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**FORMER D.C. COOK SITE,  
LAWRENCE STREET,**

**YORK**



**By D.T.Evans**



**REPORT NUMBER: 2003/4  
ARCHAEOLOGICAL EXCAVATION**

**FORMER D.C. COOK SITE,  
LAWRENCE STREET,  
YORK**

**ARCHAEOLOGICAL EXCAVATION ASSESSMENT REPORT**

**BY D.T.EVANS**

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### Abbreviations

NGR	National Grid reference
AOD	Above Ordnance Datum
YAT	York Archaeological Trust
RCHM	Royal Commission On Historical Monuments
YORYM	York Archaeological Trust and Yorkshire Museum



0 50 metres

KEY:  
■ Current excavations  
■ 2001 excavations

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Figure 1 Site and trench location



## **ABSTRACT**

*Between January 13<sup>th</sup> and February 14<sup>th</sup> 2003 York Archaeological Trust undertook a programme of archaeological investigation at the former D.C.Cook site in Lawrence Street, York. This followed an evaluation excavation in 2001 which indicated areas containing archaeology of some significance. One large open area, Trench 11, was opened up to further investigate one of the significant areas and another, but smaller area, Trench 10 was sited so as to determine the level of survival of archaeological remains below one of the now demolished buildings still standing at the time of the evaluation.*

*Much of any archaeology within Trench 10 had been damaged or destroyed by modern foundations and drains although there were hints of post-medieval activity. Only further work can establish whether this is typical of the areas below the recently demolished buildings on the site.*

*Trench 11 produced more than expected with substantial and potentially important remains of the Roman and medieval periods being excavated. These included Roman ditches, medieval ditches, an oven, and a well-preserved, waterlogged 14<sup>th</sup> century barrel well. There was also evidence for waterlogged organic deposits of the medieval period. These discoveries are certainly of local importance and may have regional, or even national, significance, especially taken in conjunction with other recent work in the area and warrant further post-excavation research and publication on a greater scale than this assessment report.*

## **1. INTRODUCTION**

Between January 13<sup>th</sup> and February 14<sup>th</sup>, 2003 York Archaeological Trust carried out an archaeological excavation on land at the former D.C.Cook site, Lawrence Street, York (NGR SE 6157 / 5126, Figure 1).

The aim of the excavation was to excavate and record any archaeological deposits, structures, or features which would be vulnerable to disturbance or destruction should the proposed development proceed. A previous evaluation of the site in 2001 (YAT 2001) had identified a number of areas of archaeological significance, two of which were to be further investigated during the current work. The work was carried out in accordance with a specification prepared by York Archaeological Trust and approved by John Oxley, Archaeologist for the City of York Council.

The work was undertaken on behalf of Bellway Homes Ltd and Legal & General Investment Management Limited as Trustee of the Legal & General Property Fund.

All records of the excavation are currently stored with the York Archaeological Trust under the Yorkshire Museum accession code YORYM: 2001.9444

## **2. METHODOLOGY**

The field work involved the excavation of two open areas, one each side of Nicholas Gardens at, or close to, the point at which the road turns a right angle to run approximately parallel to

Lawrence Street. To the west of Nicholas Gardens an area 10m x 10m, Trench 10, was marked out, the south-east corner of which slightly overlapped part of Trench 7 of the evaluation excavation. On the east side of Nicholas Gardens a roughly L-shaped area, Trench 11, corresponding to the footprint of the southern end of the proposed development in this area, was laid out. This area was c.23m east-west and c.26.5m north-south and covered an area of c.420 sqm. This area, as laid out, took in all of Evaluation Trench 8 and ran c.1m north of the northern limit of evaluation Trench 9. Although no live services were known to lie within the areas of excavation, after the initial machining-out of concrete and tarmac the area of each trench was examined thoroughly with a cable detector, and service plans for gas, water, electricity and telephone cables were checked for any underground services. After this, obviously modern deposits were removed by machine and then each trench was cleaned and examined for any features. From this point all excavation was by hand

Recording followed the procedures laid down in the York Archaeological Trust *Context Recording Manual* (1996). At least one standing section of each trench was drawn at a scale of 1:10 or 1:20, and deposits and features within the trenches were normally recorded as single context plans at a scale of 1:20. Colour photographs were taken of any significant features and of standing trench sections. A number of general record photographs of the site were also taken.

A programme of environmental sampling was agreed with the Environmental Archaeology Unit, University of York, and English Heritage prior to commencement of the archaeological evaluation, although this was to be subject to modification dependent on the nature of the deposits encountered.

### 3. GEOLOGY AND TOPOGRAPHY

The underlying drift geology of the site is Boulder clay over lacustrine clays with deposits of sand, known to be locally waterlogged, lying within and over the clay in some areas. Beneath this the solid geology is of Bunter and Keuper sandstones laid down in the Triassic period some 225 million years ago (Geological Survey 1967). The trenches were situated at the base of the northern flank of the glacial moraine crossing the Vale of York from east to west (RCHMY3, xxxviii).

The site lies c.450m east of Walmgate Bar outside the walled medieval city north-east of the Rivers Foss and Ouse and partly abuts the A1079 Hull Road known here as Lawrence Street. To the east the site is bounded by a mixture of structures of various dates, principally domestic dwellings. South of the site is the playing field for St Lawrence's Primary School and to the west lies the Convent of the Poor Clares. At the time of the evaluation roughly half the area of proposed development was occupied by two large car showrooms and the other half was open ground surfaced with tarmac for the parking and storage of motor vehicles, although at the time of the evaluation the function had almost entirely ceased. The ground surface at the time of the works sloped fairly evenly upwards from Lawrence Street, although it was apparent that part of the car parking area to the south-west had been terraced into the slope. The north end of the site lay at c.13.4m AOD and the southern at c.17.7m AOD



## **4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

### **4.1 Introduction**

The site lies approximately 0.5km outside the eastern defences of the medieval walled city north-east of the River Ouse adjacent to the main Roman and medieval route to Beverley, Hull, Brough and the River Humber. There have been quite a number of archaeological investigations in the general area of the site including watching briefs with the YAT and Yorkshire Museum accession numbers: 1973.16, 1977.1009, 1979.1021, 1985.1015, 1985.1031, 1985.1047, 1989.1006, 1989.1027, 1991.1007, 1991.1018, 1993.3, 1994.152, 1995.0285, 1995.0361, 1996.171 (YAT 1997). A number of more formal archaeological investigations by YAT have taken place in the vicinity including (accession numbers in brackets): Belle Vue House 99A, Heslington Road (1983.31), 17 – 23 Lawrence Street (1989.8), Eclipse Copperworks, James Street; (1989.13), 130 – 148 Lawrence Street (1992.13), the Frontage of 148 Lawrence Street; (1993.9), 148 Lawrence Street (1993.11) and 127 Lawrence Street (YORYM: 2002.449). The present site was the subject of an evaluation excavation in 2001, YORYM: 2001.9444. Evidence from these investigations and an examination of the documentary and cartographic evidence for the site is discussed below period by period.

### **4.2 Prehistoric and Roman period (pre 1<sup>st</sup> to 5<sup>th</sup> centuries AD)**

No finds or activity dating to the prehistoric period have been discovered in the immediate vicinity of the development site. The site lies adjacent to the main Roman road (RCHMY1, 1; Road 2) to the east. This road has been seen as a soil mark south of the Hull Road, west of Gallows Hole, at NGR SE 6310 / 5130, and in the vicinity of the site it is believed to run under the northern side of Lawrence Street. In 1954 (RCHMY1, 1) it was seen c.1.8m below the modern road some 90m east of Walmgate Bar where it was of cobbles set in clay. A Roman carved tombstone drawn by Francis Drake was known to be built into the wall of St Lawrence's churchyard in the 18<sup>th</sup> century and probably came from a nearby burial. In 1906 a tile tomb covering a skeleton and accompanied by a vessel described as samian was discovered on premises belonging to Shafto's Brickworks in James Street (RCHMY1, 70b). More recent discoveries include a Roman pit, ditch, and dump deposit at 17 – 23 Lawrence Street (YAT 1989.8) and a possible Roman drain at 148 Lawrence Street (YAT 1993.9). Excavations at Belle Vue House, 99A Heslington Road (YAT 1983.31), some 250m south of the present site, produced a Roman gritstone coffin lid. The evaluation excavations on the current site (YORYM: 2001.9444) encountered a Roman ditch and a number of other features, which although they could not be directly dated, which appeared to belong to this period.

### **4.3 Anglo-Saxon and Anglo-Scandinavian periods (5<sup>th</sup>-11<sup>th</sup> centuries)**

To date there is some evidence from excavations or chance discoveries to indicate activity dating to both periods in the immediate area. The excavations at 17 – 23 Lawrence Street (YAT 1989.8) uncovered what is believed to be a palisade of Anglo-Scandinavian date. In 1847 investigations by John Thurnam at Lamel Hill (Thurnam, 1849) yielded 20 to 30 skeletons and a number of metal finds considered to be coffin fittings. He decided eventually that he had found a cemetery of the 7<sup>th</sup> or 8<sup>th</sup> century. More recently, in 1983, an excavation (YAT 1983.31) at Belle Vue House, in advance of a proposed development produced at least 38 more inhumation burials. A distinctive type of knife found with one of the burials and the recovery of a single sherd of

Anglian pottery suggested that Thurnam's dating was probably correct and that an extensive Anglian cemetery was present here.

The evaluation excavations undertaken on this site, which are the subject of this report, in 2001 produced a small, but potentially significant, amount of Ipswich-type ware belonging to the 8<sup>th</sup> century but it was found as residual material in a later, medieval, pit. A few pieces of Anglo-Scandinavian pottery of the 9<sup>th</sup> – 11<sup>th</sup> centuries were also recovered from the evaluation and in two instances the pottery came the backfill of features of uncertain function.

#### **4.4 Medieval period (11<sup>th</sup>-16<sup>th</sup> centuries)**

Material of this period has been found in quite large quantities in a number of investigations over the last 30 years. Medieval pottery was recovered from a site at the junction of James Street and Lawrence Street (YAT 1979.1021) and a medieval building, pit and hearth were investigated at 17 - 23 Lawrence Street (YAT 1989.8). An evaluation at 130-148 Lawrence Street recovered part of a medieval building with occupation deposits (YAT 1992.13) believed to be associated with St Nicholas Hospital and a watching brief at Nicholas Gardens (YAT 1993.3) recorded medieval deposits. Architectural fragments from a garden at 136 Lawrence Street (YAT 1994.152) may have come from the hospital of St Nicholas. An investigation at the Rose and Crown pub (YAT 1995. 0361) discovered two inhumations possibly of this period and believed to be associated with the lost church of St Edward. Work at 32 Lansdowne Terrace (YAT 1996.171) revealed four burials which may have belonged to this period and medieval plough soils were noted at a site off James Street (YAT 1995.0285). A major excavation to the rear of 148 Lawrence Street (YAT 1993.11) recorded buildings, occupation deposits, a yard, and a ditch belonging to the 11<sup>th</sup> - 16<sup>th</sup> centuries, which were part of the hospital of St Nicholas. A recent programme of work at 127 Lawrence Street (YORYM: 2002.449, YAT 2002), almost opposite the present site, revealed ditches, gullies, pits, post-holes, deposits, and a single human burial all belonging to this period. An archaeological investigation of the former Bootham Engineering Works nearby, located much material including pits, post-holes, cobbled surfaces, and a large ditch possibly of medieval date. The evaluation of the present site yielded deposits, post-holes, and pit, mainly, apparently, of the 11<sup>th</sup> / 12<sup>th</sup> century.

#### **4.5 Post-medieval period (16<sup>th</sup>-19<sup>th</sup> centuries)**

Evidence for this period from excavations is quite abundant in the area and includes a burial from the Rose and Crown pub, 13 Lawrence Street (YAT 1977.1009), deposits from 132 Lawrence Street (YAT 1989.1006) and 130-148 Lawrence Street (YAT 1992.13), a cobble surface, pit and demolition deposits from the frontage of 148 Lawrence Street (YAT 1993.9), and a pit and demolition, dump, and garden deposits also from 148 Lawrence Street (YAT 1993.11). A small quantity of 18<sup>th</sup> century pottery was recovered from the present site during the evaluation in 2001.

#### **4.6 Modern (19<sup>th</sup>-21<sup>st</sup> centuries)**

The whole of the area of proposed development is probably a creation of the 20<sup>th</sup> century and buried remains of this period have been found on a number of sites in the vicinity. Modern build-ups were found at 68 Lawrence Street (YAT 1985.1015) and Victorian construction deposits at 115 Lawrence Street (YAT 1985.1031). A modern wall and drain were recorded at St



Lawrence's Church Hall (YAT 1989.1027) and modern deposits at 130 Lawrence Street (YAT 1991.1007) and at the junction of Lawrence Street and Barbican Road (YAT 1991.1018). To the north of Lawrence Street an investigation at 42 Milton Street (YAT 1985.1047) produced Victorian build-up deposits as did work at 32 Lansdowne Terrace (YAT 1996.171). A site at the Eclipse Copper Works in James Street (YAT 1989.13) produced evidence of Victorian housing and at 148 Lawrence Street an excavation found evidence for modern dumps, demolition deposits, garden soils, and a yard. Buried modern deposits and features were encountered at 127 Lawrence Street and modern surfaces, leveling deposits, and demolition deposits were recorded during the evaluation of the present site.

#### **4.7 Cartographic and Historical Evidence.**

The earliest map of the area is one drawn by John Speed and published in 1610. This shows that the area was mainly open ground or fields but a house at the street front may be within the bounds of the present site. Adjacent and to the east, the church of St Nicholas is shown. Horsley's map of 1694 is very similar but the house on the street front seems to have gone, quite possibly as a result of Civil War activity in the area. By 1736, when Drake published his map of York, the area seems to still be open ground but there is some evidence to suggest that at least part of the church of St Nicholas had been demolished, possibly just leaving the tower. Lund's drawing of 1772 is not very detailed and the area is depicted as open with the caption 'Grounds Not Common'. The Ordnance Survey (OS) first edition map of 1853 shows a few buildings in the general area but where previous maps had shown the church of St Nicholas, it indicates the site of the church. The OS map of 1909 shows the site as small enclosed fields with apparently no buildings on the street front. Later maps of the 20<sup>th</sup> century show various buildings on the street front and a garage set back from the front in the eastern part of the site. It would appear from these maps that some of the western part of the site was an orchard within the Convent of the Poor Clares up to at least 1970. Since then the garage in the eastern part of the site has been demolished and a new garage built on the street front with car showrooms across much of the central part of the site.

It appears that Lawrence Street, named after the church of St Lawrence c.350m to the west of the present site, was in the medieval period normally referred to as Walmgate or 'Walmgate without the bar' (Wilson and Mee, 1998, 93, 139). The area was the location of four churches, those of St Lawrence, St Michael, St Edward, and St Nicholas. The church of St Edward was first mentioned in the 13<sup>th</sup> century but had become redundant and was demolished in the reign of Edward VI, possibly by 1586 when it was united with St Nicholas. It is thought that the site of this church lies close to the junction of Lawrence Street and Lansdowne Terrace.

The church of St Michael is reputed to have stood close to Walmgate Bar on the south side of Lawrence Street as depicted on Skaife's map of 1864. Little is known of its history but there is documentary evidence that it was in existence by 1277 and that it was united with St Lawrence in 1365.

The earliest documentary evidence for St Lawrence is dated c.1194, a date supported by architectural evidence. It underwent repairs and rebuilding in the 13<sup>th</sup>, 14<sup>th</sup>, and 15<sup>th</sup> centuries but was subsequently badly damaged, as was much of the surrounding area, during the siege of York in 1644. It was repaired in 1669 but dismantled, except for the tower, when it was replaced by

the present church in 1881-3. A view of the church before demolition exists (Wilson and Mee 1998, 139).

The church of the hospital of St Nicholas may have been founded c.1142 and by 1280 served as a parish church with the choir being used as the chapel for the hospital. The hospital was the largest and richest of York's four medieval leper hospitals but did not survive the Reformation although the church apparently continued in use. Masonry from the site is said to have been used to repair Walmgate Bar in 1648 and in 1717 more stone was used to repair the church at Dunnington. The church ruins were used as cover for sniping during the Civil War and as a result appear to have attracted return fire which caused large scale destruction. (VCHY 1961). Remains of the church were still standing in 1730 but it appears that by 1736 any surviving parts had been removed probably in 1730 when it is recorded that stone from the site was used to make a pavement along Lawrence Street. Some architectural details, however, are available from Speeds map of 1610 and a watercolour of 1718 attributed to Francis Place. The parish retained its identity for secular purposes until 1900.

