P.N. 1778

Heath Mill Lane, Birmingham

Archaeological Excavation 2008

Post-Excavation Assessment

Checked by

Supervisor……BB…… date……20/02/2009….

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Project No. 1778

HEATH MILL LANE, BIRMINGHAM
ARCHAEOLOGICAL EXCAVATION 2008

POST-EXCAVATION ASSESSMENT

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Heath Mill Lane, Birmingham

Archaeological Excavation 2008, Post-Excavation Assessment

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SUMMARY

An archaeological excavation at 25-27 Heath Mill Lane, Deritend, Birmingham was undertaken by Birmingham Archaeology in May 2008 on instruction from Blok Properties prior to an office development. The earliest archaeological feature was a plot boundary ditch. Medieval pottery dating to the 13th century, comprising Deritend ware and cooking pots, was recovered from this feature. Later medieval activity, after this boundary went out of use, was represented by post-holes, stake-holes and pits. The largest pit, dug through the abandoned plot boundary had been lined, possibly for an industrial purpose. The post-holes may have formed several temporary structures. Fragments of iron slag found within some of this post-hole group could suggest an association with ironworking. The post-holes were sealed by a cobbled surface which contained a few sherds of 13th century date. The pit was probably backfilled in the early 14th century.

The archaeological evidence indicated a hiatus in activity until the late 17th or early 18th centuries. The majority of the excavated post-medieval features were 19th century brick-built structures. An associated well contained a range of transfer printed wares dating to the 1860's. A brick structure and construction pit contained crucible fragments, indicating 19th century industrial activity in the area.

The site was included within earlier archaeological desk-based assessments covering areas of Digbeth/Deritend. The excavation was preceded by trial-trenching.

Heath Mill Lane, Deritend, Birmingham

Archaeological Excavation 2008

Post-Excavation Assessment

1. INTRODUCTION

1.1.1. Birmingham Archaeology was commissioned by Blok Properties to undertake an archaeological excavation in advance of an office development at 25-27 Heath Mill Lane, Birmingham (Figs 1-2).

1.1.2. This report outlines the results of an excavation carried out during May 2008. The report provides a post-excavation assessment of the excavation results, and provides proposals to bring the excavation results to publication, in accordance with the Management of Archaeology Projects 2 (English Heritage 1990).

1.1.3. The excavation conformed to a brief produced by Birmingham City Council (reproduced as Appendix 1), and a Written Scheme of Investigation (reproduced as Appendix 2) which was approved by the Local Planning Authority prior to implementation, in accordance with guidelines laid down in Planning Policy Guidance Note 16 (PPG 16, DoE 1990).

1.1.4. The work was undertaken in accordance with Planning Policy Guidance Note 16 (PPG16), Policy 8.36 of the Birmingham Unitary Development Plan, the Council's Archaeology Strategy (adopted as Supplementary Planning Guidance) and the Standard and Guidance for Archaeological Excavations (Institute of Field Archaeologists 2001).

2. LOCATION AND GEOLOGY

2.1.1. The site is located to the southeast of Heath Mill Lane, which is located to the northeast of High Street Bordesley. The site is centred on NGR SP 080 860 (Fig. 1).

2.1.2. Central Birmingham is located on a narrow Keuper Sandstone ridge less than 0.5km wide, extending from the Lickey Hills in the southwest to Sutton Coldfield to the northeast. The drift geology mainly comprises scattered patches of sand and gravel, with alluvium along the River Rea valley floor (Litherland 1995).

2.1.3. Prior to excavation the site comprised a surfaced car park and former car repair premises.

3. ARCHAEOLOGICAL BACKGROUND

3.1.1. The site was included in an archaeological desk-based assessment of the Digbeth, Deritend and Bordseley High Street areas (Litherland 1995, see Fig. 2). This suggested that it had a high potential to contain archaeological remains from the medieval period onwards, including potential for evidence of pottery manufacture, metalworking and evidence of past environments.

3.1.2. A number of archaeological investigations have been undertaken in the adjoining area (Fig. 2). To the southwest of the site, excavations in the yard of The Old Crown Public House revealed misfired pottery wasters suggesting the existence of a pottery kiln on or near the site in the 13th or 14th centuries (Litherland 1994). To the west of the site,

excavations between Gibb Street and Heath Mill Lane provided evidence of 13th and 14th century occupation, with more intensive occupation from the 17th and 18th centuries onward (Mould 2002).

3.1.3. Archaeological evaluation of 25-27 Heath Mill Lane in March 2004 (SMR 20729) consisted of two trenches, one inside the existing building and one in the yard (Ramsey 2005). The trench inside the building revealed a large pit and ditch containing 13th or 14th century pottery (the same features were also identified in the 2008 excavation). The ditch continued the eastern plot boundary of The Old Crown Public House. Trenching in the yard of 25-27 Heath Mill Lane uncovered pits and post-holes sealed by a cobbled layer which was similar to a surface of 17th-century date found to the rear of the Old Crown Public House.

4. OBJECTIVES AND RESEARCH

4.1.1. The principal aim of the excavation was to preserve the identified archaeological remains by record.

4.1.2. The particular objectives of the project (Appendix 2) were to:

- achieve an understanding of any activity prior to the layout of property boundaries
- recover dating evidence from the property boundary
- establish the date, function and sequence of features in the west of the site
- provide an understanding of past environmental conditions
- provide an understanding of the medieval/ early post-medieval economy.

5. METHODOLOGY

5.1.1. The excavation comprised the whole of the site, with the exception of a suitable stand-off around the site boundary (Fig. 3).

5.1.2. Initial demolition of buildings to slab level was undertaken prior to any archaeological supervision.

5.1.3. Machine excavation of the concrete slab was undertaken under archaeological supervision, to ensure archaeological deposits were not disturbed.

5.1.4. All topsoil and modern overburden was removed using a 360 degree tracked mechanical excavator equipped with a toothless ditching bucket, working under continuous archaeological supervision, to expose the top of the uppermost archaeological horizon or the subsoil. Subsequent cleaning and excavation was by hand.

5.1.5. Following the completion of machining all exposed surfaces were hand-cleaned and a base-plan prepared.

5.1.6. Once the base-plan was complete a monitoring meeting was held with the Planning Archaeologist of Birmingham City Council to define the strategy for hand-excavation.

5.1.7. All archaeological features were sampled by hand-excavation to define their character, stratigraphic relationships and recover artefactual remains using the following strategy:

- 50% of pits under 1.5m or post-holes
- 10% sample of boundary ditches including terminals
- 50% sample of beam-slots, to include all terminals.

5.1.8. Features were planned (scales of 1:20 or 1:50, as appropriate), and sections drawn (at a scale of 1:10). A comprehensive written record was maintained using a continuous numbered context system on pre-printed pro-forma record cards. Written records and scale plans were supplemented by black and white monochrome photographs, colour slides and digital photography.

5.1.9. Datable features were sampled objectively for the recovery of charred or waterlogged plant remains, pollen and insect remains. The environmental sampling policy followed the guidelines contained in the Birmingham Archaeology Fieldwork Manual, and Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation (English Heritage 2002).

5.1.10. Samples of metalworking, or possible metalworking residues were collected as appropriate, in accordance with Archaeometallurgy (English Heritage 2001) and Science for Historic Industries (English Heritage 2006).

5.1.11. Recovered finds were cleaned and marked. Treatment of all finds conformed to guidance contained within the Birmingham Archaeology Fieldwork Manual and First Aid for Finds (Watkinson and Neal 1998).

