

**Land to the south of  
Edgbaston Street,  
Birmingham city centre.  
Archaeological  
investigations 1997-1999.  
Post-Excavation  
assessment.**

Birmingham University Field Archaeology Unit  
**Project No. 473**  
November 2001

**Land to the South of Edgbaston Street, Birmingham City Centre: Archaeological  
Investigations 1997-1999  
Post-Excavation Assessment and Research Design**

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# Land to the South of Edgbaston Street, Birmingham City Centre

## Archaeological Investigations 1997-1999

### Post-Excavation Assessment and Research Design

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# **Land to the South of Edgbaston Street, Birmingham City Centre**

## **Archaeological Investigations 1997-1999**

### **Post-Excavation Assessment and Research Design**

#### **1.0 Summary**

The Edgbaston Street site represents one of the most important, and earliest developed, parts of Birmingham. It is surrounded by the key historical sites of the moated manor house, the smaller Parsonage Moat and associated watercourses, together with Edgbaston Street, which was one of the earliest streets to be laid out in the town. Medieval deposits were well-preserved and were located within 1.60-3m of the present-day ground level. The archaeological deposits and features represent a sequence of intensifying development from c.1200 onwards.

The archaeological excavations were undertaken on land to the south of Edgbaston Street in Birmingham City Centre. They identified five phases of activity. The earliest, Phase One, dated to the 12th - 14th centuries when pits, post-holes and an oven, representing domestic occupation and a tannery, were cut in Areas A and B respectively. The tannery was characterised by a series of tanning pits set out in regular lines within a long property which extended from a watercourse up to Edgbaston Street. One wood-lined pit contained lime. The remainder of the pits were either clay-lined or wood-lined. A series of gullies connected a number of the tanning pits, presumably functioning as water-management features. In Area C activity was represented by pits, a gully and occupation layers.

Phase Two dated to the 15th and 16th centuries. Activity was more limited for this period, being concentrated in Area B, with the continuation and expansion of the tannery. It appears that in the wake of increased industrial tanning, domestic occupation declined. There was little Phase Two activity in Areas A and C, with none in Area D. This decline is represented by the accumulation of a homogenous layer of silt across the site. This layer has subsequently been recorded during excavation at Moor Street and Park Street.

Phase Three, dated to the 17th – early 18th century, marked a resurgence of activity, principally in Areas A, B and C. Areas A and B were subject to a reorganisation of land-use, with the concentration of bell-shaped pits in Area A and the series of tanning pits in Area B being backfilled. This coincides with a documented change in landownership (T. Demidowicz *pers. comm.*). Area C becomes the focus for tanning. A well-preserved tannery is likely to be Welch's Skin Yard which is shown by Westley on his map dated 1731. Phase Three marks the first reclamation of land to the south of the moat watercourse – which is still free-flowing - and signals the beginning of Birmingham's encroachment onto previously undeveloped land.

Phase Four dated from the mid-18th century to the late 19th century. A north-south aligned brick boundary wall which extended from Edgbaston Street, forming the eastern boundary of Area A, belonged to this period. It remained standing up to 1998.

Boundary walls also survived in Area B and in Area C a series of foundations is likely to represent the Skin House marked by Sherriff on his map of 1808. Phase Four also marked the beginning of improvement to the City's sewerage system, represented by the large culverts in Transects A-D and in Area D.

Phase Five dated to the 20th century and was represented by a tarmac carpark surface, concrete slabs, piles and a lift-shaft of former buildings.

A large, well-preserved pottery assemblage, including continental imports, was recovered during the excavations. This assemblage included a high percentage of medieval sherds and it represents the first well-stratified, domestic group for historic Birmingham. The recovery of tanning tools is of great significance, as they are a scarce resource, not found on comparative sites. Evidence of bone and horn-core, leather and glass-working were recorded onsite, reflecting the rise in industry from the medieval period onwards. Environmental analysis, particularly of waterlogged deposits and pollen, has provided rich and diverse information on the landscape prior to occupation in the 12th century and on the watercourse during its long use. The insect remains suggest that the land had been used as pasture, or as a stocking yard – supporting earlier research that suggested the Site had been used to 'water' animals prior to their sale at market.

## **2.0 Introduction (Figure 1)**

### **2.1 Background to the Project**

The Site (Figure 1) is located to the south of Edgbaston Street in Birmingham City Centre and at the time of evaluation and excavation was transected by Smithfield Passage. The Site is bounded by Edgbaston Street, Gloucester Street, Upper Dean Street and Pershore Street. Prior to evaluation, the majority of the Site was used as a carpark. Land to the south of Smithfield Passage was occupied by a warehouse. The ground level slopes from north to south.

### **2.2 Archaeological Background (Figure 2, Map 1)**

Some examination of Birmingham's surviving below-ground archaeological deposits representing the manorial moat was carried out in the early 1970s during development of the present-day Wholesale Market (Watts 1980). However, this development preceded Planning Policy Guidance Note 16 (Department of the Environment 1990) and although much relevant information was recovered, the work resembled more of a present-day watching brief than an open-area excavation. In this instance, Lorna Watts and a small team from the City Museum monitored groundworks. Despite difficult conditions, this watching brief clearly demonstrated the survival, not just of the manorial moat-ditch which was itself waterlogged and contained preserved wooden stakes, but also of substantial dressed-sandstone footings and walls belonging to 14<sup>th</sup>-century structures on the moat platform.

In 1995 the Field Archaeology Unit was commissioned to carry out desk-based assessments of the proposed development site at Edgbaston Street (Litherland and Mould 1995). The assessment demonstrated the importance and close proximity of the manorial moat, the smaller Parsonage Moat and a series of associated

watercourses, along with the church and market place close to the Site (Map 1). Edgbaston Street was identified as one of the earliest streets to be laid out in the town. The assessment also highlighted the high potential for survival of archaeological deposits on the Site itself which was transected by a watercourse connecting the two medieval moats (Smithfield Passage).

Two areas were available for evaluation by trial-trenching in 1997 (Figure 2). The first (Trench 1), located at the western end of Edgbaston Street, extended to the south from the street frontage to test for deposits relating to Parsonage Moat. The second, located immediately to the south of Smithfield Passage, was intended to test for deposits relating to a watercourse which originally linked Parsonage Moat with that of the moated manor house (Trench 5). Modern cellaring had truncated any earlier remains relating to Parsonage Moat. However, the watercourse cut did survive in the trench to the south of Smithfield Passage.

More extensive excavation was undertaken to the south of Smithfield Passage in 1997 to recover evidence of the watercourse (Transects A-D).

Further evaluation was carried out in 1999 to the north of Smithfield Passage (Trenches 2-4, 6 and 7). Medieval deposits were recorded in all five of the evaluation trenches. This was, again, followed by more extensive open area excavation (Areas A-D).

All archaeological work was carried out in accordance with the guidelines set down in Planning Policy Guidance Note 16 (Department of the Environment 1990).

In 1999, evaluation immediately to the east of the Row Market found small-scale medieval survival between later 19th-century cellaring (Hovey 1999). Subsequent watching briefs were carried out in 2000 at The Row Market (Ramsey 2000) and during construction of a new road, The Row. This recorded further survival of the moat ditch (Patrick 2000). Evaluation and excavation of sites at Moor Street and Park Street (BUFAU forthcoming) have been carried out in 2000 and 2001, along with an assessment of a site at Upper Dean Street (Litherland and Watt 2000). Excavation at St. Martin's Church is in progress (BUFAU forthcoming).

### **2.3 Aims**

The aims of the evaluation and excavation work were to:

- preserve any surviving medieval and post-medieval features by record.
- contribute towards an understanding of the early development of Birmingham.
- define the morphology of the settlement and any industrial remains, and to determine their character, development and chronology.
- examine the pottery chronology.
- contribute to the understanding of domestic and industrial activity within medieval and post-medieval Birmingham, with particular reference to other sites of similar date investigated within the city.

## 2.4 Method

The overburden was removed by a 360 degree excavator, with a toothless bucket, under archaeological supervision. Spoil was stockpiled on-site. The uppermost horizon of archaeological features and deposits revealed by machining, was hand-cleaned and a base plan of features was prepared. A FastMAP FM700 Data Logger, utilising PenMAP software was used for Area B only. The excavation sampling strategy was decided following a meeting with the Planning Archaeologist.

Sampling by hand excavation comprised not less than 50% of discrete features. A higher percentage of discrete features was excavated where more information was required to achieve a full understanding of the date, character and function of an individual feature, or group of features. Features of probable industrial function were fully excavated, whilst linear features not associated with settlement were sampled to determine their form, function, date, and to determine the stratigraphic sequence. Excavation of linear features associated with settlement comprised a minimum of 25%. All datable features were sampled for environmental analysis.

Recording was by means of pre-printed pro-formas for contexts and features, supplemented by plans (at 1:20 and 1:50), sections (at 1:10 and 1:20), monochrome print and colour slide photography. Subject to the permission of the landowner, it is intended to deposit the paper and finds archive in an archive store approved by the Planning Archaeologist for Birmingham City Council.

## 3.0 Results (Figures 3-6, Plates 1-6)

### 3.1 Phasing

The results of excavation can be placed into five phases of activity on the basis of the date of the pottery and the principles of archaeological stratigraphy.

Phase 1	12th, 13th & 14th century
Phase 2	15th -16th century
Phase 3	17th - 18th century
Phase 4	18th - 19th century
Phase 5	20th century

### 3.2 Phase 1 (Figures 3-5, Plates 1-3 and 6)

The original ground level sloped down from Edgbaston Street following the natural slope of the sandstone ridge on which the town was established. The downwards slope caused erosion of the soft sandstone which produced the soft sand deposits and pebbles at the southern end of Areas A and B. Relatively thin patches of waterlogged organic material overlying the subsoil suggest Area C was substantially drier than Area D to the south. The presence of a tree bole (F352) suggests a wooded landscape. In Area D, the ground was wet, with patches of marshy ground. The area seems originally to have been wooded, as is evidenced by a number of tree boles.



#### *Area A (Figure 3, Plates 1 and 2)*

In the central third of Area A the subsoil (1002) was overlaid by a thin silt-sand layer (1074). A concentration of features survived against the eastern edge of the excavation area. A square pit (F123) with a recut (F105) and a smaller square cut at its base (F149) contained an almost complete pottery vessel. The sides of F105/F123 were vertically cut, with no slumping and may have been lined. Immediately to the east, one half of a pit (F147) with a recut (F148) was recorded. A series of three post-holes or possibly small pits (F134, F135 and F136) was aligned east-west. A further four post-holes (F118, F121, F142 and F143) were recorded across the excavation area. Post-hole F121 contained a single sherd of Phase Two pottery, along with Phase One pottery. Towards the western boundary, an oven (F109) survived as a clay-lined cut with a tile-surface. The absence of charcoal and the presence of the unburnt clay-lining suggests that the oven may not have been used. However, the upper backfill did contain a quantity of heat-shattered stones. A second clay-lined feature (F110) may have been related to F109. The partial survival of F110 prevents further comparison.

#### *Area B (Figure 4, Plate 3)*

The survival of Phase One activity extended over the majority of Area B. Towards the southern edge of excavation, the subsoil (2247) was overlain by a series of deposits (2017, 2018, 2036 and 2056). These may represent the continuation southeast of a watercourse (F213, F255 and F256) which continued southeast to the limit of the excavated area.

Extending north from the watercourse was a series of tanning pits (F209, F214, F216, F217, F218, F224, F226, F229, F230, F232, F233 and F237). These were large, rectangular features which were variously wood-lined, clay-lined, or simply cut into the subsoil. A number had stake-holes associated with them. The movement of skins and hides from one pit to another had caused deposits to spill over from one feature to the next, making excavation in plan practically impossible. These features were instead recorded and sampled by a series of excavated sections.

One area which was better preserved in plan – within the southern third of the excavated area – revealed a sequence of slots (F239, F241, F242 and F243) which appeared to channel water, or liquid, from one area of the tannery to another.

The tannery remains were contained within one plot of land – the limits of which were still visible as Phase Three brick walls. Further Phase One survival was recorded in a second plot of land to the east. Three pits (F267 – F269) were recorded at the eastern limit of the excavated area. A rectangular-shaped pit (F237) was recorded immediately to the south of a cluster of features represented by a V-shaped gully (F265) and its recut (F270), a steeply-cut pit (F266) and a large flat-based pit (F280).

#### *Area C (Figure 5)*

A cluster of three features - a north-south aligned gully (F350), a small pit (F352) and a larger pit (F351) - survived against the northern edge of the excavated area. The

truncated remains of three more pits (F306-F308) and a thin occupation layer (3025) were recorded 2m to the south. A shallow rectangular pit (F348) and a post-hole (F349) survived to the west of a Phase Three well (F327).

*Area D (Not illustrated)*

A tree-hole (F426) and two organic layers overlying the subsoil (recorded as 4031, 4032, 4049 and 4050) represent the only Phase One activity in this area.

*Transects A-D (Plate 6)*

A watercourse ran northwest-southeast across this area. Phase One fills were represented by waterlogged, peaty deposits. These were sampled extensively for waterlogged plant remains, pollen and insect remains (see sections below).

### **3.3 Phase 2 (Figures 3-5, Plates 1, 3 and 4)**

*Area A (Figure 3)*

One of the fills of F121, a post-hole at the centre of the area, contained a sherd of Phase Two pottery. Phase Two pottery was also recovered from the backfill of pit F145. No other evidence of Phase Two activity was recorded in Area A.

*Area B (Figure 4, Plates 3 and 4)*

The tannery established in Phase One continued in use throughout Phase Two. This is indicated by re-cuts of some pits and usage deposits in others (F208, F209, F214, F217, F218, F223, F229, F230, F275 and F279). Tanning pit F214 had two stake-holes (F219 and F220) associated with its cut, whilst tanning pits F275 and F279 had a cumulative total of eight (F271-F274, F276-F278).

Of note, is a pit recorded in the southwestern corner of Area B (F200), close to the watercourse. This wood-lined pit was filled with lime which had been kept moist with the use of a wooden lid, still *in situ*.

Activity either side of the tannery was limited. Two features, a pit (F222) and post-hole (F221), were recorded to the west and two pits (F252 and F261) to the east.

*Area C (Figure 5)*

Phase Two activity is limited to a single occupation layer (3099) at the southern limit of the excavation area – immediately to the north of the watercourse. Elsewhere, Phase Two pottery sherds were recovered from the backfill of pits F348, F349 and F351.

*Area D*

No Phase Two activity was recorded in this area.

#### *Transects A-D*

No Phase Two activity was recorded in this area.

### **3.4 Phase 3** (Figures 3-6, Plates 1 and 5)

#### *Area A (Figure 3, Plate 1)*

Phase Three is characterised by a concentration of sub-rectangular and bell-shaped pits (F103, F106, F108, F119, F120, F124, F127-F131, F137-F141, F145 and F146), along with two post-holes (F116 and F125). The similar nature of all these backfills – a grey-black, charcoal-flecked silt-sand with mortar and brick fragments - suggests a deliberate large-scale backfilling event and reorganisation of the area. This coincides with a documented change in landownership (T. Demidowicz *pers. comm.*)

The backfill of a kiln (F114 and F115) is also dated to Phase Three. Its use, however, may belong to one of the earlier phases.

#### *Area B (Figure 4)*

The majority of Phase Three activity appears to be the backfilling of existing tannery features and the insertion of a number of drainage services (F210, F245 and F247) and the cutting of additional pits (F203, F234, F235, F249 and F262) and a single ditch (F253). Material used to backfill the tanning pits includes thick deposits of leather off-cuts. During post-excavation analysis it will have to be considered whether this part of the site was at this time used for leatherworking rather than for tanning.

As with Area A, this episode of backfilling may relate to a change in landownership and reorganisation of the property backplots.

#### *Area C (Figure 5, Plate 5)*

Area C represents the focus of Phase Three activity with the extensive survival of a tanning yard (F312 and F329), pits (F300-F304, F309-F311, F315-F317, F320-F326, F328, F330-F331, F333, F337, F338, F342, F343, F346 and F347), a gully (F313), two wells (F305 and F327) and building foundations (F353 and F354). The many recuts of the tanning pits relate to frequent emptying and refilling or extensions of their size.

The tanning pits cut a homogeneous layer of grey-charcoal flecked silt (3046, 3047). This layer was also recorded in Areas A and B and has since been recorded during excavation at Moor Street and Park Street. The spread of this layer across a high percentage of the excavated 17<sup>th</sup> century town, combined with the decline, albeit temporary, in industry suggests significant change in landuse and perhaps also in landownership. This may be the result of a co-ordinated town-planning episode which excavation has shown to be characteristic of the earlier medieval town. Examination of the available documentary sources may help to shed light on this phase of activity.

In contrast to the Phase One and Two tannery in Area B which was contained within a long narrow plot, this is arranged within a square-piece of land, similar to one shown

in Figure 7. Documentary sources identify this as Welch's Skin Yard.

#### *Area D (Figure 6)*

The preparation of animal skins appears to have been carried out on the southern bank of the watercourse for the first time in this phase. A single lime pit (F419) was recorded in Area D. A thin band of crushed coke (4049) may represent an attempt to consolidate the wet ground for working on. The source of the coke must at the moment remain unknown; this will certainly repay investigation at post-excavation stage. Two linear gullies (F427 and F429), post-holes (F428, F430-F432) and pits (F414, F415, F420, F423-F425) signal an increase of activity in Area D. This reflects the wider pressure on land within the town centre in this period.

#### *Transects A-D (Not illustrated)*

The watercourse appears to have remained free-flowing and clear of debris during this phase.

### **3.5 Phase 4 (Figures 3-6, Plates 1 and 5)**

#### *Area A (Figure 3, Plate 1)*

Following the backfilling of Phase Three features, a large service drain (F117) is laid in Area A. The remains of a small cellar (F102/F144) are recorded at the centre of the area and a yard surface (F150) extends from the cellar to a well (F111). Immediately to the south is F104, a well-cut which was abandoned at a depth of 1.14m. This feature is cut by a pit (F107). A roughly-cut linear feature (F132) and a brick yard surface (F112) lie to the south.

#### *Area B (Figure 4)*

Phase Four activity survived as a series of north-south aligned brick-built walls, the majority of which follow earlier medieval property divisions.

#### *Area C (Figure 5, Plate 5)*

A series of brick-built walls within the eastern third of Area C may represent the foundations for the Skin House which is illustrated on Sheriff's 1808 map. A discrete brick surface (F318) truncates one of the Phase Three tanning pits (F331) close to Smithfield Passage. A single post-hole (F345) is recorded towards the northern edge of Area D.

#### *Area D (Figure 6)*

The area is dominated by a northwest-southeast aligned culvert (F401/F403) which extends across the whole area. A smaller culvert (F405) extends southwest from F401. A well (F400) is recorded at the centre of the area, with a small brick surface (F406) at the western edge of Area D.

A series of demolition layers relating to Phase Four buildings was recorded across the

area before being removed by machine.

#### *Transects A-D (Not illustrated)*

The culvert seen in Area D continued across Transects A-D, with a number of smaller culverts leading off to the southwest.

The watercourse was finally backfilled towards the end of Phase Four and waste fragments recovered from its backfill suggest that a number of varied small-scale industrial processes, including tanning, glassmaking and metalworking, were being practiced within the immediate environ of Smithfield Passage. A wide range of datable artefacts was recovered, including pottery sherds, leather shoe soles, laces and off-cuts, metal shoe rivets, mother-of-pearl buttons and button-blanks, glass wasters, a glass bead and animal bones.

### **3.6 Phase 5 (Figure 4)**

The majority of Phase Five features and deposits were removed from all areas by machine to enable investigation of earlier levels. These included the tarmac carpark surface and occasional concrete floor slabs. The exceptions were in Trench 1 where extensive cellaring had erased any earlier archaeological deposits relating to Parsonage Moat, in the southern quarter of Area A where terracing had removed traces of earlier activity, and in Area B where substantial concrete pile-foundations and wall foundations were left *in situ* to preserve the surviving archaeology around them.

### **3.7 Unphased**

All of the features and deposits in Areas A and D and in Transects A-D have been securely phased either by pottery dating or by stratigraphic relationships. In Area B 20 features and 59 contexts need further analysis to clarify their phasing. This also applies to 11 contexts in Area C.

Further study of the stratigraphic record will clarify these relationships and will facilitate the phasing of the presently undated features and deposits on the basis of similarity of character and form.

### **3.8 Discussion**

No prehistoric, Roman or Saxon features were identified. A single prehistoric scraper was found, but no artefacts dating to the Roman or Saxon periods were recovered.

The Edgbaston Street site represents one of the most important, and earliest developed, parts of Birmingham. It is surrounded by the key historical sites of the moated manor house, the smaller Parsonage Moat and associated watercourses, together with Edgbaston Street, which was one of the earliest streets to be laid-out in the town. It was, in 12th century terms, a prime site for development and the generation of new rents for the de Birmingham family, with a principal trading and market frontage and access to supplies of fresh water at the rear.

The earliest activity, Phase One, dated to the 12th - 14th centuries when pits, post-holes and an oven, representing domestic occupation and a tannery, were cut in Areas A and B respectively. The tannery was characterised by a series of tanning pits set out in regular lines within a long property which extended from a watercourse to Edgbaston Street. One wood-lined pit contained lime. The remainder of the pits were either clay-lined or wood-lined. A series of gullies connected a number of the tanning pits, presumably functioning as water-management features. In Area C activity was represented by pits, a gully and occupation layers.

The Phase One tannery is the earliest known example in the West Midlands. Parallels are known at Pershore (Baker *pers. Comm.*) and in Northampton (Shaw 1996). The discovery of 13th and 14th-century tanning at Edgbaston Street shows that there was a thriving industry and trade in Birmingham well before the 16<sup>th</sup>-century tanneries at Park Street (BUFAU forthcoming), Hartwell Garage (Burrows *et al.* 2000) and the Custard Factory (Mould 2000) in Digbeth and also well before Walsall's leatherworking industry took off in the 18th century. The importance of the Edgbaston Street evidence also lies with the scarcity of known medieval tanning sites within the West Midlands as a whole.

Phase Two activity, dated to the 15th and 16th centuries, was more limited. It was concentrated in Area B, with the continuation and expansion of the Phase One tannery. It appears that in the wake of increased industrial tanning, domestic occupation declined. There is little Phase Two activity in Areas A and C, with none in Area D.

Phase Three, dated to the 17th – early 18th century, marks a resurgence of activity, principally in Areas A, B and C. Areas A and B were subject to a reorganisation of land-use, with the concentration of bell-shaped pits in Area A and the series of tanning pits in Area B being backfilled. This coincides with a documented change in landownership (T. Demidowicz *pers. comm.*). Area C becomes the focus for tanning. A well-preserved tannery is likely to be Welch's Skin Yard which is shown by Westley on his map dated 1731. Phase Three marks the first reclamation of land to the south of the moat watercourse, which is still free-flowing, and signals the beginning of Birmingham's encroachment onto previously undeveloped land.

The tannery is well-preserved. The many recuts of the pits relate to frequent emptying and refilling or extensions of the size. Their clustering suggests that they were located within a single backplot which extended from the watercourse, later identified by Sherriff as Gingerbread Court (1809). Two wells provided a source of water additional to the nearby watercourse.

The Phase Three evidence demonstrates how tanning continued to be a major Birmingham industry into the post-medieval period. By this time, it was more widespread, with other sites at Park Street (BUFAU forthcoming) and along the Digbeth/Deritend High Street, at Hartwell Garage and at the Custard Factory (Burrows *et al.* 2000 Mould 2000). Cartographic analysis suggests additional tanneries along Upper Dean Street (Litherland and Watt 2000).

The tanning pits in Area C at Edgbaston Street cut a homogeneous layer of grey

charcoal flecked silt. This area was also recorded in Areas A and B and has since been recorded at Moor Street and Park Street. The spread of this layer across a high percentage of the excavated 17<sup>th</sup> century town, combined with the decline, albeit temporary, in industry suggests significant change in landuse and perhaps also in landownership. This may be the result of a co-ordinated town-planning episode which excavation has shown to be characteristic of the earlier medieval town. Examination of the available documentary sources may help to shed light on this phase of activity.

Phase Four is dated from the mid-18th century to the late 19th century. A north-south aligned brick boundary wall which extended from Edgbaston Street remained standing up to 1998. The foundations of similarly-aligned boundary walls also survived in Area B. The recording of these walls demonstrates that an earlier premise of Dr Nigel Baker, who has carried out extensive historic town-plan analysis for Birmingham, that property boundaries surveyed in the early 18th century had probably not moved significantly since the area was first laid out for settlement in the medieval period is correct.

In Area C a series of foundations is likely to represent the Skin House marked by Sherriff on his map of 1808. Phase Four also marked the beginning of improvement to the City's sewerage system, represented by the large culverts in Transects A-D and in Area D.

Phase Five is dated to the 20th century and is represented by a tarmac carpark surface, concrete slabs, piles and a lift-shaft of former buildings.

A large, well-preserved pottery assemblage, including continental imports, was recovered during the excavations. This assemblage included a high percentage of medieval sherds and it represents the first well-stratified, domestic group for historic Birmingham. The recovery of tanning tools is of great significance, as they are a scarce resource, not found on comparative sites. Evidence of bone and horn-core, leather and glass-working were recorded on site, reflecting the rise in industry from the medieval period onwards. Preliminary environmental analysis, particularly of waterlogged deposits and pollen, has provided rich and diverse information on the landscape prior to occupation in the 12th century and on the watercourse during its long use. The insect remains suggest that the land had been used as pasture, or as a stocking yard, supporting earlier research that suggested the Site had been used to 'water' animals prior to their sale at market.