Development of the eastern part of Lawrence Street did not begin in earnest until the middle of the 19<sup>th</sup> century (Pevsner and Neave 1995) when terraced housing began to occupy much of the area to the north of the site and Lawrence Street. Some terraced housing was constructed to the west of the site but most of this area became St Joseph's Convent of Poor Clares Colettines often known simply as the Poor Clares. The principal buildings of the convent were erected in 1872-5 but some of the street front properties now used were built earlier in the 19<sup>th</sup> century. Part of the site was apparently at one time occupied by a confectionery firm (pers. comm.). A review of York Trade Directories indicated that Lazenby and Son, Chocolate Manufacturers, had been based in Lawrence Street from the 1930's until at least 1959 but the exact location of the works and the subsequent history of the firm remains unclear. Russell's Garage, which was situated in the eastern part of the site of the excavation was in existence by 1931 and was still there in 1953 but by 1959 had apparently moved to the Stonebow. The garage business was continued as Parishes Garage throughout the 1960s and 70s until the site was taken over by DC Cook. The land to the south, currently a school playing field seems to have always been open ground or fields. To the east of the present site was the church and hospital of St Nicholas, more recently an autowreckers yard and today occupied by 1990's housing.



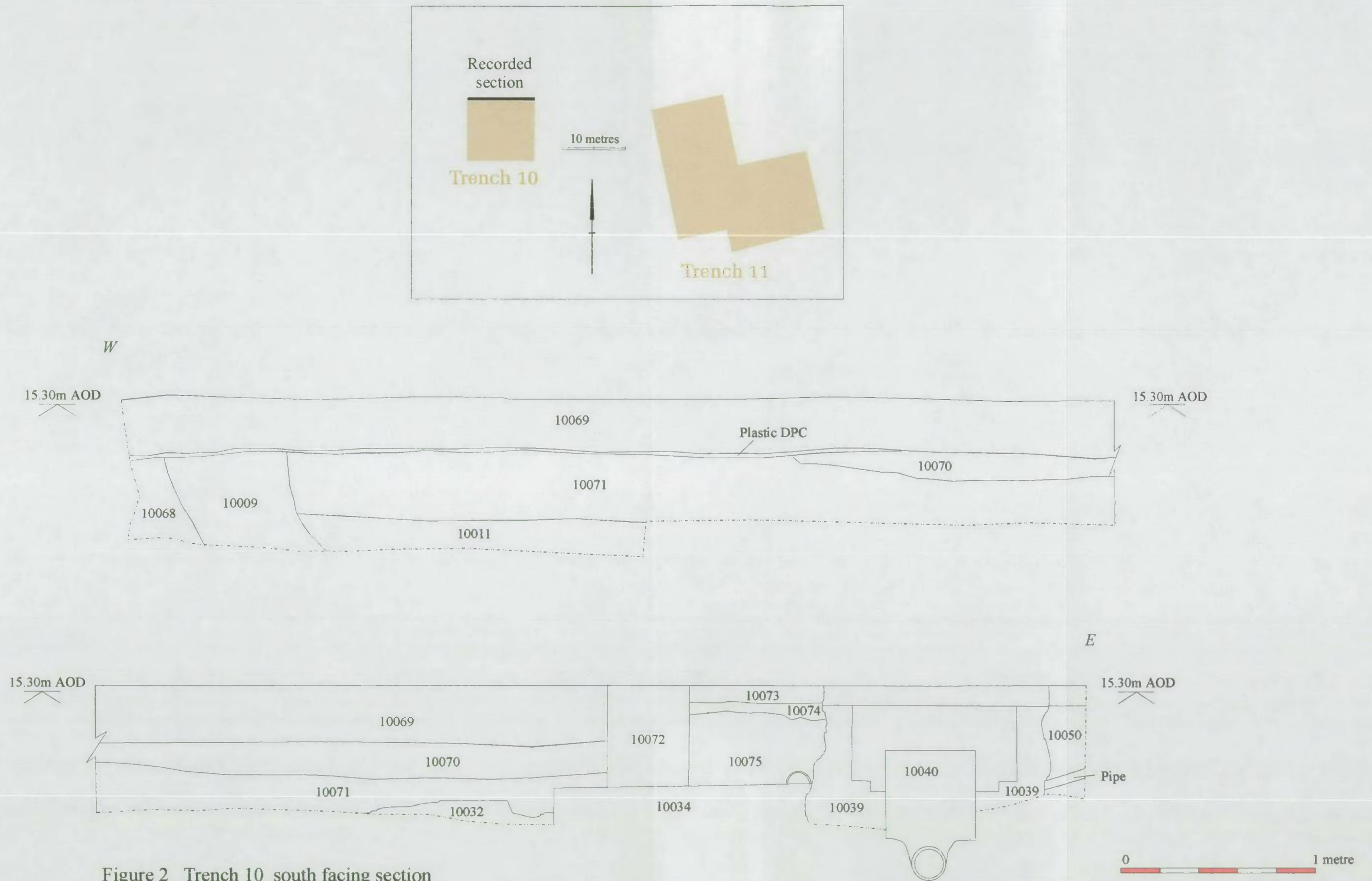


Figure 2 Trench 10 south facing section

## 5. THE EXCAVATION

### 5.1 Trench 10 (Figure 2) (Plate 2)

#### *Natural*

5.1.1. The earliest deposits (10000, 10014, 10023, 10027, 10028, 10038, 10048, and 10060) seen in this trench, at c.0.6m below the modern ground level, c.14.7 to 14.8m AOD, were all variations of natural. They were typically a mid orange-brown clay, some with occasional water smoothed cobbles.

#### *Post-Medieval*

5.1.2. A number of features and deposits possibly filling features were noted at the level of natural. Many of these were undated by finds but were probably post-medieval. The deposits were: a dark grey loamy clay (10024) and a dark grey clay loam (10002). The features were: a possible linear cut (10007) aligned east-west. It was at least 0.8m long, c.0.5m wide, and 0.26m deep with quite steeply sloping sides and an irregular base. It had been backfilled with a clean dark grey loamy clay (10006). Some 2.5m south of 10007 lay another linear cut (10065) which had been truncated by later cut 10010. Context 10065 was irregular but aligned approximately east-west and had a width varying from c.0.15m to c.0.3m. It was quite shallow, c.0.1m deep, and had moderately sloping sides and an irregular base. The only backfill was a compact dark grey silty clay (10064).

Another east-west aligned feature (10067) was seen lying c.1.5m to the south of 10065. This had also been truncated by 10010 but, unlike 10065, continued to the east of 10010. It was at least 5.3m long and of variable width but averaging 0.35m. It was only 0.1m deep with moderately sloping sides and a flat base. It had just one backfill, a compact dark grey silty clay (10066). Towards the northern end of the trench another east-west cut (10020) was investigated. It was of variable width, but typically c.0.45m, and was 0.09m deep at its eastern end and 0.28m deep to the west where it cut away by feature 10010. The sides sloped steeply and 10020 had an uneven base. It had been backfilled with a mixture of black clinker and dark grey loam (10019). Approximately 2m west of the eastern limit of excavation a linear feature (10033) aligned north-south was identified and partly excavated. Although it had been disturbed in places by later activity it appeared to be up to 0.9m wide and 0.53m deep with quite steeply sloping sides and a concave base. The backfill was a clean black clay loam (10015=10032) which contained pottery of the 18<sup>th</sup> century. The last feature (10005) identified at this horizon lay against and beyond the west edge of the trench. It may have been circular and it was 0.6m across and 0.22m deep with steeply sloping sides and an uneven concave base. The single backfill was a clean dark grey clay loam (10004). The functions of all the above features is uncertain although the linear nature of most of them may possibly hint at them being drains of some type.

#### *Modern*

5.1.3. A small group of deposits appeared to be immediately later than the contexts described in 5.1.2. They were all a mixture of black clinker and mid brown clay (10017, 10021, and 10025) and were probable all part of a once more extensive overall layer of uncertain function but



possibly a dump or leveling deposit. Possibly slightly later than these was a spread of pale yellow crushed limestone (10022) with some brown clay, an unknown deposit but possibly a dump, and a small area of black clinker (10001) which may have filled a small modern feature but was not investigated.

5.1.4 Slightly later than the contexts of 5.1.3 were a number of deposits which were generally thought to be dumps or leveling deposits. They were; a pale yellow crushed limestone (10068), three patches of black clinker (10016, 10003, and 10018), a small spread of black clinker (10013), another spread of pale yellow crushed limestone (10026), and a layer of dark grey clay loam (10049) which may have been the truncated remains of a build-up deposit.

5.1.5 Cut into 10016 was a linear feature (10010), probably a modern drain, aligned north-south. This was not investigated in detail but was c.1m wide and at least 0.15m deep with steeply sloping sides. Two backfills were recorded, the lower being a pale yellow coarse crushed limestone (10008) and the upper was a mid orange-brown clay (10009). At a similar stratigraphic level there was a linear feature (10063) aligned approximately north-west to south-east. It was not investigated in detail but was c.0.6m wide and in its base had a partly concrete-encased ceramic pipe (10062). This was overlain by a backfill of pale yellow crushed limestone (10061). The feature was clearly a modern drain.

5.1.6 Partly cut into 10009 was a linear feature (10012), a modern drain, which was aligned approximately west-north-west to east-south-east. It was c.0.8m across and 0.24m deep where excavated with steeply sloping sides and a flat base. It had been backfilled with a mid brown clay containing moderate amounts of cobbles and crushed limestone (10011). Probably contemporary with 10012, and also a drain, was a linear cut (10043) aligned north-south lying close to the east edge of the trench. It was c.1.2m wide and at least 0.32m deep with near vertical sides. In its base was a large-diameter, c.0.3m, glazed ceramic pipe (10042). The feature had been backfilled with a brown loamy clay containing much brick rubble (10041). At a similar stratigraphic level lay a linear concrete slab (10034) aligned north-south. This was a foundation slab for a brick wall. Probably contemporary with 10034, and abutting the east side of 10034, was a hollow brick built structure, a drain inspection chamber (10040), measuring c.1.1m by 0.9m externally and c.0.8m by 0.5m internally. It was encased in concrete (10039) and had been backfilled with a mixture of brick and concrete rubble (10044).

5.1.7 Possibly slightly later than the contexts in 5.1.6 were a number of features. The first was a roughly rectangular construction cut (10030) which was c.4.9m east-west and c.2.5m north-south. The cut was only partially dug out but it was observed that the sides sloped very steeply. Much of this cut was filled with a large rectangular concrete block (10031) and the space between this block and the sides of the cut had been backfilled with coarse pale yellow crushed limestone (10029). Towards the north-east corner was a short linear cut (10037) aligned north-east to south-west. It was c.0.7m wide but of uncertain depth. The sides appeared to be nearly vertical. Within this cut, a modern drain, was a ceramic pipe (10035) surrounded by loose pea gravel (10036). A stub of brick wall (10072) noted in the south-facing section may belong to this group of features although it may be associated with the features of 5.1.6. Partly within the west-facing section was another drain inspection chamber (10052) measuring at least c.1.1m by 0.8m externally. It was a minimum of c.0.7m deep and had a backfill of brick and concrete rubble (10051). This structure appeared to abut another brick-built inspection chamber (10046).

immediately to the north of 10052. This chamber measured c.1.05m by 1m externally and had been backfilled with brick and concrete rubble (10045). Close to the south-east corner of the trench was a linear feature (10059) aligned north-west to south-east. It was a modern drain and was not investigated in any detail. It contained a ceramic pipe partly encased in concrete (10058) and had then been backfilled with pale yellow crushed limestone (10057).

5.1.8 Either directly or stratigraphically above the features of 5.1.7 lay a group of deposits, all of which were thought to be dumps, or leveling deposits. They were: a mixture of pale yellow crushed limestone and mid brown clay (10071), a deposit of brown clay with some crushed limestone (10070), a compact dark brown silty clay (10075), a mixture of black clinker and crushed limestone (10050), and a mixture of crushed limestone, brown clay, and brick rubble (10047).

5.1.9 Probably cut into 10047 was a construction cut (10056) measuring c.2.5m by 1.4m and of uncertain depth. Within it was another brick-built inspection chamber (10055). The construction cut had been backfilled with coarse cream crushed limestone (10053) and the inspection chamber with brick and concrete rubble (10054).

5.1.10 The latest contexts recorded in this trench were a thin layer of concrete (10074), sealed by a layer of black tarmac (10073) which formed the modern ground surface along the eastern, and parts of the northern and southern limits of the trench. The uppermost context around the rest of the trench, forming the current ground surface, was a layer of concrete (10069).

## 5.2 Trench 11. (Figures 3 and 4) (Plates 1, 3 and 4)

### *Natural*

5.2.1 The earliest deposits encountered in this trench were variations of the natural sub-soil. Towards the south of this trench these lay as little as c.0.3m below the modern ground level at a height of c.14.9m AOD. At the northern end of the trench natural deposits were located c.1m below the modern ground level at c.14.4m AOD. Deposits identified or believed to be natural were: a coarse mid greyish-green sand with much coarse gravel (11138), a firm mid orange-brown slightly sandy clay (11128), a mid greenish-brown silty clay (11159), a mixture of light to mid orange-brown and light grey sand (11132), a soft mid greenish-grey clay with frequent cobbles (11124), a mid pinkish-brown soft silty sand (11125), and a compact mid brown clay (11131). The clays were predominant in the south of the trench and the sands in the north.

### *Roman* (Figure 7)

5.2.2 Possibly the earliest feature encountered was a linear ditch (11081) aligned approximately north-west to south-east. It was c.1.3m wide and at least 0.35m deep with quite gently sloping sides and a concave base. Where excavated it had a single fill of mixed light grey to dark yellowish-brown silty sand containing moderate to frequent cobbles (11080). Finds included Roman tile, and 4<sup>th</sup> century pottery. The north-western extent of this ditch had been completely removed by relatively modern activity but the ditch was seen to extend to the eastern edge of the trench. A widespread deposit, possibly filling a very large roughly circular feature, may be contemporary with ditch 11081. This deposit was a mixture of dark brown loam and



light brownish-grey sand containing moderate patches of pale olive sandy gravel (11164).

5.2.3 In the northern part of the trench ditch 11081 was seen to be cut by the ditch (8010) seen in Evaluation Trench 8. In the excavation of Trench 11 this ditch (11009 = 11020 = 11045 = 11029 = 11013) was recorded running across the excavated area from south-west to north-east. It varied in width and depth according to the amount of truncation from later activity but it was generally c.1.5m wide and 0.6m deep with moderately sloping sides and a centrally located slot in the base. This slot was up to c.0.35m wide and is a not unusual feature of Roman ditches, often being referred to as an ankle-breaker. In one of the excavated parts of the ditch a possible circular posthole (11030) was recorded but it possible that this may have been caused by the removal of a large cobble. Along the ditch the earliest fill in cut 11009 was a light grey silty clay (11008), containing Roman tile, in the base, overlain by a dark yellowish-red silty clay (11007) which produced Roman tile and pot of the 2<sup>nd</sup> / 3<sup>rd</sup> century. An upper fill of dark grey silty clay (11006) produced Roman, Anglian and 12<sup>th</sup> century pot and Roman tile. The cumulative dating evidence from all parts of the ditch suggested that the Anglian and 12<sup>th</sup> century pottery was probably intrusive. In cut 11020 there was a single fill of mid greyish-brown silty clay loam (11027); in cut 11045, a lower fill of firm mid grey sandy clay (11044) containing Roman tile, and an upper fill of compact mid greyish-brown clay (11019) which produced tile of the 19<sup>th</sup> / 20<sup>th</sup> century. In cut 11029 there was a single fill of moderately compact mid greyish-brown silty clay (11028). In cut 11013 there was a lower fill of mid grey friable silty clay (11012), containing Roman tile, a middle fill of soft mid greyish-brown silty clay (11011), and an upper fill of compact mid brown silty clay (11010) which yielded Roman tile. All the above contexts contained small to moderate quantities of cobbles. The possible post-hole 11030 was in the base of cut 11029. Another deposit, possibly filling a feature, at this stratigraphic level was a compact mid orange-brown sandy silty clay (11068). Roman tile was recovered from this context.