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

6. RESULTS

6.1.1. Further details are provided in Appendix 3. A total of five phases were defined on the basis of the recorded stratigraphy, and spot-dating of the finds, as follows:

- Phase 1a, 13th century
- Phase 1b, 13th-early 14th century
- Phase 2, 16th/17th century
- Phase 3, 17th-18th century
- Phase 4, 19th-20th century

6.1.2. The features were cut into the natural yellow sand and gravel with clay subsoil (3022).

6.2. Phase 1a 13th century (Figs 3-4)

6.2.1. A roughly north-south aligned ditch (3169/3155/3057), first recorded at trial-trenching, was probably the earliest archaeological feature identified. Despite truncation by a Phase 1b pit (see below), the ditch may be interpreted as a plot boundary. The ditch measured approximately 1.40m in width, and 0.31m in depth. A number of pottery sherds dating to the 13th century were recovered from the ditch. A re-cut (3027/3153) was recorded along part of the ditch length. The re-cut ditch measured 0.60m wide and 0.30m deep and had a distinctive 'U'-shaped profile. Its backfills contained heavily sooted cooking pot sherds also dating to the 13th century. The pottery sherds indicate nearby domestic occupation. Ditch section 3027 contained a fragment of possible blast furnace slag, and other, undiagnostic residues.

6.3. Phase 1b 13th to Early 14th century (Figs 3-4)

6.3.1. The Phase 1a plot boundary had gone out of use and been backfilled by the start of Phase 1b. The main Phase 1b feature was a large pit (3007). Other Phase 1b features comprised pits, post-holes and stake-holes. The Phase 1b features were cut into the backfilled Phase 1a ditch, or the subsoil.

6.3.2. The largest Phase 1b feature was a large, sub-circular pit (3007, Fig. 4), cut into the backfilled Phase 1a boundary ditch. The pit measured 5.50m by 4.30m in diameter and 1.40m in depth. It had steeply sloping sides and was cut to a 'U-shaped' profile. The primary pit fill (3048) was a thin band of light brown silt sand which contained medieval pottery. This layer may have formed a lining of the feature. It was overlain by grey silty clay (3047), notable for a high organic content including fragments of charcoal and wood. It contained early 14th century pottery. It was sealed by brownish-pink silty sandy clay (3023) in turn overlain by brown silty sand (3012) which contained frequent small rounded stones. Both these fills contained medieval pottery. Pit 3007 also contained undiagnostic slaggy residues (contexts 3006, 3012 and 3023).

6.3.3. The remaining Phase 1b features formed three 'clusters', in the east, centre and west of the area excavated, which are described in turn.

6.3.4. The eastern feature group comprised a possible building (Structure A), a fenceline (Structure B), and a scatter of pits.

6.3.5. A roughly square possible structure (Structure A) was defined by four post-holes (3193, 3195, 3197 and 3199) which each measured an average of 0.2m in diameter. To the east was a shallow, elongated pit (3091) which contained a number of river-worn stones.

6.3.6. A curvilinear, roughly northwest-southeast fenceline (Structure B) was defined by a total of twelve irregularly-spaced stake-holes (3071, 3075, 3079, 3081, 3083, 3085, 3087, 3089, 3240, 3241, 3243, 3244). Three further stake-holes (3069, 3073, 3077), and a post-hole (3201) positioned to the south of the fence-line could have been associated. A further seven stake-holes (3239, 3242, 3245, 3446, 3247, 3248, 3249) were also recorded to the west of the fence-line. The majority of the stake-holes in the eastern cluster were square in plan. All had steep sides and contained dark reddish grey silty sand with flecks of charcoal. They measured an average of 0.10-0.18m in diameter and 0.06-0.10m in depth. None contained any finds.

6.3.7. This cluster also contained other post-holes and pits. Post-holes 3095, 3103, 3109 and 3113 contained evidence of post-packing stones, whilst other post-holes (3021, 3121, 3137, 3119, 3180, 3139) did not. The post-holes measured an average of 0.35m in diameter, and 0.25m in depth. They were filled with grey-brown silty sandy clay. None contained any datable pottery. Feature 3095 contained undiagnostic slaggy residues.

An oblong area of dark silt (3229) may also be attributable to this phase. No pattern could be observed within the layout of this feature group.

6.3.8. The central cluster of Phase 1b features was located to the west of pit 3007. It comprised six post-holes (3217, 3215, 3211, 3213, 3123 and 3202), and two stake-holes (3226 and 3224).

6.3.9. The western cluster of Phase 1b features was irregular in layout (see Table 1 for details). It included post-holes and stake-holes. Post-hole 3141 was cut by feature 3175. These post-holes were circular, sub-circular and sub-rectangular in plan, and ranged between 0.15 and 0.65m in diameter. Post-hole 3143 contained traces of stone packing. Although no structure(s) could be identified at excavation, it is notable that a number of the post-holes may have formed pairs. These included 3101 and 3099, 3111 and 3107, 3220 and 3135, 3093 and 3111, 3149 and 3147, 3129 and 3127, 3159 and 3157. Feature 3135 contained a number of fragments of amorphous undiagnostic slaggy material and vitrified clay fragments.

Table 1 Details of Phase 1b post-holes and stake-holes

Cut	Fill	Average diameter	Shape in plan	Profile	Depth
Eastern cluster					
Structure A					
3197	3196	0.10m	Circular	'U'-shaped	0.15m
3193	3192	0.20m	Circular	Bowl	0.13m
3195	3194	0.20m	Square	'U'-shaped	0.20m
3199	3198	0.20m	Circular	'U'-shaped	0.16m
Structure B					
3071	3070	0.15m	Circular	'U'-shaped	0.10m
3075	3074	0.10m	Square	'U'-shaped	0.06m
3079	3078	0.10m	Square	'U-shaped	0.10m
3081	3080	0.10m	Irregular	'U-shaped	0.10m
3083	3082	0.12m	Rectangular	'U'-shaped	0.11m
3085	3084	0.12m	Rectangular	'U'-shaped	0.10m
3087	3086	0.10m	Square	'U'-shaped	0.10m
3089	3088	0.20m	Square	Irregular	0.10m
3069	3068	0.10m	Circular	'U'-shaped	0.10m
3073	3072	0.14m	Rectangular	'U'-shaped	0.06m
3077	3076	0.12m	Sub-circular	'U-shaped	0.10m
Other features					
3021	3020	0.5m	Sub-circular	'U'-shaped	0.11m
3095	3094	0.55m	Sub-circular	'U'-shaped	0.24m
3121	3120	0.20m	Circular	Irregular	0.15m
3113	3112	0.45m	Sub-circular	Bowl	0.07m
3119	3118	0.22m	Sub-circular	'U'-shaped	0.20m
3137	3136	0.23m	Circular	'U'-shaped	0.16m
3139	3138	0.25m	Sub-circular	'U'-shaped	0.20m
3180	3179	0.28m	Circular	'U'-shaped	0.13m

