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Westgate Area 1,  
Wakefield,  
West Yorkshire,  
Archaeological  
Post-Excavation  
Assessment.

**Project No. 1881**

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## WESTGATE AREA 1

WAKEFIELD, WEST YORKSHIRE

### POST-EXCAVATION ASSESSMENT

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**for**  
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# Westgate Area 1

## Post-Excavation Assessment

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## **WESTGATE AREA 1**

Post-excavation Assessment, 02/2009

### **SUMMARY**

*Excavation of land between Brick Lane and Westgate, Wakefield, West Yorkshire (centred on NGR SE 328 207) was undertaken by Birmingham Archaeology during November 2008. The excavation was commissioned by Scott Wilson on behalf of Wakefield Metropolitan District Council, in advance of a proposed mixed-use development on the site. A previous archaeological evaluation on the site, undertaken by Birmingham Archaeology in 2006 (Krawiec & Edgeworth 2007) had identified evidence of medieval and post-medieval activity in the form of pits, walls and floor surfaces.*

*The excavation uncovered evidence of three distinct burgrave plots, dating from the early medieval period, fronting onto Westgate. Within these burgrave plots evidence of small scale industrial activity was present in the form of a number of pits. The presence of later walls dating to the late medieval and post-medieval periods indicates the continued use of these plots. Between the 18<sup>th</sup> and 20<sup>th</sup> centuries further activity was seen by the construction of various buildings which fronted onto Westgate, some of which re-used the earlier structures.*

*A wooden roughout of a bowl and a large amount of lower leg bone from roe deer were recovered from an early post-medieval cess pit. The roughout, one of the earliest stages in the making of bowls, suggests that carpentry was taking place in the vicinity. The large amount of lower leg bone from roe deer is indicative of the processing of carcasses and it is likely that the butchery occurred either on site or close by during this phase.*

## WESTGATE AREA 1

Post-excavation Assessment, 01/2009

### 1 INTRODUCTION

#### Background to the project

This report provides a detailed assessment of the results of the excavation undertaken at the site of a former car park located between Westgate and Back Lane, Wakefield (NGR SE 328 027), in 2008 (Fig. 1). The work was commissioned by Scott Wilson on behalf of English Cities Fund ahead of a mixed-use development on the site (Planning Application Numbers 05/99/68570 and 06/02560/REM).

The site was subject to an archaeological desk-based assessment carried out by Scott Wilson in 2005 (Edmondson 2005). Following this, an evaluation was carried out in 2006 by Birmingham Archaeology (Krawiec & Edgeworth 2007). Significant medieval and post-medieval remains were found within the southern part of the car park which would be adversely affected by the proposed development. As a result, a targeted excavation was undertaken ahead of the development.

A specification for the excavation was provided by West Yorkshire Archaeology Advisory Service (WYAAS 2008). The fieldwork conformed to the *Standards and Guidance for Archaeological Excavation* as set by the Institute For Archaeologists (1995, revised 2008).

#### Location and geology

The proposed development area lies on the northern side of Westgate, to the west of the centre of Wakefield, centred on NGR SE 328 207 (Fig. 1). The site is bounded to the south by Westgate, to the west by the Unitarian Chapel, to the east by the Arthouse and library, and to the north by Back Lane.

The underlying geology comprised of Coal Measures, overlain in places by St John's Rock (finely grained sandstone). The underlying subsoil which comprised of reddish brown clayey sand with patches of pale yellow clay, was reached at a depth of between 0.3 and 2 m, and was found to slope gradually from north to south as well as from east to west.

The site covers an area of c 550 m<sup>2</sup> and was previously used as a public car park.

### 2 HISTORICAL AND ARCHAEOLOGICAL OVERVIEW

#### General Background

The background of the site has been summarised in an archaeological desk-based assessment prepared by Scott Wilson (Edmondson 2005), therefore only a summary is provided below.

During the Prehistoric and Roman periods only small scale, temporary activity has been identified in the area.

Wakefield was probably first settled in the Anglo-Saxon period, and it has been suggested that the name Westgate is of Anglo-Saxon origin, deriving from the Norse *gata* meaning road (Walker 1934). During this period Wakefield was located on the western border of the Kingdom of Elmet. In 617 Elmet was annexed to the Kingdom of Northumbria by King Edwin, but by 641 the area was under Mercian control. Elmet was returned to Northumbria in 654 after the battle

of Whinmoor. Following the Danish invasion of 867, Elmet became part of the Viking Kingdom of York (Faull & Moorhouse 1981).

There is both documentary and artefactual evidence to suggest that there was a pre-Conquest settlement and possibly a church at Wakefield. An Anglo-Saxon church is referred to in the Domesday Book, and fragments of a cross shaft and a burial have been found during excavations at Wakefield Cathedral (formerly All Saints Parish Church) which have been dated to the Anglo-Saxon period. It is known that Wakefield was the administrative headquarters of a major manorial organisation, which was reputedly the richest manor in England. The headquarters were held by the King in 1066, and it is possible that Wakefield may have been home to an Anglo-Saxon Royal Manor. Settlement is likely to have focused around the church and the upper Westgate area. The church of All Hallows (later renamed All Saints) was rebuilt in stone c 1100 and the Borough of Wakefield was created in 1180. The town was granted a market in 1204 and by the 14<sup>th</sup> century it was the capital of Yorkshire's clothing trade, with a corresponding growth in population and expansion of its boundaries.

Medieval Wakefield was centred around the market place and parish church. During this period the three main streets, Kirkgate, Westgate, and Northgate, extended outwards from the market place. The western town gateway ('West Bar') is thought to have been located near the present junction of Drury Lane and Lower Westgate. The latter is thought to have been an extension of the medieval town core by the 13<sup>th</sup> century. Properties would have included buildings on the street frontage with long narrow burgage plots extending to the rear. The workshops and yards are believed to have been used by cloth manufacturers (particularly for cloth finishing, worsted spinning and dyeing). The boundaries of the burgage plots appear on post-medieval maps and in part survive in the present-day boundaries, such as those on the western side of the library and the eastern side of the Unitarian Chapel. Westgate became increasingly gentrified in the post-medieval period, but small-scale craft-based activities continued to take place within the burgage plots.

The development of Wakefield during the post-medieval period was based upon its dominance as a market for cloth, coal, and grain, which attracted merchants and manufacturers to the area. Later development included the construction of canals in the late-18<sup>th</sup> century and the railways in the mid-19<sup>th</sup> century. During this period Wakefield was a major inland port, and by the mid-19<sup>th</sup> century it was the largest corn market in northern England.

The Unitarian (formerly Presbyterian) chapel, to the northwest of the site was built in 1752. By 1851 the development area was mainly occupied by Scott Yard and the premises surrounding it, which included a drying yard and the Green Coat School for Boys. The theatre, to the northeast of the site, was constructed in the late-18<sup>th</sup> century and map evidence indicates that Drury Lane was constructed between 1805 and 1823. The library, to the north of the site, was built in 1905 and it appears that Scott Yard was redeveloped around the same time. By 1956 the development site had been significantly altered, with the appearance of structures around the edges of the site. The date of the final clearance of the buildings alongside the Unitarian Chapel and those fronting onto Westgate is not known.

### Cartographic Evidence

The earliest available cartographic evidence of Wakefield is William Pape's 1771 plan. This shows the outline of Westgate from All Saints Church to Wakefield Bridge. Westgate Bar is shown where the road is at its narrowest. Buildings are shown along the whole length of Westgate along with outbuildings to their rear. The site itself is situated within the area of these 18<sup>th</sup> century buildings and their



backplots. These appear to be aligned differently to all the later maps and their boundaries are not defined. It is likely that this is a stylised representation of the area rather than an accurate map.

The Enclosure Plan of 1805 shows Westgate and the buildings along its length, together with their outbuildings and burgage plots. Three burgage plots can be seen within the area of the site, along with a lane running between two of them. A building is visible fronting onto Westgate within two of the plots, however, the building within the middle plot is set some way back from the street.

J. Walker's 1823 plan of Wakefield shows a small amount of development along and behind Westgate. Despite this the buildings within the site appear to be unchanged, although the middle building is depicted closer to Westgate. This may be due to the construction of an extension, or down to a variation in map accuracy. A garden is visible within the middle burgage plot.

There is very little variation to the buildings along Westgate shown on the 1851 1<sup>st</sup> edition Ordnance Survey map. The third burgage plot appears to be named as *tenter yard*, and the second as the *Green Coat School*.

The 1894, 2<sup>nd</sup> Edition Ordnance Survey, map shows that all the burgage plots to the southwest of the site have been demolished. The structures within the area of the site appear to be the same, although none are named. However, the area between and behind the second and third buildings is now described as a garden and not a yard. The burgage plot directly to the southwest of the site is now named as a burial ground.

The Ordnance Survey maps of 1907 and 1938, show little change in the layout of the site. The 1956 edition depicts only one building extending back into the plots from Westgate, with the area behind the other buildings remaining empty. The Ordnance Survey map of 1972 shows no change to this.

### Archaeological Background

In 1994, prior to the construction of a retail outlet off Westgate, approximately 750m southwest of the site, an archaeological evaluation was carried out by West Yorkshire Archaeological Services (WYAS). No securely dated features were found, however building remains, most likely dating to the early 19<sup>th</sup> century were uncovered (1994).

On the southeast side of Westgate, opposite the site, an archaeological assessment was completed prior to the demolition of a building to the rear of Unity House. The assessment revealed remnants of a medieval boundary wall which was incorporated into the lower levels of the building, thus preserving the line of the burgage plot (AOC 1999).

In 2006, Birmingham Archaeology carried out an evaluation of Phase I of the development area (Krawiec & Edgeworth 2007). The trenches in the southern part of the car park revealed evidence of medieval and post-medieval activity. The medieval features were severely truncated, but included clay-lined pits, the remains of stone foundations and a well. The earliest features recorded dated to the 11<sup>th</sup> and 13<sup>th</sup> centuries. Post-medieval activity in the form of foundations, walls, floors and a cellar was also identified during the works.

Excavations were carried out by the Archaeological Research and Consultancy at the University of Sheffield (ARCUS) unit in 2007 at the site of The Arthouse, directly to the northeast of the site. The excavations revealed a series of medieval clay lined pits, some containing the remains of wooden barrels, and were probably used for dyeing or fulling (Holderness 2007). Evidence of 17<sup>th</sup> century and later buildings were also uncovered.

### **3 OBJECTIVES AND RESEARCH AIMS**

The principal objective of the excavation was:

- To fully record, analyse and report all archaeological remains within the areas of interest ('preservation by record') prior to their destruction during the development of the site.
- To place the results of this work in the public domain by depositing it with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE) and by publication if warranted.

More specific aims were:

- To identify the date, function and form of the clay-lined pits;
- To identify the date, function and form of the stone buildings;
- To determine whether sub-phases of activity can be established;
- To determine whether environmental evidence survives;
- To obtain a securely stratified medieval and post-medieval pottery assemblage;
- To establish whether there was a hiatus in activity in the later medieval period (as suggested by the evaluation pottery assemblage);
- To establish the relationship between the medieval features on this site and the previously excavated site to the north;
- To consider how the results add to, confirm, or amend current knowledge regarding the extent of the medieval settlement of Wakefield;
- To understand the post-medieval development of the site, and where possible, to correlate the excavated remains with the cartographic evidence.

### **4 METHODOLOGY**

The tarmac, topsoil, and modern overburden were removed by a 360 degree mechanical excavator using a toothless ditching bucket. The initial machining removed modern surfaces and overburden, in successive level spits of a maximum 0.2 m thickness, down to the uppermost archaeological horizon. Subsequent cleaning, excavation, and recording continued by hand.

All stages of work were undertaken in consultation with the Planning Archaeologist, and conformed to a detailed methodology as set out in the specification issued by WYAAS (2008).

The following sampling strategy for hand excavation was employed during the excavation:

- All postholes, pits, and structural/ industrial features were 50% excavated in the first instance, recorded in section, and then fully excavated. All intersections were investigated to determine the relationship(s) between the component features.
- Built services: walls, floors, etc, were excavated sufficiently to establish their form, phasing, and construction techniques, and were then fully excavated. All intersections were investigated to determine the relationship(s) between the component features.
- Stone-built wells/ cess pit were excavated to a maximum depth of 2 m in order to find a construction date and a date for disuse.

Spoil heaps were scanned for non-ferrous metal artefacts using a metal detector capable of making this discrimination. Modern artefacts were noted but not retained.

All stratigraphic sequences were recorded, even where no archaeology was present. Features were planned at a scale of 1:50, and sections were drawn through all cut features and significant vertical stratigraphy at a scale of 1:20. All plans and sections were surveyed in using an EDM which was tied into the Ordnance Survey base map. Special finds and spot heights were also recorded using this method. A comprehensive written record was maintained using a continuous numbered context system on pro-forma context and feature cards. Written records and scale plans were supplemented by monochrome, colour slide and digital photography.

Finds were cleaned, marked, and remedial conservation work was undertaken as necessary. Treatment of all finds conformed to guidance contained within *A strategy for the care and investigation of finds* published by English Heritage (1995).

The full site archive includes all artefactual and/ or ecofactual remains recovered from the site. The site archive will be prepared according to guidelines set down in Appendix 3 of the *Management of Archaeology Projects* (English Heritage 1991), the *Guidelines for the Preparation of Excavation Archives for Long-term Storage* (Walker 1990), and *Standards in the Museum Care of Archaeological collections* (Museum and Art Galleries Commission 1992). The archive will be deposited with a suitable museum (subject to permission from the landowner)

Dateable deposits, were sampled where they were thought to have environmental potential. The environmental sampling was directed towards discrete, well-dated pits containing animal bone and/ or pottery, or where environmental evidence could provide clues to function.

Birmingham Archaeology consulted with the English Heritage Regional Science Advisor during the excavation to ensure an appropriate environmental strategy was in place. An environmental specialist was available to provide advice on a dedicated strategy, once a range of features had been exposed. The environmental sampling policy followed the guidelines contained in the Birmingham Archaeology Guide to On-Site Environmental Sampling and *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2002).

It was agreed that 40 litre soil samples, or 100% of the contents of features which did not hold that amount, were collected from dateable and well-defined features. Features were sampled in order to ensure that representative material was collected for the full range of biological remains.

## 5 RESULTS

### Introduction

The following phasing is based on preliminary spot dating of the pottery, and other dateable finds from the site. Detailed summaries of the individual features are presented in Appendix 1 and full details are available in the project archive. In the following section all context numbers are highlighted in bold.

### Summary

The natural geology, consisting of a reddish brown clayey sand with patches of pale yellow clay was identified across the excavation area. The natural ground was revealed at approximately 39.5 m AOD at the northern end of the site, sloping down to 38.1 m AOD at the southern end, roughly 2 m below modern ground level at the northern end and 0.3 m at the southern end.

The archaeological activity across the site has been divided into 6 phases, with each being summarised in chronological order below. These phases are:

- Phase 1 – Early medieval (11<sup>th</sup>-13<sup>th</sup> century)
- Phase 2 – Late medieval (13<sup>th</sup>-15<sup>th</sup> century)
- Phase 3 – Early post-medieval (15<sup>th</sup>-16<sup>th</sup> century)
- Phase 4 – Late post-medieval (16<sup>th</sup>-18<sup>th</sup> century)
- Phase 5a – Early Modern A (18<sup>th</sup>-19<sup>th</sup> century)
- Phase 5b – Early Modern B (19<sup>th</sup>-20<sup>th</sup> century)

### Phase 1 - Early medieval (Fig 2)

A small cluster of possible postholes were identified to the north of the site (**20109**, **20111**, **20113**, and **20117**). These postholes were predominately rectangular and very shallow. Only two of the postholes (**20109** and **20111**) contained sherds of 11<sup>th</sup> – 13<sup>th</sup> century pottery, but due to their similar size and close proximity they have all been dated to this period.

A number of pits (**20092**, **20098**, **20200**, **20212**, and **20214**) and a gully (**20189**) were identified along the southwestern edge of the site. The shallow gully, aligned northeast-southwest, was truncated by a Phase 1 clay-lined pit (**20098**), indicating it was one of the earliest features on site. Another gully (**20215**) on the same alignment, was located to the east of Gully **20189**. Neither of the gullies appears to demarcate a particular area, and the ephemeral nature of them would suggest that they were drainage gullies.

The pits were all roughly circular and the majority of them had been truncated by later features. Pits **20098**, **20200** and **20212** all contained uncharred plant remains indicating that they had been partially waterlogged at some point. Fragments of slag were also present within pits **20092**, **20098**, and **20212** indicating possible small scale industrial activity in the area. Pit **20212** also contained fragments of fuel ash which may indicate it was used as a waste pit for a hearth. All of the features appear to be grouped together within what would have been a linear burgage plot running back from Westgate, along the southwestern side of the site (Plot 1). No evidence for boundary markers was uncovered, however it is likely that if they existed they would have been truncated by the late medieval boundary walls.

### Phase 2 - Late medieval (Fig 2)

Phase 2 of the site contained the largest number of pits, eight in total (**20095**, **20160**, **20162**, **20174**, **20194**, **20195**, **20201**, and **20210**). The majority were circular or oval, but there were also a couple of irregularly shaped pits. Five of these pits (**20095**, **20160**, **20174**, **20194**, and **20210**) contained small fragments of undiagnostic slag, and may therefore be associated with small scale industrial activity. Pit **20195** contained small lumps and flakes of iron oxide, which may represent the remains of a corroded iron object, while Pit **20095** contained a possible nail shaft, which may support the idea that these pits were used for small scale industrial activity.

The majority of pits were filled with homogenous material and some with re-deposited natural. Although most of the pits produced pottery sherds, the amount of sherds recovered was very low and no other finds were found within the fills. There was no evidence of deliberate backfilling of the pits, rather they appeared to have been allowed to silt up over time. This indicates that they were unlikely to have been used for waste disposal and that any activity that was taking place in the area was on a small-scale.