Three other features (11079, 11050, and 11034) may belong to this group of contexts. Linear feature (11079) was aligned approximately north-north-east to south-south-west. This was identified as a ditch and was c.1.6m wide and c.1m deep with steeply sloping sides and a flat base. The basal fills were a firm mid reddish-brown sandy clay (11078) and a friable light brown clayey sand (11106). Overlying 11078 was a soft dark yellowish-grey sand (11076) and above this was a soft mid yellowish-grey sand with moderate cobbles (11077). At a similar level were a friable light greyish-brown slightly clayey sand (11107) and a compact mid orange-brown silty clay with moderate cobbles (11083). Above 11083 was a compact mid brownish-orange sandy clay with moderate cobbles (11082). Probably contemporary with 11082 were a soft light orange-brown sand (11084) and a firm light orange-brown sandy clay (11067). Context 11067 was sealed by backfill of firm dark orangish-brown sandy clay (11066) which contained Roman tile. It was overlain by a friable mid grey sandy silty clay with moderate amounts of charcoal (11065) which produced Roman tile. The uppermost backfill was a soft mid pinkish-grey clay (11062).

Another definite ditch (11050, Figure 5) was located and excavated running parallel to and c.4m west of 11079. Ditch 11050 was c.1m wide, although the eastern edge had been partly truncated by later feature 11034, and at least 0.55m deep with very steeply sloping sides and a very gently rounded base. The lowest backfill was a soft mid brownish-grey sandy silty loam with many charcoal flecks (11049) which produced Roman tile. This was overlain by a horizontal layer of medium sized cobbles set in a soft mid greyish-brown sandy silty loam (11036).

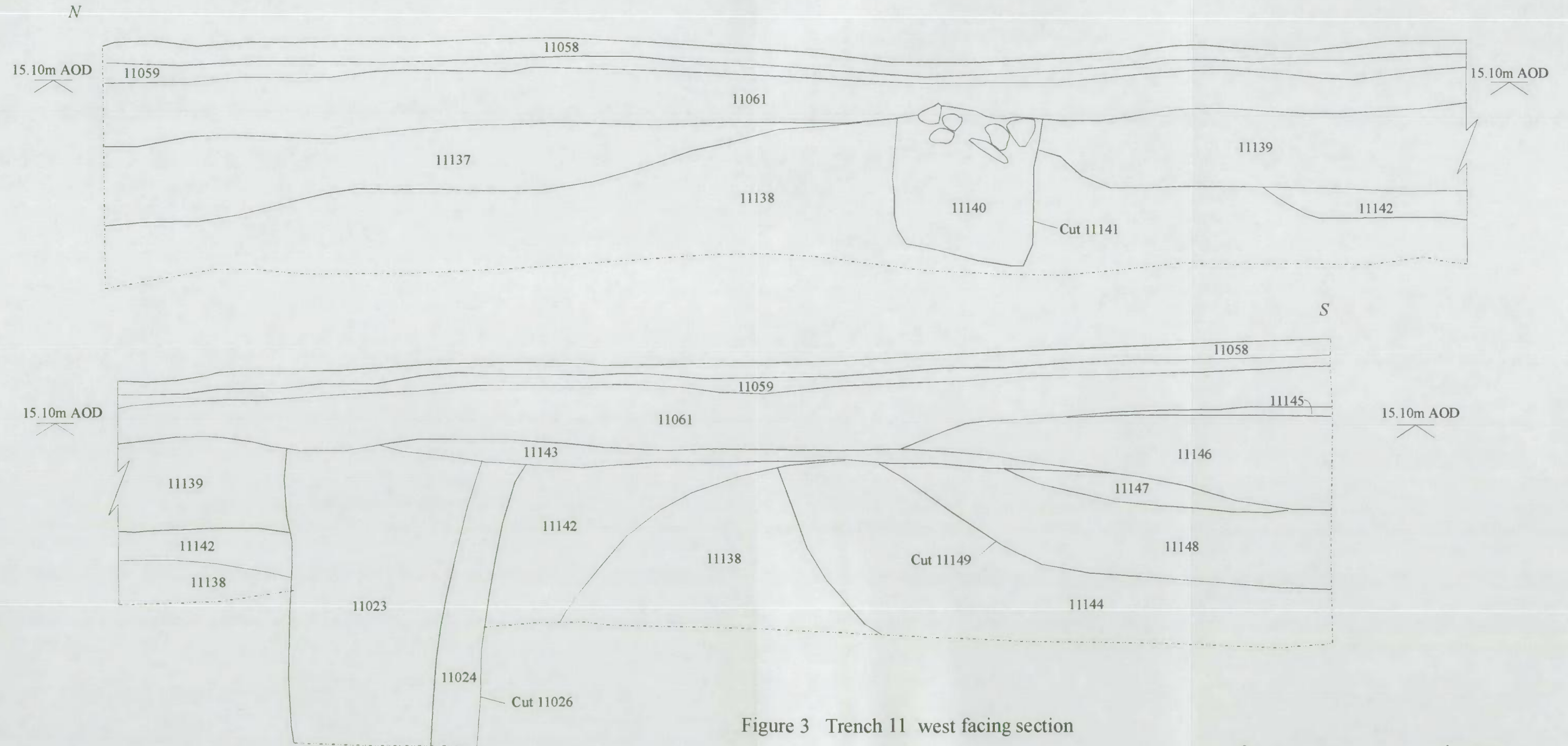
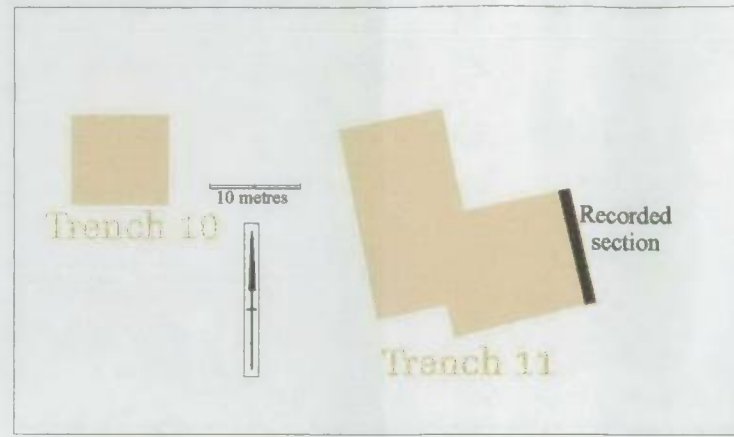
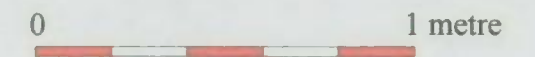


Figure 3 Trench 11 west facing section





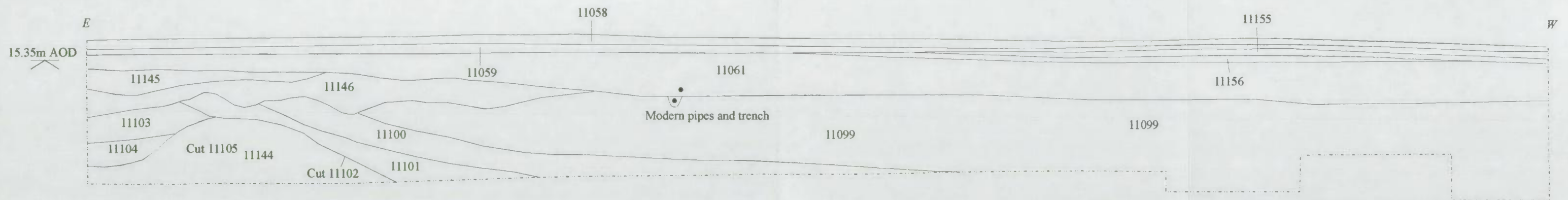
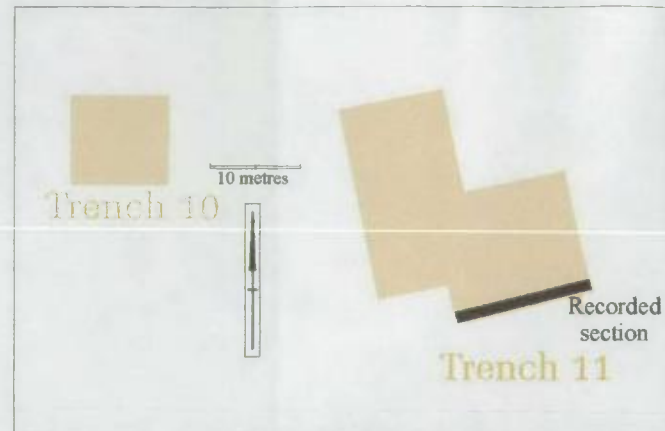


Figure 4 Trench 11 north facing section



This context produced Roman tile. The uppermost backfill was a compact mid greyish-orange-brown silty clay loam (11035), which produced Roman tile. The centre of linear feature 11034 (Figure 5) ran along the west edge of 11050 and may have been a recut of the earlier feature. Feature 11034 was at least 1.2m wide and 0.25m deep with gently sloping sides leading into a gently curved base. The single backfill recorded was a soft dark greyish-brown silty clay loam (11033). This contained some Roman tile.

5.2.4 Two deposits were thought to immediately overlie the features of 5.2.3. One was a possible build-up deposit of mid brown clayey silt (11139) and the other was a layer of soft dark brownish-grey silty clay (11123). This was possibly a dump although it is also possible that it was the backfill of a feature mostly cut away by later features.

#### *Medieval (Figure 8)*

5.2.5 Cutting 11123 was a linear feature (11122), of uncertain function but possibly a drain, aligned approximately north-north-east to south-south-west. It was c.0.4m wide and 0.2m deep with moderately sloping sides and a concave base. It had a backfill of soft dark blue-grey silty clay loam (11121). Possibly contemporary with 11122 was a feature (11057) interpreted as a kiln, oven, or furnace. The south end of 11057 was roughly circular and c.1.2m across with a northern linear extension (?the flue) which was c.1.4m long and 0.9m wide. The circular end of 11057 was up to c.0.7m deep and the northern end was between 0.3m and 0.55m deep, deepest where it met the southern component of this feature. The sides at all points were very steep and the southern part had a level flat base and the northern a gently sloping, but flat, base. Within the base of the northern part of 11057 there was a probable circular posthole (11054), 0.3m in diameter and 0.16m deep with quite steeply sloping sides and a concave base. It had a backfill of soft dark brown clayey silt containing much charcoal (11051). Within the circular southern end of 11057 the earliest context was a layer of mainly charcoal with some black loam and burnt clay (11046).

Set into 11046 was a stone setting (11052) or standing constructed mainly of large cobbles with a few pieces of sub-circular limestone. This setting was overlain by layer of hard bright red burnt clay (11053), which also surrounded setting 11052. Above this was a restricted deposit of soft grey ash (11040). Contexts 11046, 11052, 11053, and 11040 were all thought to be use deposits directly associated with the construction and use of this feature and were only found in the southern part of the feature. The first proper backfill, seen along the full length of 11057, was a greyish-brown silty clay containing large amounts of charcoal (11018) and pot of the 10<sup>th</sup> century. Above this was a firm mid brownish-grey silty clay loam with many charcoal flecks (11017). This fill produced Roman tile and pot of the 12<sup>th</sup> – 13<sup>th</sup> centuries. Overlying 11017 there was a firm mid orange-brown silty clay loam (11016) containing Roman tile and Roman and 12<sup>th</sup> century pottery. Over this was a compact dark brownish-grey silty clay loam with frequent cobbles (11015). This fill contained Roman tile and pot of the 12<sup>th</sup> century. The uppermost recorded backfill was a firm dark greyish-orange silty clay loam with much charcoal (11014). This fill produced Roman and 14<sup>th</sup> century tile and Roman and 12<sup>th</sup> century pottery.

5.2.6 Possibly later than 11057 and 11122 was a small group of features. The first, located partly within the eastern limit of excavation, was a circular feature (11026), which was clearly a barrel-lined well. The construction cut, 11026, was c.0.9m across and at least 1.4m deep with



nearly vertical sides and a flat base. Within this cut were the well preserved remains of a stave-built barrel (11025) which will be more fully described in the finds assessment section of this report (section 6.2). The space between the barrel and the construction cut had been backfilled with a mid brownish-grey silty clay with gravel and large cobbles (11024). Within the barrel only one post-use backfill was positively identified and it was a soft dark greyish-brown silty clay (11023) with a moderate organic content including small twigs and pieces of shaped wood. This fill also contained tile of the 13<sup>th</sup> – 16<sup>th</sup> centuries and 14<sup>th</sup> century pottery. Seen only in the standing sections in the south-east corner of the trench was a feature (11105 = 11149) of uncertain size, shape, and function. It was, however, at least 2.2m across and 0.6m deep with a moderately sloping west edge and a flat base. Two backfills were identified, the lower being a firm mid greenish-brown silty clay loam (11104 = 11148). The upper backfill was a mid greyish-brown clayey silt (11103 = 11147). The last feature (11120) in this group was of uncertain shape, size, and function due to truncation by a later feature but may have been square or rectangular. It was at least 0.7m by 0.6m and 0.26m deep with near vertical sides and a flat base. It had a backfill of compact mid greyish-brown silty clay with moderate pebbles (11117).

5.2.7 Probably later than the features of 5.2.6, and certainly later than 11120, was a very large ditch (11055 = 11064 = 11098 = 11102, Figure 6) which ran along and partly beyond some of the southern limit of excavation and then to the east turned 90 degrees to the north to run close to the eastern limit of excavation but fully within the trench. It was examined in four separate areas which were independently recorded and described below. In the westernmost excavated part of this ditch (11055) the southern edge lay beyond the limit of excavation. This and safety reasons prevented full excavation of the ditch in this area but it was at least 3.8m wide and 1m deep with moderately sloping sides. The lowest recorded backfill at this point was a dark yellowish-brown sandy silt (11043). This context produced Roman tile.

Immediately above 11043 was what appeared to be a recut (11056) of the ditch which was at least 2.6m wide and 1m deep with quite steeply sloping sides. Cut into the north edge of the recut was a sub-circular feature (11048), probably a posthole. It was a maximum of 0.2m across and just 0.05m deep with gently sloping sides and a gently curved base. It had a backfill of friable dark greyish-brown silty clay (11047). The lowest backfill seen in recut 11056 was a dark greyish-brown silty clay (11041) which produced Roman tile. Above this there was a dark greenish-grey silty clay (11039) and the uppermost backfill in the recut was a loose light grey sandy silt (11038) which produced tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries and pot no later than the 12<sup>th</sup> century.