### **3.9 Statement of Potential**

Excavation has shown that a whole sequence of related industries was located in the Bull Ring area during the medieval and post-medieval periods. The changes and fluctuations in the function and intensity of use of this area over this extended time period-indeed the very dynamics of urban life-will be a major theme of the post-excavation research programme. Livestock are thought to have been watered and rested in backplots extending from Edgbaston Street to the watercourse which joined Parsonage Moat with the Manorial Moat, prior to being sold at the market. A slaughterhouse was adjacent to the market, and tanning sites were just one step further west, on the site of the 1999 excavations. So there was a ready source of materials for

the tanners, not just of hides, but also of water from the watercourse, a succession of wells and possibly a number of natural springs which were known to have existed at Lady Well and at the top of the Digbeth High Street.

The Edgbaston Street site was the first of a series to be excavated as part of the new BullRing development. Since 1999, evaluation immediately to the east of the Row Market has found small-scale medieval survival between later 19th-century cellaring (Hovey 1999). Subsequent watching briefs have been carried out at The Row Market (Ramsey 2000) and during construction of a new road, The Row. This recorded further survival of the moat ditch (Patrick 2000). Evaluation and excavation of sites at Moor Street and Park Street (BUFAU forthcoming) have been carried out in 2000 and 2001, along with an assessment of a site at Upper Dean Street (Litherland and Watt 2000). Excavation at St. Martin's Church is in progress (BUFAU forthcoming). Collectively, these sites will make the most significant contribution to our understanding of Birmingham's historic development since the recording of the moated manor house by Lorna Watts in the early 1970s. The evidence will demonstrate that Birmingham was not only founded in the 12th century, but that it rapidly expanded into a thriving trading centre by the 13th century when Moor Street and Park Street were inserted into the town's street plan. Previous research which suggested that Birmingham's origins lie solely with the post-medieval industrial revolution will be subtly altered, and there will be an opportunity to study and engage with archaeological evidence for the post-medieval period in Birmingham which has not been previously possible on this scale.

Initial assessment of Phases 3-5 indicates a fluctuating pattern of industrial activity and changes in the types of industry being practiced on this site. This will need to be set against the wider city context of Birmingham's evolving medieval and post-medieval industrial reputation.

More research needs to be done, but it is clear that a quote from an article in *Industrial Great Britain*, dated 1891, can also apply to Birmingham's medieval and post-medieval, pre-Victorian, residents:

*"the spirit and enterprise of the inhabitants of Birmingham are well illustrated in the number and variety of their occupations. They do not confine themselves to one particular branch of business, but their energies overflow into nearly every department of industry, and each succeeding year gives birth to some new and important undertaking."*

#### **4.0 Assessment**

[NB Iain Ferris writes **Post-excavation assessment of the archaeological data from the Edgbaston Street site was undertaken as a single site assessment, and specialists have prepared their reports and recommendations for further work on this basis. However, subsequent to the assessment being completed, it has been decided to study and publish the Edgbaston Street site along with the smaller Moor Street site and the large Park Street site. An integrated post-excavation programme for all three sites will be produced once all three individual assessment reports have been completed. Specialists, authors and**



**illustrators will then be asked to focus their research programmes to take on board this integrated approach and the need to avoid duplication of research effort. However, for the purposes of this report the specialist task allocations as submitted specifically for Edgbaston Street on its own have been presented.]**

#### **4.1 Stratigraphic data**

As described above, the features and deposits on site can be divided into five phases, dating from the 12th century through to the 20th century. The majority of these features and deposits has been dated, either by chronologically-diagnostic artefacts recovered from their fills or by their archaeological stratigraphic relationship. Further analysis and definition of the stratigraphic sequence would contribute to the research aims stated in Section 2.2 above and revised in 5.2 below.

#### **4.2 Artefactual data**

##### **4.2.1 Prehistoric Flint** *by Lynne Bevan*

A small, chronologically-undiagnostic side scraper with substantial remnant cortex was recovered (2216). The material used was a light grey flint with the thin, compacted cortex typical of flint from secondary deposits. This is entirely in keeping with the flint sources exploited throughout prehistory in the British Midlands where primary flint from mines was unavailable.

While this isolated implement attests to prehistoric activity in the vicinity on the site, further chronological resolution is not possible and, as such, no further research is recommended.

##### **4.2.2 Pottery** *by Stephanie Ratkai*

All the pottery was examined macroscopically. The medieval pottery was divided into very broad groups, grey ware, sandy cooking pot, white ware, buff ware, Deritend ware and a miscellaneous medieval category. Late medieval/early post-medieval pottery was divided between late red wares, Midland purple ware and Cistercian ware. The post-medieval pottery was divided into ware categories eg coarseware, blackware, yellow ware, slipware, manganese mottled ware, English stoneware, tin glazed earthenware etc. Eighteenth and nineteenth-century factory-produced wares were categorized as modern glazed wares in the absence/presence tables, although notes were made of the ware types eg pearl ware, creamware, industrial slipwares, white salt glazed stoneware etc. The pottery was quantified by overall sherd count but not within ware /fabric types. Every context from both the excavation and evaluation was spot dated. Notes were kept of unusual forms and decoration.

#### **Medieval Pottery**

The majority of the medieval sherds was from cooking pots, usually heavily sooted. The sandy cooking pots were predominantly straight sided and occasionally decorated with thumbled strips or incised wavy lines. The other broad group of cooking pot/jars fell into the Warwickshire grey/black ware tradition (fabric 121, Ratkai 1987-8, and Ratkai forthcoming), with rounded bodies and well-formed angular rims springing from the neck.

Jugs occurred mainly in white and buff wares. They were decorated with roller stamping, both simple and, less commonly, complex combing and incised horizontal lines. One or two white ware sherds were decorated with red paint. A variety of jug forms was present, from large pitchers to smaller jugs with frilled bases, to baluster jugs. A small but consistent amount of Deritend ware, decorated with white slip, was present. A single unglazed jug handle in Warwickshire grey/black ware occurred. There were some non-local jugs from the Chilvers Coton and Boarstall-Brill kilns, but these were not common.

Other forms represented were bowls, cisterns and ?bottles. The latter two forms occurred in late red wares of the late medieval/early post-medieval period. Of a similar date were sherds from Cistercian ware cups and a small fragment from a chafing dish or salt.

### **Post-Medieval Pottery**

The post-medieval pottery was dominated by blackware, coarseware and yellow ware. Blackware forms consisted mainly of tankards, cups and other drinking vessels. A chafing dish was present and a substantial section of a large dripping tray. Yellow ware forms were made up of mainly table wares e.g. dishes, bowls and drinking vessels. There were examples of a chafing dish, candlestick and a strainer. In addition, there was a pedestal base, possibly from a salt or candlestick, the knob from a ?lid and a ?posset pot. Domestic utilitarian forms were found mainly among the coarsewares, where large jars, the best represented form, bowls and pancheons occurred. Many of the coarsewares were extremely abraded and/or burnt, testament to the industrial activities in the area. At least two chafing dishes and one strainer also occurred in the coarsewares. It is likely that the greater part of the yellow wares, blackwares and coarsewares were of local manufacture.

Dishes or platters were found amongst the slipwares. A number of decorative techniques were found e.g. light-on-dark decoration, jewelled slipware, multi-coloured slipware, impressed slipware and, less commonly, dark-on-light decoration and feathered slipware. Most of the slipwares seemed to be Stoke-on-Trent types.

### **Continental Imports**

A small amount (but more than expected for a site so far inland) of German stonewares was present, made up of Siegburg, Cologne, Bartmann and Westerwald types.

### **Pottery by Area**

#### **Area A**

A small number of features was of medieval date, most notably pit F105 which contained a virtually complete, straight-sided cooking pot, together with a quantity of medieval sherds, the latest of which is unlikely to be later than the 14<sup>th</sup> century. It is possible that the pottery could all belong to the 13<sup>th</sup> century. A smaller pit (F149), cut into the fill of F105, contained 15<sup>th</sup>-16<sup>th</sup>-century pottery. Other features which contained purely medieval fills were pits F121, F123, F147 and F149, postholes

F134 and F135, and oven F109. The medieval features seem to lie in the centre of Area A, in a band running east-west. Although there is some medieval pottery which occurs residually, mainly in 17<sup>th</sup>-century and later layers, it is not plentiful. There was very little late 15<sup>th</sup>-16<sup>th</sup>-century pottery from the site, but there seems to have been a resurgence of activity in the 17<sup>th</sup>-century, which continued through to the early 18<sup>th</sup> century. There is less pottery which can be confidently ascribed to the early and middle years of the 18<sup>th</sup> century and it is not until the advent of creamware in the second half of the 18<sup>th</sup> century that more secure dates can be given to the features. Late demolition and rubble layers 1006 and 1007, and pit fill 1009 contain mixed pottery, the latest of which post-dates the 1840s.

### **Area B**

A series of pits (F218, F226, F237, F266 and F268), cuts (F224, F227, F228 and F256), and a slot (F241) contained only medieval pottery in their fills. A significant number of layers, predominantly silty, often containing organic and/or carbonized material date to the 13<sup>th</sup>-15<sup>th</sup> centuries. In addition, unlike Area A, there was a greater frequency of residual medieval pottery. However this was most apparent in 16<sup>th</sup>-century contexts, the evidence for which is largely missing in Area A. The general impression is of uninterrupted development in Area B, from possibly as early as the 12<sup>th</sup> century through to the 16<sup>th</sup> century. From the 17<sup>th</sup> century onwards the same pattern is apparent as in Area A, ie that there are clearly episodes which belong to the late 17<sup>th</sup> century -early 18<sup>th</sup> century but that beyond this point it is difficult to pinpoint activity until the later 18<sup>th</sup> century.

### **Area C**

This area is the one for which there is good documentary evidence for tanning and leather manufacture in the post medieval-period. A few features with medieval fills survive (ie pits F300 and F351, gully F350 and cut F353), together with medieval layers 3020 and 3025. These seem to fall into the date range of 13<sup>th</sup>-15<sup>th</sup> centuries. Sixteenth-century material is less apparent here than in Area B, but 17<sup>th</sup>-early 18<sup>th</sup>-century pottery is again well represented. Once more, there was virtually no residual pottery. A greater quantity of 19<sup>th</sup>-century pottery was recovered from this area, particularly from Trial Trenches 4 and 5 from which there was hardly any pottery pre-dating the 17th century.

### **Area D**

Two contexts alone produced pottery: 6009, dated to the later 18th century, and 6014, dated to the 15th-16th century.

### **Statement of Potential**

The pottery assemblage is both large and, for the most part, in good condition. A surprisingly large amount of medieval pottery has survived, the first large, well-stratified, domestic group for the historic centre of Birmingham. The presence of glazed crested ridge tiles indicates that at least one building of note or importance, excluding the manor house, was present in the area. Likewise the post-medieval pottery covers the period of the rise of Birmingham as a major manufacturing centre and seems to show a change from normal domestic groups into those associated with

industrial activity.

The pottery from the Edgbaston Street site is extremely valuable for many reasons. There is a good sequence from the 12th or 13th centuries to the 18th century. This alone is important for the study of the early history of Birmingham, particularly as so much information has been lost by development in the 19th and 20th centuries. However, the pottery assemblage is important because it enables us to study the ceramics associated with industrial activity and to examine the effect of a thriving industrial base on trade, as represented by ceramics. This, in turn, allows an appreciation of the mechanics at work in the distribution of pottery in general.

The medieval pottery assemblage seems to have been largely derived from local sources and contained a typical range of pottery and vessel types found in any normal domestic group. Cooking pots predominated, generally very heavily sooted, together with a smaller number of jugs and bowls.

By the early post-medieval period the range of pottery and vessel forms had increased. The presence of chafing dishes, dripping trays, candlesticks and strainers and slipware dishes and platters, whilst in no way atypical in urban assemblages of this period, does suggest a degree of prosperity in the 16th and 17th centuries. However, in contrast to this, one of the more striking aspects of the pottery assemblage is the near lack of certain 18<sup>th</sup>-century domestic wares. It is common in urban sites of this date to find, a variety of manganese mottled wares and English stonewares, particularly tankard forms in addition to the coarsewares. Trailed and feathered slipware dishes and platters were also particularly poorly represented. Many of Birmingham's inhabitants involved in industry seem to have been relatively prosperous. For example, in 1816, the Riot Act was read to an assembly of impoverished town dwellers who were forced to live on poor relief of seven shillings a week whereas formerly "*many ..... had been in the habit of earning two and three pounds a week*" (Scoby 1998). It would be expected therefore that other more expensive ceramics (e.g. white salt glaze stoneware and tin glazed earthenwares) would be apparent in 18th century domestic assemblages. Again, these were either not represented, in the case of the white salt glazed stonewares, or, in the case of the tin glazed earthenwares, were represented by less than five sherds and these in any case may date to the end of the preceding century. It therefore seems likely that at some point in the early 18th century or possibly late 17th century that there was a move away from domestic habitation in this area which was given up entirely to industry. However, by the end of the 18th century or very early 19th century domestic occupation, of a relatively prosperous type, is evidenced once more by the presence of creamware plates.

#### **4.2.3 Medieval and Post-Medieval Small Finds** *by Lynne Bevan*

This assemblage is of particular importance since it resulted from the first large-scale archaeological excavation of the Bull Ring. Although the small finds assemblage is generally limited in terms of artefactual variety and dating potential, particularly among the metalwork, certain material groups discussed in detail below are of considerable importance and will require further research and full publication. The most important of these, in terms of reconstructing past industrial and commercial

activities on the site, are the bone and horn finds, the glass vessels and waste material, the evidence for shell-working and leatherworking, and the clay tobacco pipes also which have considerable dating potential for the site and associated finds. Reference will be made to the published report on Birmingham Moat (Watts 1980) and to other recently-excavated small finds assemblages from Birmingham, particularly the Custard Factory where further evidence for shell-working was recovered (Bevan 2000).

In addition to further targeted research, selective illustration is recommended, together with photography, in order to provide a true representation of the material culture produced by generations of skilled Birmingham artisans through time in a wide variety of craft activities.

### **Copper Alloy**

Copper alloy finds comprised a pin (5024), two unidentifiable coins (1007, 4002), another possible coin (1005), two broken nails (5100, 7005), a circular domed object, possibly a nailhead or rivet (3017), a button (U5 Area A), a curved strip (2105), a nail with fragment of cloth attached, possibly from upholstery (2062), a curved fragment from a large ring (2069), two fragments of plate (5107) and a curved fragment of leaded copper alloy (2002).

The small assemblage was poorly-preserved, fragmentary and not chronologically-diagnostic, and therefore no further action is recommended upon this material, beyond illustration of the complete pin.

### **Iron**

Of most interest in the iron assemblage was a damaged, but largely complete, cauldron with a tripod base (5039), the medieval design of which considerably predated the dating of its context. An alternative explanation is that it was deliberately-anachronistic, a more modern object suspended above a workshop or shop front as a street sign. Other iron finds comprised a corroded possible trade token (4002), a fragment from the cauldron (5041), two rasps, one of which is broken (2006), a long iron rod-shaped object (5119), two fragments of iron ? bar (2006), a perforated tag with '23' stamped on it (2006), the end of a large, broken drill bit (2006), a large bolt with two washers attached (1011), two loop-headed spikes (1026), an unidentified token/coin with a corroded surface (3113), a corroded ?pair of scissors (1050), a corroded ferrule (5107), and a modern circular domed ?rivet/?stud head (3009/3010). Unidentified finds consisted of four wedge-shaped objects (2006), a corroded object (5202), a semi-circular fragment of corroded plate (5107), 11 fragments of plate (1008, 2002, 5012 x 2, 5039 x 7), eight fragments of strip (1010, 5012 x 7), and eight circular discs (2006 x 7, 4054 x 1). A total of 55 nails of various sizes was also recovered.

Due to the generally poor condition of most of the limited assemblage of iron items, many of which, such as the tools from Context 2006, appear to be of recent date, further research is only recommended for the cauldron, in order to clarify its date and purpose, and for the potential trade tokens. Illustration and/or photography of the cauldron is recommended, and a summary listing only for the other items.

### **Lead**

Lead finds comprised a small dome-shaped weight (2249), a fragment of strip (1007), and a small amorphous fragment (1034).

The possible weight is worthy of further research, illustration and publication.

### **Worked Bone and Horn**

Finds of worked bone and horn comprised two possible hide-scraping tools, one of which was made from a segment of horn core (2138) and the other from a fragment of bone on a copper alloy bar with corroded iron attachments (2002). Other bone objects comprised a scoop/apple corer (2005), a comb fragment (2004), a hairbrush (1031), a modern knife handle (5107). A total of 24 bone wedge-shaped bone objects, mainly of triangular-section, but also including some of rectangular section, was also identified (1020 x 1, 1028 x 1, 1034 x 2, 1050 x 1, 2005 x 1, 2016 x 1, 3000 x 6, 3020 x 1, 3037 x 1, 3064 x 2, 3073 x 4, 3093 x 1, unstratified x 2).

Finds of worked bone and horn, including two possible hide-processing tools and a number of wedge-shaped offcuts from bone-working, were among the most interesting objects in the small finds assemblage which is important at both a local/regional level, in view of its considerable potential in the reconstruction of on-site industrial activity and processes, and also at a national level.

Further research, the selective illustration of up to 10 objects, and comparison with assemblages from other tanning sites is strongly recommended, especially in view of the paucity of available knowledge relating to the organisation of the hide-working industry and the morphology of hide-working tools.

### **Clay Tobacco Pipes**

Four almost-complete clay tobacco pipes (1007, 1026, 5107, unstratified) and a total of 37 bowls, 16 bowl and 298 stem fragments were recovered. Several of the pipes, including one of the almost-complete pipes (1007), were stamped with maker's initials and symbols (1050, 2016 x 2, 3000, 3000 x 6, 3062, 5400) and one of the stems (5107), stamped 'L. Fiolet à St Omer Déposé', is of French origin. While some of the larger collections came from topsoil contexts, such as Context 3000, many of the pipes came from stratified contexts, together with other less-datable material, such as the wedge-shaped, worked bone objects, for which a certain degree of relative dating is therefore possible.

This comparatively large assemblage, which includes several distinct datable forms and an elaborately-decorated bowl with applied floral motifs, is interesting, both for its own sake as a group worthy of publication for future researchers, and also in view of its prime position within a craft and trade milieu in central Birmingham. The high incidence of datable forms and stamps in the collection renders further research a priority.

Further research would include full cataloguing of the assemblage and relating or the

more complete pipe and bowls to appropriate clay pipe type series. While the extensive collection of stem fragments is generally not chronologically-diagnostic, some degree of dating can be obtained by the comparison of stem bore measurements. Other aspects of research should include a local and regional search for stamps of known clay pipe manufacturers, the selective illustration of all stamps and a representative sample of complete bowl types, and the compilation of a full report for publication.

### **Glass**

For the purposes of this assessment, the glass assemblage has been divided into 'glass vessels' and 'glass manufacture', with recommendations for each aspect of the assemblage being considered separately. However, it is envisaged that the research findings will be published as a cohesive report which combines discussion of glass manufacture and recycling on the site, with a study of vessel forms, contents, and curation and discard mechanisms.

### **Glass Vessels**

A total of 60 complete, and two almost-complete bottles, was recovered, as well as the remains of four broken wine glasses, two beer glasses, and five possible decanters with applied decoration at the necks. Other glass included: 71 fragments from wine bottles, nine fragments from beer bottles, 57 fragments from other vessels, four glass stoppers, 79 fragments of window glass, one fragment of mirror glass, and a faceted glass 'diamond' and a larger faceted glass 'face', both from jewellery settings.

The glass bottle assemblage was unusually large, with a high incidence of complete bottles used to contain medicines, drinks and condiments such as Yorkshire Relish and Coffee Extract, many of which bore the manufacturer's names and addresses and often provided some information regarding the contents. With two exceptions, the complete bottles came from Context 4002, which, although of comparatively-recent date (c.19<sup>th</sup>-20<sup>th</sup> century) compared with material from other areas of the site, is interesting both in artefactual and historical terms, since the origin of much of the glass can be traced to local sources such as chemists known to be operating in the area. Examples include: 'Snape & Son, Chemist, Birmingham', 'Chase Late Palmer, Pharmaceutical Chemist, Edgbaston', 'Done, Chemist by Examination, Small Heath' and 'James Brown, Pharmacist'. Other local businesses appear on the bottles such as 'Tubb & Wilkins, 1 Hockley Hill, Birmingham', 'Ebenezer Rotton, Birmingham' and 'Barrett & Co. Birmingham, Lumb & C. Makers Castleford, Lamont's Patent', the latter appearing on a drinks bottle with a glass stopper. Other products came from further afield, such as a bottle of 'ESS Coffee & Chicory, Symington & Co, Edinburgh', a bottle marked 'O. Phelps Brown London', two beer bottles marked 'Ricketts, Bristol', and a possible perfume bottle marked 'F. Maria Farina No. 4711A Cologne.'. The perfume bottle and five possible decanters (1026) appear to be somewhat earlier than the bulk of the material which came from Context 4002.

The medicine bottles are perhaps of the most interest, providing information about self-medication during the period, which, before the inception of the National Health Service, was extremely popular, particularly for gastric complaints. Some of the bottles contained potions such as 'Dinneford's Fluid Magnesia', 'Bishops Granular Citrate of Magnesia', and 'Lamlough's Effervescing Pyretic Saline'. Several were

marked with dosage ridges specifying 'table spoons' and there were also examples of deep blue bottles reserved for more dangerous substances, one of which had contained 'Towle's Chlorodyne'.

The standard of preservation, degree of completeness and variety noted among the bottle assemblage render further research a priority. While there is no necessity for an in-depth study of the forms, and a summary listing only of the fragments is required, cataloguing of the main forms, particularly with regard to noting any maker's names is recommended, together with extensive photography. The photographic record could be adapted for publication in either an academic or more popular format. Research should also concentrate upon finding well-dated parallels at least at a local level, and with the identification of chemist shops, and other manufacturers and traders, from historical records and contemporary trade directories.

### **Glass Manufacture**

An opaque turquoise glass bead and a quantity of similarly-coloured glass fragments with a 'molten', partially-burned appearance were recovered from the same context (5112). Some of the pieces show curvature and ribbing indicative of formerly being parts of vessels, either factory seconds or curated broken material. The fragments appear to have been deliberately burned, demonstrating a craft industry and an early industrial incidence of recycling. This material, which came from a context also containing mother-of-pearl discs, might attest to the on-site manufacture of bead necklaces, as well as decorative items of mother-of-pearl. The bead appears to have been the product of the exercise, rather than also being intended for recycling, since it has some powdery inclusions which might have resulted from being made from recycled glass.

However, possible bead manufacture does not appear to have been the only glass-working on the site, since other evidence for glass production is present in the form of two clear moiles from glass-blowing (5112), small quantities of glass waste material (5200 x 7, 5202 x 1, 5221 x 4, 5300 x 20), as well as various fragments with a molten appearance. Two almost-complete ceramic crucibles (unstratified) and broken fragments from several other examples (5202, 5207, 5112, 5221, 5222), some of which had been stained with a green vitreous fluid, were also recovered. Some contexts contained a variety of broken glass fragments which might have been intended for recycling, rather than representing the waste from local factories and dwellings. It is also unclear how the bottle dump (4002) related to on-site glass-working and whether it was a form of curation, an early 'bottle bank'. Closer chronological resolution is required from the study of the glass-working and possible curation contexts in order to determine the date, extent and organisation of this craft industry. Further research, the compilation of a short report and photography will be required for the bead, the moiles, the cullet (glass waste) and the crucibles. This material will need to be set in the historical context of the known presence of Hawker's Glasshouse, set up in 1778, on part of the site.

### **Worked Stone**

Worked stone consisted of four possible whetstones (2010, 2176, 2179, 3026), two flat fragments of marble, possibly from floor tiles (1021), part of a stone roof tile



(1011), five fragments from slate roof tiles (1026, 5112 x 3, 5117), and two small pieces of shaped stone, one of which might have been a whetstone (5118 x 2).

Geological identification will be required for this small collection and at least two of the possible whetstones will require illustration.

Two perforated, circular objects, possibly from machinery of relatively-modern date were also recovered (1027), for which no further action is considered necessary.

### **Shell**

Forty-five complete oyster shells (1026 x 2, 3037, 4054 x 4, 5004 x 37, 5202) and fragments from 15 others (1006 x 4, 1009, 1009 x 2, 1020, 2101, 2123, 3037, 3063 x 2, 5039 x 1, 5112) were found, as well as a large cowrie shell which is not of North Atlantic origin (3037) and several items of mother-of-pearl, comprising six circular discs (5112, 5117 x 2, 5200, 5400 x 2), a small, cut fragment which might have been an offcut from button-making or inlay (1029), and two fragments, one with partially-made circular depressions and the other with circular cut marks from where discs had been removed (5117).

Although shells were used to produce buttons and other ornaments during the 18<sup>th</sup> to earlier 20<sup>th</sup> centuries when mother-of-pearl jewellery and inlay was popular, the debris from the craft has neither been widely researched nor published and these finds are of considerable interest in view of the research emphasis on reconstructing industrial activity. Therefore, identification of the shells, photographic reproduction of the fragments and waste material, and the compilation of a short report is recommended. Further identification is also recommended for the cowrie shell.

### **Worked Wood** *with contributions by Steven Allen and Steve Litherland*

Some items of waterlogged wood, mainly of oak, were recovered, including two radially-split boards with saw marks (5120), a sawn medieval plank or board of tangentially-faced oak (unstratified) which post-dates 1180 (Steven Allen *pers. comm.*), and a segment of wood with two peg holes from a pegged assembly, most probably a rafter, the upper side of which was worked with an adze (3000). Although unstratified, this fragment came from a pre-19<sup>th</sup> century building on the site, since this kind of woodworking became obsolete during the late-18<sup>th</sup> century when iron nails were used instead of wooden pegs (S. Litherland *pers. comm.*). Other wooden objects included a bung (2006), the purpose of which is unknown, and a stake (1079). Other wooden finds included a rotted oak post with an abraded surface (5119), a fragment of sawn wood with an *in situ* nail (5012), a strip of sawn wood (5039) and some small fragments with sawn edges (1009, 3093, 3095, 3097, 4063, 5024, 5032, 5121). Fragments of oak bark were also recovered (2035, 3074), which is interesting since this material is known to have been used in the tanning process (see 'Leather' section below).