Half of the pits (**20095**, **20162**, **20194**, and **20210**) were at least partially truncated by the Phase 2 walls, indicating a sustained and heavy use of the site during this period, and possibly a hiatus in any activity which was associated with the pits.

A small semi-circular sandstone feature (**20102**) was identified adjoining Wall **20069**, and truncated by the early post-medieval cess pit (**20103**). The function of this feature is unknown, although it may be the base of a stone lined pit.

A single post-hole was identified in the northern corner of the site (**20050**). Fragments of coal ash and a possible handmade nail shaft were recovered from this feature. No other features were associated with it and subsequently its purpose is unclear.

The foundations of a series of drystone constructed sandstone walls, with rubble core (**20041**, **20063** (Fig 8), **20069**, **20074**, **3015**, **20075**, **20089**, **20185**, and **20198**) and sandstone drains (**20060**, **20084**, **20133**, and **20203**) formed the boundaries of burgage plots extending back from the original Westgate frontage. Three separate plots could be identified on the site, Plot 1 to the southwest, Plot 2 in the middle, and Plot 3 to the northeast, all aligned roughly northwest by southeast. The wall foundations within Plot 1, as well as Wall **20063** within plot 2 were well preserved. However the remaining walls were all of a fairly fragmentary nature. The walls and drains were all constructed from roughly hewn sandstone blocks of varying sizes. The presence of 18<sup>th</sup> century glass from Wall **20069** is likely to be contamination from the overlying early modern Wall **20015**.

A number of small sandstone blocks (**20150** and **20152**) adjoin the southwestern base of Wall **20063**. It is feasible to suggest that these represent the remains of two floor surfaces, however, they may merely represent the partial collapse of the wall.

Three intercutting clay lined pits (**3009**, **3012**, and **3041**) were identified during the evaluation. These could only be broadly dated to the medieval period by the recovery of a single sherd of medieval pottery from the latest pit (**3009**). All of these pits were located within Plot 1. They were similar to both the early medieval and later medieval clay lined pits located nearby (**20092**, **20095**, **20098**, and **20160**), and it is likely they were contemporary with some of these.

### Phase 3 – Early post-medieval (Fig 3)

Only four features can be securely dated to this phase. Two small roughly circular shallow pits (**20065** and **20067**) were identified within Plot 2. Both their fills were identical and deliberately dumped, most likely as waste from small scale industrial activity. Part of the late medieval Wall **20063** was cut away during this phase (**20087**) (Fig 8). A brass cylinder and part of a wooden ruler with a copper alloy cap were recovered from the fill, along with a large amount of compacted conglomerate which is possibly the remains of a compacted workshop floor. This feature may therefore represent a waste pit, possibly indicating the clearing and end of any small scale industrial activity in the area.

A domed stone lined cess pit (**20103**) (Fig 7), was built against the southwestern edge of the Phase 2 wall (**20063**) within Plot 2. It appears to have been built into the wall, while truncating Wall **20069** and sandstone feature **20102**. The cess pit was well constructed and revealed a clear sequence of deposition. A thin layer of bluish grey clay (**20145**) lined the bottom of the pit. Overlying this was a 0.2 m thick layer of black organic fill (**20143**), which contained one sherd of a wooden bowl made from ash. This was sealed by a dark brownish black organic fill (**20141**), which contained a large amount of animal bone, predominately from roe deer, but also from cat, frog, chicken and cattle. The remains of roe deer



consisted predominantly of lower leg bones, which is indicative of the processing of their carcasses. This would suggest that small scale butchery took place nearby. A roughout of a bowl made from Field Maple, along with a size 6 leather shoe, dating to the late 14<sup>th</sup> – early 15<sup>th</sup> century was also uncovered within this fill. The roughout, from the early stages of bowl production, suggests that at least small scale carpentry was taking place nearby. All these fills contained insect remains and plant material, including twigs and seeds, as well as a large amount of coal derived fuel ash slag.

Sealing **20141** was a 0.16 m thick sterile layer of dark brown silt (**20128**), which was sealed by a dark brownish red silty sand (**20127**). Both of these fills probably represent the silting up of the cess pit after it had stopped being used. Fill **20126** overlaid this, and comprised of a mid brown silty clay. This was overlain by a dark blackish grey silt (**20125**). Both of these fills contained modern finds, including twisted wire, CBM, and pottery.

At some point between the 18<sup>th</sup> and 20<sup>th</sup> century the cess pit was backfilled, probably at the same time as the construction of Wall **20015** which overlay it. The modern finds from the top fills within the cess pit support this.

The relative lack of domestic animal bones and pottery found within the cess pit fills may suggest that its primary purpose was for the disposal of waste from the various industrial activities taking place nearby.

#### Phase 4 – Late post-medieval (Fig 3)

Sub-division of the plots/ buildings occurred in the late post-medieval period. This was predominantly in the form of northeast-southwest (**20073**, **20088**, **20170**, and **20190**), and southeast-northwest (**20019** (Fig 8), **20168**, and **20042**) aligned walls. A square sandstone feature (**20169**), possibly representing a floor was located between walls **20073** and **20170**. A stone lined drain (**20191**), and a crushed sandstone levelling layer for it (**20207**) were identified towards the northwestern end of Plot 1. The addition of these features (mostly located within Plot 1) suggests a prolonged period of use and a greater demand for space during this phase.

A small area of compacted sandstone fragments (**20171**) was located next to the late post-medieval wall **20168** and may be part of a floor surface, or may represent the rubble remains from the robbed out wall (**20167**) located directly to the south.

Sandstone Wall **3023**, which was identified during the evaluation, appears to be on a different alignment to the other walls and may represent the end of the passageway between Plots 1 and 2. The sandstone rubble (**3019** and **3020**) located adjacent to this wall is likely to be the result of the partial collapse of some of the surrounding walls.

Two sandstone cellars were also constructed (**20029** and **20082/20085**) during this phase. Only the cellar within Plot 2 was fully excavated since the other cellar within Plot 1 continued into the unexcavated area of site and excavation would have been unsafe. However, it is assumed that they were both contemporary since they were of similar construction. The cellar within Plot 1 was constructed on the original Westgate frontage, while Cellar **20029** within Plot 2 was set back from it. Only one step (**20136**) and a possible fireplace or base of a shute (**20130**) survived within the cellar from this phase. A possible clay floor (**20132**) was identified within the cellar and a number of clay pipe fragments dating from between 1650 and 1680 were recovered.

Towards the northwestern end of Plot 1, a circular stone lined well (**20205**), which had been re-used in the 19<sup>th</sup> century as a drain (**20148**) was identified.

Another stone lined well (**20006**) (Fig 6) was located at the southeastern end of Plot 3. However, no structures were associated with it and it is likely that this area was either outside, possible in a drying yard, or that any associated structures have been truncated by the 19<sup>th</sup> century cellar and associated activity identified within this plot.

A small clay lined pit (**2019**) was identified during the evaluation directly to the southeast of Well **20006**. The pit was very similar in shape and form to the medieval ones that were uncovered within Plot 1, however one sherd of late post-medieval pottery was recovered from the clay lining, dating it to this phase.

A large tree-bowl (**20053**) was identified at the northwestern end of Plot 3, the fill of which contained one sherd of late post-medieval pottery. The presence of this tree-bowl and the lack of any other structures, apart from the well adds to the suggestion that this plot was still used as a drying yard.

A number of features were identified on the site which could not be securely dated to either the early or late post-medieval phase. However, they were shown to be of post-medieval origin due to their stratigraphy. Two pits (**20101** and **20123**) which appear to be for the sole purpose of waste disposal, and may be associated with small-scale industrial activity in the area, were located within the northwestern half of Plot 2. No artefactual evidence was recovered from these pits. Two burnt sandstone pads (**20151** and **20118**) were uncovered in the vicinity of these pits. The purpose of these pads is uncertain, however, their location within the vicinity of industrial waste pits may suggest that a hearth or kiln stood atop them.

A large area of crushed sandstone (**20144**) was located within Plot 2, directly to the northwest of the cellar (**20029**). It is uncertain what this represents, however it is likely to be building debris.

Two areas of rubble collapse (**20070** and **20076**) from late medieval walls **20074** and **20075** were identified within Plot 2. No artefactual evidence was recovered from them, therefore the date of the collapse is unknown. However, it has been dated to the post-medieval period since other areas of collapse (**3019** and **3020**) nearby have been securely dated to this phase.

#### Phase 5a – Early Modern A (Fig 4)

Only the cellar (**20029**) within Plot 2 shows evidence of activity during this phase, with a brick built drain (**20080**) and a sandstone, flagstone floor (**20032**) being constructed. The drain contained fragments of glass bottles dating to between 1850 and 1900. The two cellars (**20085** and **20029**) within Plot 1 and Plot 2 appear to be joined by a drain (**20080**) during this phase, although excavation of Cellar **20085** was impossible and therefore this could not be confirmed.

#### Phase 5b – Early Modern B (Fig 5)

The Early Modern B period was characterised by the re-use of the medieval and post-medieval wall foundations with brick built walls (**20005**, **20015**, **20016**, **20017**, **20023**, **20035**, **20039**, **20040**, **20043**, **20047**, and **20058**). The three plots, observed during the previous phases were still identifiable, with the walkway between Plot 1 and 2 slightly increasing to between 1.5 m and 2 m. The plots were still stepped by approximately 0.5 m in depth from east to west.

Within Cellar **20029** a new brick built drain (**20078**) and a sandstone floor (**20030**) were constructed, along with a sandstone staircase, enclosed in a small, brick built extension (**20139**). Brick supports (**20030**) and a fireplace or coal shute (**20140**) were also added to the cellar during this phase.

A third cellar (**20004**) was built, fronting onto Westgate, within Plot 3 during this phase. No evidence of a medieval structure, apart from the well, was visible within this plot, and it is likely that if any structure existed, then it was destroyed during the construction of this cellar. The cellar had an arched brick roof (**20007**), a brick floor (**20008**), and a brick surface (**20011**) was visible outside the entrance.

A number of small brick walls were identified towards the back of Plot 3 (**20020**, **20021**). These are most likely to represent the creation of a small garden, separated from the main yard. The small size of these brick structures and the presence of a couple of steps which would have led down from the yard into a secluded area, support the idea that this was a garden. The cartographic evidence shows the building within Plot 1 to have been used as a school during this phase, and the finds recovered are consistent with domestic use.

A brick surface (**20010**) was identified at the northeastern corner of the site within Plot 3, which is most likely the surface of Scott's Yard, which was first named on the 1851 1<sup>st</sup> edition Ordnance Survey map.

### Undated (Fig 2)

Only two features, a tree-bowl (**20181**) and a rectangular clay lined pit (**20218**), were undated. No finds were recovered from the fill of the tree-bowl, although due to its stratigraphy it is known to be off post-medieval or later date. The clay lined pit was truncated by the Early Modern brick drain **20148**, but no finds were recovered from its fill and its function is uncertain.

## 6 FINDS

### Pottery Report by Dr Chris Cumberpatch

#### Introduction

The pottery assemblage was examined with a view to providing spot dates. The exercise followed two earlier programmes of spot dating, reported on elsewhere (Cumberpatch 2006, 2007). The spot dates for Area 1 are summarised in Appendix 2 together with brief notes on the principal types of pottery in each context. As this was primarily a spot dating exercise, quantification of the assemblage was not attempted.

#### Discussion

The range of wares represented in the assemblage from Area 1 differs somewhat from that seen in the assemblage considered in the first report on the pottery from the site (Cumberpatch 2006). Later medieval and early post medieval pottery formed a small but significant part of the assemblage which was not the case with the first assemblage. In this regard the Area 1 material more closely resembled the small group dealt with in the second report (Cumberpatch 2007) although Coal Measures wares were notable by their scarcity in Area 1.

The hiatus in activity that was identified during the evaluation was not able to be identified from this assemblage, due to its small size. Further work on the entire assemblage with reference to the structure of the site will be required to consider this matter in detail.

The earliest wares identified in the assemblage considered here were Hllam type wares (later 11<sup>th</sup> to early 13<sup>th</sup> century) and related Gritty wares, distinguished by their white, buff or pale orange colour, angular rims and relatively thin walls. A small number of sherds of Doncaster Hallgate A ware dated to the 13<sup>th</sup> century and may well overlap with some of the earlier medieval Gritty wares.



Later medieval wares included Humberware and examples of the later Medieval Gritty ware groups; Northern Gritty ware (including Reduced Gritty ware) and Oxidised Gritty ware. As noted above, Coal Measures wares were rare but were present in context 20208 alongside an as yet unidentified Sandy ware.

Wares dating from the later 15<sup>th</sup> and 16<sup>th</sup> centuries (post-medieval wares) included Cistercian ware and Midlands Purple ware (MPG) which were present both alone and mixed with later types including 17<sup>th</sup> century wares (including Blackware, Type 1 Slipware and Redware) and, in some cases, with early modern wares. 17<sup>th</sup> century groups included those from context 20033 and 20132.

The early Brown Glazed Coarsewares (BGCW) are difficult to date and the origin of the tradition is obscure although methods of manufacture resemble those of the later Humberwares. Date ranges attributed to these wares are likely to be less reliable than better known types but the overall impression is that the examples from Area 1 are of an early (later 16<sup>th</sup> and 17<sup>th</sup> century) date.

Early modern wares (c 1720 – c 1820) were represented by both formal tablewares (White Salt Glazed Stoneware (WSGSW), Brown Salt Glazed Stoneware (BSGSW), Creamware and Edged ware) and by vernacular tablewares (Mottled ware and Late Blackware). The Tin Glazed Earthenware, always difficult to date in the absence of distinctive painted decoration, was in poor condition and virtually undatable beyond the general date range for the type.

Recent wares were rare but included a ceramic stopper from context 20098, a sherd of recent porcelain from floor 20044 and a pot lid (Cold Cream) from context 20031, the latter associated with residual 18<sup>th</sup> century pottery. The distinctive design may be broadly datable.

In general terms the assemblage is typical of a site in West Yorkshire although somewhat smaller in size than might have been expected from an urban context.

### **Further work**

A full report on the assemblage, to conform to the requirements of the West Yorkshire Archaeology Service, and the minimum standards established by the Medieval Pottery Research Group should be produced.

The report will consist of the following elements:

- Full description and quantification of the assemblage by ware type, vessel form and function using sherd numbers, sherd weight and estimated (maximum) number of vessels;
- Identification and recording of decorative motifs and designs on early modern and recent vessels with scanned images as appropriate;
- Discussion of the assemblage by context and phase, in collaboration with the site director and other specialists with particular reference to contexts identified by the site director as of particular significance for the interpretation of the site.

### **Note on chronology and periodisation**

The following terms are used in the report to cover specific date ranges:

Medieval:	c 1066 to c 1450
Earlier medieval:	Late 11 <sup>th</sup> – Early-Mid 13 <sup>th</sup> century
Later medieval:	Mid-Late 13 <sup>th</sup> – Mid 15 <sup>th</sup> century
Post-medieval:	c 1450 – c 1720
Early modern:	c 1720 – c 1820

Recent: c 1820 - 1950

Recent work on the dating of Cistercian ware has highlighted the lack of correspondence between historical/political, cultural and archaeological definitions of the transition from medieval to post-medieval society. The end of the medieval pottery tradition predates conventional historical and political definitions by a considerable margin although the latter varies considerably in its own right with authors using a variety of events from the battle of Bosworth (1485) to the dissolution of Waltham Abbey (1540) to mark the end of the medieval period. There are problems with using 1450 as a terminal date for the medieval period generally as the first appearance of black and purple glazed wares did not see the instant end of wares which continued to follow the earlier tradition. It is, however, a significant indicator of social change and as such is of value as a means of defining chrono-typological phases.

The regular use of the term 'post-medieval' to cover the entire period between the mid to later 15<sup>th</sup> century and the beginning of the 20<sup>th</sup> century is one that obscures major changes in the social and economic structures of pottery production and consumption. Although hallowed by tradition and customary practice, it has little or nothing to commend it in any objective sense and for this reason it is not used in the traditional sense by the present author. The 'long post-medieval' period is better divided into three shorter phases, as suggested above with the specific term 'Post-Medieval' reserved for the pottery dating to the period between c 1450 and c 1720.

In all cases where possible, the use of calendar dates is considered to be preferable to the use of named periods and this has been attempted in this report.

## **Glass Report** by Cecily Cropper

### ***Overall Quantification***

Overall the assemblage comprises 279+ fragments of glass (where + indicates the presence of multiple fragments that are too small to count and add no further value to an individually identified object) (Appendix 3).

Of this total, 273+ fragments are of bottle glass (this figure includes a complete jar) and only 6 are of window glass. The bottle fragments represent an approximate maximum of 39 individual items. The bottles represent examples potentially dating back to the early to mid-18<sup>th</sup> century, but with the majority dating to the late 19<sup>th</sup>/ early 20<sup>th</sup> century.

### ***Window***

The window glass is all from plain glazing. Two fragments may possibly date back to the late 19<sup>th</sup> century/ early 20<sup>th</sup> century, including a complete cut and shaped piece (context 20028) with beveled edges, which would have formed part of a decorative design of an internal or external door or window. The remaining fragments are modern and of no further interest.

### ***Bottles***

There are a few examples (contexts 20031, 20069, and 20126) that are likely to be confidently dated to the 18<sup>th</sup> century, though overall these are too fragmentary and undiagnostic for more defined classification.

The majority are from bottles dating to the late 19<sup>th</sup> or early 20<sup>th</sup> centuries. It also seems that the majority are for holding medicines or household fluids rather than wine or beer. The assemblage is highly fragmented but an approximate maximum of 39 individual bottles has been identified, indicated by either bases or by rims/finishes.

