltd, undertook an archaeological excavation on land adjacent to Shaw's Wiend, Appleby-in-Westmorland, Cumbria on behalf of their client Mr Michael Birkbeck. This work related to a planning application, submitted to Eden District Council, for the erection of a new dwelling at the site (Planning Application No. 3/08/255), and was required in order to mitigate against the destruction of archaeological deposits identified during a previous archaeological evaluation.

The site lies at the heart of the medieval town of Appleby-in-Westmorland, close to the 13th century castle. The archaeological evaluation revealed that significant archaeological remains survive at the site dating to the medieval and post-medieval periods. Consequently, two conditions were placed on the planning consent, requiring an archaeological excavation and a programme of post-excavation analysis, to ensure that archaeological remains were recorded and the results published. This is in accordance with guidance given in Planning Policy Guidance note 16 (Archaeology and Planning) and the Eden Local Plan.

The present development area is believed to cover parts of two medieval burgages of the 12<sup>th</sup> century planned town, which could originally have been occupied by buildings fronting onto both Boroughgate and Shaw's Wiend. No archaeological evidence for these buildings was revealed by the excavation due to the presence of a 19<sup>th</sup> century building and sunken yard, which had removed all evidence for early buildings on the east side of the site. Based on the historic map evidence the original medieval burgage plot boundary would have been in the location of the access ramp into the sunken yard. However, no evidence for this boundary survived within the excavated area.

A range of features were revealed during the project, which are believed to relate to activities to the rear of the former Boroughgate properties. The earliest stratigraphic layer identified at the site was a probable yard surface, comprising a compacted layer of small stones, embedded into the natural silty-clay. The lack of topsoil, suggests that the site was deliberately cleared before this surface was laid down, possibly in the 12<sup>th</sup>/13<sup>th</sup> century. A stone-lined pit and possible rubbish pit within the area of the southern burgage plot are the earliest dated cut features at the site, the fills of these pits containing 12<sup>th</sup>/13<sup>th</sup> pottery. Cutting the yard surface were a series of cess pits, and deposits believed to be associated with medieval occupation of the northern burgage plot during the 13<sup>th</sup> to 15<sup>th</sup> centuries. Both round and rectilinear cess pits were identified and these had clearly been used for rubbish disposal at the end of their use. Also associated with this phase was a stone boundary feature, interpreted as a medieval garden wall.

Overlying the medieval features in the northern burgage plot were a series of post-medieval soil layers, cobbled surfaces and culverts. These features relate to a former yard, which would have been present to the rear of buildings fronting onto Boroughgate, which was laid down during the 17<sup>th</sup> or 18<sup>th</sup> century. Although the yard surface only survived in a fragmentary state, it contained well-made stone-lined culverts that appear to have served a more significant function than merely draining the yard surface. The layout of the culverts and the presence of a sump or drain may indicate on-site water management associated with some small-scale domestic or industrial function. At some point during the 18<sup>th</sup> century this yard went out of use, followed by soil development on the north side of the excavated area. A substantial depth of garden soil subsequently developed over the whole of the northwest side of the development area. The use of this area as a garden is illustrated on Hill's map of 1754.

## SUMMARY

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The majority of the artefacts recovered during the archaeological excavation were interpreted as domestic waste relating to the medieval and post-medieval occupation of the site. This includes a significant assemblage of medieval pottery, which was recovered from a series of cess pits and deposits on the west side of the excavated area. Over 600 shards of medieval pottery were recovered mostly comprising cooking pots and some decorated jugs. In total 11 fabric types were identified dating from the 12<sup>th</sup>-15<sup>th</sup> centuries. The pottery represents a diverse range of sources (suggested by the fabrics) as is to be expected on one of the major trans-Pennine routeways, but the affinities of most sherds appears to be with Cumbria, specifically, Penrith, Dacre and Carlisle. The majority of the post-medieval pottery recovered during the excavation comprised glazed earthenware cooking and storage vessels dating from the 17<sup>th</sup>-19<sup>th</sup> centuries, which are typical domestic wares. Only a small number of decorated fine wares were present, including some vessels from Staffordshire. A number of interesting examples of clay tobacco pipes were also recovered during the excavation, dating from the 17<sup>th</sup> and 18<sup>th</sup> centuries, including some relatively early examples (as early as c.1650). A fragment of an undecorated post-medieval bone comb was also recovered, as was an Elizabeth 1<sup>st</sup> hammered silver half groat coin (four pence), dated 1580.

The environmental samples retrieved during the excavation have provided information regarding the diet of the residents at the Shaw's Wiend site during the medieval period, and evidence for the exploitation of local resources. The seeds and cereals recovered suggest a wide exploitation of plants in the environment around Appleby-in-Westmorland. This is notable in the finds of both cultivated cereal grains and wild edible plants such as *Corylus* (hazel nuts), *Rubus* (bramble) and *Prunus* (cherry), often in large numbers. This suggests both organised agriculture and the adventitious exploitation of seasonal plants. Animal bone was recovered as domestic rubbish from the majority of cess pits, rubbish pits and deposits excavated. Cattle and sheep/goat bones were most common. However, some pig and fish were evidently also being consumed at the site. Interestingly a cat skeleton was recovered, which may indicate that the animal was butchered for its pelt, or fur. It was clear from the presence of smithing hearth bases and other undiagnostic ironworking residues that ironworking was taking place somewhere in the vicinity of the site in the medieval period. However, the small quantities recovered suggest that this was only on a small scale.

The excavation (and previous evaluation) are the first archaeological investigations to take place within the medieval borough, and the first excavation of medieval burgh plots within Appleby-in-Westmorland. The excavated evidence has the potential to contribute to a number of research questions, with specific reference to the medieval and early post-medieval town. It is recommended that the results of the final analysis of the evidence from the excavation, and the previous evaluation of the site, be published in a single article in the Transactions of the Cumberland and Westmorland Archaeological and Antiquarian Society.

## ACKNOWLEDGEMENTS

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North Pennines Archaeology Ltd are grateful to Michael Birkbeck and Mark Burns for facilitating the archaeological excavation, and to Tom Woof of Development Planning Solutions Ltd for commissioning the work. Thanks are due to Jeremy Parsons, Historic Environment Officer at Cumbria County Council, for his assistance with the project, and Steve Ashby, University of York, for dating the bone comb fragment. North Pennines Archaeology are also grateful to Alan James for his help during the fieldwork.

The fieldwork was undertaken by Kevin Mounsey, NPA Assistant Supervisor, Angus Clark, NPA Project Assistant, Sue Johnson, NPA Project Assistant and David Jackson, NPA Assistant Supervisor, and was managed by Martin Railton, NPA Project Manager. The environmental assessment was undertaken by Don O'Meara, NPA Environmental Assistant and supervised by Tricia Shaw, NPA Environmental Specialist. The specialist reports were produced by Dr Mike McCarthy, Bradford University and Cathy Brookes (Medieval Pottery), Barbara Blenkinship, Northern Ceramics Society (Post-medieval Pottery and Tobacco Pipe) and Jennifer Jones, Conservation Services, Durham University (Industrial Residues).

This report was produced by Martin Railton, NPA Project Manager, and illustrated by Martin Railton, and Angus Clark.

## **1. INTRODUCTION**

### **1.1 CIRCUMSTANCES OF THE PROJECT**

- 1.1.1 In September 2009 North Pennines Archaeology Ltd, commissioned by Mr Tom Woof of Development Planning Solutions Ltd, undertook an archaeological excavation on land adjacent to Shaw's Wiend, Appleby-in-Westmorland, Cumbria on behalf of their client Mr Michael Birkbeck. This work related to a planning application, submitted to Eden District Council, for the erection of a new dwelling at the site (Planning Application No. 3/08/255), and was required in order to mitigate against the destruction of archaeological deposits identified during a previous archaeological evaluation (Greenlane Archaeology 2006).
- 1.1.2 The site lies at the heart of the medieval town of Appleby-in-Westmorland, close to the 13th century castle. The archaeological evaluation revealed that significant archaeological remains survive at the site dating to the medieval and post-medieval periods. Consequently, two conditions were placed on the planning consent, requiring an archaeological excavation and a programme of post-excavation analysis, to ensure that archaeological remains were recorded and the results published. This is in accordance with guidance given in Planning Policy Guidance note 16 (Archaeology and Planning) and the Eden Local Plan.
- 1.1.3 The excavation was undertaken by North Pennines Archaeology Ltd, in accordance with a project design (Railton 2009a), which was submitted to, and approved by, Cumbria County Council Historic Environment Service.

### **1.2 LOCATION, TOPOGRAPHY AND GEOLOGY**

- 1.2.1 Appleby-in-Westmorland is situated in a loop of the River Eden in the Upper Eden Valley, in that part of Cumbria that was formerly known as Westmorland. The site of the new dwelling is located at the top of the main street in the town, known as Boroughgate (Figure 1). The site occupies an area of land on the west side of Boroughgate, to the north of Appleby Castle, bounded by Shaw's Wiend to the south (centred on NGR SD 517918). The High Cross is situated close to the site to the east.
- 1.2.2 At the time of the excavation the majority of the property was utilised as pasture land. However, a small 19<sup>th</sup> century outbuilding was situated on the northeast corner of the plot, set within an artificially lowered yard, with an access ramp to the southwest (Figure 2).
- 1.2.3 The west side of the excavation area was predominantly level, with an average elevation of 47m above Ordnance Datum (OD). The ground sloped downhill to the west, and was significantly lower where the property adjoined Doomgate. Two mature sycamore trees occupied the south side of the property. A Cumbria County Council Tree Preservation Order protects these trees.
- 1.2.4 The solid geology of the area comprises New Red Sandstone, overlain by glacial deposits of boulder clay (BGS 2001).



## 2. PROJECT DESIGN AND METHODOLOGY

### 2.1 PROJECT DESIGN

2.1.1 A project design for the archaeological excavation (Railton 2009a) was prepared in accordance with the recommendations of English Heritage in *The Management of Archaeological Projects*, 2<sup>nd</sup> ed. 1991, and in response to a Cumbria County Council Historic Environment Service (CCCHES) project brief (Parsons 2008). This was submitted to, and approved by CCCHES, prior to the fieldwork taking place.

2.1.2 The purpose of the archaeological excavation was to record the archaeological evidence contained within the footprint of the proposed new dwelling, and to attempt a reconstruction of the history and use of the site. The need for archaeological investigation into small towns and market towns in the northwest of England has been highlighted in the Archaeological Research Framework for North West England (Brennand 2006 & 2007). The project has the potential to contribute to a number of academic aims including:

- to contribute to a typology of medieval and early post-medieval pottery fabrics in Appleby-in-Westmorland and the Eden Valley
- to contribute to an understanding of the environment of medieval and early post-medieval Appleby-in-Westmorland, and provide information on key points such as past living conditions, land use, vegetation and exploitation of resources
- to contribute to an understanding of economic activity in Appleby-in-Westmorland during the medieval and early post-medieval periods
- to contribute to an understanding of the development, morphology, and possible contraction of Appleby-in-Westmorland, and the surrounding countryside during the medieval and early post-medieval periods
- to contribute to an understanding of medieval and early post-medieval health, hygiene and diet

2.1.3 The excavation (and previous evaluation) were the first archaeological investigations to take place within the medieval borough, and the first excavation of medieval burgage plots within Appleby-in-Westmorland. The project is therefore of some significance and also has the potential to inform wider regional, national and period-based research frameworks.

### 2.2 EXCAVATION METHODOLOGY

2.2.1 The archaeological excavation comprised the excavation of a rectangular area, measuring a total of 175m<sup>2</sup>, which covers the area of the proposed new dwelling (Figure 2). This area is on the northeast corner of the area of the previous archaeological evaluation, and incorporates one of the evaluation trenches (Trench 1).

2.2.2 An artificially lowered area was situated at the northeast corner of the excavation area, and was previously occupied by a small 19<sup>th</sup> century outbuilding and yard, with associated walls extending to the south and west. This building, the yard surface and associated walls were removed prior to the archaeological excavation taking place.

2.2.3 The excavation was undertaken in order to achieve the following:

- to preserve by record the archaeological evidence contained within the site that will be impacted by the proposed development;
- to confirm and enhance the results of the previous evaluation;
- to attempt a reconstruction of the history and use of the site;

In addition the specific aims of the excavation were:

- to attempt to identify evidence for the nature of the medieval burgage plot boundary shown on Hill's map of 1754, and to investigate evidence for early land use;
- to undertake environmental sampling and analysis of the medieval pits and other features that were identified in the previous archaeological evaluation, in order to identify the nature of past activity at the site,
- to provide information about the local environment;
- to contribute and answer research objectives posed by the North West Regional Research Framework, with specific reference to medieval and early post-medieval Appleby-in-Westmorland, and to provide information on key points such as past living conditions and the local economy.

2.2.4 The work was undertaken under the management of Martin Railton, NPA Project Manager. All staff were fully briefed on the project background, made aware of the work required outlined in the project design, and understood the projects aims and methodologies.

2.2.5 Made ground was removed using a 360° mechanical excavator fitted with a toothless ditching bucket and stored on site. This was undertaken in two stages due to the possible presence of a substantial deposit of made-ground identified during the evaluation, which could have potentially masked earlier features at the site. All machine work was carried out under direct archaeological supervision.

2.2.6 The site was subsequently cleaned by hand and base plans were produced at an appropriate scale. All identified archaeological features within the stripped area were excavated by hand to the depth of their cuts, in accordance with the North Pennines Archaeology Excavation Manual (Giecco 2003).

2.2.7 A detailed record of the stratigraphic sequence was made, in accordance with the recommendations of the Institute of Field Archaeologists (IFA 2001b).

2.2.8 Archaeological deposits and features were sampled systematically in accordance with North Pennines Archaeology Ltd., standard environmental sampling practice. The processing was overseen by Patricia Shaw, NPA Environmental Specialist.

2.2.9 All written records utilised the North Pennines Archaeology Ltd., pro-forma record sheets.

2.2.10 Plans and sections were drawn on water resistant permatrace. Plans were drawn at a scale of 1:20, and sections at 1:10. The captured data was digitised using AutoCAD software.

2.2.11 All finds are currently located at the premises of North Pennines Archaeology at Nenthead where the assessment was undertaken. However, the owner of the site, Mr Mike Birkbeck has kindly agreed that these may be deposited with the Penrith Museum in due course.

## **2.3 ASSESSMENT METHODOLOGY**

2.3.1 This document is the post-excavation assessment of the excavation at Shaw's Wiend, Appleby-in-Westmorland and includes an initial finds and environmental assessment and a review of site data. The assessment was undertaken in accordance with the process set out in the Management of Archaeological Projects 2<sup>nd</sup> edition (English Heritage 1991).

2.3.2 Key features of this report include:

- a site location plan related to the national grid;
- dates on which the project was undertaken;
- a concise non-technical summary of the data;
- a description of the methodology employed, work undertaken and an outline of results obtained;
- plans and sections at an appropriate scale showing the locations and positions of deposits and finds;
- a list of, and dates for, finds recovered, a description of the deposits identified, and a description of environmental and other specialist work.
- a statement of the archaeological potential of the site data, conclusions and recommendations for further work;

2.3.3 A number of specialists have provided assessment reports for the excavated material from the Shaw's Wiend excavation:

- Dr Mike McCarthy, Bradford University, and Catherine Brookes, Archaeological Consultant, assessed the medieval pottery. Post-medieval pottery was assessed by Barbara Blankinship, of the Northern Ceramics Society.
- Jennifer Jones, Conservation Services, Durham University assessed the industrial residues from the excavation.
- Environmental assessment (post-processing residue analysis) was undertaken by Don O'Meara, NPA Environmental Assistant, under the direction of Patricia Shaw, NPA Environmental Specialist.

## **2.4 ARCHIVE**

- 2.4.1 A full professional archive has been compiled in accordance with the project design, and in accordance with current UKIC (1990) and English Heritage guidelines (1991). The archive is currently held at the North Pennines Archaeology Offices at Nenthead, but will be deposited in the Penrith Museum in due course. One copy of this report will be deposited with the County Historic Environment Record, where viewing will be available on request.
- 2.4.2 North Pennines Archaeology Ltd., is registered with the **Online AssesS** to the **Index of archaeological InvestigationS (OASIS)**. The **OASIS** reference for this project is northpen3-74955.

### 3. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

#### 3.1 HISTORICAL BACKGROUND

- 3.1.1 **Introduction:** The following section provides a summary of the historical and archaeological background of the site. It is compiled mostly from secondary sources, intended only as a summary of historical developments around the Shaw's Wiend site. References to the Cumbria County Council Historic Environment Record (HER) are included where known.
- 3.1.2 **Prehistoric:** The earliest evidence for prehistoric activity near Appleby-in-Westmorland comes from Brackenber Moor, situated 3km to the southeast. Brackenber Moor has been occupied since at least the Bronze Age, and a number of burial cairns survive from this period (HER 1820-1823). A similar monument near Sandford, located c.1km to the southeast of Brackenber Moor, was the subject of an antiquarian excavation in the 18<sup>th</sup> century (Nicholson & Burn 1777). It contained evidence for Bronze Age cist and cremation burials, with rich grave goods.
- 3.1.3 Further evidence for prehistoric activity has recently been revealed at The Druidical Judgment Seat, a D-shaped enclosure on the east side of Brackenber Moor, which was previously believed to be a Romano-British farmstead (HER 1817). A number of flint tools and pottery fragments have been recovered during excavations by the Appleby Archaeology Group, which suggests there was activity at the site during the Late Neolithic/Early Bronze Age period (Railton 2008).
- 3.1.4 During the Iron Age, the impression nationwide is of a major expansion in population as evidenced by an abundance of settlement sites. There is also clear evidence for a growing social complexity and hierarchy. During this period, the area around Appleby-in-Westmorland seems to have formed part of the Brigantian federation of native peoples with more locally, the *Carvetii* tribe maintaining authority. Although the surrounding area is known to have been exploited from at least the Bronze Age Period onwards, there is no direct evidence for prehistoric activity in the immediate vicinity of Appleby-in-Westmorland.
- 3.1.5 **Romano-British:** the Roman advance on the northwest region of England during the 70s and 80s AD probably originated from bases in the northwest Midlands such as Wroxeter and Little Chester, proceeding north via the valleys of the Eden and Lune. By 72 AD the earliest timber fort was constructed at Carlisle (Philpott 2004). The closest evidence for Roman activity near Appleby-in-Westmorland is a marching camp at Crackenthorpe, located c.2km to the northwest of the town.
- 3.1.6 The present route of the A66, to the northeast of Appleby-in-Westmorland, is known to follow the course of the High Street Roman Road (HER 1890). Communications along this road were augmented by a series of signal stations located at Castrigg near Crackenthorpe, Augill Bridge, Brough, and on North Stainmoor (Higham & Jones 1991). The presence of another Roman Signal Station (HER 3473) has recently been confirmed by geophysical survey on Brackenber Moor (Railton 2009b).
- 3.1.7 A carved sandstone head believed to be Roman (now at Tullie House Museum), was discovered in a cutting of the Midland Railway before 1904, however the provenance

of this find is uncertain, and it may well be 19<sup>th</sup> century in date (Ross 1967,85). A number of other Roman inscribed stones have been identified in the town, including a number of original and fake stones built into a wall on Chapel Street (HER 1659). However, none of the bonafide stones are believed to have originated in the town.

- 3.1.8 There is evidence that the surrounding area was settled during the Roman period. Castle Hill settlement lies 3km to the northeast of the site in Flakebridge Wood and is believed to be a Romano-British farmstead (HER 2761). It has also been speculated that Appleby Castle may be on the site of an earlier Roman fort or Iron Age hillfort. However, to date there is no known confirmed evidence for Appleby-in-Westmorland having been occupied during the Roman period.
- 3.1.9 **Medieval:** Following the Roman withdrawal, the area came under the control of one of a series of minor kingdoms, including Rheged, which may have had its centre at Carlisle (Holdgate 2006, 21). Place-name evidence suggests that Anglian settlement was widespread in the Pennines from the 6<sup>th</sup> century, and these settlers, the 'westmoringas' or 'people west of the moors', may have given their name to Westmorland (*op sit*, 25). It can also be speculated from place name evidence that Scandinavian settlement was widespread in the Upper Eden Valley (Higham 1986).
- 3.1.10 The earliest settlement at Appleby-in-Westmorland, appears to have been on the east side of the River Eden, approximately 0.5km east of the Shaw's Wiend site (HER 4937). It is believed that a Danish manor and village were situated in the area now called Bongate, which was referred to in medieval times as 'Old Appleby' (*op sit*, 30). Evidence for this early settlement includes a 10<sup>th</sup> century hogback tombstone, which is built into the north doorway of St Michael's Church (HER 1711). The name 'Appleby' is believed to originate from the Damish 'byr' (meaning farmstead) and Old English 'aepple' (apple), meaning 'dwelling or farmstead with an apple tree'. Its earliest documented form is 'Aplebi' in 1130 (Lee 1998).
- 3.1.11 The political situation was complex in the Eden Valley during the 10<sup>th</sup> century, when it was ceded to the Scottish kingdom of Strathclyde, and attacked by the English under Ethelred in 1000, but was held by Scotland at the time of the Norman conquest (Holdgate 2006, 13). King William Rufus took Carlisle in 1092, and it is believed that a motte and bailey was constructed in Appleby-in-Westmorland soon after.
- 3.1.12 During the 11<sup>th</sup> to 13<sup>th</sup> centuries Appleby-in-Westmorland was situated in a kingdom with changing rulers. Under King William Rufus the Eden Valley was held by a number of Norman lords, starting with Ivo Taillebois, and may have been very much a 'frontier land' (*op sit*, 36). However, between 1122 and 1135 Henry I shaped Westmorland into a shire, run by sheriffs. In 1135 King David of Scotland took control of Carlisle, and became the dominant authority in the county until 1157, when Appleby-in-Westmorland was restored to England.
- 3.1.13 Appleby Castle consists of 12<sup>th</sup> century earthworks, keep and curtain wall with a 13<sup>th</sup> century round tower and 15<sup>th</sup> southeast square tower (HER 1709). The castle is believed to have been constructed by Ranulf de Meschines (or Briquessart), who was overlord of the Eden Valley for 20 years from c.1100 (*ibid*). However it is also possible that work was undertaken by Hugh de Morville who was installed at Appleby-in-Westmorland from 1136 under King David. Later works were undertaken

by the Clifford family who were resident from the late 13<sup>th</sup> century until the death of Lady Anne Clifford.

- 3.1.14 The construction of the castle was followed by a new planned town and economy, focused on Boroughgate. This new town is also ascribed to Ranulf de Meschines, who as overlord would have benefited from the new town through the payment of rents and tolls (*ibid*). The town was laid out to the north of the castle in the loop of the River Eden, with St Lawrence's Church and graveyard at the north end of the main street, which would also provide a wide market place for trading. The layout necessitated the construction of a bridge across the River Eden, to provide access to the old town at Bongate, and the road to Carlisle. The new town was also a 'borough', a place where the burgages were free from land taxes, but had other rights granted by the Lord of the manor in return for the rents they paid. The town is believed to have come into existence around 1100, and in 1179 received its first charter (Rollinson 1996, 46).
- 3.1.15 The earliest surviving map of Appleby-in-Westmorland is Hill's map of 1754 (Plate 1). This map was created to show the results of a local election, but provides a great deal of detail about the layout of the medieval town. The axis of the new town was Boroughgate, which originally ran from the castle bailey to the church, with long strips of land or 'burgages' laid out either side. It can be calculated that each burgage plot had a frontage approximately 12m wide, extending back as far as the River Eden to the east, or to a back lane (now known as Doomgate) to the west. Houses would have fronted the burgage plots with cultivated gardens behind. Shaw's Wind was one of a series of lanes providing access between Boroughgate and Doomgate, although it is uncertain when this came into existence. Burgages originally continued to the south of Shaw's Wiend, but these have since been incorporated into the castle grounds.
- 3.1.16 From the end of the 12<sup>th</sup> century and throughout the 13<sup>th</sup> century, Appleby-in-Westmorland prospered as a centre of trade, linked to the surrounding countryside through its market focused on Boroughgate. A number of major building projects were undertaken including the construction of a friary for Carmelite monks to the north of the town (HER 1650), and a leper hospital dedicated to St Leonard (HER 1655) at the site of Holm Farm to the west of the town. However, by the end of the 14<sup>th</sup> century a combination of plague, climate change and Anglo-Scottish disputes had left large parts of the town in ruins, and it took until the 16<sup>th</sup> century to recover (*op cit*, 103-104).
- 3.1.16 Under Edward I in the early 14<sup>th</sup> century border defences were improved, however after his death in 1307 the area was left to defend itself. In 1314 Robert Bruce's invasion of England resulted in the ravaging of Appleby-in-Westmorland, as well as Brough and Kirkoswold (*op cit*, 50). Carlisle was besieged on numerous occasions during the 14<sup>th</sup> century and the surrounding countryside laid waste, and on 26<sup>th</sup> December 1388 Appleby-in-Westmorland was almost completely destroyed, never again regaining its former prosperity (*ibid*).



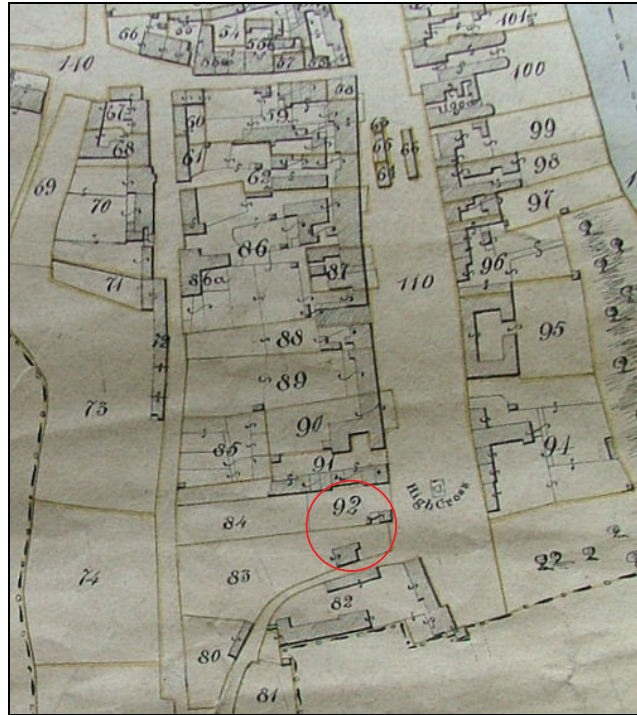
**Plate 1:** Hill's Plan of Appleby-in-Westmorland dated 1754, showing the layout of the town.



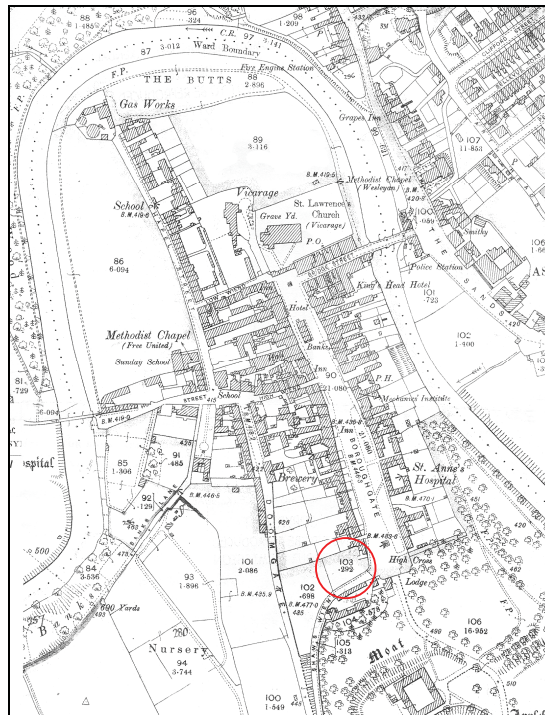
**Plate 2:** Extract from Hill's 1754 Plan of Appleby-in-Westmorland, showing the Shaw's Wiend site divided into two plots (map rotated with north at top).