Due to the limited nature of the assemblage and the general lack of stratification, no further research is recommended for any of this material.

### **Leather**

The remains of six shoes (5015 x 3, 5100 x 3) and a number of fragments, possibly offcuts from leather-working, were found (2065, 5012, 5024, 5039, 5100, 5202), including a leather fragment with two frilled edges (5202). While the shoes appear fairly modern, and are certainly post-medieval in date, further research is recommended on this material, with a view to identifying the leather offcuts and the location of a potential leatherworking industry on the site.

### **Slag**

Quantities of slag were recovered from the following contexts: 1009, 1010, 1021, 1033, 1034, 1038, 1042, 1045, 1046, 1047, 1048, 1049, 1050, 1058, 1061, 1062, 1064, 1066, 1070, 1074, 2003, 2004, 2005, 2035, 2058, 2072, 2101, 2107, 2118, 2126, 2135, 2138, 2185, 2244, 3064, 3125, 3132, 5004, 5024, 5039, 5221, unstratified. The general appearance of the slag suggested that it was smithing slag and the largest quantity coming from Context 1058.

No further action is recommended for this material, other than for checking of its stratigraphic significance and date, once full ceramic dating is available for the site.

### **Brick and Tile**

Two fragments of reproduction Victorian-style decorative tile, dating probably to the 1970s (5107, unstratified), 29 fragments of ceramic roof tile (5004 x 5, 5012 x 2, 5039 x 6, 5107 x 1, 5112 x 3, 5117 x 1, 5118 x 2, 5202 x 7, 5207 x 2) and two fragments of brick (5041, 5202) were recovered.

No further action is recommended.

### **Miscellaneous Finds for Which No Further Action is Recommended.**

Two fragments from an ovoid, bowl-shaped object were found of an iron-stained, possible ?bakelite material (2006). While the 'rim' might equally have been the brim of a safety helmet, the object was too large for the human head and, when fitted together, it did not sit easily on its rounded 'base' which seems to preclude its use as a bowl or other free-standing container. While the purpose of the object remains a mystery, its material, style and context do not suggest that it is of any historical or functional interest and, as such, no further action is recommended.

A fragment of fired clay (2023) and small quantities of plaster (1039), charcoal (3143, 5004, 5112), and mortar (1007, 1020, 1026, 1050, 1058, 1070, 2004, 2005, 2164, 2198, 3121, 3143, 5209) and coal (1009, 1010, 1011, 1027, 1029, 1035, 1045, 1070, 1079, 2001, 2002, 2004, 2005, 2019, 2029, 2075, 2121, 2135, 2143, 2144, 3000, 3020, 3044, 3093, 4001, 5004, F114) were recovered. This undiagnostic material is typical of that found on many urban sites, and, since it is of no interest in terms of either context or quantity, no further action is recommended beyond this summary listing.

#### **4.2.4 Animal Bone** *by Emily Murray*

### **Quantity and Methods of Retrieval**

Six tightly packed boxes (c. 45 x 20 x 26 cm) of hand-collected animal bone were recovered from the 1999 Bull Ring excavations (BRB99). One box of unstratified bone was also recovered and presented for assessment, along with two small bags of bones from the 1997 investigations (evaluation and excavation - BRB97).

Recording sheets received with the background archaeological information on the site suggested that bulk sampling was undertaken. However, not all of these samples have been processed and of those that have been sieved, the residues of ten have been sorted (M. Ciaraldi *pers. comm.*). No more information on the sampling strategy was available nor could the samples be tracked down, with the possible exceptions of three bags. These were labelled as sample 1 (1010 F105: one countable cattle bone), sample 4 (1011 F123: one countable cattle bone) and sample 5 (1075 F147: non-countable mammal bone fragments) and were found together with the hand collected material.

### **Context and Phasing**

The hand collected bones from Area A were derived mainly from pit fills (also layer 1042 and a wall F102). The bones from Area B came principally from layers along with a small number from pit fills of which only one, F223 (Phase 2), has been ascribed as a 'tanning pit'. In Area C the bones came from pits, a ditch fill, a well and layers and a number of the former came from 'tanning pits' (F302, F310, F315, F316, F326, F321). Animal bone from Area D came from fills of pits and post-holes.

Table 2 summarises the distribution of the assessed animal bone by phase. This clearly illustrates that the majority of the bones recovered are post-medieval in date. There are also a small number of contexts for which the phasing is unclear and which have been ascribed to provisional phases of 3?, 4? or 3/4.

### **Assessment of Faunal Remains**

#### **Methods of Assessment**

The faunal samples were recorded using a modified version of a system devised by Davis (Davis 1992; Albarella & Davis 1994). This system considers a selection of anatomical elements as 'countable' while the presence of non-countable specimens of interest, such as antler, horncores, pathologies and non-countable elements from unusual species, are noted. The measurements inferred vary according to element and species but the majority of these follow von den Driesch (1976). Mandibles are considered to be ageable where two or more teeth are present with recognisable wear. No attempt was made to differentiate sheep and goat at this stage.

Half of the 1999 assemblage was examined in detail (i.e. three boxes - Tables 1-4) and the other three boxes were given a cursory examination. All of the bone (2 small bags) from the 1997 evaluation and excavation was assessed in full (Table 5).

#### **Preservation**

The degree of preservation overall was mediocre. There were only a couple of well preserved waterlogged bones from Areas C and D, while a large proportion of the assemblage was in a poor state and quite degraded, with the cortical surfaces

exfoliating.

### **Range & Variety**

Cattle, horse, sheep/goat, pig, red deer (?), hare, rabbit, dog, cat and rat were the range of species recorded, along with one fish fragment (from a Gadidae) and a small number of bird bone fragments (Tables 1, 4 & 5). Cattle and sheep/goat were the most numerous species recorded and evidence of butchery, chop and cut marks, were frequently observed. Ageing data is minimal and limited to cattle and sheep/goat, while the retrieval of metrical data is slightly better, particularly in the case of sheep/goat (Table 3).

Cursory examination of boxes 4 (bone from Area B), 5 (Areas B & C) and 6 (Area B) indicated that they contained the same range of species. Box 6 only contained material from context 2197 only (Area B, Phase 3) and the majority of the elements present were cattle horncores (long horns).

Bird was represented by three countable elements. These included two galliforms, a juvenile (2021 Area B) and a femur from a large galliform, possibly turkey (1007 Area A: Phase 4), while the third was from a goose (1006 Area A). A non-countable element, the proximal epiphyses of a humerus of a goose, was present from the 1997 evaluation trench 5B (5024).

The remains of at least two neonatal dogs were present in a Phase 3 context (3050 Area C), while a skull of large dog was present in one of the unstratified contexts (Trench 2, area A). The skull displayed evidence of skinning, with cut marks on its temporal and occipital surfaces. Gnawing, probably by dogs, was also noted on a small number of bones from the site.

### **Evidence for Tanning**

The identification of leather working through the use of animal remains and the evidence of such activities for the medieval and post-medieval period for central England has been outlined and discussed by Albarella (forthcoming). The dominance of limb extremities and horncores in an assemblage, coupled with cut marks on phalanges and distal metapodials, has usually been interpreted as industrial waste from leather working. Possible evidence for tanning from the Bull Ring excavations was limited to a concentration of cattle horncores from context 2197, Area B (Phase 3). This is contemporary with the series of tanning pits from Area C. Animal bone from fills of 'tanning pits' from Area C (Phase 3: 17th - 18th century) were recovered, although there was no apparent bias towards skeletal extremities or horncores. A number of rectangular pits from medieval levels (Phase 1) in Area B have been interpreted as tanning pits. Only a small number of animal bones from medieval horizons was examined in the assessment and these came from Area A. A small quantity of animal bones from Area B Phase 1 was, however, recovered (box 4 - c. 600 g). A brief examination of this material showed that cattle, sheep and pig were represented by a mixture of skeletal elements.

### **Statement of Potential**

The analysis of the full assemblage will make a useful contribution to understanding the settlement economy of Birmingham, particularly post-medieval industrial activity

in the city centre. It will, of course, be of interest at the final analysis stage to make comparisons with other local sites, including material from excavations at the Custard factory in Digbeth, Birmingham, where evidence for a posmedieval tannery was also uncovered.

The lack of sieved material will unfortunately place limitations on the interpretation of the assemblage. It is not recommended that the Phase 5 material, which is modern in date, is studied at the final analysis stage.

Area	Phase	No. of contexts	cattle	sheep/goat	pig	bird	fish	other	Total	Comments
A	1	4	4	3	1	-	-	-	8	-
	3	16	18	6	2	-	-	-	26	-
	3/4	2	2	3	-	-	-	-	5	-
	4	1	-	-	-	1	-	-	1	femur of a large galliform (turkey?)
	4?	1	1	-	-	-	-	-	1	-
	5	1	-	-	-	1	-	-	1	goose ( <i>Anser</i> )
B	2	3	15	2	1	-	1	2	21	hare, red deer (?), gadidae fragment
	3	18	18	15	0	1	-	-	34	tibiotarsus juvenile galliform
	4	1	-	4	0	0	0	1	5	Rabbit
C	3	18	6	19	2	-	-	19	46	cat, horse, dog (neonatal)
	4	1	-	1	-	-	-	-	1	-
D	4	3	2	6	-	-	-	-	8	-
<b>Total (assessed)</b>			<b>66</b>	<b>59</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>22</b>	<b>157</b>	
<b>Total assemblage (est.)</b>			<b>132</b>	<b>118</b>	<b>12</b>	<b>6</b>	<b>2</b>	<b>44</b>	<b>314</b>	

Table 1: number of hand-collected 'countable bones' (after Davis 1992) according to area and phase (est. = estimated value).

Phase	Period	Represented by animal bone in Areas:	No. of countable elements (assessed assemblage, i.e. 50%)
1	12th, 13th & 14th century	A	8
2	15th -16th century	B	21
3	17th - 18th century	A, B, C	106
4	18th - 19th century	A, B, C, D	15
5	20th century	A	1

Table 2: number of 'countable' animal bone elements by phase after Table 1 (Phases 3/4 and 4? are not included).

Area	Phase	No. of contexts	ageable mandibles		measurable bones			
			cattle	sheep/goat	cattle	sheep/goat	bird	Other
A	1	4	-	-	6	1	-	-
	3	16	-	-	4	5	-	-
	3/4	2	-	-	1	2	-	-
	4	1	-	-	-	-	1	-
	4?	1	-	-	-	-	-	-
	5	1	-	-	-	-	1	-
B	2	3	3	-	3	2	-	1
	3	18	-	1	2	9	-	-
	4	1	-	-	-	2	-	-
C	3	18	4	8	-	-	-	-
	4	1	-	-	-	1	-	-
D	4	3	-	-	-	3	-	-
<b>Total (assessed)</b>			<b>7</b>	<b>9</b>	<b>16</b>	<b>25</b>	<b>2</b>	<b>1</b>
<b>Total assemblage (est.)</b>			<b>14</b>	<b>18</b>	<b>32</b>	<b>50</b>	<b>4</b>	<b>2</b>

Table 3: number of ageable mandibles (i.e. where two or more teeth are present with recognisable wear) and measurable bones. There were no pig elements present in either category.

box	Phase	context	trench	area	countable bones				measurable bones				comment
					cattle	sheep/goat	pig	other	cattle	sheep/goat	pig	other	
2	1	2010	2	A	-	-	-	1	-	-	-	1	horse
1	3	2003	2	A	1	2	-	-	-	2	-	-	-
1	3	2003	2	A	-	-	-	-	1	-	-	-	-
3	1	7008	7	B	-	-	-	-	1	-	-	-	-
3	5	4018	4	C	-	-	-	1	-	-	-	1	horse
3	5	4018	4	C	-	-	-	2	-	-	-	2	horse
3	3?	4019	4	C	-	1	1	-	-	1	-	-	-

Table 4: Number of 'countable' elements and measurable bones recovered from the trenches. There were no ageable mandibles present.

1997	Context	transect/trench	Countable bones				Measurable bones				comment	
			cattle	sheep/goat	pig	other	cattle	sheep/goat	pig	Other		
eval.	5039	5b	-	1	-	-	-	-	-	-	-	-
eval.	1006	1	2	-	-	1	-	-	-	-	-	hare
excav.	5118	a	-	-	1	-	-	-	-	-	-	-
excav.	5107	a	-	-	1	-	-	-	-	-	-	-
excav.	5200	b	-	1	-	1	-	1	-	1	-	cat
excav.	5100	a	-	-	-	4	-	-	-	-	-	rat

Table 5 Bull Ring evaluation and excavation 1997 (BRB97): Number of 'countable' elements and measurable bones. There were no ageable mandibles present.

#### 4.2.5 Charred Plant Remains *by Wendy Smith*

During the 1999 excavations it was clear that some waterlogged deposits were present on the site. As a result, soil samples were primarily collected for waterlogged pollen, insect and plant remains, but, where possible, additional soil was collected for charred plant remains. The samples discussed here were selected for this assessment by Pam Grinter (UBEAS), who conducted the primary processing and sorting of samples for insect remains, and kept detailed notes on which paraffin flots also contained charred plant remains. Those paraffin flots which also contained some charred plant remains, and where there was sufficient quantities of soil available to allow for processing for charred plant remains, were selected for this assessment.

In total, seventeen samples were assessed for charred plant remains in order to determine if:

- charred plant remains are present.
- the charred plant remains recovered provide information on human activity at the site, in particular food production or other industrial activities.
- the charred plant remains provide information on the surrounding environment.

## Method

The samples were processed by the BUFAU environmental officer, using water flotation. The flots (the material which floats on the water's surface) were sieved to 500µm and the heavy residues (the material which does not float) were wet sieved to 1mm. Both were air dried at room temperature and bagged when fully dry. Those flots which were not fully dry in time for the assessment were dried in an oven at 40°C. The heavy residues have not been examined for this assessment and, therefore, the results presented here are solely based on the flots.

The flots were scanned by the author, using a low-powered binocular microscope at magnifications between x12 and x25. The assessment was done through rapid scanning of samples and, therefore, the results presented below are provisional. Preliminary identifications were made without consulting the reference collection and the speed of assessment may mean that some seeds, especially smaller sized seeds, may have been overlooked. Nomenclature for the plant remains follows Stace (1997) for indigenous species and Zohary and Hopf (1994) for the economic species. The traditional binomial system for the cereals has been used here, following Zohary and Hopf (1994: Table 3 p24 and Table 5 p58).

## Results

Table 6 summarises the assessment results for all seventeen samples. Many of the flots also contained large quantities of charcoal, possibly mineralised charcoal, and dried-out waterlogged plant remains. This additional information has also been noted in Table 6.

In all cases, the quantity of charred plant remains recovered was too small to merit further analysis. Although small amounts of cereal grains [free-threshing wheat (*Triticum* sp.) and cultivated/uncultivated oat (*Avena* sp.)], pulses [common vetch (*Vicia sativa* L.) and vetch/ vetchling (*Vicia* sp./ *Lathyrus* sp.)], and weeds [dock (*Rumex* sp.), knotgrass (*Polygonum* sp.) and stinking mayweed (*Anthemis cotula* L.)] were recovered, this is not a diverse or rich enough assemblage to be of interpretable value.

Table 6. Results of the assessment of charred plant remains from medieval deposits.

SAMPLE	FEATURE	CONTEXT	CONTEXT TYPE	SAMPLE VOLUME	FLOT VOLUME	COMMENTS
1	F105	1010	upper fill of pit	8 L	50 ml	Charcoal ++. Anthracite or coal observed. Charred plants observed include: indeterminate cereal grain, oat-like large grass seed ( <i>Avena</i> type), knotgrass ( <i>Polygonum</i> sp.), unidentified large grass - oat/ brome grass type ( <i>Avena</i> sp./ <i>Bromus</i> sp. type) and stinking mayweed ( <i>Anthemis cotula</i> L.). <b>ASSESSED AS POOR TO GOOD.</b>
3	F121	1035	fill of pit	5 L	100 ml	Charcoal ++. Anthracite or coal observed. Animal bone observed. Charred plants observed include: possible fungal bodies, dock ( <i>Rumex</i> sp.) and oat-like large grass seed ( <i>Avena</i> type). <b>ASSESSED AS POOR.</b>
4	F105	1011	lower fill of pit	10 L	110 ml	Flot dried in oven at 40°C. Charcoal ++. Coal or anthracite observed. Charred plants observed include: Small



						mustard seed ( <i>Brassica</i> sp.), oat-like grass seed ( <i>Avena</i> type), oat ( <i>Avena</i> sp.), vetch/vetchling ( <i>Vicia</i> sp./ <i>Lathyrus</i> sp.), cleaver ( <i>Galium</i> sp.) and an unidentified internal structure. <b>ASSESSED AS POOR TO GOOD.</b>
5	F147	1075	fill of pit	10 L	20 ml	Charcoal -. Large quantities of waterlogged plant remains present in this sample. Charred plant remains include: wheat/rye grain ( <i>Triticum</i> sp./ <i>Secale</i> sp.) and vetch/ vetchling ( <i>Vicia</i> sp./ <i>Lathyrus</i> sp.). <b>ASSESSED AS POOR.</b>
7	F149	1078	fill of pit	8 L	50 ml	Charcoal ++. Charred plants observed include: vetch/ vetchling ( <i>Vicia</i> sp./ <i>Lathyrus</i> sp.) and dock ( <i>Rumex</i> sp.). <b>ASSESSED AS POOR.</b>
19*	-	2087	tan pit	5 L	30 ml	Flot dried at 40°C. Charcoal +. Anthracite or coal observed. waterfleas. Mainly dried-out waterlogged material. No charred plants observed. <b>ASSESSED AS POOR.</b>
25	F279	2244	tan pit	10 L	30 ml	Charcoal +. Anthracite or coal observed. Charred plants observed include: common vetch ( <i>Vicia sativa</i> L.) and stinking mayweed ( <i>Anthemis cotula</i> L.). Sample mainly made up of dried-out waterlogged plant remains. <b>ASSESSED AS POOR.</b>
27	-	4050	organic layer over sub-soil	8 L	22 ml	Charcoal +. Anthracite or coal observed. Mainly dried-out waterlogged plant remains. No charred plant remains observed. <b>ASSESSED AS POOR.</b>
28	-	4050	organic layer over sub-soil	8 L	38 ml	Charcoal +. Mainly dried-out waterlogged plant remains. No charred plant remains observed. <b>ASSESSED AS POOR.</b>
32	F427	4063	gully	10 L	17 ml	Only dried-out waterlogged plant remains observed. <b>ASSESSED AS POOR.</b>
34*	F300	3004	tan pit	10 L	2 ml	Possibly mineralised charcoal (highly vitreous). Coal or anthracite observed. Mainly dried-out waterlogged material. No charred plant remains observed. <b>ASSESSED AS POOR.</b>
36*	-	3058	tan pit	10 L	15 ml	Mineralised charcoal ++. Mainly dried-out waterlogged plant remains. No charred plant remains observed. <b>ASSESSED AS POOR.</b>
39*	F323	3065	tan pit	10 L	85 ml	Flot dried at 40°C. Mineralised charcoal +. Mainly dried-out waterlogged plant remains. One charred oat ( <i>Avena</i> sp.) grain observed. <b>ASSESSED AS POOR.</b>
42*	F310	3044	tan pit	8 L	250 ml	Possibly mineralised charcoal. Charcoal ++. Mainly dried-out waterlogged plant remains. No charred seeds observed. <b>ASSESSED AS POOR.</b>
46*	-	3097	tan pit	12 L	2 ml	Charcoal +. Mainly dried-out waterlogged material. No charred seeds observed. <b>ASSESSED AS POOR.</b>
52*	F347.02	3143	oblong tan pit	n/a	150 ml	Mineralised charcoal ++. Mainly dried-out waterlogged plant remains. <b>ASSESSED AS POOR.</b>
58	F351	3164	pit	n/a	8 ml	Flot dried in oven at 40°C. Charcoal +. Mainly dried-out waterlogged plant remains. No charred seed observed. <b>ASSESSED AS POOR.</b>

Key: Charcoal + = < 10 ml of charcoal

Charcoal ++ -> 10 ml but < 100 ml of charcoal

Charcoal +++ -> > 100 ml of charcoal

\* Additional samples also examined by Allan Hall (see above).

### **Statement of Potential**

As is clear from Table 6, sample volumes varied from a minimum of 5L to a maximum of 12L. This is a somewhat smaller sample size than desirable for sampling charred plant remains, but in all cases an additional 10 - 15 L of soil from these deposits was collected for waterlogged pollen, plant and insect remains. Even if the volume of soil processed for charred plant remains were doubled, none of the samples examined here would contain sufficient quantities of charred plant remains to merit further analysis. No further assessment of charred plant remains is therefore necessary.

Only small quantities of charred plant remains were recovered and all of the samples encountered contained dried-out waterlogged plant remains. It is recommended that any further archaeobotanical analysis from Medieval deposits at the Bull Ring should focus on the waterlogged plant remains.

The charcoal recovered in these samples is worth having analysed. Two issues should be particularly addressed in any assessment/ analysis of charcoal. The charcoal may provide information on the fuels used in industrial and/or food processing activities in this part of medieval Birmingham. This may also provide information on woodland management in the period (i.e. where is Birmingham getting its wood fuels from). In addition, some of the charcoal encountered appeared highly vitrified and almost mineralised. This may also provide information of the heating temperatures and/or industrial activities of this part of Birmingham in the period.

### **4.2.6 Plant Remains from Medieval and Post-Medieval 'Tanning Pits' by Allan Hall, *Environmental Archaeology Unit, York.***

#### **Summary**

The material from two 13<sup>th</sup>/14<sup>th</sup>-century pit fills included some very decayed bark and leather fragments, and it seems likely that the fills do indicate that tanning took place, although they are far from conclusive. Material from a series of later (post-medieval) pits in another area consisted very largely of fine wood fragments interpreted as probable sawdust, and this suggests either some other use for the features (as saw-pits, for example) or the backfilling of the pits with material for disposal.

#### **Introduction**

A series of samples from features interpreted as tan pits was investigated primarily to check for the presence of evidence from plant remains for tanning. In particular, the samples were examined to establish whether assemblages dominated by bark and bark sclereids similar to those from sites in Chartres, France (Hall 1997) and at Layerthorpe Bridge, York (Hall *et al.*, in prep.), were present.

#### **Material and Methods**

Processed and unprocessed samples from the 'tan pits' were made available. The material consisted of seven sets of residues and 'flots' from paraffin flotation

(material examined during an assessment by Dr D. N. Smith of the Department of Ancient History and Archaeology, University of Birmingham) and two samples of raw sediment.

For the processed material, part or all of the residue was re-sieved into four fractions (0.3, 1, 2, and 4 mm) for ease of examination, and the flot was also examined in two cases; for the raw sediment, small sub-samples were sieved quickly to 0.3 mm and the residue separated into the same series of fractions, using a washover to concentrate the less dense material. In general, only a brief examination of a little of each sieve fraction was possible, in order to make notes on the nature of the sample; in the event, the similarity of composition of all but two samples meant that most could be checked very cursorily.

## Results

Comments on the material are presented in area and context order.

### Area B (13th/14th century 'tan pits')

**Context 2012, Sample 14** (1 kg processed by ARH: mid grey-brown (locally somewhat orange) sand and gravel with a slight clay/silt content)

The residue consisted of rather clean sand, with some gravel and lumps of concreted sediment to 30 mm in maximum dimension. There were traces of coal and pottery. The small washover consisted of a few cm<sup>3</sup> of plant material, including charcoal, with traces of very decayed leather, wood and bark (all up to 5 mm). There were a few identifiable plant taxa in the form of fruits or seeds or vegetative material, including a small range of probable weeds of no particular interpretive value, and a few achenes of hemp (*Cannabis sativa* L.).

**Context 2087, Sample 19** (residue and flot from a 10 kg sub-sample assessed for insect remains)

A 'handful' of the wet residue was examined quickly, then whole residue was re-sieved and a washover taken. The residue was found to consist mostly of sand and rounded gravel, whilst the washover (which was about 20-25% of the total volume) comprised organic material, mainly plant remains. Of these, the bulk proved to be bark fragments (to 20 mm), with some wood fragments and a variety of fruits and seeds (there were 64 identifiable taxa in all); also present were some fragments of decayed leather (to 25 mm). To judge from its morphology, the bark may represent at least two or three different types; in the <1 mm fraction were a few bark sclereids (small decay-resistant structures found in the bark of some, if not all, trees, but not currently identifiable).

Amongst the propagules, there were quite a few *Cannabis* seeds and halves and the rest of the assemblage included a variety of taxa from weed communities (both cultivated land and waste places), from grassland, woodland and wetland habitats, as well as foodplants—the kind of diversity typical of urban archaeological deposits and suggestive of a deposit forming under conditions in which a wide range of materials was incorporated (or located close to a wide range of habitats). The foodplants included hazelnut (*Corylus avellana* L.), fig (*Ficus carica* L.), apple (*Malus sylvestris* Miller), opium poppy (*Papaver somniferum* L.), blackberry (*Rubus fruticosus* agg.) and raspberry (*R. idaeus* L.). Wetland taxa included duckweed (*Lemna*), and wet

woodland was perhaps indicated by willow (*Salix*) buds and twig epidermis and a bugle (*Ajuga reptans* L.) nutlet, and drier woodland or a hedgebank by the several nutlets tentatively identified as ground ivy (*Glechoma hederacea* L.). Amongst the more unusual taxa was a single seed of caper spurge (*Euphorbia lathyris* L.), perhaps to be included in a group of biennial and perennial weeds, along with vervain (*Verbena officinalis* L.).