A few examples offer enough information through embossed marks to give a more definite date-range of manufacture and purpose including:

- Two ovoid medicine bottles (contexts 20079, 20081) containing medicines manufactured by Fellows & Co, New Brunswick, Canada (<http://www.geocities.com/Heartland/Prairie/5832/fellowsbottles.htm>) operating from c1850 to c1900 and mostly focused on respiratory diseases.
- Two examples of carbonated water bottles of the Codd type (contexts 20079, 20081) and a separate marble (20031) from another dating to the last quarter of the 19<sup>th</sup> century (Fletcher, 1976, 148-9).
- Bottle for Swan Ink (Mabie Todd & Co) dating to the first half of the 20<sup>th</sup> century (Nishimura, 1997-2008) from context 20028.

### ***Recommendations for further work***

None of the early (18<sup>th</sup> century) glass sherds were diagnostic so no further work is recommended for the glass remains.

### **Stone Report** by Dr Rob Ixer

Petrological samples were recovered from a number of contexts.

- 20006 – A pale brown, fine-grained micaceous sandstone. Possibly a stone tile and of a local origin.
- 20034 – A medium-grained, limonite-stained sandstone. Probably from the local Millstone Grit.
- 20054 – An unworked, pale-coloured, poorly-bedded, fine-grained, micaceous Carboniferous sandstone. Probably local to regional in origin.
- 20125 – A buff-coloured, thinly-laminated, micaceous siltstone. The specimen has a smooth, unworn, upper surface and may be shaped? The rock is probably local.

### ***Recommendations***

None of the pieces were diagnostic forms so no further work is recommended.

### **Wood Report** by Steven Allen

#### ***Introduction***

A total of 20 wooden finds were recovered from the site and analysed as part of this assessment (Appendix 4). This work consisted of the cleaning and examination of the objects submitted and an assessment of their condition. An evaluation of the potential for further investigation is included, with recommendations for long term stabilisation. The majority of the wood had been preserved through burial in a waterlogged anoxic environment and it appears that these conditions were maintained in all contexts up to the time of excavation. The exception was the wood associated with the copper alloy SF 1006 which, though waterlogged had also been partially replaced by minerals from the metal to which it was attached. The wood was in a generally good condition. The copper alloy of SF 1006 though is bright green and suffering from active corrosion. All species identifications follow Schweingruber (1982) with all dimensions in millimetres. A full catalogue is given in Appendix 4.

#### ***Discussion***

Very little of the wood is diagnostic in date but what there is suggests a medieval date for the wood and for the contexts in which it was found.

Most of the wood consists of chippings or offcuts from worked wood, specifically boards, planks or staves. The fragments from 20209 may be from the same original piece of timber or from separate pieces as bagged but the level of preservation is not good enough to be certain. Much of the technology is undiagnostic, but the presence of nail holes in 20141, and the unlabelled stave suggest a late or post medieval date for these pieces. Iron nails are infrequently used in medieval carpentry as iron was a relatively scarce and expensive commodity compared to a simple wooden peg. Few working marks are present and it cannot be said for certain whether the boards/ staves were converted by cleaving or sawing.

Little can be said about the wood attached to the piece of copper alloy (SF 1006). The wood is broken up and its original relationship to the copper alloy is uncertain. Identification of the metal component may help this. The wood species, *Fagus sylvatica* L. (Beech) is a wood often used in handles and in artefacts associated with food or furniture. At present it is not possible to say more about this.

The thin wooden 'needle', from the same context (20086) appears to be a splinter rather than an artefact. Examination under x40 magnification revealed an irregular but generally polygonal cross section with some surface damage, rather than the smooth regular outline expected of a deliberately fashioned artefact. Sadly, there was not enough wood present to allow the identification of those diagnostic features which are necessary for wood species identification.

The fragment of finished bowl (SF 1005) is a good example of a medieval artefact. The vessel was face turned from a halved blank and is fairly plain. A single turned groove was used to emphasise the sharp transition from base to wall and a single groove some 25 mm or so above the base served as decoration. There is a slight turned 'step' on the inside of the profile above which the wall of the vessel starts to reduce in thickness towards the rim. The rim itself has not survived but it is estimated that it would have been no more than 20 mm above the surviving height of the vessel. At around 160-170 mm diameter and 50-70 mm deep the bowl is a fairly typical product of a medieval wood turner. Ash is a wood often used for turned wooden vessels, though not as commonly used as Field Maple or Alder.

The most interesting single piece of wood from the site is the roughout (SF 1004) cut from Field Maple. Waste products from wood turning are fairly well known from the archaeological record, but usually consist of waste cores. To find a complete roughout is unusual and no immediate parallels for this object have yet been identified. In preparing a block of wood for turning into a vessel, the basic halved block cut from the parent log would be roughly shaped into a hemisphere with an axe prior to mounting on the lathe and turning. This reduces the amount of fine working necessary to create the bowl and makes it much easier to work the bowl on the pole lathe.

Roughing out the bowl shape is as far as the wood turner proceeded with this object. There are no centre marks which would be produced had the block been put on the lathe and there are no turning marks present. The surface is entirely hewn. Examination of the object reveals one reason why this block was not actually made into an artefact. There is a significant amount of bark still present; filling an irregularity in what was the outermost surface of the wood. This irregularity might not have been obvious before the roughout was shaped and the wood turner may have thought that the bark here was much thinner than proved to be the case. In the event there is still much bark present after the rough shaping had been completed. The maximum size of bowl which could have been produced from this would be 126 mm in diameter and 68 mm high. To remove all

of the bark from the roughout would require the removal of at least a further 20 mm of wood from the outside which would have left very little wood with which to make a bowl. It appears the turner decided to cut his losses and discard this roughout.

Although the axe signatures from its shaping are very clear and well preserved, there is evidence of attack by wood boring beetles. Although the wood had been preserved by waterlogging, and this waterlogging happened fairly soon after the artefact was discarded, the presence of woodworm damage shows it was not buried immediately but exposed for some time. This would support the suggestion that the cess pit filled slowly over time rather than being rapidly backfilled.

### **Recommendations**

- The wooden bowl fragment (SF1005) and the bowl roughout (SF1004) should be drawn and conserved as important components of the overall assemblage and as important pieces in their own right. All will deteriorate unless stabilised and will require a standard treatment by p.e.g. polymers followed by freeze drying for stabilisation and reattachment of the pieces of SF1005.
- SF1006 should be sent with the other Cu Alloy finds for X-Ray and to the Cu Alloy finds specialist.
- None of the material is suitable for dendrochronology but any of it may be sampled for <sup>14</sup>C dating, should that be needed.
- There is little to be gained from further study of the bulk of this assemblage but parallels should be straightforward to find for the finished bowl fragment and possibly the copper alloy piece. The roughout bowl is a very important piece and certainly worth further research and publication.

### **Catalogue of Metal Artefacts** by Erica Macey-Bracken

#### ***Nails***

- One section of a square bodied nail shaft, probably handmade. One side of the item is covered with corrosion products. Length 49 mm, width 10 mm. Context 20049. Phase 1.
- One complete machine-made nail with a slightly twisted shaft. Length 67 mm, width 3 mm. Context 20063. Phase 2.
- One possible nail shaft, all detail obscured by corrosion products. Length 37 mm, width c 10 mm. Context 20094. Phase 2.
- One heavily corroded section of an iron nail shaft. Most of the length of the item is covered in corrosion products. Length 70 mm, width c 6 mm. Context 20034. Phase 4.

#### ***Other Iron***

- Three tubular sections of iron, heavily corroded. None of the sections join together. Lengths 61 mm, 50 mm, 24 mm, widths 15 mm, 18 mm, 18 mm. Context 20163. Phase 2.
- Two tubular sections of iron, rounded off and closed at one end. The two sections do not join together or with any of the tubular sections listed above. Lengths 33 mm, 23 mm, widths 19 mm, 21 mm. Context 20163. Phase 2.
- One flat, triangular object, covered with a thick mass of corrosion products on one side. Length 115 mm, width 35 mm. Context 20028. Phase 5B.

- One thin, flat rectangular iron bar. Most of the length of this item is covered with corrosion products. Length 115 mm, width 20 mm. Context 20077. Phase 5B.
- One roughly rectangular piece of iron, totally obscured by corrosion products. Length 120 mm, width 38 mm. Context 20077. Phase 5B.
- One amorphous lump of possible iron – may be a mass of corrosion products. Length 40 mm, width 30 mm. Context 20077. Phase 5B.

### ***Copper Alloy***

- One small, solid cylinder, possibly brass or brass-coated. Length 42 mm, width 10 mm. Context 20086, SF 1007. Phase 3.
- One fragment of a copper alloy pin with an oval head and round body. Length 4 mm. Context 20014, recovered from environmental sample number 1000. Phase 5A.
- Two coils of thin copper wire. Length of coils 58 mm, 105 mm. Context 20028. Phase 5B.
- One tangled length of thick copper wire. Length 187 mm, although this would be more if the item was straightened. Context 20028. Phase 5B.
- One piece of copper wire. Length 73 mm, although this would be more if the item was straightened. Context 20028. Phase 5B.
- One short section of 20<sup>th</sup> century electrical wire with remains of plastic/rubber casing around wires. Length 64 mm, although this would be more if the item was straightened. Context 20126. Contamination.
- One small circular copper alloy button with a raised edge on one side and two circular holes in the centre. Diameter 9 mm. Context 20156, recovered from environmental sample number 1022. Phase 5B.
- One section of a copper alloy pin shaft. Length 19 mm. Context 20156, recovered from environmental sample number 1022. Phase 5B.

### ***Composite Items***

- One section of a wooden ruler with a rectangular copper alloy cap on the end. Length 55 mm, width 20 mm. Context 20086, from environmental sample number 1021. Phase 3.

### ***Recommendations***

- 4 iron nails to be sent to specialist for further examination.
- The 5 tubular lengths of iron from Phase 2 contexts to be x-rayed. Then should be sent to specialist for further assessment and examination.
- Cu alloy cylinder (SF 1007) and fragmented Cu blade (SF 1006, see above wood report) from context 20086, should be x-rayed and sent to specialist for full analysis.

### **Clay Pipe Report** by Nigel Melton

#### ***Summary***

A small assemblage of clay tobacco pipes from contexts 20002 (1 bowl, 1 stem fragment), 20006 (9 stem fragments), and 20132 (2 bowls, 1 bowl fragment and 18 stem fragments) were recovered from the site.

The stem fragments, which have been highly fragmented, have bores ranging from 4/64" to 8/64". The sample size is too small for the use of stem bores for dating contexts. The pipe bowls from contexts 20002 and 20132 are 'Yorkshire



bulbous' types produced c 1650-1680 and are likely to be the products of local makers.

### ***The pipes bowls***

- Bowl 1, maker's mark: IG with star above. Date c 1660-1680. Context 20002. IG marked pipes were found in excavations at Pontefract Castle (2 examples) (Davey and White 2002, 237; White 2004, 455) and Sandal Castle (Lawrence 1983, 285), although not with this precise mark. John Gill, working in Halifax up to c 1673 is the most likely candidate for the maker of this pipe, although Judith Gill, recorded in Wakefield 1692-3 (Lawrence 1973, 191) is also possible.
- Bowl 2 (2 conjoining fragments), maker's mark: IG with remnants of stylised tobacco plant design above and below. Date c 1660-1680. Context 20132. This IG mark is another example of type that did not occur at Pontefract or Sandal Castle. The likely maker is the same as in the previous example.
- Bowl 3. Burnished and milled bowl, maker's mark: IB with small star to left. Date c 1650-1670. Context 20132. Five examples of IB marked pipes were recovered in the Pontefract Castle excavations (Davey and White 2002, 236-237; White 2004, 454). Although Oswald (1975, 199) lists a James Buckley at Barnsley in 1687, this is likely to be an error, as Lawrence (1973, 190) notes this maker at Barnsley in a Slater's Directory for 1887, and there are no known local makers with these initials for the period 1650-1680.

### ***Recommendations***

No further work is recommended for the clay pipe remains.

### **CBM Report by John Tibbles**

#### ***Introduction***

A visual examination of the building material assemblage recorded a total of 37 complete/ part bricks weighing 15,801 g and 5 complete/part wall tiles weighing 305 g (Appendix 5). It should be noted that the diversity of size and colour within the brick and tile, caused during the manufacturing process, must be taken into consideration when comparing samples within collected assemblages and local typologies. The varying sizes and colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the brick/tile within the kiln. The dating of ceramic building material can be highly contentious due to its re-usable nature and therefore the date range given is that of the known dates where such bricks have been recorded.

Bricks were manufactured to the shapes required, the standard rectangular shape for common usage and the more specialised shapes to form architectural features around arches, doors, windows and vaults. Medieval and early post-medieval bricks were manufactured by the insertion of a wad of prepared clay into bottomless moulds, moistened and often covered in sand to facilitate the removal of the formed clay. The excess clay would be struck off and the form tipped out onto a palette board and removed to prepared area of ground until partially dried and ready for firing. Late post-medieval/early modern '*pressed*' bricks were formed by forcing clay into a mould and pressed continually until the desired density was obtained. Machine-made bricks were manufactured by the extrusion method and then cut by wires.

Dating of bricks is highly contentious due to their re-use nature as a valuable building commodity. At York in 1505 bricks were standardised at 10" x 5" x 2 ½", Parliament in 1571 decreed that the size of a brick should be 9" x 4 ½" x 2 ¼" and again in 1725 the brick size should be 9" x 4 ½" x 2 ½". By 1850 the size of bricks around London were generally 9" x 4 ½" x 3" (Dobson 1850, 38), although by the turn of the 20<sup>th</sup> century this size varied slightly throughout the country (Rivington 1919, 106). It should be noted that although these statutes were binding it would be naive to believe that all tilers/ brickmakers adhered strictly to these sizes at all times.

Assessment of the assemblage was based upon visual examination of the retained material with a more detailed examination of the diagnostic fragments. The resulting information was then compared with the known typologies and any correlation recorded.

### ***Statement of potential***

The ceramic building materials can provide valuable information as to the method of construction of the buildings, fabric and their possible form, that once stood on this site. It can also show the construction techniques of hearths, ovens and chimneys and their possible uses, particularly the local industries. Brick was also used for the construction of kilns, well linings, floors and culverts.

Bricks and tiles alone cannot provide a firm date because of their re-usable nature but it is possible to date types of brick and roof tile by their earliest occurrence within dated contexts. The identification of new brick or tile types would supplement the existing regional typologies and there is potential for comparison with CBM assemblages from elsewhere in the region.

### ***Methodology***

The assemblage was examined using a x15 magnification lens were applicable to aid dating, though fabric analysis was not undertaken as was considered beyond the scope of this assessment. Information regarding the dimensions, shape and fabric (were applicable) was recorded and catalogued accordingly, and a Munsell colour code has been incorporated where appropriate. The presence of the original surfaces was also taken into consideration to aid identification.

### ***Discussion***

Of the thirty-seven diagnostic examples of brick within the assemblage, four complete or near complete examples were present suggesting a date range between the late 16<sup>th</sup> to the late 19<sup>th</sup> centuries. Elements of residual medieval brick were present in small quantities. All dates are the approximate dates of the manufacture of the examined bricks and not necessarily the date of the structure.

The majority of the complete and near complete bricks are of a similar size: 240 mm x 115 mm x 60-65 mm, their size and method of manufacture suggesting a mid 18<sup>th</sup> century date of manufacture. However, it should be noted that bricks of this size have also been recorded within 16<sup>th</sup> century structures in parts of Britain (Lloyd 1923, 93-98). Fragments of bricks displaying either one or two diagnostic traits have an extensive date range, i.e. a 70mm thickness ranges between mid 18<sup>th</sup> century (Lloyd, 1923, 100) and 19<sup>th</sup> century (Campbell & Saint 2002, 181), whilst a 50mm thickness ranges between the 13<sup>th</sup> century and late 17<sup>th</sup> century (Lloyd 1923, 96).

Complete bricks of a similar size to this assemblage were recorded during earlier excavations at Westgate (Tibbles 2007), however, their density and misshapen form identified them as '*hard stocks*' or '*stocks*' (over burnt bricks, sound, but considerably blemished both in form and color). Generally these are used for footings, within the body of thick walls and in positions where the work is subject



to great compressional stress (Mitchell 1919b, 130). The similar bricks within this assemblage may also be stocks but of a better quality.

The complete bricks from drain 20078 and 20048 showed evidence of multiple re-use by the presence of 2-3 mortars on the samples.

The small assemblage of glazed ceramic wall tiles appear to be of a 20<sup>th</sup> century date and the lack of manufacturers stamp prevented their provenance being identified.

### **Recommendations**

No further work is regarded as necessary on the assemblage, which is of limited evidential value. It is recommended that upon completion of work on the ceramic building material assemblage, samples of selected brick and tile should be retained, and a selective discard policy implemented prior to deposition of the finds assemblage as whole within the appropriate museum.

### **Leather Report** by Quita Mould

#### **Methodology**

The leather was identified and diagnostic pieces dated. A basic record (as defined in the RFG & FRG Guidelines 1993) was made, including measurement of relevant dimensions and species identification where possible, and is appended to this document. The information gathered has been correlated with the available contextual information and is summarized below. Recommendations for further work necessary are provided and costed where appropriate.

The leather was washed and wet when examined. Leather species were identified by hair follicle pattern using low powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. The grain pattern of sheep and goat skins are difficult to distinguish and have been grouped together as sheep/goat when the distinction could not be made. Similarly, the term bovine has been used when mature cattle hide could not easily be distinguished from immature calfskin. Shoe soles, rands and repairs are assumed to be of cattle hide unless stated otherwise.

All measurements are in millimetres (mm). No allowance has been made for shrinkage. Any shoe sizing has been calculated according to the modern English Shoe-Size scale.