- 3.1.15 **Post Medieval:** In 1603 the Union of the Crowns brought a lasting peace and stability to the border region. Appleby-in-Westmorland benefited from this political situation, and again began to prosper. During the middle of the 17<sup>th</sup> century the town came under the control of Lady Anne Clifford, who was an important figure in the history of the area, and did much to restore the castle from its ruinous state. She also worked to improve the town, and constructed the St Anne's Hospital on the west side of Boroughgate in 1653 for the maintenance of 13 poor widows. The High Cross (HER 1662), which stands immediately to the east of the Shaw's Wiend site at the south end of Boroughgate, was erected in the 17<sup>th</sup>, and is inscribed 'Retain your loyalty Preserve your right'. This cross, along with the Low Cross at the north end of Boroughgate (HER 1661), are replacements of earlier crosses, which marked the limits of the medieval market.
- 3.1.16 Throughout the 18<sup>th</sup> and 19<sup>th</sup> centuries the market town of Appleby-in-Westmorland grew in prosperity. Boroughgate remained an important street in the town and saw the construction of a number of substantial 18<sup>th</sup> century houses. As the demand for land increased a number of the original burgage plots became in-filled, often with buildings constructed around a courtyard behind the street frontage. The High Cross was the site of a cheese market and Whitsuntide hiring fair, so remained an important focus for economic activity.
- 3.1.17 Hill's map of 1754 suggests the present development area was originally part of two burgages, with the boundary still surviving at that date (Plate 2). The eastern ends of the plots were occupied by buildings, fronting onto both Boroughgate and Shaw's Wiend, with garden plots behind. Two buildings occupied the site by the time of the 1843 Appleby Tithe Map (Plate 3). The land is then described as a 'paddock' occupied by Atkinson and Co, who owned a brewery on the opposite side of Shaw's Wiend. These buildings and the burgage plot boundary were removed at the end of the 19<sup>th</sup> century, and replaced by a small lean-to outhouse and sunken yard on the northeast corner of the plot, which survived until the present development (Plate 4). A bobbin mill replaced the brewery on the opposite side of Shaw's Wiend.
- 3.1.18 **Modern:** Appleby remained the county town of Westmorland until it was dissolved in 1974. It has remained a traditional market town, with very few modern developments having taken place within the medieval core. The Shaw's Wiend site remained part of the land belonging to the bobbin mill on Shaw's Wiend until recently, and appears to have been utilised as pasture land or garden throughout the 20<sup>th</sup> century. A high wall separates the plot from Boroughgate (Plates 5 & 6). The site of the proposed new dwelling is possibly the only plot of land adjoining Boroughgate, which has remained undeveloped throughout the modern period. For that reason it is considered to have a high potential for the survival of archaeological remains dating from the medieval and post-medieval periods.



**Plate 3:** Extract from the 1843 Appleby Tithe Map, showing buildings at the Shaw's Wiend site



**Plate 4:** Extract from the 2<sup>nd</sup> Edition 6<sup>1</sup>/<sub>4</sub> mile Ordnance Survey map of 1898

## **3.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS**

- 3.2.1 The archaeological evaluation at the Shaw's Wiend site was the first modern archaeological investigation to take place within the medieval borough of Appleby-in-Westmorland. Previous investigations have been limited to work focusing on the the possible remains of the Appleby Friary, situated across the river to the north of the town. The evaluation comprised a 5% sample of the total area of the proposed development. This involved the excavation of three trenches measuring *c.* 8m by 1.6m, which were located to target features identified on historic maps of the site (Greenlane Archaeology 2006).
- 3.2.2 Trench 1 was positioned in the northeast corner of the plot, with the intention of examining structures shown in this location on Hill's map of 1754, and to investigate whether any earlier structures were present. Two cobbled surfaces and a stone-lined drain or were revealed in this trench. These were interpreted as medieval yard surfaces, with the culvert providing drainage between different levels. Above these was a layer of garden soil believed to date to the late 17<sup>th</sup> to 19<sup>th</sup> centuries, above which were a number of post-medieval and modern features.
- 3.2.3 Trench 2 was positioned to the west of Trench 1, in an area shown to be relatively empty of features on historic maps of the site, where it was considered other features might be present (e.g. medieval rubbish pits). Only layers of garden soil, and re-deposited clay were revealed in this trench.
- 3.2.4 Trench 3 was positioned to investigate the boundary shown on Hill's map of 1754 and later maps, which was considered likely to have been the location of the original medieval burgage plot boundary, as well as a building shown on the south side of the plot, facing onto Shaw's Wiend. A linear feature was identified at the north end of the trench, which may be the remains of one phase of the original burgage plot boundary. A small pit, thought to originally have held a barrel, was identified on the northwest corner of the trench. Another pit containing medieval pottery was identified to the east.
- 3.2.5 The earliest deposit identified in all three trenches was a layer of mottled orange clay, which was apparently deposited across the entire site, containing flecks of charcoal, finds and possible cess material. The evaluation failed to identify the full thickness of this material, or the possible presence of underlying deposits. It was interpreted as a possible trampled ground surface that may have developed between the 12<sup>th</sup> and 16<sup>th</sup> centuries, or a dumped deposit used to level the site, however this was uncertain.
- 3.2.6 Cutting this layer were a number of features interpreted as medieval, including cobbled surfaces, a pit and a stone-lined drain. Above these was a garden soil which was believed to correspond to the garden plots shown on Hill's map of 1754. A small pit and wall may be associated with this phase. Late post-medieval deposits subsequently developed, including layers of rubble, stone and brick edging, and paths.
- 3.2.7 A large quantity of medieval and post-medieval pottery was recovered during the evaluation, which has the potential to add considerably to the understanding of local pottery fabrics and the social status of people in this part of Appleby-in-Westmorland.

## 4. THE EXCAVATION

### 4.1 INTRODUCTION

- 4.1.1 The excavation of land at Shaw's Wiend, Appleby-in-Westmorland, took place between 24<sup>th</sup> September and 9<sup>th</sup> October 2009. The foundations of a former 19<sup>th</sup> century lean-to building, sunken yard, and garden walls were first removed from the artificially lowered area on the east side of the site using a 360° mechanical excavator (Plates 5 & 6). The excavation was undertaken under close archaeological supervision, to the top of the natural undisturbed clay. No archaeological features were identified in this area, apart from on a narrow shelf of land on the south side of the excavation. Topsoil and modern overburden were subsequently excavated on the west side of the site to the top of the first archaeological deposits identified. One of the archaeological trial trenches previously excavated at the site was seen to cut this part of the excavation (Trench 1).
- 4.1.2 Archaeological features were revealed over most of the western excavated area, some of which were cutting into a layer of silty-clay. This layer was interpreted as possible layer of made ground in the previous archaeological evaluation. The features were cleaned by hand, photographed, and recorded in plan. They were subsequently excavated and recorded by hand to the depths of their cuts.
- 4.1.3 Bulk soil samples were taken from the fills of all the excavated cut features. All of the artefacts revealed during the excavation were bagged and labelled on site, and subsequently removed to the company offices at Nenthead for processing.
- 4.1.4 A photographic record of the excavation was made in colour slide, and black & white print film, using Canon Eos 500 cameras. High resolution digital photographs were also taken, a selection of which are included in this report. A drawn record was also made on high quality draughting film.
- 4.1.5 Following the excavation of the archaeological features and deposits, the layer of silty-clay was excavated by machine, under close archaeological supervision, to identify whether any earlier features were present beneath this layer. However, it was revealed that the silty-clay was in fact a natural glacial deposit, overlying the undisturbed clay. No features earlier than the medieval period were identified.
- 4.1.6 The following section summarises the results of the excavation. In this description the context numbers are given for archaeological deposits in rounded brackets ( ), and the context numbers for structural or cut features are shown in square brackets [ ]. A complete list of contexts is included in Appendix 1. The stratigraphic information is presented in Appendix 2 in the form of a Harris matrix.



**Plate 5:** The site prior to excavation, showing the 19<sup>th</sup> century lean-to building and sunken yard (looking east).



**Plate 6:** Excavation of the artificially-lowered area on the east side of the development area, following the demolition of the lean-to building (looking north).

## 4.2 EXCAVATION RESULTS

- 4.2.1 **Natural clay and subsoil:** The natural orange-red clay (**102**) was revealed at a depth of *c.*1m below the ground level (bgl) on the west side of the excavation area. This was visible in section following the removal of the retaining walls surrounding the former sunken yard on the west side of the development area (Plate 7). The clay was cut by the foundations of the former outbuilding and yard. No archaeological features were visible in this artificially lowered area. Any archaeological features that may have been present in this area would have been removed by the construction the outbuilding and yard at the end of the 19<sup>th</sup> century.
- 4.2.2 Above the natural clay (**102**) was a 0.85m-deep layer of orange-brown silty clay (**101**), interpreted a glacial deposit of boulder clay. This layer was removed from the whole of the excavation area at the end of the project, as this was interpreted as made-ground during the previous evaluation of the site. However no finds were recovered from this layer, which appeared entirely natural.
- 4.2.3 Cutting the natural subsoil (**101**) and clay (**102**), and later archaeological deposits was a 0.7m-wide, 1.5m-deep trench for a ceramic waste pipe [**122**]. This trench ran from east to west across the entire north side of the excavation area, and was associated with the former outbuilding on the east side of the proposed development area. The trench was backfilled with re-deposited orange-brown silty clay (**123**), which was indistinguishable from the natural subsoil (**101**). This trench bisected significant a number of the archaeological features and deposits that were revealed on the north side of the excavation area.



**Plate 7:** Section showing the depths of the natural clay (**102**) and subsoil (**101**), following wall removal on the east side of the site (looking west).

- 4.2.4 **Medieval ground surfaces:** Overlying the natural subsoil (101) at the centre of the excavation area was a compact spread of small angular stones and pebbles (125). This area measured 2.5m by 1.5m, and was comprised of embedded small stones measuring between 0.03m and 0.08m in diameter. A number of shards of medieval pottery and tile were recovered from this layer, which was interpreted as a trampled ground surface (Figure 3).
- 4.2.5 It is believed that this surface was originally more extensive across the site, as a similar surface of small stones (160) was revealed on the north side of the excavation area. This surface measured 2.5m long and 0.7m wide, but had been truncated on the south side by the service trench [122], and continued into the northern baulk of the excavation area.
- 4.2.6 **Boundary feature:** Overlying the medieval surface (125) on the south side of the excavation area, was a linear deposit of rounded boulders and cobbles measuring between 0.25 and 0.8m in diameter (107). This feature was 1.6m long, 0.5m wide and up to 0.15m high, aligned east to west, but may originally have been more extensive (Figure 3). A large number of shards of medieval pottery and a fragment of tile were recovered from amongst the stones of this feature (Plate 8). It was noted that there was a distinct change in the level of the ground surface to the west of this feature, on the same alignment as the stone deposit, with the ground being noticeably lower to the north of this alignment. Historic mapping indicates that this feature was too far north to be the original burghage plot boundary. However, it is possible that the stones represent part of medieval garden wall or other boundary feature.
- 4.2.7 Abutting the south side of the linear feature (107) and overlying the stone surface (125) was a dumped deposit of orange-brown compact silty clay (149), which contained large quantities of charcoal and shards of medieval pottery. The deposit measured 0.7m long, 0.5m wide, and 0.06m deep, and was sampled for environmental assessment (see Section 6, Sample 13).



**Plate 8:** Linear deposit of stones (107) overlying an earlier stone surface (125), looking south

- 4.2.8 **Small pits and postholes:** at the west end of the linear feature (107), was a circular stake hole [142], which measured 0.18m in diameter and was 0.2m deep with vertical sides and a rounded base. The stake hole was filled with brown-grey silty clay (143), and was defined on the south side with tightly packed cobbles. The stake hole was on the same alignment as the linear stone deposit (107), and appeared to be associated with this boundary feature, possibly forming part of a former fence.
- 4.2.9 The base of a sub-square post hole [134] was situated 0.8m to the west of this feature, on the same east-west alignment. This measured 0.2m in diameter, and 0.1m deep with rounded corners, vertical sides and a flat base. The post hole was filled with brown silty clay (135), containing occasional small stones and two shards of medieval pottery.
- 4.2.10 A small pit [152] was situated 1m to the south of these features (Figure 3). The rounded cut was 0.4m in diameter and 0.18m deep, with near-vertical sides and a flat base. It was filled with similar brown silty clay (153), containing occasional rounded cobbles up to 0.8m in diameter, and smaller pebbles and gravel. A significant quantity of medieval pottery dating from 13<sup>th</sup> or 14<sup>th</sup> centuries was recovered from the fill of this feature.
- 4.2.11 Immediately to the north of the boundary feature (107), was the cut of an irregular feature [156], interpreted as the truncated base of another pit and/or possible animal burrow. This feature was 0.5m wide at the east end, narrowing to 0.25m at the southwest end. Overall the feature was 1.3m long and up to 0.2m deep, and was aligned northeast to southwest with irregular sides and base. The feature was filled with orange-brown silty clay containing occasional pebbles (157). Two shards of medieval pottery and two large animal bones were recovered from the fill of this feature.
- 4.2.12 **Medieval pits:** eleven large pits were revealed cutting the natural silty clay (101) and possible yard surface (125) on the west side of the excavated area, which are believed to be associated with the medieval occupation of the site (Figure 3 and Figure 5).
- 4.2.13 A large irregularly-shaped pit [136], was revealed on the west side of the excavation area (Plate 9). This pit was 2.1m wide, 2.7m long and 0.75m deep steep rounded sides and base (Figure 5, Section 3). The pit had been deliberately back-filled with a 0.6m-deep deposit of rounded boulders and cobbles (141) measuring between 0.1m and 0.15m in diameter, above which was a 0.3m-deep deposit of brown-grey silty clay (137) containing numerous shards of medieval pottery, tile, mortar, coal, bone, and a fragment of a medieval bronze vessel. This was sampled for environmental assessment (see Section 6, Sample 16).
- 4.2.14 The northern part of a circular pit [118] was revealed in the southern edge of the excavation area (Plate 10). This was 3.3m long and 0.76m wide (where exposed), and at least 0.5m deep (Figure 7, Section 10) with a large flat stone in the base. The pit was filled with dark brown-grey silty clay (119) containing shards of medieval pottery, bone, slag and charcoal, and was sampled for environmental assessment (see Section 6, Sample 10). This deposit was sealed by a 0.05m-deep layer of cobbles measuring on average 0.15m in diameter (133), above which was a further 0.2m-deep



layer of mixed brown-grey silty clay and cobbles (132). This deposit contained further shards of medieval pottery and animal bone.



**Plate 9:** A large pit [136] on the west side of the excavation, which was deliberately back-filled with stone at the end of its life (looking east)



**Plate 10:** A circular pit [118] on the southern edge of the excavation area, (looking east)

- 4.2.15 Immediately to the east of the linear feature (107), was another sub-circular pit [120], which was 1.6m long, 1.2m wide and 1.25m deep, with near-vertical sides and a rounded base (Figure 5, Section 5). The bottom of this pit contained a 0.05m-deep waterlogged deposit of yellow-green organic matter (145), which was interpreted as cess material, and was sampled for environmental assessment (see Section 6, Sample 9). Above this deposit was a 0.15m-deep deposit grey silty-sand (144) containing compressed organic fibres (see Section 6, Sample 8).
- 4.2.16 Above deposits (145) and (146) was a 0.6m-deep layer of orange-grey silty clay (138), containing shards of medieval pottery, a bronze fragment, slag, bone and charcoal, indicating that the pit may also been used for rubbish disposal (Plate 11). This deposit was also sampled (see Section 6, Sample 7). Above this layer was a 0.55m-deep layer of brown silty clay (130), containing frequent boulders and large cobbles, which appeared to be a deliberate back-fill deposit. Further shards of medieval pottery, encrusted iron nails, pieces of mortar and bone were recovered from this layer, which was also sampled (see Section 6, Sample 1).



**Plate 11:** A cess pit [120] on the south side of the excavation area, (looking west)

- 4.2.17 Covering the top of this pit was a 0.1m-deep layer of brown-grey silty clay (121), containing shards of post-medieval pottery, glass, tile and an iron nail. This was believed to be a remnant of the layer of post-medieval garden soil that covered the majority of the site (106), which had slumped into the top of the pit.
- 4.2.18 To the north of this pit, was a row of three closely-spaced pits [173], [175] and [177], aligned east to west, another pit [165] immediately to the north (Plate 12). These pits were sealed by later cobbled surfaces (112) and (114), and were revealed during the

excavation of the layer of silty-clay (**101**) by machine, under close archaeological supervision. The pits were subsequently half-excavated and sampled.



**Plate 12:** A series of pits, which were sealed by later cobbled surfaces, on the north side of the excavated area, (following excavation of the subsoil (**101**), looking south)

- 4.2.19 The easternmost pit [**173**] was sub-oval in plan, being 1.1m long, 0.7m wide and 0.4m deep, with steep sides and a rounded base, similar to the cess pit [**120**] to the south (Figure 5, Section 6). The bottom of this pit cut into the natural clay (**102**) and was waterlogged. Yellow staining was also noted around the edges of this pit, providing further evidence to support the interpretation that this was a former cess pit. The pit was filled by a mixed deposit of re-deposited orange-brown clay and silty clay (**174**), containing rounded pebbles, animal bone, and pieces of charcoal and mortar. The deposit was sampled for environmental assessment (Figure 5, Section 6).
- 4.2.20 Situated 0.5m to the west of this pit was a sub-rectangular pit [**175**], which was 1.7m long, 1.2m wide and 0.4m deep, with steep sides and a flat base (Figure 5, Section 6). A possible posthole or animal burrow was noted on the northwest corner of this pit, and three possible stake holes were seen cutting into the base of this feature (Figure 3). A hard yellow-green 0.02m-thick calcretion (**187**) was seen around the edges of this pit, which was believed to be the result of former cess material leaching into the surrounding subsoil. It is possible that the post hole and stake holes may indicate the presence of a former timber lining, but this was uncertain, as they may also be later intrusions. The pit was filled by a 0.1m-deep deposit of grey-black silty clay (**186**), containing a fragment of tile and animal bone. The deposit was sampled for environmental assessment (see Section 6, Sample 21). Above this deposit was a 0.2m-deep layer of compact orange-brown clay (**185**), which was interpreted as a deliberate back-fill deposit. Above this was a 0.06m-deep layer of grey-brown silty-clay (**176**) containing shards of medieval pottery and bone.

- 4.2.21 Situated 0.5m to the west was a third pit [177], similar in size and shape to the first. This was sub-circular in plan, being 1m long, 0.75m wide and 0.6m deep, with near-steep sides and a rounded base (Figure 5, Section 6). The pit was filled with orange-brown clay (184), with several large stones at the base, interpreted as a deliberate back-fill deposit. Above this deposit was a 0.15m-deep layer of grey-brown silty clay (178) containing some animal bone, which was sampled (see Section 6, Sample 22). It seemed likely that this was also originally a cess pit, although the staining was not present as with the previous pits.
- 4.2.22 Immediately to the north of these three pits was an elongated pit [165], which was 3m long, 1.3m wide and 0.65m deep, aligned east to west, with near-vertical sides and a flat base (Figure 5, Section 5). It is possible that this pit was truncated on the north side by the modern service trench [122], which was immediately adjacent. The pit was filled with a 0.4m-deep layer of dark grey-black silty clay (166), which contained occasional cobbles and deposits of wood ash and charcoal. A large number of shards of medieval pottery, tile, metal, and bone were recovered from this deposit, indicating that the pit was used for domestic rubbish disposal. This deposit was sampled for environmental assessment (see Section 6, Sample 14).
- 4.2.23 The west end of the pit appeared to have been re-cut. This later cut [181], measured 1.25m long, 0.75m wide and 0.2m deep. During the excavation, the basal fill of this cut was given the context number (183), but this was in fact the same material as the primary fill (166) of the larger pit [165], which the later cut had truncated. The re-cut was filled by a 0.08m-deep deposit of orange-brown silty-clay (182), containing sub-angular and rounded stones (Figure 5, Section 7). This appeared to be a layer of re-deposited natural subsoil, which had been used to back-fill the pit (this layer is identified in Section 5 as context (171)). Above this layer was a 0.2m-deep layer of mixed grey-brown silty clay (170) containing small stones, bone and charcoal. Above this layer, and filling the top of the pit [165], was a 0.3m-deep layer of grey-brown silty clay (169), containing shards of medieval pottery, tile, corroded nails, animal bone and charcoal, which was sampled for environmental assessment (see Section 6, Sample 15).
- 4.2.24 To the east of these features was a further series of pits, which at first appeared to be a linear feature [108], aligned north to south. However, upon excavation this was found to be overlying at least three closely-spaced pits (Figure 5). The southernmost pit [128] was sub-circular in plan and measured 1.1m by 0.9m, being 1.1m deep with steep sides and a rounded base (Figure 5, Section 1). This contained a single fill of grey-brown silty clay (129), which contained some large boulders up to 0.7m in diameter (Plate 13). This appeared to be a deliberate backfill deposit, containing a large number of shards of medieval pottery, tile, encrusted iron nails, bone and slag, which was sampled for environmental assessment (see Section 6, Sample 4).
- 4.2.25 The north side of this pit appeared to cut the south side of an earlier circular pit [126], with steep sides and a flat base (Figure 5, Section 2). This pit measured 0.7m in diameter, being 0.4m deep, and was filled by similar grey-brown silty clay (127), containing pieces of charcoal, mortar, shards of medieval pottery and bone. This was also sampled for environmental assessment (Sample 3).



**Plate 13:** Half-excavated pit [128], cutting an earlier pit [126] (in the foreground), looking south

- 4.2.26 Cutting the fills of these pits was the cut of a shallow linear feature [108], which was on average 1.2m wide, at least 4.5m long and 0.2m deep, with rounded sides and base (Figure 5, Section 3 and Section 4). This feature was bisected by the modern service trench [122] at the north end. The linear feature was filled by grey-brown silty clay (109), containing medieval pottery, tile, and post-medieval metal and glass, which was indistinguishable from the fills of the pits. This was also sampled for environmental assessment (Sample 2).
- 4.2.27 To the north of this feature was another sub-circular pit [150], which measured 1.45m long, at least 0.6m wide and 0.65m deep, with steep sides and a rounded base. However, this had been bisected by the modern service trench [122], meaning the full extent of this pit was unknown. The pit was filled by a 0.2m-deep deposit of grey-black silt (154) containing pieces of charcoal, burnt bone, and shards of medieval pottery (Sample 11). Above this was a 0.4m-deep layer of grey-brown silty clay (151), which contained further shards of medieval pottery and encrusted iron nails (Sample 12).
- 4.2.28 Cutting the top of the pit [150] was another linear feature [158], which is likely to be the same as the linear feature [108], seen to the south of the modern service trench. This feature was 0.6m wide, 0.64m deep and at least 1.45m long, and continued into the northern baulk of the excavation area (Figure 7, Section 9). It was filled by grey-brown silty clay (159), from which two shards of medieval pottery were recovered. The nature of this feature [150], and the feature to the south [108], was uncertain, although these appeared to become progressively deeper to the north. It is possible that these mark the location of a former boundary feature or drainage channel.

- 4.2.29 Two further possible medieval pits were revealed cutting the subsoil (**101**) on the southern edge of the excavated area, adjacent to artificially lowered area of the former sunken yard (Figure 4).
- 4.2.30 The first pit [**139**] comprised a shallow sub-circular cut, which measured 2.2m in diameter, and 0.2m deep, with a convex base. This was disturbed by the presence of numerous tree roots from a nearby mature Ash tree, and the northern part of this feature had been bisected by the excavation for the former sunken yard and earlier building in the 19<sup>th</sup> century. The base of this feature was tightly packed with rounded boulders (**140**) between 0.1m and 0.3m in diameter (Plate 14). A single shard of medieval pottery was recovered from amongst these stones. The feature was interpreted as the base of a pit, however this had been severely truncated in the past.
- 4.2.31 Above the stones (**140**) was a 0.55m layer of hard and compact orange clay (**172**), which was visible throughout the southern baulk of the excavation in this area, and was interpreted as a layer of re-deposited natural boulder clay. This layer may have been deposited during the construction of the sunken yard and earlier building to the north. Above this was a 0.1m-deep layer of topsoil and turf (**100**).



**Plate 14:** The stone-filled base of a possible medieval pit [**139**], on the southern edge of the excavation, looking south

- 4.2.32 Situated 4m to the west of this feature, was the base of another pit [**103**], which had been truncated on the north side by the access ramp running down into the former sunken yard. The pit was sub-square in plan, being 1.4m wide and up to 0.4m deep, with vertical sides and a flat base (Figure 7, Section 11). This was filled by a 0.3m-deep layer of dark brown silty sand (**104**) within the southern edge of the excavated area. However, very little of this fill survived in the area of the access ramp. Shards of medieval pottery, bone and charcoal were recovered from the fill of this pit, which was sampled for environmental assessment (see Section 6, Sample 17).
- 4.2.33 The pit had also been truncated on the west side by the cut [**179**] for a 19<sup>th</sup> century garden wall [**148**], which would have originally surrounded the sunken yard. The cut

[179] was 0.65m long, 0.8m wide and 0.2m deep (Figure 7, Section 11). The base of the wall [148] comprised two mortared sandstone pieces, measuring 0.35m in diameter, and 0.1m deep, aligned north to south. The wall cut was back-filled with compact orange clay (180), interpreted as re-deposited natural clay. Above this layer was a 0.3m-deep layer of brown silty clay (105) containing post-medieval pottery, glass and bone. Above this was the hard and compact orange clay (172), and a 0.1m-deep layer of topsoil and turf (100).

- 4.2.34 Also cutting the northwest corner of the pit [103], was a trench for a modern water pipe, which ran down the access ramp towards the former 19<sup>th</sup> century building. The cut of this trench [146] was 0.3m wide and up to 0.3m deep, and was exposed for a length of c.3m, aligned northeast to southwest. It was filled by a cast-iron pipe and back-filled with dark brown silty clay (147).
- 4.2.35 *Post-medieval cobbled surfaces and culverts:* covering the medieval stone surface (160) and pit [150], on the northern edge of the excavated area, was a 0.2m-deep layer of orange-brown sandy clay (155), from which a shards of post-medieval pottery, clay tobacco pipe and bone were recovered. This soil was visible in the northern edge of the excavated area (Figure 7, Section 9), and was cut by the linear feature [158]. This soil survived as a narrow band within the excavated area, but had been disturbed on the south side by the modern service trench [122].
- 4.2.36 Above this soil was a 3.7m-long, 0.7m-wide well-laid cobbled surface (113), which consisted of a series of rounded stones between 0.1m and 0.4m in diameter, and on average 0.15m deep, set into the layer of orange-brown sandy clay (155). The east side of this surface had been disturbed, but a further 1.2m-long, 0.7m-wide cobbled surface was revealed to the east (110), which is also believed to be part of this former yard surface (Figure 6, Plate 15). This surface continued to the north of the excavated area, but had been bisected to the south by the modern service trench [122].



**Plate 15:** Post-medieval cobbled surfaces on the west side of the excavated area, truncated by a modern service trench (left), looking east

- 4.2.37 To the south of the service trench, another layer of grey-brown silty clay (**169**) was revealed, covering a number of the medieval pits [**173**], [**175**], [**177**] and [**185**]. This was up to 0.3m deep, and contained a number of shards of medieval pottery, tile, metal objects, and bone. This layer was sampled for environmental assessment (see Section 6, Sample 15). Set into this layer, and covering the medieval pits, was another cobbled surface (**112**), which is believed to be part of the same cobbled yard surface seen to the north of the service trench i.e. contexts (**110**) and (**113**). This surface measured 4.2m long and 1.4m wide, and was comprised of slightly smaller cobbles, measuring between 0.1m and 0.2m in diameter. A further 1.4m-long, 1.2m-wide patch of cobbles (**114**) was revealed to the south, which may be part of the same yard surface. These cobbles were the same ones that had previously been identified within the evaluation trench (Trench 1).
- 4.2.38 On the northwest side of this surface was a sunken cobbled feature (**164**), which was presumably designed to drain water from the cobbled yard surface. This feature was 0.8m wide, at least 1.8m long and 0.1m deep. The drain was made of closely-set cobbles, measuring on average 0.1m in diameter, and ran east to west following the natural slope of the ground surface.