**Area C** (post-medieval 'tan pits')

**Context 3004, Sample 34** (*residue and flot from a 7.5 kg sub-sample assessed for insect remains*)

A handful of residue was examined quickly: it comprised abundant small wood fragments (mainly <4 mm) which are thought to be sawdust. Also present were traces of larger wood fragments (to 30 mm), including wood chips (these large pieces of wood included oak, *Quercus*), coal, gravel and brick/tile.

**Context 3044, Sample 42** (*residue and flot from a 7.5 kg sub-sample assessed for insect remains*)

The large residue consisted of small wood fragments, interpreted as sawdust with some charcoal, coal, and cinder, as well as wood fragments, including wood chips. The only identifiable plant remains were traces of toad-rush (*Juncus bufonius* L.).

**Context 3058, Sample 36** (*residue and flot from a 5 kg sub-sample assessed for insect remains*)

The very large residue of about 2 litres comprised compressed wood fragments interpreted as sawdust, in the form of olive-buff clumps of tiny wood fragments in a matrix of disaggregated material. Other material included cinders and coal. Amongst the rather sparse identifiable plant macrofossils there were quite a few gorse (*Ulex*) leaves and twig epidermis fragments, as well as cross-lcaved heath (*Erica tetralix* L.) leaves, these two taxa perhaps coming from litter or fuel of some kind (there may well have been some cereal straw present, too). The other taxa (33 were recorded in all) represented a wide range of habitats, though the bulk were weeds of various kinds. Two achenes of hop, *Humulus lupulus* L. were also noted.

**Context 3065, Sample 39** (*residue and flot from a 6.5 kg sub-sample assessed for insect remains*)

A 'handful' of material from the large residue was examined; again, it consisted largely of ?sawdust, with coal and cinders rather abundant, and traces of other materials, including wood and bark; the only identified plant macrofossil was hazel nutshell (a fragment up to 5 mm).

**Context 3072, Sample 37**

A handful of unprocessed sediment was quickly disaggregated and examined; it consisted of the same ?sawdust-dominated material seen in the other samples from this area.

**Context 3097, Sample 46** (*residue and flot from a 4.7 kg sub-sample assessed for insect remains*)

The 'handful' of residue examined was found to be the same ?sawdust-rich material seen in the other samples from this series; with it were traces of heathland/peatland

plants in the form of a leaf of cross-leaved heath and a twig fragment of heather or some other ericaceous shrub.

**Context 3143, Sample 52** (*residue and flots from a 6.5 kg subsample assessed for insect remains*)

The very large residue consisted of ?sawdust as clumps and disaggregated tiny wood fragments. There was also some coal and traces of cinders, brick/tile and ?slag. Identifiable plant remains were restricted to traces of bracken (*Pteridium aquilinum* (L.) Kuhn) pinnule and stalk fragments, gorse leaves and one or two seeds likely to have originated from plants growing as weeds or in scrub.

### **Conclusions**

On the basis of this brief survey it seems clear that those pits in Area B may, indeed, have been involved in leather-making though assemblages dominated by bark and bark sclereids were not encountered and it may be that the fills included only a small amount of material left over from the use phase (when one might expect tan bark to have formed the bulk of the basal fill deposit).

In the case of the post-medieval pits from Area C, there is no evidence for their use in tanning, though the fills may of course all be secondary and be unrelated to the original use of the pits. The use of wood for tanning, whilst mentioned in the literature (e.g. Howes 1953) seems to be a recent phenomenon and if that was the use to which the 'sawdust' like material at this site had been put one might expect it to be much more strongly decayed, perhaps darkened. Other explanations for the abundance of the 'sawdust' is that the pits were sawpits or that they were simply backfilled with this material as convenient places for disposal after their previous use (for some other purpose) had finished.

#### **4.2.7 Waterlogged Plant Remains** *by Wendy Smith*

A total of 22 samples was assessed for waterlogged plant remains. The samples come from four main context types:

- the watercourse ditch (5024, 5043, 5051, 5052, 5053, 5109, 5110, 5118, 5401 and 5402)
- pit fills in Area A (samples 4 and 6)
- ditches, pits and tannery pits in Area B (19, 22, and 23)
- a ditch in Area C (45)
- a 'wood peat' organic layer in Area D (27, 28, 29, 30, 31, and 32)

Assessment of these samples was carried out in order to establish if waterlogged plant remains:

- are present and whether they are of interpretative value.
- can provide information on the nature of the surrounding environment.
- can provide information on human activity at the site, in particular food production or other industrial activities.

An additional aim of this assessment was to identify those samples which have

produced both rich insect faunas, as well as rich assemblages of waterlogged plant remains. It is hoped that by integrating these two lines of environmental evidence, it may be possible to better understand the nature of contexts sampled. The material assessed for waterlogged plant remains here is from the same soil samples that were examined by David Smith for insects (see Section 4.2.8 below). An additional 15 samples were assessed for insect remains but were not included in this assessment. However, the results for these additional 15 samples will be kept in mind when making recommendations for the full analysis of waterlogged plant remains from the site.

### **Method**

Soils samples of approximately 12 L in volume were collected for both insect and plant remains from waterlogged features. In all cases, 2L of soil was reserved for plant remains. In order to assess these samples for waterlogged plant remains, approximately 100ml of soil was washed over a 300µm mesh sieve. The resulting flots were rapidly sorted for plant remains using a low-powered microscope at magnifications of up to x20 and, therefore, may not be fully representative of all taxa present in these deposits. Identifications were made using magnifications up to x50. All plant material was sorted and stored in ethanol.

Identifications were made in comparison with the modern seed collection of James Greig (English Heritage, Birmingham). James Greig also confirmed or indeed aided the identifications made here. Nomenclature for the plant remains follows Stace (1997) for indigenous species and Zohary and Hopf (1994) for cultivated species. Quantifications were made on a semi-quantitative scale and should be viewed as notional and subjective. Identifications in this assessment should be considered provisional.

### **Results**

Table 7 presents the results for all samples assessed for waterlogged plant remains. Aside from one grape seed, no other cultivated plants were identified in the samples. The samples primarily contained a range of wild plants which represent habitats from waste or cultivated ground to wet ground or shallow water.

With the exception of sample 31 (4031), which did not contain any waterlogged plant remains, all of the samples assessed only contained small quantities of waterlogged plant remains. A few samples also contained charred grass caryopses. The samples fall in to two categories: (1) those samples which contain only a limited range of waterlogged plants which are not of interpretative value and (2) those samples which contain a wider range of taxa and have potential interpretative value, but where additional material should be processed to supplement the waterlogged plant results.

Table 7. List of waterlogged plant remains recovered from medieval deposits at the Bull Ring, Birmingham

Field Season	BRB 97	BRB 97	BRB 97	BRB 97	BRB 97	BRB 97	BRB97 5110			
Context	97	97	97	97	97	97	97	5110		
Feature Number	5024	5043	5051	5052	5053	5109	-			
Sample Number	TR5	TR5	TR5	TR5	TR5	-	-			
Context Description	B	B	B	B	B	-	Ditch		<b>COMMON NAME</b>	
Volume sub-sampled	-	-	-	-	-	Ditch	100 ml		<b>HABITAT</b>	
	Ditch	Ditch	Ditch	Ditch	Ditch	100	100			
	100 ml	100 ml	100 ml	100 ml	100 ml	ml	ml			
<b>CULTIVATED PLANTS</b>										
<i>Vitis vinifera</i> L.	-	-	-	-	-	-	-	-	grape	most likely imported
<b>WILD PLANTS</b>										
<i>Ranunculus acris</i> L. / <i>R. reptans</i> L.	+	+	+	-	-	+	+	meadow buttercup / creeping lesser spearwort / creeping spearwort		wet places
<i>Ranunculus flammula</i> L. / <i>R. reptans</i>	-	+++	++	+	+	+	-	crowfoots	wet places / shallow water	
<i>Ranunculus</i> subgenus BATRACHIUM	-	-	-	-	+	+	-	common nettle		various
<i>Urtica dioica</i> L.	-	-	++	-	-	+++	+++	small nettle	waste ground / cultivated	
<i>Urtica urens</i> L.	-	-	-	-	-	-	-	goosefoot	waste ground / cultivated	
<i>Chenopodium</i> sp.	-	-	-	-	-	-	-	orache	waste ground / cultivated	
<i>Atriplex</i> sp.	-	-	-	-	-	-	-	blink		wet places
<i>Montia fontana</i> L.	-	-	-	-	-	-	-	chickweed		various
<i>Stellaria media</i> s.l.	-	-	-	-	-	-	+	bog stitchwort	wet places/ water margins	
<i>Stellaria uliginosa</i> Murray	-	-	++	-	-	-	+++	mouse-ear		various
<i>Cerastium</i> sp. – type	-	-	-	-	-	-	-	campion		various
<i>Silene</i> sp.	-	-	-	-	-	-	-	pink family		-
CARYOPHYLLACEAE - unidentified	-	-	+	-	-	-	-	knotweed		-
<i>Persicaria</i> sp.	-	-	-	-	-	-	-	water pepper	wet places / shallow water	
<i>Polygonum</i> cf. <i>Hydropiper</i> (L.) Spach	-	-	-	-	-	-	+	docks		various
<i>Rumex</i> spp.	-	-	-	-	-	-	-	bramble or raspberry		various
<i>Rubus</i> spp.	-	-	-	-	+	-	+	blackthorn	hedges, scrub and waste	
<i>Prunus spinosa</i> L.	-	-	-	-	-	-	-	carrot family		-
APIACEAE – large, unidentified	-	-	-	-	-	-	+	carrot family		-
APIACEAE – small, unidentified	-	-	-	-	-	-	++	nightshade		various
<i>Solanum</i> sp.	-	+	-	-	-	+	-	selfheal	grassland, wood clearing,	
<i>Prunella vulgaris</i> L.	-	-	-	-	-	-	-	dead-nettle family		-
LAMIACEAE – unidentified	-	-	-	-	-	-	+	elder		various
<i>Sambucus nigra</i> L.	-	-	+	-	-	+	+	sow-thistle		various
<i>Sonchus</i> sp.	-	-	-	-	-	-	-	daisy family		-
ASTERACEAE – unidentified	-	-	-	-	-	-	-	rushes	wet places/ water margins	
<i>Juncus</i> spp.	-	+	+++	-	-	+	-			

<i>Glyceria</i> spp.	-	-	-	-	-	-	-	sweet-grass	wet places/ shallow water
POACEAE – unidentified large	-	-	+	-	-	-	-	grass family	-
POACEAE – unidentified small	-	-	+	-	-	-	-	grass family	-
<i>Scirpus</i> sp./ <i>Schoenoplectus</i> sp.	-	-	-	-	+	-	-	club-rush	wet places / shallow water
<i>Isolepis setacea</i> (L.) R. Br.	-	+++	+	-	-	-	+	bristle club-rush	wet places
<i>Carex</i> sp. - 2-sided	+	-	+	-	-	+	+	sedge	wet places
<i>Carex</i> sp. - 3-sided	-	-	+	-	+	-	-	sedge	wet places
Unidentified bud	-	-	-	-	-	-	+	unidentified	-
Unidentified scar	-	-	-	-	-	-	-	unidentified	-
Unidentified	-	-	-	-	-	-	-	unidentified	-

Key: - = 0, + = 1-2, ++ = 3-5, +++ = 6-9, and ++++ = 10-20

No waterlogged plant remains were recovered from BRB97 5118



Table 7. List of waterlogged plant remains recovered from medieval deposits at the Bull Ring, Birmingham continued...

Field Season	BRB97	BRB97	BRB99	BRB99	BRB99	BRB99	BRB99	COMMON NAME	HABITAT
Context	5401	5402	1011	1012	2087	2225	2227		
Feature Number	-	-	F105	F123	-	F265	F266		
Sample Number	-	-	4	6	19	22	23		
Context Description	Ditch	Ditch	pit	pit	tan pit	ditch	pit		
Volume sub-sampled	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml		
<b>CULTIVATED PLANTS</b>									
<i>Vitis vinifera</i> L.	-	-	-	-	-	-	-	grape	most likely imported
<b>WILD PLANTS</b>									
<i>Ranunculus acris</i> L. / <i>R. repens</i> L.	-	-	-	-	-	-	-	meadow buttercup / creeping	wet places
<i>Ranunculus flammula</i> L. / <i>R. reptans</i> L.	-	-	-	-	+	-	-	lesser spearwort / creeping	wet places
<i>Ranunculus</i> subgenus <i>BATRACHIUM</i> (DC.) A.	-	-	-	-	-	-	-	crowfoots	wet places / shallow water
<i>Urtica dioica</i> L.	-	-	-	-	+++	++	-	common nettle	various
<i>Urtica urens</i> L.	-	-	-	-	-	-	-	small nettle	waste ground / cultivated ground
<i>Chenopodium</i> sp.	-	-	-	-	+	-	-	goosefoot	waste ground / cultivated ground
<i>Atriplex</i> sp.	-	-	-	-	+	-	-	orache	waste ground / cultivated ground
<i>Montia fontana</i> L.	-	-	-	-	-	-	-	blink	wet places
<i>Stellaria media</i> s.l.	-	-	-	-	-	-	-	chickweed	various
<i>Stellaria uliginosa</i> Murray	+	+	-	-	+++	-	+	bog stitchwort	wet places/ water margins
<i>Cerastium</i> sp. - type	-	-	-	-	-	-	-	mouse-ear	various
<i>Silene</i> sp.	-	-	+	-	-	-	-	campion	various
CARYOPHYLLACEAE – unidentified	-	-	-	-	-	-	+	pink family	-
<i>Persicaria</i> sp.	-	-	-	-	+	-	-	knotweed	-
<i>Polygonum</i> cf. <i>Hydropiper</i> (L.) Spach	+	-	-	-	+	-	-	water pepper	wet places / shallow water
<i>Rumex</i> spp.	-	-	-	-	+	-	-	docks	various
<i>Rubus</i> spp.	-	++	-	-	+	-	-	bramble or raspberry	various
<i>Prunus spinosa</i> L.	-	-	-	-	-	-	-	blackthorn	hedges, scrub and waste ground
APIACEAE - large, unidentified	-	-	-	-	-	-	-	carrot family	-
APIACEAE - small, unidentified	-	-	-	-	-	-	-	carrot family	various
<i>Solanum</i> sp.	-	-	-	-	-	-	-	nightshade	-
<i>Prunella vulgaris</i> L.	-	-	-	-	-	-	-	sciffical	grassland, wood clearing, rough
LAMIACEAE – unidentified	-	-	-	-	+	-	-	dead-nettle family	ground
<i>Sambucus nigra</i> L.	-	-	+	+	-	-	-	elder	various
<i>Sonchus</i> sp.	-	-	-	-	+	-	-	sow-thistle	various
ASTERACEAE – unidentified	-	-	+	-	-	-	-	daisy family	-
<i>Juncus</i> spp.	+++	++	-	-	++	-	-	rushes	wet places/ water margins
<i>Glyceria</i> spp.	+	-	-	-	-	-	-	sweet-grass	wet places/ shallow water
POACEAE – unidentified large caryopsis	-	-	⊕+	⊕+	-	-	-	grass family	-
POACEAE – unidentified small caryopsis	++	-	+	-	+	-	+	grass family	-
<i>Scirpus</i> sp./ <i>Schoenoplectus</i> sp.	-	-	-	-	-	-	-	club-rush	wet places / shallow water
<i>Isolepis setacea</i> (L.) R. Br.	+	+	-	-	+	-	-	bristle club-rush	wet places
<i>Carex</i> sp. - 2-sided	+	-	-	-	-	-	-	sedge	wet places
<i>Carex</i> sp. - 3-sided	+	++	-	-	-	++	-	sedge	wet places

Unidentified bud	-	++	-	-	-	-	-	unidentified	-
Unidentified scar	-	-	-	-	+	-	-	unidentified	-
Unidentified	-	-	-	-	-	+	+	unidentified	-
Key:	- + 0, +- 1-2, ++ = 3-5, +++ = 6-9, and ++++ = 10-20			O layer = organic layer over subsoil			⊗ = charred		

Table 7. List of waterlogged plant remains recovered from medieval deposits at the Bull Ring, Birmingham continued...

Field Season	BRB99	BRB99	BRB99	BRB99	BRB99	BRB99	BRB99	COMMON NAME	HABITAT
Context	4050	4050	4032	4032	4031	4063	3108		
Feature	-	-	-	-	-	-	F337		
Sample Number	27	28	29	30	31	32	45		
Context Description	O layer	O layer	O layer	O layer	O layer	O layer	Ditch		
Volume sub-sampled	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml		
<b>CULTIVATED PLANTS</b>									
<i>Vitis vinifera</i> L.	-	-	-	-	+	-	-	grape	most likely imported
<b>WILD PLANTS</b>									
<i>Ranunculus acris</i> L. / <i>R. repens</i> L.	-	-	+	+	++	+	-	meadow buttercup / creeping	wet places
<i>Ranunculus flammula</i> L. / <i>R. reptans</i> L.	-	-	+	+	++++	-	-	lesser spearwort / creeping	wet places
<i>Ranunculus</i> subgenus BATRACHIUM (DC.) A.	-	-	-	-	-	+	-	crowfoots	wet places / shallow water
<i>Urtica dioica</i> L.	-	-	-	+	+	-	++	common nettle	various
<i>Urtica urens</i> L.	-	-	-	-	++	-	-	small nettle	waste ground / cultivated ground
<i>Chenopodium</i> sp.	-	-	-	-	-	-	-	goosefoot	waste ground / cultivated ground
<i>Atriplex</i> sp.	-	-	-	-	-	-	-	orache	waste ground / cultivated ground
<i>Montia fontana</i> L.	-	-	++	+	+++	-	-	blink	wet places
<i>Stellaria media</i> s.l.	-	-	-	-	+++	+	-	chickweed	various
<i>Stellaria uliginosa</i> Murray	-	-	-	-	++	++	-	bog stitchwort	wet places/ water margins
<i>Cerastium</i> sp. - type	-	-	+	-	+	+	-	mouse-ear	various
<i>Silene</i> sp.	-	-	-	-	-	-	-	campion	various
CARYOPHYLLACEAE - unidentified	-	-	+	-	-	-	-	pink family	-
<i>Persicaria</i> sp.	-	-	-	-	-	-	-	knotweed	-
<i>Polygonum</i> cf. <i>Hydropiper</i> (L.) Spach	-	-	-	-	-	-	-	water pepper	wet places / shallow water
<i>Rumex</i> spp.	-	-	-	-	-	+	-	docks	various
<i>Rubus</i> spp.	-	-	+	+++	++	+	+	bramble or raspberry	various
<i>Prunus spinosa</i> L.	-	-	-	-	-	-	+	blackthorn	hedges, scrub and waste ground
APIACEAE - large, unidentified	-	-	-	-	-	-	-	carrot family	-
APIACEAE - small, unidentified	-	-	-	-	-	-	-	carrot family	-
<i>Solanum</i> sp.	-	-	-	-	-	-	-	nightshade	various
<i>Prunella vulgaris</i> L.	-	-	-	-	+	-	-	selfheal	grassland, wood clearing, rough
LAMIACEAE - unidentified	-	-	-	-	+	-	-	dead-nettle family	ground
<i>Sambucus nigra</i> L.	-	-	-	+	+	+	+	elder	various
<i>Sonchus</i> sp.	-	-	-	-	-	-	-	sow-thistle	various
ASTERACEAE - unidentified	-	-	-	-	-	-	-	daisy family	-
<i>Juncus</i> spp.	-	-	-	+	+++	+	+	rushes	wet places/ water margins
<i>Glyceria</i> spp.	-	-	-	+	+	-	-	sweet-grass	wet places/ shallow water
POACEAE - unidentified large caryopsis	-	-	-	-	+++	+	-	grass family	-
POACEAE - unidentified small caryopsis	-	+	-	+	-	-	+	grass family	-
<i>Scirpus</i> sp / <i>Schoenoplectus</i> sp.	-	-	-	-	+	-	-	club-rush	wet places / shallow water
<i>Isolepis setacea</i> (L.) R. Br.	+	-	+	+++	++++	+	-	bristle club-rush	wet places
<i>Carex</i> sp. - 2-sided	-	-	+	+	+++	-	-	scdge	wet places

<i>Carex</i> sp. - 3-sided	-	-	+	+	+	+	-	sedge	wet places
Unidentified bud	-	-	-	-	+	-	-	unidentified	-
Unidentified scar	-	-	-	-	-	-	-	unidentified	-
Unidentified	-	-	-	-	-	-	-	unidentified	-

Key: - = 0, + = 1-2, ++ = 3-5, +++ = 6-9, and ++++ = 10-20      O layer = organic layer over subsoil      © = charred

## **Discussion**

The assessment results for each sample will be discussed by area.

### ***The Watercourse Ditch (5024, 5043, 5051, 5052, 5053, 5109, 5110, 5118, 5401 and 5402)***

With the exception of sample 5118, which contained no waterlogged plant remains, the watercourse ditch samples were primarily dominated by taxa which typically grow on wet ground and/or in shallow water, such as meadow buttercup/ creeping buttercup (*Ranunculus acris/ Ranunculus repens*), lesser spearwort/ creeping spearwort (*Ranunculus flammula/ Ranunculus reptans*), crowfoots (*Ranunculus* subgenus BATRACHIUM), bog stitchwort (*Stellaria uliginosa*), water pepper (*Polygonum cf. hydropiper*), rushes (*Juncus* spp.), bristle club-rush (*Isolepis setacea*), and sedges (*Carex* spp.). Those taxa which can occur in various habitats, such as common nettle (*Urtica dioica*), bramble (*Rubus* spp.) and elder (*Sambucus nigra*), frequently are found along ditch banks. These suggest that although the watercourse ditch may have been managed, possibly regularly dredged or cleared out, that there were areas which were overgrown, possibly returning to scrub land, during use or possibly after abandonment.

Only five (5043, 5051, 5110, 5401 and 5402) of the watercourse ditch samples contained a range of taxa which appear to be of interpretative value and merit further analysis. In general these samples produced approximately less than 100 identifications and, therefore, it is recommended that an additional 500ml of soil is processed for waterlogged plant remains for each sample. This should not only increase the number of identifications to be made, but also may add to the range of taxa already identified.

### ***Area A Pit Fills (sample 4 and 6)***

Both sample 4 and 6 contained only a small amount of waterlogged and charred seeds which included elder (*Sambucus nigra*), but also contained unidentified charred and waterlogged grass seeds (poaceae unidentified) and an unidentified asteraceae (daisy family) seed.

These results were quite poor and do not appear to be of much interpretative value. As a result, it is not recommended that these samples are analysed further.

### ***Area B Tan Pit (sample 19)***

Sample 19 produced an assemblage assessed as good to rich, which contained a wide range of taxa, most of which are not habitat specific. This sample was dominated by common nettle (*Urtica dioica*) and bog stitchwort (*Stellaria uliginosa*) seeds, and may suggest that the sample is of post-abandonment material. There appeared to be no taxa present which reflect the possible use of this pit for tanning. However, a further sample was sent to Allan Hall for further analysis and more promising and interesting results were obtained (see above). It is recommended, therefore, that an additional 300ml of soil is processed for the full analysis of waterlogged plant remains from this context. This should produce additional identifications, but may also result in the recovery of taxa that could provide more specific information on the use or abandonment of this particular archaeological feature.

### ***Area B Ditch (sample 22) and Pit (sample 23)***

Both of these samples were not particularly rich and only contained a limited range of taxa. Based on these results, it is unlikely that there would be sufficient amount of waterlogged plant remains to merit full analysis, even if all 2L of soil were processed. As a result, it is not recommended that either sample is fully analysed.

### ***Area C Ditch (sample 45)***

Only one sample from Area C has been assessed. Sample 45 was fairly poor and contained a range of taxa which frequently grow alongside ditches, such as common nettle (*Urtica dioica*), elder (*Sambucus nigra*), and bramble (*Rubus* spp.). This sample has limited interpretative value and, therefore, it is not recommended that sample 45 should be fully analysed.

### ***Area D 'Wood Peat' Organic Layer (samples 27-32)***

Six samples from a 'wood peat' organic layer were assessed for waterlogged plant remains. Samples 27-29, were fairly poor and only produced a limited range of taxa, mostly indicative of wet conditions. Samples 30-32 produced a wider range of taxa and produced larger assemblages. Sample 31 was particularly rich, and produced the only identification of a cultivated plant (grape - *Vitis vinifera*) recovered.

It is recommended that a further 500 ml of soil is processed for samples 30 and 32 and a further 100 ml of soil is processed for Sample 31, before full analysis. Samples 27-29 do not appear to be particularly rich or to contain a wide range of taxa and, therefore, it is not recommended that further analysis for waterlogged plant remains should be carried out on these samples.

### **Conclusions**

In total, 22 samples from medieval were assessed for waterlogged plant remains. Nine of these samples (5043, 5051, 5110, 5401, 5402, 19, 30, 31 and 32), produced suitably rich or diverse assemblages to merit further analysis. Full analysis of these nine samples will provide information on:

- the nature of vegetation along the banks of the manor ditch (5043, 5051, 5110, 5401 and 5402)
- the use, or more likely dereliction, of the tanning pit (2087)
- the nature of the vegetation or organic deposits in Area D (samples 30-32)
- cultivated plants samples 30-32 in Area D

All of these samples also contained rich archaeoentomological assemblages, and the full analysis of waterlogged plant remains from these samples can be used together with the insect faunas to determine the nature of the surrounding vegetation, habitation and activities of this area of medieval Birmingham.

The other 13 samples have not produced suitable rich or diverse assemblages to merit further analysis. However, it is recommended that the limited waterlogged plant results obtained from these samples are fully quantified and reported, since all of

these samples will be fully analysed for insect remains.

A further 15 samples, which have not been assessed for waterlogged plant remains here, were assessed for insect remains. Of these, six samples from tanning pits (samples 34, 36, 37, 39, 42 and 52) and one sample from a water channel (sample 9) did produce suitably rich insect faunas to merit further analysis. It is recommended that 100 ml sub-samples of soil from these seven samples are washed over a 300µm mesh sieve and rapidly scanned for waterlogged plant remains. If any of these samples contain assemblages which are both suitably rich and/or diverse to merit further analysis, then they should be incorporated into the programme for full analysis of waterlogged plant remains from the Bull Ring, Birmingham.