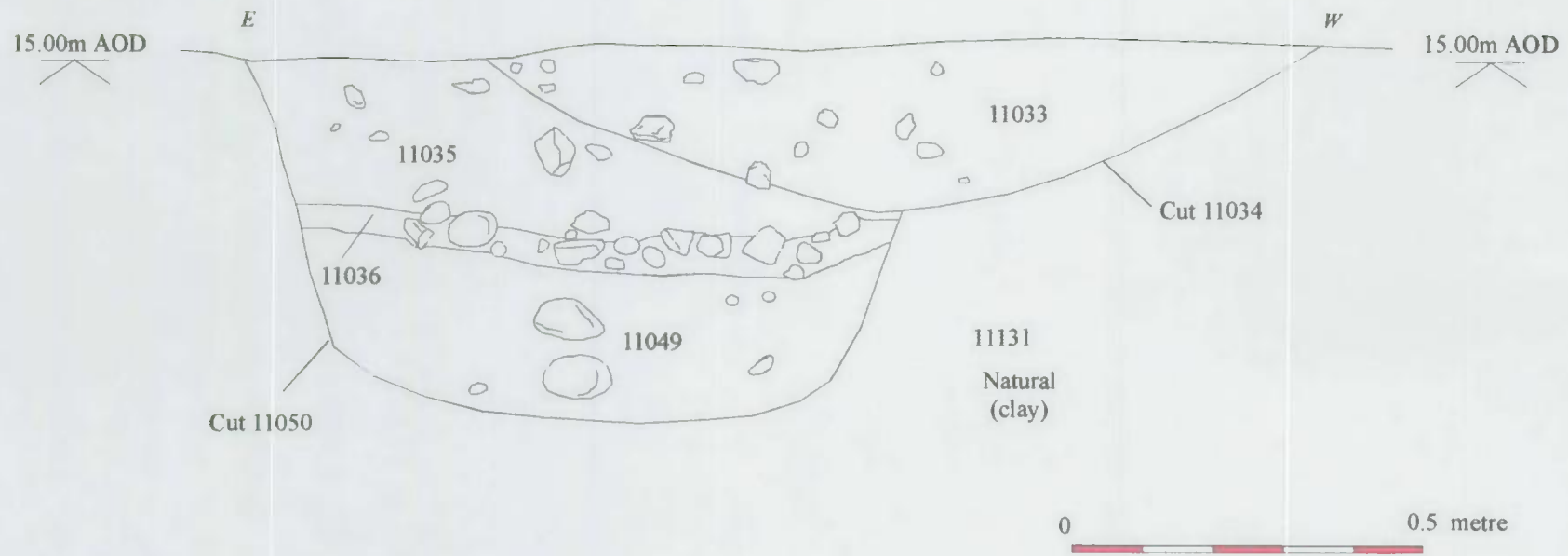


Figure 5 Trench 11 North facing section across ditches 11034 and 11050



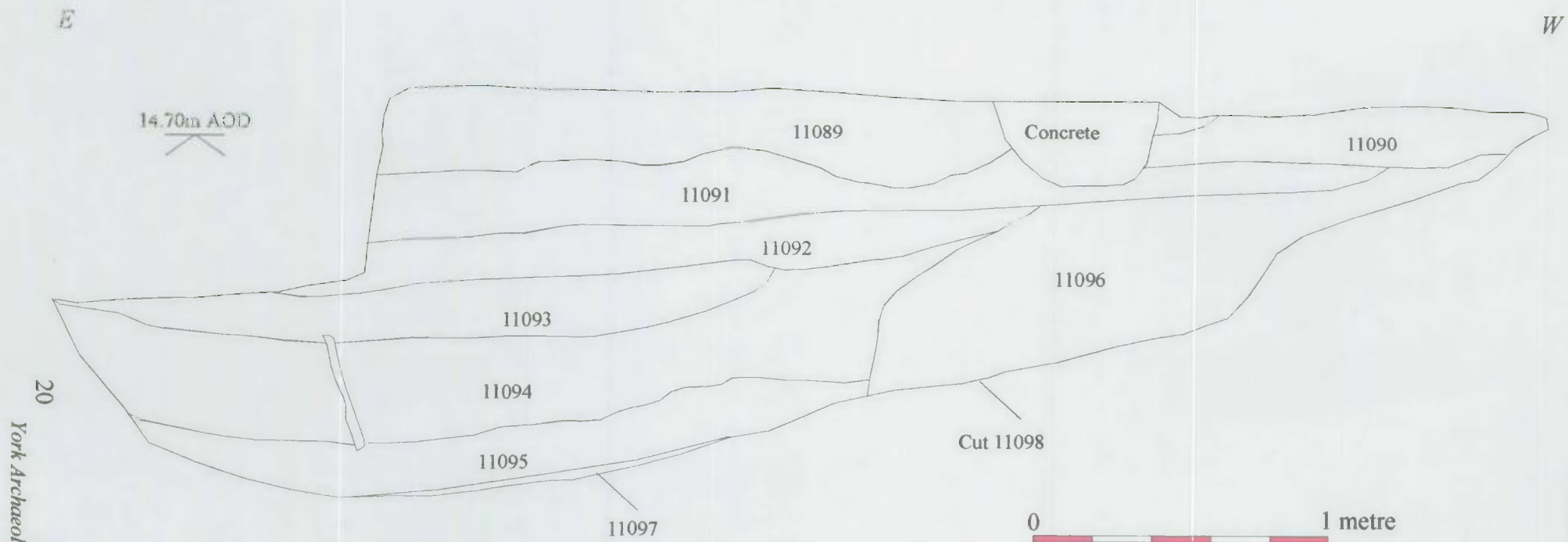


Figure 6 Trench 11 North facing section across ditch 11098

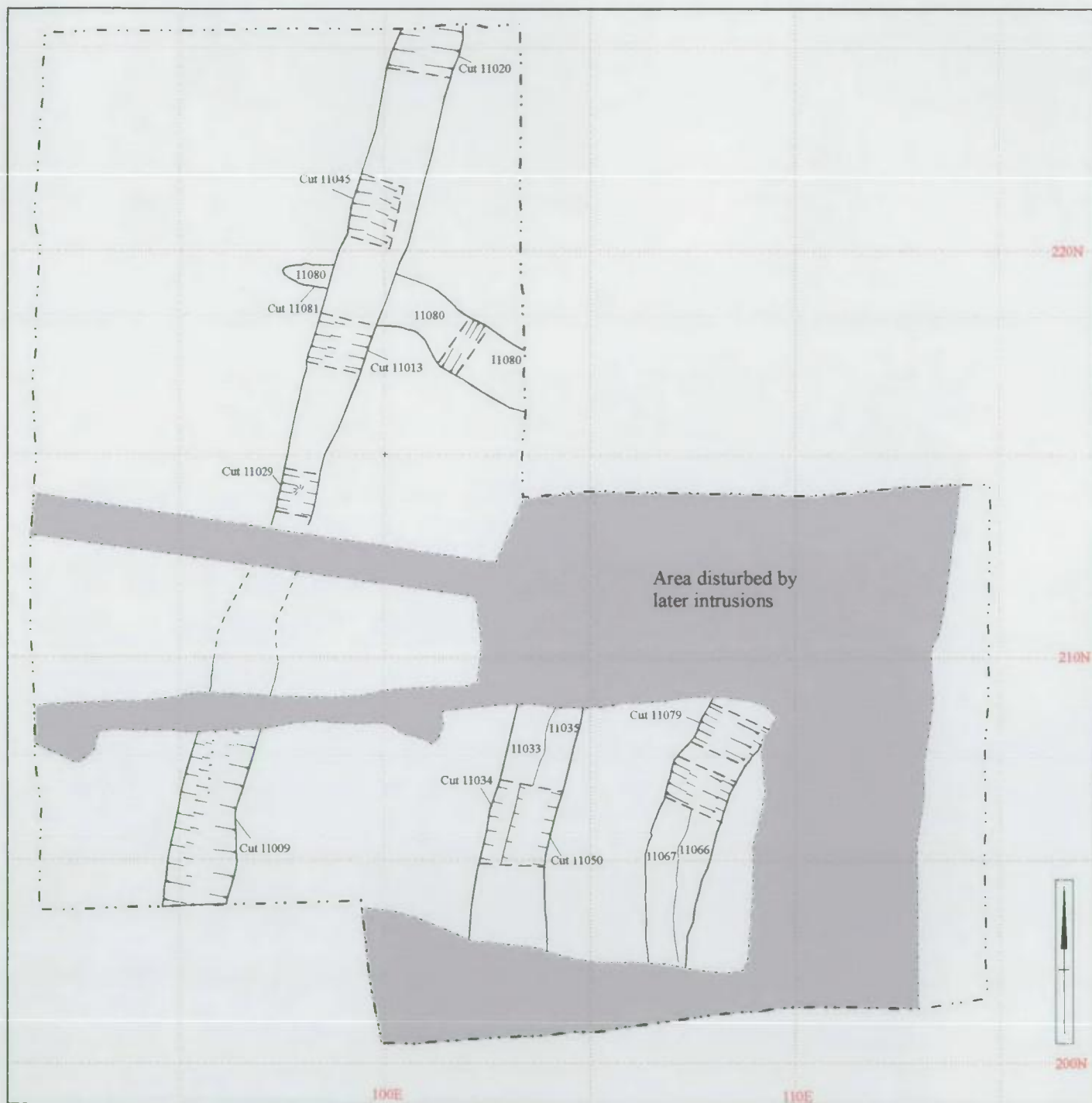


Figure 7 Roman features in Trench 11

0 5 metres



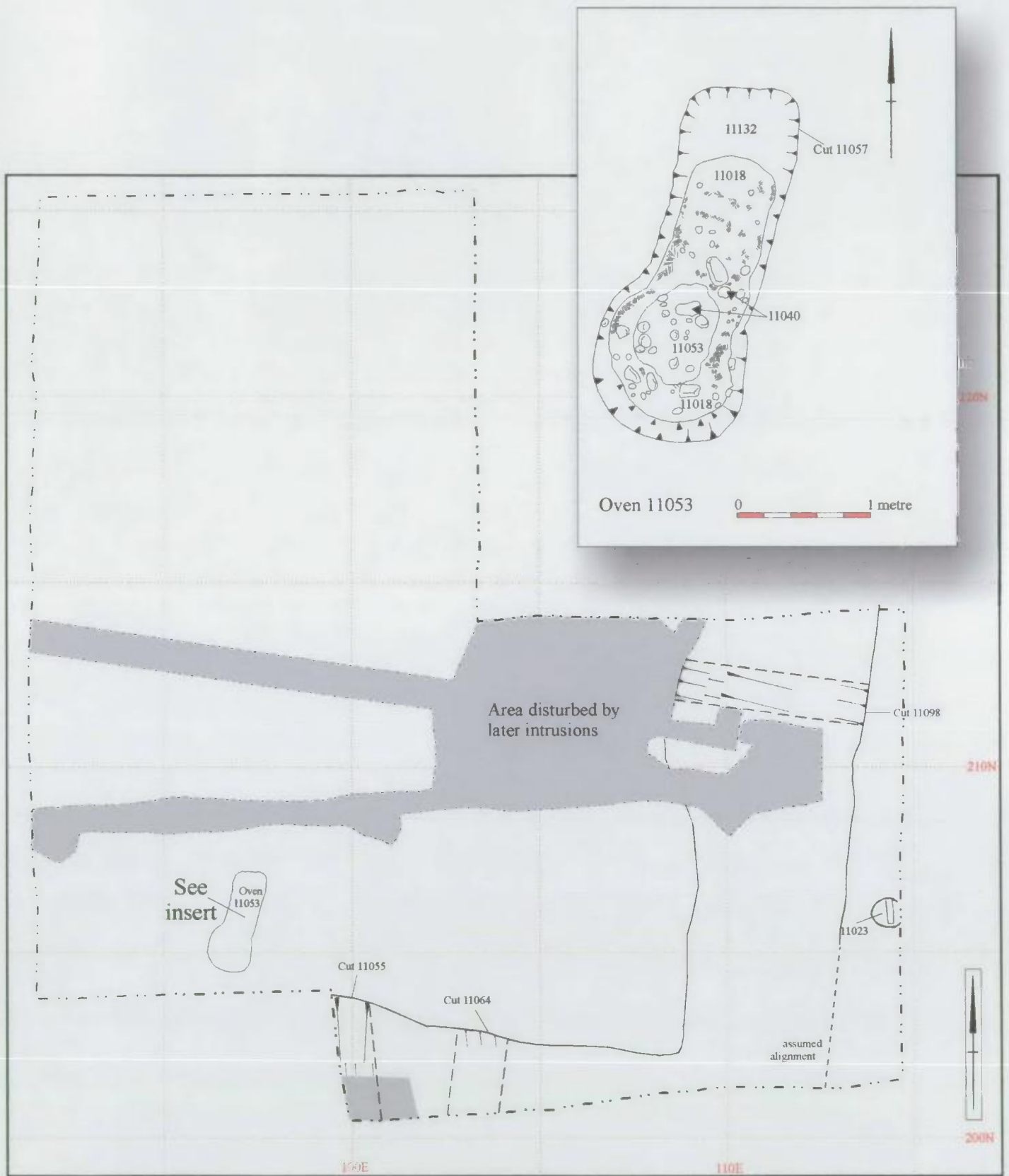


Figure 8 Medieval features in Trench 11

0 5 metres

Another part of the ditch was investigated some 2.5m east of the area described above. In this new investigation there was no clear sign of any recut but it is possible that this may have been removed during the machine clearance. Again it was not possible to fully excavate the ditch at this location. Here it was (11064) was at least 1.9m wide and 0.9m deep with a moderately sloping north edge. The lowest observed backfill was a compact mid grey silty clay with moderate cobbles (11063). This lay below a friable mid orange-brown silty clay (11042) which contained Roman tile and Roman and 10<sup>th</sup> century pot. Examination of the drawn section at this point may possibly suggest that these two contexts are backfills of the original ditch and that the following backfills may be in a recut. Above 11042 there was a friable dark greenish-grey silty clay with many cobbles (11037). This context contained tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries and Roman and 12<sup>th</sup> – 13<sup>th</sup> century pot. Over this was a friable dark grey clayey silt (11032) containing tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries. The top backfill noted in this area was a friable soft dark greenish-grey slightly sandy silty clay (11031). This context produced tile of the 13<sup>th</sup> – 16<sup>th</sup> centuries and pottery no later than the 14<sup>th</sup> century.

Another section through the ditch, again not fully excavated for safety reasons, was recorded towards the south-east corner of the trench close to where the ditch turned to the north. Here the ditch (11102) was at least 3m wide and 1m deep with quite steeply sloping sides. No evidence for a recut was noted in this area although it is likely that any such evidence was lost in the machine clearance. It is therefore assumed that all the backfills described belong to the original cut. The earliest backfills recorded were a mid orange-brown sandy clay (11088) and a dark greyish-brown silty clay loam (11101) which contained pot of the 14<sup>th</sup> century. Overlying 11088 was a dark greyish-brown silty sandy clay with moderate medium sized cobbles (11087). From this backfill a large worked timber (11118) was recovered. Above fill 11101 was a layer of firm dark greyish-brown sandy silty loam (11100). Possibly overlying 11100 was a mid greyish-brown silty clay (11070). The top backfills in this area were a firm very dark grey silty clay loam (11099) overlying 11070 and a compact greyish-brown silty clay with many cobbles (11085) and a compact mid brownish-grey silty clay (11086) both above 11087.

In the north-east corner of the southern half of the trench a small section of the ditch (11098, Figure 6) was fully excavated. Here it was found to be at least c.4m wide and 1.4m deep with quite steeply sloping sides and a gently curved base. There was some slight evidence for a recut but this was not certain or clear. The earliest contexts within the ditch were three roughly oval wooden posts (11114, 11115, and 11116) at the base of the east side of the ditch. These appeared to form a north-south alignment (11112) and may have continued for some distance although this was the only area in which they were seen. The earliest fills noted were a very compact light greenish-yellowish-brown coarse slightly silty sand containing much gravel (11096), containing pottery of the 2<sup>nd</sup> century, and a soft loose mid grey coarse sand (11097) which may be the primary silting of the ditch. Above 11096 and 11097 was a compact dark greyish-brown slightly clayey sandy silt (11095 = 11119) containing 12<sup>th</sup> – 13<sup>th</sup> century pot and tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries. Over this was a moderately compact dark greyish-brown clayey silt containing moderate amounts of decayed organic material (11094). Overlying 11094 was a layer of firm mid grey silty clay containing moderate amounts of charcoal and gravel and frequent white flecking (11093). This context produced tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries and Roman and 12<sup>th</sup> – 14<sup>th</sup> century pottery.



It is at about this stratigraphic level that a number of small squarish posts (11074, 11075, 11109, and 11113) with stone and tile rubble packed around them appear. A number of smaller stakes (11071, 11072, 11073, 11108, and 11110) lying a short distance, c.0.8m, to the east of the posts may be associated with them although this is by no means certain. Probably stratigraphically above these stakes and posts is a mid grey clay loam (11069) which may possibly be the fill of a separate feature within the backfills of the ditch. Tile from this context was dated to the 14<sup>th</sup> – 16<sup>th</sup> centuries and pottery to the 15<sup>th</sup> century. Probably sealing the stakes, posts, and 11069, and certainly a backfill in 11098, was a moderately compact mid to dark greyish-brown clayey silt mottled with patches of dark brownish-green loam and containing very frequent lenses of light yellowish-brown sand, moderate charcoal, and very frequent cobbles (11092). This context produced tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries. Overlying it was a moderately compact dark purplish-greyish-brown slightly clayey sandy silt with frequent charcoal pea-grit, and gravel, and very frequent pieces of tile (11091). Above this was a moderately compact mid orange-grey slightly sandy clayey silt with moderate charcoal and gravel (11090). The uppermost backfill identified in the ditch in this area was a moderately compact mid brownish-grey slightly clayey sandy silt with very frequent pieces of tile, dated to the 14<sup>th</sup> – 16<sup>th</sup> centuries, and moderate gravel and patches of orange sand (11089). In conclusion, the strata recorded above constitute the evidence for a very substantial ditch aligned roughly north-south before turning west in the south-east corner of the trench. Finds from the fills suggest that it was initially cut in the 12<sup>th</sup> century, and began to be backfilled during the 14<sup>th</sup> century, although there were indications of at least one later recut along the western part of the ditch.

#### *Post-Medieval*

5.2.8 Cut centrally into the upper backfills of 11055 was a probable linear feature (11022) on the same alignment. An unknown amount of this feature, possibly a ditch, lay beyond the southern limit of excavation but it was at least 1.1m wide and 0.8m deep with a very steep northern edge. The base of 11022 was not excavated. This cut had been backfilled with a very dark grey loam containing moderate amounts of cobbles (11021), tile of the 14<sup>th</sup> – 16<sup>th</sup> centuries, and Roman, medieval, and 18<sup>th</sup> / 19<sup>th</sup> century pot. At a similar stratigraphic level were two other features. The first (11005) was very irregular but measured c.1.15m long by a maximum of 0.6m wide. It was no more than 0.14m deep with gently sloping sides and an irregular uneven base. It had been backfilled with a black silty clay loam (11004). Around 1.5m to the west was a very similar feature (11003) measuring 1.5m by 0.65m. It was c.0.1m deep with gently sloping sides and an irregular base. It had a backfill of black silty clay loam (11002). The function of features 11003 and 11005 is uncertain but it was thought they may have been created by the growth of trees or shrubs rather than by human activity.