3103	3102	0.54m	Circular	'U'-shaped	0.15m
3109	3108	0.53m	Circular	'U'-shaped	0.26m
Stake-holes 3239-3249 are very shallow and difficult to measure accurately					
Central cluster					
3123	3122	0.3m	Circular	Bowl	0.18
3217	3216	0.50m	Circular	Bowl	0.09m
3215	3214	0.50m	Circular	Bowl	0.13m
3211	3210	0.35m	Sub-circular	Bowl	0.14m
3213	3212	0.26m	Circular	'U'-shaped	0.30m
3202	3203	0.40m	Sub-circular	Bowl	0.17m
3226	3225	0.11m	Circular	'U'-shaped	0.10m
3224	3223	0.22m	Circular	'U'-shaped	0.14m
Western cluster					
3101	3100	0.33m	Circular	Bowl	0.10m
3099	3098	0.30m	Sub-circular	Bowl	0.10m
3129	3128	0.35m	Circular	U'-shaped	0.29m
3127	3126	0.30m	Sub-circular	'U'-shaped	0.38m
3131	3130	0.30m	Sub-circular	Irregular	0.28m
3111	3110	0.21m	Circular	'U-shaped'	0.22m
3107	3106	0.22m	Circular	Bowl	0.04m
3161	3160	0.16m	Sub-circular	'V'-shaped	0.16m
3159	3158	0.30m	Sub-circular	'U'-shaped	0.14m
3157	3156	0.47m	Sub-circular	Bowl	0.15m
3171	3170	0.20m	Circular	'U'-shaped	0.20m
3143	3142	0.65m	Sub-circular	'U'-shaped	0.30m
3175	3174	0.32m	Circular	Bowl	0.09m
3141	3140	0.40m	Sub-circular	'U'-shaped	0.18m
3165	3164	0.17m	Circular	'U'-shaped	0.10m
3163	3162	0.26m	Circular	'U'-shaped	0.16m
3167	3166	0.20m	Sub-circular	'U'-shaped	0.25m
3149	3148	0.15m	Circular	'V'-shaped	0.09m
3147	3146	0.15m	Sub-circular	'U'-shaped	0.15m
3145	3144	0.34m	Circular	Bowl	0.10m
3173	3172	0.60 by 0.20m	Sub-circular	Bowl	0.10m
3093	3092	0.28 by 0.24m	Circular	'U'-shaped	0.31m

6.4. Phase 2 16th-17th century (Fig. 3)

6.4.1. Phase 2 activity comprised the deposition of a layer of redeposited subsoil (3178, not illustrated) and a cobbled surface (3010) which sealed the Phase 1b western 'cluster' of post-holes and stake-holes. The compact cobbled surface measured an average of 0.15m in depth. The dating of the surface is not entirely clear. The 13th century pottery sherds recovered from within the surface may well have been residual. The surface contained a single piece of possible hammerscale. The cobbled surface was bonded with sandy clay and was very similar to a surface dating to the 17th century observed in excavations at the Old Crown.

6.5. Phase 3 17th-18th century (Fig. 3)

6.5.1. This phase of activity was represented by a number of shallow pits and post-holes, mainly concentrated in the west of the area excavated. The features were cut into Phase 2 cobbled surface 3010. The Phase 3 features included a post-hole (3033), and a cluster of irregularly arranged stake-holes (3017, 3034, 3038, 3036, 3177) in the northwest of the area investigated. To the south a shallow, and ill-defined cut (3014) was truncated by a shallow disturbance (3205), and by two post-holes (3209, 3207).

6.5.2. A shallow Phase 3 disturbance (3059) was recorded following part of the alignment of Phase 1a ditch 3027.

6.5.3. Post-hole 3036 contained fragments of amorphous, undiagnostic slaggy residue. Pit 3014 contained fragments of possible blast furnace slag.

6.6. Phase 4 19-20th century (Figs 3-4)

6.6.1. The latest group of excavated features are ascribed a 19th-20th century date. The main features of this date were a well, and traces of brick walling and associated service trenches. The Phase 4 features are not described in detail.

6.6.2. The uppermost fill (3006, 3116, Figs. 3-4) of Phase 1b pit 3007 may be attributed to Phase 4. It is possible that the uppermost uncompacted medieval backfills of this pit may have been removed in Phase 4 as a preliminary to the dumping of imported soil, to provide a firm foundation for brick structures and associated yards. Fill 3006 contained pottery of 19th century date. Fill layer 3052 represents the backfill of the archaeological evaluation trench.

6.6.3. The fills of well 3009, brick-walled Structure C (3053, 3055, 3067) and an adjoining pit (3065) all contained crucible fragments. Well 3009 measured 1.28m in diameter, but was only excavated to a depth of 0.9m for reasons of health and safety. The well fills contained large quantities of pottery, and fragments of clay pipe. The pottery notably comprised a collection of transfer-printed wares, recovered from the well, indicated a deposition date of the 1880's or 1890's.

6.6.4. Two post-holes (3125, 3133) adjoined well 3009, and further post-holes were recorded to the south (3042, 3044, 3189, 3183, 3185, 3187). Other Phase 4 remains comprised gulleys (3024, 3031, 3029, 3065), a further post-hole (3105), brick structures, a cellar (3235) and brick-lined and other services, which are not described in detail or individually numbered on Fig. 3.

6.6.5. The Phase 1-4 features were sealed by a layer of dark grey charcoal rich soil (3003, not illustrated), measuring up to 0.3m in depth. Above was a levelling deposit (3002, not illustrated), overlain by a crushed brick deposit (3001, not illustrated), sealed by the former yard surface (3000, not illustrated).

6.6.6. Phase 4 features 3005, 3067 and the Phase 4 backfills of Phase 1b pit 3007 contained fragments of possible blast furnace slag. Other Phase 4 features (3024, 3031, 3125) contained undiagnostic slaggy residues.

7. ARTEFACTS

7.1. Ceramic building material

by Erica Macey-Bracken

7.1.1. None of the tile was complete, thus no measurements could be made. The most complete tile was a curved fragment (3009/ 3008) although this was not sufficiently complete to be able to obtain any complete dimensions.

7.1.2. The brick assemblage was similarly fragmentary, although one fragment (3009/ 3011) was intact enough to be able to measure its thickness (3⅛" thick).

7.1.3. Other building material included ten small fragments of mortar (3007/ 3006 x 1, 3009/ 3008 x 1, 3009/ 3011 x 2, 3067/ 3066 x 1, 3103/ 3102 x 5) and a scrap of plaster (3151/ 3150).

7.1.4. No further work is recommended for this building material.

Table 2 Quantification of brick and tile

Cut/context	Tile	Brick
3007/ 3006	1	
3009/ 3008	1	1
3010 layer		2
3009/ 3011	3	2
3007/ 3023		1
3024/ 3025		2
3027/ 3026		1
3031/ 3030		1
3024/ 3051	2	1
3059/ 3058	1	
3105/ 3104		3
3125/ 3124		1
3151/ 3150		1
TOTAL	8	16

7.2. Iron objects

7.2.1. Three fragments of iron nails were recovered from the site (3024/ 3025), along with a short section of circular iron bar (3046/ 3045), 160mm in length, and two possible sections of a knife blade (3103/ 3102), which measured 104mm and 55mm, and were covered in corrosion products.

7.2.2. No further work is recommended for this material.

7.3. Glass

by Cecily Cropper

7.3.1. The assemblage comprises a total of 136 fragments. Of these 31 fragments were from window panes, only one fragment from a vessel. A total of 104 however were from bottles with just over 50% of these coming from what interestingly appear to be ovoid or flat-sided bottles (Table 5).

7.3.2. The date of the assemblage potentially ranges from the 18th to the early 21st century with an emphasis though on the 19th and earlier 20th centuries; within the bottle assemblage this is evidenced by hand-tooling on the finishes (rims and neck) of mould blown bottles prior to full machination of the bottle manufacturing industry in the early 20th century. There is no medieval glass present within this assemblage. The earliest possible glass comprises several heavily weathered fragments (most likely from a flat sided bottle) from features 3014 and 3024 that may be of an 18th-century date. This type and depth of weathering crust is generally unusual in 18th-century glass, it is possibly slightly earlier.

7.3.3. The assemblage as a whole is fragmented and disparate. However there is a small group of diagnostic bottle fragments that form and fit into a 19th-century bottle typology. The more specific assemblage of possible ovoid bottles (mostly from feature 3014) is interesting and requires further analysis. Window glass would appear to be generally secular however it is of interest to note the grozed (deliberate tooled shaping) and rounded edge of one later fragment (from feature 3009) indicating decorative leaded glazing. Further analysis may provide points of interest in terms of how the assemblage fits into the site as a whole, and potentially within existing bottle typology.