In both the case of those samples which have been recommended for full analysis of waterlogged plant remains, and in the case of the seven samples which have not yet been assessed for plant remains but which have been recommended for full analysis of insect remains, further processing of sub-samples is required. Table 8 summarises the further volumes of soil required for each sub-sample.

Table 8 Recommended treatment of waterlogged samples from the Bull Ring, Birmingham

**SAMPLES WHICH HAVE ALREADY BEEN ASSESSED FOR WATERLOGGED PLANTS**  
(Additional soil processed and flot fully identified and quantified)

Sample Number	Context Number	Context Description	Volume of additional soil to be processed
-	5043	Watercourse Ditch	500 ml
-	5051	Watercourse Ditch	500 ml
-	5110	Watercourse Ditch	500 ml
-	5401	Watercourse Ditch	500 ml
-	5402	Watercourse Ditch	500 ml
19	2087	Tanning Pit	300 ml
30	4032	Organic Layer	500 ml
31	4031	Organic Layer	100 ml
32	4063	Organic Layer	500 ml

**SAMPLES WHICH HAVE NOT BEEN ASSESSED FOR WATERLOGGED PLANTS YET**  
(100 ml sub-sample processed and flot rapidly scanned -  
if the sample is diverse and/or rich, add to those fully analysed)

Sample Number	Context Number	Context Description	Volume of additional soil to be processed and rapidly scanned
9	2036	Water Channel	100 ml
34	3004	Tanning Pit	100 ml
36	3058	Tanning Pit	100 ml
37	3072	Tanning Pit	100 ml
39	3065	Tanning Pit	100 ml
42	3044	Tanning Pit	100 ml
52	3143	Oblong Tan Pit	100 ml

\* Samples 1 and 59 are from the same context.

#### 4.2.8 The Insect Remains *by David Smith*

##### **Introduction**

A large number of samples was presented for analysis. The feature and context numbers are listed in Table 9, as are the weights and volumes of the material examined.

The samples were associated with four types of deposits. Nine samples (5023, 5043, 5051, 5052, 5053, 5109, 5110, 5402, 5410) were fills associated with the manor ditch, excavated in 1997. Six samples (1, 3, 4, 5, 6, 7) came from a variety of pit fills from Area A. Seven (9, 14, 19, 25, 22, 23, 59) came from the ditches, pits and tannery pits in Area B. Nine (36, 42, 46, 34, 37, 39, 46, 52, 58) from the ditches, pits and tannery pits in Area C. Six samples (27, 28, 29, 30, 31, 32) came from an "wood peat" organic layer in area D. Areas A, B, C, and D were excavated at different times during 1999.

It was hoped that an assessment of the insect remains from these samples would answer the following questions:

- Are insects remains present?
- If present, what is their interpretative value?
- Do any of the insects suggest the nature of the human settlement in the vicinity?
- Do the insect remains provide information on the nature of the environment and land use of the area at the time of the deposits formation?
- Could the insects present provide information on the formation and use of the pits present?

##### **Method**

The samples were processed using the standard method of paraffin flotation as outlined in Kenward *et al.* (1980). The system for "scanning" faunas as outlined by Kenward *et al.* (1985) was followed in this assessment.

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

- Identifications of the insects present are provisional.
- The various proportions of insects suggested are very notional and subjective.

##### **Results**

The majority of the material examined produced insect faunas. This ranged from small faunas with a limited interpretative value to reasonably large faunas that have good interpretative potential. Seven samples contained no insect remains (5118, 1, 3, 5, 7, 14, 25, 28, 46, 58, 59), and these samples warrant no further insect analysis.

Table 10 tabulates the species present in this sample. The numbers of individuals



present is estimated using the following scale: + = 1-2 individuals ++ = 2-5 individuals. +++ = 5-10 individuals ++++ = 10+ individuals. The taxonomy used for the Coleoptera (beetles) follows that of Lucht (1987).

## **Discussion**

The insects present will be discussed for each area of the site.

### **Watercourse linking the manorial moat with Parsonage Moat**

The two sets of samples from the watercourse produced comparatively large insect faunas. A number of water beetles suggesting the presence of slow flowing standing water is present. This consists of beetles belonging to the genera *Hydroporus*, *Hydraena* and *Laccobuis*. There are also strong indicators of muddy waters and bank sides such as the aquatic *Cercyons* and the *Dryops* species. In addition, there is some evidence that this ditch may, in places, have contained reeds, sedges and other aquatic plants. The plant feeding species of leaf beetles and weevils such as *Hydrophassa marginella*, *Prasocuris phellandri*, *Notaris acridulus* and the *Thyrogenes* species suggest this. Full identification of the species present and their relative proportions may help with reconstructing the water conditions and surrounding environment of these ditches.

There is also a strong indication that grassland and pastures were present. There are reasonably large numbers of *Aphodius* dung beetles in these ditch deposits. These are normally associated with animal dung lying in open grassland. This may suggest that there was either pastureland nearby or a stocking yard in the area.

Also present in these fills is a range of beetles, which are commonly associated with human settlement and housing in the archaeological record. These include taxa such as some of the terrestrial *Cercyons*, the *Oxytelus*, *Trogophloeus* and *Philonthus* species that are commonly associated with rotting rubbish and other types of urban debris. Other species present, such as *Xylodromus concinnus*, the spider beetle (*Ptinus fur*) and woodworm (*Anobium punctatum*) are part of Harry Kenward's (Kenward and Hall 1995) putative "house fauna" which seem to be particularly associated with drier human housing and waste. Also present is a single specimen of the granary weevil (*Sitophilus granarius*), which only feeds on whole grain. This suggests that grain must have been stored and used on site either for human consumption or as an animal fodder.

It would therefore seem likely that a small quantity of domestic or settlement rubbish has become incorporated into the fill of this moat. A fuller analysis of the insect remains, and the plant remains, from this moat should provide a better idea of the nature and constituents of this rubbish.

### **Area A**

Only two insect faunas were recovered from the samples collected from this area of the site. Both are relatively small faunas, which are, to a certain extent, dominated by species such as the cryptophagids, lathridiids and the spider beetle (*Ptinus fur*). These species are typically associated with drier organic material, usually plant matter, from around human settlement. Slightly decaying straw or stabling matter may also be a possible source of this material. A study of the accompanying plant remains might

prove useful in defining the type of deposit present. The woodworm *Anobium punctatum* is also present. A small number of water beetles present in these samples may indicate the possibility that flooding occurred.

### **Area B**

The largest fauna from this area comes from a water channel (sample 22). A few water beetles were present in this sample, but the sample also produced a large number of taxa which are associated with human settlement. In particular, many taxa in the fauna recovered are associated with drier organic materials such as straw, hay and other types of plant litter. This may suggest that this channel became blocked with domestic waste and rubbish.

Two of the other larger faunas in this area were from tannery pits (19 and 23). Both pits contained many of the species of insect which are associated with human occupation and floor levels discussed above. Though these species may suggest the conditions within in the pits, there are no species that suggest its exact contents. This issue is probably best addressed by examining the plant remains and the fly puparia present in these deposits. However, both pits also contain reasonably large numbers of water beetles from still and stagnant waters. This is particularly the case with sample 19, which also contained several individuals of the small weevil *Tanysphrus lemnae* which feeds on duckweeds (*Lemna* sp.). There could be two possible reasons for the presence of these, either the pits were flooded at some point, or large quantities of water was brought to this area of the site.

The remainder of the faunas from this area of the site is quite small, but is essentially similar in their nature.

### **Area C**

Area C produced only one large fauna (45), which came from a small water channel. This fauna contained a moderately large fauna of water beetles and large number of taxa that are associated with human habitation and waste. Again, this may suggest that rubbish and domestic waste may have found their way into this channel. Large numbers of terrestrial weevils such as the *Apion*, *Sitona* and *Ceutorhynchus* species are also present. These taxa often feed on quite specific plants and, therefore, can be used to reconstruct the nature of the environment surrounding the channel.

The majority of the other insect faunas from this area are from various tan pits. The small beetle faunas that were recovered suggest the presence of urban waste, but do not have the potential to be more specific than this. However, all of these samples did produce fly puparia. These warrant further investigation, since they can be good indicators of the environmental conditions in the pit (for example they are often the most reliable indicators for the presence of cess).

### **Area D**

This area produced a series of samples associated with an organic layer that contained fragments of wood. It was hoped that these deposits represented an ancient ground surface, perhaps a wood or forest that existed before the urban settlement of the area around the Bull Ring.

Three of the faunas (30, 31 and 32) were relatively rich in terms of the size of the

fauna present. In all cases the species that dominate the faunas are associated with shallow swamps and areas of slow-flowing, perhaps stagnant, water. This includes the water beetles present, the *Dryops* species and the various weevils such as *Notaris acridulus* and *Leiosoma deflexum* which are associated with water reeds and waterside vegetation. Also present is a wide range of ground beetles (Carabidae) and weevils that, if identified to species, would suggest the nature of the surrounding environment and vegetation. The insect faunas also contain some *Aphodius* dung beetles. This suggests that pastureland and stock animals were present in the immediate area. Species directly associated with woodland, however, are not present. This may suggest that this ground level represents an area of flooded woodland.

### **Statement of Potential**

There are four reasons why the insect faunas from these deposits have good potential and require further analysis.

- In a few instances, for example the samples from the manor moat and some of the ditches and gullies in Areas B and C, the insect faunas may produce results that could help to interpret the use and contents of the specific features sampled.
- While these are not the only insect faunas recovered so far from urban Birmingham—there is the Late Glacial group from near the Moat site, their significance is considerable. As such, they have clear regional importance and would form the baseline against which further work in Birmingham could be compared.
- Even though many of the faunas examined here are relatively small, and have a limited potential for the interpretation of specific contexts, they are very informative as to general living, hygiene and environmental conditions for this area of medieval Birmingham.
- Despite the small size of some of the faunas, it is possible that they may provide additional evidence that can be used to support conclusions drawn from the plant macro-fossil and pollen work also carried out on these deposits.

It is recommended that the 17 samples in this survey that produced relatively large insect faunas should be fully identified down to species level (where applicable) and the number of individuals present should be quantified. These samples should have priority in terms of funding. It is also recommended that the eleven smaller faunas discussed in this report are also fully identified down to species level (where applicable) and fully quantified. Amongst these smaller samples, those from the pits and tan pits from Areas A and C should have priority, since they are from areas where large insect faunas were not recovered.

**Table 9. Descriptions of the samples.**

Sample No	Feature no	Context no	Weight (Kg)	Volume (L)	Description
5024	TR5B		6.3	5	Watercourse Ditch
5043	TR5B		4.8	6	Watercourse Ditch
5051	TR5B		6.4	5	Watercourse Ditch
5052	TR5B		5.1	5	Watercourse Ditch
5053	TR5B		3.7	3	Watercourse Ditch
5109			6	6	Watercourse Ditch
5110			4.5	5	Watercourse Ditch
5402			5.9	8	Watercourse Ditch
5401			8.7	10	Watercourse Ditch
5118			7.5	8	Well
1	F105	1010	11.5	8	Pit fill
3	F121	1035	9	6	Pit fill
4	F105	1011	12	10	Pit fill
5	F147	1075	12	10	Pit fill
6	F123	1012	5.5	3	Pit fill
9		2036	13	10	Water channel
14		2012	7.5	5	Tan pit
19		2087	10	10	Tan pit
22	F265	2225	13	7	Ditch
23	F266	2227	11	7	Pit
25	F279	2244	10.5	8	Tan pit.
27		4050	7	7	Organic layer over subsoil
28		4050	6	6	Organic layer over subsoil
29		4032	6	6	Organic layer over subsoil
30		4032	6	7	Organic layer over subsoil
31		4031	7	6	Organic layer over subsoil
32		4063	10	10	Organic layer over subsoil
34		3004	7.5	11	Tan pit
36	F307	3058	5	8	Tan pit
37	F325	3072	7	11	Tan pit
39	F323	3065	6.5	12	Tan pit
42	F310	3044	6	9	Tan pit
45	F337	3108	12.5	12	Ditch
46		3097	4.7	10	Tan pit
52	F347.02	3143	6.5	11	Oblong tan pit
58	F351	3164	8	6	Pit fill
59		1010	9.5	9	Pit fill

**Table 10. Results of the assessment of insect remains from medieval deposits.**

**No fauna recovered.**

5118. 1. 3. 5. 7. 14. 25. 28. 46. 58 59.

	502	504	505	505	505	510	511	540	541	4	6	9	19	22	23	27
	4	3	1	2	3	9	0	2	0							
<b>COLEOPTERA</b>																
<b>Carabidae</b>																
<i>Nebria</i> spp.	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-
<i>Clivina fossor</i> (L.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
<i>Dyschirius</i> spp.	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
<i>T. quadristriatus</i> ( Schrk )or	+	-	-	-	-	-	-	+	-	-	-	+	+	-	+	-
<i>T. obtusus</i> Er.																
<i>Bembidion</i> spp.	-	-	+	-	-	-	-	+	+	-	-	-	+	+	-	+
<i>Amara</i> spp.	-	-	-	-	-	-	+	+	-	-	-	-	+	-	-	-
<i>Pterostichus</i> spp.	-	++	++	++	+	+	++	++	++	-	-	-	-	-	-	+
<b>Dytiscidae</b>																
<i>Hydroporus</i> spp.	-	+	+	-	-	-	++	-	-	-	+	+	-	-	-	-
<i>Agabus</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<i>Acilius</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<b>Hydraenidae</b>																
<i>Hydraena</i> spp.	-	-	+	-	-	-	++	-	-	-	-	-	+	-	-	-
<i>Ochthebius</i> spp.	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
<i>Limnebius</i> spp.	-	-	-	-	+	-	+	-	-	-	-	-	+	-	-	-
<i>Helophorus</i> spp.	-	+	-	-	+	+	-	-	-	-	-	-	+	-	-	-
<b>Hydrophilidae</b>																
<i>Cercyon</i> spp.	++	-	-	-	+	-	+	-	++	++	-	-	+	-	-	+
	+															
<i>Megasternum boletophagum</i>	-	-	-	-	-	+	++	-	+	-	-	-	-	-	-	-

(Marsh.)

<i>Hydrobius fusipes</i> (L.)	-	-	-	-	-	-	-	-	-	-	-	-	++	-	-	-
<i>Laccobius</i> spp.	-	-	-	+	-	+	++	-	-	-	-	-	+	+	-	-
<i>Enochrus</i> spp.	-	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-

### Histeridae

Histeridae Gen. & spp indet.	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
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### Catopidae

<i>Catops</i> spp.	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
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### Staphylinidae

<i>Micropeplus</i> spp.	-	-	-	-	-	-	-	-	-	+	-	+	+	+	-	-
<i>Megarthus</i> spp.	-	-	-	-	-	-	-	-	-	-	-	++	-	-	-	-
<i>Omalium</i> spp.	-	-	-	-	-	-	-	++	-	+	++	-	-	++	+	+
<i>Xylodromus concinnus</i>	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(Marsh.)																
<i>Olophrum</i> spp.	-	++	-	-	-	-	-	++	-	-	-	-	-	-	-	-
<i>Lesteva</i> spp.	-	-	-	-	-	-	-	-	-	-	++	++	+	+	+	-
<i>L.</i> spp.	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
<i>Coprophilus striatulus</i> (F.)	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-
<i>Trogophloeus</i> spp.	-	++	+	+	+	+	-	-	+	-	-	-	+	++	-	-

<i>Oxytelus</i> spp.	++	-	++	+	++	++	++	++	++	+	-	++	++	+	-	++
	+				+		+	+								+
	502	504	505	505	505	510	511	540	541	4	6	9	19	22	23	27
	4	3	1	2	3	9	0	2	0							
<i>Platystethus arenarius</i> (Fourc.)	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
<i>Stenus</i> spp.	++	++	+	++	++	-	++	++	++	-	-	+	-	-	-	-
							+									
<i>Stilicus orbiculatus</i> (Payk.)	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lathrobium</i> spp.	-	-	+	+	-	-	-	+	+	-	-	-	+	-	-	-
<i>Leptacinus</i> spp.	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-
<i>Gyrohypnus</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
<i>Xantholinus</i> spp.	-	+	-	+	+	-	-	+	+	-	-	-	+	-	-	-
<i>Philonthus</i> spp.	+	-	+	-	+	+	++	++	++	-	-	-	-	-	-	+
<i>Quedius</i> spp.	-	-	-	+	-	-	-	-	++	-	-	-	-	-	-	-
<i>Tachinus</i> spp.;	-	-	-	+	-	-	+	-	-	-	-	-	+	++	-	-
<i>Tachyporus</i> spp.	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-
Aleocharinidae Genus & spp. Indet.	+	+	+	+	+	-	-	-	-	-	-	+	++	-	-	-
<b>Pselaphidae</b>																
Pselaphidae Gen. & spp. Indet.	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
<b>Elateridae</b>																
Elateridae Genus & spp. Indet.	-	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<b>Dryopidae</b>																

<i>Dryops</i> spp.	-	-	+	-	-	-	-	-	+	++	-	-	-	-	-	+	
<b>Heteroceridae</b>																	
<i>Heterocerus</i> spp.	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	
<b>Nitidulidae</b>																	
<i>Meligethes</i> spp.	++	-	-	-	-	-	-	-	-	-	+	-	-	-	-	+	
<b>Cucujidae</b>																	
<i>Monotoma</i> spp.	+	-	-	-	-	-	-	-	-	++	+	-	+	-	-	-	
<b>Cryptophagidae</b>																	
<i>Cryptophagus</i> spp.	+	-	-	-	-	-	-	-	-	-	+	++	-	+	+	+	-
<i>Atomaria</i> spp.	-	+	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-
<b>Lathridiidae</b>																	
<i>Enicmus minutus</i> (Group)	+	-	-	-	-	-	-	-	-	+	++	++	-	++	++	++	-
														+	+		
<i>Corticaria/ corticarina</i> spp.	+	+	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-
<b>Anobiidae</b>																	
<i>Anobium punctatum</i> (Geer)	++	-	-	-	-	-	+	-	-	-	+	++	+	+	++	++	-
	+																
<b>Ptinidae</b>																	
<i>Ptinus fur</i> (L.)	++	-	-	-	-	-	-	-	-	-	+	+	-	+	+	-	-
<b>Coccinellidae</b>																	
<i>Coccidula rufa</i> (Hbst.)	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-



**Scarabaeidae**

<i>Trox</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-
<i>Aphodius</i> spp.	+	+	++	-	+	+	++	+	++	-	-	-	-	+	-	+
	502	504	505	505	505	510	511	540	541	4	6	9	19	22	23	27
	4	3	1	2	3	9	0	2	0							

**Bruchidae**

<i>Bruchus</i> spp.	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
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**Chrysomelidae**

<i>Hydrophassa marginella</i> (L.)	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Prasocuris phellandri</i> (L.)	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
<i>Phyllotreta</i> spp.	+	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
<i>Chaetocnema concinna</i> (Marsh.)	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-

**Scolytidae**

<i>Leperisinus varius</i> (F.)	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
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**Cuculionidae**

<i>Apion</i> spp.	-	-	-	-	-	-	++	-	+	-	-	-	++	+	+	-
<i>Sitona</i> spp.	+	-	-	-	++	+	+	+	+	-	-	-	+	-	-	-
<i>Bagous</i> spp.	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Tanysphyrus lemnae</i> (Payk.)	-	-	-	-	-	-	-	-	-	-	-	-	++	-	-	-
<i>Notaris acridulus</i> (L.)	-	+	-	-	++	-	+	-	+	-	-	-	-	-	-	-
					+											
<i>Leiosoma deflexum</i> (Panz.)	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
<i>Hypera</i> Spp.	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Thyrogenes</i> spp.	-	+	++	+	++	-	-	+	+++	-	-	-	-	-	-	+

										+						
<i>Sitophilus granarius</i> (L.)	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Rhinocus</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
<i>Ceutorhynchus</i> spp.	-	+	+	-	++	-	+	-	+	-	+	-	+	-	-	-
<i>Rhynchaenus</i> spp.	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-

DIPTERA

Family Genus and spp.	-	-	-	-	-	+	-	-	-	-	-	+	++	-	++	-
Indet.															+	

---

o. of individuals. + 1 ++ 2-5 +++6-10++++

	29	30	31	32	34	36	37	39	42	45	52
<b>COLEOPTERA</b>											
<b>Carabidae</b>											
<i>Elaphrus</i> spp.	+	-	-	-	-	-	-	-	-	-	-
<i>Nebria</i> spp.	-	+	-	-	-	-	-	-	-	-	-
<i>T. quadristriatus</i> (Schrk) or <i>T. obtusus</i> Er.	-	-	-	-	-	+	-	-	+	+	-
<i>Bembidion</i> spp.	++	++	+	++	-	-	-	-	+	+	-
<i>Amara</i> spp.	-	+	+	-	-	-	-	-	-	-	-
<i>Pterostichus</i> spp.	++	++	++	++	+	-	-	-	-	-	-
<b>Dytiscidae</b>											
<i>Hydroporus</i> spp.	+	-	-	-	+	-	-	-	-	+	-
<i>Agabus</i> spp.	-	+	+	-	-	-	-	-	-	-	-
<b>Hydraenidae</b>											
<i>Hydraena</i> spp.	+	++	+	-	-	-	-	-	-	-	-
<i>Limnebius</i> spp.	-	-	-	+	-	-	-	-	-	-	-
<i>Helophorus</i> spp.	-	-	+	-	-	-	-	-	-	+	-
<b>Hydrophilidae</b>											
<i>Cercyon</i> spp.	+	++	++	++	-	-	+	+	-	+	++
<i>Megasternum boletophagum</i> (Marsh.)	-	++	+	++	-	-	-	-	+	+	-
<i>Hydrobius fusipes</i> (L.)	-	+	-	-	-	-	-	-	+	+	-

<i>Laccobius</i> spp.	-	-	-	+	-	-	-	+	-	++	-
<b>Histeridae</b>											
<i>Acritus</i> spp.	-	-	-	-	-	-	+	-	+	-	+
<b>Staphylinidae</b>											
<i>Micropeplus</i> spp.	-	-	-	-	-	+	-	-	-	-	-
<i>Omalius</i> spp.	-	-	+	-	-	+	-	-	-	++	-
										+	
<i>Olophrum</i> spp.	+	+	-	-	-	-	-	-	-	-	-
<i>Lesteva</i> spp.	+	+	-	-	-	-	-	-	+	+	-
<i>Trogophloeus</i> spp.	-	-	-	-	+	-	-	-	+	-	-
<i>Oxytelus</i> spp.	+	++	+	++	+	+	+	+	+	-	+
				+							
<i>Stenus</i> spp.	++	++	++	++	-	+	-	+	+	++	-
			+								
<i>Lithocharis</i> spp.	-	-	-	-	-	-	++	+	-	-	-
<i>Lathrobium</i> spp.	+	++	++	+	-	-	-	+	-	-	-
<i>Leptacinus</i> spp.	-	-	-	-	-	-	-	-	+	-	+
<i>Gyrohypnus</i> spp.	-	-	-	-	-	-	-	+	+	-	-
<i>Xantholinus</i> spp.	-	+	+	++	-	+	-	-	+	+	-
<i>Philonthus</i> spp.	++	+	+	++	-	-	+	-	-	-	-
<i>Quedius</i> spp.	-	-	+	-	-	-	-	-	-	+	-
<i>Tachinus</i> spp.;	-	-	-	-	-	+	-	-	-	+	-
<i>Tachyporus</i> spp.	-	-	-	++	-	-	-	-	-	-	-
Aleocharinidae Genus & spp. Indet.	+	++	-	-	-	-	-	+	-	-	-
<b>Pselaphidae</b>											
Pselaphidae Gen. & spp.	-	-	+	-	-	-	-	-	-	+	-

indet.

	29	30	31	32	34	36	37	39	42	45	52
<b>Elateridae</b>											
Elateridae Genus & spp.	-	-	-	-	-	-	-	-	-	++	-
Indet.											
<b>Dryopidae</b>											
<i>Dryops</i> spp.	-	++	-	++	-	-	-	-	-	-	-
<b>Nitidulidae</b>											
<i>Meligethes</i> spp.	-	-	-	-	-	-	-	-	-	+	-
<b>Cucujidae</b>											
<i>Monotoma</i> spp.	-	-	-	++	-	-	-	-	-	-	-
<b>Cryptophagidae</b>											
<i>Cryptophagus</i> spp.	-	-	-	+	-	+	+	-	+	-	-
<i>Atomaria</i> spp.	+	-	-	-	-	-	+	-	+	++	-
<b>Lathridiidae</b>											
<i>Enicmus minutus</i> (Group)	-	-	-	-	+	-	-	-	-	++	-
<i>Corticaria/ corticarina</i> spp.	+	-	-	+	+	-	-	-	++	++	-
<b>Mycetophagidae</b>											
<i>Typhaea stercorea</i> (L.)	-	-	-	-	-	+	-	-	-	-	-
<b>Anobiidae</b>											

<i>Anobium punctatum</i> (Geer)	-	+	-	-	-	-	+	+	++	+	+
<b>Anthicidae</b>											
<i>Anthicus</i> spp.	-	-	-	-	-	-	-	+	-	-	-
<b>Scarabaeidae</b>											
<i>Aphodius</i> spp.	-	+	++	++	-	+	+	-	++	++	-
			+								
<b>Chrysomelidae</b>											
<i>Hydrophassa marginella</i> (L.)	-	+	-	-	-	-	-	+	-	-	-
<i>Phyllotreta</i> spp.	-	-	++	+	-	+	-	-	-	-	-
<b>Cuculionidae</b>											
<i>Apion</i> spp.	+	+	+	+	+	-	-	-	-	+	-
<i>Strophosoma</i>	+	-	-	-	-	-	-	-	-	-	-
<i>melanogrammum</i> (Forst)											
<i>Sitona</i> spp.	+	++	+	++	-	-	+	-	+	++	-
				+							
<i>Notaris acridulus</i> (L.)	+	+	++	++	-	-	-	-	-	+	-
<i>Leiosoma deflexum</i> (Panz.)	-	+	-	-	-	-	-	-	-	+	-
<i>Rhinocus</i> spp.	-	+	-	-	-	-	-	-	-	-	-
<i>Ceutorhynchus</i> spp.	-	-	-	++	-	-	-	-	-	+	-
<b>DIPTERA</b>											
Family Genus and spp.	-	-	-	-	-	++	++	++	-	+	++
Indet.								+			

---

#### 4.2.9 Pollen *by James Grieg*

(Sampling the BRB 99 profile from Area D, east-facing section (layers 4031 and 4032))

##### **Summary**

The two profiles contain pollen and parasite ova which can provide useful information for the archaeological interpretation of the site as a whole, the intensity of occupation there and some of the crop plants being used there. Pollen analysis can also provide some information on the development of the landscape on which Birmingham now stands. Pollen is well preserved, and work on some further material should be worthwhile.