**Plate 16:** Sunken cobbles of a drain (**164**), set within a cobbled yard surface (**112**), looking north

- 4.2.38 At its west end this drain joined a stone-lined culvert [**167**], which was ‘dog-legged’ in plan, running approximately south to north across the site, but had been truncated by the modern service trench at the north end (Figure 6). The cut of the culvert [**167**] was c.2.5m long, 0.35m wide and 0.2m deep, with vertical sides and a flat base lined with pieces of slate. The sides of the culvert were lined with rounded flat cobbles and pieces of sandstone, set on edge. At the southern terminus of the culvert a 0.3m-deep drain or sump was revealed, which measured 0.3m in diameter, and appeared to have been designed to drain to the cobbled surface. From here the water would have run northwards down the culvert (Plate 16).





**Plate 17:** Slate-lined culvert [167], with sump (looking southwest)

**Plate 18:** Stone culvert [115] (looking north)

- 4.2.39 This culvert [167], was joined by another stone-lined culvert [115] to the south. This was 2m long, 0.35m wide and 0.15m deep with similar flat stones (116) lining the sides (Plate 17). This culvert cut into the natural silty clay (101). There was no evidence for a slate base to this feature, but it is possible that this had been removed. Part of this culvert was revealed within the evaluation trench (Trench 1). Both culverts [167] and [115] were filled brown silty clay (131) which contained shards of medieval pottery, glass and bone. This fill was sampled for environmental assessment (see Section 6, Sample 6).
- 4.2.40 To the south of the culverts, overlying a large medieval pit [136], another soil layer was identified, which comprised brown silty clay (161), very similar in appearance to context (169). This soil was 0.3m deep and contained shards of medieval and post-medieval pottery, tile, glass, clay tobacco pipe, slag, coal bone and a lead musket ball. Set within this deposit was a 3m long, 2.6m wide cobble surface (117), comprising rounded stones ranging in size between 0.06m and 0.3m in diameter. This surface included some larger rectangular stones, which may have originally capped the adjacent culvert [167], and a tooled sandstone block, which was probably reused from a nearby building. There was a distinct fall in ground level to the west of this cobbled surface, suggesting this was the limit of the former cobbled yard (Figure 6).
- 4.2.41 *Post-medieval garden soils:* above the cobbled surfaces (110), (112), (113), (114), (117), (167) and culverts [115] and [167], on the north side of the excavated area was

a layer of brown silty clay soil (**111**), interpreted as a post-medieval soil (Figure 7, Section 9). This layer contained both medieval and post-medieval pottery, clay tobacco pipe fragments, animal bone, metal objects, glass, slag and tile. The soil was on average 0.2m-deep, but became thinner on the east side of the excavation, and was not present on the south side of the site. The limit of this soil corresponded to the alignment of the linear feature **[107]**, suggesting that the area to the north once formed a garden plot, which was separate from the area to the south.

- 4.2.42 Above this layer, in the northern edge of the excavation area was a 1.9m-wide, 0.3m-deep dumped deposit of stone and brick rubble (**162**). The former retaining wall **[163]** of the sunken yard to the east also cut this layer (Figure 7, Section 9).
- 4.2.43 Covering the whole of the western part of the excavation area, was a 0.6m-deep layer of grey-brown silty loam (**106**), which contained medieval, post-medieval and modern pottery, clay tobacco pipe fragments, glass, metal, and bone. A number of former garden features were identified in this soil layer, including brick path edging, and dumps of stone and brick rubble.
- 4.2.44 Cutting the post-medieval/modern garden soil (**106**) was the service trench **[122]**, which was 0.7m wide and 1.3m deep, and ran east to west across the northern part of the excavated area for a distance of 12m. This contained a ceramic waste water pipe measuring 0.18m in diameter, and was backfilled with orange-brown silty clay (**123**). Also cutting this layer was the 1.2m-wide, 8.2m-long evaluation trench **[124]**, which was situated towards the centre of the western excavated area, aligned approximately east-west. This was backfilled with a mixed deposit of stone, soil and silty-clay (**188**). Some shards of medieval pottery were recovered from this material but these were designated as unstratified finds.
- 4.2.45 Covering the whole of the excavated area (apart from the area of the former sunken yard and 19<sup>th</sup> century building) was a 0.15m-deep deposit of modern topsoil and turf, relating to the previous use of the plot as pasture land/garden.

## 5. THE ARTEFACTS

### 5.1 INTRODUCTION

5.1.1 This section covers the artefacts that were retrieved during the excavation. The artefacts were returned to the company offices at Nenthead for processing and initial assessment. These were subsequently sent for specialist assessment as required. All artefacts are currently held at the North Pennines Archaeology Offices at Nenthead, but it is anticipated these will ultimately be deposited with Penrith Museum. A table listing all of the finds from the excavation is included in Table 1, Appendix 3.

### 5.2 MEDIEVAL POTTERY

*By Dr Mike McCarthy and Cathy Brookes*

5.2.1 Nearly 600 sherds of medieval pottery were recovered during the excavation from a series of pits and deposits at the site. The pottery represented a diverse range of sources as suggested by the fabrics (see Table 2, Appendix 3). This is to be expected given the site's location on one of the major trans-Pennine routeways, although the affinities of most sherds appears to be with Cumbria, specifically, Penrith, Dacre and Carlisle, with which the pottery has been compared, rather than the North-East.

5.2.2 Much of the pottery was relatively fresh and unabraded, but the majority of sherds were small in size, showing that they may have been subject to some movement and trampling. Given that post-medieval surfaces were in direct contact with medieval features this is not surprising. A few sherds are relatively large and may have been broken at or near the point of discovery as in the case of a highly decorated jug found on surface **(125)** and with joining sherds in an adjacent pit **(130)**.

5.2.3 Almost all the pottery comprised domestic wares, either 'cooking pots' or glazed jugs. Very occasional bowls were also noted, and there was one unusual and uncertain form. Amongst the jugs there are simple plain wares as well as highly decorated anthropomorphic vessels, some with motifs that link directly with Carlisle.

5.2.4 Few contexts produced pottery solely attributable to the 12<sup>th</sup> or early 13<sup>th</sup> century **(104, 105, 140, 169, 176)**, far and away the majority yielding wares typical of the 13<sup>th</sup> to 15<sup>th</sup> centuries. It was clear that no pottery was recovered that was recognizably 16<sup>th</sup> century or later in date, and no continental imports such as stoneware. The pottery is listed by context in Table 2, Appendix 3.

5.2.5 The following list is a summary of the fabric types identified. However, this is provisional and would be subject to modification following full analysis of the assemblage, allowing production of a type series. The following fabric types were present:

1. Red gritty ware (12<sup>th</sup>-13<sup>th</sup> century)
2. Off-white to buff gritty ware (12<sup>th</sup>-13<sup>th</sup> century)
3. Reduced grey sandy, hard.

4. Off-white to buff sandy Partially Reduced Grey Ware (13<sup>th</sup>-14<sup>th</sup> century)
5. Fine, smooth, reduced Late Medieval Reduced Grey Ware (14<sup>th</sup>-15<sup>th</sup> century)
6. Red to brown sandy ware.
7. Buff, sandy fully oxidized ware
8. Buff, fine sandy ware – different to 7 (Early 13<sup>th</sup> century)
9. Black, gritty ware (12<sup>th</sup>-14<sup>th</sup> century – probably early on in that range)
10. Buff, lightly gritted ware (13<sup>th</sup>-14<sup>th</sup> century)
11. Buff, very smooth ware (15<sup>th</sup> possibly extending into 16<sup>th</sup> century)

### 5.3 POST-MEDIEVAL POTTERY

*By Barbara Blenkinship*

- 5.3.1 A collection of post-medieval pottery was recovered from the site. Most were recovered from layers of garden soil, as well as post-medieval linear features and some pit fills. The pottery mainly comprised domestic earthenware vessels and some stoneware, which dated from the late 17<sup>th</sup> to 19<sup>th</sup> centuries.
- 5.3.2 Three shards of from a large earthenware jug or flagon were recovered from soil layer **(105)**, the largest piece is the juncture of the upper handle terminal with the body and the smallest piece conjoins with it. The remaining shard is another portion of handle.
- 5.3.3 Two shards of coarse red earthenware were also recovered from context **(105)**. The largest is glazed on one side only with a lead glaze which contains many black specks due to iron contamination, and shows signs of heavy utensil use. It is probably the well of a plate or baking dish. The smaller shard is from the rim of a dish or plate which has white slip covered with lead glaze on the upper surface only.
- 5.3.4 Thirteen shards of red earthenware with a black glaze were recovered from soil layer **(106)**. The largest piece is part of the wall of a large storage vessel, possibly a bread crock, and is made from a laminated mixture of red clay with white striations. This is typical of the coarse earthenware from the Buckley area of North Wales. The remaining twelve shards are not large enough to be able to determine their original form and are from several different vessels. One shard of light red, fine textured earthenware with a clear lead glaze covering the interior and half the exterior was also recovered from this deposit.
- 5.3.5 Eight shards of red earthenware decorated with coloured slips were also recovered from this context. The largest shard is part of the rim of a pancheon or baking bowl which was washed internally with a white slip then splashed with manganese oxide to produce a “runny” brown effect. A second shard from a finer vessel has been decorated in the same way, tentatively dated to the 18<sup>th</sup> century.
- 5.3.6 Two shards from different redware bowls were also recovered from context **(106)**. These have been simply decorated with white slip covered with lead glaze. They were most probably used as dairy bowls and are likely to be 19<sup>th</sup> century. The remaining

piece of redware has been trailed with white slip but the shard is too small to be able to make out the pattern or original function of the vessel.

- 5.3.7 The largest of the remaining three shards is made from pale, buff firing clay containing small pieces of grog and what appear to be tiny pieces of quartz. This shard is from a shallow bowl which was formed over a hump mould then decorated on the upper surface with white and dark brown slip. The decoration was trailed directly on to the leather-hard surface then the pattern was disrupted by drawing the tip of a feather through the lines. The remaining two pieces are made from a very light firing clay which was coated on the upper surface with white slip on which fine brown lines were slip trailed before being "feathered" in the manner described above. These were probably from Staffordshire, dated to the 17<sup>th</sup>/18<sup>th</sup> centuries.
- 5.3.8 Also from this deposit were two shards from a mug of gray stoneware which has been dipped white before firing which fit together (late 17<sup>th</sup>/early 18<sup>th</sup> century), one flat shard of white salt glazed stoneware, probably from the centre of a plate (18<sup>th</sup> century) and a thick shard of brown salt glazed stoneware, possibly from a drainpipe (19<sup>th</sup>/20<sup>th</sup> century). The last shard in this section is something of a puzzle. It shows signs of having been fired in a reducing atmosphere on the outer, ribbed, surface. The greenish glaze is almost crystalline and shows signs of excessive wear on the high points of the ribs. This shard could be much older than expected or simply badly fired. Indeed it may not be stoneware but just overfired earthenware.
- 5.3.9 Eight shards of white earthenware were retrieved from this context, four of which are undecorated and may come from the same 19<sup>th</sup>/20<sup>th</sup> century bowl. Two sections from the rim of a shell-edged plate with a pearlware glaze (1<sup>st</sup> half of the 19<sup>th</sup> century) and two pieces of blue transfer printed ware (mid 19<sup>th</sup> century) were recovered. Probably all the above were made in Staffordshire, but the last shard of white earthenware with gilt decoration may be continental and is late 19<sup>th</sup> or early 20<sup>th</sup> century.
- 5.3.10 Two shards of porcelain were recovered from context **(106)**. One was a shard of plain white porcelain, probably the rim of a saucer, and one a shard of soft paste porcelain from the rim of a tea bowl hand painted in blue; the interior with a hatched border, the exterior with part of a landscape. Both are dated to the second half of 18<sup>th</sup> century.
- 5.3.11 A small fragment of creamware was recovered from context **(109)**, the fill of a linear feature. This was unidentifiable but probably late 18<sup>th</sup> century.
- 5.3.12 Soil layer **(111)** produced five shards of red earthenware. Two pieces of black glazed redware, the smaller, from a small bowl or cup, is glazed on the upper surface only with a pooled layer of black glaze. The larger shard is from the wall of a finely thrown hollowware vessel showing throwing rings on the exterior surface but has been smoothed with a rim on the exterior before glazing. It is unlikely that these two shards are from the same vessel as the base seems far too thin in comparison to the wall. Two pieces of redware, one thick and the other thinner; both having a thin wash of white slip on one side and glazed on both sides were also recovered. One small shard of red earthenware with a very crystalline glaze on one surface only was recovered but was too small to identify.
- 5.3.13 A number of shards of buff earthenware were also recovered. The largest section is of an unusual shape. It is most probably from a posset pot made in Staffordshire in the

- 17<sup>th</sup> century. The entire vessel was dipped in white slip and the exterior was covered with finely slip trailed lines of dark brown slip which were then manipulated with a sharp tool, the marks of which are still visible although much of the overlying glaze has spalled off (c.1690-1700).
- 5.3.14 A small fragment of decorated slipware, feathered on one side and plain on the other was retrieved. It was made in the same way as the preceding item but seems too thin to have been part of it. It is most probably from a small cup (17<sup>th</sup> century). A slip-trailed portion of the rim of a plate was also recovered. This was made over a mould and fired upside down in the kiln. It was decorated with smaller and one large dark brown dot (17/18<sup>th</sup> century). Two small pieces of buff coloured earthenware glazed on one side only, were retrieved but were too small to identify. One shard of brown salt glazed stoneware was also retrieved, but was also too small to identify.
- 5.3.15 Two shards of fine white earthenware were retrieved, which at first glance have the appearance of tin glazed earthenware, but on closer inspection it seems to have a lead glaze. One of the shards is from a saucer and has concentric blue lines on a white background. The second has a similar body but is glazed on one side only.
- 5.3.16 One small shard of light coloured earthenware was retrieved from pit fill (**119**) which has an emerald green glaze on both sides (probably 19<sup>th</sup> century). Two sections from the rim of a red earthenware baking bowl were also recovered from this context. This had a band of slip-trailing in white 5cm from the rim. It is glazed with a thin, gritty lead glaze, which is difficult to date, but could be as late as 19<sup>th</sup> century.
- 5.3.17 A small shard from a hollowware vessel coated with lead glaze on each side was also retrieved from context (**119**). The glaze contains many yellow specks due to the use of galena (lead sulphide) in the glaze. It is very abraded on the exterior surface. Another small shard was probably from the rim of a small plate which has been slipped white then mottled with manganese oxide.
- 5.3.18 One shard of white earthenware was retrieved from this context, which has been subjected to extreme heat and gives the appearance of a kiln waster. It is covered on both surfaces with what looks like black glaze which has melted and bubbled. The shape of the shard suggests the rim of a plate but without analysis of the overheated material it is not possible to offer any explanation for its presence on this site.
- 5.3.19 Three shards from a tin-glazed earthenware bowl were recovered from context (**121**), the upper fill of pit [**120**]. These were decorated on the exterior with a floral pattern having part of a concentric ring on the interior surface. The glaze is bluish and could have been made at Liverpool or Lancaster (18<sup>th</sup> century).
- 5.3.20 Three shards belonging to a white dipped stoneware tankard were retrieved from this context. A fourth shard is from a shallow dish or deep plate with a moulded rim which was also dipped white before firing.
- 5.3.21 A number of shards of red earthenware were retrieved from context (**147**), the fill of a service trench. Three shards were coarse Buckley-type earthenware, one is from the base of a black glazed hollowware vessel and the remaining two are from the walls. One shard of finely prepared dark red earthenware with an exceptionally shiny black glaze was recovered. One shard of orangey-red earthenware was retrieved which has delaminated in the ground and therefore only shows one original surface which is

- lead glazed. Two shards had been covered on one surface only with white slip. One is part of the rolled rim of a baking bowl and is glazed on one side only. The remaining piece is from a bowl which has been decorated with mottled manganese on the inside and clear glazed on the outside. One shard of buff earthenware with yellowish, crackled glaze on both sides was also retrieved, possibly Staffordshire.
- 5.3.22 One piece of white earthenware with a pearlware glaze over a blue floral design was recovered from this context. It is part of the base/side of a saucer or small shallow bowl. Seven small pieces of creamware were also recovered, six are probably part of a small plate while the seventh seems to be part of a lid with a moulded edge (19<sup>th</sup> century). One small piece of undecorated, white tin glazed earthenware was retrieved. The sample is too small to be able to determine what type of vessel it came from (17/18<sup>th</sup> century).
- 5.3.23 Part of the base of a stoneware flagon or bottle was also recovered from context **(147)**. The exterior, including the base, has been dipped in a thin yellow-green glaze the interior is unglazed. The marks under the base show that the vessel was removed from the wheel using a crossed wire, a technique which is usually associated with pots made in Germany.
- 5.3.24 One piece of 18<sup>th</sup> century red earthenware with a dark, iron stained galena glaze was retrieved from soil layer **(155)**. One shard of a wheel-thrown pot which has been subject to a reduction firing was also recovered. As a result the matt, olive-green glaze has not matured to a shiny surface.
- 5.3.25 One shard of black glazed fine red earthenware wheel thrown vessel was retrieved from context **(161)**. This was part of the wall of a hollowware vessel.
- 5.3.26 Three shards of stoneware from different vessels were recovered from unstratified contexts: One piece of wheel thrown, iron dipped brown stoneware with a very shiny glaze, probably made in Nottingham; one piece of partially reduced salt glazed stoneware with a purple brown finish, and one shard from a green glazed stoneware bottle or storage jar, possible from Burton-in-Lonsdale.
- 5.3.27 Seventeen shards of white earthenware with a cream coloured glaze were recovered from unstratified contexts. These formed parts of several vessels including a small bowl without a foot ring (c.1825). One shard was from an 18<sup>th</sup>/19<sup>th</sup> century unidentifiable vessel hand-painted in cobalt with a chinoiserie pattern and two plate shards decorated with the willow pattern.
- 5.3.28 Five pieces of unglazed red earthenware were retrieved, the largest seems to be a section of moulded drainpipe or similar utility ware with lime mortar still adhering to one corner (19<sup>th</sup> century). The remaining four small fragments have no distinctive features and are unidentifiable.
- 5.3.29 Seven shards of decorated red earthenware were unstratified, four of which have been slipped in white without further decoration. One of the remaining three has been sponged with manganese to produce a mottled effect and the other two have been trailed with lines of white slip directly onto the red body (19<sup>th</sup> century).

- 5.3.30 Fourteen pieces of black glazed redware were recovered. These comprised eleven unstratified wall shards from wheel thrown vessels and three base sections (from different pots) which are glazed on the upper surface only. One of the base sections (the thickest) is of Buckley-type fabric which typically includes striations of white clay (18<sup>th</sup>/19<sup>th</sup> century). Six shards of coarse red earthenware with lead glaze were also recovered. One of the shards shows pronounced throwing rings, has a gritty glaze and is earlier in date than the other five.
- 5.3.31 Five unstratified shards of buff coloured earthenware were retrieved, probably from Staffordshire, all of which have been covered with a white slip. One of them has no further decoration but the other four are finely decorated with dark slip trailing. Two have been feathered and two have contrasting dots of colour. The finest piece is the lip of a cup with three dark slip trailed lines further embellished with tiny dots of contrasting colour, this technique is known as jewellery (17<sup>th</sup> century).
- 5.3.32 Three shards of tin-glazed earthenware all with blue decoration were retrieved during the excavation. The largest shard has only one original surface, due to deterioration when in the ground. The fragments are too small to identify.

## 5.4 CLAY TOBACCO PIPE

*By Barbara Blenkinship*

- 5.4.1 A number of clay tobacco pipe fragments were recovered. Most were recovered from layers of garden soil, but included a number of interesting early examples dating from the 17<sup>th</sup> century.
- 5.4.2 Seven sections of clay pipe stem were recovered from context **(106)**, which are difficult to date accurately without their associated bowls. Two sections of stem which have the largest diameter are made from noticeably coarser clay and are not as well finished as the remaining five.
- 5.4.3 Only one portion of stem has any mark or decoration but it is one of the most interesting pieces of clay pipe recovered from this site. The overall length of this section is 4 cm and the stem bore is 2mm. It is made of very white, fine grained clay and the finished pipe was carefully trimmed and burnished. Approximately half of the existing stem length is decorated either with roulette or by rolling the stem over a mould as the final part of the production process. It seems unlikely that the letters and designs (which are slightly misaligned where they meet) would have been incorporated into the metal mould as this would have caused distortion to the design when the seams were being neatened. One quarter of the stem circumference shows signs of having been exposed to heat but whether that was caused during firing or after it was discarded is unknown.
- 5.4.4 The name of the maker is difficult to interpret as it appears to read ELIZ: SaUAIG followed by a fleur-de-lis in relief. All the letters are upper case with serifs except for the second letter of the surname which, although the same height as the rest, takes the form of a lower case "a". This mixture of upper and lower case letters can also be seen on a pipe made by John Legg of Brosley, Staffordshire dated 1691 (Oswald 1975, 32) where all letters in the name are upper case except for the "e" of Legg. The



band of lettering around the stem is bordered top and bottom with two rows of double-sided dentil moulding and one row of single dentil moulding backed by a final row of adjoining triangles. This type of stem decoration is illustrated in *Clay Pipes for the Archaeologist*, (Oswald 1975, 33, Figure 1, Numbers 12 & 13) both are dated 1717.

- 5.4.5 Eight bowl fragments and twenty four pipe stems were retrieved from context **(111)**. The twenty four sections of clay pipe stem found in this context vary in diameter from 5 to 10 mm, but the bore size in all of them remains constant at 3mm. None of the sections have marks or decoration and vary from smooth and burnished to poorly moulded and badly finished. The better finished examples are made from a very white firing pipe-clay with few inclusions while the less well made ones contain gritty particles, some quite large.
- 5.4.6 The most complete example in this section is from a well made and finished pipe with a small bowl, only 14mm in diameter. The rim of the bowl slopes downwards at the front in relation to the angle of the stem; a feature which together with rouletting around the rim, indicates a pre 1700 date. The wide flat heel under the bowl which enabled the pipe to stand upright is damaged but the remaining half carries an impressed mark with a "C" in relief. Two more partial heels have no impressed marks. The pipe is burnished and care has been taken to remove all mould lines but the clay from which it is made contains many impurities, including an impression of what appears to be vegetable matter on a broken section of stem. The front of this pipe is bulbous which is characteristic of early pipes made in Yorkshire and tends to reinforce the identification of the maker as either Isaac Carey of York or John Chapman of Hull, *c.*1670.
- 5.4.7 Half of another bowl which is also rouletted round the rim, is taller and slimmer with a smaller diameter bowl of only 13mm. Although it dates from the same period as the preceding example it was probably made in Broseley in Staffordshire *c.*1670-80. The remaining partial bowl has a "spurred" heel instead of the flat type found in the above examples. The spur is badly damaged and although it may have originally carried an impressed symbol or initial not enough of the spur survives to be certain. The remaining three bowl fragments do not appear to match any of the foregoing partial bowls and cannot be identified.
- 5.4.8 One section of clay pipe with a smaller bore than those in context **(111)**, was recovered from context **(147)**, being only 2mm in diameter. No markings were visible to identify the maker.
- 5.4.9 Part of the rim of a very small pipe bowl was recovered from context **(155)**. It is difficult to estimate the original size as the sample is small but it seems to be no more than 1cm in diameter. The top is rouletted and there are traces of half an impressed mark on the side of the bowl which is illegible. This could be the earliest clay pipe found on this site but dating is difficult due to the small size of the sample (*c.*1650).
- 5.4.10 Four clay pipe fragments were retrieved from context **(161)**. The first and most complete clay pipe from this context has a short, rather bulbous bowl and a flat heel. The rim is roulette and the heel is marked with the raised initials in a circle "I:C". This is a very well made and finished pipe with a bowl diameter of 14mm. The bowl and stem are burnished and show faint marks from the burnishing tool. The stem is 1

cm thick at the break point and has a bore of 3mm. There is very little recorded information on clay pipe makers in 17<sup>th</sup> century Cumberland and Westmorland but these initials could be those of John Chapman of Hull or Isaac Carey of York (*circa 1670*)

- 5.4.11 The second bowl in this context has a short length of pipe attached and carries the same initials as the previous example but is less distinctly marked. The third bowl leans forward more than the previous two, it also has a flat heel but the mark is very indistinct. The fourth item is part of a stem with a 3mm bore, but has no distinguishing marks.
- 5.4.12 Nineteen sections of clay pipe stem of varying diameters with bores of 2.5/3mm were recovered from unstratified contexts. Only one portion of stem carries any decoration and this is not complete as it occurs at a break point. As far as it is possible to project the continuation of the pattern it appears to be a plain milled band around the stem with, above that, a milled diamond pattern. The only reference to this type of design is on a pipe from the West Country which is in Taunton Museum and has an estimated date of 1700-1730 (Oswald 1975, 17).
- 5.4.13 A section of 1cm diameter pipe stem was recovered with a small portion of the bowl and half the flat heel still attached. It is unmarked but probably 17<sup>th</sup> century. Another section is the front of a pipe bowl which leans forward steeply and has a distinctive everted flat heel. This is typical of Scottish clay pipes and is most similar in shape to an example in the National Museum of Scotland<sup>1</sup> estimate to have been made 1650-70 (Oswald 1975, 7). The Scottish example just quoted is marked on the base of the heel but this one is plain, it is interesting to note that it does not appear to have been used.
- 5.4.14 One small piece of clay pipe bowl has been used and discarded but is too small to be identified. An unusual shard was retrieved, being the shaped mouthpiece of a very small clay pipe. No comparable example has been identified.

## 5.5 GLASS

*By Martin Railton*

- 5.5.1 Glass fragments were recovered from seven contexts in total. The vast majority came from post-medieval soil layers **(105)**, **(106)**, **(111)**, **(121)**, **(161)** and from unstratified contexts, and comprised bottle glass with some window glass and vessel glass. Single glass fragments were also recovered from a pit fill **(129)**, the fill of a linear feature **(109)**.
- 5.5.2 A single shard of green bottle glass of post-medieval or modern date was recovered from context **(105)**. Two shards of green bottle glass were recovered from context **(106)**, including part of the base of an 18<sup>th</sup> century hand-blown bottle with a pronounced pontil. This had a highly iridescent sheen due to the chemical breaking down of the glass. Also recovered from this context was a modern glass perfume bottle. Five shards of post-medieval green bottle glass were recovered from soil layer **(111)**, along with two fragments of 1mm thick post-medieval hand-made window

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<sup>1</sup> Op cit. Fig 5, (7)

glass. A fragment of melted window glass was also recovered from this layer. Seven very small fragments of green post-medieval bottle glass were recovered from context **(121)**, along with a small shard of post-medieval clear vessel glass. A very small fragment of 1mm-thick vessel glass was also recovered from context **(161)**.

- 5.5.3 Ten fragments of green bottle glass of post-medieval or modern date were recovered from unstratified contexts, including part of the base of another 18<sup>th</sup> century hand-blown bottle. Also recovered from unstratified contexts were six fragments of post-medieval hand-made window glass, and two fragments of modern window glass, along with the base of a modern wine glass, and a fragment of melted window glass. The most interesting piece recovered was a rim of a small hand-made post-medieval glass bowl
- 5.5.4 A small shard of post-medieval brown-green mould-blown vessel glass was recovered from the fill **(109)** of a linear feature **[108]**. This comprised a 20mm-wide 25mm-long, 1mm-thick body fragment, decorated with two concentric 4mm-wide bands of vertical stripes. The fragment was too small to determine whether this was part of a glass or small bowl. A small fragment of post-medieval hand-made window glass was recovered from pit fill **(129)**. However, this fill was truncated by the linear feature **[108]**, and it is possible that the glass came from the same context as the vessel glass, i.e. context **(109)**.
- 5.5.5 A 25mm-long, 6mm-wide clear glass droplet was also recovered from an unstratified context. The unstratified droplet was the only evidence for possible glass manufacture recovered during the excavation. It is not possible from this evidence alone to suggest glass-making activity was taking place nearby. The droplet may have been imported onto the site.
- 5.5.6 The vast majority of the vessel glass comes from wine bottles. The wine bottle first appeared during the 1650s and developed rapidly in both size and shape. The earliest type identified in the assemblage dated to the 18<sup>th</sup> century, from context **(106)**. Unpainted window glass, due to its plain nature, is notoriously difficult to date when found archaeologically. Often only an approximate age can be estimated, based upon the colour and quality of the glass. Little further information could be gained from the bottle and window glass, and these fragments were discarded. However, the post-medieval vessel glass will be maintained within the project archive.