7.3.4. At this point there does not seem to be a need for any illustrations, however a minimal number may be suggested if further work recommends.

7.3.5. Recommendations for further work:

- populate definitive glass database
- further analysis of the fragments with slight curvature - attempt fragment matching
- determine number of individual objects
- build bottle typology and fine-tune dating if possible
- further analysis of window glass and build possible glazing programme/ events
- preparation of full report to publication standard

Table 3 Quantification of the glass

Context	Feature	Identification	Shape	Qty	Description	Date
3002	-	Window		6	1.5/2 mm	L20/E21C
3002	-	Bottle		1	Undiagnostic	L20/E21C
3002	-	Bottle		1	Undiagnostic	20C
3002	-	Window		1	1 mm	19/E20C
3002	-	?Bottle		4	?straight sided bottles	19/E20C
3005	3004	Bottle	Cylinder	1	Body fragment	L19/20C
3006	3007	Bottle	Indeterminate	1	Applied finish on bulged neck	E-M19C
3008	3009	Window	Irregular	2	Grozed curved edge; crown	E20C
3008	3009	Window		1	Crown	L19/E20C
3008	3009	Window		2		M-L20C
3008	3009	Window		2		L19/E20C
3008	3009	Bottle	Cylindrical	6	Applied finish; body	M19C
3008	3009	Bottle	Indeterminate	1	Applied finish	E19C
3008	3009	Bottle	?Cylindrical	4	Mould blown; applied blob finish	L19/E20C
3008	3009	Bottle	?Octagonal	1	Mould blown; chamfered corners	L19/E20C
3008	3009	Bottle	Prismatic	1	Mould blown indented base	E20C
3008	3009	Bottle	Ovoid	1	Mould blown	L19/E20C
3008	3009	Bottle	Prismatic	1	Mould blown; chamfered corner	L19/E20C
3008	3009	Bottle	Indeterminate	1	Undiagnostic	19C
3008	3009	Vessel	Indeterminate	1	Pressed/acid dipped	E20C
3008	3009	Bottle	Ovoid	1	Mould blown	L19/E20C
3008	3009	Window		2	3 mm	M-L20C
3008	3009	Window		13	2-3 mm	M-L20C
3013	3014	Bottle	?Ovoid	2	Slight curvature; same as ID32	18/E19C
3013	3014	Window		1		M-L20C
3013	3014	Bottle	?Ovoid	1	Very slight curvature	L19/E20C
3013	3014	Bottle	?Ovoid	2	Very slight curvature; same as ID33	19C
3013	3014	Bottle	?Ovoid	1	Slight curvature	19/E20C
3013	3014	Bottle	?Ovoid	1	Slight curvature	L19/20C
3013	3014	Bottle	Cylindrical	1	Base kick-up	L19/E20C
3013	3014	Bottle	?Ovoid	1	Flattened side	19C
3025	3024	Indeterminate	?Ovoid	2	Very slight curvature - same as ID24	18/E19C
3025	3024	Indeterminate	?Ovoid	26	Very slight curvature	19C
3025	3024	Bottle	Indeterminate	2		20C
3025	3024	Indeterminate		6	Undiagnostic	20C
3025	3024	Bottle	Indeterminate	3	Undiagnostic	20C
3025	3024	Bottle	?Ovoid	14	Undiagnostic - slight curvature	20C
3025	3024	Bottle	Cylindrical	2	Neck and base with kick-up	M-L19C
3025	3024	Bottle	Cylindrical	1	Body with mould seams	M-L19C
3025	3024	Bottle	Cylindrical	2	Mould blown base	M-L19C
3025	3024	Bottle	Cylindrical	1	Mould blown body	M-L19C

Context	Feature	Identification	Shape	Qty	Description	Date
3025	3024	Bottle	?Ovoid	2	Bubbled; wide base and flat side	19C
3025	3024	?Bottle	?Ovoid	1	Flat side	19C
3025	3024	Bottle	?Ovoid	1	Flat side	19C
3025	3024	Bottle	?Ovoid	2	Wide base and flat side	19C
3025	3024	Bottle	Indeterminate	1	Finish and neck	M-L19C
3025	3024	Bottle	Indeterminate	1	Finish and neck	M-L19C
3049	3050	Bottle	Indeterminate	1	Neck	M-L19C
3049	3050	Bottle	?Ovoid	1	Slight curvature	19C
3055	3054	Window		1		19C
3066	3067	Bottle	Cylindrical	1	Base with worn resting point	19C

7.4. Medieval and post-medieval pottery

by Stephanie Rátkai

Assemblage type and methodology

7.4.1. A small assemblage of 177 sherds (Tables 6 and 7) was found during excavation. Of these 75 were medieval and included two wasters and seven residual sherds. The remaining pottery was post-medieval in date, the majority of which dated to the 19th century. The pottery was examined by eye, divided into fabric or ware groups and quantified by sherd count and rim count. The post-medieval pottery was also recorded by minimum number of vessels represented. Where possible all sherds were assigned to vessel form. A suggested deposition date for each context was given (Table 7).

Table 4 Quantification of pottery by fabric/ware by sherd count

Medieval fabrics	**Qty**
Deritend	14
Deritend cpj	44
Deritend R	12
cpj12 type	2
glazed whiteware	1
waster	2
Total medieval	75
Post-medieval wares	Qty
blackware	1
yellow ware	1
coarseware	5
slip-coated ware	6
brown salt-glazed stoneware	2
stoneware light bodied	4
brown salt-glazed stoneware, underglaze iron wash	3
stoneware?	1
creamware	6
pearlware	3
utw	4
industrial slipware	6
myw	1
brown glazed, refined body	2
blue transfer-printed ware	18
purple transfer-printed ware	5
black transfer-printed ware	12
transfer printed	4
bone china?	11
flower pot	2
crucible	5
Total post-medieval	102
Total	177

Table 5 Pottery spot dates

Feature/context	Feature etc. type	Qty	Deposition date
3004/ 3005	drain	1	Late-19th century?
3007/ various	large pit	65	lower fill early 14th century, upper fill 19th century
3009/ various	pit/well	70	2 fills both 19th century probably 1850+, crucible frag. in upper fill
3014/ 3013	pit	4	1780s-1790s
3024/ 3025	gully	2	19th century
3027/ 3026	ditch	2	13th century
3031/ 3030	pit	2	early 19th century?
3046/ 3045	pit	3	first half 19th century?
3050/ 3049	ditch	9	13th century
3055/ 3054	foundation for brick surface	1	post-medieval crucible
3059/ 3058	gully	1	17th century? could be early 18th century
3067/ 3066	pit? Possibly associate with brick surface	5	late 18th to early 19th century? 3 x crucible
3105/ 3104	Post-hole	2	19th century
3133/ 3132	Post-hole	1	19th century
3143/ 3142	Post-hole	3	early 19th century (intrusive)
3153/ 3152	drain	1	13th century
3151/ 3150	drain	1	18th century
3002/ layer	layer	1	19th century
3010/ layer	cobble layer	3	13th century
Total	-	177	-

Medieval pottery

7.4.2. Apart from the three types of Deritend ware (Deritend cooking pots, Deritend jugs and reduced Deritend ware) which have been described in Rátkai (2008), there was a single glazed medieval whiteware sherd and two sherds which may be a coarse Deritend cooking pot ware or a variant of Bull Ring fabric cpj13. Most of the medieval pottery came from the lower fill of large pit 3007 and included two Deritend ware jug wasters. It is possible that, apart from the two obvious wasters, some of the other jug sherds and reduced Deritend ware might be waste but the group overall seems to represent domestic waste into which a few wasters have become incorporated. A Deritend ware baluster jug base from this feature dates to the later 13th or early 14th century and the pottery overall is quite abraded and fragmentary suggesting a secondary deposition. It seems likely therefore, that pit 3007 was backfilled in the early 14th century.