#### **Catalogue**

##### *Leather welted shoe bottom fragments from 20132*

Three small fragments of matching layers broken from a welted shoe bottom. The upper two layers have two grain/flesh stitches from the lasting seam present, all three layers have a central hole marking where the bottom was tacked to the shoe last during manufacture. Likely to be broken from the seat area of the shoe bottom and come from the middle sole, tread sole and upper lift of a stacked leather heel. Leather cattle hide, the layers have a combined thickness of c. 10 mm

- Length 35 mm, width 38 mm, thickness 4.25 mm
- Length 33 mm, width 38 mm, thickness 2.17 mm
- Length 31 mm, width 36 mm, thickness 4.77 mm

##### *Leather turnshoe ankleshoe for right foot, adult size from 20141, SF 1003*

Turnshoe sole seat and lower waist area, deliberately cut from the sole tread, now missing, with a concave knife cut. Sole has an edge/flesh seam, stitch length 7-8 mm. Rand and a large, overlapping clump seat repair patch still attached to

the sole seat. The exterior edge of the clump is worn through but the seat area of the sole is unworn. The clump appears to have been attached at the time of manufacture, not added later due to excessive wear of the sole. A second length of rand is present from around the forepart of the turnshoe sole.

One-piece upper, worn through at the short pointed toe. The upper extends to just above ankle height. The lasting margin, stitch length 7-8 mm, has a line of worn tunnel stitching running above to attach a large overlapping clump seat repair patch. The upper has a single, edge/flesh butted side seam on the inside of the foot with a trapezoidal insert piece above. The central opening extends with a vertical cut c. 45 mm toward the toe. The central front opening and the top edge are whip stitched. A triangular bellows tongue is attached to the front opening. A heel stiffener is placed grain outward to the foot at centre back. A straight cut has been made in the shoe upper to relieve pressure above the little toe joint.

Leather upper cattle hide 3.40 mm thick; tongue bovine 2.23 mm thick; heel stiffener bovine 2.20 mm thick

- Surviving sole length c. 98 mm, width waist 42 mm, seat 47 mm.
- Clump length 108 mm, width 80 mm. Rand width 10 mm
- Upper length toe to seat c. 260 mm. Estimated size Adult 6(39)

### **Summary**

A near complete turnshoe ankle shoe SF1003 of adult size was recovered from fill [20141] of cess pit 20103. The well-preserved ankle shoe dates to the late 14<sup>th</sup>/early 15<sup>th</sup> century. It appears to have been fastened at the instep with a strap and buckle (removed before the shoe was thrown away) and this aspect requires a small amount of further investigation. The shoe has the tread area of the sole deliberately removed which suggests it to be cobbling waste, however, being found on its own, the shoe is perhaps more likely to be the result of domestic refuse disposal.

A small area broken from three layers of a shoe bottom of welted construction of post-medieval date was found in the bottom levelling layer [20132] of a clay floor within a cellar along with other domestic debris of 17<sup>th</sup> - 18<sup>th</sup> century date. Insufficient was present to permit closer dating.

### **Recommendations**

The shoe SF1003 from 20141 is nearly complete and in very good condition. It can be well dated independently and provides personal information about the owner (foot size, painful little toe, buckle salvaged for re-use or recycling before disposal). As it may well be one of the most 'eye-catching' items from the excavations it should be photographed for inclusion in the site report (good quality photographs that may be suitable will probably be done as part of the conservation process). The conserved shoe should be examined to establish the method of buckle attachment and a working drawing prepared (this will also aid the illustrator). A brief text summarising the leather will be prepared to inform the site narrative and a catalogue description of the shoe SF 1003 from [20141] prepared to accompany the illustration in the publication text if necessary.

- Conserve shoe SF 1003 from [20141]
- Examine shoe SF 1003 from [20141] and prepare working drawing

### **Coin Report by Dr Roger White**

#### **Summary**

A total of five coins were presented for assessment. The information relating to the coins is tabulated below. The coins were all in fair to poor condition with only

one, the most modern, being easily legible and identifiable. All but one were post-medieval in date. These require no further work as they are unlikely to assist in aiding comprehension of the site sequence. The last coin, the only one of silver, was a penny of late thirteen or fourteenth century date (Edward I – III). Further identification of this coin would not be possible without cleaning and consolidation since this is a long-lived type and pinning the identification down requires as clean a coin as possible (Besly 1997, 16).

Context Number / SF	Metal	Denomination	Date
20009, SF 1000	Copper alloy	Irish Halfpenny	William III or IV
20021, SF 1001	Copper alloy	Halfpenny	1939
20124, SF 1002	Silver	Penny	13-14 <sup>th</sup> century
20044	Copper alloy	Halfpenny	1971
20081	Copper alloy	Halfpenny	Victoria 18[--]

Table 1: Coin Quantification

### Recommendations

It is recommended that the silver coin is cleaned and fully identified, as it will potentially materially assist in understanding the earlier phases of the site.

### Animal Bone Report by Matilda Holmes

#### Introduction

The assemblage was recovered from a cess pit, well, and a drain, features provisionally dated to late-medieval period, and two undated layers.

#### Methodology

Bones were scanned and those that could be identified to species and/ or element were recorded for their potential for further data to be recorded i.e. fusion, tooth wear, measurements, butchery, burning, gnawing, working and condition. Bones that could not be identified to species were recorded as: large mammal (cattle or horse size); medium mammal (sheep or pig size); small mammal (rabbit to rodent size); bird; and fish. All fragments were recorded, excluding ribs and skull fragments, with the exception of the zygomatic arch and occipitale. Bones from samples were available, but not recorded.

#### The Assemblage

This small assemblage was dominated by fragments from 4 contexts within the late-medieval stone lined cess pit (20103). These contexts contained metapodia, antlers and a small number of other anatomical elements from a minimum number of 13 roe deer, as well as bones from cat, frog, chicken and cattle.

The bones were generally in good condition although a number had been burnt. Butchery, ageing and metrical data was present, although there was no evidence for gnawing or bone working.

Species				
	Drain	Cess Pit	Well	Undated
Cattle		2	2	2
Sheep / Goat				2
Cat		1		

Chicken		3		
Roe Deer		76		
Frog		1		
Total Identified	0	83	2	4
Unidentified Mammal	1	20	1	
Large Mammal		2		1
Total	1	105	3	5

Table 2: *Animal Species represented by feature type (NISF)*

### **Potential for further work**

The relative absence of domestic animals (cattle, sheep / goat, pig, horse and dog) is notable, and suggests that this is not a typical 'domestic' assemblage associated with food waste. The large number of roe deer bones is dominated by metapodia (lower leg bones), and is indicative of some sort of processing of roe deer carcasses.

### **Recommendations**

Because of the unusual nature of the assemblage from the cess pits, further work is recommended in order to understand what form of processing was likely to have occurred, through analysis of the roe deer bones and comparison with other sites.

### **Sample Policy**

The environmental bulk samples were processed for charred plant material and selected samples assessed for pollen and beetles based on visible potential. Some samples were not assessed for charred plant as they had been specifically taken to examine metallurgical residues. Only a small number were not assessed as they were from contexts that were either later in date or could not be specifically dated. All samples were sorted for heavy residues and where artefacts were recovered these were included in the individual artefact assessments.

Full details of the samples taken and assessed are included in Appendix 6.

### **Industrial Residue Report** by Dr Roderick MacKenzie

#### **Introduction**

A rapid assessment of the production residues, or slag, recovered from the site has been carried out. As well as discrete fragments of slag, the assemblage also contains some material recovered from bulk samples. A basic identification of the residues has been carried out and individual pieces have been examined visually to assess their archaeological potential; the results of the assessment are summarised in Appendix 11. It should be noted that, as no microscopic or chemical analysis has been carried out, the results should be regarded as provisional.

#### **Interpretation and Discussion**

A relatively high proportion of the material in the assemblage appears to be fuel ash slag associated with the burning of coal; this could relate to either domestic or industrial use of coal. The assemblage contains a low abundance of metal production residues and these were recovered from secondary contexts. The main items of note are the lumps of compacted conglomerate recovered from contexts [20086/20087]. An initial inspection suggests that three pieces of the

conglomerate may be the remnants of a compacted floor surface from a workshop.

Around 100 fragments of coal derived fuel ash slag (also known as clinker) were recovered from context 20100, which is described as a fill of a pit dating from mid-15<sup>th</sup> to early 18<sup>th</sup> century. Clinker can be produced by both domestic and industrial coal burning. Without specific supporting archaeological evidence it is not possible to determine the production source of coal fuel ash slag.

Initial inspection of the magnetic residues recovered from the bulk soil samples found that a high proportion of the material consists of flakes of iron oxide and small pieces of natural iron rich grit. It is perhaps worth noting that some of what appears to be 'flake hammerscale' are small fragments of iron oxide (rust) that are from, or the remnants of, corroded iron objects. The type, distribution and abundance of magnetic and other residues do not suggest that iron working was being carried out in the areas excavated.

### **Recommendations**

Initial inspection found that some of the fragments of compacted conglomerate recovered have metal inclusions embedded within them.

It is recommended that the pieces of compacted conglomerate/floor material from contexts 20086 and 20087 are X-rayed to identify any metal inclusions embedded within the material.

## **Environmental Report**

### **Charred Plant Macrofossil Analysis** by Pam Grinter

#### **Introduction**

A programme of soil sampling was implemented during the excavation, which included the collection of standard 40 litre soil samples from sealed contexts. 32 of these sediment samples were selected for an evaluation for their palaeoenvironmental potential. It was agreed that half of the sediment, up to a volume of 10 litres from these selected samples would be processed for this initial evaluation stage. A list of these samples can be seen in Appendix 6 with their context details, feature numbers and feature details.

The aim of the sampling was:

- To assess the type of preservation and the potential of the biological remains
- To record any human activities undertaken on the site – both domestic and industrial
- To provide comparative material which will contribute to our understanding
- of the site within the area and country
- To provide information on the past environment

#### **Methods**

Following description and selection, subsamples of raw sediment from the 32 selected samples were processed. The samples were examined in the laboratory, where they were described using a pro forma. The subsamples were processed by staff at Birmingham Archaeology.

Thirty subsamples were processed using standard water flotation methods for the extraction of environmental remains. The flot (the sum of the material from each sample that floats) was sieved to 0.3mm and air dried. The heavy residue (the

material which does not float) was not examined by the author, and therefore the results presented here are based entirely on the material from the flot.

The flots were examined under a low-power binocular microscope at magnifications between x12 and x40. A four point semi quantitative scale was used, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

## Results

Tables presenting the results of the evaluations can be seen in Appendix 7. The results are presented in sample number order.

Within the remaining 30 samples bone fragments, charcoal, wood, charred and uncharred plant material, were present.

Samples 1003, 1005, 1008, 1012, 1029, 1033 and 1034 all contained uncharred plant remains, these comprised of hard cased caryopsis which indicate that the samples were from deposits which had been partially waterlogged, no remains from more delicate seed caryopsis were present. The majority of seeds preserved were elder and bramble (*Sambus nigra* L. and *Rubus fruticosus* L) which are very thick walled and preserve well. Sample 1012 contained a wider range of waterlogged seeds which included stitchworts, bedstraws, docks, knotweed and goosefoots (*Stellaria* sp., *Gallium* L, *Rumex* L. spp., *Persicaria* sp. Mill and *Chenopodium* L.,) these are common in damp waste places and is likely to represent a hedgerow or field boundary environment. There were no cultivated plant species present.

Most samples contained a hard black coke or coal like substance which is likely to be the result of manufacturing or industrial processes.

## Discussion

The plant remains present within the samples are represented by those seeds with very tough outer caryopsis. The typical environment of these plants are that of hedgerows, wild places, woods etc. As such these plant species are common in the Medieval period in non-cultivated, natural waste places environments.

## Recommendations

It is not recommended that a charcoal analysis is carried out on the material from the samples.

No further interpretable proxy evidence such as archaeological charred were recovered from the remaining samples, hence further environmental analysis on these samples is not recommended. Taphonomic and post-depositional processes at the site clearly preclude the preservation of identifiable or interpretable, site-specific proxy evidence

For those samples where no further work is required, the remaining sediment should be processed for industrial residues such as hammer scale and slag by wet sieving the sediment through a 1mm mesh.

Any material recovered by further excavations should be processed to 0.3mm in accordance with standardised processing methods such as Kenward et al. 1980, and the English Heritage guidelines for Environmental Archaeology.

## Archive

All extracted fossils and flots are currently stored with the site archive in the stores at Birmingham Archaeology, along with a paper and electronic record pertaining to the work described here.

## **Waterlogged Plant Macrofossil Analysis by Pam Grinter**

### **Introduction**

A programme of soil sampling was implemented during the excavation, which included the collection of standard 40 litre soil samples from sealed contexts. Two of samples were taken from waterlogged contexts, and these have been investigated for their bioarchaeological potential and content. It was agreed that half of the sediment, up to a volume of 10 litres from these selected samples would be processed for this initial evaluation stage. A list of these samples can be seen in Appendix 8 with their context details, feature numbers and feature details.

The aim of the sampling was:

- To assess the type of preservation and the potential of the biological remains
- To record any human activities undertaken on the site – both domestic and industrial
- To provide comparative material which will contribute to our understanding
- of the site within the area and country
- To provide information on the past environment

### **Methods**

Following description and selection, subsamples of raw sediment from the two selected samples were processed. The samples were examined in the laboratory, where they were described using a pro forma. The subsamples were processed by staff at Birmingham Archaeology.

The samples were processed using standard methods for waterlogged remains as described by Kenward *et al.* (1980). Plant remains were extracted by means of a 'washover' to concentrate the lighter, organic fraction. The components of the fraction were recorded whilst wet. The washover and the residue was stored wet.

The flots were examined under a low-power binocular microscope at magnifications between x12 and x40. A four point semi quantitative scale was used, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

For technical reasons the convention 'sp(p)' to denote that more than one species was or may have been present, is used throughout, even where only one specimen of the taxon was recorded (and thus only one species could have been present). For plant remains, 'cf.' is used to indicate a 'best guess' as to the identity of fossil specimens.

### **Results**

A table presenting the species list of the investigations can be seen in Appendix 9.



Some remains of plant macrofossils were present in both of the samples examined in small quantities. The quality of preservation was good in both samples, the remains being preserved by anoxic waterlogging.

Sample 1015 contained seeds from plants which thrive in hedgerows and damp places these were: black thorn, bramble and silverweed (*Prunus spinosa* L, *Rubus fruticosus* L. agg. and *Potentilla anserina* L.).

Sample 1017 contained seeds from a wider variety of plants which thrive in fields, hedgerows and damp places, these were: stinking chamomile, fat hen, knotgrass, cornflower, wild turnip, narrow-fruited cornsalad, silverweed and crab apple (*Anthemis cotula* L., *Chenopodium album* L., *Polygonum aviculare* L., *Centaurea cyanus* L., *Brassica rapa* Ssp. *Campestris* (L) *Valerianella dentata* (L) Pollich., *Potentilla anserina* L. *Malus silvestris* (L.) Mill.)

A search of the English Heritage Environmental Archaeology Bibliography ([http://ads.ahds.ac.uk/catalogue/specColl/eab\\_eh\\_2004](http://ads.ahds.ac.uk/catalogue/specColl/eab_eh_2004)) lists only one other site which contained poorly preserved waterlogged deposits from Sandal Castle, Wakefield.

Overall, the samples represent damp hedgerows probably located at the edge of cultivated fields.

### **Conclusions and Recommendations**

As the plant remains are present in low quantities it is not recommended that any further analysis is carried out on them.

Any material recovered by further excavations should be processed to 0.3mm in accordance with standardised processing methods such as Kenward et al. 1980, and the English Heritage guidelines for Environmental Archaeology, and be subjected to a complete investigation of their bioarchaeological content.

### **Archive**

All extracted fossils and flots are currently stored with the site archive in the stores at Birmingham Archaeology, along with a paper and electronic record pertaining to the work described here.

### **Beetle Analysis by David Smith**

#### **Introduction**

Two samples of material from the Phase 3 Post Medieval cess pit (feature 20103) have been assessed for their insect faunas (contexts 20141 and 20143). This report highlights any potential for these insect faunas and makes recommendations for future study.

This assessment was carried out in order to establish the following:

- Are insect remains present? And if so, are they of interpretative value?
- Do the insect remains from these samples provide information on the nature of deposition in this feature?
- Do the insect faunas from these samples provide information as to the nature of material deposited into the cess pit?
- How do these insect faunas compare with others from Wakefield and the region.

#### **Methods**

The samples were processed using the standard method of paraffin flotation as outlined by Kenward *et al* (1980). The weights and volumes of the individual



samples are included in Appendix 10. Insect remains were sorted from the flots and examined under a low-power binocular microscope. The system for 'scanning' faunas as outlined by Kenward *et al.* (1985) was followed in this assessment.

## Results

The insect taxa recovered from the flots are listed in Appendix 10. The taxonomy used for the Coleoptera (beetles) follows that of Lucht (1987). The nomenclature for the Diptera follows that in Smith (Smith, KVC 1989).

The numbers of individual insects present is estimated using the following scale:  
+ = 1-2 individuals ++ = 2-5 individuals +++ = 5-10 individuals ++++ = 10+ individuals +++++ = 20+ individuals ++++++ = 100s of individuals.

When discussing the insect assemblages recovered, two considerations should be taken into account:

1. The identification of the insects is provisional and is made without direct comparison to reference Coleoptera. In addition, many of the taxa present could be identified to species level during a full analysis, producing more detailed information. As a result, all identifications should be regarded as incomplete and possibly biased.
2. The various proportions of insects suggested are notional and likely to be subjective.

## Discussion

Sample 20141 produced a large and well preserved insect fauna. It was dominated by the 'spider beetles' *Tipnus unicolor* and to a lesser extent *Ptinus fur*. These species mainly occur in human settlement often in storehouses, discarded straw and hay or stabling waste (Kenward & Hall 1997). Similar conditions are also suggested by the fly puparia recovered. This part of the fauna is dominated by the posterior ends of the puparia of *Scatopse notata*. The larvae of this small 'scavenger fly' is typically found in a range of decaying plant remains and loose organic matter (Smith, KVC 1989) though Skidmore (1999) has specifically linked its occurrence to human cess and excrement. Other fly puparia recovered, such as the *Sepsis* spp. and *Muscina stabulans* also occur in this type of material (Smith, KVC 1989). *Geotrupes* and *Aphodius* species recovered from settlement deposits in the archaeological record often are linked to loose deposits of organic matter and stabling waste (Kenward *et al.* 2004). Other species recovered, such as the 'ground beetles' *Trechus micros* and *Pristonychus terricola* are thought by Kenward (Hall & Kenward 1990; Carrott & Kenward 2001) to be associated in the archaeological record with buried material.