## **5.6 BUILDING MATERIALS**

*By Martin Railton*

- 5.6.1 A number of small ceramic tile roof tile fragments were noted (13 in total) amongst the medieval pottery sherds. A few fragments had spots of glaze and one had a peg hole, but the pieces were too small to reconstruct a complete tile. They show that ceramic-tiled roofs were present, if not on site, then in the vicinity during the 13<sup>th</sup>-15<sup>th</sup> centuries.
- 5.6.2 A rectangular stone roofing tile was recovered from the base of a post-medieval stone-lined culvert **[167]**, which showed clear signs of re-use. The grey sandstone tile was 230mm long, 125mm wide and 17mm thick, but was broken on three sides

indicating that it was originally at least twice as large. It had been tooled along the top edge, and exhibited part of a 25mm-diameter hole along one of the broken edges. The tile was almost certainly re-used from an earlier building. However, no further information could be gained from this tile and it was discarded.

- 5.6.3 Pieces of lime mortar were recovered from five contexts. The mortar came from a post-medieval soil **(111)** and medieval pit fills **(127)**, **(130)**, **(137)**, and **(174)**. The mortar pieces were very irregular lumps, and did not provide any information regarding the buildings that may have been present at the site.

## 5.7 METAL OBJECTS

*By Martin Railton*

- 5.7.1 A number of metal objects were retrieved during the excavation, the majority being corroded iron objects (mainly nails) and iron fragments. These were recovered from post-medieval soil layers **(106)**, **(111)**, **(121)**, **(161)**, **(169)**, pit fills **(129)**, **(130)**, **(137)**, **(138)**, **(151)**, **(166=183)**, and the fill of a linear feature **(109)**. In addition a large number of objects were recovered from unstratified contexts during metal-detecting of the spoil heaps from the excavation.
- 5.7.2 Eleven corroded post-medieval hand-made iron nails were recovered from soil layer **(111)**. These ranged in length between 25mm and 80mm, with rectangular heads between 6mm and 10mm. The very corroded 50mm-long 10mm-wide head of an iron nail was recovered from context **(161)**. Five fragments of corroded post-medieval iron nails were recovered from context **(169)**. These ranged in length between 25mm and 65mm with 15mm-wide and 25mm-long sub-square heads. Two unrecognisable iron lumps and a strip of lead were also recovered from this layer. The lead was an off-cut measuring 80mm long, 40mm wide and 1mm thick. Nothing further could be gained from the study of this material and it was discarded.
- 5.7.3 Three post-medieval or modern metal objects were recovered from the layer of garden soil **(106)**, including a 40mm-long iron nail. A fragment of a corroded copper-alloy button was retrieved, which measured 12mm in diameter and 1mm thick. No design or insignia was visible. The end of a small 35mm-long 25mm-wide teaspoon was also recovered from this layer. These objects were also discarded.
- 5.7.4 The 50mm-long 6mm-thick very corroded body of a probable iron nail was recovered from pit fill **(129)**. Two very corroded iron nails were recovered from pit fill **(130)**. The first was 40mm long with a sub-rectangular head measuring at least 10mm wide and 20mm long. The second was a 80mm-long 12mm thick hand-made iron nail, which was very heavily encrusted to form a large lump. A 65mm-long, corroded nail with a 12mm-wide 20mm-long sub-rectangular head was recovered from pit fill **(151)**, along with a 20mm-long 5mm-wide end of a nail. A highly encrusted 80mm-long nail and two encrusted probable nails were recovered from contexts **(166)** and **(183)**. Another 70mm-long 12mm-wide highly corroded probable iron nail was recovered from pit fill **(183)**. Three c.30mm-long 10mm-thick encrusted probable nails were also recovered from the fill **(109)** of a linear feature **[108]**. All of these nails were highly encrusted but are of probable medieval date.

- 5.7.5 A rim fragment from a cast bronze vessel was recovered from pit fill (137). The fragment is 37mm long, 25mm wide and 3mm thick, and may be part of a medieval cauldron or skillet. A small droplet of lead was also recovered from the fill of this pit [136]. A 130mm-long 15mm-wide 0.2mm-thick plain strip of bronze was retrieved from pit fill (138). This strip appeared to be an off-cut or re-used fragment and may indicate metal-working activity on site.
- 5.7.6 Of the 134 unstratified metal objects collected during the metal-detector survey, the majority were corroded post-medieval and modern iron nails and small corroded iron objects. Some small fragments of lead, two modern iron bolts, washers, an iron door latch, a post-medieval shoe buckle, two brass buttons and a shot-gun cartridge were also recovered. Little further could be gained from the study of these unstratified metal objects and these were discarded.
- 5.7.7 A highly corroded rim fragment from a small bronze vessel was also recovered from an unstratified context. The fragment was 65mm long, and 24mm wide. The rim was visible on one end of the corroded fragment where it measured 1mm thick, with a 7mm-wide lip. The curvature of the fragment indicates that the rim of the vessel was approximately 160mm in diameter.

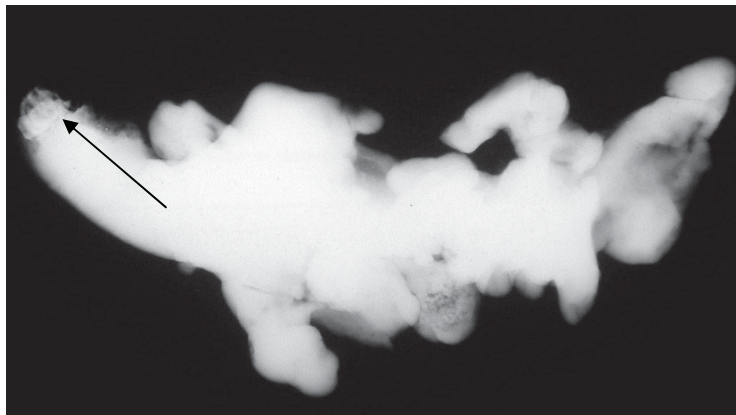
## 5.8 SLAG AND INDUSTRIAL RESIDUES

*By Jennifer Jones*

- 5.8.1 Industrial residues with a total weight of 1319g were examined and assessed at the Conservation Laboratory of the Department of Archaeology, Durham University. There were 15 pieces of residue from 5 stratified contexts, and a further melted copper alloy object which was recovered from an unstratified context (Table 3, Appendix 3).
- 5.8.2 The material was examined visually and under X16 magnification, and classified by morphology, density, colour and vesicularity. The aim of the assessment was to characterise the residues and identify the type of industrial processes from which they originated. Category criteria are based on the English Heritage Centre for Archaeology Guidelines on *Archaeometallurgy* (Bayley et al, 2001).
- 5.8.3 **Fuel ash slag:** nine pieces of fuel ash slag weighing 333g were recovered from three contexts. Fuel ash slag, which is formed during combustion when non-organic components of fuels react with silicates present in earth, stone or ceramic, cannot be associated with any particular industrial activity, and may be formed in domestic fires or conflagrations if soil conditions are favourable.
- 5.8.4 **Ironworking residue:** four contexts produced ironworking residues weighing 980g in total. Some of this was undiagnostic, but the fill of a medieval pit [120] and the post-medieval soil [111] both produced smithing hearth bases.
- 5.8.5 **Copper alloy:** a small piece of corroded, part-melted copper alloy was recovered from an unstratified context. This is probably part of an unidentified object, possibly accidentally burnt. It is not metalworking waste. Identification of the piece as an

object was confirmed by X-radiography, which detected part of a hinge mechanism (Plate 19).

- 5.8.6 **Discussion:** the presence of smithing hearth bases and the other undiagnostic ironworking residues suggests that ironworking was taking place somewhere in the vicinity of the site. Ironworking residues are heavy, and were often disposed of close to the place of production. However, the small quantities recovered and the absence of any industrial features in the excavated area suggests that there was only periodic, casual disposal of small quantities of waste.



**Plate 19:** X-radiograph of part-melted CuA object (hinge arrowed)

- 5.8.7 No further work is recommended on the industrial residues as little further could be gained from the examination of this material.

## 5.9 MISCELLANEOUS FINDS

*By Martin Railton*

- 5.9.1 A small number of miscellaneous small finds were recovered during the excavation. These were a bone comb, silver coin and lead musket ball, which were assigned Small Find Numbers 1-3.
- 5.9.2 The end fragment of a rectangular bone comb (Small Find No. 1) was recovered from a layer of brown silty clay (**111**), in a disturbed context to the west of the cobbles of a former yard surface (**112**). The comb was 52mm wide and was 3mm thick at the centre, with tines of different grades on either side of the central spine, which graduate towards the ends. The spines were 20mm long either side; the course tines were 1mm thick with 1.5mm spaces in between, and were 1mm wide at the ends, while the fine tines were 0.6mm thick, with 0.5mm spaces and were 0.6mm wide at the ends. The comb was undecorated and fashioned from a single piece of bone. All of the tines were broken half-way down, apart the end tine on the course side of the comb.

- 5.9.3 The comb is not closely datable, as one-piece combs were produced throughout the late medieval and post-medieval periods. Most of the chronologically distinctive variation in combs relates to composite combs of the early medieval period. It could potentially date anywhere between the 15<sup>th</sup> century and 19<sup>th</sup> century. However, a post-medieval date from 16<sup>th</sup> to 18<sup>th</sup> centuries is more likely (*pers com* Steve Ashby, York University). The comb would have been used for removing lice or nits from the hair (Plate 20).



**Plate 20:** Fragment of a post-medieval bone comb (Small Find No.1)

- 5.9.4 A silver coin (Small Find No. 2) was recovered during metal-detecting on a spoil heap to the west of the excavated area. This was not part of the archaeological excavation, but was associated with exploratory work by the client. However, it is included here as it will form part of the site archive. The coin is an Elizabeth 1<sup>st</sup> hammered silver half groat (four pence) and measures 23mm in diameter, being only 0.4mm thick. The front of the coin is relatively unworn and bears the coat of arms and the date 1580. It was very worn on the back and almost illegible, but the text '...Regina' can just be made out around the rim (Plate 21).
- 5.9.5 It is likely that this coin represents a casual loss during the late 17<sup>th</sup> century or 18<sup>th</sup> century, so little further information can be gained from this find. However, it is interesting to note that a Charles II of Scotland copper alloy bawbee (six pence), dated 1677-79, was also recovered from the site during the previous archaeological evaluation (*pers com* Daniel Elsworth, Greenlane Archaeology). Both coins relate to a period of prosperity in Appleby-in-Westmorland. Although the bawbee was not officially produced in England at that time, it was nevertheless used throughout the North of England as small change.



**Plate 21:** Elizabeth 1<sup>st</sup> hammered silver half groat, dated 1580 (Small Find No.2)

- 5.8.6 A lead musket ball (Small Find No. 3) was recovered from a layer of brown silty clay (**161**), interpreted as the bedding layer for a post-medieval cobbled surface (**117**). The musket ball measures 17mm in diameter, with no obvious striking platform, and was dated to the 18<sup>th</sup> or 19<sup>th</sup> century (Plate 22).
- 5.8.7 It is unlikely that further analysis of any of these objects could add to the interpretation of the site.



**Plate 22:** An 18<sup>th</sup> or 19<sup>th</sup> century lead musket ball (Small Find No. 3)



## 6. THE ENVIRONMENTAL REMAINS

### 6.1 INTRODUCTION

*By Don O'Meara*

6.1.1 During the course of the archaeological excavation, samples were taken from 22 contexts. Samples were taken to extract material which may be pertinent to understanding the development of these contexts. This could include evidence of human activity which may have left preserved archaeological material during the prehistoric or historic periods. In particular, due to the artefactual assemblage collected from this area, evidence of activity during the medieval to early modern period (traditionally AD 1066-1688) was possible in the soil samples processed.

### 6.2 METHODOLOGY

6.2.1 The methodology employed in the processing of these samples required that the whole earth samples be broken down and split into their various different components. A 10 litre subsample of each context was fully processed by being manually floated and sieved through a 'Siraf' style flotation tank. The residue from each sample was retained, described and scanned using a magnet for ferrous fragments. The flot was dried slowly and scanned at x40 magnification for charred and uncharred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at North Pennines Archaeology. Plant taxonomic nomenclature follows Stace (1997).

6.2.2 The retent, like the residue from wet sieving, will contain any larger items of bone, heavy (eg waterlogged) ecofacts or artefacts. The flot or floating fraction will generally contain organic material such as plant matter, fine bones, cloth, leather and insect remains. A rapid scan at this stage was done to allow further recommendations to be made as to the potential for further study by entomologists or palaeobotanists, with a view to retrieving vital economic information from the samples. The retent samples were also scanned with a hand magnet to retrieve forms of magnetic material, as well as any artefactual material, such as pottery or metal objects which may be present.

6.2.3 Favourable preservation conditions can lead to the retrieval of organic remains that may produce a valuable suite of information, in respect of the depositional environment of the material, thus enabling assessment of anthropogenic activity, seasonality and climate and elements of the economy associated with the features from which the samples are removed. In this case the sandy, well drained, base rich nature of the soil would be suitable for the preservation of charred plant remains and bone (should mineral replacement occur to offset the leeching of calcium from deposited bones material).

6.2.4 Sample numbers appear in brackets thus < >, whilst context numbers appear in brackets thus ( ) for all analysis and discussion below. Results will be presented by Sample number numerically. Reference to seeds in the text is made using the richness

scale of 1 = present, 2 = frequent and 3 = abundant, as seen in the tabular results (Appendix

### 6.3 THE PLANT REMAINS

- 6.3.1 Sample (130) <1> came from the upper fill of a pit [120]. This deposit over lies three others filling the pit. These are (138), (144) and (145) described below. It contained low amounts of bone fragments, charcoal, glass and magnetic materials. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The glass consisted of a single piece of clear glass (4mm x 6mm x 0.5mm). The surface of the fragment is highly abraded by thin striations. The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of high amounts of charcoal with moderate amounts of filamentous roots. Six charred oat grains and two indeterminate cereal grains were recovered. As well as this, moderate numbers of a *Brassica* species (from the Brassica group) and a *Chenopodium* species (goosefoot) were recovered as well as low numbers of a *Poa* species (true grasses). These seeds suggest weeds of an open arable environment.
- 6.3.2 Sample (109) <2> came from the fill of linear cut [108] and pit [126]. It contained low amounts of bone fragments, charcoal, glass and magnetic materials with moderate amounts of coal fragments. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones, as well as ashy fragments, possibly from coal ash. The glass consisted of a single piece of clear glass (3mm x 6mm x 1.5mm). The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale and spheroidal hammer slag. The pottery consisted of a grey single shard (25mm x 35mm x 7mm). The exterior has faint traces of a green glaze. The interior preserves evidence of being wheel thrown. The flot matrix consisted solely of charcoal. Two charred oat grains were recovered.
- 6.3.3 Sample (127) <3> came from the primary fill of pit [126]. It contained low amounts of bone fragments, charcoal, glass, coal, a copper object and magnetic materials. A fragment of hazelnut shell and three seeds were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The glass consisted of two pieces. One is clear (2mm x 5mm x 1.5mm), and appears to be similar to the fragment in (109) <2>. The other is much more fractured with no flat surface. It is green, (4mm x 7mm x 1mm), with a thin layer of hydrated silica on the surface (the presence of which suggests this is glass and not a crystal fragment). The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale. A single small (1mm x 1mm) piece of copper was also noted. The copper object (10mm x 10mm x 6mm) may be an iron object with a copper residue on its surface. Though the majority of the item is covered with copper oxide some iron oxide is visible in parts. The bone recovered from this sample has been incorporated into the zooarchaeology report from this site. The flot matrix consisted of high amounts of charcoal with moderate amounts of woody plant parts. A charred grain of oat and a charred grain of wheat were recovered. The wheat appeared to be *Triticum aestivum*; a bread wheat. As well as this two charred

hazelnut shell fragments were recovered, along with low numbers of seeds of a *Sambucus* species (elder), a *Chenopodium* species and a *Rumex* species (docks) (probably *Rumex acetosa* or shield dock).

- 6.3.4 Sample **(129)** <4> came from the fill of pit **[128]**. It contained low amounts of bone fragments, burnt clay, charcoal, pottery, glass, vitrified material and magnetic materials. The bulk of the heavy residue consisted of stones, mainly sub-rounded stones. The glass consisted of two pieces. One is clear (4mm x 7mm x 1mm). The other is much more fractured with no flat surface. It is green, (5mm x 6mm x 1mm), with a thin layer of hydrated silica on the surface. The surface of the fragment is highly abraded, with the appearance of 'frosted-glass' probably caused by a mix of soil abrasion and chemical damage. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. The pottery evidence consisted of a blue and white glaze fragment (3mm x 4mm x 0.5mm). The bone recovered from this sample has been incorporated into the zooarchaeology report from this site. The flot matrix consisted of high amounts of charcoal with moderate amounts of filamentous roots. Five charred oat grains and six charred indeterminate cereal grain were recovered. As well as this, low numbers of seed of *Sambucus nigra*, a *Chenopodium* species, including *Chenopodium Bonus-Henricus*, an *Urtica* species (nettle), a *Vicia* species (vetch) and *Stellaria media* (chick-weed). A possible legume (pea/bean) was also identified.
- 6.3.5 Sample **(135)** <5> came from a possible post-hole fill. It contained low amounts of bone fragments, vitrified material and magnetic materials with moderate amounts of charcoal. The bulk of the heavy residue consisted of stones, mainly sub-rounded stones. The magnetic material consisted mainly of naturally occurring material, with low amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of high amounts of charcoal with moderate amounts of woody plant parts. An indeterminate charred seed was recovered. As well as this low numbers of seeds of *Urtica diocea* and a *Brassica* species were recovered. This material, particularly the wood fragments in both the heavy residue and the flot would seem to be consistent with initial interpretation that this was a post-hole fill.
- 6.3.6 Sample **(131)** <6> came from the fill of a stone bottomed drain. It contained low amounts of bone fragments, charcoal, coal, glass, pottery and magnetic materials. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded stones. The pottery consisted of a single red clay shard (6mm x 7mm x 3mm). The exterior has a red-brown glaze, The glass consisted of five pieces of glass. The largest piece (20mm x 23mm x 2mm) appeared as if might come from a vessel, rather than window glass. Two fragments (8mm x 15mm x 2mm) and (8mm x 9mm x 2mm), also green, appear to be fragments of the rim of an object, such as a drinking glass. Two other triangular fragments (10mm x 10mm x 1mm) and (5mm x 7mm x 1.5mm) were also from green glass. A small yellow fragment (3mm x 3.5mm x 0.3mm) was noted, but this may have once been a green glass fragment as a very advanced state of silica hydration. The surface of this fragment is highly abraded with striations. All the green glass has a layer of hydrated silica, the smaller triangular piece being a particularly good example of a fragment at an advanced state of decay. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and low numbers of spheroidal hammer slag. The flot matrix consisted

of high amounts of charcoal with moderate amounts of woody plant parts. One charred oat grain was recovered. As well as this, low numbers of seeds of a *Sambucus* species, a *Chenopodium* species, *Urtica diocea* and a *Polygonum* species (knot-grass) were recovered. The wide range of material recovered from this sample in the heavy residue and the assemblage of weed seeds does suggest that this feature acted as a basin of deposition for surface refuse from human activity and seeds being naturally scattered across the site.

- 6.3.7 Sample **(138)** <7> came from the fill of pit **[120]**. It is overlain by an upper deposit **(130)**, described above, and a lower deposit **(144)** and **(145)** described below. This contained moderate amounts of bone fragments and charcoal, with low amounts of pottery and magnetic materials. Two fragments of hazelnut shell were also recovered. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The magnetic material consisted mainly of naturally occurring material, with low amounts of hammer scale. The pottery consisted of a single, light orange, shard (12mm x 13mm x 3mm). One side is blackened. Quartz sand has been used as a temper. The flot matrix consisted of high amounts of filamentous roots moderate amounts of charcoal and low amounts of woody plant parts. Eight grains of charred oat, one grain of charred barley and approximately 20 indeterminate charred grains were recovered. The barley grain As well as these two fragments of charred hazelnut shell were recovered, as well as moderate amounts of a *Polygonum* species and charred grain of *Bromus* (a member of the true grass order).
- 6.3.8 Sample **(144)** <8> came from the fill of pit **[120]**. It is overlain by the deposits **(130)** and **(138)** described above and lies above **(145)** described below. It contained low amounts of bone fragments, charcoal, wood fragments and magnetic materials. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The magnetic material consisted mainly of naturally occurring material, with a single piece of hammer scale (the total sample was negligible, with only 10 pieces recovered). The flot matrix consisted of woody plant parts, identified as bark fragments. One charred oat grain was recovered. As well as this, high amounts of seed of *Trifolium repens* (clovers) were recovered, with low numbers of seeds of a *Chenopodium* species, an *Urtica* species and a *Rumex* species.
- 6.3.9 Sample **(145)** <9> came from the fill of pit **[120]**. It is overlain by the deposits **(130)**, **(138)** and **(144)** described above. It contained low amounts of bone fragments, burnt clay, charcoal and magnetic materials. The bulk of the heavy residue consisted of stones, many mainly coarse angular and sub-rounded stones. The magnetic material consisted of naturally occurring magnetic materials. The flot matrix consisted of high amounts of woody plant parts with low amounts of charcoal. High amounts of seeds of a *Galium* species (bedstraws), moderate amounts of seeds of a *Rumex* species and low numbers of seeds of a *Chenopodium* species were recovered.
- 6.3.10 Sample **(119)** <10> came from the fill of a medieval pit **[118]**. It contained low amounts of bone fragments, burnt clay, charcoal, pottery, glass, vitrified material and magnetic materials. A fragment of hazelnut shell and two seeds were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, many of which seemed to be water rolled. The pottery consisted of six shards. The smallest of which was a piece of black glaze (3mm x 4mm x 1mm). The other five were all shards of a light orange clay (>35mm

x 35mm x 8mm). All have the remains of a green glaze on the surface. One shard preserves some evidence of being wheel thrown; this piece is curved and may originally have been part of the neck of a vessel. The flot matrix consisted of high amounts of charcoal with moderate amounts of filamentous roots and chemical residues. Four charred grains of oat were recovered. A hazelnut shell was also recovered, along with low numbers of seeds of a charred *Ranunculus* species (buttercups) and an *Urtica* species.

- 6.3.11 Sample **(154)** <11> came from the primary fill of pit **[150]**. It is overlain by deposit **(151)** described below. It contained moderate amounts of bone fragments, charcoal and magnetic material, with low amounts of coal, pottery, glass and vitrified material. 16 fragments of hazelnut shell and over 40 seeds were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, many of which seemed to water rolled, with some angular/fragmented stones. The pottery consisted of a single light brown shard (23mm x 28mm x 6mm). The interior preserves evidence of being wheel thrown. The glass consisted of a single piece of clear glass (3mm x 3mm x 1mm). The surface of the fragment is highly abraded. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of high amounts of charcoal with low amounts of filamentous roots, leaf fragments and insect casts. 21 charred oat grains, 22 charred barley grains, 20 charred wheat grains, 15 charred indeterminate grains and 22 charred fragments of hazelnut shell were recovered. As well as this, low numbers of seeds of a *Brassica* species, a *Poa* species, a *Chenopodium* species, a *Myosotis* species, an *Urtica* species, seeds of *Polygonum lapathifolium*, seeds of a *Silene* species (campion), seed of a *Trifolium* species and a charred seed of *Lapsana communis* (nipple-worts) were also recovered. This wide range of plant material suggests material from an open, arable environment.
- 6.3.12 Sample **(151)** <12> came from the secondary fill of pit **[150]** described above. It overlies the primary deposit **(154)** described above. It contained low numbers of bone fragments, charcoal, coal, pottery, glass and magnetic materials. 7 seeds were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The pottery consisted of two shards (> 30mm x 35mm x 6mm); a dark grey shard, possibly a vessel base fragment and a single light brown shard. The glass consisted of a single piece of green glass (5mm x 4mm x 1.5mm). The surface of the fragment is highly abraded, with heavily silica hydration. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of high amounts of charcoal with low amounts of filamentous roots and snail shells. Four charred grains of oat, a charred grain of barley and a charred grain of wheat were recovered. As well as this, high amounts of seeds of an *Urtica* species were recovered, along with lower amounts of a *Galium* species and a *Brassica* species.
- 6.3.13 Sample **(149)** <13> came from a deposit overlying **(125)**. It contained low amounts of bone fragments, burnt clay, pottery, glass, vitrified material and magnetic materials, with moderate amounts of charcoal. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The pottery consisted of

three single light brown shards (> 40mm x 40mm x 6mm). Two were rim shards (which fitted together, the third was a base fragment. All showed evidence of having a glazed exterior. The glass consisted of a single piece of clear glass (4mm x 4mm x 2mm). The surface of the fragment is highly abraded, with a pitted appearance, and in this respect is high analogous to the fragment in (127) <3>. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. In particular the spheroidal hammer slag appeared relatively more frequently than in other samples. The bone recovered from this sample has been incorporated into the zooarchaeology report from this site. The flot matrix consisted of high amounts of charcoal with moderate amounts of woody plant parts and low amounts of filamentous roots and leaf material. Seven charred grains of oat and two charred grains of barley were recovered. Low numbers of seeds of a *Rumex* species, a *Chenopodium* species and seeds of *Chrysanthemum segetum* (corn-marigold) were also recovered.

6.3.14 Sample (166) <14> came from the fill of pit [165]. It is overlain by the deposit (169) described below. It contained moderate amounts of bone fragments and magnetic material, with low amounts of pottery and vitrified material. 2 seeds were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded sandstones. The pottery consisted of a four shards (> 45mm x 30mm x 6mm). One fragment had a well preserved green glazed surface, though this was also the smallest piece (18mm x 13mm x 3mm). One of the pieces was a rim shard. The magnetic material consisted of hammer scale and spheroidal hammer slag. Though in total this was a small amount (relative to the total 10litre sample), the fact it is exclusively anthropogenically derived material points to a definite metal working activity in the vicinity of this feature. The bone recovered from this sample consisted of +30 fragments of heavily fragmented bone. It has been incorporated into the zooarchaeology report from this site. The flot matrix consisted of high amounts of charcoal and chemical residues, with low amounts of insect casts. 38 charred wheat grains, 7 charred barley grains, 12 charred wheat grains and 30+ charred indeterminate grains were recovered. As well as this, moderate numbers of seeds of a *Brassica* species were recovered, as well as low numbers of seeds of a *Galium* species, a *Chenopodium* species, an *Urtica* species, a *Rumex* species, a *Senecio* species (daisy) and *Crepis paludosa* (hawksbeard).

6.3.15 Sample (169) <15> came from the fill of pit [165]. It overlies the deposit (166) described above. It contained low amounts of bone fragments, burnt clay, charcoal, coal, two copper alloy objects and magnetic materials. The bulk of the heavy residue consisted of stones, mainly sub-rounded stones. The pottery consisted of two light grey shards (14mm x 17mm x 2mm) and a fragment of blue and white glaze. The interior preserves evidence of being wheel thrown. The magnetic material consisted of naturally occurring material with high densities of hammer scale and spheroidal hammer slag. The two copper alloy objects consisted of a copper alloy item (20mm x 10mm x 4mm) with two pin like protrusions on one side, which may suggest it was a stud for attaching to the exterior of another item and an unidentified item with a copper residue on its surface. The flot matrix consisted of high amounts of charcoal with low amounts of filamentous roots and chemical residues. Four charred grains of

oat, three charred indeterminate grains were recovered. Low numbers of seeds of a *Sambucus* species and a *Polygonum* species were also recovered.