5.2.9 Probably later than 11003 and 11005 were a group of four deposits of uncertain function but all possibly dumps or leveling deposits. They were; a layer of black loam (11137), a compact black loam containing frequent brick and tile (11143), a dark brown clayey silt (11146), and a mid brown silty clay (11154).

5.2.10 Believed to be slightly later than the deposits of 5.2.9 were two features. The first (11141) was a linear trench of uncertain function aligned east-west. It was c.0.7m wide and 0.75m deep with nearly vertical sides and a flattish base. It had a backfill of pale yellow crushed limestone containing some mid brown clayey silt (11140). The second feature (11130) was of uncertain

shape, size, and function but was at least 2.4m by 0.45m and 0.3m deep with a steep to vertical north edge. It had a backfill of compact dark grey loamy clay (11129).

### *Modern*

5.2.11 Probably later than 11141 and 11130 were a linear grey concrete ground beam (11127) and a mid grey concrete floor slab (11126). Possibly very slightly later than these was a leveling deposit of fine yellow crushed limestone (11151) and a possible dump of black clinker (11145). Probably cut into these was a complex of modern drains (11001) feeding into a central drain which appeared to be intact and heading west beyond the limit of excavation to connect up with the main waste water system below St Nicholas Gardens. All these drains had the same backfill, a mixture of greyish-brown loam, stone fragments, and concrete fragments (11000). The bases of all these trenches were filled with concrete, probably encasing a ceramic pipe but the concrete was left in-situ to avoid disturbance to any possibly still active services.

5.2.12 Thought to be later than 11001 was a group of contexts. They were: a dump or leveling deposit of light brown clayey silt (11060), a leveling deposit of yellow crushed limestone (11061), a grey concrete floor slab (11152), another leveling deposit of yellow crushed limestone (11153), and another floor slab of grey reinforced concrete (11150).

5.2.13 Stratigraphically above these were five features. The first was a linear cut (11134), probably aligned east-west, containing a non-functional gas pipe. It was c.0.4m wide and 0.4m deep with vertical sides and a flat base. It had a backfill of dark grey loam (11133). Approximately 1m north of 11134 was a similar linear feature (11136) probably aligned east-west. It was at least 0.8m across and 0.35m deep with a near vertical southern edge and a flattish base. It contained a ceramic water pipe and had been backfilled with a dark grey loam (11135). At a similar stratigraphic horizon there was a feature (11158) of uncertain function. It was c.1.8m across and 1.4m wide, at least 1m deep but not fully excavated, with near vertical east and west sides. It was backfilled with a dark brown clay containing moderate amounts of brick, concrete, and tarmac (11157). Close by was a sub-rectangular feature (11161), possibly a robber cut, measuring c.1.85m by 0.9m. It was c.0.7m deep with vertical sides and a flat base. It had a backfill of mixed mid grey and mid brown clay (11160). Also in the vicinity was a roughly rectangular feature (11163), possibly another robber cut, measuring c.2m by 0.6m. It was at least 0.7m deep with vertical sides and a flat base. The backfill was very dark grey loam containing moderate amounts of crushed limestone, brick, and tarmac (11162).

5.2.14 Overlying 11134 and 11136 was a mixed leveling deposit of tarmac and crushed limestone (11156) and above this was a layer of black tarmac (11155). Above this was a probable leveling deposit composed of a mixture of tarmac and dark grey loam (11059). This was sealed by another layer of tarmac (11058), which formed the modern ground surface in the area.





Plate 1 Trench 11 North facing section, ditch 11079



Plate 2 Trench 10 General view, looking east.



Plate 3 Trench 11 Linear stone spread, ditch 11050, looking south



Plate 4 Trench 11 partially excavated oven 11057, looking north



## 6. FINDS ASSESSMENT

### 6.1 Ceramic Building Materials

By Jane McComish

#### 6.1.1. Introduction

A total of 26.916kg of Ceramic Building Material (CBM) was examined from the site. A number of forms were identified including Roman material (imbrex, tegula, and brick), 11-13<sup>th</sup> century roofing forms (flange), 13-16<sup>th</sup> century roofing tiles (peg, plain, nib, ridge, crested ridge), 14-16<sup>th</sup> century brick, post-medieval brick, and modern sewage glazed pipe.

#### 6.1.2. Methodology

The material was recorded on a proforma which noted the fabric type number, form name, corners present, weight, length, breadth, thickness, presence of mortar, comments and whether the fragments were retained or not. This information was transferred to the IADB (York Archaeological Trust's Integrated Archaeological Database) to assist in the analysis of the sample. The IADB contains all the fields listed above and the additional information fields of flange height and overfired. In the IADB fields for mortar, reused, over fired and retained the digit 1=Yes and 0=No. In all the measurement fields (length, breadth, thickness and flange height) measurement was only taken if the full dimension was preserved; a 0 in these fields is a null value (i.e. a measurement was not possible because the CBM was too fragmentary). The measurements are in millimetres. On IADB all the forms were written in full except Roman brick which is abbreviated to Rbrick.

The CBM was examined by a x10 hand lens and matched with the York fabric series. The fabric series is divided into Roman (R), Medieval (M), floor tile (F), pan tile (P), post-medieval/modern (P0) and stone (S). These letters are followed by a number to indicate the fabric concerned, where it was impossible to determine the fabric the letters are followed by a 0. The post-medieval fabrics are not described in detail in the York fabric sequence.

Fragments were retained where the piece had either some sort of feature (such as legionary stamps, or tally marks which are thought to represent kiln batch loads, paw prints, finger prints etc.) or was a particularly good example of its form or fabric. All other fragments were fully recorded then discarded. Tracings at 1:1 were taken of all tegula flanges, flange tiles and tally marks. Photographs of some of the retained pieces were also taken, which were then captioned and transferred onto the IADB.

## 6.1.3. Fabrics

Fabric	Weight	Weight as a % of total	Forms present
R0	185	0.69%	Rbrick
R1	225	0.84%	Rbrick, tegula
R2	600	2.23%	Imbrex, tegula
R3	25	0.09%	Tegula
R6	675	2.51%	Rbrick
R8	550	2.04%	Rbrick
R9	536	1.99%	Rbrick
R10	1050	3.90%	Rbrick
R11	1470	5.46%	Flue, imbrex
R12	580	2.15%	Rbrick, tegula
R14	550	2.04%	Rbrick, flue
R15	900	3.34%	Rbrick, tegula
R16	150	0.56%	Tegula
M0	30	0.11%	Plain
M1	4680	17.39%	Plain, peg
M2	50	0.19%	Plain
M3	275	1.02%	Plain, crested
M4	1970	7.32%	Plain, peg
M6	500	1.86%	Flange
M15	4910	18.24%	Plain, peg, nib
M18	400	1.49%	Plain
M23	150	0.56%	Brick
M25	400	1.49%	Brick
M26	1000	3.71%	Brick
M31	3095	11.50%	Brick
M35	200	0.74%	Brick
M37	600	2.23%	Brick
M47	400	1.49%	Brick
M54	650	2.41%	Plain
M70	10	0.04%	Brick
P0	100	0.37%	Sewer
<i>Total weight</i>	26916		

Table 1 Summary of CBM fabrics present

The Roman material on site is in a wide variety of fabrics (described in table 2 below, these fabric descriptions are by S. Garside-Neville). No one fabric was especially dominant, but the commonest were R11, R10 and R15. There is no link between fabric and form. All the Roman fabrics tend to be bright red in colour, are made from well-sorted clays with few large or irregular inclusions, and the principal inclusion in all the Roman fabrics is quartz. More research



into Roman fabrics from excavations across York is needed to fully assess these fabrics in terms of their distribution both spatially and chronologically.

Fabric number	Description
R1	Sandy with ill-sorted angular quartz up to 0.5mm in size, mica, ?grog and silty bands.
R2	Sandy with subangular quartz up to 0.5mm in size, ?grog, shell, quartzite sandstone, mica and silty bands.
R3	Sandy with subangular well-sorted quartz up to 0.5mm in size, Oolite/limestone
R6	Coarse sandy with subangular quartz 0.5-1mm in size, mica, grass/straw and ?grog
R8	Coarser fabric with well-sorted angular quartz 0.5-1mm in size, grass/straw and ?grog.
R9	Very fine with well-sorted angular quartz up to 0.5mm in size, with ?grog, limestone and oolites.
R10	Very coarse, with frequent angular well-sorted quartz up to 0.5mm and ?grog.
R11	Fairly sandy with frequent angular well-sorted quartz up to 0.5mm and mica
R12	Fairly sandy with frequent angular well-sorted quartz up to 0.5mm, mica and ?grog.
R14	Fairly sandy with subangular well-sorted quartz up to 5mm, ?grog,, limestone and mica
R15	Fairly sandy with subangular ill-sorted quartz up to 0.5mm, mica, limestone and ?grog.
R16	Coarse with subangular well-sorted quartz 0.5-1mm, limestone, clay pellets and grog.

Table 2 Roman CBM fabric descriptions

The medieval material on the site is again in a wide variety of fabrics (described in table 3 below). Only a single example of flanged tile of 11-early 13<sup>th</sup> century date was present which was in fabric M6. The use of fabric M6 for 11-early 13<sup>th</sup> century forms is seen on other sites within the city. For example it equates to the group 1 fabrics at Fishergate (Garside-Neville 1996, p294) and was also seen on flanged tiles at 41-49 Walmgate (McComish forthcoming).

The later medieval roof tiles of 13-16<sup>th</sup> century date (peg, plain, nib, crested and ridge) were in fabrics M1, M2, M3, M4, M15, M18 and M54. The dominant fabrics were M15 and M1 both of which are very common on other sites within York, though normally M1 would be the more dominant of the two which is not the case here. The remaining fabrics (except for M54) are also widespread within York. Fabric M54 though seen on other excavations in York is relatively rare. There is no link between fabric and form. As with the Roman fabrics more research is needed to assess the significance of the medieval fabrics spatially and chronologically.

The bricks were in fabrics M23, M25, M26, M31, M35, M37, M47 and M70. Fabrics M26, M31 and M37 are very common on other sites within York, while fabrics M23, M25, M35 and M37 are moderately common. Fabric M70 is very similar to fabric M37, but much sandier, and may simply represent an occasional variant of M37. Many of these brick fabrics were in use during both the medieval and the post-medieval periods.

Fabric number	Description
M1	Light orange fabric, well sorted, moderate fine-medium angular quartz ranging from 0.3x0.3mm to 0.5x0.5mm in size. Very occasional oolites up to 0.4x0.3mm. Very occasional large limestone inclusions 3.5-2mm in size. Very occasional grog up to 5.4x3.2mm in size. Very occasional micaceous sandstone up to 18x12x6mm in size.
M2	Light orange fabric, moderate medium-coarse angular quartz ranging from 0.3x0.3mm to 1.1x1.1mm in size. Very occasional grog up to 1x1mm in size.
M3	Light orange fabric with frequent angular quartz 0.3x0.3mm to 0.5x0.5mm in size. Very occasional oolites up to 0.4x0.3mm. Very occasional grog up to 0.6x0.2mm in size.
M4	Dark red fabric, poorly compacted, with moderate angular quartz grains ranging from 0.3x0.3mm to 1.1x1.1mm. Moderate-frequent oolites up to 1x0.6mm in size.
M6	Buff-light orange fabric, moderate fine angular quartz up to 0.3x0.3mm in size. Occasional feldspar up to 1.5x0.3mm. Occasional oolites up to 0.4x0.3mm in size.
M15	Dark red fabric, with frequent coarse inclusions clearly visible to the naked eye. Frequent coarse angular quartz grains up to 1.2x1.2mm. Moderate oolites up to 0.2x0.6mm in size. Occasional limestone up to 0.7x0.7mm in size. Occasional grog up to 2x2mm.
M18	Dark red fabric, with frequent coarse inclusions clearly visible to the naked eye. Very frequent coarse angular quartz grains up to 1.2x1.2mm. Occasional limestone up to 0.7x0.7mm in size. Occasional grog up to 0.7x0.7mm.
M23	Mid red poorly mixed fabric with frequent silty bands. There are frequent large inclusions of limestone up to 13x8mm in size and occasional grog.
M25	Light orange fabric with occasional grass voids.
M26	Light orange fabric with occasional silty bands, occasional limestone up to 1mm in size and occasional grog inclusions.
M31	Mid-dark red poorly mixed fabric with frequent silty bands. It has a tendency to be over-fired.
M35	Very coarse dark red fabric with frequent coarse angular grains of quartz up to 2x0.5mm in size and occasional limestone up to 1mm in size, silty bands and grog.
M37	Mid-dark red with occasional limestone, silty bands and grog, and moderate angular quartz up to 0.5mm in size.



M47	Mid red fine fabric with moderate limestone up to 4x2mm in size and occasional oolites up to 1mm in size and quartz up to 1mm in size.
M54	Dark red fabric uncompacted. Patches of moderate minute quartz grains, far too small to measure, giving a speckled white appearance on the surface of the fabric in places. Occasional angular quartz grains up to 0.5x0.5mm. Occasional angular quartz grains up to 1x1mm. Occasional grog up to 2x2mm in size. Occasional limestone up to 16x4mm. (From Skelton excavations)
M70	<i>Mid-dark red with occasional limestone, silty bands and grog, and very frequent angular quartz up to 0.5mm in size.</i>

Table 3 CBM Fabric Descriptions

#### 6.1.4. Forms

A number of forms were identified ranging of Roman to 19/20<sup>th</sup> century date. Overall 27.85% of the material was Roman, 71.31% was medieval, 0.46% post-medieval and 0.37% modern.

Form	Total weight	Weight as a % of total
Imbrex	225	0.83%
Tegula	1475	5.48%
Rbrick	5681	21.11%
Flue	115	0.43%
Flange	500	1.86%
Peg	385	1.43%
Plain	11975	44.49%
Nib	200	0.74%
Crested	125	0.46%
Ridge	225	0.84%
Brick (medieval)	5785	21.49%
Brick (post-medieval)	125	0.46%
Sewer	100	0.37%
	26916	

Table 4 Forms present as a percentage of the total CBM on site

#### 6.1.5. Roman forms

A number of forms were identified including tegula, imbrex, flue and brick. Where it was impossible to determine the form the fragment was classified as Roman brick. Most of the material recovered from the site was very fragmentary; the tegula flanges were mainly too damaged to determine the original form, no lengths or breadths were preserved and in many cases it was impossible to obtain the original thickness of the fragment. Most of the forms present on site were in use throughout the entire Roman period, and they are therefore of relatively little help in dating. The exception was the combed box flues which tend to be 2<sup>nd</sup>

century or later in date. Most of the Roman material occurred in contexts of Roman date, but a small quantity occurred as residual material in contexts 11021, 11037 and 11092.

The commonest form on site was Roman brick which consisted of small fragments that could have been either be tegula or brick, (but this could not be determined) together with larger fragments which were clearly brick. Bricks could be used in a number of differing ways including walling, as pilae in hypocausts, or for flooring. The bricks on site ranged from 18-51mm in thickness. Three of the fragments were of interest for surface markings. A fragment from context 11021 had a signature mark in the form of a single curved line, while a fragment from context 11092 had a signature mark in the form of three adjacent curved lines (Betts types 1 and 3 respectively, Betts 1985, p192). A fragment from 11033 may have had a signature mark but this was too badly preserved to be sure.

The roof tile was in the form of tegula and imbrex. The tegula were mainly too fragmentary to determine the thickness or profile, and only three flanges survived sufficiently to be measured; these were 35mm, 36mm and 38mm respectively. The imbrex ranged from 15-25mm thick, which is broadly similar to the range suggested by Betts (*ibid.* p174). A single cutaway was present, but again this was too fragmentary to determine the profile. Only three fragments of imbrex were present which ranged from 13-17mm, which sits in with the range suggested by Betts (*ibid.* p174).

In contexts 11015 and 11033 there were fragments of combed box flue which are of 2nd century or later date (*ibid.* p151).

#### *6.1.6. Medieval forms*

A single fragment of flanged tile was present in context 11092. This form was in use from the 11-early 13<sup>th</sup> centuries and imitated earlier Roman roofing forms (tegula). They seem to have only been used on high status buildings, which would imply a high quality building nearby.

The bulk of the medieval roofing material present dated from the 13-16<sup>th</sup> centuries, and consisted of plain tiles (where the fragment was too small to determine the method of fixing the tile to the roof), peg tiles, nib tile, crested ridge tiles and ridge tiles.