Sample 20143 contained a similar fauna of both flies and beetles. The main difference is the absence of *Scatopse notata* and the occurrence of *Tenbrio molitor*. The latter 'darkling beetle' also often occurs in loose hay straw and stabling waste.

It seems that the material sampled from this cess pit probably is loose stabling material and other settlement wastes. It seems unlikely that these deposits consist primarily of human cess since cesspits tend to have a very distinctive fly fauna (i.e. Skidmore 1999) most of which are absent here.

## Recommendations and Conclusions

It is recommended that full identification of the insect remains from these two contexts should occur. A fuller identification, of the insect fauna and its comparison with the pollen and plant macrofossils from this deposit, should allow the material sampled to be fully identified.

The nearest urban deposits of a similar date which have produced insect remains are both from Doncaster (the Subscription rooms - Smith, D 1989 and Lower Fishergate - Kenward *et al.* 2004). The initial recovery of such remains in the South of West Yorkshire means these deposits from Wakefield have some regional importance.

### Archive

All extracted fossils and flots are currently stored with the site archive in the stores at Birmingham Archaeology, along with a paper and electronic record pertaining to the work described here.

## Pollen Analysis by Emma Hopla

### Introduction

An archaeological excavation was carried out by Birmingham Archaeology at Westgate, Wakefield. Archaeological deposits dating from the Medieval period, including a well, pits and occupation layers.

Black organic material was encountered in a waste pit (feature 20103). A monolith was taken and sub sampled for pollen analysis.

### Methods

A total of 3 subsamples were assessed for pollen. Sampling was undertaken at the top (0.55m), middle (0.67m) and bottom (0.79m) of the monolith. Pollen preparation followed standard techniques including potassium hydroxide (KOH) digestion, hydrofluoric acid (HF) treatment and acetylation (Moore *et al.* 1991). At least 125 total land pollen grains (TLP) excluding aquatics and spores are usually counted for each sample. However, pollen concentrations were very low in all three samples and a full count was not possible.

### Results

All three samples yielded low concentrations of pollen. The species encountered, preservation and concentration is listed in Table 3. Sample 0.67m depth provided the best preserved and abundant pollen assemblage, consisting mainly of Poaceae (grasses) and cereal type. The low concentrations of pollen along with the potentially complex taphonomic pathways for pollen incorporated in pit fills makes it very difficult to provide any interpretable results for the use of this feature.

Sample (depth)	Preservation	Concentration	Species
0.55m	Medium	Poor	Poaceae (wild grasses)
0.67m	Good	Poor-Medium	Cereal, Poaceae and some <i>Corylus avellana</i> -type (hazel)
0.79m	Poor	Poor	Single cereal grain

Table 3: Assessment results for the pollen

### Conclusions and Recommendations

The pollen concentrations were so low that it is not recommended that any further analysis is carried out on them.

**Environmental Summary**

The two waterlogged samples assessed for plants and beetles provided the most useful results of all the environmental proxies. The beetles are abundant and well preserved and indicate that the waste pit feature was primarily used for the disposal of loose stabling waste rather than human waste. It is therefore strongly recommended that these two samples are taken forward to full analysis. No further work is recommended for charred plant macrofossils and pollen.

## 7 THE ARCHIVE

The paper and artefactual archive consists of the following:

Paper Archive Type	Number
Context Cards	220
Plans	11 A3 sheets
Sections	4 A3 sheets
Sample Register	3 sheets
Photographic Register	
Drawing Register	2 sheets
Survey, project planning, documentary research	152 sheets

Table 4: *Paper Archive*

Material Type	Number / Weight
<b>Small Finds</b>	
Silver	1 coin
Leather	1 shoe
Wood	1 handle, 1 bowl fragment, 1 roughout
Cu Alloy	2 coins, 1 brass cylinder
<b>General context finds</b>	
Ceramics	
Clay Pipe	32 fragments
CBM	42 fragments / 16106gm
Cu Alloy	9 fragments
Fe	13 fragments
Animal Bone (un-worked)	114 fragments
Total Number of Boxes	2

Table 5: *Artefactual Archive*

## 8 SUMMARY DISCUSSION

The results from the excavations at Westgate, Wakefield have produced good archaeological evidence which will contribute to a greater understanding of the chronological development of Westgate and possibly of Wakefield as a whole. The features, deposits and structures can be divided into six main phases beginning in the 11<sup>th</sup> century, through to the present. Specialist assessments of the artefactual evidence have provided invaluable material which can be utilised to achieve the aims set out in the initial research agenda. Together with the site records, these provide us with a detailed and informed chronology of the site, with each phase presenting valuable information.

The first recorded reference to Westgate occurs in the late 13<sup>th</sup> century (Smith 1961). However, archaeological evidence points to activity from at least the 11<sup>th</sup> century onwards and it is likely that the area grew from the expansion of the medieval town during this period.

The group of pits, aligned at a right angle to the street, and the group of postholes, both dating to between the 11<sup>th</sup> and 13<sup>th</sup> century, may indicate the beginning of property boundaries in the area. Excavations by ARCUS at Drury Lane, in close proximity to the site, also uncovered a number of pits which were confined to a discrete area, respecting a probable burgage plot boundary (Holderness 2008). This division of street frontages into long burgage plots at right angles to the street is a common trait of medieval towns and can be seen as early as the 10<sup>th</sup> century in York (Schofield & Vince 2003).

The construction of the walls and drains dating to between the 13<sup>th</sup> and 15<sup>th</sup> century appear to respect these boundaries and it is possible that they truncated any earlier form of boundary. These walls appear to represent the typical medieval house plan, which consisted of a 'range parallel with the street, through which a gateway or passage led to a small yard or alley along the side of a major, usually sunken-cellared building set at right angles to the line of the street' (Schofield & Vince 2003, 80). A passageway is visible on the site between Plot 1 and 2, measuring between 1 m and 1.5 m wide, however the remains of any buildings fronting the street would have been destroyed by the post-medieval cellars.

During the medieval period the size and shape of properties was not generally uniform, with changes to both due to encroachments or obstacles formed by other buildings as well as down to the availability of land. Plots 1 and 2 on the site were both on average just under 16 feet or 1 perch (16 feet six inches in medieval dimensions) wide, possibly suggesting a planned division of the land as part of the expansion of Wakefield along Westgate.

The yards or burgage plots contained a number of medieval pits and postholes, and it is likely that each plot was being used for a different activity, since different types of feature appear to be grouped together within the plots. The majority of the pits within Plot 1 were clay lined, whereas those within Plot 2 were not, and postholes were only revealed within Plot 3, along with an isolated pit.

The clay lined pits were all filled with a homogenous material and contained at least one sherd of medieval pottery, and the majority of them contained a small quantity of slag, although no metal objects were recovered. A number of similar pits were uncovered during the excavations by ARCUS at Drury Lane, adjacent to the site (Holderness 2008).

The earliest phase of archaeological activity dates to between the 11<sup>th</sup> and 13<sup>th</sup> century, when small scale activity was evident on the site in the form of postholes and clay lined pits. The postholes may have formed part of a 'tenter' rack, which would have been used for the drying and stretching of cloth. During the 19<sup>th</sup> century this area was named as a *tenter yard* and as a *drying yard* on various maps, lending weight to the suggestion that this was a drying yard and continued to be used as one up until the 19<sup>th</sup> century. No structural remains were encountered associated with these features, although any such structures may have been destroyed by the later medieval buildings.

During the 13<sup>th</sup> - 15<sup>th</sup> century this small scale activity continued, with possibly a slight increase at the beginning, although it appears to peter out towards the end. The activity seems to be concentrated within Plots 1 and 2, with Plot 3 seeming to be unused. The defining and regularisation of plot boundaries was started at this time, with the introduction of stone building foundations. Two distinct buildings could be seen within Plot 1 and 2, and the construction of them confirms the suggestion from the documentary sources that there was a growth in population and expansion of Wakefield's boundaries at this time.

The arrangements of the wall foundations roughly reflect the layout of the buildings identified from the cartographic sources. No obvious purpose for these buildings could be defined, However, it is likely that they assumed both domestic and small scale industrial status.

The 15<sup>th</sup> - 16<sup>th</sup> century saw only a small amount of change, with the addition of a cess pit to the back of one of the buildings. Small scale industrial activity was evident during this time within Plot 2, however, the nature of this activity remains unknown. Bowl manufacture was taking place, as evidenced by the bowl roughout retrieved from the cess pit. Whether this was taking place on the site or nearby is unknown. It was most likely away from the site due to the lack of any other finds associated with bowl manufacture.

Further sub-division of the buildings was undertaken during the 16<sup>th</sup> - 18<sup>th</sup> century, along with the construction of two cellars, suggesting an increase in prosperity in the area, and the need for more space. The construction of two wells during this period would also lend itself to the suggestion of an increase in wealth.

The 18<sup>th</sup> - 20<sup>th</sup> century saw the rebuilding or consolidating of the medieval buildings. The remains of the buildings uncovered conform to those shown on the historic mapping.

## **9 UPDATED PROJECT DESIGN**

The project is due to be reported upon as a grey literature report of the site.

To this effect the remainder of the work will focus on the completion of the specialist reports on the site. The focus of this work will be in a number of areas.

1. Completion of the pottery report and amalgamation with the pottery from the evaluation.
2. Complete examination of the wooden bowl and bowl roughout and conservation of both items.
3. Remedial conservation of the shoe, and photography.
4. Send selected metal items to be x-rayed and sent to a specialist (Quita Mould) for further analysis.
5. The silver coin to be cleaned and advise sought.
6. Residues to be x-rayed, with comments on these included.
7. Examination of the Animal Bone for the site, detailed analysis of the Roe Deer bone from Cess Pit 20147.
8. Process samples 1015 and 1017 for plant macrofossils and insect remains.

Background research should centre on examination of background material from adjacent sites within the immediate area and Wakefield as a whole to look for comparative material. Examination of medieval market towns in the region should be undertaken so as to put the site within a regional context of the West Riding of Yorkshire.

## **10 TASK LIST**

The full post-excavation programme will commence on approval of this report, and be completed by Dave McNicol and managed by Chris Hewitson for May 2009.

1	Project Management	Chris Hewitson
2	Complete historical research	Dave McNicol
3	Pottery reporting (medieval and post medieval)	Chris Cumberpatch
4	Animal Bone Reporting	Matilda Holmes
5	Wooden Bowl examination and reporting	Steve Allen
6	Conservation of shoe	Wiltshire Cons Service
7	X-ray of Metal Items and Residues	Wiltshire Cons Service
8	Examination of Metal Items	Quita Mould
9	Animal Bone Reporting	Matilda Holmes
10	Examination of Waterlogged Remains	Pam Grinter
11	Examination of Beetle Remains	David Smith
12	Integration of results	Dave McNicol
13	Documentary Research	Dave McNicol
14	Preparation of draft illustrations	Nigel Dodds
15	First edit	Chris Hewitson
16	Internal review	Amanda Forster
17	Consultant review	Jim MacQueen
18	Text amendments	Dave McNicol
19	Copy edit	Chris Hewitson
20	Preparation of archive	Mary Duncan
21	Deposition of archive	Mary Duncan

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## Appendix 1 – Context Database

Context	Context Type	Associated Cut	Interpretation
20000	Layer		Tarmac car park surface
20001	Layer		Hardcore below tarmac
20002	Layer		Rubble from demolition of buildings
20003	Fill	20004	Rubble fill of cellar
20004	Build		Cellar with barrel vault ceiling
20005	Build		Foundation of wall
20006	Build		Sandstone well possibly medieval
20008	Build		Brick floor of cellar 2004
20009	Layer		Compacted levelling layer
20010	Build		Drive way surface truncated by drain
20011	Build		Part of cellar 20004
20012	Build		Pavement alongside 20010
20013	Build		Wall of a building
20014	Fill	20006	Upper fill of well
20015	Build		Wall reusing sandstone walls
20016	Build		Foundations of a wall
20017	Build		Lower courses of a wall
20018	Build		NE corner of a small structure
20019	Build		Wall part of larger structure
20020	Build		External wall of structure
20021	Build		Wall reinforced externally
20022	Build		Garden wall
20023	Build		Possible remnants of a stairwell
20024	Build		Rectangular structure of unknown function
20026	Build		Wall abutting 20019 and 20024
20027	Build		Stone steps of outdoor feature
20028	Fill		Backfill of cellar 20029, possibly contemporary with 20002
20029	Build		late post-medieval cellar with 3 phases of activity
20030	Build		Floor of cellar 20029
20031	Layer		Levelling layer for post-medieval flagstone floor
20032	Build		Sandstone flag floor, original surface of cellar
20033	Fill	20006	Backfill of well
20034	Fill	20006	Lower backfill of well
20035	Build		NW-SE orientated wall, = to 3026 from evaluation
20036	Build		L-shaped wall
20037	Build		Modern internal floor
20038	Build		Sandstone floor abutting brick wall 20039
20039	Build		NW-SE Wall
20040	Build		NE-SW wall
20041	Build		NW-SE wall (main retaining wall, and cellar wall)
20042	Build		NW-SE wall
20043	Build		SE-NE wall
20044	Build		Floor with lino
20045	Build		Floor - re-used sandstone blocks
20046	Build		NE-SW wall
20047	Build		NE-SW wall
20048	Build		NW-SE brick drain

Context	Context Type	Associated Cut	Interpretation
20049	Fill	20050	Posthole fill
20050	Cut		Posthole cut
20051	Layer		Redeposited natural
20052	Fill	20053	Tree bole fill
20053	Cut		Tree bole
20054	Layer		Possible make up/ levelling layer for wall 20019 or garden soil
20055	Layer		Garden soil?
20056	Layer		Possible make up layer of redeposited clay natural to SE of cellar 20029
20057	Layer		Possible make up layer of redeposited clay natural to SE of cellar 20029
20058	Build		NW-SE wall (retaining wall)
20059	Build		Sandstone slab floor
20060	Build		NW-SE capped stone drain
20061	Fill	20062	Fill of drain cut
20062	Cut		Drain cut
20063	Build		NW-SE wall
20064	Fill	20065	Pit fill
20065	Cut		Waste? Pit
20066	Fill	20067	Pit fill
20067	Cut		Waste? Pit
20068	Layer		Possible levelling layer or floor layer
20069	Build		NE-SW wall
20070	Build		NW-SE wall collapse
20071	Fill		Modern drain fill
20072	Cut		Modern Drain
20073	Build		Possible wall, re-built in post-medieval period with red brick
20074	Build		NE-SW wall
20075	Build		NW-SE wall
20076	Build		Rubble collapse of wall
20077	Build		Modern pipe base within cellar
20078	Build		Drain
20079	Fill	20080	Drain fill
20080	Build		Drain
20081	Fill	20080	Drain fill
20082	Build		SW-NE wall - possible NW wall of medieval cellar?
20083	Fill	20084	Stone drain fill
20084	Build		Stone drain
20085	Build		NE wall of medieval cellar
20086	Fill	20087	Fill of possible waste pit
20087	Cut		Poss waste pit within wall
20088	Build		NE-SW wall-possible contemporary with wall 20042
20089	Build		NW-SE wall (parallel to 20041 - probable other side of building)
20090	Fill	20092	Clay lining of pit
20091	Fill	20092	Pit fill
20092	Cut		Storage? Pit
20093	Fill	20095	Clay lining of pit
20094	Fill	20095	Upper pit fill
20095	Cut		Storage? Pit

Context	Context Type	Associated Cut	Interpretation
20096	Fill	20098	Clay lining of pit
20097	Fill	20098	Pit fill
20098	Cut		Storage? Pit
20099	Layer		Garden soil?
20100	Fill	20101	Pit fill
20101	Cut		Waste? Pit
20102	Build		Stone lined storage pit? Wall 20069 used as one side-contemporary?
20103	Build		Stone lined cess pit. Attached to wall 20063-contemp?
20104	Fill	20108	Pit fill
20105	Fill	20108	Pit fill
20106	Fill	20107	Pit fill
20107	Cut		Cut for stone line pit
20108	Fill	20109	Posthole fill
20109	Cut		Posthole
20110	Fill	20111	Posthole fill
20111	Cut		Posthole
20112	Fill	20113	Posthole fill
20113	Cut		Posthole
20114	Layer		Re-deposited natural - possible floor layer
20115	Layer		Levelling layer for floor 20032
20116	Fill	20117	Posthole fill
20117	Cut		Posthole
20118	Build		Possible base for hearth?
20119	Fill	20120	Fill of cut for hearth base?
20120	Cut		Cut for hearth base?
20121	Fill	20095	Pit fill
20122	Fill	20123	Pit fill
20123	Cut		Shallow waste pit/ scoop
20124	Layer		Possible levelling layer between medieval wall 20041 and pm floor 20038, wall 20039
20125	Fill	20103	Deliberate waste fill in cess pit
20126	Fill	20103	Deliberate waste fill in cess pit
20127	Fill	20103	Deliberate waste fill in cess pit
20128	Fill	20103	Deliberate waste fill in cess pit
20129	Layer		Redeposited natural, possible floor/ build up layer
20130	Build		Possible base of fireplace? No burning evidence
20131	Fill	20130	Fill of possible fireplace?
20132	Layer		Levelling layer or clay floor within cellar
20133	Build		Possible drain
20134	Fill	20095	Pit fill
20135	Natural		Natural clay under cellar 20029
20136	Build		Possible bottom step for original steps out of cellar 20029
20137	Cut		Cut for modern pipe base
20138	Fill	20137	Fill of pipe base (finds recorded as from 20077)
20139	Build		Curved steps out of cellar 20029, heavily worn
20140	Build		Brick fireplace / chute, and brick base
20141	Fill	20147	Organic fill of cess pit
20142	Fill	20060	Drain fill
20143	Fill	20147	Organic fill of cess pit