- 6.3.16 Sample **(137)** <16> came from the secondary fill of pit **[136]**. It contained moderate amounts of bone fragments, with low amounts of charcoal, pottery, vitrified material and magnetic materials. A copper alloy object was also recovered. A fragment of hazelnut shell and 1 seed were also recovered. Their analysis is incorporated into the overall plant analysis below. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded stones. The pottery consisted of a single light brown shard (10mm x 20mm x 3mm). The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of moderate amounts of filamentous roots and charcoal with low amounts of woody plant parts and chemical residues. Two charred grains of oat, five charred grains of wheat and four indeterminate cereal grains were recovered. As well as this, a charred fragment of hazelnut shell was recovered, along with moderate amounts of an *Urtica* species and a *Polygonum* species and low numbers of a *Sambucus* species and a *Scirpus* species (sedges)
- 6.3.17 Sample **(104)** <17> came from the fill of the medieval pit **[103]**. It contained moderate amounts of bone fragments, high amounts of charcoal, and low amounts of pottery, vitrified material and magnetic materials. A moderate amount of the heavy residue consisted of stones. The pottery consisted of two light brown shards (> 17mm x 18mm x 6mm). Both preserve evidence of being glazed, both green and brown glaze. The magnetic material consisted of hammer scale and spheroidal hammer slag. Thought in total this was a small amount (relative to the total 10litre sample), the fact it is exclusively anthropogenically derived material points to a definite metal working activity in the vicinity of this feature. The flot matrix consisted of moderate amounts of filamentous, charcoal and woody plant parts. Five charred grains of oat were recovered; two charred grain of wheat, one charred grain of barley and two indeterminate cereal grains were recovered, along with three uncharred hazelnut shells. High amounts of seeds of a *Rumex* species were recovered, as well as low numbers of seeds of an *Urtica* species, a *Polygonum* species, *Euphorbia helioscopia* (spurge), *Potentilla* species (cinquefoil) and *Lapsana cummunis* (nipplewort).
- 6.3.18 Sample **(101)** <18> came from a clay layer, into which many of the medieval features were cut. It contained low amounts of bone fragments, charcoal and magnetic materials. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded stones. The magnetic material consisted mainly of naturally occurring material, with low amounts of hammer scale and spheroidal hammer slag (though the sample as a whole was very small, with less than 30 fragments recovered). The flot matrix consisted of high amounts of filamentous roots moderate amounts of charcoal. No seeds were recovered from this sample. The character of this sample conforms to the initial interpretation that this was a natural deposit. This is the only sample which did not produce seeds from flotted sample. It is suggested here that this deposit did not form during the history of the area and was not exposed to the same formation history which created the seed assemblages of the other samples. Thus, this deposit either preceded the settlement of Shaw's Wiend, or was possible material introduced to the site to make a surface.

- 6.3.19 Sample **(183)** <19> came from the primary fill of a medieval pit **[181]**. It contained moderate amounts of bone fragments, with low amounts of burnt clay, charcoal and magnetic materials. A lead fragment was also recovered (7mm x 2mm x 0.3mm). This piece was heavily corroded and of unknown origin. The bulk of the heavy residue consisted of stones, mainly coarse angular stones. The magnetic material consisted mainly of naturally occurring material, with moderate amounts of hammer scale and spheroidal hammer slag. The flot matrix consisted of high amounts of charcoal with low amounts of filamentous roots. One charred wheat grain and two charred barley grains were recovered. Low amounts of seeds of a *Polygonum* species and charred and uncharred *Rumex* seeds were also recovered. A charred *Linum* seed was also recovered, the only example of *Linum* (linen) from this site.
- 6.3.20 Sample **(174)** <20> came from a possible cess pit **[173]**. This feature is notable as having produced the cat, described in the zooarchaeology report. It contained low amounts of bone fragments, burnt clay and magnetic materials. The bulk of the heavy residue consisted of stones, mainly coarse angular and sub-rounded stones. The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale and spheroidal hammer slag (the sample as a whole was very small, with less than 15 fragments recovered). The flot matrix consisted of high amounts of charcoal with moderate amounts of filamentous roots and low amounts of chemical residues. Two charred grains of oat, a charred grain of wheat and a charred indeterminate grain were recovered. Moderate numbers of seed of a *Rubus* species were recovered, as well as low numbers of seeds of a *Chenopodium* species, a *Rumex* species, seeds of a *Valeriana* (valerian) species and an unidentified seed. It is suggested here that this feature is a cess pit, as it shares attributes with sample **(186)** <21> from **[175]**.
- 6.2.21 Sample **(186)** <21> came from the primary fill of pit **[175]**. It contained low amounts of bone fragments and magnetic materials. The bulk of the heavy residue consisted, in roughly equal parts, stones and a yellow material which seemed to be caked clay. The exact composition of the yellow element of these fragments is unknown. The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale and spheroidal hammer slag (though the sample as a whole was very small, with less than 15 fragments recovered). The flot matrix consisted of moderate amounts of filamentous roots and charcoal. Two charred grains of oat were recovered as well as an uncharred fragment of hazelnut shell. As well as this, very high amounts of a *Rubus* species with moderate number of *Prunus* (possibly *Prunus serotina* Black cherry or *Prunus Padus* Bird cherry) and lower numbers of a *Chenopodium* species, a *Rumex* species and an unidentified seed. It is suggested here that this material came from cess material. The high numbers of *Rubus* species seeds were weathered in a manner which suggests they may have passed through a human digestive system. Likewise, the *Prunus* species seeds are dense enough to pass relatively undamaged though the digestive tract. The yellow 'caked' material found in the heavy residue may be connected to the function of this feature as a cess pit, the material possibly forming as urea breaks down and reacts with the surrounding soil. Notable also in this feature is the absence of charcoal. Only two samples did not produce charcoal in their heavy residue, this and **(174)** <20> from **[173]** described above. It is likely that when functioning as cess pits these features were not exposed to scenarios where charcoal would enter or be deposited in the context.



6.3.22 Sample (178) <22> came from the upper fill of pit [177]. It contained low amounts of bone fragments, charcoal, pottery, glass and magnetic materials. Moderate amounts of the sample contained a yellow material which seemed to be caked clay. The exact composition of the yellow element of these fragments is unknown. The glass consisted of a single 'flake' of clear glass (2mm x mm x 1mm). The surface showed little sign of weathering, with very little abrasion. The magnetic material consisted mainly of naturally occurring material, with very low amounts of hammer scale. The flint matrix consisted of high amounts of charcoal with low amounts of filamentous roots, woody plant parts and chemical residues. Nine charred grains of oat, three charred grains of barley, ten charred grain of wheat and ten indeterminate grains were recovered. The wheat grains appear to be grains of *Triticum aestivum*, or bread wheat. Low numbers of seeds of a *Polygonum* species, a *Chenopodium* species and a *Rubus* species were also recovered.

## 6.4 DISCUSSION

6.4.1 **Cereals:** cereal grains were found in 20 of the 22 contexts:

- Oat varieties were found in 18 of the 22 contexts. These were represented by 123 charred grains from contexts (130) <1>, (109) <2>, (127) <3>, (129) <4>, (131) <6>, (138) <7>, (144) <8>, (119) <10>, (154) <11>, (151) <12>, (149) <13>, (166) <14>, (169) <15>, (137) <16>, (104) <17>, (173) <20>, (186) <21>, (178) <22>.
- Barley varieties were found in 8 of the 22 contexts. These were represented by 39 charred grains from contexts (138) <7>, (154) <11>, (151) <12>, (149) <13>, (166) <14>, (104) <17>, (183) <19>, (178) <22>.
- Wheat varieties were found in 9 of the 22 contexts. These were represented by 53 charred grains from contexts (127) <3>, (154) <11>, (149) <13>, (166) <14>, (169) <15>, (137) <16>, (104) <17>, (183) <19>, (173) <20>, (178) <22>.
- Indeterminate grains were found in 10 of the 22 contexts. These were represented by 74 charred grains from contexts (130) <1>, (129) <4>, (135) <5>, (154) <11>, (166) <14>, (169) <15>, (137) <16>, (104) <17>, (173) <20>, (178) <22>.

6.4.2 The bulk of the grain came from contexts (138) <7>, (154) <11>, (166) <14> and (178) <22> which together represented 229 of the 289 grains, or 80% of the total cereal grains recovered.

6.4.3 Of note was the form of barley recovered. A number of 6-row barley grains were recovered, such as from (154) <11> and (138) <7>. These should be considered a very late example of 6-row barley types, which were typically replaced by 2-row types in Britain during the early to later medieval period.

6.4.4 Possible rye grain were recovered from (154) <11> and (166) <14> but were too badly charred to allow a positive identification, and thus were classified as indeterminate charred grain. However, further examination of these grains might allow a more definite identification

- 6.4.5 The heavily degraded nature of many of the cereals suggests charring at high temperatures in a freely aerobic environment. This type of environment might be encountered in a kiln which was not primarily used for cereal drying, thus many of the examples recovered here reflect the over charred seeds damaged by an unsuitable heat, though this 'damage' also led to their preservation. The evidence for metal working activity does suggest high temperature processes were being undertaken in the vicinity, and it may be that modification to the heat sources for these processes was the cause of the excessive charring seen on many of the preserved seeds. Experimentation has shown that bread wheat and barley grains in an aerobic environment will be carbonised at relatively low temperatures (250°C for less than 90mins). At temperatures above this they quickly become distorted and soon disintegrate (Boardman and Jones 1990).
- 6.4.6 **Other plant remains:** samples which produced seeds (21 of the 22) were generally dominated by weeds of arable land or open grassland. Of note was the high amount of *Rubus* (bramble) seeds from sample (186) <21>, which is suggested here are being deposited in human cess. Thus, these seeds do not originate in wild brambles growing in the immediate vicinity of Shaw's Wiend but in berries, collected in the surrounding environment, ingested, and subsequently deposited in a context in the area which was subsequently excavated.
- 6.4.7 Hazelnut shells from (138) <7>, (119) <10>, (154) <11>, (137) <16>, (173) <20> and (178) <22> also suggest wild foods being collected from the local environment and later deposited nearer to the excavated environs. The *Prunus* seeds from (186) <21> further add to the picture.
- 6.4.8 It can also be noted that the plant nipplewort *Lapsana communis* has edible seeds, examples of which were recovered from (154) <11> and (104) <17>, though considering the amount recovered this is highly speculative.
- 6.4.9 Other seeds such as the *Polygonum* seeds and the *Chenopodium* seeds common in many samples (14 of the 22 samples) suggest weeds of arable areas. Thus they were possibly introduced with harvested cereals.
- 6.4.10 The high amounts of *Trifolium* (clover) seeds in (144) <8> might suggest some of this material might be introduced in the form of animal fodder, such as hay, for feeding animals kept in the area, either horses, or overwintered cattle or sheep/goats. Alternatively this material might contain the remains of animal dung.
- 6.4.11 The presence of *Urtica* species (nettle) could be seen as a common and highly adaptive weed exploiting undisturbed niches in the area of the site. However, nettle is also an edible plant, which was also ascribed many medicinal properties in the medieval period, including treatments for rheumatism and arthritis when rubbed on the skin, and as an additive to soups and salads (Fowler 2002, 327). In particular sample (151) <12> produced a high frequency of nettle seeds. The presence of such a high frequency in a pit may suggest consumption of the plant, rather than 'natural' material.
- 6.4.12 A number of plants associated with dying and cloth manufacture were recovered, though any connection with dying/cloth manufacture is tentative. Nettles can be used for cordage due to the strong fibres within the stem of the plant. A single flax seed

was recovered, and clearly any connection to linen production would be tenuous. *Galium* species were used as a red-dye during the early medieval period (Leahy 2003, 74-75) and *Rubus* seeds have been suggested as a dying agent based on excavations from Whithorn and St Ninian (Hill 1997, 127), though as has been discussed above, berries of *Rubus* are also part of a widely edible plant group. Also of note is the association between cereal grain and seeds of plants of arable environments such as seen in (154) <11> and (104) <17>.

- 6.4.13 It is likely that a certain number of the seeds originate from plants growing in the immediate vicinity of the site when it was active during the medieval period. These include the seeds of *Urtica* and *Rumex* which were common in many of the samples. However, as with all urban sites it needs to be recognised that many of the plant remains will not originate in the immediate vicinity of the urban area. This is particularly true for cereal grain, whose frequency may refer to demands within the town rather than a true reflection of their agricultural distribution in the hinterland of the town. Thus for example, certain industries such as brewing will generate a demand for barley which may create a bias in favour of barley in certain archaeological deposits.
- 6.4.14 **Magnetic Residues:** all samples contained magnetic material of some type, but this was generally naturally occurring material with low amounts of hammer scale and spheroidal hammer slag. Of moderate note was sample (149) <13> which contained relatively more spheroidal hammer slag than seen in other samples. Also, (166) <14>, though relatively small, was almost exclusively anthropogenic material.
- 6.4.15 These samples are of interest, but do not contain material in significant quantities to suggest that metal working was taking place in the immediate vicinity of these contexts. It can merely be stated that metal working took place in the general area. However, the small nature of this material and its ability to be easily blown by the wind means it can be found some distance from where actual metal working was taking place.
- 6.4.16 **Bone:** the bone recovered from these samples was often too heavily weathered to be ascribed to species identification. These bone fragments were, however, very common, being found in all of the 22 samples, though with degree ranging from very numbers of fragments (1 or 2 in some cases) to over 30 fragments in others. The examination of this bone has been incorporated into the zooarchaeology report written for this site. Of significance was the recovered of fish vertebra from the soil sample. Their presence had not been noted during the hand collection of larger mammal bones from the site. This was no doubt due to their small size, all bones being smaller than 3mm x 3mm x 3mm.
- 6.4.17 **Metal Working:** three objects were recovered which were either a copper alloy, or showed evidence of a copper residue on their surface. There came from (127) <3> (which may be an iron object with a copper residue coating) and (169) <15> (which had two of the objects, including a possible copper stud).
- 6.4.18 One lead fragment was recovered from (183) <19>, though this is probably too small to be ascribed to a particular form or function. A small (> 1mm x 1mm) fragment of copper was also recovered from the heavy residue of (127) <3> but this may be a fragment from the larger object.

- 6.4.19 **Pottery:** 13 of the 22 samples contained pottery, which was generally ascribed to fragments of medieval vessels. In general the pottery was not significantly abraded, suggesting that it was not exposed to significant abrasive action before it entered the archaeological deposits.
- 6.4.20 The wide frequency of small pottery and glass fragments in the sample suggests a wide scattering of medieval waste debris over the site, rather than specific or discreet pockets. This scattering of artefacts may also be reflected in the archaeobotanical material which would undoubtedly also be exposed to a degree of turbation over the site. It is suggested that the many contexts with low numbers of charred grains (9 contexts contained less than 5 grains) may reflect scatters of material rather than single deposits. This can be seen in contrast to samples such as (138) <7>, (154) <11>, (166) <14> and (178) <22> which had an average of 57 grains each.
- 6.4.21 **Chemical residues:** chemical residues in the form of small (3mm x 3mm x 3mm) off-white, grey and reddish spheres were relatively common, especially in the flot matrix. As well as this 4 thin (>1mm) glass like items were recovered. It is possible to suggest that some form of glass working was being undertaken on the site, or possibly glazing or pottery. Further chemical analysis would need to be undertaken on these samples if it was deemed important that this be confirmed.
- 6.4.22 **Sampling strategies:** the contents of pit [120] are notable, for they clearly show a differential rate of formation through the several distinct fills in this pit. These were samples (130) <1>, (138) <7>, (144) <8> and (145) <9>. The contrasts between the material found in these samples, ranging from no charred grain in sample (145) <9> to almost 30 in sample (138) <7> shows that different phases of depositional activity are reflected in the separate fills. Similarly pit [150] had a primary fill whose sample (154) <11> contained almost 100 grains, whereas the secondary fill, (151) <12>, had only 6. These examples show the value of taking numerous small, separate samples from identified features rather than larger consolidated samples often given general description such as 'fill of pit', which do not give due recognition to the differences which might be found between upper and lower layers of a feature.

## 6.5 THE BONE REMAINS

- 6.5.1 During the course of an archaeological excavation animal bones were collected by hand from 34 contexts (not including the bones from unstratified contexts, which have been examined and discussed below but are not used during calculations of the animal bone assemblage as a whole). Favourable preservation conditions can lead to the retrieval of animal bones that may produce a valuable suite of information. This can enable an assessment of anthropogenic activity, seasonality and climate and elements of the economy associated with the features from which the samples are removed. For the excavation in general animal bones may bear taphonomic markers which give some indication as to how the surrounding deposit formed, and the natural and cultural formation processes to which the deposit was exposed to until its time of excavation. More generally it will allow an assessment of the types of animals present. In this case the artefactual data suggests these bones originated from the later medieval period through to the modern period.

- 6.5.2 In the case of the Shaw's Wiend excavation, many of the contexts from which bones were recovered were anaerobic and waterlogged, thus allowing excellent preservation, as can be seen in the case of the cat bones recovered from context (174). However, various taphonomic factors will act on the death assemblage causing degradation and weathering of the original sample. Thus, the sample being discussed here is only a fragment of the original assemblage formed in the past.
- 6.5.3 The purpose of this study was to:
- Quantify the bones collected from the excavation by deducing their anatomical position and the genus of the animal from which they originate (if possible). This is done by comparing the material with reference material held at the Environmental Laboratory at North Pennines Archaeology, Nenthead.
  - Assess the presence of butchery evidence on all bones.
  - Assess evidence which may allow comments to be made regarding the pathology of the original animal population and other factors such as age at death and sex of animals.
  - Assess the taphonomic history of the bone from the creation of the death assemblage to their examination for this report.
- 6.5.4 For each context the MNI and the NISP have been calculated (see Appendix 5). The MNI (Minimum Number of Individuals) calculates the minimum amount of animals needed to contribute the bones to the context under discussion. Invariably for small assemblages this results in MNI calculations of 1 or at most 2, for most animals in most contexts. The NISP (Number of Identified Specimens) is a somewhat simpler calculation, but again has been criticised as merely reflecting the archaeological assemblage rather than the death assemblage of the original population. The problems of these methods are well discussed in zooarchaeology literature (O'Connor 2000), but they are an important exercise for the zooarchaeologist when assessing the assemblage. They are discussed in greater detail below.
- 6.5.5 In total 32 contexts produced animal bone. These are (104), (105), (106), (107), (109), (110), (111), (119), (125), (127), (129), (130), (131), (132), (137), (138), (147), (149), (151), (152), (153), (154), (155), (157), (161), (166), (169), (173), (174), (176), (178), (182), (183), (186) and an unstratified layer (U/S). A full list of the animal bone is present in Appendix 5.
- 6.5.6 **Context (104):** the fill of pit [103] produced 19 bones, 8 of which could not be identified to either an anatomical position or a species. 5 bones could not be assigned an anatomical position or species identification. One bone (a horn), was identified as that of Capra (goat) (1). One bone was identified as that of Bos (cattle). This was a right proximal phalange (1). Three bones of a Caprid (sheep/goat) were identified; these were a left metatarsal (1), a left scapula (1) and a rib (1). One bone was identified as that of Sus (pig). This was a right humerus (1). The bones assigned to an anatomical position but not species identification was three skull fragments (3), a small mammal phalange (1), and a rib bone (1). The bones which could not be assigned an anatomical position or species identification were nine fragments (9).

- 6.5.7 There is evidence of possible scavenging on the Caprid metatarsal, though the animal responsible could not be identified. Several of the bones showed accretions of sand grains on the surface, which is compared here to a sand-paper like effect. Several others had a smooth 'wood-like' surface.

<b>(104)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	3
Pig	1	1

- 6.5.8 **Context (105):** this soil layer produced 9 bones. 3 bones could be assigned an anatomical position, but not species identification. Of these 3 bones were identified as those of cattle. These were two rib bones (2 of the fragments came from the same bone). Two bones of sheep/goat were identified; this was a metacarpal in two fragments (2) and a tibia (1). The bones assigned to an anatomical position but not species identification were an innominate bone (1), a rib bone (1) and a left scapula (1). Butchery evidence was seen on one of the rib bones. This appeared to be a heavy chop mark. Two of the bones displayed a light 'sand-paper' surface.

<b>(105)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	2
Sheep/goat	1	2

- 6.5.9 **Context (106):** this garden soil produced 5 bones. One bone was identified as that of cattle. This was a fragment of right rib bone (1). Three bones were identified as that of sheep/goat. These were a left tibia (1), a left scapula (1) and a right femur (1). One bone was identified as that of dog. This was a left femur (1). There was possible butchery evidence seen on the dog bone. This was in the form a scrape marks on the medial side. A spiral fracture was also seen on this bone. Cut marks were also seen on the cattle rib and possible cut marks were seen on the sheep/goat tibia.

<b>(106)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	3
Dog	1	1

- 6.5.10 **Context (107):** in total 18 bones were recovered from amongst the stones of the linear feature (107), 8 of which could not be identified to either an anatomical position or a species. 2 bones could be assigned an anatomical position, but not species identification. Six bones were identified as that of Cattle. These were an axis bone (1) and an atlas bone (1), a rib (1), a mandible (1), a right metacarpal (1) and a left proximal phalange (1). One bone was identified as that of sheep/goat. This was a distal phalange (hoof) (1). One bone was identified as that of deer. This was a right mandible (1). The bones which could be ascribed an anatomical position but not species identification were a rib and a tooth (molar). The unidentified bones comprised of 8 fragments. Butchery evidence in the form of a saw mark was seen on

the cattle axis. This cut along body, below the left of the odontoid peg to the right caudal side at a 45° angle.

<b>(107)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	5
Sheep/goat	1	1
Deer	1	1

- 6.5.11 **Context (109):** the fill of a linear feature [108] produced 5 bones, 4 of which could not be identified to either an anatomical position or a species. One bone was identified as that of cattle. This was a fragment of rib (1). The unidentified bones comprised of 4 fragments, 2 burnt fragments and 2 unburned fragments.

<b>(109)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1

- 6.5.12 **Context (110):** this cobbled surface produced one bone. This could only be identified as a longbone.

- 6.5.13 **Context (111):** this soil layer produced 20 bones, 14 of which could not be identified to either an anatomical position or a species. 3 bones could be assigned an anatomical position, but not species identification. One bone was identified as that of cattle. This was a fragment of left calcaneus (1). One bone was identified as that of sheep/goat. This was a fragment of right humerus (1). One bone was identified as that of cat. This was a right mandible (1). The bones assigned to an anatomical position but not species identification were two rib fragments (2) and a vertebra (1). The vertebra was possibly a deer, though this identification was not definite. It was sawn along the cranial-caudal plane. The unidentified bones comprised of 14 fragments. One of these was burnt. Butchery evidence was seen on the one vertebra, which showed evidence of being sawn.

<b>(111)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	1
Cat	1	1

- 6.5.14 **Context (119):** the fill of pit [118] produced 97 bones, 44 of which could not be identified to either an anatomical position or a species. 28 bones could be assigned an anatomical position, but not species identification. 12 bones were identified as that of cattle. These were a fragment of metacarpal (1), a fragment of right proximal phalange (1), two fragments of right intermediate phalanges (2), two fragments of horn (1), three fragments of mandible, one of which was identified as right, one of which was identified as left and one which could not be sided (3), a fragment of left ulna (1), a fragment of left humerus (1), and a fragment of innominate bone (1). 12 bones were identified as that of sheep/goat. These were two metacarpal fragments (2), a proximal phalange (1), two metatarsal fragments, one right and one left (2), a fragment of vertebra (1), a fragment of left radius (1), and a fragment of right humerus (1). Three bones were identified as those of goat. These were two horn

fragments (2), and a distal phalange fragment (1). One bone was identified as that of sheep. This was a distal phalange (1). For the purposes of quantifying the MNI and the NISP the bone of sheep and goat will be treated as Caprid. One bone was identified as that of pig. This is a proximal phalange (1). Two bones were identified as those of horse. This was a fragment of left scapula (1) and a fragment of right metacarpal (1). The bones assigned to an anatomical position but not species identification were 2 scapula fragments (2), 19 rib fragments (19), two vertebra fragments (2), a skull fragment (1), a tooth fragment (1), a left humerus (1), and 2 indeterminate longbone fragments from a small mammal (2). The unidentified bones comprised of 44 fragments. 10 of these were burnt fragments.

- 6.5.15 Butchery evidence in the form of cut marks was seen on a cattle metatarsal and a cattle humerus. The humerus also had a possible saw mark.

(119)	MNI	NISP
Cattle	1	10
Sheep/goat	1	12
Horse	1	2
Pig	1	1

- 6.5.16 **Context (125):** this surface produced one bone. This was a left cattle metatarsal.

(125)	MNI	NISP
Cattle	1	1

- 6.5.17 **Context (127):** the fill of pit [126] produced 10 bones, 6 of which could not be assigned an anatomical position or species identification. Four bones were identified as those of cattle (1). It is suggested that these all came from the same fragmented horn. The unidentified bone comprised of 6 fragments (6), 3 burnt and 3 unburned fragments.

(127)	MNI	NISP
Cattle	1	1

- 6.5.18 **Context (129):** the fill of pit [128] produced 7 bones, 3 of which could not be identified to either an anatomical position or a species. 4 bones could be assigned an anatomical position, but not species identification. The bones assigned to an anatomical position but not species identification was 3 rib fragments (3) and a rodent ulna (1). One of the ribs appears to be that of a small mammal. The unidentified bones comprised of 3 fragments.

- 6.5.19 **Context (130):** the upper fill of pit [120] produced 18 bones, 6 of which could not be identified to either an anatomical position or a species. 6 bones could be assigned an anatomical position, but not species identification. Four bones were identified as those of cattle (4). These were a fragment of right ulna (1), a fragment of femur (1), a fragment of right humerus (1), and a fragment of left radius (1). One bone was identified as that of a sheep/goat. This was a right rib fragment (1). One bone was identified as that of a deer. This was a fragment of antler (1), suggested as red deer



based on the surface guttering. The bones assigned to an anatomical position but not species identification were two rib fragments, a vertebra fragment (1), two skull fragments (1), and a tooth (1). The unidentified bones comprised of 6 fragments, two of which were burnt fragments. Butchery evidence was not seen on any of these bones.

<b>(130)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	4
Sheep/goat	1	1
Deer	1	1

6.5.20 **Context (131):** the fill of culverts [115] and [167] produced 6 bones, 4 of which could not be identified to either an anatomical position or a species. 1 bone could be assigned an anatomical position, but not species identification. One tooth of a rabbit was recovered from the retent (1). The bones assigned to an anatomical position but not species identification was an indeterminate longbone (1).

<b>(131)</b>	<b>MNI</b>	<b>NISP</b>
Rabbit	1	1

6.5.21 **Context (132):** the upper fill of pit [118] produced 13 bones, 5 of which could not be identified to either an anatomical position or a species. 4 bones could be assigned an anatomical position, but not species identification. One bone was identified as those of cattle (1). This was a single tooth. Three bones were identified as that of a sheep/goat. These were two left metacarpal fragments (1) and a fragment of left humerus (1). The bones assigned to an anatomical position but not species identification were one rib fragments (1), a vertebra fragment (1), a tooth (1) and an indeterminate longbone (1). The unidentified bones comprised of 5 fragments. Butchery evidence was not seen on any of these bones.

<b>(132)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	1

6.5.22 **Context (137):** the upper fill of pit [136] produced 31 bones, 8 of which could not be identified to either an anatomical position or a species. 10 bones could be assigned an anatomical position, but not species identification. Eleven bones were identified as those of cattle. These were two fragments of left ulna (2), a fragment of horn (1), a fragment of right innominate (1), two fragments of left radius (2), three fragments of right tibia (1) and a fragment of a right metacarpal (1). One bone was identified as that of a goat. This was a horn fragment (1). One bone was identified as a fish vertebra, but further genus/species identification was not achieved. The bones assigned to an anatomical position but not species identification were six rib fragments (6), a metapodial fragment (1), a vertebra fragment (1), a tooth fragment (1), and a fragment of mandible (1). The unidentified bones comprised of 8 fragments, 3 of which were burnt fragments. Butchery evidence was seen on the cattle innominate. Saw mark evidence suggests that femur was removed by sawing off the femoral head across the body of the acetabulum.

(137)	MNI	NISP
Cattle	2	8
Goat	1	1

6.5.23 **Context (138):** this fill of pit [120] produced 44 bones, 22 of which could not be identified to either an anatomical position or a species. 15 bones could be assigned an anatomical position, but not species identification. Three bones were identified as those of sheep/goat (5). These were a fragment of right metacarpal (1), three fragments of tooth (3), and a fragment of scapula (1). One bone was identified as that of a cat. This was a left mandible fragment (1). One fish vertebra was recovered from the retent, though this could be identified to the genus or species level. The bones assigned to an anatomical position but not species identification were eight rib fragments (8), a skull fragment (1), an innominate fragment that is suggested as being that of cattle (1), a mandible fragment (1), a femur fragment (1), and 3 longbone fragments (3). The unidentified bones comprised of 22 fragments, 16 of which were burnt and 6 of which were unburned fragments. Butchery evidence was not seen on any of these bones.