7.4.3. Heavily sooted cooking pot sherds from pit 3007 and from other features (3027, 3050, 3153) and cobble layer 3010 indicate detritus from 13th century domestic occupation. These features and contexts only contained medieval pottery.

Post-medieval pottery

7.4.4. The earliest post-medieval pottery was represented by sherds of blackware, yellow ware, coarseware, slip-coated ware and brown salt-glazed stoneware. The single yellow ware sherd has a *terminus ante quem* of *c* 1725. The remaining sherds - although they could date to the 17th century (coarseware, blackware) or the later 17th century (slip-coated ware, brown salt-glazed stoneware) are more likely, here, to date to the 18th century. There is therefore a sizeable gap in the pottery sequence of *c* 400 years.

7.4.5. A range of 19th-century wares were present, transfer-printed wares being particularly well represented. Of interest are the orientalising black transfer-printed dinner and tea wares found in feature 3009 which have over-painting and lustre. Although the designs are not the same, the overall scheme of decoration is much the same and they probably represent remnants of a single dining service. A 'willow pattern' tureen lid from the same pit provides further evidence of 'formal dining'.

The assemblage in context

7.4.6. A number of archaeological watching briefs, evaluations and excavations have taken place in the vicinity of the site. The evaluation of the present site (Ramsey 2004) produced 31 sherds of medieval pottery (including one possible waster), 61 post-medieval sherds of 18th- and 19th-century date and two crucible fragments. Further towards High Street Digbeth, a pit was discovered behind the Old Crown which contained Deritend ware jug and other wasters, and fragments of kiln structure (Litherland *et al*. 1994, Rátkai forthcoming a). Further watching briefs behind the Old Crown (Litherland 1998) produced more Deritend ware sherds and fragments of kiln structure, a single cistercian ware sherd of 15th-to 16th-century date and post-medieval sherds dating to the 18th- to 19th-centuries. A similar picture was seen at the Custard Factory site on Gibb Street (Rátkai forthcoming b) although some 17th-century material may also have been present. All the evidence therefore reveals a hiatus in the pottery sequence from the mid to late-14th century to the late-17th century or early 18th century, the only exception being the cistercian ware sherd from behind the Old Crown. The data from the Heath Mill Lane excavation are therefore completely in accord with this picture.

7.4.7. The clay pipe evidence from the Old Crown (Higgins forthcoming) suggests late 18th- and 19th-century occupation; that from Gibb Street 18th- to 19th- century occupation. There were two apparently late fragments form the Heath Mill Lane evaluation but, surprisingly, an unstratified fragment dating to *c* 1660-1680. Apart from this last fragment, the clay pipe evidence seems largely in agreement with the post-medieval pottery evidence for a concentration of occupation in the 18th and 19th centuries.

7.4.8. Despite the wasters recorded at Gibb Street and at the Old Crown, and the fragments of kiln structure, which indicates that pottery was manufactured very close by, there was nothing to suggest that this industry had taken place on the Heath Mill Lane site.

Recommendations

7.4.9. Although the medieval assemblage is small it forms yet another element in the complex pattern of the development of the fabric of the town and of its industries and for this reason deserves publication.

7.4.10. The post-medieval pottery on the other hand is a less coherent group and further study would add comparatively little to our knowledge of Birmingham.

Further work; medieval pottery

- The pottery to be fabric typed in accordance with the Bull Ring pottery type series.
- The pottery to be quantified by sherd count and weight.
- The decoration on the jug sherds noted.
- Incorporate pottery data from the evaluation. This material has been recorded and quantified by sherd count. It will be necessary to cross reference the evaluation features with those from the excavation.
- A brief report on the pottery detailing fabrics present, function and dating
- No illustration required.

Further work; post-medieval pottery

- The post-medieval pottery has been quantified by sherd count and by minimum vessels represented. No further work is required, other than the identification and dating of the orientalising black transfer-printed ware.
- The data should be tabulated for the final report (and include reference to the evaluation material).

7.5. The crucibles

by Stephanie Rátkai

7.5.1. Five crucible fragments were recovered from pits 3009, 3055 and 3067. They are of post-medieval date and similar in form to those recovered from Park Street. Other crucible fragments were found during the evaluation. The fragments are not easy to date but a 18th-or 19th-century date seems likely. They almost certainly represent general industrial detritus incorporated into feature fills rather than an indication of *in situ* brass founding or other metal working.

Recommendations

- Some analysis by an appropriate specialist to determine what crucibles were used for may be necessary.

7.6. Clay pipe

by David Higgins

7.6.1. The excavation produced a total of 30 fragments of pipe, comprising seven bowl and 23 stem fragments. No mouthpiece fragments were recovered. The pipes were recovered from eleven different contexts, none of which produced more than seven fragments of pipe. Although the fragments recovered can be used to provide an indication of the date of each deposit, these dates are not as reliable as if larger numbers of pipes has been present.

7.6.2. Despite the small size of the assemblage it includes three marked pieces (one stamped mark and two moulded). The moulded marks both occur on complete bowls, which add to the range of known forms for the Birmingham area. The stamped mark dates from the eighteenth century and belongs to a previously unrecorded maker.

7.6.3. Table 8 provides a quantification and spot-dating of the clay pipes.

Table 6 Clay pipe, catalogue

Cxt	B	S	M	Tot	Range	Deposit	Marks	Dec	Fig	Comments
3003	1			1	1850-1890	1850-1890	JG x 1		2	Almost certainly made by Joseph Greatorex, recorded working in Birmingham from at least 1848-1881
3005		2		2	1760-1850	1760-1850				Two thin, cylindrical stems that seem most likely to be of later C18th or early C19th date, although they could possibly be later
3006		3		3	1760-1900	1760-1900	`			Two of these pieces join to make quite a long length (141mm) of slightly curved stem. All of the pieces are of late C18th or C19th types
3010	1			1	1730-1830	1730-1830				The upper half of a plain pipe bowl with cut rim and quite thick walls
3011	1	6		7	1610-1910	1870-1910	Symbol mark x 1	moulded milling x 1	3	The stems are of mixed date and include two residual C17th fragments. One small late C18th or C19th fragment is slightly curved but it is too small to be sure if this is accidental or from a coiled pipe. The bowl is complete and dates from c 1870-1910 or later. There is moulded milling at its rim and a moulded symbol mark comprising four small lozenges with a central dot on each side of the heel
3013		2		2	1610-1730	1660-1730				Two early stems, one of which is a thick piece dating from around 1660-1730 with traces of a poor burnish on it
3030	1			1	1690-1730	1690-1730				A small rim fragment made of a local fabric. There is internal trimming to the rim, which has probably been lightly bottered. There is no sign on milling on the one quarter of the surviving rim (facing the smoker)
3046		2		2	1720-1820	1720-1820				Both stems most likely date from around 1720-1820, although they could just possibly be later
3058		5		5	1750-1820	1750-1820				A group of stems that most likely date from around 1750-1820, although some could just possibly be later
3142	1	3		4	1720-1820	1740-1800				The stems all look to be of C18th or early C19th types while the bowl fragment comes from a pipe of c1740-1800. The surviving bowl fragment has an internally cut rim and a poor burnish and all the stem fragments could be contemporary

Cxt	B	S	M	Tot	Range	Deposit	Marks	Dec	Fig	Comments
3150	2			2	1640-1790	1750-1790	?IO../SIM../ONS x 1		1	One C17th stem fragment and another of c 1750-90 with a relief stem stamp across it (not burnished; stem bore just over 4/64"). The mark is poorly impressed but it starts IO or TO on the first line, with the third letter starting with a vertical upright with serifs at the bottom. The second two lines are poorly impressed at the right hand end but almost certainly would have read SIMONS (or, possibly, SIMMONS). The Simmons family were pipemakers based at Wilnecote in north Warwickshire, where at least 11 members of the family are recorded between the 1740s and 1855 (Melton 1997, 253-5)
Tot	7	23	0	30						

Note: the numbers of bowl (B), stem (S) and mouthpiece fragments (M) from each context, the total number of fragments recovered (Tot) and then two date ranges are recorded. The first gives the overall date range of pipe fragments recovered and the second the likely deposition date for that particular group, based on the latest closely datable pipe fragments present. Marked or decorated pipes are noted in their respective columns as well as the figure numbers of illustrated examples.