The overwhelming majority of plain tiles in York were fixed to the roof by means of a peg, rather than a nib. Only four of the fragments found had peg holes, three of which were square and one diamond shaped. All of the holes were 10-12mm in size, which is typical. The peg tiles were too fragmentary to tell if the hole was placed centrally on the top of the tile. There was one example with deliberate smoothing on the upper surface, but this was not decorative. There was a single nib tile, which may have had a tally mark close to the nib. The roof tiles ranged from 10-19mm thick, but the thicker examples tended to be overfired and blown. A single tile breadth was present, which was 220mm; a typical size for York. Examples of ridge tile and of crested ridge tile were found in context 11031. The crested tile is a typical shape for York, (fan shaped), and was also glazed. Glazing is not the norm for roof tiles in York.

Distinguishing between medieval and post medieval bricks can be difficult, and is normally done on the basis of the size of the bricks. Unfortunately many of the brick fragments from this site



were too small to obtain any measurements so could not be dated on the basis of size. In such cases fragments which were made in sanded moulds are dated as more likely to be medieval, while slop-moulded bricks (where the mould is wetted rather than sanded) are dated as more likely to be post-medieval. All those where no measurements could be obtained were classed as medieval, but could be later.

Medieval bricks date from the 14-16<sup>th</sup> century. Most of the bricks recovered from the site were of medieval date. These bricks ranged from 30-50mm in thickness, and from 127-138mm in breadth, which is typical for medieval bricks (Betts 1985, 454, 539-540). No lengths were preserved. Ten of the bricks were sanded and two were possibly slop moulded (no edges survived on the remaining fragments). Although slop moulding is not common on medieval bricks it is occasionally present (Garside-Neville pers. comm.).

#### ***6.1.7. Post-medieval forms***

A single fragment of post-medieval brick was present in context 11089, which was 55mm in thickness, and sanded.

#### ***6.1.8. Modern***

The only modern material present was a fragment of glazed sewer pipe from context 11019. This seems to represent contamination.

#### ***6.1.9. Conclusion***

The material contained some features of interest. A wide range of forms and fabrics were present including combed boxed flues or Roman date, two (or possibly three) Roman signature marks, and a glazed crested ridge tile of 13-16<sup>th</sup> century date. More research is needed into the fabrics from this site and other excavations within York to fully understand their significance both spatially and chronologically. The site is therefore of use in the contribution it can make to building up a wider picture of the development of CBM.

## 6.1.10. Context Listing

Context	Fabric	Form	W	L	B	T	Comments	Date
11006	R0	Rbrick	75	0	0	0	Eleven tiny fragments	1-4 <sup>th</sup>
11006	R15	Rbrick	25	0	0	23		
11007	R11	Rbrick	25	0	0	0		1-4 <sup>th</sup>
11007	R11	Rbrick	25	0	0	0		
11007	R11	Rbrick	125	0	0	20		
11007	R11	Tegula	100	0	0	0	Too little of flange survived to obtain a profile	
11007	R14	Rbrick	25	0	0	0		
11007	R14	Rbrick	275	0	0	25		
11007	R2	Imbre x	50	0	0	17		
11007	R2	Rbrick	50	0	0	20		
11007	R6	Rbrick	175	0	0	0		
11007	R8	Rbrick	375	0	0	27		
11007	R9	Rbrick	280	0	0	37		
11008	R3	Tegula	25	0	0	15	Flange broken off	1-4 <sup>th</sup>
11008	R9	Rbrick	25	0	0	0		
11010	R11	Rbrick	75	0	0	19		1-4 <sup>th</sup>
11010	R15	Rbrick	10	0	0	0		
11010	R15	Rbrick	25	0	0	0		
11010	R15	Rbrick	50	0	0	0		
11012	R15	Rbrick	5	0	0	0		1-4 <sup>th</sup>
11014	R11	Rbrick	0	0	0	0		1-4 <sup>th</sup>
11014	R11	Rbrick	5	0	0	0		
11014	R15	Rbrick	5	0	0	0		
11014	R15	Rbrick	5	0	0	0		
11015	R11	Flue	40	0	0	15	Combed flue tile	1-4 <sup>th</sup>
11015	R15	Rbrick	25	0	0	0		
11015	R15	Rbrick	25	0	0	0		
11015	R15	Rbrick	150	0	0	0		
11016	R12	Rbrick	5	0	0	0		
11016	R9	Rbrick	5	0	0	0		
11017	R9?	Rbrick ?	51	0	0	21		
11019	M31	Brick	20	0	0	0		19-20th
11019	P0	Sewer	100	0	0	13	Glazed sewer pipe	
11019	R6	Rbrick	25	0	0	0		
11021	M1	Brick	50	0	0	0		14-16th
11021	M1	Peg	75	0	0	15	Diamond peg hole 11x10mm	
11021	M1	Plain	25	0	0	13		
11021	M1	Plain	25	0	0	0		



11021	M1	Plain	75	0	0	16		
11021	M1	Plain	75	0	0	0		
11021	M1	Plain	100	0	0	15		
11021	M18	Plain	225	0	0	17	Blown	
11021	M26	Brick	100	0	0	0	Slop moulded?	
11021	M26	Brick	900	0	12	44	Sanded	
					9			
11021	M3	Plain	25	0	0	14		
11021	M3	Plain	100	0	0	17		
11021	M4	Plain	75	0	0	15		
11021	R0	Rbrick	100	0	0	0	Eight tiny fragments	
11021	R11	Rbrick	125	0	0	0		
11021	R14	Rbrick	100	0	0	24	Signature mark	
11021	R8	Rbrick	175	0	0	23		
11023	M1	Plain	10	0	0	0		13-16th
11023	M1	Plain	10	0	0	0		
11023	M1	Plain	10	0	0	0		
11023	M1	Plain	25	0	0	14		
11023	M1	Plain	25	0	0	12		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	25	0	0	12		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	25	0	0	0		
11023	M1	Plain	50	0	0	12	Blown	
11023	M1	Plain	75	0	0	0		
11023	M1	Plain	100	0	0	15		
11023	M1	Plain	125	0	0	16		
11023	M15	Peg	200	0	0	13	Square peg hole 10x10mm	
11023	M15	Plain	10	0	0	15		
11023	M15	Plain	25	0	0	0		
11023	M15	Plain	25	0	0	15		
11023	M15	Plain	50	0	0	12		
11023	M15	Plain	50	0	0	14		
11023	M15	Plain	50	0	0	14		
11023	M15	Plain	50	0	0	16		
11023	M15	Plain	50	0	0	17	Blown	
11023	M15	Plain	75	0	0	14		
11023	M15	Plain	75	0	0	14		
11023	M2	Plain	50	0	0	0		
11023	M4	Peg	110	0	0	13	Square peg hole 10x12mm	
11023	M4	Peg	410	0	0	15	Square peg hole 10x?mm	

11023	M54	Plain	650	0	0	15	Smoothing on surface. Indented border	
11031	M1	Plain	25	0	0	0		13-16th
11031	M15	Plain	100	0	0	16		
11031	M15	Plain	100	0	0	16		
11031	M15	Plain	325	0	0	15		
11031	M15	Ridge	225	0	0	17		
11031	M3	Crested	125	0	0	11	Green glaze on surface. Fan shaped. Very abraded	
11031	M4	Plain	100	0	0	14		
11032	M1	Plain	25	0	0	16		13-16h
11032	M70	Brick	10	0	0	0		
11033	R10	Rbrick	300	0	0	0		2-4th
11033	R10	Rbrick	625	0	0	26	?Signature mark	
11033	R14	Flue	75	0	0	12	Combed flue tile	
11033	R15	Rbrick	25	0	0	0		
11035	R11	Imbric	125	0	0	13		1-4th
11035	R11	Rbrick	200	0	0	21		
11035	R2	Rbrick	75	0	0	51		1-4th
11035	R2	Rbrick	150	0	0	33		
11035	R6	Rbrick	225	0	0	32	Surface indentation	
11036	R14	Rbrick	25	0	0	0		
11036	R15	Rbrick	25	0	0	0		1-4th
11036	R15	Rbrick	50	0	0	0		
11036	R15	Rbrick	75	0	0	0		
11036	R15	Tegula	75	0	0	0	Part of a cutaway. Too broken to determine shape.	
11036	R16	Tegula	150	0	0	18		
11036	R2	Rbrick	50	0	0	23		
11036	R6	Rbrick	100	0	0	34		
11037	M1	Plain	25	0	0	12		
11037	M1	Plain	75	0	0	14		14-16th
11037	M1	Plain	100	0	0	13		
11037	M1	Plain	100	0	0	13		
11037	M1	Plain	125	0	0	19		
11037	M15	Plain	1300	0	19	17	Blown	
					5			
11037	M31	Brick	75	0	0	37	Sanded	
11037	M31	Brick	1925	0	12	41	Sanded. Indented border	
					8			
11037	M4	Plain	1275	0	22	19		
					0			



11037	R10	Imbre x	50	0	0	13		
11037	R10	Rbrick	75	0	0	0		
11037	R11	Rbrick	75	0	0	0		
11037	R11	Tegula	275	0	0	25	Flange broken off	
11038	M1	Plain	25	0	0	14		14-16th
11038	M1	Plain	50	0	0	16		
11038	M1	Plain	50	0	0	15		
11038	M1	Plain	200	0	0	16		
11038	M1	Plain	200	0	0	14		
11038	M1	Plain	350	0	0	16	Indented border. Grip marks on rear	
11038	M23	Brick	150	0	0	34	Slop moulded?	
11041	R11	Tegula	100	0	0	20	Flange broken off	1-4th
11041	R12?	Tegula ?	575	0	0	17	This is a very badly made tile. It did not look good enough quality to be Roman but the fabric didn't match any medieval types. Could be Medieval	
11042	R6	Rbrick	150	0	0	36		1-4th
11043	R9	Rbrick	50	0	0	24		1-4th
11044	R15	Rbrick	25	0	0	0		1-4th
11044	R15	Rbrick	100	0	0	0		
11044	R15	Rbrick	100	0	0	28		
11044	R2	Rbrick	225	0	0	0		
11049	R15	Rbrick	50	0	0	18		1-4th
11049	R15	Tegula	50	0	0	16	Flange broken off	
11065	R1	Rbrick	25	0	0	0		1-4th
11065	R11	Rbrick	50	0	0	0		
11065	R11	Rbrick	50	0	0	0		
11065	R11	Rbrick	75	0	0	0		
11066	R1	Tegula	125	0	0	0	Most of tile surface missing	1-4th
11068	R0	Rbrick	5	0	0	0	Five tiny fragments	1-4th
11069	M0	Plain	25	0	0	0	Four tiny fragments	14-16th
11069	M1	Plain	25	0	0	12		
11069	M1	Plain	25	0	0	11		14-16th
11069	M1	Plain	25	0	0	13		
11069	M1	Plain	25	0	0	10		
11069	M1	Plain	50	0	0	12		
11069	M1	Plain	50	0	0	13		
11069	M1	Plain	75	0	0	15		
11069	M1	Plain	225	0	0	15		
11069	M15	Plain	75	0	0	17		
11069	M15	Plain	100	0	0	14		

11069	M15	Plain	175	0	0	17		
11069	M15	Plain	175	0	0	14		
11069	M35	Brick	200	0	0	45	Sanded	
11080	R0	Rbrick	5	0	0	0	Two tiny fragments	1-4th
11089	M1	Plain	25	0	0	0		14-16th
11089	M1	Plain	25	0	0	0		
11089	M1	Plain	25	0	0	0		
11089	M1	Plain	25	0	0	0		
11089	M1	Plain	75	0	0	17		
11089	M1	Plain	75	0	0	17		
11089	M1	Plain	100	0	0	13		
11089	M1	Plain	100	0	0	13		
11089	M1	Plain	100	0	0	18		
11089	M1	Plain	125	0	0	11		
11089	M1	Plain	150	0	0	13		
11089	M1	Plain	175	0	0	15		
11089	M1	Plain	175	0	0	15		
11089	M15	Plain	25	0	0	15		
11089	M15	Plain	75	0	0	15		
11089	M15	Plain	75	0	0	16		
11089	M15	Plain	75	0	0	17		
11089	M15	Plain	100	0	0	17		
11089	M15	Plain	100	0	0	17	Blown	
11089	M15	Plain	100	0	0	18		
11089	M15	Plain	125	0	0	15		
11089	M15	Plain	125	0	0	18		
11089	M15	Plain	125	0	0	16		
11089	M15	Plain	175	0	0	17		
11089	M18	Plain	175	0	0	19	Blown	
11089	M3	Plain	25	0	0	0		
11089	M31	Brick	275	0	0	29	Sanded	
11089	M37	Brick	125	0	0	55	Sanded. Blown	
11089	M37	Brick	475	0	0	50	Sanded. Blown	
11089	M47	Brick	400	0	13	37	Sanded	
					8			
11092	M1	Plain	25	0	0	13		14-16th
11092	M1	Plain	25	0	0	12		
11092	M1	Plain	50	0	0	13		
11092	M1	Plain	50	0	0	11		
11092	M1	Plain	50	0	0	14		
11092	M1	Plain	75	0	0	14		
11092	M1	Plain	75	0	0	15		
11092	M1	Plain	75	0	0	0		
11092	M1	Plain	100	0	0	12		



11092	M1	Plain	125	0	0	12		14-16th
11092	M31	Brick	800	0	12	30	Sanded	
					7			
11092	M6	Flange	500	0	0	19	Circular peg hole 13x13mm	
11092	R14	Rbrick	50	0	0	0		
11092	R9	Rbrick	25	0	0	0	Possible signature mark with three grooves	
11092	R9	Rbrick	100	0	0	0		
11093	M0	Brick	5	0	0	0	Two tiny fragments	14-16th
11093	R1	Rbrick	75	0	0	27		
11119	M15	Nib	200	0	0	13	?Tally mark. Nib on front. Grip marks on rear	14-16th
11119	M15	Plain	25	0	0	15		
11119	M15	Plain	175	0	0	15		
11119	M15	Plain	175	0	0	15		
11119	M25	Brick	400	0	13	35	Sanded	
					4			

Table 5 CBM Context Listings

## 6.2 Conservation Laboratory Wood Assessment Report

By Steve Allen

### 6.2.1. Objectives

This report aims to meet the requirements of MAP2, phase 3, Assessment of Potential for Analysis, (English Heritage, 1991). The work carried out has involved the cleaning and examination of the recovered wood assemblage, assessment of their condition, potential for further analysis, recording, dating, retention and conservation.

### 6.2.2. Procedures

Each piece of wood was unwrapped, washed and cleaned under cold running water, then examined for potential further study and conservation. The material has now been re-wrapped and awaits a decision based on the recommendations made below.

### 6.2.3. Condition

The wood was in a good state of preservation. Waterlogged anoxic conditions were maintained in all contexts in which wood survived up to the time of excavation. The tops of the vertical timbers and the coopered vessel had attenuated profiles, suggesting that the surviving upper ends lay at the margin of the permanent water table at this site, and had rotted away above this.

#### 6.2.4. Dendrochronology and tree ring studies

The timbers have no dendrochronological dating potential; this is due to the very fast growth rate of the trees from which the coopered vessel staves were cut. Some potential for tree ring studies is present in the split roundwood from which the hoops were cut.

#### 6.2.5. Listing and Recommendation.

The wooden objects are listed by timber number, then context. Where a recommendation of further work has been made, in most cases this should depend on the importance of the context and the security of its dating.

##### Timber 1, Context 11025

Coopered vessel (barrel) reused as lining of a negative feature. Consists of 23 staves, each with planed edges, chime bevel, and howel, with 'V'- section croze groove. Single bung hole through belly of vessel on stave 15. Five plugged tapping holes cut through staves (4 on stave 15, one on stave 22). Single sub rectangular Fe nail holes through staves 3, 7, 10, 13, 15, 16, 17, 22, and 24, non functional as found. Peg holes to secure batten in ends of staves 8, 9, 10 and 20, 21. Staves held together by 15+ split roundwood hoops, formed by having their ends scarfed, overlapped and adjacent edges of the overlap notched and then lashed with thin withy bindings. Staves all *Quercus* sp.

Three of hoops are from above the mid point of the vessel, all the others from below. All hoops fragmentary, but most are reconstructable, otherwise in good condition. Upper ends of staves abraded, some lower ends broken across croze groove, but otherwise in good condition.

#### 6.2.6. Recommendations

This vessel would require a full report to publication standard, perhaps as part of a wider study of such vessels. Full conservation by impregnation by polyethylene glycol followed by freeze drying is required. A drawn record at reduced scale of the whole vessel, with details of the hoop fastenings is needed. Reconstruction of the hoops, species identification and tree ring studies should be made.