(138)	MNI	NISP
Sheep/goat	1	3
Cat	1	1

6.5.24 **Context (147):** the fill of a modern service trench [146] produced 3 bones, 1 of which could not be identified to either an anatomical position or a species. One bone was identified as that of cattle (4). This was a fragment of rib (1). One bone was identified as that of a sheep/goat. This was a right mandible fragment (1). The unidentified bones comprised of 1 fragment. Butchery evidence was not seen on any of these bones.

(147)	MNI	NISP
Cattle	1	1
Sheep/goat	1	1

6.5.25 **Context (149):** this medieval dumped deposit produced 9 bones, 5 of which could not be identified to either an anatomical position or a species. 2 were given an anatomical identification but not species identification. One bone was identified as that of cattle (1). This was a left metacarpal fragment (1). One bone was identified as that of sheep/goat (1). This was a distal phalange fragment (1). The bones assigned to an anatomical position but not species identification were two fragments of scapula (2), one of which was a left. The unidentified bones comprised of 5 fragments. Butchery evidence was not seen on any of these bones.

(149)	MNI	NISP
Cattle	1	1
Sheep/goat	1	1

- 6.5.26 **Context (151):** the upper fill of pit [150] produced one bone, taken from the retent material after the floting of this sample. This was a cattle metatarsal fragment (1).

(151)	MNI	NISP
Cattle	1	1

- 6.5.27 **Context (153):** the fill of a small pit [152] produced 8 bones, 2 of which could not be identified to either an anatomical position or a species. 2 bones could be assigned an anatomical position, but not species identification. Four bones were identified as those of cattle (3). These were a fragment of femur (1), an indeterminate longbone fragment (1) and two fragments of rib (2). The bones assigned to an anatomical position but not species identification were a longbone fragment (1), and a skull fragment (1). The unidentified bones comprised of 2 fragments. Butchery evidence was not seen on any of these bones. Possible gnaw marks were seen on the proximal end of the cattle femur.

(153)	MNI	NISP
Cattle	1	4

- 6.5.28 **Context (154):** this fill of pit [150] produced 30 bones, 25 of which could not be identified to either an anatomical position or a species. Two bones were identified as those of a sheep/goat. These were a metatarsal fragment (1) and a left radius fragment (1). Three bones were identified as those of a deer. These were three fragments of antler (1), suggested as red deer based on the surface guttering. These were all small fragments (>2cm) and thus for the NISP calculation these will be treated as coming from one individual). The unidentified bones comprised of 25 fragments, all of which were burnt fragments. Most were less than 10mm x 10mm x 10mm and thus further identification is unlikely. Butchery evidence was not seen on any of these bones.

(154)	MNI	NISP
Sheep/goat	1	2
Deer	1	1

- 6.5.29 **Context (155):** Context (155) produced 2 bones. Both bones could be assigned an anatomical position, but not species identification. These were a rib fragment (1), and a longbone fragment (1)

- 6.5.30 **Context (157):** the fill of an irregular cut feature [156] produced 6 bones, 1 of which could not be identified to either an anatomical position or a species. Five bones were identified as those of cattle (5). These were a fragment of right tibia (1), and four fragments of rib (1). The unidentified bones comprised several pieces of one bone fragment. Butchery evidence was not seen on any of these bones.

(157)	MNI	NISP
Cattle	1	1

- 6.5.31 **Context (161):** this soil layer produced 21 bones, 13 of which could not be identified to either an anatomical position or a species. 2 bones could be assigned an anatomical

position, but not species identification. Two bones were identified as those of cattle (2). There were a fragment of right humerus (1), and a fragment of tooth (1). Four bones were identified as those of sheep/goat. These were a fragment of right mandible (1), a fragment of tooth (1), a fragment of left humerus (1), and a fragment of left calcaneus (1). The bones assigned to an anatomical position but not species identification were a fragment of tooth (1), and a fragment of mandible (1). Seven fragments were identified which come from a mandible, though it is suggested that they come from one of the mandibles in this sample. Therefore they will not be used when calculating the MNI or NISP. The unidentified bones comprised of 5 fragments. Butchery evidence was not seen on any of these bones.

<b>(161)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	4

6.5.32 **Context (166):** the fill of pit [165] produced 58 bones, 42 of which could not be identified to either an anatomical position or a species. 11 bones could be given an anatomical identification, but not species identification. One bone was identified as that of cattle (1). This was a fragment of horn (1). Four bones were identified as those of sheep/goat (4). These were a right femur fragment (1), a fragment of left metatarsal (1), a fragment of rib (1) and a fragment of right scapula (1). The bones assigned to an anatomical position but not species identification were three rib fragments (3), a vertebra fragment (1), 2 metacarpal fragments (2), a longbone fragment (1), 3 tooth fragments (3) and a skull fragment (1). The unidentified bones comprised of 42 fragments, 32 of which were fragments recovered from the retent. Two fragments were burnt fragments. All fragments were relatively small (> 10mm x 10mm x 10mm).

6.5.33 Butchery evidence was seen on one of the bones, a vertebra, without species identification. This butchery mark was in the form of a saw mark on the left side of the bone, cutting the transverse processes and a section of the centrum along the lateral-medial plane.

<b>(166)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	4

6.5.34 **Context (169):** this soil layer produced 8 bones, 6 of which could not be identified to either an anatomical position or a species. 1 bone could be given an anatomical identification, but not species identification. One bone was identified as that of sheep/goat (1). This was a fragment of femur (1). The bone assigned to an anatomical position but not species identification was a skull fragment (1). The unidentified bones comprised of 6 fragments burnt fragments. All fragments were relatively small (> 10mm x 10mm x 10mm).

<b>(169)</b>	<b>MNI</b>	<b>NISP</b>
Sheep/goat	1	1

6.5.35 **Context (174):** the fill of pit [173] produced 23 bones. 1 bone could be assigned an anatomical position, but not species identification. Five bones were identified as that of sheep/goat. These were a scapula fragment (1), and 4 teeth (4), three premolars and a molar. One bone was identified as that of a goat. This was a right horn fragment (1). The bone assigned to an anatomical position but not species identification was a skull fragment (1). Butchery evidence was not seen on any of these bones.

6.5.36 Sixteen bones were identified as those of a cat. These were a fragment of right mandible (1), three fragments of tibia, with both left and right represented (2), three vertebra fragments (1), three ulna fragments, with both left and right represented (2), two left radius fragments (1), one left humerus fragment (1), two femur fragments, with both left and right represented (2), and a right fibula fragment (1). Though the NISP calculation is 11, it is clear that these are the bones of a single cat. Based on their relative sizes, similar taphonomic appearance and circumstance of discovery, it is not interpreted that more than one individual is represented here.

<b>(174)</b>	<b>MNI</b>	<b>NISP</b>
Sheep/goat	1	1
Cat	1	11

6.5.37 **Context (176):** the upper fill of pit [175] produced one bone. This was identified as a sheep/goat femur (1). Butchery evidence was not seen on the bones.

<b>(176)</b>	<b>MNI</b>	<b>NISP</b>
Sheep/goat	1	1

6.5.38 **Context (178):** the fill of pit [177] produced 10 bones, 7 of which could not be identified to either an anatomical position or a species. One bone was identified as that of cattle (1). This was a fragment of axis vertebra (1). Two bones were identified as those of sheep/goat (2). These were a tooth fragment (1), and a fragment of right metacarpal (1). The unidentified bones comprised of 7 burnt fragments, one of which may have been from the phalange of a cat, but was heavily fragmented. Butchery evidence was not seen on bones from this sample.

<b>(178)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	2

6.5.39 **Context (182):** the fill of pit [181] produced 4 bones, 2 of which could not be identified to either an anatomical position or a species. 1 bone could be given an anatomical identification, but not species identification. One bone was identified as that of cattle (1). This was a fragment of tibia (1). The bone assigned to an anatomical position but not species identification was a longbone fragment (1). The unidentified bones comprised of 2 fragments, from the same fragmented bone (1). Butchery evidence was not seen on the bones from this sample.

<b>(182)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1

6.5.40 **Context (183):** this fill of pit [165] produced 28 bones. 7 bones could be given an anatomical identification, but not species identification. 13 bones could be assigned neither a species identification nor an anatomical position. Two bones were identified as that of cattle (2). These were from a right humerus (1). Three bones were identified as those of sheep/goat (3). These were a proximal phalange fragment (1), and two fragments of right metatarsal (1). One bone was identified as that of pig (1). This was a right humerus (1). The bones assigned to an anatomical position but not species identification were a rib fragment (1), an ulna fragment (1), 2 metapodial fragments, a carpal fragment (1), a proximal phalange fragment (1), and 3 vertebra fragments (3). The unidentified bones comprised of 3 fragments, two of which were burnt fragments.

6.5.41 Butchery evidence was seen on 2 of the bones. These were a shallow saw mark on the proximal head of the cattle humerus and a saw mark on one of the vertebra.

<b>(183)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	1
Sheep/goat	1	2
Pig	1	1

6.5.42 **Context (186):** this fill of pit [175] produced 6 bones, 1 of which could not be identified to either an anatomical position or a species. 1 bone could be given an anatomical identification, but not species identification. Two bones were identified as those of cattle (2). This was a fragment of tibia (1), and a fragment of right rib (1). One bone was identified as that of sheep/goat (1). This was a fragment of left tibia (1). One bone was identified as that of goat (1). This was a fragment of horn (1). The bone assigned to an anatomical position but not species identification was an innominate fragment (1). The unidentified bones comprised of 1 fragment.

<b>(186)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	2

6.5.43 **Context (U/S):** of the 18 unstratified bones, 7 could not be identified to either an anatomical position or a species. 2 bones could be given an anatomical identification, but not species identification. Three bones were identified as those of cattle (3). These were a fragment of horn (1) a fragment of right calcaneus (1), and a fragment of right proximal phalange (1). Six bones were identified as those of sheep/goat (6). These were a right tibia fragment (1), a fragment of metatarsal (1), two fragments of rib (1), a fragment of right scapula (1), and a fragment of left mandible (1). The bones assigned to an anatomical position but not species identification were a rib fragment (1), and a longbone fragment (1). The unidentified bones comprised of 7 fragments, one of which was a burnt fragments. Butchery evidence was not seen on the bones of this sample.

<b>(U/S)</b>	<b>MNI</b>	<b>NISP</b>
Cattle	1	3
Sheep/goat	1	5

- 6.5.44 **Contexts:** In total 32 contexts contained bone (excluding the unstratified bone), with a total of 514 bones. 155 (30%) of the bones were identified to the species level, 118 (22%) were given an anatomical identification where a species identification was not possible, and 241 (46%) could not be given either a species or anatomical identification.
- 6.5.45 Unidentified bone from this site comprised the largest single grouping. In this case unidentified bone includes material as long as 100mm to as small as 10mm. Much of this material is biased towards a small number of contexts which produced high numbers of fragments from the floting residue. Contexts **(119)**, **(138)** and **(166)** produced 44% of the unidentified bone, despite representing just 9% of the total contexts.
- 6.5.46 **Species present:** The proportions of identified bone breaks down as follows:
- Cattle bones appear in 23 contexts representing 42% of identified bone
  - Sheep/goat appear in 22 contexts representing 38% of identified bone
  - Pig bones appear in 3 contexts representing 2% of identified bone
  - Deer bones/antler appears in 3 contexts representing 3% of identified bone
  - Dog bone appeared in 1 context representing 0.6% of identified bone
  - Cat bone appeared in 3 contexts representing 12% of identified bone
  - Horse bone appeared in 1 context representing 0.6% of identified bone
  - Fish bone appeared in 2 contexts representing 1.2% of identified bone
  - Rabbit bone appeared in 1 context representing 0.6% of identified bone
- 4.5.47 Both the MNI and the NISP proved somewhat unsatisfactory results should a reconstruction of the original death assemblage be attempted. From the figures above it is clear that cattle and sheep/goat are the most commonly found bones. Indeed, cattle bones comprised 42% of the identified bone while sheep/goat bones comprised 38% of the identified bone, leaving 20% for the 7 other species. The presence of goats (as opposed to the general sheep/goat) on the site is attested by the 5 fragments of goat horn identified.
- 4.5.48 Pig bones appeared in very low numbers (3 bones from 3 contexts). It is possible that pigs were not kept in large numbers, but small numbers were allowed to roam freely by scavenging in the local environs and then killed opportunistically. This follows the pattern seen in other sites such as 46-54 Fishergate, York, where pig bones though common, were not abundant (O'Connor 254-67).
- 4.5.49 The low numbers of fish bone is notable, considering the site is located near a river with, though a hand collection strategy is often not suited to their recovered. However, even from the floting residues fish bone was not recovered in great numbers, despite the clearly very good preservation of plant remains from this site. The problems of fish bone preservation has been discussed elsewhere (Jones 1986), which may go some way to explain the absence of fish bones at this site. The bone recovered was poorly preserved, and it was not possible to identify the fish to species

(whether freshwater or saltwater). However, it is likely given the location of the site, that the River Eden would be a source of the fish being consumed.

- 4.5.50 Deer are represented by antler fragments only, thus there is no clear evidence for consumption of venison from this assemblage.
- 4.5.51 Dog bones are present in 1 context (**106**), in the form of a single left femur. Cat bones are represented in 3 contexts and represent 12% of the identified bone, though this is heavily biased by the presence of the 16 cat bones in (**174**). In total these were 2 mandibles from (**111**) and (**138**) and a more complete skeleton from (**174**). The skeleton from (**174**) presents an interesting example of possible use of a cat for its pelt, or fur. Notably there is only one vertebra and no ribs (the most common bones), and no phalanges. The skeleton is represented by a fractured mandible (no other skull fragments) and a series of well preserved long bones representing all 4 legs. The preservation of the delicate fibula is evidence that this is not a case of differential preservation. Clearly the leg bones were deposited in this pit without the rib bones or the majority of the vertebra.
- 4.5.52 The breakage of both ulnas at the same mid-shaft position may reflect something of the butchery action. However, butchery marks in the form of cut or scrape marks were not noted, possibly due to the presence of the sand encrustations on the bone, which has created a problem for identification of butchery on all the bones from this site. The butchery action is inferred from the breakage of the ulnas in the same manner and in the absence of vertebra and ribs, which suggests the bulk of the carcase was taken elsewhere (possibly for its meat value?). What cannot be assessed is whether the cat was killed specifically for its pelt or whether a dead cat was used opportunistically as suggested by O'Connor for other sites (O'Connor 2000, 170).
- 4.5.53 Examples of the lagomorph taxa were low, being represented by a single rabbit tooth. The absence of bird bones is notable, though it is unclear whether this reflects poor preservation of bird bones from this site or a low consumption of bird during the occupation of the site.
- 4.5.54 **Preservation:** one interesting feature of the bones from this site was the presence of a fine sand adhesion to the surface of many of the bones. In some cases this took the form of a light patchy adhesion, while on other bones this was a thick layer which greatly impeded the identification of the bone. This was also a particular problem for the identification of butchery and scavenging evidence. Light cut marks, often common on butchered bone would be obscured by this surface, while light rodent gnaw marks would be similarly unclear.
- 4.5.55 The reason for this adhesion is not clear. The bones were all hand washed and it is clear that the sand grain form a now permanent fixation onto the surface of the bones. There may be some connection between these bones and waterlogged environments found on the site. It is suggested here that as the bones began to leech calcium ions into the surrounding soil this led to the formation of a calcium rich layer immediately around the bones. If this layer hardened it might trap aspects of the deposit immediately in contact with the bone. When removed from their archaeological



deposit, washed and dried the hardest part of this adhesion (the sand grains) would remain, forming this distinctive 'pebble-dash'.

- 4.5.56 **Scavenging:** evidence for scavenging was scarce, noted on only two bones. Evidence for scavenging usually seen in delicate rodent gnaw marks would be obscured by the presence of the 'pebble-dash' present on many bones from this site.
- 4.5.57 **Butchery:** butchery evidence was seen on 9 bones and mainly involved saw marks (7), with possible butchery scrapes on 1 bone and a butchery fracture on another, though could also be ascribed to trampling.
- 4.5.58 One butchery pattern noted was the appearance of saw marks on vertebra seen on 4 bones. This took the form of a saw cut to the left of the centrum, separating the left transverse process and some of the centrum along the cranial-caudal plane (slightly left of the medial line). It is hypothesised that a butchered carcass, after the legs and skull had been removed would be most easily separated by sawing down the vertebral column, dividing the left from the right. It is possible that this pattern is represented here.
- 4.5.59 Ribs were the most common fragment (69), followed by metapodials (28). Loose teeth were also abundant (21), though with obvious problems for quantification when compared to other bones as a single mandible can produce 20+ teeth. Other common fragments included horn fragments (16), scapula fragments (12) and tibia fragments (13), humerus fragments (13), vertebra fragments (16) and skull fragments (12).
- 4.5.60 The range of bones represented takes all aspects of the animal anatomy into consideration, though with some bias. Vertebra bones are heavily under represented. Though 16 were identified it should be taken into consideration that the average quadruped has c.50 vertebra from the atlas bone to the caudal vertebra.
- 4.5.61 **Discussion:** the bone assemblage possesses much information regarding the species of domestic and wild animals present at Shaw's Wiend, Appleby-in-Westmorland. Aspects of the site economy and the taphonomy which affected the site are also represented in the animal bone assemblage. Further identification of the fish vertebra might be undertaken (though as they occur in such small quantities it is unlikely to shed much light on the overall economy of the site). Two burnt phalanges were also recovered (178) which though unidentified (past the general tag of small mammal), might be pine martin phalanges. These might shed more light on the use of animal pelts at this site already suggested by the cat bones from (174).
- 4.5.62 The cat from context (174) may represent an interesting example of the butchery of a single individual for its skin, and deliberate deposition within a context, in this case a cess pit.

## 7. INTERPRETATION AND DISCUSSION

### 7.1 STRATIGRAPHIC SEQUENCE

- 7.1.1 The present development area is believed to cover parts of two medieval burgages, which could originally have been occupied buildings fronting onto both Boroughgate and Shaw's Wiend. No archaeological evidence for these buildings was revealed by the excavation due to the presence of a 19<sup>th</sup> century building and sunken yard, which had removed all evidence for early buildings on the east side of the site. Based on the historic map evidence the original medieval burgage plot boundary would have been in the location of the access ramp into the sunken yard. However, no evidence for this boundary survived within the excavated area. The majority of the features that were revealed during the project are believed to relate to activities to the rear of the former Boroughgate buildings.
- 7.1.2 *Phase I:* the earliest stratigraphic layer identified at the site was a probable yard surface (125), comprising a compacted layer of small stones, embedded into the natural silty-clay (101). The lack of topsoil, suggests that the site was deliberately cleared before this surface was laid down, possibly in the 12<sup>th</sup>/13<sup>th</sup> century. The finds recovered from this dated between the 13<sup>th</sup> to 15<sup>th</sup> centuries. A stone-lined pit [139] and possible rubbish pit [103] within the area of the southern burgage plot are the earliest dated cut features at the site, the fills of these pits containing 12<sup>th</sup>/13<sup>th</sup> pottery.
- 7.1.3 *Phase II:* cutting the yard surface (125) were a series of pits, and deposits believed to be associated with medieval occupation of the northern burgage plot during the 13<sup>th</sup> to 15<sup>th</sup> centuries. These included a number of probable cess pits [120], [173], [175] and [177], rubbish pits [165], [181] and pits of uncertain function [118], [136] situated within the northernmost plot. Both round and rectilinear cess pits were identified and these had clearly been used for rubbish disposal at the end of their use. Three other pits on the east side of the excavation may have served a similar function [126], [128] and [150]. However, this was uncertain as they did not exhibit the characteristic staining that was seen in the other pits. Also associated with this phase was a stone boundary feature (107), interpreted as a medieval garden wall.
- 7.1.4 On the basis of the pottery recovered from these features it is clear that there was a significant amount of activity focusing on the late 12<sup>th</sup> and 13<sup>th</sup> centuries, extending through to the 15<sup>th</sup> century. However there was a clear absence of material recognizably 16<sup>th</sup> century in date, suggesting that domestic activity at the site had ceased by this time.
- 7.1.5 *Phase III:* overlying these features in the northern burgage plot were a series of post-medieval soil layers (155), (161) and (169), cobbled surfaces (110), (112), (113) and (114) and culverts (164), [115] and [167]. These features relate to a former yard, which would have been present to the rear of buildings fronting onto Boroughgate, which was laid down during the 17<sup>th</sup> or 18<sup>th</sup> century. Although the yard surface only survived in a fragmentary state, it contained well-made stone-lined culverts that appear to have served a more significant function than merely draining the yard surface. The layout of the culverts and the presence of a sump or drain may indicate on-site water management associated with some small-scale domestic function. Also

associated with this phase is a possible boundary feature or drainage channel [108] and [158], which could possibly relate to former buildings on the east side of the site.

- 7.1.6 **Phase IV:** at some point during the 18<sup>th</sup> century this yard went out of use, followed by soil development (111) on the north side of the excavated area. A substantial depth of garden soil (106) subsequently developed over the whole of the northwest side of the development area. The use of this area as a garden is illustrated on Hill's map of 1754.
- 7.1.8 **Phase V:** the area was subsequently utilised as both garden and paddock into the modern period. This activity included the deposition of a number of insubstantial brick surfaces, garden paths, and rubble deposits. The sunken yard and outbuilding were constructed on the east side of the development area at the end of the 19<sup>th</sup> century. It is probable that the depth of compact orange clay (172), identified on the south side of the excavation, was deposited as a result of this activity.

## 7.2 ARTEFACTUAL EVIDENCE

- 7.2.1 The majority of the artefacts recovered during the archaeological excavation were interpreted as domestic waste relating to the medieval and post-medieval occupation of the site. This includes a significant assemblage of medieval pottery, which was recovered from a series of pits and deposits on the west side of the excavated area.
- 7.2.2 **Pottery:** Over 600 shards of medieval pottery were recovered mostly comprising cooking pots and some decorated jugs. In total 11 fabric types were identified dating from the 12<sup>th</sup>-15<sup>th</sup> centuries. The pottery represents a diverse range of sources (suggested by the fabrics) as is to be expected on one of the major trans-Pennine routeways, but the affinities of most sherds appears to be with Cumbria, specifically, Penrith, Dacre and Carlisle. Attention is also drawn to two sherds from contexts (109) and (169), which appear to have residues on the internal surfaces. It is recommended that a description and assessment of the main wares identified be published, drawing attention where possible to *comparanda* in the north-west.
- 7.2.3 The majority of the post-medieval pottery recovered during the excavation comprised glazed earthenware cooking and storage vessels dating from the 17<sup>th</sup>-19<sup>th</sup> centuries, which are typical domestic wares. Only a small number of decorated fine wares were present, including some vessels from Staffordshire. Little further can be gained from the study of this material.
- 7.2.4 **Clay pipe:** a number of interesting examples of clay tobacco pipes were recovered during the excavation dating from the 17<sup>th</sup> and 18<sup>th</sup> centuries, including some relatively early examples (as early as c.1650). It would be useful to have these examples drawn and published along with the final results of the project. However, further study of this material would not add significantly to the site interpretation.
- 7.2.5 **Glass:** the majority of the glass fragments were recovered from layers of post-medieval garden soil and were mostly bottle glass, relating to domestic activity. Little further can be gained from the study of this material.
- 7.2.6 **Metal objects:** a number of probable medieval and post-medieval hand-made nails were recovered which indicate the former presence of buildings or other structures at

the site. Two fragments of medieval bronze vessels were also retrieved which probably relate to domestic activity. A plain strip of bronze was recovered from a medieval pit, which appeared to be an off-cut or re-used fragment and may indicate metal-working activity nearby. However, given that only a single fragment was recovered this is uncertain. The remainder of the metal objects recovered were highly corroded and mineralised and could not contribute anything to the site interpretation.

7.2.7 **Industrial residues:** it is clear from the presence of smithing hearth bases and other undiagnostic ironworking residues that ironworking was taking place somewhere in the vicinity of the site in the medieval period. However, the small quantities recovered suggest that this was only on a small scale. No further work is recommended on the industrial residues.

7.2.8 **Other artefacts:** the small finds recovered during the excavation indicate activity at the site between the 16<sup>th</sup>-19<sup>th</sup> centuries; however no further useful information can be gained from these objects, which are almost certainly casual losses. It is proposed that the comb fragment and coin will be drawn and published along with the final results of the project.

### 7.3 ENVIRONMENTAL EVIDENCE

7.3.1 **Environmental samples:** the environmental samples retrieved during the excavation have provided information regarding the diet of the residents at the Shaw's Wiend site during the medieval period, and evidence for the exploitation of local resources. The seeds and cereals recovered suggest a wide exploitation of plants in the environment around Appleby-in-Westmorland. This is notable in the finds of both cultivated cereal grains and wild edible plants such as *Corylus* (hazel nuts), *Rubus* (bramble) and *Prunus* (cherry), often in large numbers as seen in pit [175], Sample <21>. This suggests both organised agriculture and the adventitious exploitation of seasonal plants.

7.3.2 Of the cereal grains recovered, the appearance of 6-row barley grain would not typically be expected in a medieval context, and thus this site may preserve a late survival of this variety in England. Oat and wheat grains were also common. Possible rye grain were recovered from context (154), Sample <11> and context (166), Sample <14>, but were too badly charred to allow a positive identification. It was noted that many of the cereal grains were heavily degraded or badly charred. This was interpreted as evidence for damage by high temperatures, possibly through drying the grain with an unsuitable heat source.

7.3.3 It is likely that a number of the seeds recovered originate from plants growing in the immediate vicinity of the site when it was active during the medieval period. These include the seeds of *Urtica* (nettle) and *Rumex* (docks and sorrels) which were common in many of the samples, and are commonly found around the margins of cultivated land. Other seeds such as the *Polygonum* (e.g. bistort) seeds and the *Chenopodium* (goosefoot) seeds, common in many samples, suggest weeds of open arable areas. However, overall the range of plants present is not unexpected given the context of the site, which would probably have been surrounded by gardens and paddocks to the rear of Boroughgate.

- 7.3.4 ***Animal bone:*** the animal bone recovered during the excavation has provided useful information regarding the species of domestic and wild animals being consumed at the Shaw's Wiend site in the medieval and post-medieval periods. Bone was recovered as domestic rubbish from the majority of cess pits, rubbish pits and deposits excavated. Cattle and sheep/goat bones were most common. However, some pig and fish were evidently also being consumed at the site. Interestingly a cat skeleton was recovered, which may indicate that the animal was butchered for its pelt, or fur.
- 7.3.5 Although butchery marks were not common in the assemblage due to the poor preservation of much of the bone, it is nevertheless likely that animals were being butchered on site, as a full range of bones were present. This would not be the case if joints of meat were being imported to the site from elsewhere. This bone evidence fits within the medieval context of the site, as the economy of a burghage would involve keeping a small number of animals for food, typically cattle, sheep, goats, pigs, chickens and geese. This economy was supplemented by some wild species, namely fish in the case of the Shaw's Wiend site. There was a notable lack of bird bones in the assemblage; however it is unclear whether this relates to poor preservation, or low consumption.
- 7.3.6 The animal bone from post-medieval contexts was similarly dominated by cattle and sheep/goat, with some evidence for domestic animals, namely cat and dog. The vast majority of this bone was recovered from layers of garden soil. The value of this material is therefore limited in terms of the information it can provide regarding the economy of this period. No further work is recommended on the animal bone assemblage.

## 8. CONCLUSIONS AND RECOMMENDATIONS

### 8.1 INTRODUCTION

8.1.1 The following section presents initial conclusions that can be drawn from the assessment of the stratigraphic, artefactual and environmental data from the excavation (SWA-A), and provides an assessment of the research potential of these different datasets, in relation to the aims and objectives set out in Section 2.2.3.

### 8.2 CONCLUSIONS

8.2.1 The excavation was undertaken in order to preserve by record the archaeological evidence contained within the site that will be impacted by the proposed new development. Significant archaeological remains were revealed, relating to the medieval and post-medieval occupation of the site. These remains included a series of medieval pits and deposits associated with rubbish disposal, as well as post-medieval cobbled yard surfaces and culverts.