7.6.4. It is recommended that the material is fully discussed within the site and the regional context as they provide sound dating evidence for the assemblage and the site as a whole and include evidence for at least one new maker.

7.7. Faunal remains

by David Brown

7.7.1. The assemblage comprised of a total of 13 bones weighing a total of 130g. All the bones were identified to species where possible and assessed for preservation, evidence of processing, taphonomy and pathology and diagnostics for ageing. Due to the very small number of specimens, all recording will be noted here rather than in a *pro forma* Microsoft Access database.

7.7.2. The material only came from a handful of contexts, predominantly dating to the later phases of the site (Phase 3, 17th to 18th century; Phase 4, 19th to 20th century). However, there was a single context from Phase 1 (13th century) that produced bone material. Preservation and fragmentation was recorded as being mixed; contexts varied between good and very poor on both counts. There were no measurable bones recorded. There was a single incident of gnawing recorded from a sheep/ goat humerus from layer 3004, most likely from a dog. Five incidents of burning were recorded, three of which came from the Phase 1 deposit. However these bones were too small to identify to element or species and as such there is little that can be said about them.

7.7.3. The species that have been identified include cattle, sheep/goat, pig and domestic goose (*Anser anser*). There is evidence of butchery from two specimens: one is a juvenile pig (less than two years old (Schmid 1972, 75) tibia where the proximal articulation has been chopped away in at least two stages owing to the 'step' visible in the chop surface; the second is a rib element from a medium/ large mammal (possibly sheep/ goat but inconclusive) that exhibits sawing serrations in cross-section.

7.7.4. No further work is recommended on this very small assemblage.

7.8. Plant Macro Assessment

by Rosalind McKenna

7.8.1. Five samples – SN4 (3007/ 3023), SN5 (3027/ 3026), SN12 (3007/ 3047), SN33 (3169/ 3168) and SN46 (3007/ 3012) were submitted for an evaluation of their palaeoenvironmental potential.

7.8.2. The material was processed by staff at Birmingham Archaeology using their standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.5mm and air dried. The heavy residue (the material which does not float) was not examined, and therefore the results presented here are based entirely on the material from the flot. The flot was examined under a low-power binocular microscope at magnifications between x12 and x40.

7.8.3. A four point semi quantative scale was used, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many remains per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

Results (Table 9)

7.8.4. The samples all contained charcoal, sand and stones, with some samples also containing slag fragments (SN5 and SN33). Although charcoal is abundant in all of the samples, due to taphonomic processes, the preservation is very poor and no work could be carried out in order to speciate the remains. Insect fragments were present in all of the samples but their preservation and diversity are of no interpretable value. Waterlogged plant macrofossils were present in all of the samples, scoring a minimum of 2 on the abundance scale. SN12 was dominated by these waterlogged plant macrofossils. Those present (*Sambucus nigra, Rubus* sp. and *Urtica* sp.) are all species often found in varying abundance in archaeological samples as a modern contaminant. Despite the quantity in SN12, as all of the other samples also contained these species, it is probable that it was just a highly contaminated sample, which may be explained if the sample was from a feature close to the topsoil. SN4, SN12, SN33 and SN46 all produced charred plant macrofossils that appear to be archaeological as opposed to a modern contaminant. These were however in such small quantity and species diversity that nothing of interpretable value could be derived.

Recommendations

7.8.5. Charred plant macrofossils present in SN4 such as cereal grains and weed seeds, scored three on the abundance scale. It is therefore recommended that a further 10 litres of sediment from this sample be processed for charred plant macrofossils and a full report is prepared.

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

Table 7 Components of environmental samples

Component	SN 4 3007/ 3023	SN 5 3027/ 3026	SN 12 3007/ 3047	SN 33 3169/ 3168	SN 46 3007/ 3012
Chaff frags. (charred)	-	-	1	-	-
Charcoal frags.	4	4	3	4	4
Insect frags.	1	1	2	1	1
Plant Macrofossils (charred)	3	-	1	1	1
Plant Macrofossils (waterlogged - probable modern contaminant)	3	2	3	2	2
Root / rootlet frags.	-	-	-	-	2
Sand	2	2	-	2	3
Slag frags.	-	1	-	2	-
Stones	-	-	-	3	-
Wood frags.	1	-	3	-	-

NOTE: Semi quantitative score of the components of the samples is based on a four point scale, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many per kg or a major component of the matrix).

7.9. Metallographic residues

by Tony Swiss

7.9.1. Visual analysis of the Heath Mill Lane assemblage has indicated that there is nearly 6kg of residue, and most, if not all of it can be firmly associated with the working of iron. It is, however, possible that some of the residues may be associated with non-ferrous metallurgy.

7.9.2. Making up roughly 85% of the assemblage are residues that can be classified as amorphous, undiagnostic slaggy residues. These residues have no particular shape but they do contain ferruginous material, small charcoal/ coal pieces, some also contain small flecks of hammerscale, and one piece is noticeably magnetic, suggesting a metallic content (cut 3024, fill 3025). It is difficult to say exactly what particular process or processes created these residues, but they are most likely from the blacksmithing of iron, either from within the smith's hearth or concretions of material which have formed and built up around the hearth and/ or anvil. The floor of the smith's would have been an area which would have collected all types of detritus (hammerscale both flake and spheroidal, scrap metal, clay, soil and stones, charcoal/ coal) and this would have built up and compacted over a period of time (*smithing floor or smithing pan*). After a period of time it is assumed that this 'concretion' would have been cleared and the waste thrown out. None of the amorphous residues have the characteristic blocky nature of pre-blast furnace smelting slags, nor are there any of the large charcoal voids which can characterise this material.

7.9.3. The elements of the assemblage which are interesting are the black and the green glassy residues (highlighted in Table 10). These highly vitreous residues have the appearance of blast furnace slags, in that they are reasonably lightweight and glass-like in their appearance.

7.9.4. These glassy slags may well be from the smelting of iron ore in a blast furnace, although it is possible that they have been derived from other high temperature pyrotechnical processes such as the smelting of non-ferrous metals (tin, copper etc) or perhaps glass making. Once again, it is difficult to exactly attribute these residues to a particular process and it may well be worth doing some further analysis to help answer this question.

Conclusions and recommendations

7.9.5. The greater part of this assemblage can confidently be associated with the working of iron. The material classed as amorphous and undiagnostic is most probably associated with the blacksmithing of iron. The morphology and visual appearance of this material is not indicative with iron production and it is considered that there is very little to be gained from any further analysis of this material.