Context	Context Type	Associated Cut	Interpretation
20144	Build		Small sandstone fragments - possible 'waste rubble' left dumped after robbing of 'good' sandstone blocks
20145	Fill	20147	Possible lining of cess pit base?
20146	Fill	20147	Foundation/ footing of cess pit 20103
20147	Cut		Cut for stone lined cess pit
20148	Build		Drain
20149	Fill	20148	Drain backfill
20150	Build		Possible floor or step, v. truncated
20151	Build		Possible base for hearth? Similar to 20118
20152	Build		Possible floor or step, v. truncated
20153	Fill	20154	Fill of drain cut, drain robbed out
20154	Cut		Drain cut, drain robbed out but was probably drain 20084
20155	Build		Possible border of pit 20157
20156	Fill	20157	Pit fill
20157	Cut		Shallow pit - possible hearth waste pit?
20158	Fill	20160	Pit fill
20159	Fill	20160	Clay lining of pit
20160	Cut		clay lined pit
20161	Fill	20162	Pit fill (dumped)
20162	Cut		Large pit, heavily truncated
20163	Layer		Re-deposited natural layer - possible surface build up
20164	Fill	20164	Foundation cut fill
20165	Cut		Foundation cut for wall 20041
20166	Fill	20167	Backfill of wall foundation cut, after stones robbed out
20167	Cut		Wall foundation cut
20168	Build		NW-SE wall
20169	Build		Possible floor or platform/base, possible re-used in PM period as red-brick visible within
20170	Build		NE-SW wall
20171	Build		Possible a compact stone floor or dump of stone
20172	Fill	20173	Fill of drain cut / levelling layer for stone drain
20173	Cut		Cut for stone lined drain
20174	Cut		Large pit, poss waste pit
20175	Fill	20174	Top fill of pit
20176	Fill	20174	Bottom fill of pit
20177	Fill	20180	Fill of modern drain
20178	Cut		modern drain cut
20179	Fill		Fill of wall foundation cut
20180	Cut		Wall foundation cut
20181	Cut		Tree bole
20182	Fill	20181	Fill of tree bole
20183	Fill	20184	Fill of wall foundation cut
20184	Cut		Foundation cut for square floor/platform
20185	Build		NE-SW wall, probably contemporary (return of) wall 20041
20186	Fill	20187	Fill of foundation trench for wall
20187	Cut		Foundation trench for wall
20188	Fill	20189	Fill of shallow gully
20189	Cut		Gully
20190	Build		NE-SW wall
20191	Build		SW-NE drain

Context	Context Type	Associated Cut	Interpretation
20192	Fill	20191	Drain fill
20193	Fill	20194	Top fill of pit
20194	Cut		Large irregular waste pit (possible modern)
20195	Cut		Circular pit, possible sealed by clay?
20196	Fill	20195	Lower fill of pit
20197	Fill	20195	Upper pit fill
20198	Build		NE-SW wall, probably contemporary with wall 20062
20199	Fill	20200	Pit fill
20200	Cut		Large pit (possible waste pit)
20201	Cut		Circular pit, heavily truncated
20202	Fill	20201	Pit fill
20203	Build		Stone lined drain, heavily truncated, probably same as drain 20133
20204	Fill	20194	Bottom fill of probable waste pit
20205	Build		Well - may have been attached to wall 20185 or truncated it or the backfill?
20206	Fill	20205	Top backfill of well
20207	Build		Possible sandstone rubble surface or possible base of drain?
20208	Fill	20210	Top pit fill
20209	Fill	20210	Bottom pit fill
20210	Cut		Large circular pit (possible waste pit)
20211	Fill	20212	Waste fill of pit
20212	Cut		Pit
20213	Fill	20214	tree bole fill
20214	Cut		Tree bole
20215	Cut		Gully
20216	Fill	20215	Gully fill
20217	Fill	20218	Clay lining of pit
20218	Cut		Square pit (possible cut by drain 20148 - have to check what feature this is)
20219	Fill	20218	Pit fill

## Appendix 2 – Pottery Quantification and Spot Dates

Cut	Fill	Principal wares represented	Date range	Notes
20005		Hillam type ware	LC11th - EC13th	
20006	20014	WSGSW, Mottled ware, BSGSW	C18th	
20006	20033	Yellow ware, Midlands Purple, Redware, Blackware	C17th	
20006	20034	U/ID	Undated	Very heavily burnt
20006	20034	Gritty ware	Medieval	Probably later medieval but uncertain
20029	20028	Stopper with screw thread	C20th	Marked with serial number and 'FOREIGN'
20044		Porcelain	LC19th - C20th	
20050	20049	Hillam type ware, ?Hallgate A	C13th	
	20051	Northern Gritty ware, Hallgate A	LC13th - EC14th	NGW may be later than HaA
20053	20052	Midlands Purple, Gritty ware	C16th - EC17th	The Gritty ware is earlier than the MPG; mixed group
20065	20064	Early BGCW	C16th - C17th	
20067	20066	Coarse Sandy ware	Late Medieval	Narrow strap handle
	20068	Northern Gritty ware	C13th - EC15th	
20070		Humberware	C13th - C15th	
20078	20079	Stoneware	MC19th - EC20th	
20078	20079	Stoneware	C19th	
20080	20081	Bone China, Whiteware	M - LC19th	
20095	20134	Gritty ware	Late Medieval	
20098	20096	Oxidised Gritty ware	LC11th - C13th	
20109	20108	Hillam type ware	LC11th - EC13th	
20130	20131	Cistercian ware / Blackware	C16th - C17th	
20160	20158	Gritty ware	C14th - C15th	Mixed group includes some earlier material
20174	20175	Late Med Reduced Gritty, U/ID Reduced Sandy	LC13th - C15th	
20189	20188	Gritty ware	LC11th - C13th (?)	Soft and abraded sherds with a black deposit ext
20194	20193	Coarse Sandy ware	Later medieval	
20194	20204	Hallgate A	C13th	
20195	20197	Late Medieval Gritty ware	LC13th - C15th	One vessel
20210	20208	U/ID Sandy ware, Coal Measures White type	LC13th - LC14th	Unusual strap handle & U/ID fabric
20065/20019	20099	Humberware, Later medieval gritty ware	C13th - C15th	Small amount of earlier material
	20002	Mottled ware, Edged ware, Creamware,	LC18th - EC19th	Includes both typical C18th and EC19th wares
	20002	Creamware	c.1740 - c.1820	



Cut	Fill	Principal wares represented	Date range	Notes
	20002	Oxidised Gritty ware	LC11th - C13th	Could be C13th - C14th
	20031	Mottled ware, Whiteware	C18th & C19th	Mixed group including a pot lid; freshly broken
	20051	Hillam type, Humberware, Later medieval gritty ware	LC11th - LC14th	Mixed group
	20054	MPG, early BGCW, ?Redware; Late Blackware	C17th & C18th	Mixed group; some residual medieval, inc a pot disc
	20054	Humberware, Buff Gritty, U/ID Sandy ware	C13th - C15th	Mixed group
	20055	Hillam type ware	LC11th - EC13th	
	20068	Humberware	LC13th - C15th	
20092	20091	Hillam type ware	LC11th - EC13th	
20098	20097	Buff/oxidised Gritty ware	LC11th - C13th	
20111	20110	Hillam type ware	LC11th - EC13th	
	20114	Oxidised Gritty ware	C13th - C14th?	Difficult to ascribe a date
	20125	U/ID	?C16th - C17th	Heavily burnt
	20125	Late Blackware	C18th	
	20126	Midlands Purple type ware	LC15th - C17th	
	20132	Blackware, Slipware type 1, TGE, Mottled ware	C17th	One sherd C18th Mottled ware
	20132	Redware, Slipware Type 1, Blackware	C17th	
	20132	Redware	C17th - EC18th	
20060	20142	Hillam type ware, Buff Gritty ware	LC11th - C13th	
	20147	Stoneware, Whiteware, Bone China	M - LC19th	
	20163	Various Gritty wares & coarse sandy wares	C13th - EC15th	
	20166	MPG, Edged ware, Late Blackware	C16th/C17th & LC18th/EC19th	Mixed group
20174	20176	Late Med Gritty, East Yorks Sandy type, Buff Gritty	C12th/EC13th to C14th/EC15th	Mixed group
	20193	Midlands Purple type ware	C16th - C17th	

### Appendix 3 – Glass Quantification and Spot Dates

Context	Ass. Context	Classification	No of Frags	Date	Note
20002		Bottle	5	L18/E19C	Base of early cylinder; light green
20003	20004	Jar	1	L19/20C	complete colourless jar; embossed 2 on base
20003	20004	Bottle	1	L19/E20C	complete small green phial? Embossed NOT TO BE TAKEN. Cork and possible contents present
20028	20029	Bottle	1	20C	Complete small colourless bottle; embossed on base SWAN INK MABIE TODD & Co
20028	20029	Window	1	L19/E20C	Complete bevelled pane
20028	20029	Window	1	20C	Colourless
20031		Bottle	1	E-M19C	Olive base of cylinder; worn resting point
20031		Bottle	2	19C	Colourless body of prismatic bottle
20031		Bottle	1	L19/E20C	Marble from carbonated water bottle
20033	20006	Bottle	1	L18/E19C	Green base fragment
20033	20006	Bottle	1	18/E19C	Light green body fragment prismatic
20054	Under wall 20019	Window	1	L19/20C	Colourless, possibly grozed
20069		Bottle	1	18C	Light green neck and shoulder fragment, possibly mallet/early cylinder
20077	?20077	Bottle	4	L19C	Green tinted body fragments
20077	?20077	Bottle	5	18/E19C	Green body fragments
20079	20078	Bottle	22	M-L19C	Ovoid embossed with Fellows & Co Chemists, St Johns
20079	20078	Bottle	10	L19/E20C	?Ovoid embossed druggists bottle; gradations and TABLESPOONS
20079	20078	Bottle	12	19C	Hexagonal green tinted body and base fragments
20079	20078	Bottle	7	L19/E20C	?Ovoid blue tinted flat sided body fragments
20079	20078	Bottle	2	L19/E20C	Rectangular blue tinted base
20079	20078	Bottle	4	L19/E20C	Prescription finish and neck
20079	20078	Bottle	1	L19/E20C	Prescription rim; iridescence
20079	20078	Bottle	1	L19/E20C	Prescription rim

Context	Ass. Context	Classification	No of Frags	Date	Note
20079	20078	Bottle	1	L19/E20C	Finish possibly from a carbonated drinks bottle
20079	20078	Bottle	2	19/E20C	Colourless body fragments with mould seams
20079	20078	Bottle	25+	L19/E20C	Blue tinted body fragments - parts of bottles from same context
20081	20080	Bottle	6	M-L19C	Green cylinder body
20081	20080	Bottle	8	L19/E20C	Green tinted carbonated water bottle finish and body
20081	20080	Bottle	13	18/E19C	Light green body fragments of a mallet or early cylinder
20081	20080	Bottle	5	M-L19C	Light green body with large embossed P
20081	20080	Bottle	5	L18/E19C	Green cylinder body fragments
20081	20080	Bottle	8	L19/20C	Blue tinted rectangular bottle, rounded corners, diagonal mould seams, indented base with ?36
20081	20080	Bottle	17	M-L19C	Ovoid embossed base and body, Fellows & Co, as for DB16
20081	20080	Bottle	13	L19/E20C	Blue tinted rectangular druggists bottle with gradations and 1 & 2 Tablespoons embossed
20081	20080	Bottle	4	L19/E20C	Blue tinted prescription finish
20081	20080	Bottle	3	L19/E20C	Colourless prescription finish
20081	20080	Bottle	2	L19/E20C	Colourless prescription finish, rim and neck only
20081	20080	Bottle	6	L19/E20C	Colourless prescription finish
20081	20080	Bottle	6	L19/E20C	Colourless prescription finish
20081	20080	Bottle	2	L19/E20C	Colourless ?ovoid base, embossed 2
20081	20080	Bottle	60+	19/20C	Fragments from any of the above DB numbers 32-40
20086	20087	Window	1	20C	2 mm
20125		Window	1	20C	3 mm
20126		Bottle	1	E-M18C	Light green shoulder/body fragment, possible onion/mallet
20132		Bottle	1	18/19C	Light green base
20147	20146	Window	1	20C	3 mm
20147	20146	Bottle	1	L18/19C	Colourless lead glass, bevelled corners, pontil on base, diagonal mould seam on base
20147	20146	Bottle	1	20C	Blue tinted prismatic, indented base, no weathering at all

## Appendix 4 – Wood Quantification

Context/Cut/SF number	Description	Species identification	Recommendation
[20087] (20086) SF 1006	Cu Alloy blade or tool with waterlogged and MPO wood attached. Original form of wood and relation to metal not determined. In two refitting and two non-refitting sections.	<i>Fagus sylvatica</i> L.	X-Ray metal components- further investigation needed.
[20087] (20086)	Wooden splinter. Thin sliver of heartwood, both ends broken away and missing. 36 l, 01 dia.	Insufficient diagnostic wood to permit identification.	Discard
(20125)	Tangentially faced bark chipping. 91 l, 59 w, 18 th.	<i>Not identifiable.</i>	Discard
(20125)	Tangentially faced bark chipping. 63 l, 45 w, 17 th.	<i>Not identifiable.</i>	Discard
(20141)	Offcut from radially faced board or stave. Both ends cut away, one end truncating in an 04 dia nail hole. Dried out. 28 l, 49 w, 04 th.	<i>Quercus</i> spp.	Discard
(20141) SF 1004	Roughout for wooden bowl. Box halved block roughly hewn to hemispherical form. Multiple axe facets with good tool signatures present on all faces. Incorporates some bark in curved surface. Some woodworm damage present. No hollowing or turning begun. C.126 dia, 68 high.	<i>Acer campestre</i> L.	Retain, draw and conserve.
(20143)	Fragment of radially faced board or stave. Both edges/ends broken away and missing. 297 l, 83 w, 13 th.	<i>Quercus</i> spp.	Discard
(20143)	Fragment of radially faced board or stave. Both ends broken away and missing. In two refitting sections. 259 l, 39 w, 07 th.	<i>Quercus</i> spp.	Discard
(20143) SF 1005	Part of wall and base of face-turned wooden bowl. Flat base with prominent turning marks. Sharp transition from base to wall emphasised by external groove. Single shallow decorative groove around exterior c. 24mm above base. Slight change in internal profile some 20mm above base. In two refitting pieces. c. 160 dia, >40mm high, 08-05 th.	<i>Fraxinus excelsior</i> L.	Retain, draw and conserve
[20210] (20209)	Radially faced heartwood chipping. 87 l, 49 w, 20 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Radially faced heartwood chipping. 75 l, 37 w, 10 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Radially faced heartwood chipping. 47 l, 33 w, 17 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Radially faced heartwood chipping. 84 l, 43 w, 19 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Box quartered heartwood chipping. 86 l, 35 w, 35 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Radially faced heartwood chipping. 35 l, 31 w, 06 th.	<i>Quercus</i> spp.	Discard
[20210] (20209)	Radially faced heartwood chipping. 36 l, 35 w, 09 th.	<i>Quercus</i> spp.	Discard

Context/Cut/SF number	Description	Species identification	Recommendation
[20210] (20209)	Radially faced heartwood chipping. 48 l, 21 w, 09 th.	<i>Quercus spp.</i>	Discard
[20210] (20209)	Radially faced heartwood chipping. 46 l, 15 w, 07 th.	<i>Quercus spp.</i>	Discard
[20210] (20209)	Radially faced heartwood chipping. 17 l, 12 w, 05 th.	<i>Quercus spp.</i>	Discard
Not labelled:	Radially faced stave. Both edges hewn/cleft. One end hewn square to axis with longitudinal split extending from this end along mid line of stave. Single o4 dia nail hole through face 26mm from hewn end on split. Other end broken away and missing. In four non-refitting fragments. (i) 522 l, 69 w, 08 th. (ii) 198 l, 54 w, 08 th., (iii) 162 l, 25 w, 07 th. (iv) 60 l, 27 w, 10 th.	<i>Quercus spp.</i>	Discard

All species identifications follow Schweingruber (1982); all dimensions in millimetres.