##### **Samples**

Features with sediments that appeared organic were sampled during the excavations. From BRB 97 there are samples from the following contexts: 5024, 5043, 5052, 5053, 5081, 5109, 5110, 5118, 5401, 5402. From BRB 99 there are samples from the following contexts: 1011, 1012, 2225, 2227, 3108, 4031, 4032 <29> 4032 <30>, 4050 <27>, 4050 <28>, 4063 <32>. These have not been assessed.

In addition, two profiles were collected as monoliths. The first, of 75 cm depth, was collected by the excavation team, from the fill of the manor ditch (BRB 97 Trench 5, west-facing section), covering layers 5056, a gleyed black clay, and 5057, a compacted peaty deposit. The pollen from three samples from this monolith have been assessed here.

The second monolith of 50 cm, (BRB 99 Area D, east facing section, layers 4031, an organic silt resting on gravel, and 4032, an organic, silty clay overlain by more disturbed material with brick fragments, see cover picture) was collected by the writer. This was sub-sampled at an interval of 5 cm and the sub-samples stored in a fridge. Three sub-samples from this monolith have been assessed here. Most of Area D had post-medieval features truncating medieval ones.

Pollen analysis is especially useful at showing how wooded a past landscape was, whether cereals were being grown or processed in the vicinity, the status of some other crops such as peas, beans, hemp, buckwheat, and whether grassland or its remains were present. It can also detect sewage contamination and therefore the relative foulness of the deposits, in the form of parasite ova.

##### **Laboratory work, pollen analysis**

Three samples were selected for assessment from each profile, roughly from the top, middle and bottom of each. BRB 97 5 cm, 30 cm, 55 cm and BRB 99 0 cm, 20 cm and 40 cm). This was to test whether pollen was preserved in useful quantities, if it changed with time, and if it could help in the archaeological interpretation of the site.

Pollen samples were processed using the standard method; about 1 cm<sup>3</sup> sub-samples were dispersed in dilute NaOH and filtered through a 70µm mesh to remove coarser material, which was then scanned under a stereo microscope. The finer organic part of the sample was concentrated by swirl separation on a shallow dish. Fine material was

removed by filtration on a 10µm mesh. The material was acetolysed to remove cellulose, stained with safranin and mounted on microscope slides in glycerol jelly. Counting was done with a Leitz Dialux microscope. Identification was using the writer's pollen reference collection, seen with a Leitz Lablux microscope. Standard reference works were used, notably Fægri and Iversen (1989) and Andrew (1984).

Small counts of about 100 pollen grains to assessment level were done, and a further scan to record presence of further significant pollen types (such as broad bean). The pollen counts have been listed in taxonomic order in Tables 11 and 12. The nomenclature and order of the taxa follow Bennett (1994) and Kent (1992) respectively.

### **Results 1. BRB 97 Watercourse ditch fill**

Pollen was well preserved and abundant at the bottom of the first profile, but somewhat thin and sparse higher up. It is listed in Table 11.

#### *Trees and shrubs, woodland*

There was 17-20% tree and shrub pollen, which suggests no more than perhaps some hedgerows and a few trees growing here, common ones such as *Alnus* (alder), *Quercus* (oak), *Corylus* (hazel) and *Betula* (birch).

#### *Crops and weeds*

Some sign of human activity is shown by a small Cerealia (probably cereals) pollen record in the lower two samples. More interesting, *Vicia faba* (broad bean) and Cannabaceae (possible hemp) were found in the lowest sample. Hemp was widely used for rope and canvas.

#### *Other herbs; weeds and grassland*

The majority of the pollen, about 50-65 %, was from a range of herbs which represent a range of grassland plants, including characteristic ones such as *Plantago lanceolata* (ribwort plantain) and *Centaurea nigra* (knapweed). *Pteridium* (bracken) spores show the presence of the remains of this fern.

The weeds include *Centaurea cyanus* (cornflower), a characteristic cornfield weed of the medieval and post-medieval period. This might not have necessarily grown nearby, as its remains can also come from straw and the processing and storage of cereals.

Other weeds are less diagnostic, but probably correspond with plants of the relevant taxa identified from macrofossils (see W. Smith's macrofossil report).

#### *Wetland, marshland*

Wet deposits usually have high representation of aquatic and marsh plants. The 16% Cyperaceae (sedge) pollen probably comes from local sedges growing on the forming deposit, but have little to tell us of archaeological significance.

#### *Sewage; parasite ova*

One ovum of *Trichuris* (whipworm) was found. This is an intestinal parasite carried by many animals, especially pigs and humans. This provides a slight indication of sewage contamination.



## **Results 2. BRB 99 organic layer**

The pollen in BRB 99 profile was well-preserved and abundant. It is listed in Table 12.

### *Woodland and scrub*

The lowest layer shows considerable evidence of woodland, as 70% tree and shrub pollen, mainly *Alnus* (alder), with *Quercus* (oak), *Tilia* (lime) and *Ulmus* (elm).

The upper layers had a much smaller amount of tree and shrub pollen (15-17%), as might be expected in an occupied landscape. *Sambucus nigra* (elder) seed was noted in the residue; it does not feature among the pollen results, but then it does not disperse much pollen.

These results seem to show that the surroundings were rather wooded to start with, and were subsequently occupied, probably after clearance. We do not know whether the woodland was rather local or represents a wider area.

### *Crops and weeds*

A small amount of Cerealia (probable cereal pollen) was present throughout. Cannabaceae (probable hemp) was present in one sample (20 cm), in which there was also a possible grain of *Fagopyrum* (buckwheat). This last was a minor crop in the later medieval and post-medieval period, better known from pollen than macrofossil remains.

Many pollen records are probably from weeds, including cornfield weeds such as *Centaurea cyanus* (cornflower) (see above). Others include *Cirsium* type (thistle), *Arctium* (burdock), and Chenopodiaceae (goosefoot or orache), which indicate open habitats usually created by various human activities, and therefore occupation of the site.

### *Grassland*

Some Poaceae (grass) pollen is present, and although grasses grow in most habitats, at least some of the pollen is from wetland grasses growing on the spot, as shown by a record of *Glyceria* (sweet-grass) seen in the residue of the pollen preparation. More certain indicators of grassland include *Plantago lanceolata* (ribwort plantain) and *Centaurea nigra* (knapsweed)

### *Wetland and aquatic vegetation*

Once again the indications are of marshy conditions with Cyperaceae (sedges), and diatoms present, without a big aquatic flora, suggesting that this was probably a small damp area rather than a large wet one.

### *Parasites*

*Trichuris* (whipworm) ova were present in the middle and top sample, providing more evidence for change from a rather natural, wooded, site becoming occupied and polluted.

## **Correlation with other results**

The pollen results are comparable with the waterlogged seed assessment (W. Smith,

this volume), although the macrofossil samples are not the same ones assessed for pollen.

### **Correlation with other sites, discussion**

A picture is gradually emerging of the development of the landscape of Birmingham, from results of various dates and from various sites. The prehistoric wildwood with lime and oak seems to have persisted here for longer than elsewhere, as shown by the evidence for it found underneath a Bronze Age burnt mound at Bournville (Greig 1982) - a likely reason is that places with lighter more easily tilled soil were much preferred for occupation, such as in the Avon valley, leaving the Birmingham plateau as a less favoured spot. Roman results from Metchley Fort seem to show that a secondary woodland covered the area after the fort was abandoned, which may also point to an area unsuitable for settlement. The later settlement of the area and establishment of a town could be connected with the availability of land for trading and business, since it was not the best farming land. The results from BRB 99 seem to show occupation of a somewhat wooded area, and BRB 97 more signs of this occupation and use. Finally, the results from the previous excavation of the Birmingham moat (Watts *et al.* 1981) show an occupied environment and evidence of cereals and probable hemp, which were probably being processed nearby, and possibly dated to the final fill of the moat, probably of post-medieval date. In this way the pollen and other environmental results gradually fill in a picture of the developing landscape from a number of suitable sites, which are valuable in understanding the development of the whole urban area.

### **Research design, recommendations for further work**

The six pollen samples assessed so far have shown that pollen is well-preserved and fairly abundant in some samples, and can inform on some aspects of the surroundings, such as presence of various crops and the level of occupation shown through the amount of trees and shrubs.

#### *Work on present samples*

Tidy up present assessment results into full analysis, integrate with other archaeological and environmental data, as costed below.

#### *Analyse further samples*

Twenty two more samples are available, some of which have already been assessed for beetle and plant macrofossil remains, and, of these, 16 look organic enough to repay pollen analysis as well, for the extra information that it can provide. A priority for full analysis would be the samples that either have already been assessed, or those which are also going to be fully analysed for beetles and plant macrofossils, which will allow the best possible interpretation to be made, and those for which there is some dating evidence.

**Table 11.** pollen and spores BRB 97 Trench 5, ditch fill 5057, 5056.

	5 cm	30 cm	55 cm
spores			

<i>Pteridium</i>	3	5	5	bracken
<i>Polypodium</i>	-	-	1	polypody
<i>Sphagnum</i>	9	8	-	sphagnum moss
Filicales	-	4	-	ferns, undifferentiated
pollen				
<i>Pinus</i>	1	4	-	pine
<i>Ranunculus</i> -tp.	-	-	1	buttercup, crowfoot
<i>Thalictrum</i>	-	-	1	meadow rue
<i>Cannabis</i> -tp.	-	-	1	hemp, hop
<i>Quercus</i>	5	5	11	oak
<i>Betula</i>	2	1	1	birch
<i>Alnus</i>	7	4	11	alder
<i>Corylus</i>	4	3	4	hazel
Chenopodiaceae	-	-	+	goosefoot
Caryophyllaceae	-	1	+	stitchwort family
<i>Persicaria bistorta</i> -tp.	2	-	-	bistort etc.
<i>Rumex</i> -tp.	1	-	-	docks and sorrels
<i>Tilia</i>	-	-	+	lime
Brassicaceae	1	1	-	brassicas
Ericales	-	2	2	heathers
cf. <i>Trifolium pratense</i>	2	1	-	red clover
<i>Vicia faba</i>	-	-	+	broad bean
<i>Epilobium</i>	-	1	-	willow herb
<i>Plantago major</i>	2	-	-	plantain
<i>Plantago lanceolata</i>	-	-	3	ribwort plantain
Dipsacaceae	-	1	1	scabiouises
<i>Cirsium</i> -tp.	-	3	+	thistles
<i>Centaurea cyanus</i>	-	-	+	cornflower
<i>Centaurea nigra</i>	+	1	+	knapweed
Lactuceae	6	17	9	a group of composites
<i>Aster</i> -tp.	-	1	1	daisies etc
<i>Artemisia</i>	1	1	-	mugwort
<i>Anthemis</i> -tp.	-	1	2	mayweeds etc.
Cyperaceae	22	19	24	sedges
Poaceae	40	32	64	grasses
Cerealia-tp.	-	-	4	probable cereals
non pollen				
charcoal	+	++	-	
<i>Trichuris</i>	-	1	-	
diatoms				

**Table 12** pollen and spores BRB 99, area D cast facing, contexts 4031, 4032  
0cm 20cm 40cm

spores				
<i>Pteridium</i>	-	-	7	bracken

<i>Polypodium</i>	-	-	1	polypody
<i>Sphagnum</i>	-	-	1	sphagnum moss
Filicales	-	-	2	ferns, undifferentiated
pollen				
<i>Pinus</i>	-	+	+	pine
<i>Ranunculus</i> -tp.	1	1	-	buttercup, crowfoot
<i>Ulmus</i>	-	-	2	elm
<i>Cannabis</i> -tp.	-	1	-	hemp, hop
<i>Quercus</i>	9	2	9	oak
<i>Betula</i>	3	3	5	birch
<i>Alnus</i>	6	7	49	alder
<i>Corylus</i>	1	4	5	hazel
Chenopodiaceae	1	2	-	goosefoot
Caryophyllaceae	1	2	+	stitchwort family
? <i>Fagopyrum</i>	-	+	-	possible buckwheat
<i>Rumex</i> -tp.	1	5	1	docks and sorrels
<i>Tilia</i>	1	1	6	lime
Brassicaceae	2	-	-	brassicas
Ericales	-	+	1	heathers
<i>Filipendula</i>	1	-	-	meadowsweet
<i>Agrimonia</i>	-	-	1	agrimony
<i>Trifolium repens</i>	-	1	-	white clover
<i>Hedera</i>	-	-	+	ivy
Apiaceae	-	-	1	umbellifers
<i>Plantago lanceolata</i>	-	4	6	ribwort plantain
<i>Fraxinus</i>	-	-	1	ash
Rubiaceae	-	-	+	bedstraws
<i>Valeriana</i>	-	+	-	valerian
Dipsacaceae	-	-	+	scabiouses
cf. <i>Arctium</i>	-	+	-	? burdock
<i>Cirsium</i> -tp	1	1	-	thistles
<i>Centaurea cyanus</i>	1	-	+	cornflower
<i>Centaurea nigra</i>	1	1	-	knapweed
Lactuceae	12	6	1	a group of composites
<i>Aster</i> -tp	2	6	1	daisies etc
<i>Artemisia</i>	-	-	-	mugwort
<i>Anthemis</i> -tp.	-	-	2	mayweeds etc.
Cyperaceae	15	6	3	sedges
Poaceae	59	74	18	grasses
Cerealialia-tp.	+	3	+	cereals
non pollen				
charcoal	++	++	-	
<i>Trichuris</i>	+	+	-	
diatoms	-	+	-	

## 5.0 Updated Project Design

## 5.1 Introduction

The excavated evidence has demonstrated the survival of a sequence of industrial and domestic activity at Edgbaston Street, dating from the 12th century through to the 20th century.

## 5.2 Updated Research Aims

This site offers a rare opportunity to study a sequence from the 12th century through to the 20th century.

It should be possible, by means of comparison with published and unpublished sites within the immediate locality and within the broader region, to place the Site within its overall geographical, archaeological, historical, economic and political context. The quality of the data is such that it should also allow a contribution to be made to the on-going reinterpretation of earlier archaeological data and the refinement of research designs for the period and region.

It is possible to restate, enhance and refocus the research aims as being to:

- complete the characterisation of the site dating and function.
- relate the site data to the early development of the city.
- examine the dynamics of urbanism through an examination of changing functions and varying degrees of intensity of use of the site in the medieval and post-medieval periods.
- determine the character, development and chronology of the archaeological remains.
- place evidence of tanning within its local and regional context.
- contribute to the understanding of industrial activity within medieval and post-medieval Birmingham, with particular reference to other sites of similar date recently excavated within the city.
- set the archaeological results in their historical context.
- reconsider the role of industry in the city, in both the medieval and post-medieval periods.

## 6.0 Publication Synopsis

It is proposed that the report will be published by Oxbow, alongside the results of excavations at Moor Street and Park Street. The title is yet to be decided. The provisional lengths of the individual contributions for the Edgbaston Street site only are given below.

**[ NB Iain Ferris writes Post-excavation assessment of the archaeological data from the Edgbaston Street site was undertaken as a single site assessment, and specialists have prepared their reports and recommendations for further work on this basis. However, subsequent to the assessment being completed, it has been decided to study and publish the Edgbaston Street site along with the smaller Moor Street site and the large Park Street site. An integrated post-excavation programme for all three sites will be produced once all three individual assessment reports have been completed. Specialists, authors and illustrators will then be asked to focus their research programmes to take on**

**board this integrated approach and the need to avoid duplication of research effort. However, for the purposes of this report the specialist task allocations as submitted specifically for Edgbaston Street on its own have been presented.]**

(Edgbaston Street Site Only)

by Catharine Mould

with contributions by Steven Allen, Gino Bellavia, Lynne Bevan, Marina Ciaraldi, Toni Demidowicz, James Greig, Allan Hall, Robert Ixer, Emily Murray, Eleanor Ramsey, Stephanie Ratkai, David Smith and Wendy Smith

illustrations by Nigel Dodds and Mark Breedon

photographs by Graham Norrie

Text

Summary (250 words).

Introduction by Catharine Mould (1000 words). 1 figure.

Aims and Method. The site and its context. 1 plate.

Results by Gino Bellavia, Catharine Mould and Eleanor Ramsey (6,000 words). 8 figures, 1 table. 15 plates.

Finds.

Prehistoric Flint by Lynne Bevan (50 words).

Pottery by Stephanie Ratkai (3,000 - 4,000 words). 2 figures, 2 tables.

Small Finds by Lynne Bevan (3,000 - 4,000 words). 2 figures. 4 plates

Environmental Material.

Animal Bone by Emily Murray (3,000 - 4,000 words). 3 tables.

Charred Plant Remains by Wendy Smith and Marina Ciaraldi (2,000 - 3,000 words). 1 table.

Waterlogged Plant Remains by Marina Ciaraldi, Wendy Smith and Allan Hall (1500 words). 1 table

The Insect Remains by David Smith (2500 words). 2 tables.

Pollen by James Greig (2000 words). 2 tables.

Discussion and conclusions by Gino Bellavia, Catharine Mould and Eleanor Ramsey (5,000 - 6,000 words) with a contribution by Toni Demidowicz. 2 figures.

*TOTAL 29,750 - 34,300 words; 12 tables; 15 figures, 20 plates.*

**7.0 Task List**

The task numbers below give the names of the individuals responsible for the completion of the task, and the number of days allocated.

1) Stratigraphic Analysis

The site records will be analysed to refine and revise the sequence of activity on the site.

(C. Mould: 5 days)

2) Pottery

### **Aims and Proposals**

All the pottery from contexts pre-dating the 19th century should be recorded. The medieval pottery is to be examined under x20 magnification and divided into fabric groups and the post-medieval pottery by ware type. The pottery is to be quantified by sherd count, sherd weight, minimum rim count and rim percentage and details of vessel form, decoration, sooting and abrasion should be noted. All resultant data and to be entered onto a database.

### **Dating and Chronology**

The pottery should be compared with other local assemblages eg from Birmingham Moat, Weoley Castle and Kings Norton, Birmingham, and other industrial urban sites in the Birmingham and Black Country area and the site placed in its local and regional setting.

### **Status and Function**

It was noticeable that other artefact classes and animal bone were not so well represented in any of the areas. The shortage of clay pipes is particularly noteworthy, and the study of the pottery evidence must pay careful note to the type and quantity of all the artefact and ecofact classes. Study of documentary sources will throw further light on the nature of site use. It will then be possible to see if the pottery assemblage reflects site use and function and to assess the relative prosperity and life-style of the inhabitants.

### **Taphonomy**

The pottery should be studied for cross-joining sherds ie sherds from the same vessel which occur in different contexts and features. This will help determine which areas of the site were in use or went out of use at the same time. In general, there is very little residual medieval pottery in post-medieval levels. The reasons for this should be examined to see if this was caused by truncation, abandonment or contraction on the site, change of site use or changing patterns of rubbish disposal.

### **Pottery sources, Trade and Exchange Patterns.**

The pottery should be sourced where possible. This will enable a picture of trade or exchange contacts to be established. There is also scope for establishing to what extent trade in pottery reflects industrial trade patterns for Birmingham and whether these differ from trade patterns for non-industrial sites eg Weoley Castle and Kings Norton.

The pottery assemblage comprises:- 15 boxes of pottery, approx 3,600 sherds

<b>Tasks</b>	<b>Days</b>
Sort pottery into areas/contexts	1.0
Sort pottery into fabric groups, process, record etc;	25.0
Search for cross joins	1.0
Data entry	3.0
Analysis/manipulation of data	3.0
Research	3.0
Integration of info from other artefact/ecofact classes	1.0
Write report	5.0

Edits/proofing	1.0
Sort pottery for drawing	0.5
Check drawings	0.5
(No. of drawings required <i>c.</i> 100)	

**Total** 44 days

(Stephanie Ratkai)

### 3) Small Finds

**Task** Number of days

#### **Metalwork**

Further research, summary listings, compilation of a short report on cauldron, ?trade token and lead ?weight (LB)	1
Illustration of lead and iron items (MB)	0.5

#### **Worked Bone and Horn**

Research, cataloguing, compilation of a short report (LB)	4
Species identification (EM)	0.5
Illustration (MB)	3

#### **Clay Pipes**

Research, cataloguing, compilation of a report (LB)	6
Illustration of up to 25 pipes (MB)	3

#### **Glass Vessels**

Selective cataloguing, selection for photography, further research, compilation of a report (LB with DO)	6
Photography (GN)	2

#### **Glass Manufacture**

Research, cataloguing, compilation of a short report (LB)	3
Photography of bead, moiles, cullet (glass waste) and crucibles (GN)	1

#### **Worked Stone**

Research, cataloguing, compilation of a short report (LB)	0.5
Geological identification and report (RI)	0.5
Illustration (MB)	0.25

#### **Shell**

Research, cataloguing and the compilation of a short report (LB)	2
Identification (EM)	0.5
Photography of discs and debris (GN)	0.5

#### **Leather**

Further research and the compilation of a short report (LB)	3
Selective illustration (MB)	0.5

**Total** 37.75

(Lynne Bevan, Robert Ixer, Emily Murray, Graham Norrie, David Orton and Mark Breedon)

### 5) Animal Bone

**Task** Number of days



Bone recording & data entry	3
Writing of Report	4
<b>Total</b>	<b>7</b>

(Emily Murray)

6) Charred Plant Remains

<b>Task</b>	<b>Number of days</b>
Analysis of charcoal	0.5
Preparation of report	1
<b>Total</b>	<b>1.5</b>

(Marina Ciaraldi)

**Waterlogged Plant Remains**

<b>Task</b>	<b>Number of days</b>
Processing of seven 100 ml sub-samples	1
Rapid scan of sub-samples for waterlogged plants	1
Processing more soil from assessed samples recommended for full analysis (which may include new samples)	2
Sorting the samples currently recommended for full analysis	4
Sorting any additional samples for full analysis	2
Full identification and quantification	2
Analysis and preparation of report	2
<b>Total</b>	<b>14</b>

(Maria Ciaraldi)

**Insect Remains**

<b>Task</b>	<b>Number of days</b>
Full identification of the large insect faunas from 17 deposits (5024, 5043, 5051, 5052, 5053, 5109, 5110, 5402, 5410, 9, 19, 22, 23, 30, 31, 32, 45)	17
Full identification of small insect faunas from 11 deposits (4,6, 27, 28, 29, 34, 36, 37, 39, 42, 52)	3
Report preparation	3
<b>Total</b>	<b>23</b>

(David Smith)

Pollen

<b>Task</b>	<b>Number of days</b>
Analysis of further samples	16
Upgrade of 6 assessment results	3
<b>Total</b>	<b>19</b>

(James Greig)

7) Preparation of drawing roughs (C. Mould 4 days)

- 8) Preparation of illustrations (N. Dodds 27 days)
- 9) Preparation of first draft of introduction and results (C. Mould 4 days)

MONITORING POINT (1) \*\*\*\*

Preparation of results text and first draft of specialist reports (C. Mould 1 day)

- 10) Editing/correction to specialist reports (C. Mould 1 day).
- 11) Preparation of first draft of discussion. (C. Mould 10 days).
- 12) Editing of first draft (BUFAU) (I. Ferris 2 days).
- 13) Corrections to first draft (C. Mould 2 days).
- 14) Corrections to illustrations (N. Dodds 2 days).

MONITORING POINT (2) \*\*\*\*

Completion of first draft (edited by BUFAU)

- 15) Submission of text for external refereeing (I. Ferris 1 day).
- 16) Preparation of excavation and research archives (K. Muldoon 1 day).
- 17) Final corrections to text/illustrations (C. Mould 1 day).
- 18) Submission of text to OXBOW(I. Ferris 1 day).
- 19) Corrections to text/proofs (C. Mould 1 day).
- 20) Deposition of archive (K. Muldoon 1 day).

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## **9.0 Acknowledgements**

The evaluation and excavation was sponsored by Hammerson UK Properties plc on behalf of the Birmingham Alliance. The archaeological work was carried out by Birmingham University Field Archaeology Unit and directed by Catharine Mould, with the assistance of Gino Bellavia, Julie Candy, Mary Duncan, Emma Hancocks, Chris Hewitson, John Hovey, Steve Litherland, Edward Newton, Chris Patrick, Ellie Ramsey, Elidh Ross, Jon Sterenberg, Sarah Watt and Christine Winter.

The project was monitored by Dr Michael Hodder for Birmingham City Council. This report was edited by Iain Ferris. The illustrations were prepared by Nigel Dodds.

The support of English Heritage for carrying out the pollen assessment is gratefully acknowledged.