This is the first such vessel to be recovered in York for some years and as it is so well preserved, it is of exceptional importance.



The remaining wood is tabulated as follows:

Timber No.	Context	Comment	Additional record	Drawing	Species id	recommendation	Notes
02	11118	halved roundwood pile with roughly cut tip. Top damaged. Some sapwood present, no bark. Slight eroded hollowing on split face. 1168 x 229 x 115	no	yes, 1:5	Quercus sp.	discard	insufficient rings for dendro
03	11103	roundwood stake in six refitting sections. two hewn facets creating sub triangular cross section tip. Good toolmark survival. 294 x 57 dia	no	no	yes	discard	
04	11094	roundwood stake in two refitting sections. two hewn facets creating sub triangular cross section tip. Good toolmark survival. 296 x 54 dia	no	no	yes	discard	
05	11113	roundwood stake point. multifaceted tip with signature marks. Poor condition. 259 x 54 dia	no	?yes, 1:2	yes	discard	
06	11075	quartered stake with irregular hewn tip. Poor condition. 783 x 78 x 70	no	yes, 1:5	yes	discard	
07	11071	small stake point with bifaced tip. Good condition. 143 x 31 dia	no	?yes	yes	discard	

Table 6 Listing of Wood Finds

Additionally, a small number of highly abraded heartwood chippings in poor condition were recovered from the fill (11023) of the well.

#### 6.2.7. Summary

The initial impression is that the coopered vessel is medieval in date; its technology is entirely consistent with a vessel produced at or before the date for the fill of the feature produced by the pottery. The other timber pieces may be medieval in date but they are not sufficiently diagnostic to support or supplant other dating evidence. The coopered vessel would merit further record, study and research as an artefact in its own right. The remainder of the assemblage may be discarded after a basic record and species identification have been completed.

## 6.3 The Small Finds

By Nicola Rogers

### 6.3.1. Small Finds Listing

FIND	CONTEXT	DESCRIPTION
SF00030	11021	Glass Fragments
SF00031	11015	Flint Fragments
SF00032	11066	Iron Nail
SF00033	11044	Iron Nail
SF00034	11044	Flint Fragments
SF00035	11007	Iron Object
SF00036	11067	Haematite Ore
SF00037	11067	Iron Strip
SF00038	11021	Fired Clay Tobacco Pipe
SF00039	11033	Flint Flake
SF00040	11033	Copper Alloy Wire
SF00041	11065	Iron Nail
SF00042	11014	Iron Nail
SF00043	11012	Iron Nail
SF00044	Unstratified	Iron Sheet
SF00045	Unstratified	Iron Object
SF00046	11031	Wood Fragments

Table 7 Listing of Small Finds

### 6.3.2. Summary

There is very little that can be said about this small group of 16 finds; the datable objects are post-medieval vessel glass (sf30, c.11021) or tobacco pipe (sf38, c.11021). The remainder comprises nails and iron fragments, a piece of twisted copper alloy wire, some worked flints and a ?haematite or ironstone fragment. Unfortunately, these finds give no clues to the nature of activity on the site.

## 6.4 The Pottery

By Ailsa Mainman

### 6.4.1. Roman levels

Fifty-one sherds of pottery from deposits attributed to Roman activity come from contexts 11080, 11008, 11044, 11007, 11010, 11011, 11036, 11035, 11033, 11066, 11065, 11062. These are mostly small, very abraded sherds which range in date from the 2nd to the 4th centuries (as represented on the one hand by Ebor fabrics and on the other by calcite-gritted wares). Their abraded appearance may result from being rolled about in plough soil. Similar abraded small



sherds were recovered higher up the sequence where they are considered residual. Two contexts towards the top of what is thought to be the Roman sequence produced later pottery: 11019 produced an unidentified sherd which might be medieval; 11006 produced a Anglian sherd and a sherd of 12th century gritty ware, together with Roman sherds, raising questions of either intrusion or revision of the phase sequence.

#### 6.4.2. Medieval levels

Although there is Anglo-Scandinavian pottery, in the form of a few sherds of Stamford ware from contexts 11042 and 11015, there is no clear Anglo-Scandinavian horizon. The earliest levels datable by the pottery are 12th century (11016, 11015, 11014, 11095, 11038) and some surrounding contexts have only Roman sherds (11046, 11103, 11096). The sequence continued through the 13th and 14th centuries (11023, 11017, 11119, 11093, 11101, 11092, 11089, 11031) as represented by York Glazed wares and Brandsby-type wares. Humber wares take the sequence into the 15th century (11069).

#### 6.4.3. Post medieval and modern levels

Contexts 10015 and 11021 produced 18th and 19th century wares. Context 11000 produced a further two sherds of Anglian pottery.

#### 6.4.4. Summary

This is a small collection of pottery (236 sherds) which represents a sequence, albeit incomplete and patchy, from the 2nd to the 19th century. It is typical domestic pottery and must represent a range of activities over this period including possible manuring of fields and the periodic disposal of household rubbish. The presence of Anglian pottery on the outskirts of the old Roman centre is of interest and consistent with the pattern now being recognised from investigations around the city.

#### 6.4.5. Spot Dates

CONTEXT	QUANTITY	SPOT DATE	DETAILS
0	6	15TH	1 gritty 1splashed 1 Humber 2 Brandsby 1 early glazed ware
10015	6	18TH CENTURY	4 tin-glazed earthenware teacup 1 brown glazed ware
11000	5	ANGLIAN	2 Anglian, 3 Roman grey wares
11006	12	12TH CENTURY	2 Roman grey ware 1 ?Roman 4 Dales 1 gritty ware 2 Ebor

			1 Anglian
11007	18	2ND/3RD	15 3rd century Roman 18 Roman including Ebor, colour-coat, Dales, samian
11008	2	ROMAN	1 Ebor 1 scrap
11010	6	ROMAN	5 calcite gritted ware 1 Roman
11011	3	ROMAN	3 abraded Roman
11014	10	12TH CENTURY	5 gritty wares, 5 Roman (including samian and grey wares)
11015	5	12TH CENTURY	3 gritty wares, 2 Stamford
11016	10	12TH CENTURY	3 gritty wares 7 Roman including a lamp
11017	17	13TH CENTURY	14 gritty wares 2 splashed wares York glazed ware
11018	2	10TH	2 Stamford glazed wares
11019	0	MEDIEVAL	1 ?medieval
11021	19	18/19TH CENTURY	1 samian 17 18/19th century wares 1?medieval
11023	5	14TH CENTURY	5 Humber ware sherds 1 14th century type?
11031	6	14TH CENTURY	1 Siegburg base 1 York Glazed ware 2 gritty wares 1 splashed
11033	4	ROMAN	4 very abraded Roman
11035	1	ROMAN	1 oxidised Roman
11036	1	ROMAN	1 abraded oxidised Roman
11037	3	13TH CENTURY	1 splashed 1 calcite-gritted 1 medieval
11038	5	12TH CENTURY	1 Roman, 3 gritty wares 1 splashed ware
11042	3	10TH CENTURY	1 Stamford 2 calcite-gritted
11044	1	ROMAN	1 sherd grey ware
11046	1	?	scrap
11062	2	ROMAN	1 very abrade Roman, 1 amphora
11065	9	ROMAN	9 very abraded Roman
11066	1	ROMAN	1 Ebor
11069	1	15TH CENTURY	1 burned Humber



11080	3	4TH CENTURY	3 calcite gritted sherds
11089	6	EARLY 14TH CENTURY	1 gritty ware 1 splashed 2 York Glazed wares including part of a bridge spout 1 early Humber 1 abraded unidentified
11092	28	EARLY 14TH CENTURY	12 gritty 1 Roman grey ware rim 6 York Glazed including bridge spout frag 1?medieval handle 1 York Glazed ware 1 splashed 2 Humber 3 sandy oxidised wares 1 early Humber
11093	4	14TH CENTURY	1 very abraded Roman 1 gritty 1 York Glazed 1 Humber
11095	2	12TH CENTURY	2 gritty wares
11096	1	2ND CENTURY	1 stamped samian base
11101	1	14TH CENTURY	1 Brandsby ware sherd
11103	1	ROMAN	very abraded Roman
11119	4	13TH CENTURY	1 gritty, 2 York Glazed, 1 burned red ware
110021	21	18/19TH CENTURY	misc 18/19th century sherds

Table 8 Pottery Spot Dates

## 7. CONSERVATION ASSESSMENT

### 7.1 Aims and Objectives

This report aims to meet the requirements of MAP2 (English Heritage, 1991) to produce a stable site archive (Phase2: Fieldwork). This has involved X-radiography and an assessment of the condition, stability and packaging of the finds.

The potential of the assemblage for further analysis and research is also discussed (MAP2 Phase 3: Assessment). The condition of the various classes of material is summarised and indicators of unusual preservation are noted. There are recommendations for investigative conservation, for additional specialist support, and topics for further research are raised.

### 7.2 Procedures

All metal finds and slag fragments were X-rayed using standard Y.A.T. procedures and equipment. Two sheets of film were used to produce a duplicate for archive purposes, and given a reference number in the YAT Conservation Laboratory series. The X-ray number was written on the packaging and each image on the X-ray plate was labelled with its small find number. The plates were packaged in acid-free archival envelopes. The plate number was added to the YAT Online Photo Archive and linked to the IADB find record for each object.

All finds were examined under a binocular microscope at X20 magnification. The material identification was checked and observations made on the condition and stability of the finds. An individual assessment was recorded in the Conservation Work Record area on IADB for each find, the information can be printed out through SQL Query.

### 7.3 Quantification

A total of 17 small finds were assessed and 1 X-ray plate produced. The number of objects in each material category is listed below according to list sent with them:

Copper alloy	1
Fired clay	1 (multiple fragments, tobacco pipes)
Flint	3
Glass	1 (multiple fragments)
Haematite	1
Iron	8 (find numbers, one of them multiple fragments)
Slag	1 (now also listed as iron)

### 7.4 Assessment of Condition

An assessment of each individual find can be found on IADB and printed out as a list through SQL Query ("Assess all").

This section contains an overview of the condition of the finds by material type:



#### 7.4.1. Iron

The bulky orange-brown corrosion found on these iron finds reflects well aerated soils, there was only one find (SF00044, unstratified) with patches of vivianite(?) but these were not uniformly present, and did not reflect significant waterlogged anaerobic environments in the contexts from which the iron finds were retrieved. Several of the finds had little or no metal core remaining.

#### 7.4.2. Non-ferrous Metals

The copper alloy twisted wire ring (SF00040) exhibited green powdery corrosion products which are potentially unstable.

#### 7.4.3. Slag, ore

The piece of 'slag' (SF00045) was magnetic and X-ray revealed a metal object included at one end. This requires dry storage. The ore (SF00036) was not uniform in hardness or colour; it is not similar to haematite found at Coppergate which was thought to have been used for polishing non-ferrous metals (Bayley, 1992, p791). There is not sufficient evidence for metalworking from this assemblage.

#### 7.4.4. Other inorganic materials

The Fired Clay, Glass, and Flint had some silt in the interstices, they were all stable and in good condition.

### 7.5 Statement of Potential

#### 7.5.1. Indicators of preservation

Metalwork: The corrosion evidence from the metalwork suggests that the metal finds were retrieved from well aerated deposits; they were in poor condition. This is an aggressive environment for the metal finds preserved in situ.

### 7.6 Recommendations

#### 7.6.1. Further Investigative Conservation

No further work was required by N. Rogers for research on the iron finds. The copper alloy wire ring (SF00040) exhibited signs of bronze disease, but no further investigation was required for research purposes. If the find is to be retained, we chemical stabilisation of the copper alloy or annual monitoring of its condition. Documentation will appear in digital form on IADB in the Conservation Work Record area. Digital record photographs will be taken of any item treated; they will be added to the Online Photo Archive and linked to the find record.

Further work may be required if the finds are selected for photography, illustration or display.

### 7.6.2. *Analysis and specialist Support*

A geologist could confirm the on-site haematite identification (SF00036).

### 7.6.3. *Storage*

#### 7.6.3.1 Packaging

The dry finds have been packaged appropriately for long term storage. All materials used are archive stable and acid-free. Plastic bags have been pierced to allow airflow within microclimates, reducing the risk of condensation and mould growth. 'Jiffy', (polythene) foam inserts have been added to most of the bags (except for SF00036) to provide additional support and protect against mechanical damage during transit. Any replacement of packaging materials should be carried out in consultation with a conservator. Avoid paper or card labels in association with metals, especially lead and lead alloys. Acid vapours will cause active corrosion, (Cronyn, 1990).

#### 7.6.3.2 Storage Environment

Metals and slag are packed in a polythene 'Stewart' box with silica gel to provide a dry microclimate of less than 15% Relative Humidity which will halt any further corrosion, (Knight, 1992). Each box should contain at least 6x100g bags of silica gel and a humidity indicator strip. It is necessary to monitor the indicator strips regularly; if any part of the strip turns pink the gel will need to be regenerated.

## 7.7 **Resource Requirements**

Until the research design for the analysis phase is formulated, the exact cost of the work cannot be specified. The sums below give a general guide to the costs that are likely to be incurred and have been calculated at the current hourly rate. Additional work may be required if objects are selected for drawing, photography or display, this is not routinely included below:



## 8. ENVIRONMENTAL ASSESSMENT

### 8.1 Introduction

Five sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) and 1 box of hand-collected bone were submitted to Palaeoecology Research Services (PRS) for an evaluation of their bioarchaeological potential. Three of the samples were associated with ?oven 11057, one was from the fills of a barrel well, and one from the fills of a ditch.

### 8.2 Methods

#### 8.2.1. Sediment samples

The sediment samples were inspected in the laboratory and their lithologies recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for the recovery of plant and invertebrate macrofossils.

The flots and washovers resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

#### 8.2.2. Hand-collected vertebrate remains

For the hand-collected vertebrate remains that were recorded, data were entered directly into a series of tables using a purpose-built input system and *Paradox* software. Records were made concerning the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Other information, such as fragment size, dog gnawing, burning, butchery and fresh breaks, was noted, where applicable.

Fragments were identified to species or species group using the PRS modern comparative reference collection. The bones which could not be identified to species were described as the 'unidentified' fraction. Within this fraction fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid), and totally unidentifiable.

### 8.3 Results

#### 8.3.1. Sediment samples

The results for the samples are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample numbers.

Context 11018

Sample 12/T (3 kg sieved to 300 microns with washover; approximately 6 litres of unprocessed sediment remain)

Moist, mid grey-brown to mid to dark grey-brown, crumbly and slightly sticky (working soft), sandy clay silt, with patches of mid reddish-brown silty sand. Very small, small and medium-sized stones (2 to 60 mm) were present, together with fragments of rotted mortar/plaster. Rotted charcoal was common.

The small to moderate-sized washover of about 200 cm<sup>3</sup> consisted mainly of charred material, though there were small amounts of fine modern rootlets. The charred remains largely comprised oak (*Quercus*) charcoal (to 25 mm in maximum dimension) with modest amounts of rather variably preserved cereal grains. The latter included barley (*Hordeum*), oats (*Avena*, some of it *A. sativa*, cultivated oat), and bread/club wheat (*Triticum 'aestivo-compactum'*), with moderate numbers of brome (*Bromus*) grains, presumably as a crop weed. All the cereals showed signs of having begun to germinate (and there were some detached coleoptiles—shoots—amongst the grains); some barley grains had sprouts reaching almost to the full length of the grain. Perhaps the most likely explanation for this material is that it represents grain which became burnt whilst being dried during the malting process. A clue as to a possible fuel (other than wood) may lie in the remains of heather (*Calluna vulgaris* (L.) Hull) root/basal twig fragments, though these are perhaps most likely to have arrived with turves or peat, since remains of the upper parts of the plant were restricted to a trace of charred twig and there were some fragments of charred material (to 5 mm) which may have been peat or mor humus (highly humified peaty soil typically developing on heather-dominated heathland or moorland). The cereal crop must have been rather clean; there were only a very few weed seeds present. The few charred leguminous cotyledons which were tentatively assigned to lentil (*Lens culinaris* Medicus) require further examination to firm up the identification.

Context 11023

Sample 11/T (3 kg sieved to 300 microns with paraffin flotation; approximately 7 litres of unprocessed sediment remain)

Moist, light grey-brown to mid to dark grey-brown, crumbly (working soft), humic slightly sandy clay silt (lighter areas are clay sand), with medium and large-sized stones (20 to >60 mm). Fragments of wood, twigs and rotted mortar/plaster were present. Traces of vivianite were observed.