**Botanical name:**

*Acer campestre* L.  
*Fagus sylvatica* L.  
*Fraxinus excelsior* L.  
*Quercus spp.*

**Common English name:**

Field Maple  
Beech  
Ash  
Oak, exact species not determinable

### Appendix 5 – CBM Quantification and Spot Dates

Context	Interp.	Frgs	Wgt gms	BK/Tile	Lgth	Width	Th	Mould Imp	Mortar	Provisional Date	Comments
20006		2	761	Brick	0	0	60	FALSE	FALSE	18 <sup>th</sup> century	
20006		18	510	Brick	0	0	0	FALSE	FALSE	18 <sup>th</sup> century	.Straw impressions.Probably same brick.
20028		1	83	Tile	0	50	10	FALSE	FALSE	20 <sup>th</sup> century?	Blue glaze. No manufacturers stamp
20028		2	140	Tile	152	50	10	FALSE	FALSE	20 <sup>th</sup> century?	Two joining frags. Blue glaze
20028		2	82	Tile	0	50	10	FALSE	FALSE	20 <sup>th</sup> century?	Green glaze.No manufacturers stamp
20041		1	2748	Brick	240	115	55	FALSE	FALSE	18 <sup>th</sup> century	Slop-moulded.
20048		1	3020	Brick	240	115	60	FALSE	TRUE	18 <sup>th</sup> century	Slightly blown. Two mortars
20054		1	334	Brick	0	0	60	FALSE	FALSE	18 <sup>th</sup> century	Slop-moulded
20054		2	167	Brick	0	0	0	FALSE	TRUE	18 <sup>th</sup> century	Non-diagnostic
20063		1	110	Brick	0	0	0	FALSE	FALSE	?	Non-diagnostic
20078	Drain	1	3313	Brick	240	115	65	FALSE	TRUE	18 <sup>th</sup> century	Two/three mortars
20125		2	1073	Brick	0	115	50	TRUE	FALSE	17 <sup>th</sup> – 19 <sup>th</sup> century	Joining frags.Slop moulded .Plaster adhesions on one surface.
20125		1	532	Brick	0	0	70	FALSE	FALSE	17 <sup>th</sup> – 19 <sup>th</sup> century	
20125		4	47	Brick	0	0	0	FALSE	FALSE	17 <sup>th</sup> – 19 <sup>th</sup> century	Non-diagnostic
20132		1	161	Brick	0	0	50	FALSE	FALSE	Medieval?	
20147		1	2996	Brick	246	115	65	FALSE	TRUE	18 <sup>th</sup> century	
20166		1	29	Brick	0	0	0	FALSE	TRUE	?	Non-diagnostic

**Appendix 6 – List of Samples Evaluated**

<b>Sample Number</b>	<b>Context</b>	<b>Amount (Litres)</b>	<b>Primary Assessment</b>	<b>For Further Assessment?</b>
1000	20014	20	Yes/ Pot	CP
1001	20033	20	Yes/ Pot	CP
1002	20034	40	Yes/ Pot	CP
1003	20049	40	Yes/ Pot	CP
1004	20064	10	Yes/ Pot	CP
1005	20066	15	Yes/ Pot	CP
1006	20100	25	yes	CP
1007	20104	40	yes	NO
1008	20097	40	yes	CP
1009	20093	40	Yes/ Pot	CP
1010	20094	40	yes	NO
1011	20122	5	yes	HR/ IND
1012	20115	40	yes	CP
1013	20090	40	yes	CP
1014	20091	40	Yes/ Pot	CP
1015	20141	40	yes	CP
1016	20142	40	yes	CP
1017	20143	40	yes	CP
1018	20141	1 – Monolith	yes	Pollen
1019	20134	10	Yes/ Pot	CP
1020	20121	5	yes	NO
1021	20086	20	yes	HR/ IND
1022	20156	20	yes	NO
1023	20158	40	Yes/ Pot	CP
1024	20159	40	yes	CP
1025	20161	10	yes	CP
1026	20132	40	Yes/ Pot	CP
1027	20176	40	Yes/ Pot	CP
1028	20188	20	Yes/ Pot	CP
1029	20199	20	yes	CP
1030	20196	20	yes	HR/ IND
1031	20193	20	Yes/ Pot	CP
1032	20212	20	yes	HR/ IND
1033	20208	40	Yes/ Pot	CP
1034	20209	40	yes	CP



**Appendix 7 - Components of Subsamples from Westgate**

Feature Number	Sample Number	Context number	Melted spheres	Bone fgts.	Burnt bone fgts.	Ceramic Building Material (CBM) fgts.	Chaff fgts.	Chalk like fgts.	Charcoal fgts.	Fish scale	Herbaceous detritus	Insect fgts.	Leaf fgts.	Plant macros (ch.)	Plant macros (w/l)	Root / rootlet fgts.	Sand	Slag fgts	Snails	Stones	Unident. Fgts.	Wood fgts.	Further Work?
	1000	20014	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	1	N
	1001	20033	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	4	-	-	-	-	N
	1002	20034	1	-	-	-	-	1	1	-	-	-	-	-	-	-	-	4	-	-	-	-	N
	1003	20049	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-	-	-	N
	1004	20064	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	-	-	-	-	N
	1005	20066	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	2	-	-	-	-	N
	1006	20100	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	-	-	N
	1007	20104	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	4	-	-	-	-	N
	1008	20097	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	N
	1009	20093/94	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	N
	1010	20094	-	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-	-	-	-	N
	1012	20115	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	N
	1013	20092	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	N
	1014	20091	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	N
	1015	20141										*		*									Y
	1016	20142	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	-	-	-	-	N
	1017	20142										*		*									Y
	1019	20134	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	N
	1021	20086	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	N
	1022	20156	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	N

Feature Number	Sample Number	Context number	Melted spheres	Bone fgts.	Burnt bone fgts.	Ceramic Building Material (CBM) fgts.	Chaff fgts.	Chalk like fgts.	Charcoal fgts.	Fish scale	Herbaceous detritus	Insect fgts.	Leaf fgts.	Plant macros (ch.)	Plant macros (w/l)	Root / rootlet fgts.	Sand	Slag fgts	Snails	Stones	Unident. Fgts.	Wood fgts.	Further Work?
	1023	20158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	N
	1024	20159	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	N
	1025	20161	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	N
	1026	20132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	N
	1027	21076	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	N
	1028	20188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	N
	1029	20199	-	-	-	-	-	-	1	-	-	-	-	-	1	1	-	1	-	1	-	-	N
	1031	20193	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	N
	1032	20212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	N
	1033	20208	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	N
	1034	20209	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	N
	1070	20196	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	4	-	-	-	-	N

*Semi quantitative score of the components of the samples is based on a four point scale, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many per kg or a major component of the matrix). \* present but not quantifiable.*

## Appendix 8 - List of Samples Evaluated for Waterlogged Plant Remains

<b><i>Sample Number</i></b>	<b><i>Context Number</i></b>	<b><i>Feature Number</i></b>	<b><i>Feature details</i></b>
1015	20141		Fill of stone dome
1017	20143		Fill of stone dome

## Appendix 9 - Complete List of Plant Taxa Recorded from Waterlogged Deposits

Taxon	Common Name	Sample No.
<i>Chenopodium album</i> L.	fat hen	1017
<i>Polygonum aviculare</i> L.	Knot grass	1017
<i>Brassica rapa</i> Ssp. <i>Campestris</i> (L)	Wild turnip	1017
<i>Rubus fruticosus</i> L. agg.	bramble	1015
<i>Potentilla anserina</i> L.	silverweed	1015 & 1017
<i>Prunus spinosa</i> L	blackthorn	1015
<i>Malus silvestris</i> (L.) Mill	Crab apple	1017
<i>Valerianella dentata</i> (L) Pollich.	Narrow fruited cornsalad	1017
<i>Centaurea cyanus</i> L.	Cornflower	1017
<i>Anthemis cotula</i> L.	stinking camomile	1017

*Taxonomy and nomenclature follow Stace.*

## Appendix 10 - Assessment Results for the Insect Remains

<b>Context number</b>	20141	20103
<b>Sample weight kg.</b>	9	9
<b>Sample volume L.</b>	9	9
<b>COLEOPTERA</b>		
<b>Carabidae</b>		
<i>Carabus spp.</i>	+	-
<i>Trechoblemus micros</i> (Hbst.)	-	+
<i>P. melanarius</i> (Ill.)	-	+
<i>P. madidus</i> (F.)	++	++
<i>Pristonychus terricola</i> (Hbst.)	++	++
<i>Agonum sp.</i>	+	-
<b>Hydrophilidae</b>		
<i>C. spp.</i>	++	+
<b>Catopidae</b>		
<i>Catops spp.</i>	++	++
<b>Staphylinidae</b>		
<i>Omalium spp.</i>	++	-
<i>Oxytelus spp.</i>	++	-
<i>Quedius spp.</i>	-	++
<i>Staphylinus sp</i>	-	+
<i>Tachinus spp.</i>	++	++
<b>Cucujidae</b>		
<i>Monotoma spp.</i>	-	+
<b>Cryptophagidae</b>		
<i>Cryptophagus spp.</i>	++	++
<b>Endomychidae</b>		
<i>Mycetaea hirta</i> (Marsh.)	++	+
<b>Anobiidae</b>		
<i>Anobium punctatum</i> (Geer)	-	+
<b>Ptinidae</b>		
<i>Tipnus unicolor</i> (Pill. Mitt.)	+++++	+++++
<i>Ptinus fur</i> (L.)	++	+++
<b>Tenebionidae</b>		
<i>Tenebrio molitor</i> (L.)	-	+++
<b>Scarabaeidae</b>		
<i>Geotrupes spp.</i>	+	-
<i>Aphodius spp.</i>	++	-
<b>DIPTERA</b>		
<b>Scatopsinae</b>		
<i>Scatopse notata</i> (L.)	++++++	-
<b>Sepsidae</b>		
<i>Sepsis spp.</i>	+	-
<b>Sphaeroceridae</b>		
Copromyzinae Genus and spp. indet.	+	-
Limosininae Gen. & spp. Indet.	++	+++
<b>Drosophilidae</b>		
<i>Drosophila sp.</i>	+	-
<b>Muscinae</b>		
<i>Muscina stabulans</i> (Fall.)	++	+

---

*+ = 1-2 individuals ++ = 2-5 individuals +++ = 5-10 individuals ++++ = 10+ individuals +++++ = 20+ individuals.*

## Appendix 11 – Industrial Residue Quantification

Context No.	Phase	Number of pieces.	Description	Weight
20100 <1006>	5	Circa 100	Fragments of coal derived fuel ash slag	1040g
20014	4	1	Conglomerate of fuel ash slag and coal	1110g
20014	4	1	Lump of stone/firebrick with fuel ash slagged surface	1530g
20033	3B	1	Possible vitrified/burnt clay	65g
20033 <1001>	3B	2	Undiagnostic slag/possible fuel ash slag	9g
20033	3B	3	Fuel ash slag	95g
20033 <1001>	3B	3	Fragments of burnt brick, possibly refractory brick (firebrick)	60g
20034	3B	3	Small fragments of burnt coal	5g
20049 <1003>	1	13	Fragments of burnt coal and fuel ash slag	22g
20049 <1003>	1	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20054	3B	1	Flake of ferrous metal with green surface finish on one side	<2g
20054	3B	2	Fragments of possible metalliferous slag	50g
20064 <1004>	3A	1	Fragment of burnt stone	7g
20064 <1004>	3A	28	Fragments of burnt coal and fuel ash slag	32g
20064 <1004>	3A	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20066 <1005>	3A	11	Fragments of burnt coal	21g
20086 <1031>	3	1	Fragment of heavily weathered mortar/plaster	100g
20086 <1031>	3	1	Compacted conglomerate with small piece of iron tube embedded within it. Tube measures approx. 25mm x 30mm diameter <i>X-ray recommended</i>	7g
20086 <1031>	3	1	Compacted conglomerate with small piece of iron strip embedded within it. Strip measures approx 80mm x 30mm x 5mm <i>X-ray recommended</i>	68g
20086 <1031>	3	2	Undiagnostic iron rich conglomerate	8g
20086 <1031>	3	2	Compacted iron oxide rich conglomerate, originally one piece <i>Possibly very heavily corroded metal object - X-ray recommended</i>	210g
20086 <1021>	3	5	Fragments of compacted undiagnostic conglomerate	31g
20086 <1021>	3	circa 50	Small fragments of compacted conglomerate with inclusions of coal, small natural stones and earth, small fragment of glass, three small fragments of fuel ash slag	625g
20086 <1021>	3	Magnetic residues	Flakes of iron oxide	12g
20087	3	4	Compacted conglomerate with inclusions of coal, coke/burnt coal and possibly corroded fragments of ferrous and non-ferrous metal. <i>Note: possible compacted workshop floor material – Xray recommended</i>	1450g
20090 <1013>	1	1	Fragment of fuel ash slag	<2g
20090 <1013>	1	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20091 <1014>	1	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20093 <1009>	2	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20094 <1010>	2	4	Fragments of undiagnostic slag	48g
20097	1	16	Fragments of undiagnostic slag	22g



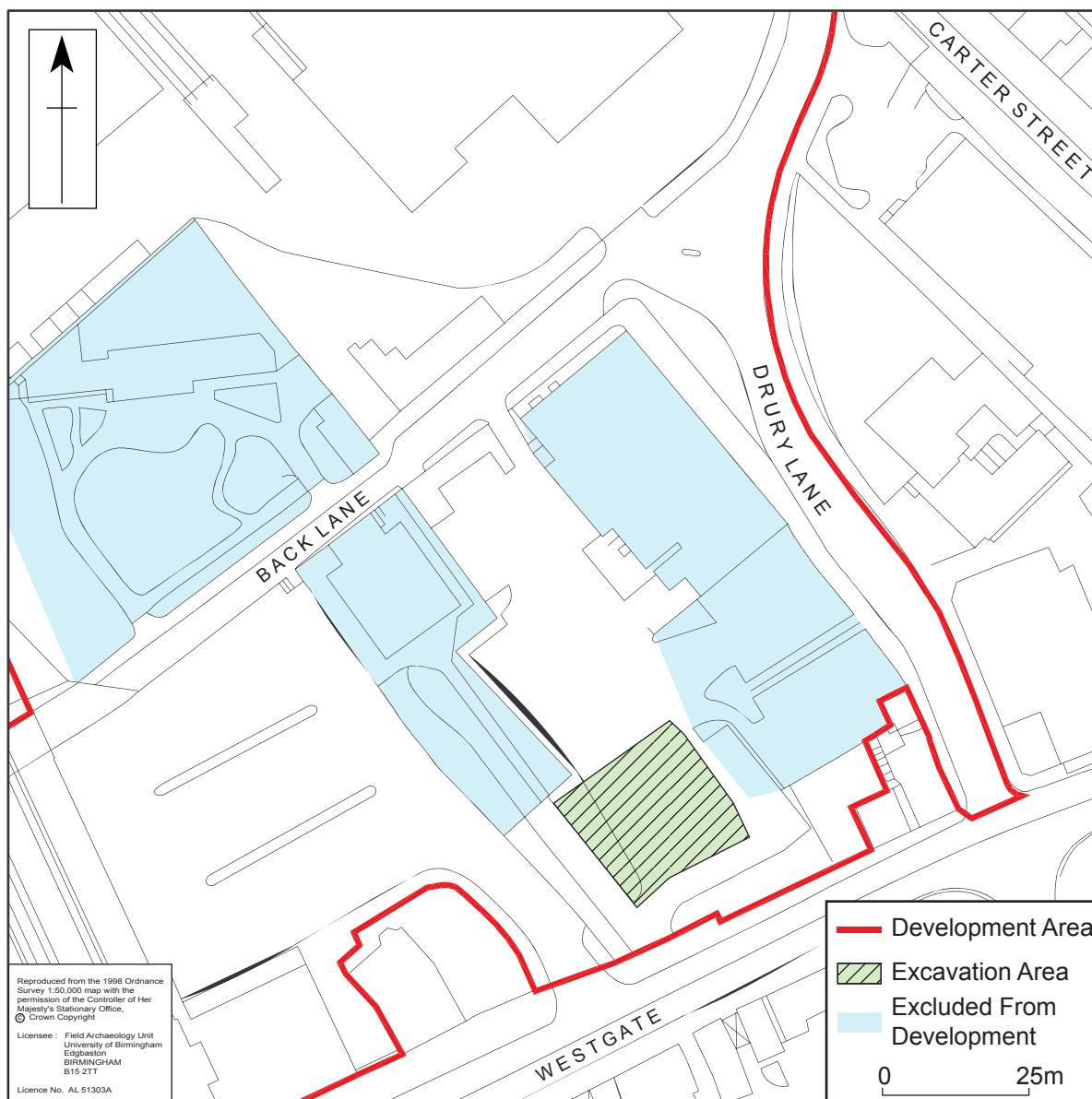
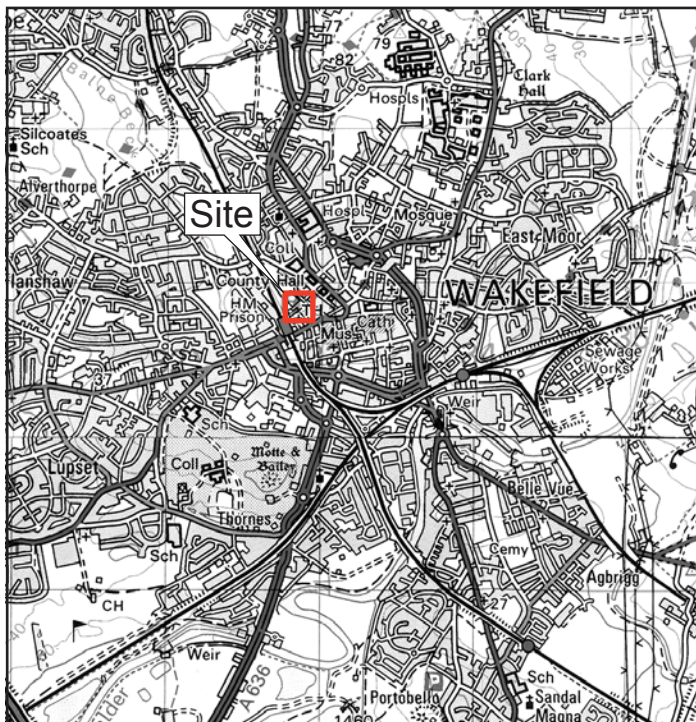
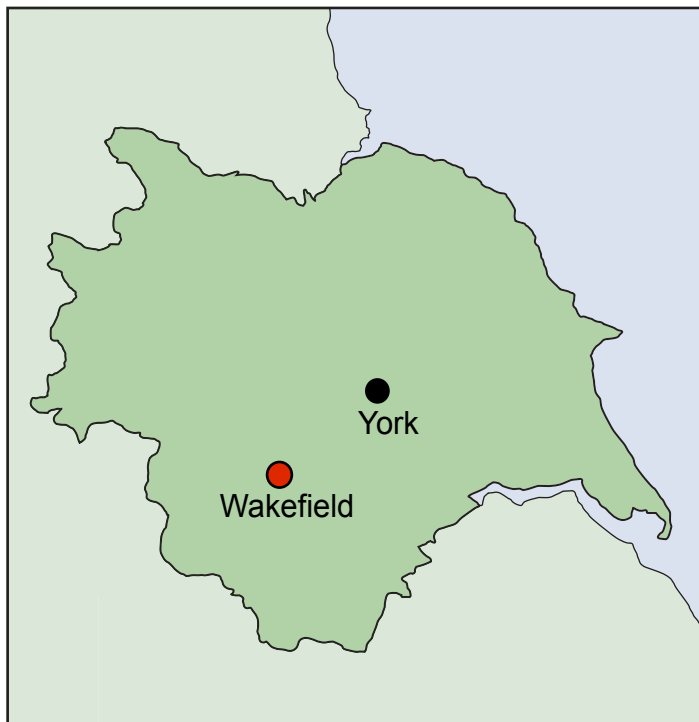
Context No.	Phase	Number of pieces.	Description	Weight
<1008>				
20097 <1008>	1	4	Fragments of possible metalliferous slag, undiagnostic in nature	60g
20104 <1007>	2	1	Fragment of possible metalliferous slag, undiagnostic in nature	20g
20104 <1007>	2	8	Fragments of burnt coal	18g
20115 <1012>	4	15	Coal derived fuel ash slag	115g
20122 <1011>	3		Predominantly flakes of iron oxide with very low abundance of spheroidal hammerslag	7g
20122 <1011>	3	30	Small fragments of burnt coal	25g
20132 <1026>	3B	9	Small fragments of possible fuel ash slag	3g
20132 <1026>	3B	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20134 <1019>	2	2	Small fragments of undiagnostic slag	<2g
20141	3	1	Undiagnostic conglomerate	72g
20142 <1016>	1	3	Small fragments of possible fuel ash slag	3g
20142 <1016>	1	4	Small fragments of iron rich stone (natural)	9g
20142 <1016>	1	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20147	3	Circa 40	Coal derived fuel ash slag	1430g
20156 <1022>	5	16	Small fragments of possible fuel ash slag	45g
20158 <1023>	2	1	Small fragment of undiagnostic slag	<2g
20159 <1024>	2	1	Fragment of burnt brick	16g
20159 <1024>	2	1	Small fragment of burnt coal	<2g
20159 <1024>	2	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20163	2	1	Fragment of possible metalliferous slag, undiagnostic of process	6g
20176 <1027>	2	2	Small fragments of undiagnostic slag	<2g
20188	1	1	Small lump of coal	32g
20188 <1028>	1	2	Small fragments of burnt coal	<2g
20188 <1028>	1	Magnetic residues	Flakes of iron oxide and occasional small pieces of iron rich natural grit	<5g
20193 <1031>	2	1	Small fragment of undiagnostic slag	5g
20193 <1031>	2	4	Fragments of undiagnostic slag	11g
20193 <1031>	2	7	Fragments of possible metalliferous slag, undiagnostic in nature	35g
20196 <1030>	2	Magnetic residues	Small lumps and flakes of iron oxide	3g
20208 <1033>	2	1	Small fragment of possible fuel ash slag	1g
20209 <1034>	2	5	Small fragments of undiagnostic slag	3g
20211 <1032>	1	1	Fragment of possible metalliferous slag	50g
20211 <1032>	1	9	Possible fuel ash slag	97g
20211 <1032>	1	Magnetic residues	Predominantly flakes of iron oxide with small amount of spheroidal hammerslag	<2g