8.2.2 The site is located at the heart of the medieval borough of Appleby-in-Westmorland on the main street (Boroughgate) and therefore has the potential to provide information on the development, morphology, and possible contraction of the town, and the surrounding countryside during the medieval and early post-medieval periods. The ceramic evidence suggests that following a period of relatively intense occupation activity in the 12<sup>th</sup>-15<sup>th</sup> centuries, there was a distinct break in domestic activity during the 16<sup>th</sup> century. The site was subsequently re-occupied in the 17<sup>th</sup>/18<sup>th</sup> century.

8.2.3 No evidence was revealed for early buildings, or the former medieval burgage plot boundary shown on Hill's map of 1754. However, evidence for these was probably removed during the construction of the 19<sup>th</sup> century sunken yard and access ramp on the east side of the plot. A boundary feature of probable medieval date was identified, but historic map evidence suggests this feature was too far north to be the burgage plot boundary, and this is likely to be a garden wall or other boundary feature.

8.2.4 Environmental sampling of the medieval pits and other features has identified well-preserved organic remains, and confirmed the presence of cess pits, which were later used for rubbish disposal. The plant remains and animal bone recovered have provided evidence of the varied diet of the medieval inhabitants, which included a range of both cultivated and wild foods.

8.2.5 The project has provided evidence for a mixed economy in the medieval period, which is consistent with the system of burgage tenure, involving both agriculture and other small-scale economic activities indicative of semi-urban life. However, the importance of the adjacent market place and availability of agricultural produce from the surrounding countryside should not be underestimated. The industrial residues recovered from the site indicate that iron-working was taking place nearby on a limited scale. However, the site has produced very little evidence for animal or plant processing, which might be expected during this period. The evidence points rather to domestic consumption, perhaps indicating that economic activity was focused

elsewhere. The medieval ceramic assemblage points to trade links with production centres in the Northwest, in particular with Carlisle, rather than the Northeast.

- 8.2.6 The archaeological work has both enhanced and clarified the results of the previous evaluation at the site. Despite the visible truncation of archaeological deposits on the east side of the site in the vicinity of the 19<sup>th</sup> century outbuilding and yard, the work has also indicated that further archaeological remains are likely to be present across the whole of the site, which has seen very limited modern disturbance.

### **8.3 POTENTIAL FOR FURTHER WORK**

- 8.3.1 The excavated evidence has the potential to contribute to a number of research objectives posed by the North West Regional Research Framework, with specific reference to medieval and early post-medieval Appleby-in-Westmorland.

- 8.3.2 A significant assemblage of medieval pottery was recovered during the excavation. This material has the potential to contribute to the creation of a typology of medieval and early post-medieval pottery fabrics in Appleby-in-Westmorland and the Eden Valley. It is recommended that this material be published, along with the pottery from the previous archaeological evaluation at the site. This should include an illustrated catalogue of fabric and vessel types, in order to facilitate future research.

- 8.3.3 The site is located very close to Appleby Castle, a major focus of seigneurial power in the Middle Ages. As such it is on the A66, a major road across the northern Pennines linking the crucial north-western outpost of Carlisle with the Honour of Richmond, and thence to major foci at Durham and York. The social and economic implications of this link have not been explored archaeologically, and would be difficult to achieve, but the use of ceramics offers some scope for undertaking this work. At present, comparatively little medieval pottery has been published from the upper Eden valley or further east along the A66, and what has appeared at Dacre (McCarthy and Brooks forthcoming), Penrith (Brooks 2000a), Brougham Castle, Kirkby Thore (McCarthy 1989a) and Brough under Stainmore (McCarthy 1989b) is generally limited in quantity as at Appleby. Only Barnard Castle has yielded significant amounts. Considered together, these assemblages acquire a 'group-value' status reflecting the movement of low-value goods used by peasants and presumably acquired through markets or from pedlars along a major arterial link.

- 8.3.4 The environmental remains have helped to contribute to an understanding of the environment of medieval Appleby-in-Westmorland, and provided information on land use, vegetation and the exploitation of wild resources. A number of the environmental samples were particularly rich in organic remains and have further potential for the recovery of archaeobotanical remains, fish bones and parasites. Full analysis of these could provide further information regarding the nature of the local environment and contribute to an understanding of the diet and health of the medieval inhabitants. Further work could also be undertaken to examine the 6-row barely grains recovered, as their appearance in medieval contexts is atypical. Analysis may also establish whether the indeterminate grains are in fact rye, though this would not serve to radically alter the interpretation of the site as a whole.

- 8.3.5 Despite the presence of smithing hearth bases and other undiagnostic ironworking residues, the potential of the site to contribute to an understanding of economic

activity in Appleby-in-Westmorland during the medieval and early post-medieval periods is considered to be low. However, further analysis of the chemical residues (the 3mm spheres discussed in Section 6.4.21) might enable conclusions to be reached as to what process created them. It is currently hypothesised here that they may relate to glass-making or pottery-glazing activity.

## **8.4 STORAGE AND CURATION**

- 8.4.1 The project archive is currently held at the North Pennines Archaeology Ltd. company offices at Nenthead. The archive has been compiled in accordance with the project design, and in accordance with current UKIC (1990) and English Heritage guidelines (1991).
- 8.4.2 The pottery, glass, clay pipe, metal artefacts, environmental samples and animal bone have been consolidated and are being stored in a stable environment until they can be deposited with the archive at a suitable location.

## **8.5 ARCHIVE DEPOSITION**

- 8.5.1 On completion of the analysis and publication, it is proposed that the site archive (SWA-A) will be prepared for deposition in Penrith Museum, along with the archive from the evaluation (SW06).
- 8.5.2 One copy of this report will be deposited with the Cumbria County Council Historic Environment Record, where viewing will be available on request.
- 8.5.3 The project is also registered with the **Online Access to the Index of archaeological investigations (OASIS)**, where a digital version of this report will be made available. The **OASIS ID** for this project is: northpen3-74955

## **8.6 PUBLICATION REPORT**

- 8.6.1 It is recommended that an article detailing the final results of the project be submitted for publication in the Transactions of the Cumberland and Westmorland Archaeological and Antiquarian Society. This will combine the results of the excavation presented in this report, along with any further post-excavation analysis, and the results of previous evaluation. A costed project design for the final article will be produced following consultation with the client and Cumbria County Council Historic Environment Service.



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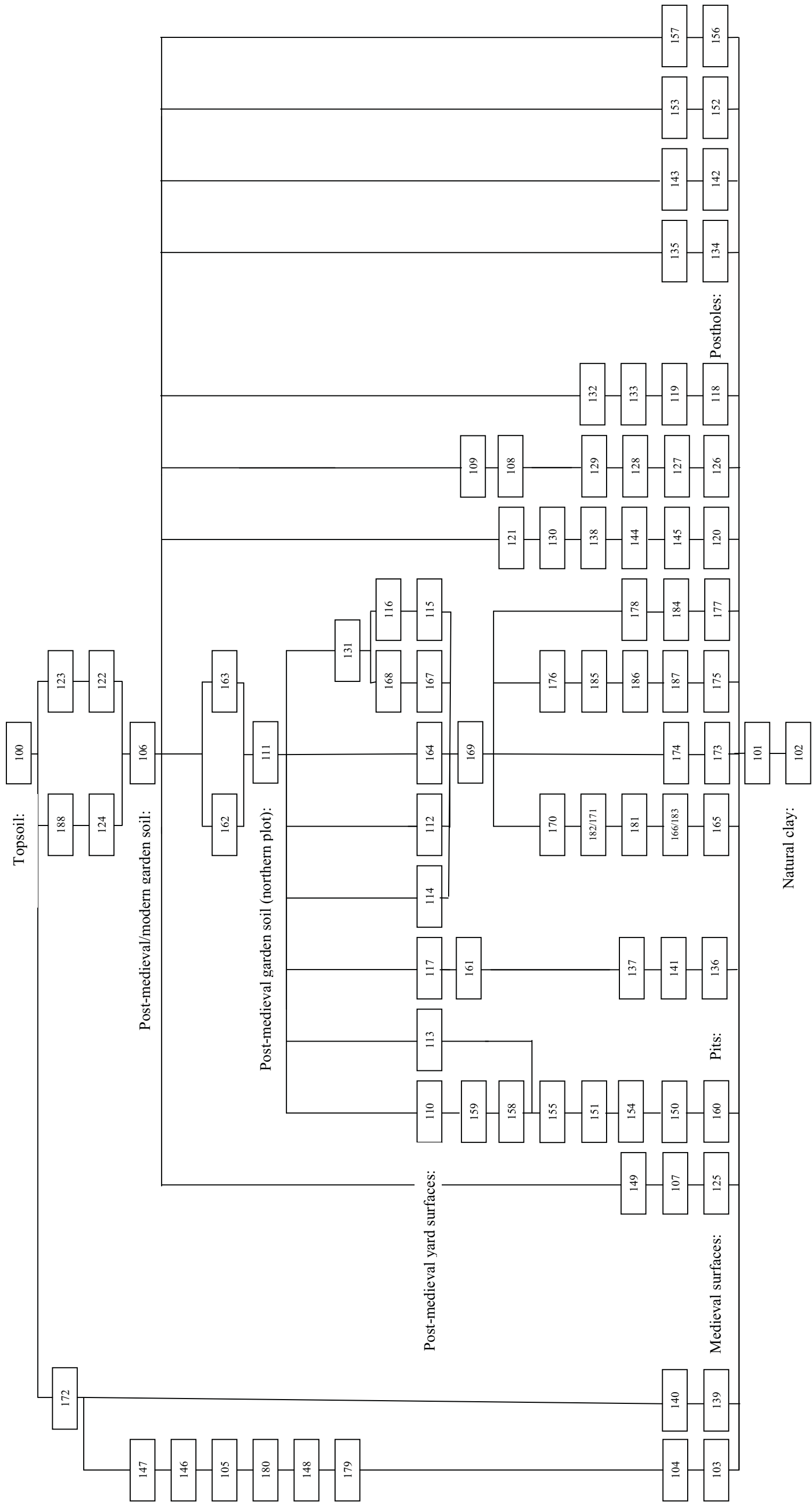
## APPENDIX 1: LIST OF CONTEXTS

Context	Description	Period	Above	Below	Cuts	Cut by	Filled by	Fill of
100	Topsoil	Modern	172,188,123	n/a				
101	Silty-clay subsoil	Geological	102	111				
102	Natural orange clay	Geological	n/a	102				
103	Cut of pit	Medieval?	101	104	101		104	
104	Primary fill of pit [103]	Medieval?	103	179				103
105	Soil layer	Post-medieval	147	172				179
106	Garden soil	Post-medieval	101	100,122,124				
107	Linear stone bank	Medieval?	125	149				
108	Cut of linear feature	Post-medieval	101	109	129,128	122	109	
109	Fill of linear feature [108]	Post-medieval	108	106		122		108
110	Cobble surface	Post-medieval	159,155	111		122		
111	Garden Soil in northern area	Post-medieval	110,112,113	106,162,163				
112	Cobble Surface	Post-medieval	161	111		122		
113	Cobble Surface	Post-medieval	155	111		122		
114	Cobble Surface	Post-medieval	161	111				
115	Cut of culvert	Post-medieval	169	116	169,101		116,131	
116	Stones of culvert [115]	Post-medieval	115	131				115
117	Cobble surface	Post-medieval	161	111				
118	Cut of pit in south section	Medieval	101	119	101		119,132-3	
119	Primary fill of pit [118]	Medieval	118	133				118
120	Cut of pit	Medieval	101	145	101		121,130, 138,144-5	
121	Upper fill of pit [120]	Post-medieval	130	111				120
122	Cut of service trench	Modern	106	123	101,102		123	
123	Backfill of service trench	Modern	122	100				122
124	Cut of evaluation trench	Modern	106	188			188	
125	Stone/pebble surface	Medieval	101	107		142,152		
126	Cut of pit	Medieval	101	127		128	127	
127	Fill of pit [126]	Medieval	126	128		128		126
128	Cut of pit	Medieval	127	129		108	129	
129	Fill of pit [128]	Medieval	128	108		108		128
130	Fill of pit [120]	Medieval	138	121				120
131	Fill of culverts [115]&[167]	Post-medieval	116,168	111				115,167
132	Upper fill of pit [118]	Medieval	133	106				118
133	Cobble fill of pit [118]	Medieval	119	132				118
134	Post hole	Medieval	101	135			135	
135	Fill of post hole [134]	Medieval	134	106				134
136	Cut of pit	Medieval	101	141			137,141	
137	Upper fill of pit [136]	Medieval	141	161				136
138	Fill of pit [120]	Medieval	144	130				120
139	Cut of pit in southern section	Medieval?	101	140			140	
140	Stone fill of pit [139]	Medieval?	139	172				139
141	Primary fill of pit [136]	Medieval	136	137				136

Context	Description	Period	Above	Below	Cuts	Cut by	Filled by	Fill of
142	Stake hole	Medieval?	101	143	125		143	
143	Fill of stake hole [142]	Medieval?	142	106				142
144	Secondary fill of pit [120]	Medieval	145	138				120
145	Primary fill of pit [120]	Medieval	120	144				120
146	Cut of service trench	Modern	101	147	104,180		147	
147	Fill of service trench [146]	Modern	146	172				146
148	Base of garden wall	Post-medieval	179	180				179
149	Burnt deposit next to [107]	Medieval	107	106				
150	Cut of pit	Medieval	101	151	101,160	122,158	151,154	
151	Secondary fill of pit [150]	Medieval	154	155		122,158		150
152	Cut of pit/posthole	Medieval	101	153	125		153	
153	Fill of pit/posthole [152]	Medieval	152	106				152
154	Primary fill of pit [150]	Medieval	150	151				150
155	Soil layer beneath cobbles	Post-medieval	160	110,113		122,158		
156	Cut feature	Medieval?	101	157	101,125		157	
157	Fill of cut feature [156]	Medieval?	156	106				156
158	Cut of linear feature	Post-medieval	155	159	151	122	159	
159	Fill of linear feature [158]	Post-medieval	158	110,111		122		158
160	Stone/cobble surface	Medieval	101	155		122,150		
161	Soil layer beneath cobbles	Post-medieval	101,137	112,114,117				
162	Stone/brick rubble deposit	Post-medieval	111	106				
163	Stone of retaining wall	Post-medieval	111	106				
164	Cobbles of culvert	Post-medieval	169	111				
165	Cut of pit	Medieval	101	166	101	181	166,170	
166	Primary fill of pit [165]	Medieval	165	181		181		165
167	Cut of stone-lined culvert	Post-medieval	169	168	101		168,131	
168	Fill of culvert [167]	Post-medieval	167	131				167
169	Soil layer beneath culverts	Post-medieval?	101,170,176	115,164,167				
170	Upper fill of pit [181]	Medieval	171	169				181
171	Primary fill of pit [181]	Medieval	181	170				181
172	Re-deposited orange clay	Modern	147,105,140	100				
173	Cut of pit	Medieval	101	174	101		174	
174	Fill of pit [173]	Medieval	173	169				173
175	Cut of pit	Medieval	101	187	101		176,185-7	
176	Upper fill of pit [175]	Medieval	185	169				175
177	Cut of pit	Medieval	101	184			178,184	
178	Upper fill of pit [177]	Medieval	184	169				177
179	Cut for garden wall [148]	Post-medieval	101,104	148	101,104		148,180	
180	Backfill of cut [179]	Post-medieval	148	105				179
181	Cut of pit	Medieval	166	171	101,166		170,171	
182	Same fill/context as (171)	Medieval	181	170				181
183	Same fill/context as (166)	Medieval	165	181		181		165
184	Primary fill of pit [177]	Medieval	177	178				177
185	Fill of pit [175]	Medieval	186	176				175
186	Fill of pit [175]	Medieval	187	185				175
187	Fill of pit [175]	Medieval	175	186				175
188	Backfill of evaluation trench	Modern	124	100				124

**APPENDIX 2: SITE MATRIX**

Land at Shaw's Wiend, Appleby-in-Westmorland, Cumbria (SWA-A)



## APPENDIX 3: FINDS

**Table 1:** Table of finds recovered during the excavation

Context	Material	Quantity	Weight (kg)	Period
104	Pottery	7	0.152	Medieval
104	Pottery	3	0.073	Post Medieval
105	Pottery	2	0.029	Post Medieval
105	Glass	1	0.007	Post Medieval
106	Clay pipe	7	0.027	Post Medieval
106	Pottery	38	0.668	Post Medieval
106	Metal	3	0.02	Post Medieval
106	Glass	3	0.136	Post Medieval
107	Pottery	74	1.33	Medieval
107	Tile	1	0.041	Medieval
109	Pottery	9	0.178	Medieval
109	Pottery	1	0.002	Post Medieval
109	Tile	1	0.027	Medieval
109	Vessel Glass	1	0.001	Medieval?
109	Metal - Fe	3	0.027	Post-medieval?
110	Pottery	3	0.47	Medieval
111	Clay Pipe	33	0.126	Post Medieval
111	Pottery	13	0.094	Post Medieval
111	Pottery	13	0.189	Medieval
111	Glass	8	0.071	Post Medieval
111	Metal	11	0.042	Post Medieval
111	Slag	5	0.408	Post Medieval
119	Tile	3	0.264	Medieval
119	Pottery	1	0.002	Post Med
119	Pottery	104	1.04	Medieval
119	Slag	8	0.405	Medieval
121	Pottery	12	0.106	Medieval
121	Pottery	12	0.125	Post Medieval
121	Glass	8	0.03	Post Medieval
121	Tile	2	0.221	Medieval
125	Tile	2	0.051	Medieval
125	Pottery	7	0.08	Medieval
127	Pottery	3	0.239	Medieval
129	Metal	2	0.006	Post Medieval?
129	Glass	1	0.002	Post Medieval?
129	Tile/Brick	1	0.039	Medieval?
129	Pottery	33	0.397	Medieval
129	Slag	1	0.007	Medieval?
130	Pottery	53	0.837	Medieval
130	Metal - Fe	2	0.215	Medieval
131	Glass	1	0.002	Medieval?
131	Pottery	3	0.009	Medieval
132	Pottery	14	0.106	Medieval
135	Pottery	2	0.022	Medieval
137	Pottery	57	0.96	Medieval

Context	Material	Quantity	Weight (kg)	Period
137	Tile	3	0.122	Medieval
137	Metal	2	0.049	Medieval?
138	Pottery	24	0.303	Medieval
138	Metal - Cu Alloy Strip	1	0.008	Medieval
138	Slag	1	0.055	Medieval
138	Metal	1	0.505	Medieval
140	Pottery	1	0.012	Medieval
147	Clay Pipe	1	0.004	Post Medieval
147	Pottery	18	0.172	Post Medieval
149	Pottery	13	0.186	Medieval
151	Pottery	6	0.136	Medieval
151	Metal	2	0.025	Medieval
153	Pottery	19	0.38	Medieval
154	Pottery	6	0.105	Medieval
155	Pottery	2	0.013	Post Medieval
155	Clay Pipe	1	0.002	Post Medieval
157	Pottery	2	0.038	Medieval
159	Pottery	2	0.049	Medieval
161	Clay Pipe	4	0.05	Post Medieval
161	Tile	1	0.136	Medieval
161	Glass	1	0.002	Post Medieval?
161	Pottery	16	0.123	Medieval
161	Pottery	1	0.006	Post Medieval
161	Metal - Pb Musket Ball	1	0.031	Post Medieval
161	Slag	1	0.003	Post Medieval?
166	Pottery	77	0.801	Medieval
166	Tile	1	0.097	Medieval
166	Metal	2	0.021	Medieval
168	Stone - Tile Fragment	1	1.314	Medieval
169	Pottery	8	0.201	Medieval
169	Tile	1	0.024	Medieval
169	Metal - Fe and Pb	8	0.171	Medieval?
176	Pottery	4	0.071	Medieval
183=166	Pottery	9	0.027	Medieval
183=166	Metal - Fe	1	0.02	Medieval?
186	Tile	1	0.366	Medieval
U/S	Glass	23	0.152	Post Medieval?
U/S	Clay Pipe	24	0.094	Post Medieval
U/S	Tile	3	0.074	Medieval
U/S	Pottery	63	0.474	Post Medieval
U/S	Pottery	43	0.659	Medieval
U/S	Glass - Droplet	1	0.001	Post Medieval?
U/S	Slag	1	0.006	Post Medieval?
U/S	Metal	134	1.811	Post Medieval?

**Table 2:** Medieval pottery recovered during the excavation



Context	Quantity	Fabric Types	Date Range
104	7	1,2,3	12-13th
105	6	2,3,4,5,9	12-15th
106	3	4,5	13-15th
107	76	3,4,6,7,8	13-14th
109	9	5	14-15th
110	3	4,5	13-15th
111	13	1,2,4,5,6,10,11	13-15/16th
119	105	U, 1,2,4,5,6,9,10	12-14th
121	12	4,5,9	12-14th
125	7	4,5	13-15th
127	3	5	14-15th
129	34	1,2,3,4,5,7	12-15th
130	53	4,5	13-15th
131	2	4	13-14th + daub
132	14	1,2,4,9	12-14th
135	2	5	14 <sup>th</sup>
137	57	4,5	14-15th
138	24	4,5	14-15th
140	1	1	12-13th
149	14	4	13-14th
151	6	1,4,5,7	13-15th

Context	Quantity	Fabric Types	Date Range
152	20	4	13-14th
154	6	4	13-14th
157	2	4	13-14th
159	2	5	14-15th
161	16	4,5	13-15th
166	79	4	13-14th
169	1	2	12-13th
176	4	1,2,9	12-13th
183	9	4	13-14th

**Table 3:** Details of industrial residues

Context	Period	Weight	Description
U/S		6g	Piece of partly melted copper alloy. Could be a fragmentary artefact.
111	Post-medieval	35g	2 pieces of fuel ash slag, dark in colour, lightweight, highly vesicular.
		56g	1 small nodule of undiagnostic ironworking slag, dark interior with minimal vesicularity.
119	Medieval	309g	1 sub-circular lump of ironworking slag, plano-convex in shape, 75mm diam. Underside irregularly shaped as though formed in a ground hollow, interior brown/black and vesicular. Could be smithing waste.
		289g	6 pieces of fuel ash slag, variable in colour from black with surface reddening to grey/white. Some pieces incorporate small stones. Very lightweight and highly vesicular.
129	Medieval	102g	1 nodule of undiagnostic ironworking slag, exterior dark, interior dark brown, vesicular and corroded.
129	Medieval	9g	1 small piece of fuel ash slag, surface part black, part grey/white. Lightweight and highly vesicular
138	Medieval	52g	1 piece of undiagnostic ironworking slag, surface showing evidence of drip accumulation. Dark coloured interior, vesicular at the centre.
		457g	1 probable smithing hearth base, almost complete, sub-circular 104mm diam, concavo-convex in shape, 25mm thick max. Underside is irregularly shaped as though formed in a ground hollow. Interior dark brown/black, vesicular towards the base.
161	Post-medieval	4g	Small piece of very dark coloured iron-rich clinker or ironworking slag dribble.

## APPENDIX 4: ENVIRONMENTAL DATA

Details of environmental analysis of samples from the excavation (SWA-A).

Sample number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
<b>Context number</b>	<b>130</b>	<b>109</b>	<b>127</b>	<b>129</b>	<b>135</b>	<b>131</b>	<b>138</b>	<b>144</b>	<b>145</b>	<b>119</b>	<b>154</b>	<b>151</b>	<b>149</b>	<b>166</b>	<b>169</b>	<b>137</b>	<b>104</b>	<b>101</b>	<b>183</b>	<b>173</b>	<b>186</b>	<b>178</b>
Volume processed (litres)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Volume of retent(ml)	3000	3300	2300	2300	500	1800	1400	100	400	1900	1300	1800	1700	1700	1600	1300	4000	1000	1500	700	1700	1300
Volume of flot (ml)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Residue contents (relative abundance)</b>																						
Bone/teeth burnt bone	1	1	1	1	1	1	2	1	1	1	2	1	1	2	1	2	2	1	2	1	1	1
Burnt clay	-	-	-	1	-	-	-	-	1	1	-	-	1	-	1	-	-	-	1	1	-	-
Charcoal	1	1	1	1	2	1	2	1	1	1	2	1	2	1	1	1	3	1	1	-	-	1
Charred plant remains (total counts)	-	-	3	-	-	-	-	-	-	2	40+	7	-	2	-	1	-	-	-	-	-	-
Magnetic Residue	1	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1
Pottery	-	1	-	1	1	1	1	-	-	1	1	1	1	1	-	1	1	-	-	-	-	1
Glass (total counts)	1	1	1	2	-	5	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	1
Coal	-	2	1	-	-	1	-	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-
Stones/gravel	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	2	3
Vitrified material	-	-	-	1	1	-	-	-	-	1	1	-	1	1	-	1	1	-	-	-	-	-
Pb objects (total counts)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Cu objects (total counts)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Yellow cake'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Wood fragments	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Flot matrix (relative abundance)</b>																						
Modern roots	2	-	-	2	-	-	3	-	-	2	1	1	1	-	1	2	2	3	1	2	2	1
Charcoal	3	3	3	3	3	3	2	-	1	3	3	3	3	2	3	2	2	2	3	3	2	3
Small snail shells	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Woody plant parts	-	-	2	-	2	2	1	3	3	-	-	-	2	-	-	1	2	-	-	-	-	1
Insect fragments	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-
Leaf litter	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Chemical residues	-	-	-	-	-	-	-	-	-	2	1	-	-	2	1	1	-	-	-	1	-	1
<b>Charred plant remains from flot (total counts)</b>																						
(c) Avena sp grain (Oats)	6	2	1	5	-	1	8	1	-	4	21	4	7	38	4	2	5	-	-	2	2	9
(c) Hordeum sp grain (indet. barley)	-	-	-	-	-	-	1	-	-	-	22	1	2	7	-	-	1	-	2	-	-	3
(c) Triticum sp grain (Wheat)	-	-	1	-	-	-	-	-	-	-	20	1	-	12	-	5	2	-	1	1	-	10
(c) Cerealia indeterminate	2	-	-	6	1	-	-	-	-	-	15	-	-	30	3	4	2	-	-	1	-	10
(c) Secale sp. Grain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(c) Legume	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(t) Hazelnut shell	-	-	-	-	-	-	20	-	-	1	22	-	-	-	-	1	3	-	-	-	1	-
<b>Other plant remains (relative abundance)</b>																						
(a) Brassica sp.	2	-	1	-	1	-	-	-	-	-	1	1	-	2	-	-	-	-	1	-	-	-
(t) Prunus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
(t) Sambucus sp.	-	-	1	1	-	1	-	-	-	-	-	-	-	-	1	1	2	-	-	-	-	-
(a/g) Senecio sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
(a/g) Lapsana communis	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
(a/g) Chrysanthemum segetum	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
(g) Trifolium sp.	-	-	-	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-	-	-	-	-
(r) Polygonum lapathifolium	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
(r) Polygonum sp (Knotgrass)	-	-	-	-	-	-	1	2	-	-	-	-	-	-	1	2	1	-	1	-	-	1

Sample number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Context number	130	109	127	129	135	131	138	144	145	119	154	151	149	166	169	137	104	101	183	173	186	178	
(d) <i>Crepis patulosa</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
(x) <i>Galium sp</i>	-	-	-	-	-	-	-	-	3	-	-	1	-	1	-	-	-	-	-	-	-	-	-
(x) <i>Poa sp.</i>	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Chenopodium sp</i>	2	-	1	1	-	1	-	1	1	-	1	-	1	1	-	-	-	-	-	1	1	1	1
(x) <i>Bromus sp</i>	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Ranunculus sp</i>	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Scirpus sp</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
(x) <i>Potentilla sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
(x) <i>Linum sp</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
(x) <i>Vicia sp</i>	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Stellaria media</i>	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Myosotis sp.</i>	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Urtica dioeca</i>	-	-	-	1	1	-	-	-	-	1	1	3	-	1	-	1	1	-	-	1	-	-	-
(x) <i>Rubus sp</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	1
(x) <i>Rumex sp (Docks)</i>	-	-	1	1	-	-	-	1	2	-	-	-	1	1	-	-	3	-	1	1	1	1	-
(x) <i>Silene sp (Campion)</i>	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
(x) <i>Euphorbia helioscopia</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
(?) <i>Valeriana sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Unidentified seeds	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-

(a: arable weed; c: cultivar; g: grassland; h: heathland; r: ruderal; t: trees/shrubs; w: wetland; d: damp shady areas; x: wide niche) Relative abundance is based on a scale from 1 (lowest) to 3 (highest).