The rather large residue of about 500 cm<sup>3</sup> was about half by volume sand and gravel (to 35 mm), the rest being woody detritus, including twig fragments, and mainly quite strongly decayed wood, amongst which there seemed to be some wood chips. Some of this material carried traces of vivianite, no doubt reflecting a degree of decay.

Seeds were not abundant and rather lacking in diversity, but usually well preserved. They included a range of taxa typical of neglected waste ground and land marginal to woodland or scrub or the banks of rivers: tall perennial and biennial herbs requiring some soil enrichment.



Most prominent were cow parsley (*Anthriscus sylvestris* (L.) Hoffm. and stinging nettle (*Urtica dioica* L.), but plants such as burdock (*Arctium*) and hogweed (*Heracleum sphondylium* L.) were also present. Other taxa suggested the presence of waterside or wetland habitats, perhaps just those obtaining along a shady ditchbank. Several taxa might have formed the 'woody' aspect to this community: elder (*Sambucus nigra* L.) and ash (*Fraxinus excelsior* L.), via seeds and seed epidermis fragments, respectively, as well as poplar/aspens (bud-scales) and willow (buds and twig fragments). Two taxa were certainly not part of this community: bread/club wheat (a single charred grain) and the dyeplant woad (*Isatis tinctoria* L., a single uncharred decayed pod fragment). This is one of very few records for this last plant from the post-Conquest medieval period in York, though it was quite frequent in Anglo-Scandinavian deposits at 16-22 Coppergate (Kenward and Hall 1995); it has formerly been noted from a 14<sup>th</sup> century well at 22 Piccadilly, from a pit fill of late 14<sup>th</sup> century date at 17-21 Piccadilly (Reynard's Garage site), and from a 12<sup>th</sup> century ash deposit at 41-9 Walmgate ('Time Team' site).

The flot was of moderate size and rather rich in invertebrate remains. Preservation was variable, from good to rather poor (E2.0-4.5, mode 3.0 weak; F 2.0-4.0, mode 2.5 weak, following the scheme of Kenward and Large 1998). The most abundant invertebrates were the resting eggs (ephippia) of water fleas, of which there were many hundreds, probably almost all being *Daphnia* species. There were also some hundreds of ostracods, mostly as well-preserved paired valves. These, some aquatic beetles (a *Limnebius* species being much the most numerous), and some planorbis snails, clearly indicate that the barrel well indeed held water (unless, as seems unlikely, it was a soak-away for waste water obtained elsewhere), and that the water was not too polluted. The aquatics had presumably become mixed into the backfill when the latter was dumped (in the way postulated for grain pests in the Roman well at Skeldergate, York, by Hall *et al.* (1980)).

A range of terrestrial insects was present, with species indicative of habitats ranging from damp-ground vegetation (e.g. *Aphrodes flavostriatus* (Donovan)) to drier semi-natural habitats (various weevils and ground beetles), and from litter such as might occur in or around houses (e.g. *Ptinus* sp., *Tipnus unicolor* (Piller and Mitterpacher) and *Mycetaea hirta* (Marshall)) to foul rotting matter and dung (at least three *Aphodius* species and *Onthophagus* sp.). Apparently this was an occupied area, but one in which semi-natural habitats had survived—therefore presumably not intensively occupied. There was no obvious segregation of groups (other than aquatics) by their decay state, so all of the remains may have entered simultaneously and by a similar route. The barrel well seems to have been well-protected at its mouth, at least by a complete raised rim, since it had not acted as a pitfall trap.

#### Context 11040

Sample 13/T (1 kg sieved to 300 microns with washover; approximately 1 litres of unprocessed sediment remain)

Moist, light brown to light to mid grey-brown, crumbly and unconsolidated, sandy silt (?ashy), with fragments of brick/tile and rotted charcoal. Modern roots and rootlets were noted.

The washover consisted of about 30 cm<sup>3</sup> of charcoal (to 10 mm), two charred cereal grains (one each of barley, and oats, the latter showing evidence of sprouting), uncharred rootlets (perhaps

ancient) and fine (<2 mm) calcareous material in amorphous granules which may, for example, have been recrystallised lime. There were traces of charred ?heather root/twig fragments (to 5 mm).

#### Context 11046

Sample 14/T (3 kg sieved to 300 microns with washover; approximately 5 litres of unprocessed sediment remain)

Moist, mid reddish brown to mid to dark grey to mid to dark grey-brown, sticky to crumbly (working soft), clay silt, with very small stones (2 to 6 mm). Rotted charcoal was abundant. Modern roots and rootlets were noted.

The moderate-sized to large residue of about 300 cm<sup>3</sup> was mainly charred material: charcoal (to 15 mm, including hazel, oak and willow/poplar) with well-preserved cereal grains (mainly barley, with a few oats and a trace of bread/club wheat), again showing evidence of sprouting, though altogether at a much lower overall concentration compared with the grain in the sample from Context 11018. There were some quite substantial heather root/twig fragments (to 20 mm) and some other indicators that turves or peat may well have been present: charred root/rhizome fragments, sedge (*Carex*) nutlets and herbaceous detritus (cf. Hall 2003).

#### Context 11095

Sample 15/T (3 kg sieved to 300 microns with paraffin flotation; approximately 5 litres of unprocessed sediment remain)

Moist, light to mid grey-brown to mid grey-brown, brittle to crumbly (working soft), sandy clay silt, with small and medium-sized stones (6 to 60 mm). Twigs and a few land snails were present. Modern roots and rootlets were noted.

This sample yielded a large residue of about 750 cm<sup>3</sup> of which about 275 cm<sup>3</sup> was sand and gravel (to 35 mm), the rest woody fragments, especially twigs. There were remains of some taxa likely to have served as food, notably well preserved seeds of fig (*Ficus carica* L.), but also endocarp ('core') fragments of apple (*Malus sylvestris* Miller) and rare fruitstones of 'cherry' (*Prunus* Section *Cerasus*) and 'plum' (*P. domestica* ssp. *insititia* (L.) C. K. Schneider), suggesting food waste, perhaps faecal in origin, was deposited in the ditch (which pollution might account for the rarity of aquatic invertebrates). The moderate amounts of corncockle (*Agrostemma githago* L.) seed fragments, typically originating in milled cereal foods, may also have been part of a 'sewage' component, but cereal 'bran' was not observed. A single uncharred pea (*Pisum*) hilum (seed-scar)—material normally only recovered from the best-preserved waterlogged cess pit fills—probably also originated in this way. For the rest, the plant remains mainly represented tall herb communities of neglected waste places, riverbanks and hedgerows, and included cow parsley, hemlock (*Conium maculatum* L.), weld or dyer's rocket (*Reseda luteola* L., perhaps a dyeplant, but quite likely no more than a weed) and woundwort (*Stachys*, perhaps *S. sylvatica* L.). Seeds were rather sparse but mainly well preserved.

The flot was fairly small and contained moderately large numbers of insects and a few other



invertebrates. Preservation was variable (E 2.0-4.0, mode 2.5 weak; F 2.0-3.5, mode 2.5 weak). There were some water beetles (mostly *Limnebius* sp.) and a few ostracods, but cladocerans were not observed. Waterside insects were present, but rare. The terrestrial fauna included species from weeds and more established vegetation (perhaps even trees or shrubs), dung, and perhaps from in or around buildings. This ditch may have only held water for part of the year, or have been overhung by trees and thus been too shaded for the development of a rich aquatic fauna.

### 8.3.2. Hand-collected vertebrate remains

The entire hand-collected vertebrate assemblage, recovered from deposits of Roman, medieval and post-medieval date, amounted to 209 fragments (representing 31 contexts), of which 48 were identified to species. Most of the deposits yielded less than 10 fragments, with fresh breakage augmenting the size of some of the assemblages. Table 1 shows the number of fragments representing each species or group by period. All the material from the deposits dated to the Roman period have been amalgamated, although several assemblages could be more tightly dated to the 2<sup>nd</sup>/3<sup>rd</sup> and 4<sup>th</sup> centuries. Sixteen measurable fragments and 2 mandibles with teeth *in situ* were recovered.

Overall, the preservation was reasonable. 'Angularity' (the nature of the broken surfaces) was fairly consistent, with few fragments that were battered or eroded in appearance. Only the material from Contexts 11006 and 11042 was described as being of variable preservation. Typically, the bones of Roman date were fawn in colour, whilst most of the material dated to the later periods was dark brown. Some of the assemblages were extremely fragmented, the result of much fresh breakage damage during excavation and post-excavation processes. This was particularly noticeable for the material recovered from deposits of Roman date.

A range of species was identified, which included the remains of the major domesticates – cattle, caprovid, and pig. The large proportion of fragments assigned to the 'unidentified' fraction was mostly composed of large mammal shaft, rib and vertebrae fragments. Skeletal element representation for the main domestic species suggested that all parts of the body were represented, but the assemblage was too small for the identification of specific disposal patterns by species or by period.

Dog remains included part of a skull from Context 11038, whilst one of the Roman ditch fills (Context 11049) produced five fragments identified as cat, all probably representing a single adult individual. A roe deer (*Capreolus capreolus* (L.)) radius was recovered from Context 11007, another Roman ditch fill. Fish remains were scarce, but included a gadid vertebra from Context 11018, together with several fish scale fragments from a sample from the same deposit.

## 8.4 Discussion and statement of potential

Plant remains preserved by charring were present, often in considerable quantities and in a good state of preservation in the three samples associated with the ?oven. The presence of grains showing sprouting in all three indicated the contexts all probably represented the same kind of activity, apparently malting.

The two other samples gave useful assemblages of plant remains preserved mainly by anoxic waterlogging. Somewhat strangely, the assemblage from the barrel well fill was in some ways more reminiscent of a ditch fill, whilst the ditch deposit, in its small content of food (perhaps faecal) waste, was more typical of a well fill (cf. evidence from 16-22 Coppergate, Kenward and Hall 1995, or Worcester, Greig 1986). It must be assumed that the sample had not been confused at any stage since excavation.

The invertebrate assemblages—especially if amplified by material from further subsamples—have the potential to provide a range of information about the features and their surroundings. This would be of very great value since little work has been carried out on biological remains of this date or from the Lawrence Street area of York.

The vertebrate assemblage recovered from these excavations was small, with few bones of use for providing biometrical and age-at-death information. However, preservation was mostly good, with little evidence of reworked or redeposited material and, additionally, most of the deposits could be fairly tightly dated. The bones suggested a mixture of refuse, with both butchery and domestic waste represented.

### **8.5 Recommendations**

It would be useful, in view of the relative rarity of the charred plant remains recovered from the oven fills, and especially in view of the early date, to make a proper record, perhaps using the existing processed sample, plus some more material from Context 11018 (via which the tentatively identified remains of lentil could be re-examined). The presence of so many oat grains amongst the barley may call for some further comment, too.

The insects from Context 11023 and 11095 should be recorded in full, preferably adding the remains from further subsamples to those already extracted. Recording will require careful examination of the remains in view of the fragmentation and decay of some, but almost all appeared identifiable. Any other samples from the features should also be analysed. A basic record of plant remains should be made from the same samples to provide a context for the insects and offer further evidence for environment, living conditions and human activity.

The small size of the animal bone assemblage renders this assemblage of limited interpretative value. Additionally, fragments providing age-at-death and biometrical information are not numerous. The current assemblage does not warrant further analysis.

With regard to retention and any future interventions, it is recommended that all the material is retained for the present, and that any deposits of a similar kind threatened with destruction during development at this site are sampled and investigated for their content of plant and animal remains in an appropriate way.

### **8.6 Retention and disposal**

All of the current material should be retained for the present.



## 8.7 Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

Species		1st-4thC	10thC	12thC	13thC	14-16thC	18-20thC	Total
<i>Canis f. domestic</i>	dog	-	-	1	-	1	-	2
<i>Felis f. domestic</i>	cat	5	-	-	-	2	1	8
<i>Equus f. domestic</i>	horse	3	-	-	-	1	1	5
<i>Sus f. domestic</i>	pig	2	-	1	-	1	2	6
<i>Capreolus capreolus</i> (L.)	roe deer	1	-	-	-	-	-	1
<i>Bos f. domestic</i>	cattle	7	1	1	1	4	1	15
Caprovid	sheep/goat	3	1	1	1	2	1	9
<i>Gallus f. domestic</i>	chicken	-	-	1	-	-	-	1
Fish	fish	-	1	-	-	-	-	1
Unidentified		80	2	58	7	7	7	161
<b>Total</b>		<b>101</b>	<b>5</b>	<b>63</b>	<b>9</b>	<b>18</b>	<b>13</b>	<b>209</b>

Table 9. Hand-collected vertebrate remains.

## 9. PERIOD ANALYSIS

### 9.1 Prehistoric and Roman (pre 1<sup>st</sup> – 5<sup>th</sup> centuries AD)

No features, deposits, or finds recorded from this excavation could be assigned to the prehistoric period.

The Roman period was well represented on the site yielding significant quantities of ceramic building materials and pottery and at least five ditches, one already known from the evaluation. Most of these were aligned roughly north-south but one aligned approximately east-west had clearly been cut by one of the north-south ditches. The alignment of these features strongly suggests that they were laid out with respect to the main Roman approach road from the east, an arrangement known in York and from many other Roman settlements. Apart from these ditches no other features could be reliably assigned to the period although it is just possible, but considered unlikely, that Context 11164 is the backfill of a feature of Roman date. The dating evidence recovered may indicate use, principally agricultural since the ditches appeared to be for drainage, of the land from the 2<sup>nd</sup> century to the 4<sup>th</sup> century. No evidence for this period was noted from Trench 10.

### 9.2 Anglo-Saxon and Anglo-Scandinavian (5<sup>th</sup> – 11<sup>th</sup> centuries AD)

Although very small amounts of Anglo-Saxon and Anglo-Scandinavian pottery were recovered from this excavation, from Trench 11 only, no features or deposits could be reliably assigned to the periods. Some activity in the general area is, however, very probable since there is evidence to suggest that the main Roman road immediately north of the current site, or at least its line, remained in use until the medieval period or later and provided the principal route to the east and the Humber estuary. Again nothing was noted from Trench 10 which might be of this period.

### 9.3 Medieval (11<sup>th</sup> – 16<sup>th</sup> centuries AD)

This period is very well represented and the features surprisingly diverse including a very large ditch with timber revetting and possibly associated cuts, a surprising well preserved barrel-well, an oven or furnace, other features of less certain function, and at least one possibly associated deposit of the period. Pottery, tile, and brick of the period was also common. No evidence for this period was recovered from Trench 10.

### 9.4 Post-medieval (16<sup>th</sup> – 19<sup>th</sup> centuries AD)

Although evidence for this period was not abundant, in Trench 11, pottery from a possible ditch suggested that it probably belonged to this period. Two other features, thought to be caused by the planting and or growing of trees or shrubs, are thought to be of this date as were a small number of possible build-up deposits. Pottery of this period was also recovered from a linear feature, possibly a drain, in Trench 10. Documentary and cartographic evidence suggests that the land in this area was given over to agricultural and horticultural activity during much of the 16<sup>th</sup> to 19<sup>th</sup> centuries and the recovered archaeological evidence seems to confirm this. No trace was found of any material relating to the Civil War, although documentary sources mention activity in the vicinity.

### 9.5 Modern (19<sup>th</sup> – 21<sup>st</sup> centuries AD)

There was a great deal of evidence for this period, much of it in the form of deposits and features. There were also, in both Trenches 10 and 11, many buried structural remains, walls, drains, and floor slabs which although clearly relatively modern did not relate to the until recently demolished on-site structures.

## 10. CONCLUSIONS

Both the evaluation and the present excavation have shown that despite considerable modern disturbance and destruction in the immediate area there is a lot of archaeology in the area of development all of which is likely to be removed or very seriously damaged should the proposed development proceed. There are several interesting aspects to the site commencing with the Roman ditches which are of at least two phases and appear to have the central slots, commonly known as “ankle breakers” in their base. These ditches are thought to be for drainage and to be related to agricultural practices. It is not clear whether they are purely civilian or perhaps relate to the presumed legionary *territorium* of which nothing is known in York.

The medieval features are also of some considerable interest because they clearly indicate that the area was occupied and in use for some considerable time, possibly between the 12<sup>th</sup> and 15<sup>th</sup> centuries, and were of some importance to justify the large ditch which seems to enclose the principal features. Given the dating and location of the recovered evidence it would perhaps suggest that these features are at least associated with St Nicholas’s Hospital, the main part of which lay to the east of the present site. This would make the hospital and its associated structures far larger and extensive than previously thought. This excavation has revealed that the area has a far greater archaeological potential than once thought and by revealing the wooden barrel well and previously unsuspected organic deposits has shown some of the limitations



inherent in an evaluation excavation.

The material from the excavation described above will now be further analysed and prepared for dissemination as a web-based publication.

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