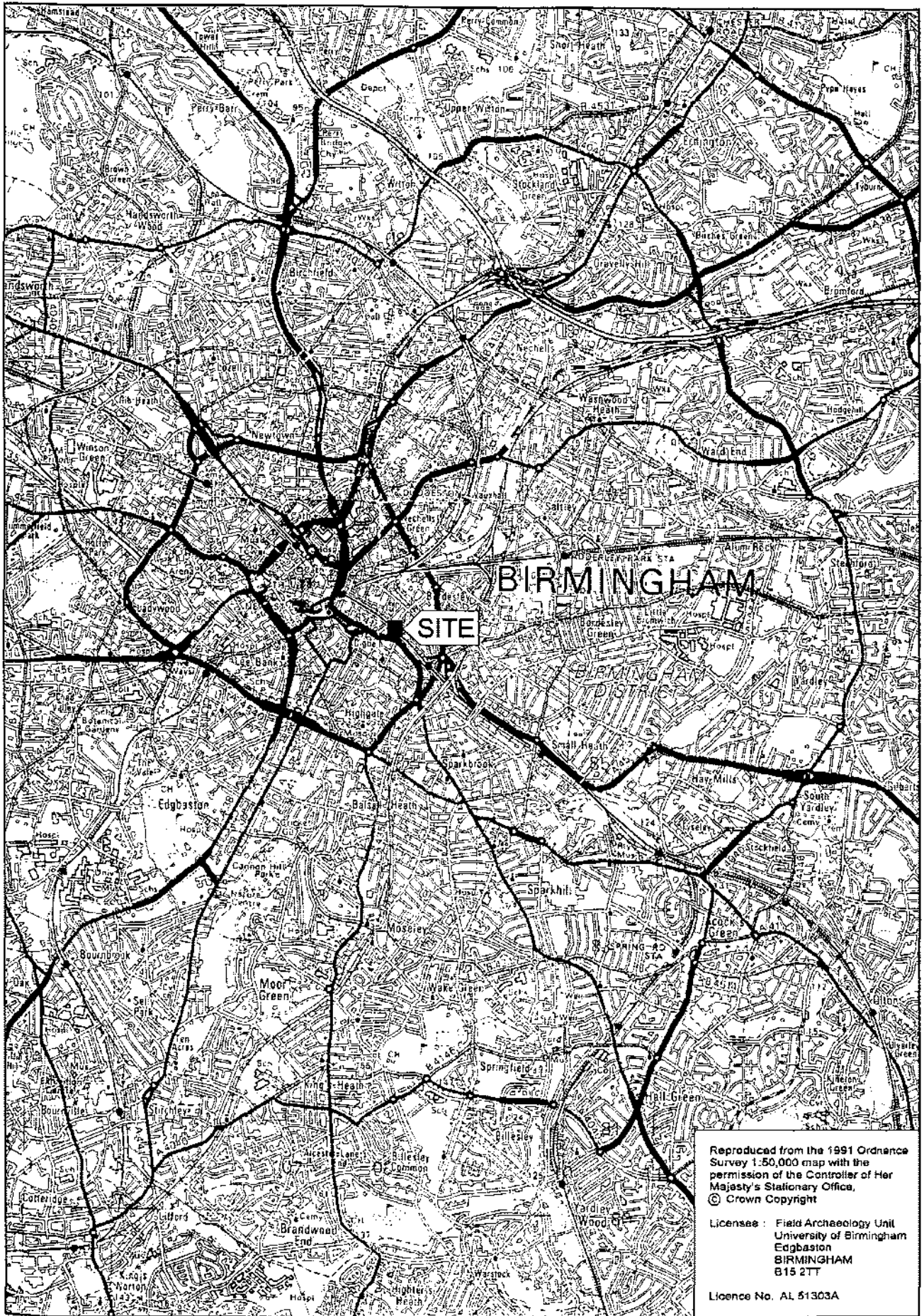


Fig.1

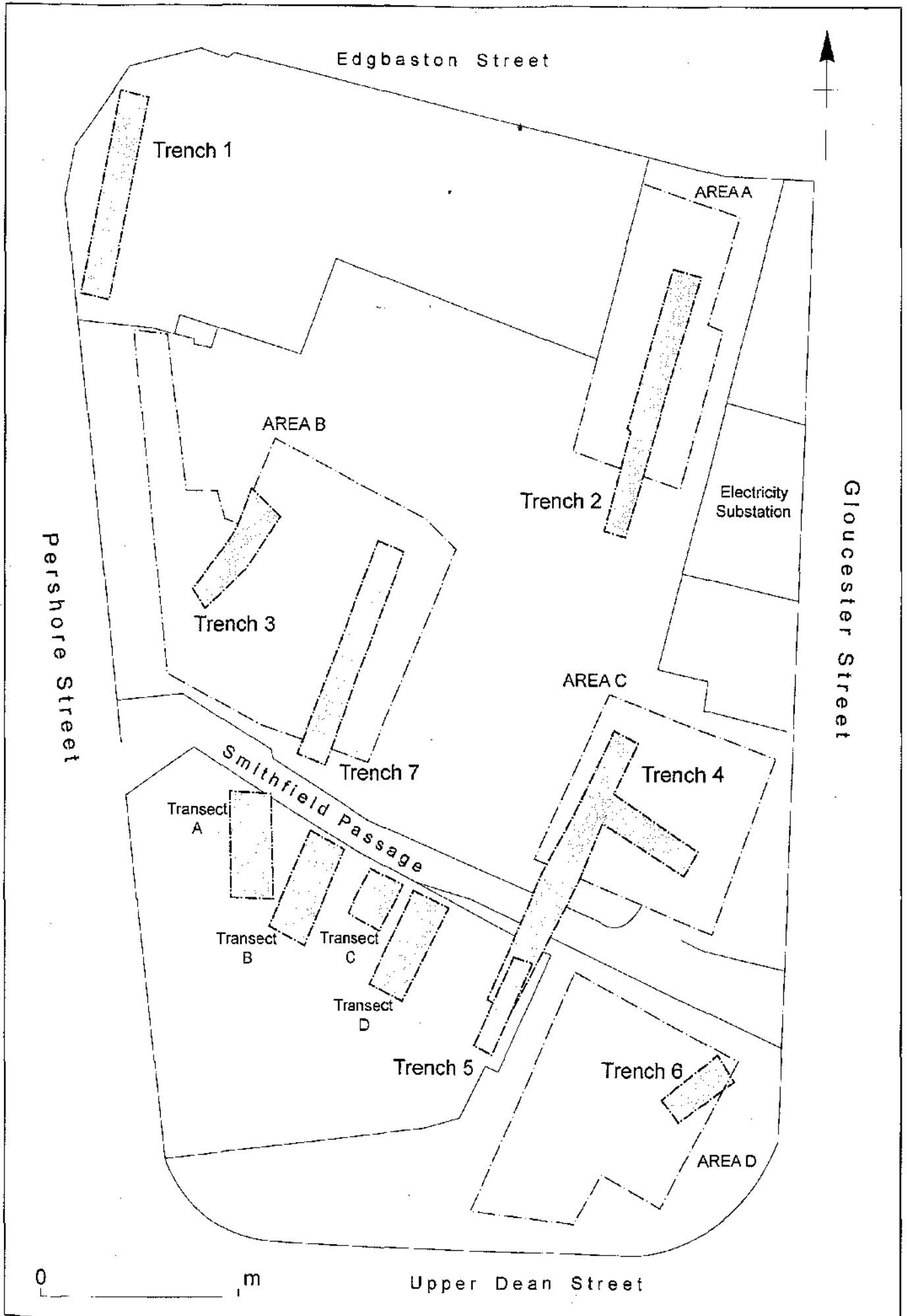
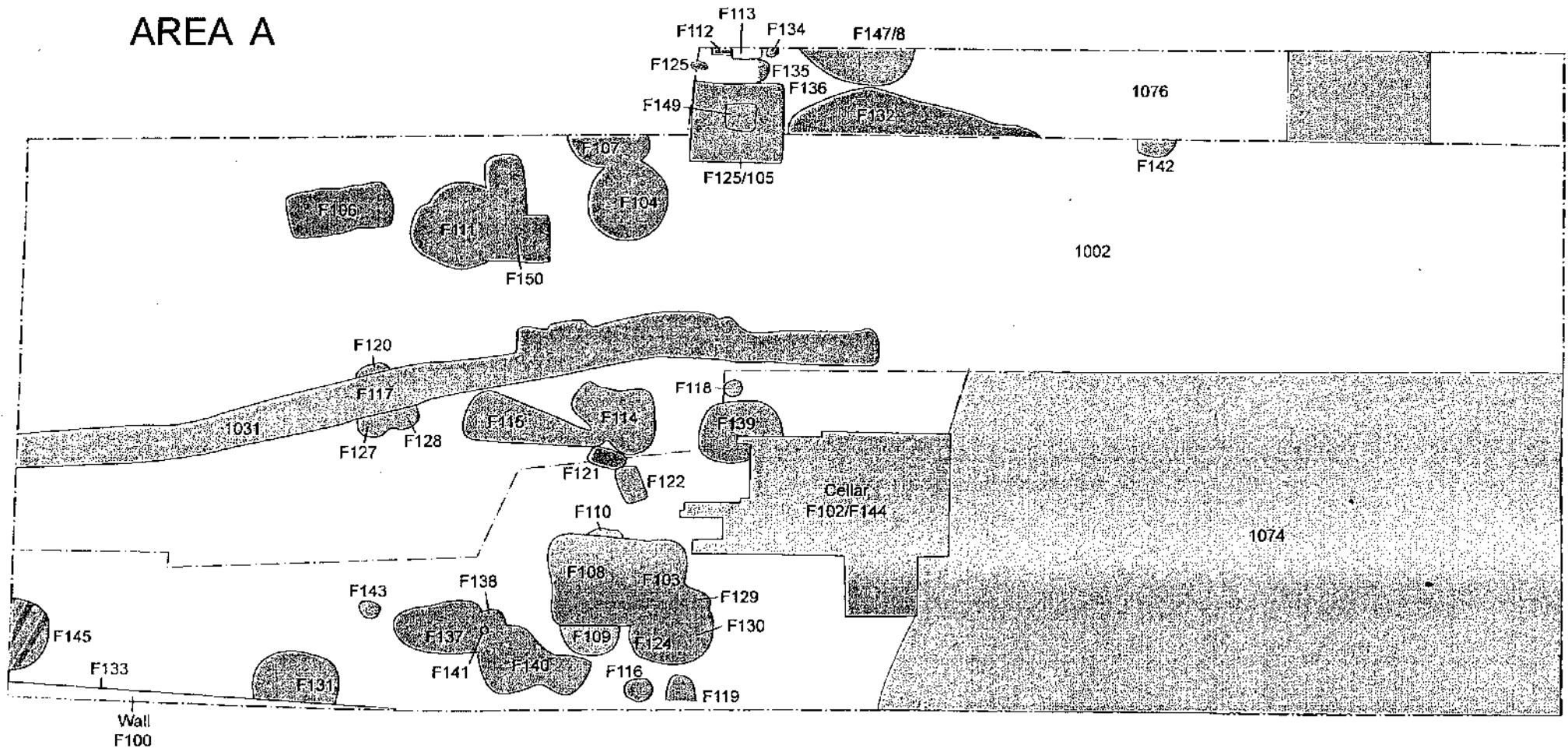
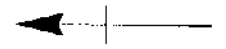


Fig.2

# AREA A



0 10m



Fig.3



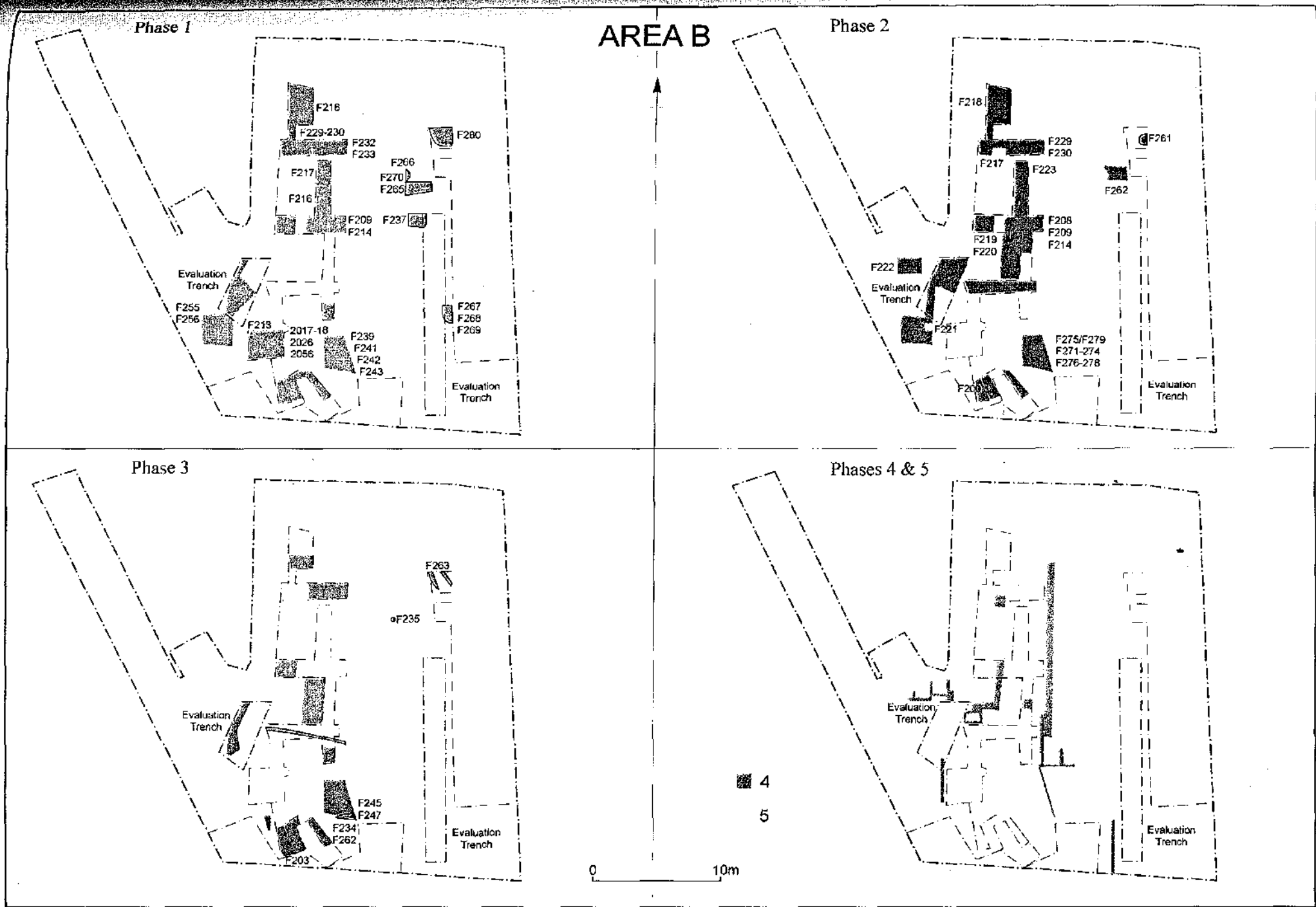
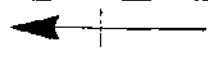


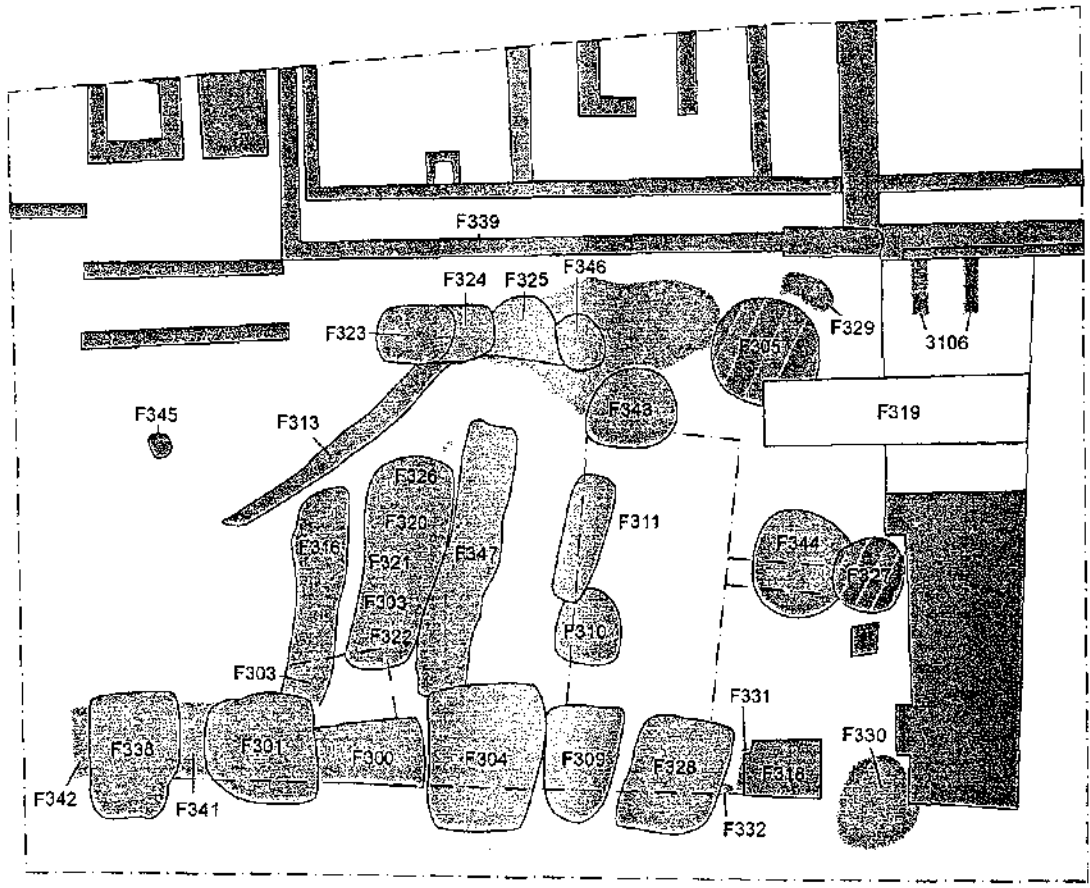
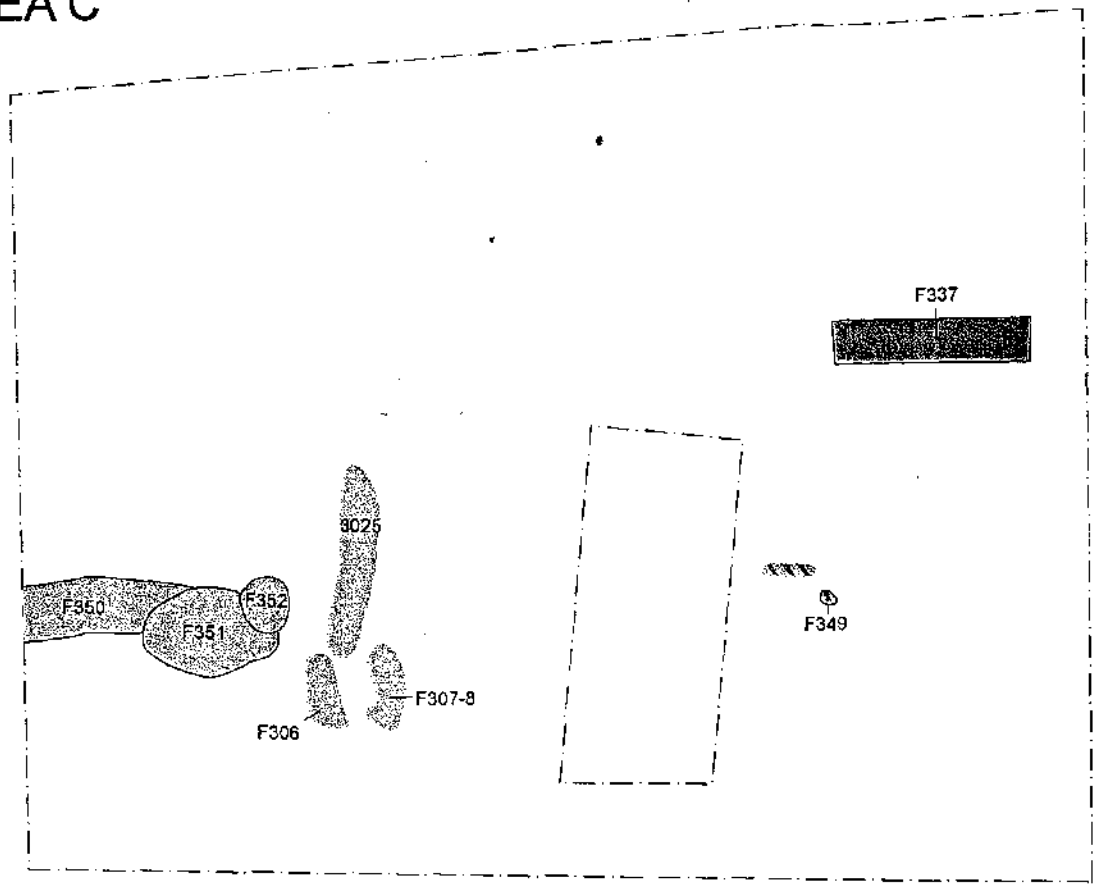
Fig.4