Details of animal bone recovered from the excavation (SWA-A)

Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
104	Bos	Prox. Phal.	Right	1	9	-	-	-	-	-	D-B	Worn on dorsal, lateral and medial sides.
104	Caprid	Metatarsal	Left	1	8	-	-	-	-	Y	D-B	Wood-like' fragment. Missing both articulations. Possible scavenging.
104	Caprid	Scapula	Left	1	1	-	-	-	-	-	D-B	'Pebble-dashed', heavily worn.
104	Caprid	Rib	-	1	1	-	-	-	-	-	D-B	Wood-like
104	Capra	Horn	Right	1	9	-	-	-	-	-		12cm segment of bone
104	Sus	Humerus	Right	1	4	-	-	-	-	-	D-B	Wood-like
104	-	Skull	-	3	1	-	-	-	-	-	D-B	Wood-like
104	-	Rib	-	1	1	-	-	-	-	-	D-B	Wood-like', small mammal rib.
104	-	-	-	6	-	-	-	-	-	-		6 unidentified fragment. 'Ebony-like'
104	-	-	-	1	-	-	-	-	-	-	B	Unidentified fragment. 'Pebble-dashed'
104	-	-	-	1	-	-	-	-	-	-	B	Phalange of a small mammal
104	-	-	-	1	-	-	-	-	Y	-	B	Burnt fragment
105	Bos	Rib	-	2	-	-	-	-	-	-		One butchery mark, medium chop
105	Bos	Rib	-	1	-	-	-	-	-	-		Mottled surface, lightly 'pebble-dashed'
105	Caprid	Metacarpal	-	2	-	-	-	-	-	-		Very weathered fragment, mottling and 'pebble-dashing' on the surface
105	Caprid	Tibia	-	1	-	-	-	-	-	-		Distal end, very worn.
105	-	Innominate	-	1	-	-	-	-	-	-		Unidentified species
105	-	Rib	-	1	-	-	-	-	-	-		Unidentified species
105	-	Scapula	Left	1	-	-	-	-	-	-		Proximal, cranial section near blade. Species unidentified
106	Bos	Rib	Right	1	3	-	-	Y	-	-		Midshaft section. Butchery scrape marks on medial side near neck and at caudal end
106	Caprid	Tibia	Left	1	3	-	-	?	-	-		Unclear butchery evidence at distal break. Ex / Post-Ex breakage on proximal end
106	Caprid	Scapula	Left	1	2	Y	-	-	-	-	L-BY	Only proximal end remaining
106	Caprid	Femur	Right	1	2	-	-	-	-	-	BY	Midshaft section
106	Canis	Femur	Left	1	5	-	Y	?	-	-	-	Apparent butchery scraping on medial side. Spiral fracture midshaft.
107	Bos	Axis	n/a	1	4	-	-	Y	-	-	M-B	Possible saw cut along body, below left odontoid peg to right caudal at a 45degree angle. Mottled surface.
107	Bos	Atlas	n/a	1	1	-	-	-	-	-		Odontoid peg. Same individual as axis above.
107	Bos	Rib	-	1	-	-	-	-	-	-		Mid-shaft section.
107	Bos	Mandible	-	1	-	-	-	-	-	-		Dorsal fragment, 2 molars (Post_m damage). Black staining and mottling.
107	Bos	Metacarpal	Right	1	3	-	-	-	-	-	Y	Mottled, heavily worn.
107	Bos	Prox. Phal.	Left	1	9	-	-	-	-	-		Thickening of ligaments on the ventral side.
107	Caprid	Distal Phal.	-	1	9	-	-	-	-	-		Hoof
107	Cervid	Mandible	Right	1	4	-	-	-	-	-		Possible deer mandible. Very worn at angle. Mottled surface.
107	-	Rib	-	1	-	-	-	-	-	-		Mottled surface
107	-	Tooth	-	1	-	-	-	-	-	-		Species unidentified
107	-	-	-	4	-	-	-	-	-	-		4 unidentified fragments
107	-	-	-	4	-	-	-	-	-	-		Unidentified fragments, mottled surface. Heavily worn.
109	Bos	Rib	-	1	1	-	-	-	-	-		Mottled surface, limited 'pebble-dashing'
109	-	-	-	2	-	-	-	-	-	-		Unidentified fragments
109	-	-	-	2	-	-	-	-	Y	-		Unidentified burnt fragments from rentent
110	-	Longbone	-	1	-	-	-	-	-	-		Fragment of longbone. Moderately weathered surface.
111	Bos	Calcaneous	Left	1	6	-	-	-	-	-	L-B / B	Caudal 2/3 preserved. Smooth surfaced.
111	Caprid	Humerus	Right	1	3	-	-	-	-	-	L-B / Y	Ex / Post-Ex fracture.

Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
111	Felis	Mandible	Right	1	4	-	-	-	-	-		
111	-	Vertebra	n/a	1	4	-	-	Y	-	-		Possible cervid. Saw mark cranial-caudal plane.
111	-	Rib	-	1	1	-	-	-	-	-	Y	Fragment of ventral end.
111	-	Rib	-	1	1	-	-	-	-	-	Y	Mid shaft fragment
111	-	-	-	11	-	-	-	-	-	-		11 unidentified fragments.
111	-	-	-	1	-	-	-	-	-	-	W	Burnt bone
111	-	-	-	1	-	-	-	-	-	-		Unburnt fragment
111	-	-	-	1	-	-	-	-	-	-	D-B	Dark brown fragment
119	Bos	Prox. Phal.	Right	1	10	Y	Y	-	-	-		Dark brown staining on bone. Same individual as below.
119	Bos	Interm. Phal.	Right	1	9	Y	Y	-	-	-		Dark brown staining on bone. Same individual as above.
119	Bos	Horn	-	2	1	-	-	-	-	-		Horn with some skull bone attached.
119	Bos	Mandible	-	1	1	-	-	-	-	-		2 molars M1 and M2 and fragment of mandible, mottled
119	Bos	Mandible	Left	1	3	-	-	-	-	-		Cranial section, no teeth.
119	Bos	Ulna	Left	1	4	-	-	-	-	-		Caudal fragment, split longitudinally.
119	Bos	Interm. Phal.	Right	1	10	-	-	-	-	-	B	Light black-mottling
119	Bos	Humerus	Left	1	1	-	Y	Y	-	-		Distal articulation. Possible saw mark, medial-lateral.
119	Bos	Metacarpal	-	1	1	-	-	-	-	-		Proximal, cranial articulation. Light 'pebble-dashing'.
119	Bos	Mandible	Right	1	1	-	-	-	-	-		Condylar process. Mottled and light 'pebble-dash'
119	Bos	Innominate	-	1	1	-	-	-	-	-		Mottled and light 'pebble-dashing'
119	Caprid	Metacarpal	-	1	1	-	-	-	-	-		No articulating surfaces present. Mottled and 'pebble-dashed' distal end.
119	Caprid	Metacarpal	-	1	2	-	-	-	-	-		Mottled and 'pebble-dashed' surface. Cranial, proximal 1/2.
119	Caprid	Prox. Phal.	-	1	9	-	-	-	-	-	D-B	Pebble-dashed' surface
119	Caprid	Metatarsal	Right	1	4	Y	-	Y	-	-		Moderate 'pebble-dashing'. Rough surface, break mid-shaft.
119	Caprid	Vertebra	n/a	1	4	-	-	-	-	-		Very worn fragment, particularly around the centrum.
119	Caprid	Radius	Left	1	2	-	-	-	-	-		Heavily weathered. Mottled and pebble-dashed.
119	Caprid	Humerus	Right	1	2	-	-	-	-	-		Distal fragment, black staining.
119	Caprid	Metatarsal	Left	1	4	-	-	-	-	-		Heavy 'pebble-dash'.
119	Ovis	Distal Phal.	-	1	10	-	-	-	-	-		lateral phalange
119	Capra	Horn	-	1	1	-	-	-	-	-		Proximal horn fragment. Very worn.
119	Capra	Distal Phal.	-	1	10	-	-	-	-	-		Medial phalange
119	Capra	Horn	-	1	2	-	-	-	-	-		Shaft section
119	Sus	Prox. Phal.	-	1	9	-	-	-	-	-	D-B	Pebble-dashed' surface
119	Equus	Scapula	Left	1	2	-	Y	-	-	-	D-B	Fragment of glenoid cavity. Moderate 'pebble-dash'
119	Equus	Metacarpal	Right	1	10	Y	Y	-	-	-	L-Y	Ossified ligaments suggest an older animal. This bone is a contaminant of the sample as a whole
119	-	Scapula	-	1	2	-	-	-	-	-		Mottled. Size suggests Bos but unclear.
119	-	Humerus	Left	1	4	-	-	-	-	-		Possible immature Caprid (?). Blue grey colour very different to the other bones in this context
119	-	Scapula	-	1	1	-	-	-	-	-		Fragment of spine. Horse is suggested.
119	-	Rib	-	1	1	-	-	-	-	-		Midshaft fragment, mottled surface.
119	-	Rib	-	1	1	-	-	-	-	-		Midshaft fragment, mottled and 'pebble-dashed' surface.
119	-	Rib	-	1	1	-	-	-	-	-		Fragment of ventral end.
119	-	Skull	-	1	1	-	-	-	-	-		Fragment of orbital bone. Mottled, rough surface.
119	-	Tooth	-	1	9	-	-	-	-	-		Single incisor
119	-	Vertebra	-	1	3	-	-	-	-	-		Fragment of vertebral spine. Lightly mottled.
119	-	Longbone	-	1	-	N	N	-	-	-	D-B	Unfused longbone fragment, species unidentified.
119	-	Vertebra	-	1	2	-	-	-	-	-		Possible Bos. Fragment of spinous process.
119	-	Longbone	-	1	-	-	-	-	-	-		Unidentified fragment, small mammal.
119	-	Rib	-	17	-	-	-	-	-	-		Mid shaft fragments
119	-	-	-	1	-	-	-	-	-	-		Fragment, possibly of scapular spine.
119	-	-	-	33	-	-	-	-	-	-		33 unidentified fragments.
119	-	-	-	10	-	-	-	-	Y	-		10 unidentified burnt fragments, 5 from retent.

Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
125	Bos	Metatarsal	Left	1	1	Y	-	-	-	-		Mottled, medium 'pebble-dashing'
127	Bos	Horn	-	4	-	-	-	-	-	-		Very worn, light 'pebble-dashing'
127	-	-	-	3	-	-	-	-	-	-		Unidentified fragments
127	-	-	-	3	-	-	-	-	-	-		Unidentified burnt fragments, very small
129	-	Rib	-	1	2	-	-	-	-	-		Mottled surface
129	-	Rib	-	1	1	-	-	-	-	-		Near proximal end. Mottled surface.
129	-	Rib	-	1	3	-	-	-	-	-		Heavily worn, pitted surface. Small mammal
129	-	Ulna	-	1	8	-	-	-	-	-		Rodent ulna recovered from retent.
129	-	-	-	3	-	-	-	-	-	-		Unidentified fragments, two from retent
130	Bos	Humerus	Right	1	3	-	-	-	-	-		Cranial distal end, moderate mottling and 'pebble-dashing'
130	Bos	Radius	Left	1	2	Y	-	-	-	-		Mottled and moderately 'pebble-dash'
130	Bos	Ulna	Right	1	4	-	-	-	-	-		Mottled surface. Olecranon missing.
130	Bos	Femur	-	1	1	-	Y	-	-	-		Distan 1/2 with articulation. Mottled surface.
130	Caprid	Rib	Right	1	6	-	-	-	-	-		Smooth surface, near neck
130	Cervid	Antler	-	1	1	-	-	-	-	-		Heavy pearing and gutting suggests Red Deer
130	-	Rib	-	1	-	-	-	-	-	-		Mottled, rough surface.
130	-	Vertebra	-	1	5	-	-	-	-	-		Centrum present, poss Bos thoracic vertebra
130	-	Skull	-	1	1	-	-	-	-	-		Dark mottle dsurface, light 'pebble-dash'
130	-	Skull	-	1	-	-	-	-	-	-		Mottled and moderate 'pebble-dash'
130	-	Rib	-	1	-	-	-	-	-	-		Mid-shaft, moderately mottle and pebble-dashed.
130	-	Tooth	-	1	9	-	-	-	-	-		Incissor, poss Bos
130	-	-	-	2	-	-	-	-	Y	-		2 burnt fragments
130	-	-	-	1	-	-	-	-	-	-		Unidentified fragment, mottled and 'pebble-dashed'
130	-	-	-	3	-	-	-	-	-	-		3 fragments from retent
131	Lago	Tooth	-	1	-	-	-	-	-	-		From retent
131	-	Longbone	-	1	-	-	-	-	-	-		Mottled 'pebble-dash' surface
131	-	-	-	4	-	-	-	-	Y	-		Fragments from retent
132	Bos	Tooth	-	1	9	-	-	-	-	-		M3, lightly pebble-dashed
132	Caprid	Metacarpal	Left	2	10	-	-	-	-	-		Mottled surface, moderately 'pebble-dashed'
132	Caprid	Humerus	Left	1	2	-	Y	-	-	-		Fragmented, worn distal end
132	-	Vertebra	-	1	3	-	-	-	-	-		Includes fragment of centrum
132	-	Rib	-	1	1	-	-	-	-	-		Species unidentified
132	-	Longbone	-	1	-	-	-	-	-	-		Smooth, ebony like surface
132	-	Tooth	-	1	-	-	-	-	-	-		Species unidentified
132	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
132	-	-	-	4	-	-	-	-	-	-		Unidentified fragments
137	Bos	Ulna	Left	1	8	-	-	-	-	-		Mottled surface
137	Bos	Innominate	Right	1	2	-	-	Y	-	-		Fragment of acetabulum, possible saw mark evidence that femur was removed by sawing off the head.
137	Bos	Horn	-	2	-	-	-	-	-	-		2 fragments of (different) horns.
137	Bos	Radius	Left	1	3	Y	-	-	-	-		Heavily mottled, cracked 1/3 from proximal end.
137	Bos	Radius	Left	1	3	-	-	-	-	-		Mottled surface, cracked 1/3/ from proximal end.
137	Bos	Tibia	Right	3	1	-	-	-	-	-		3 fragments of same Tibia. Proximal end, no articulation. Yellow with dark mottling.
137	Bos	Metacarpal	Right	1	2	-	-	-	-	-		Proximal-lateral section. Light 'pebble-dashing'. Blue-grey internal surface.
137	Bos	Ulna	Left	1	1	-	-	-	-	-		Medial section of articulation

Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
137	Capra	Horn	-	1	-	-	-	-	-	-	Y	Proximal fragment, very heavily worn
137	Fish	Vertebra	N/A	1	-	-	-	-	-	-		One vertebra recovered from the retent.
137	-	Mandible	-	1	-	-	-	-	-	-		Fragment, no teeth, root socket visible.
137	-	Metapodial	-	1	2	-	N	-	-	-		Unfused distal fragment
137	-	Tooth	-	1	8	-	-	-	-	-		Heavy 'pebble-dashing'
137	-	Rib	-	6	-	-	-	-	-	-		Mid-shaft fragments
137	-	Vertebra	-	1	1	-	-	-	-	-		Fragment of unfused centrum
137	-	-	-	8	-	-	-	-	-	-		Unidentified fragments
138	Caprid	Metacarpal	Right	1	4	-	-	-	-	-		Mottled, 'pebble-dashed'
138	Caprid	Tooth	-	3	9	-	-	-	-	-		Smooth surface
138	Caprid	Scapula	-	1	1	-	-	-	-	-		Section near blade-spine.
138	Felis	Mandible	Left	1	10	-	-	-	-	-		Very well preserved.
138	Fish	Vertebra	-	1	-	-	-	-	-	-		From retent
138	-	Skull	-	1	-	-	-	-	-	-		Bos suggested
138	-	Innominate	-	1	2	-	-	-	-	-		Fragment of innominate. Bos suggested.
138	-	Rib	-	8	-	-	-	-	-	-		Rib fragments, mid-shaft sections
138	-	Mandible	-	1	-	-	-	-	-	-		Species unidentified, very worn root in one section.
138	-	Femur	-	1	-	-	-	-	-	-		Species unidentified, distal femur fragment.
138	-	Longbones	-	3	-	-	-	-	-	-		3 very worn bones, heavily weathered and 'pebble-dashed'. Possibly connected to the cat above.
138	-	-	-	16	-	-	-	-	Y	-		16 unidentified burnt fragments
138	-	-	-	6	-	-	-	-	-	-		Unidentified fragments
147	Bos	Rib	-	1	1	-	-	-	-	-		Midshaft fragment
147	Caprid	Mandible	Right	1	3	-	-	-	-	-		Mandible with M3, M2 and M1
147	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
149	Bos	Metacarpal	Left	1	2	-	-	-	-	-		Proximal end. Mottled, light 'pebble-dashing'.
149	Caprid	Dist Phal	-	1	7	-	-	-	-	-		From retent
149	-	Scapula	Left	1	3	-	-	-	-	-		Cranial, distal section. Cervid suggested. Mottled, light 'pebble-dash'
149	-	Scapula	-	1	2	-	-	-	-	-		Bos suggested. Dark mottling.
149	-	-	-	5	-	-	-	-	-	-		Unidentified fragments.
151	Bos	Metatarsal	-	1	4	-	Y	-	-	-		Heavy 'pebble-dash'
153	Bos	Femur	-	1	3	Y	-	-	-	Y		Gnaw marks suggested at proximal end. Mottled surface. Oblique regular crack.
153	Bos	Rib	-	1	1	-	-	-	-	-		Mottled surface with 'pebble-dashing'
153	Bos	Rib	-	1	1	-	-	-	-	-		Mottled surface with 'pebble-dashing'
153	-	Skull	-	1	1	-	-	-	-	-		Fragment from Y-shaped jointInterface between occipital and parietals
153	-	Longbone	-	1	-	-	-	-	-	-		Mottled, Ex / Post-Ex fracture
153	-	-	-	1	-	-	-	-	-	-		Unidentified fragment, mottled surface with light 'pebble-dashing'
153	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
153	-	Longbone	-	-	-	-	-	-	-	-		Unidentified fragment
154	Caprid	Radius	Left	1	3	-	-	-	-	-		Distal end with heavy 'pebble-dashing'
154	Caprid	Metatarsal	-	1	3	-	-	-	-	-		Heavily mottled, very flakey.
154	Cervid	-	-	3	-	-	-	-	Y	-		3 burnt antler fragments.
154	-	-	-	25	-	-	-	-	Y	-		25 unidentified burnt fragments.
155	-	Rib	-	1	4	-	-	-	-	-		Fragmentary small mammal rib
155	-	Longbone	-	1	-	-	-	-	-	-		Unidentified small mammal



Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
157	Bos	Rib	-	4	2	-	-	-	-	-		Mottled surface with moderate 'pebble-dashing'. One large and three smaller fragments
157	Bos	Tibia	Right	1	3	-	Y	-	-	-		Mottled surface with light 'pebble-dashing'. Longitudinal splitting along shaft.
157	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
161	Bos	Humerus	Right	1	2	-	-	-	-	-		Younger animal is suggested due to the size
161	Bos	Tooth	-	1	8	-	-	-	-	-		Molar, medium wear.
161	Caprid	Mandible	Right	1	2	-	-	-	-	-		Fragment of buccal mandible, near coronoid. No teeth.
161	Caprid	Tooth	-	1	9	-	-	-	-	-		M3.
161	Caprid	Humerus	Left	1	3	-	-	-	-	-		Distal caudal end. Mottled, light 'pebble-dash'.
161	Caprid	Calcaneous	Left	1	5	-	-	-	-	-		Mottled, medium-high 'pebble-dash'.
161	-	Mandible	-	1	1	-	-	-	-	-		Fragment near angle. Light Mottling and 'pebble-dash'
161	-	Tooth	-	1	9	-	-	-	-	-		M3, possible Bos.
161	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
161	-	-	-	1	-	-	-	-	-	-		Unidentified fragment. Mottled and 'pebble-dashed'
161	-	-	-	4	-	-	-	-	-	-		4 fragments, worn, no 'pebble-dash'
161	-	-	-	7	-	-	-	-	-	-		7 fragments appear to come from a mandible, probably one of the ones in this sample. They will not be used when calculating the final MNI and NISP.
166	Bos	Horn	-	1	-	-	-	-	-	-		Fragment
166	Caprid	Femur	Right	1	2	-	Y	-	-	-		Distal articulation. Mottled and 'pebble-dashed'
166	Caprid	Scapula	Right	1	2	-	-	-	-	-		Distal end. Some spine and head. Mottled surface.
166	Caprid	Metatarsal	Left	1	6	-	-	-	-	-		No articulating sections. Mottled and 'pebble-dashed'
166	Caprid	Rib	-	1	4	-	-	-	-	-		Heavily mottled and 'pebble-dashed'
166	-	Vertebra	n/a	1	7	-	-	Y	-	-		Possible thoracic vertebra with saw mark on left side.
166	-	Rib	-	1	-	-	-	-	-	-		Rib fragment. Heavily mottled and pebble-dashed.
166	-	Metacarpal	-	1	3	-	N	-	-	-		Mottled and heavily 'pebble-dashed'
166	-	Metacarpal	-	1	2	-	-	-	-	-		Distal mid-shaft. Light mottled and 'pebble-dashed'
166	-	Tooth	-	1	7	-	-	-	-	-		M3, heavily 'pebble-dashed'
166	-	Tooth	-	1	8	-	-	-	-	-		Molar, worn with light 'pebble-dashing'
166	-	Tooth	-	1	8	-	-	-	-	-		Incisor, worn with light 'pebble-dashing'
166	-	Rib	-	1	-	-	-	-	-	-		Moderately mottled and pebble-dashed.
166	-	Rib	-	1	-	-	-	-	-	-		Heavily mottled and 'pebble-dashed'
166	-	Skull	-	1	-	-	-	-	-	-		Skull fragment
166	-	Longbone	-	1	-	-	-	-	-	-		10 unidentified fragments
166	-	-	-	10	-	-	-	-	-	-		10 unidentified fragments
166	-	-	-	32	-	-	-	-	-	-		Unidentified fragments from retent
169	Caprid	Femur	-	1	3	-	Y	-	-	-		Fragment recovered from retent.
169	-	Skull	-	1	-	-	-	-	-	-		Fragment of occipital bone.
169	-	-	-	6	-	-	-	-	-	-		Burnt fragments
174	Caprid	Scapula	Left	1	4	-	-	-	-	-		Distal fragment, including glenoid cavity.
174	-	Teeth	-	4	8	-	-	-	-	-		Three pre-molars and a molar
174	Cat	Mandible	Right	1	4	-	-	-	-	-		Fragment with M1
174	Cat	Tibia	Left	1	7	-	-	-	-	-		
174	Cat	Tibia	Right	2	9	-	-	-	-	-		
174	Cat	Vertebra	-	3	9	-	-	-	-	-		Single vertebra in 3 fragment
174	Cat	Ulna	Left	2	10	-	-	-	-	-		
174	Cat	Ulna	Right	1	5	-	-	-	-	-		
174	Cat	Radius	Left	2	9	-	-	-	-	-		

Context	Genus	Element	Side	No bones	/10 present	Prox	Distal	Butchery	Burning	Gnawing	Colour	Notes
174	Cat	Humerus	Left	1	9	-	-	-	-	-		
174	Cat	Femur	Right	1	9	-	-	-	-	-		Articulating sections not preserved
174	Cat	Femur	Left	1	7	-	-	-	-	-		
174	Cat	Fibula	Right	1	8	-	-	-	-	-		
174	Goat	Horn	Right	1	3	-	-	-	-	-		Distal end, moderately weathered.
174	-	Skull	-	1	1	-	-	-	-	-		Species unidentified.
176	Caprid	Femur	-	1	-	-	-	-	-	-		Heavily weathered midshaft with 'pebble-dash' surface
178	Bos	Axis	n/a	1	2	-	-	-	-	-		Fragment of odontoid peg.
178	Caprid	Tooth	-	1	9	-	-	-	-	-		M3, heavy plaque
178	Caprid	Metacarpal	Left	1	4	-	-	-	-	-		Broken midshaft, heavy mottling and 'pebble-dashed' surface
178	-	-	-	7	-	-	-	-	Y	-		Burnt fragments, including a small mammal phalange, possibly a cat?
182	Bos	Tibia	-	1	1	-	-	-	-	-		Distal end, heavily worn. Younger individual suggested.
182	-	Longbone	-	1	-	-	-	-	-	-		Unidentified fragment. Mottled surface with moderate 'pebble-dashing'
182	-	-	-	2	-	-	-	-	-	-		Unidentified fragments, part of one bone.
183	Bos	Humerus	Right	2	3	-	-	Y	-	-		Proximal end, possible saw mark at the articulating head.
183	Caprid	Prox. Phal.	-	1	9	N	-	-	-	-		Unfused. Heavily mottled, some proximal wear.
183	Caprid	Metatarsal	Right	2	2	-	N	-	-	-		In three pieces. 2 Unfused distal articulations.
183	Sus	Humerus	Right	1	3	-	-	-	-	-		Distal end heavily mottled.
183	-	Vertebra	n/a	1	3	-	-	-	-	-		Lateral fragment, with transverse process.
183	-	Vertebra	n/a	1	3	-	-	-	-	-		Possible thoracic vertebra, heavily encrusted with sand.
183	-	Vertebra	n/a	1	6	-	-	Y	-	-		Possible thoracic vertebra, centrum and left transverse process present. Sawn cranially-caudally along medial plane slightly to the right of the centrum.
183	-	Ulna	-	1	6	-	-	-	-	-		Heavy 'pebble-dash'. Horse or cow.
183	-	Rib	-	1	2	-	-	-	-	-		Mid-shaft section. Heavy 'pebble-dash'
183	-	Metapodial	-	2	1	N	N	-	-	-		Unfused proximal and distal articulation, but main body of the bone not recovered.
183	-	Prox. Phal.	Right	1	3	-	-	-	-	-		Possible Caprid
183	-	Carpal	-	1	3	-	-	-	-	-		Heavily worn fragment
183	-	-	-	13	-	-	-	-	-	-		Unidentified fragments
186	Bos	Tibia	-	1	2	-	-	-	-	-		Proximal end, dark brown 'sand-paper' surface
186	Bos	Rib	Right	1	3	-	-	-	-	-		Mottled surface, moderate 'pebble-dashing'
186	Caprid	Tibia	Left	1	9	-	Y	-	-	-		From retent
186	Capra	Horn	-	1	1	-	-	-	-	-		From retent
186	?	Innominate	-	1	3	-	-	-	-	-		Dog is suggested, but the bone is heavily worn.
186	-	-	-	1	-	-	-	-	-	-		Unidentified fragment
U/S	Bos	Horn	-	1	3	-	-	-	-	-		Rusty-brown' distal end.
U/S	Bos	Calcaneous	Right	1	4	-	-	-	-	-		Caudal mid-section fragment of sustentaculum tali preserved.
U/S	Bos	Prox. Phal.	Right	1	9	-	-	-	-	-		Black mottling, smooth surface.
U/S	Caprid	Scapula	Right	1	3	-	-	-	-	-		Cracked proximal to neck
U/S	Caprid	Metatarsal	-	1	4	-	-	-	-	-		Mid shaft section
U/S	Caprid	Rib	-	2	4	-	-	-	-	-		Mid shaft section
U/S	Caprid	Tibia	Right	1	3	-	-	-	-	-		Oblique regular break 1/4 from distal end
U/S	Caprid	Mandible	Left	1	2	-	-	-	-	-		Condylar process
U/S	-	Longbone	-	1	-	-	-	-	-	-		Unidentified longbone. Heavy mottling and 'pebble-dash'
U/S	-	Rib	-	1	-	-	-	-	-	-		Large mammal (Bos or Equus) rib, very worn, very mottled, moderate 'pebble-dash'
U/S	-	-	-	6	-	-	-	-	-	-		Unidentified fragments

## **APPENDIX 5: ILLUSTRATIONS**