7.9.6. The black and the green glassy slags are more enigmatic. These have the appearance of blast furnace slags, although they have been found in very small quantities which would suggest that they are intrusive to the site. A blast furnace would have produced many many tons of this type of residue over a period of time and as such it would be assumed that much more of this material would have been recovered during the excavation. It is possible that these glassy residues are not from the smelting of iron but from another high temperature process such as the smelting of other, non-ferrous metals (tin smelting slag is black glass), or perhaps glass making. To help answer this question it may be worth doing some further analysis and the most obvious technique is *X*-ray fluorescence (XRF). This technique is quick, easy and non-destructive and although it is essentially qualitative it will give an idea of the chemical makeup of these residues as an aid to their identification.

7.9.7. It is recommended that the five samples of black and glassy green slags highlighted in grey on Table 8 are subject to XRF analysis.

Table 8 The Residues

Context	Weight (g)	Description
3004	89	Single piece of glassy slag, possible blast furnace slag. XRF analysis
3006	317	Single, flat piece of possible blast furnace slag with adhered concretion of ferruginous slaggy material and charcoal pieces. Highly vitrified surface. XRF analysis
3008	130	Two pieces of amorphous, undiagnostic slaggy residue. Concretion of ferruginous slaggy material, small stones, coal / charcoal pieces, hammerscale
3008	46	Single piece of burnt, vitrified clay
3010	6	Single piece of amorphous, undiagnostic slaggy residue. Concretion of ferruginous slaggy residue, charcoal, possible hammerscale
3012	68	Amorphous, undiagnostic residues. Concretion of ferruginous slaggy material, vitrified clay, small charcoal pieces / flecks
3013	221	Three pieces of possible blast furnace slag. Lightweight, green glassy slag. XRF analysis
3013	7	Two pieces of burnt, vitrified clay
3023	≤ 1	Amorphous, undiagnostic residues. Concretion of ferruginous slaggy material, vitrified clay, small charcoal pieces / flecks
3025	82	Altogether five pieces of residue; two pieces of amorphous, undiagnostic slag. One piece of pottery. Two pieces of amorphous ferruginous concretion, glassy pieces, charcoal pieces, and hammerscale. Magnetic

3026	18	Single piece of possible blast furnace slag. XRF analysis
3026	18	Amorphous, undiagnostic residues. Concretion of ferruginous slaggy material, vitrified clay, small charcoal pieces / flecks
3030	542	Single piece of slaggy residue. Concretion of ferruginous slaggy residues, charcoal pieces, small stones. Possible metallic content
3037	12	Single piece of amorphous, undiagnostic slaggy residue. Concretion of ferruginous slaggy residue, charcoal and small stones
3066	90	Four pieces of black glassy slag. Possibly blast furnace slag, although could be from smelting of tin, copper, or lead. XRF analysis
3066	348	Amorphous, undiagnostic residues. Burnt, vitrified slay, some concretion of ferruginous slaggy residue, clay, charcoal, hammerscale
3094	1001	Amorphous, undiagnostic slaggy residue. Concretion of ferruginous slaggy material, small stones, pebbles, small charcoal pieces

8. ARCHIVE ASSESSMENT

Table 9 Quantification of the excavation paper archive

Component	**Quantity**
Site survey levels	1 file
Benchmark location plan	1
Stratigraphic indices	7
Pro-forma context and cut cards	234
Environmental sample index	3
Photographic record index	13
Black and white contact sheets	3
Colour slides	132
Digital photograph contact sheets	7
Drawing index	3
Field drawings	12
Correspondence	1 file
Evaluation feature/context list	1
Finds list	2

Table 10 Quantification of the artefactual archive

Material type	**Quantity**
Medieval pottery	76
Post-medieval pottery	112
Tile	8
Brick	14
Mortar	5
Plaster	1
Clay pipe	31
Crucible	4

Iron nails	3
Other iron objects	4
Slag	77
Bottle glass	39
Other vessel glass	1
Window glass	99
Other glass	10
Stone	13
Animal bone	131g
Shell	6

9. UPDATED PROJECT DESIGN

9.1.1. The medieval and post-medieval features revealed by evaluation and excavation were generally well-preserved. Most features were cut into the subsoil, or into the backfills of earlier features. Few discrete deposits could be recognised, with the notable exception of Phase 2 layer 3010 in the west of the area investigated. A number of smaller features, mainly comprising stake-holes (eg Phase 1b Structure B) confirm limited truncation as a result of later occupation. Some, localised disturbances, for example by 19th century brick buildings and more recent services/ tanks were recorded, notably towards the centre of the site. Overall, 18th and post-18th century disturbance and truncation was very limited.

9.1.2. The earliest feature was a re-cut property boundary ditch (Phase 1a), dated to the 13th century. No contemporary features were recorded in the partly investigated plots to the east and west of this boundary, which may suggest that these areas were not used for an industrial purpose, or for rubbish disposal. The cutting of large pit 3007 (Phase 1b) across the backfilled ditch reflects the amalgamation of the two Phase 1a plots. The other Phase 1b features comprised post-holes and stake-holes, forming a fenceline (Structure B), as well as traces of temporary structures whose ground-plans could not be discerned at excavation. Some of these temporary structures could have been used for smithing. Some of the stake-holes contained ironworking residues, which may help to interpret the function of this area. The lining in pit 3007 also suggests an industrial function. A relative hiatus in activity was recorded from the 16th-18th century (Phases 2-3), during which time a pebble surface and a few post-holes and stake-holes were cut within the site. Finally, the remains of the last two centuries of activity include a well, a brick-floored structure of industrial use, other brick structures and recent services.

9.1.3. Previous investigations adjoining the Old Crown Public House in 1994 (Litherland) identified quantities of misfired pottery which suggested a nearby pottery kiln. Only a very small number of pottery wasters was recovered from trenching and excavation at Heath Mill Lane, which suggests that pottery was not produced either within the site, or within its immediate environs. Overall, the pottery was interpreted as domestic waste, within which were incorporated a few wasters.

9.1.4. The results of nearby archaeological investigations will be used to put the Heath Mill Lane results in context (eg Litherland et al. 1994, Ratkai forthcoming, a, Ratkai forthcoming, b). The report will aim to extend current understanding of the Deritend area – in particular, by comparison with adjacent and previously excavated sites on Gibb Street, to the rear of the Old Crown as well as sites from further afield including the work of Sherlock (1955), Floodgate Street (2002, forthcoming), the recently excavated sites either side of the river Rea between the Deritend High Street and Rea Street (2008, forthcoming) and sites on Bordesley High Street.

9.1.5. More widely, the post-excavation research will be related to the overview of work undertaken in the Digbeth/ Deritend area generated by the Life, Work and Death Project (Ratkai and Forster forthcoming), documentary work undertaken as part of the Waterfront Projects (Edgeworth and Hewitson forthcoming) as well as recently published work on the historical development of the borough of Birmingham (Demidowicz 2008). Particular aims relate to developing our understanding of the sequence of activity with the site and its surrounds, and providing further details of its industrial finds. The latter will be achieved through further analysis of the metalworking slags.

10.PUBLICATION SYNOPSIS

10.1.1. It is proposed to publish the results of the excavation as a chapter within a BAR Monograph on sites in Birmingham city centre to be published in 2009.