# AREA C



## Phases

- 1
- 2
- 3
- 4
- 5



0 10m

Fig.5

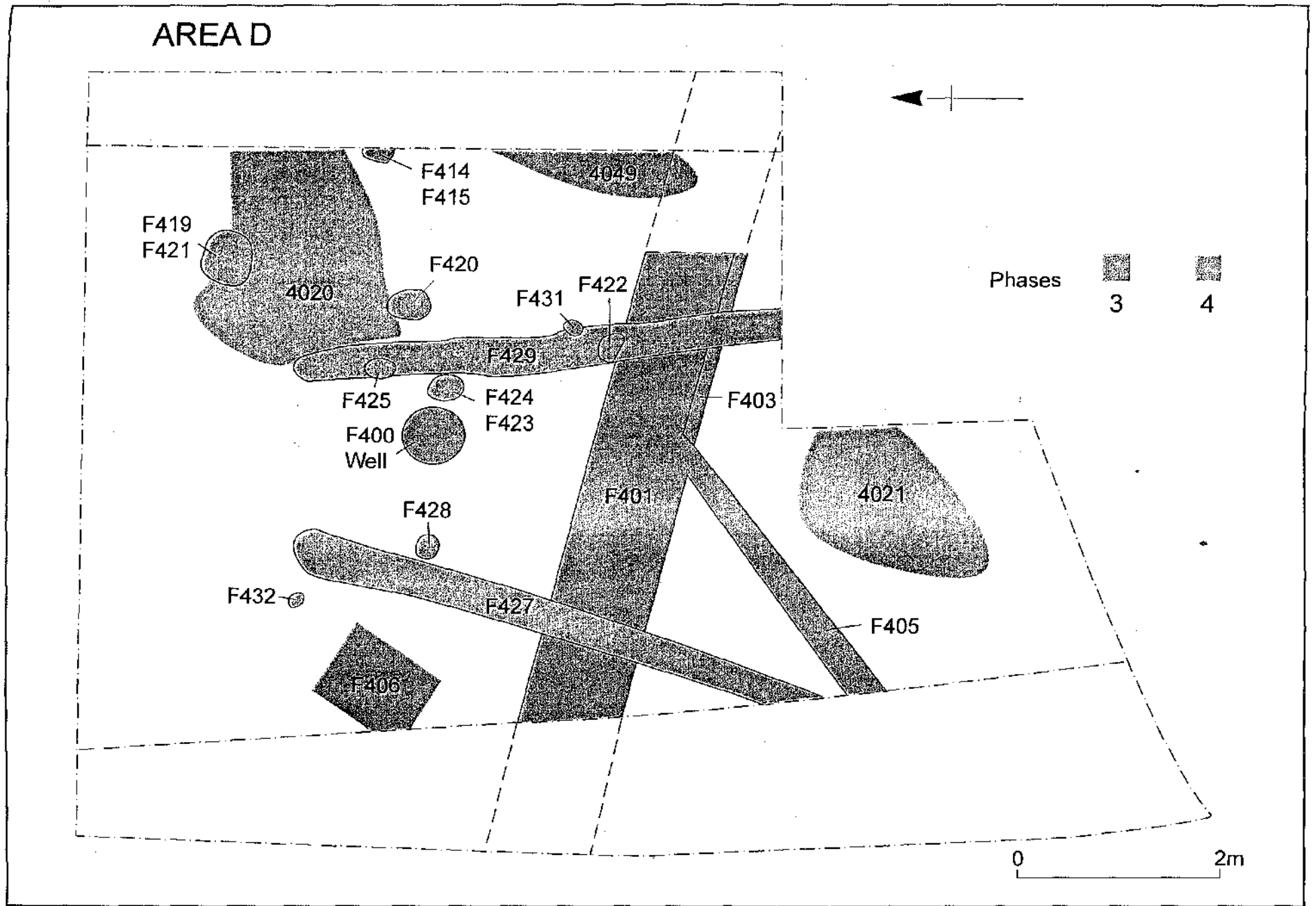


Fig.6

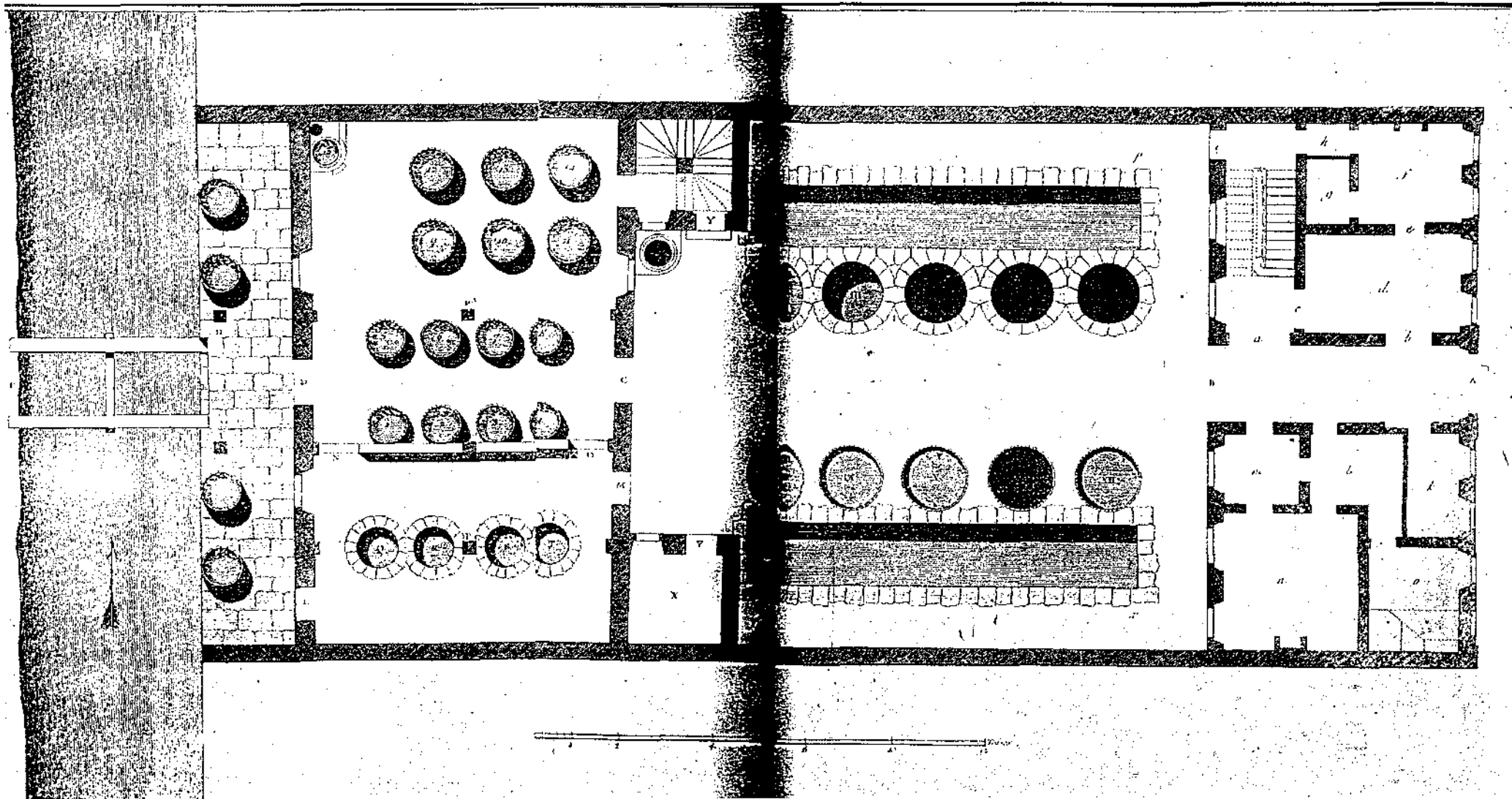
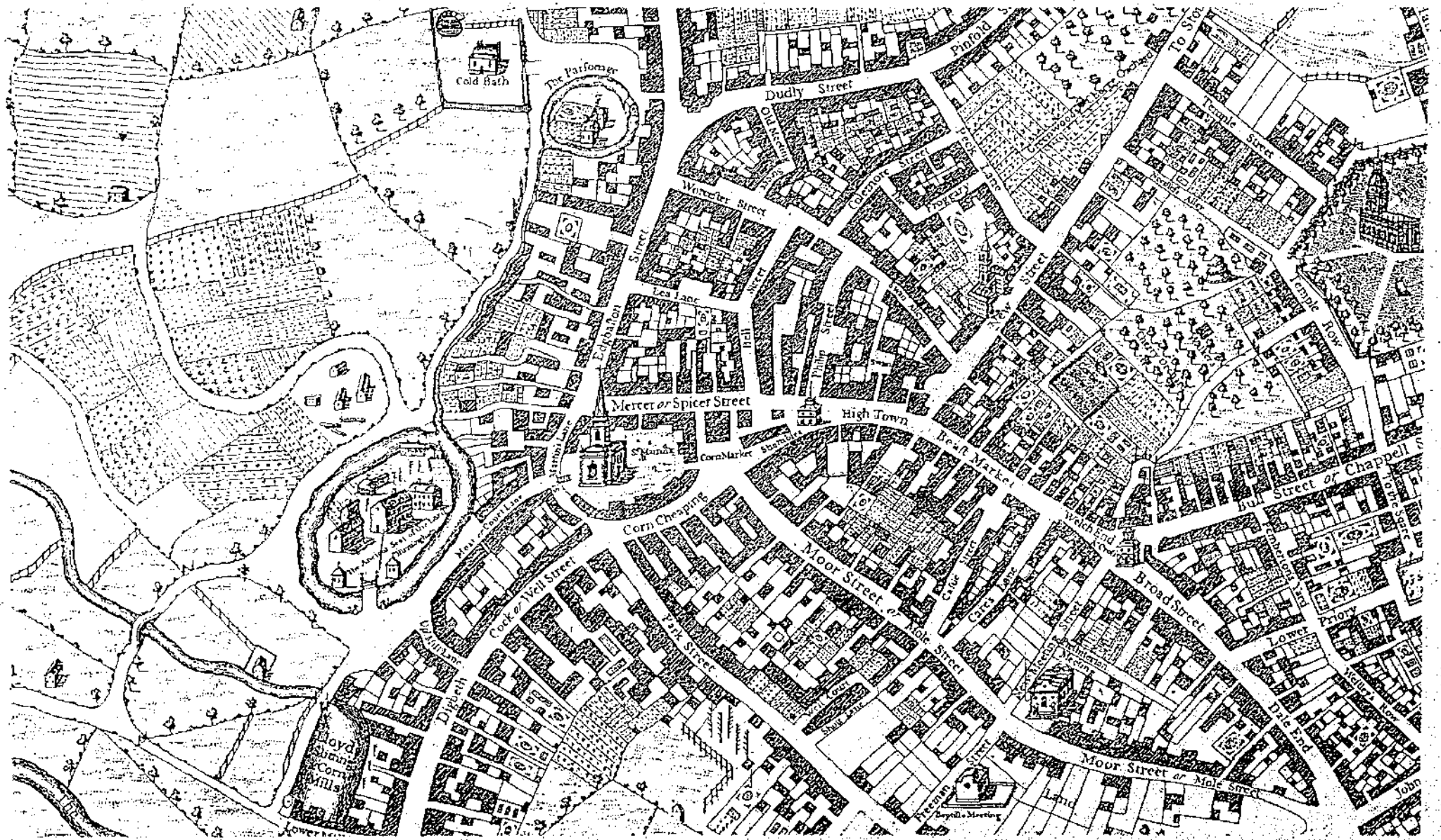
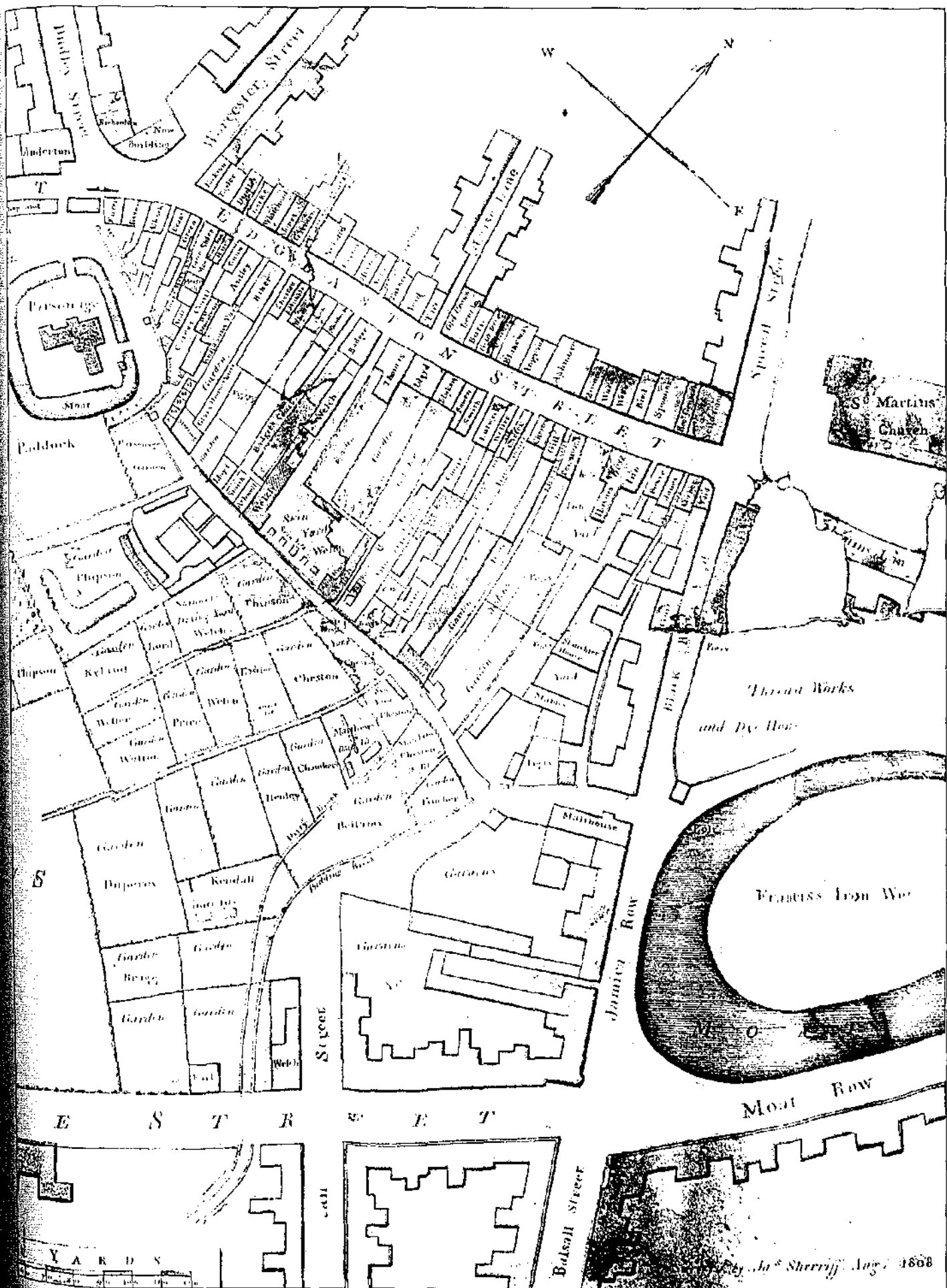


Fig. 7



Westley, 1731

Map 1



Map 2

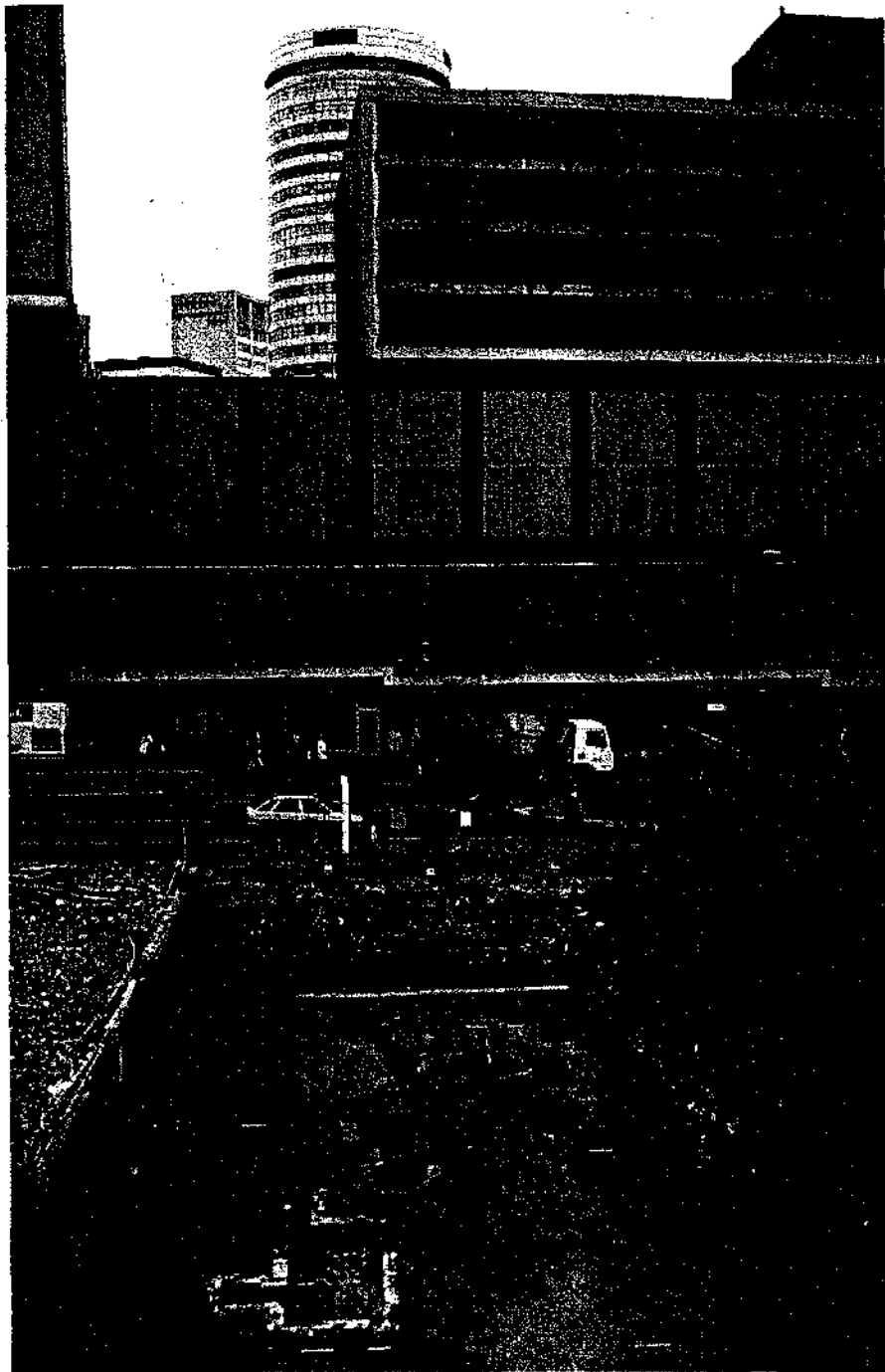


Plate 1

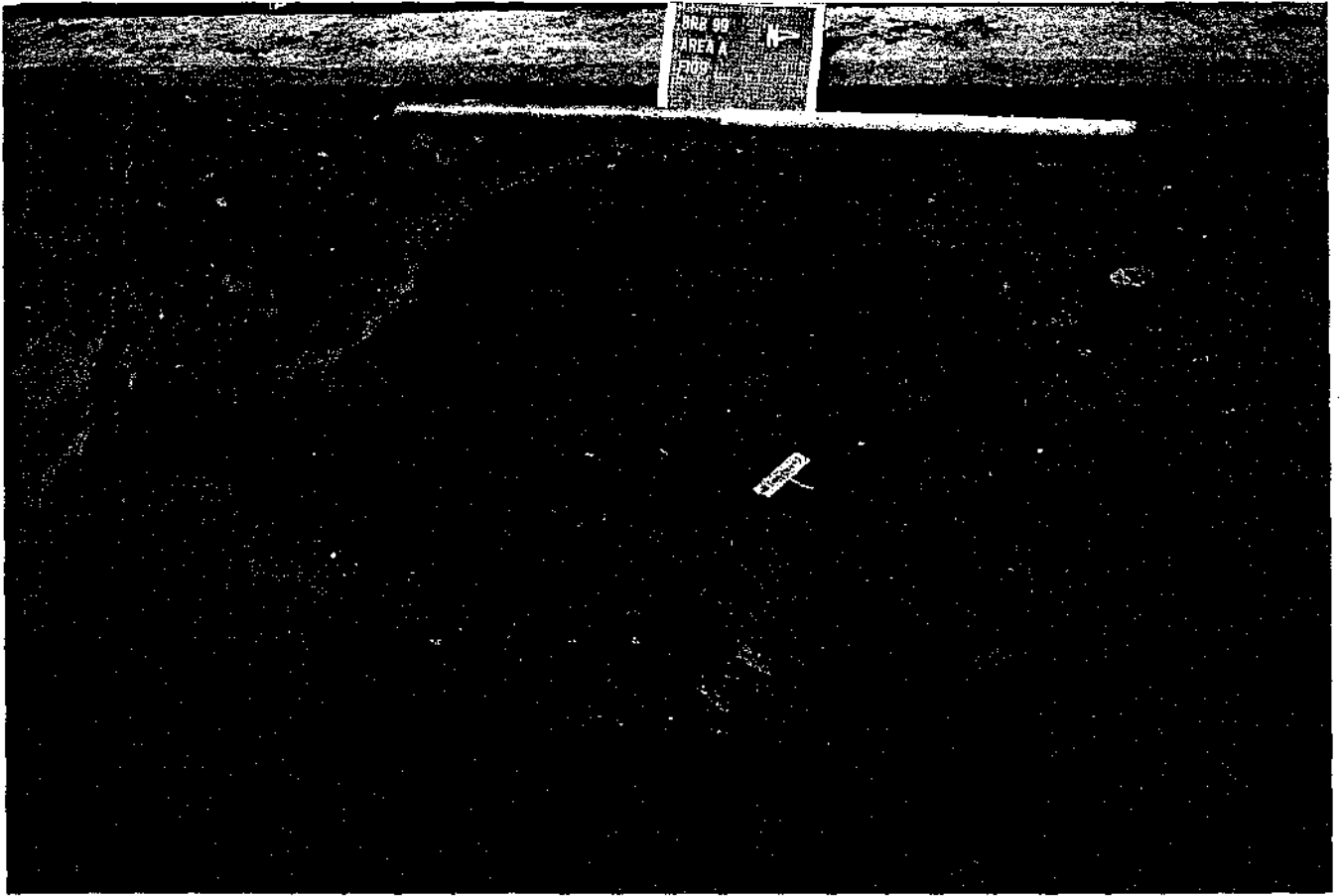


Plate 2



Plate 3



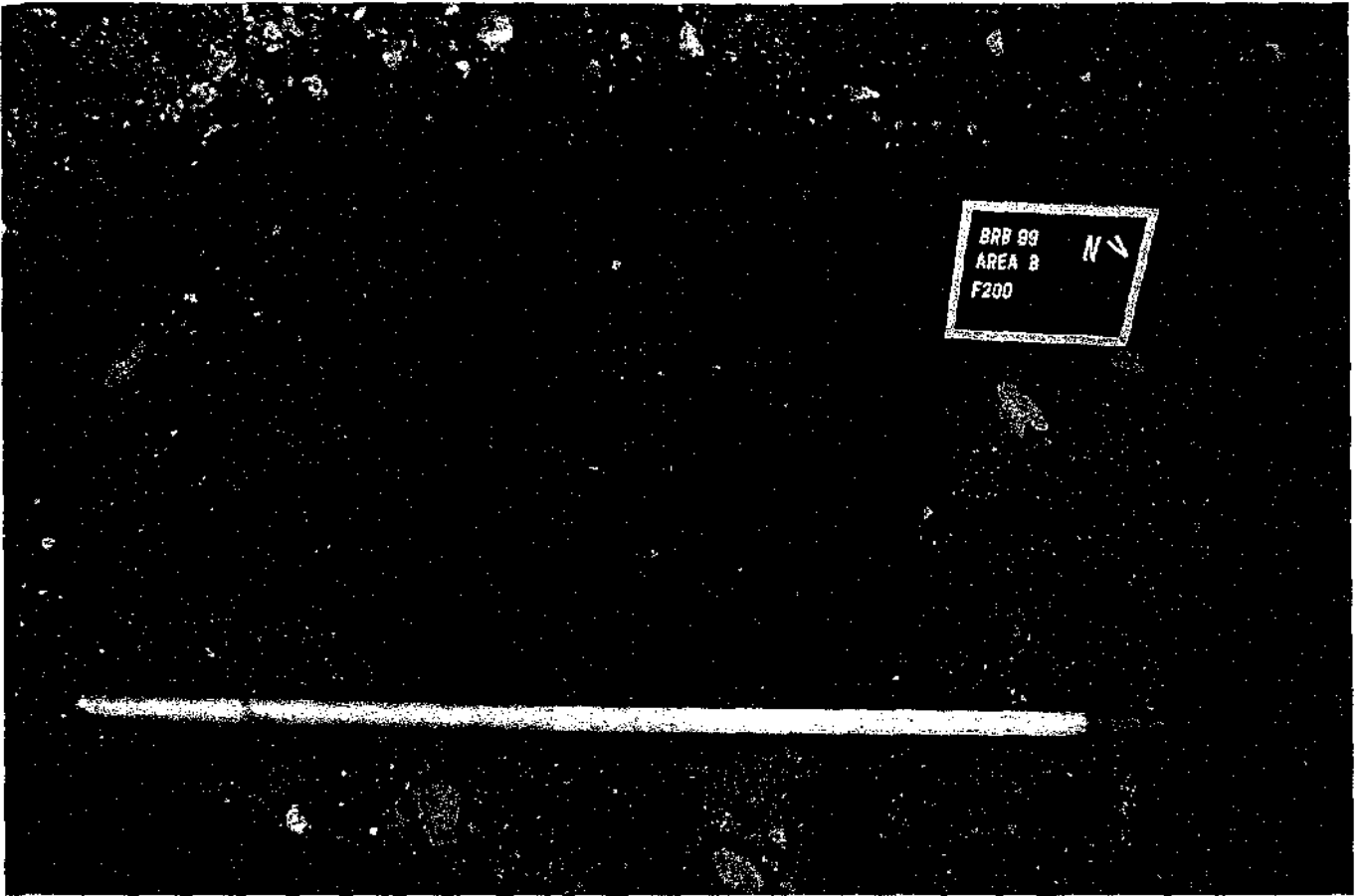


Plate 4



Plate 5

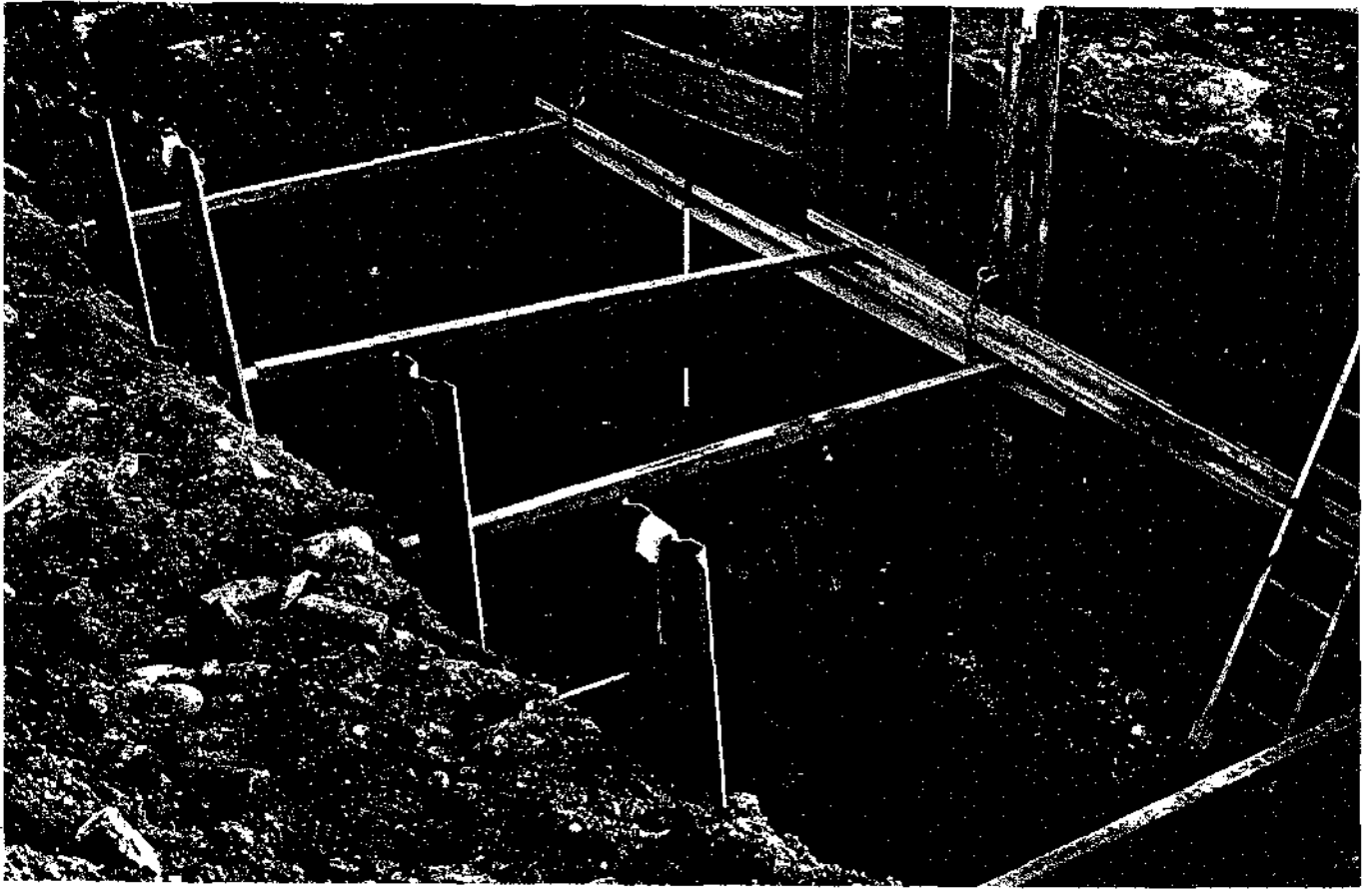


Plate 6