## Appendix 12 – Quantification of Finds

Context	Tile: ceramic	Weight of slag (g)	Brick: ceramic	Building stone	Mortar	Medieval pot	Post-med pot	Undated pot	Clay pipe	Crucible/mould	Other ceramic	Coins	Iron nails	Other iron	Copper/alloy	Lead	Other metal	Slag	Bottle glass	Vessel glass	Window glass	Other glass	Animal Bone (g)	Shell	Leather	Wood	Charcoal/Coal	Miscellaneous	Comment
20002					1	1	53		2	1									5										
20003																			1	1									
20005						3																							
20009												1																	SF 1000
20014							11		6	1								6					12	3			2		
20021												1																	SF 1001
20028	3						1							1	2		1		1		2								
20031							4												2			1							
20033		163					6		3									4	2				1				1		
20034		4	19	1									1					3					5						
20041			1																										
20044							1					1																	
20048			1																										
20049						2							1																
20051						9																							
20052						3																							
20054		52	1	1		12	19											3			1								
20055						1																							
20063			1										1																
20064							3																						
20066						1																							
20068						3																							
20069																			1										

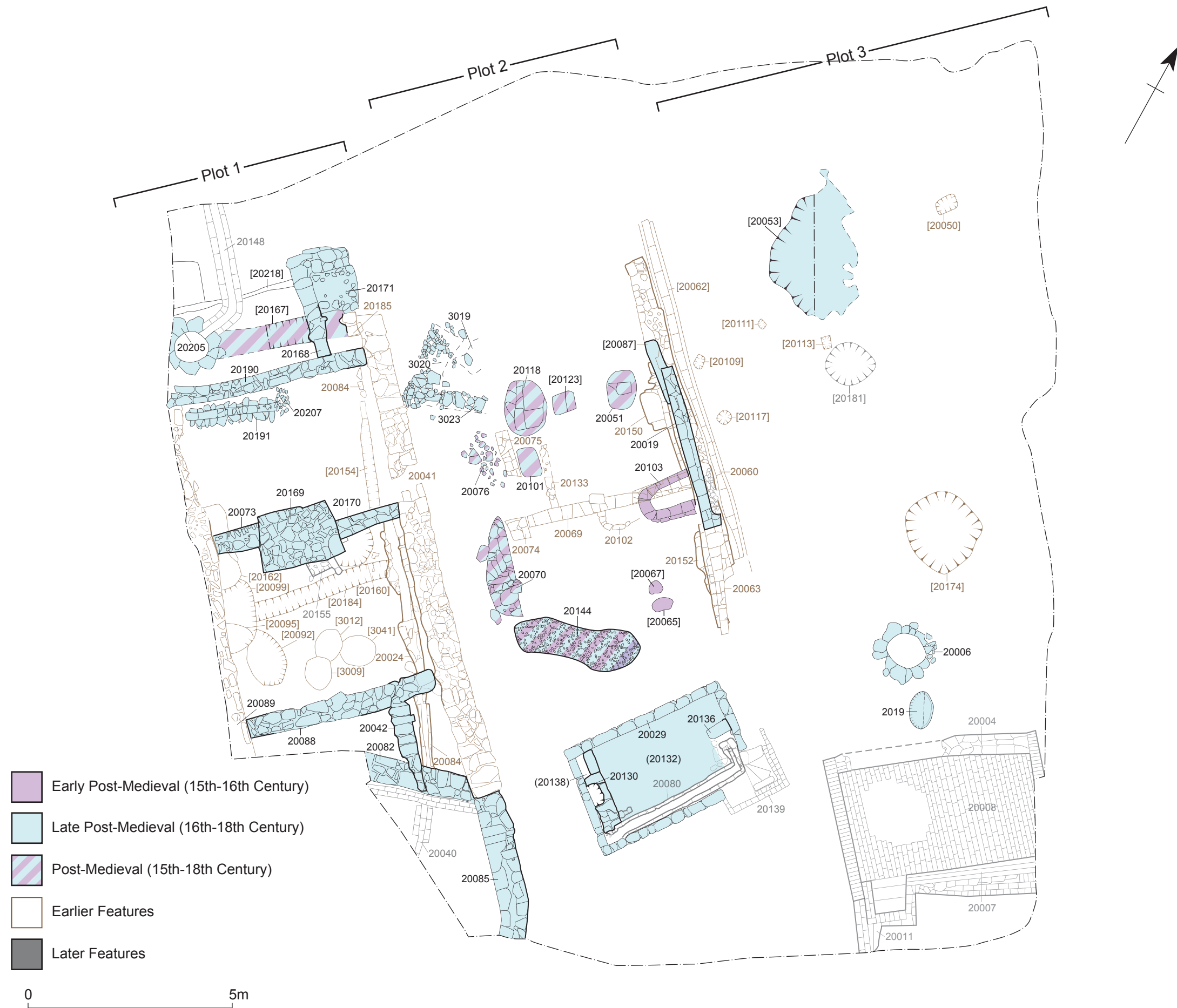
Context	Tile: ceramic	Weight of slag (g)	Brick: ceramic	Building stone	Mortar	Medieval pot	Post-med pot	Undated pot	Clay pipe	Crucible/mould	Other ceramic	Coins	Iron nails	Other iron	Copper/alloy	Lead	Other metal	Slag	Bottle glass	Vessel glass	Window glass	Other glass	Animal Bone (g)	Shell	Leather	Wood	Charcoal /Coal	Miscellaneous	Comment
20070						4																							
20077														4					9										
20078			1																										
20079							42												68										
20081							43					1							136										
20086																	1	2			1					4			SF's 1006, 1007
20091							1																						
20094													1																
20096						1																							
20097						2																							
20099						20																							
20108						1																							
20110						1																							
20114						2																							
20124												1																	SF 1002
20125			3		4		2														1		22			2			Misc = electrical wire
20126							1												1									7	
20131							1																						
20132			1				35		22										1				365		3				
20134						1																							
20141		73																1					2975		2	2			SF's 1003, 1004
20142						7																	1						

Context	Tile: ceramic	Weight of slag (g)	Brick: ceramic	Building stone	Mortar	Medieval pot	Post-med pot	Undated pot	Clay pipe	Crucible/mould	Other ceramic	Coins	Iron nails	Other iron	Copper/alloy	Lead	Other metal	Slag	Bottle glass	Vessel glass	Window glass	Other glass	Animal Bone (g)	Shell	Leather	Wood	Charcoal /Coal	Miscellaneous	Comment
20143																										3			SF 1005
20145																							14						
20147			1				36												2		1		4	19					
20158						5																							
20163						6								6				1					2						
20166			1			5	3																						
20175						6																							
20176						13																							
20188						6																					1		
20193						1	4																						
20197							6																						
20204						1																							
20208						5																							
20209																										3			



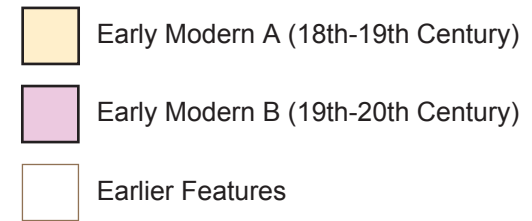




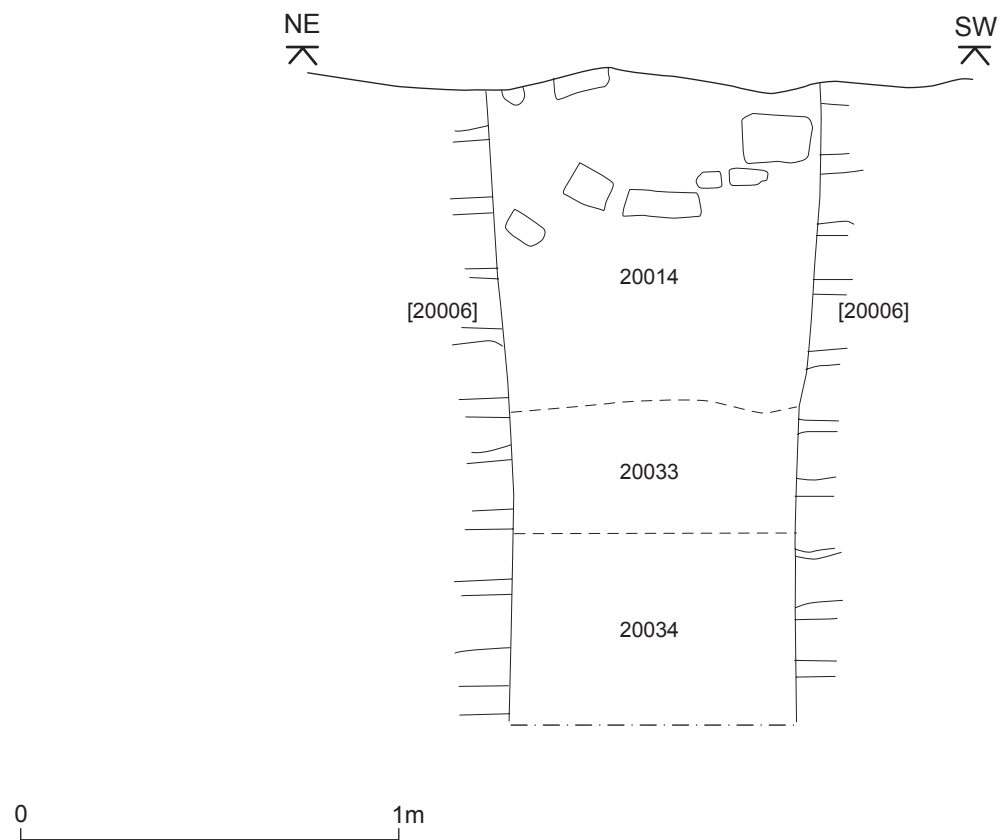


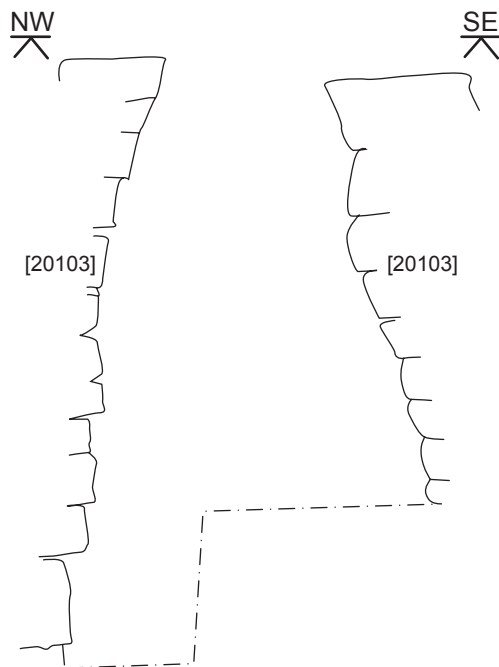






0 2m





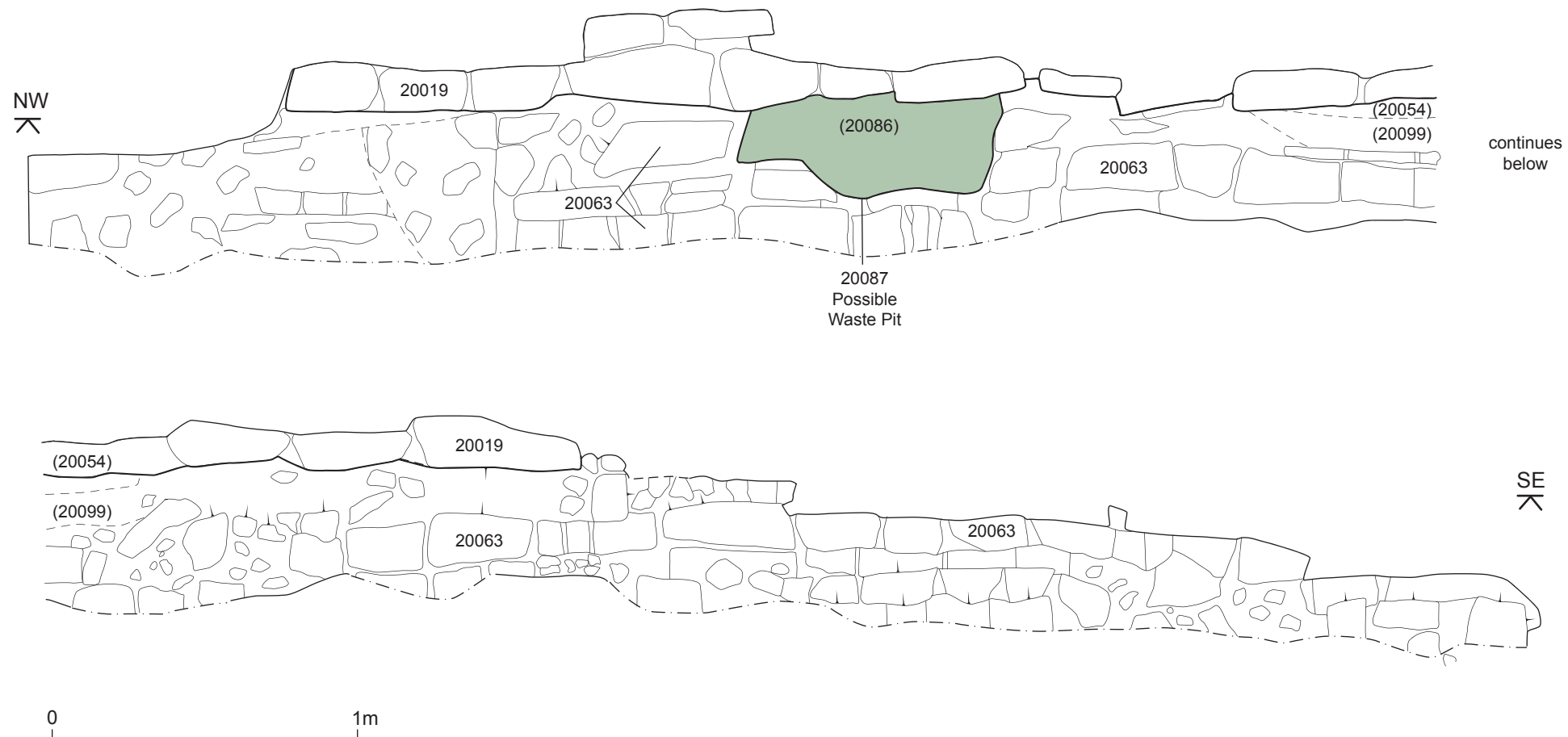




Plate 1



Plate 2





Plate 3



Plate 4



Plate 5



Plate 6





Plate 7