10.1.2. The provisional title of the report will be:

Medieval and early post-medieval Deritend, Birmingham: Excavations at Heath Mill Lane 2008
By Bob Burrows and Stephanie Rátkai

With contributions by:
Cecily Cropper, David Higgins, Erica Macey-Bracken, Rosalind McKenna and Anthony Swiss

10.1.3. The report will be arranged as follows:

Text

Summary (500 words)

Introduction and methodology, the site and its context (2,000 words)

Results (3,000 words)

Description and interpretation of the evidence by phase

Finds

Small finds, glass (C. Cropper), iron objects (E. Macey-Bracken) (1,000 words)

Pottery (Stephanie Rátkai) (3,000 words)

Clay pipe (David Higgins) (750 words)

Plant remains (R. McKenna) (750 words)

Metalworking residues (A. Swiss) (1,000 words)

Discussion (S. Rátkai) (2,000 words)

Figures

1 Location
2 Detailed location
3 Simplified plan, all features
4 Plan of Phase 1a/1b features
5 Phase 1a/1b sections
6 Plan of Phase 2 features
7 Phase 2 sections
8 Plan of Phase 3-4 features
9 Phase 3-4 sections
10 Small finds (part page)
11 Simplified phase plan of site and surrounding sites excavated

5 tables

5 plates

TOTAL 14,000 Words 11 Figures, 5 Tables, 5 Plates

Task List

Stage A, update database and commission specialists

Task no	Identification	Staff	No days
A1	Update database	EMB	0.5
A2	Collate site information	EMB	0.5
A3	Project management	AJ	0.5
A4	Commission specialists	EMB	0.5

Stage B, specialist reports and finds illustrations

B1	X-rays	EMB	0.25
B2	Pottery report	SR	2
B3	Glass report	CC	3
B4	Charred plant remains	RM	2
B5	Clay pipe report	DH	2
B6	Crucible report	TBC	-
B7	Residues	TS	-
B8	Glass illustration?	ND	1
B9	First edit of finds reports	AJ	0.5
B10	Project management	AJ	0.5

Stage C, final site narrative, edited specialist contributions, discussion

C1	Prepare final site narrative	BB	1
C2	Prepare discussion	SR	2
C3	Prepare illustrations	ND	2
C4	Edit/ project management	AJ	1

Stage D, final edit, copy edit, archive

D1	Final edit	AF	0.5
D2	Prepare archive	EMB	1
D3	Deposit archive	EMB	0.5

Key to initials
AJ=A.Jones, project manager; EMB=E.Macey-Bracken, Finds Officer, AF=A. Forster, post-excavation manager; BB=B.Burrows, author; S.Ratkai=S.Ratkai; ND=N.Dodds, illustrator; TS=T.Swiss; CC=C.Cropper; DH=D.Higgins; RM=R.McKenna; TBC=to be confirmed.

11.ACKNOWLEDGEMENTS

11.1.1. The project was commissioned by Blok Properties. Thanks are due to Piers Harding for his co-operation and assistance throughout the project. Thanks also go to Mike Hodder, who monitored the project on behalf of Birmingham City Council. Work on site was undertaken by Bob Burrows (Supervisor), Emily Hamilton, Anthony Aston, James Coyne and Sam Hepburn. Specialists to whom thanks are due are Stephanie Rátkai who

produced the pottery report, Cecily Cropper who produced the glass assessment, Erica Macey-Bracken who assessed the finds and Rosalind McKenna who produced the environmental assessment. Bob Burrows produced the written report which was illustrated by Nigel Dodds. Alex Jones managed the project for Birmingham Archaeology and edited this report with assistance from Chris Hewitson.

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Appendix 1

Birmingham City Council Brief
BIRMINGHAM CITY COUNCIL
DEVELOPMENT DIRECTORATE
Application number C/04426/04/FUL
25-27 Heath Mill Lane(SP 080 860): SMR 20729
Design Brief for archaeological excavation as a condition of planning permission

1. Summary
Proposed development at 25-27 Heath Mill Lane is likely to affect below-ground archaeological remains of medieval and post-medieval date, including remains of domestic occupation, property boundaries, industries and deposits likely to provide information on past environmental conditions. This brief is for archaeological excavation in advance of commencement of development, followed by analysis and publication of the results, as a condition of planning permission.

2. Site location and description
The site is bounded by Heath Mill Lane to the west, a surfaced car park to the north, a surfaced car park to the south and an existing building and yard to the east. The east part of the site is currently occupied by a former car repair shop and attached office. The west part of the site is a surfaced former parking area.

3. Planning background
The proposed development comprises new building on the whole site. Because the site contains archaeological remains which would be affected by the proposed development, planning permission granted for the development is accompanied by a condition requiring archaeological excavation in advance of commencement of development, followed by analysis of the results and publication of a report. This is in accordance with Policy 8.36 of the City Council's Unitary Development Plan, the City Council's Archaeology Strategy which has been adopted as Supplementary Planning Guidance, and government advice in Planning Policy Guidance Note 16, "Archaeology and Planning".

4. Existing archaeological information
The site was included in an archaeological desk-based assessment of the whole of the Digbeth/High Street Deritend/High Street Bordesley frontage in 1995. This suggested that the site had high potential for survival of archaeological remains from the medieval period onwards, including remains of pottery manufacture and metalworking and evidence for the past environment.

Archaeological information from nearby sites gives an indication of the likely archaeological remains on this site. To the south, excavations in the yard of the Old Crown in 1994 revealed misfired pottery indicating the existence of a pottery kiln on or near the site in the 13th or 14th centuries. To the west, excavations between Gibb Street and Heath Mill Lane in 2000 revealed 13th- and 14th-century occupation, 17th- and 18th-century pits dug to extract clay, and 18th-century leather-tanning pits and wells.

An archaeological evaluation at 25-27 Heath Mill Lane in March 2004 consisted of two trenches, one inside the existing building and one in the yard. The trench inside the building revealed a large pit and a ditch which had been dug through the pit. Both features contained 13th or 14th century pottery. The pit was probably dug to extract clay and the ditch continued the eastern boundary of the plot of land occupied by the Old Crown, and therefore was probably a property boundary, predating the Old Crown itself. The trench in the yard revealed pits and post-holes

under a cobbled layer which is similar to a deposit of 17th-century date found to the rear of the Old Crown.

5. Requirements for work
The archaeological excavation is required to ensure that archaeological remains on the site are fully investigated and recorded in advance of damage or destruction by the proposed development.

In particular, the archaeological excavation must address the following:

(i)The nature of activity on the site before property boundaries were laid out
(ii)The date of the property boundary ditch
(iii)The date and nature of the features in the present yard area
(iv)Remains of past environmental conditions
(v)Remains of past industrial activity, indicated by features or residues

6. Stages of work
(i)Excavation:
Existing buildings are to be demolished down to slab. The slab and all surface deposits are to be mechanically removed, using a toothless bucket, under archaeological supervision. Exposed archaeological features and deposits are to be manually cleaned and planned. A strategy for the excavation is to be agreed with the Planning Archaeologist. Deposits likely to contain provide environmental data or industrial residues are to be sampled and analysed. Finds are to be cleaned, marked and bagged and any remedial conservation work undertaken.
(ii)Post-excavation Assessment:
An assessment of the potential of the results of the excavation for further analysis, in accordance with the recommendations in English Heritage's Management of Archaeological Projects (MAP 2).
(iii)Post-excavation Analysis:
Following assessment, analysis of the results of the project, including dating and interpretation of excavated features, pottery and other finds analysis, and discussion of the results in their local, regional and national context.
(iv)Preparation of a report for publication in an archaeological journal:
A written report accompanied by appropriate illustrations is to be submitted for publication in the Transactions of the Birmingham and Warwickshire Archaeological Society or other appropriate archaeological publication.

7. Standards and Staffing
The archaeological excavation is to be carried out in accordance with the Code of Conduct, Standards and Guidelines of the Institute of Field Archaeologists, and all staff are to be suitably qualified and experienced for their roles in the project. It is recommended that the project be under the direct supervision of a Member or Associate Member of the Institute of Field Archaeologists.

8. Written Scheme of Investigation
A written scheme of investigation for the excavation must be submitted to the Planning Archaeologist for approval in advance of commencement of work.

9. Monitoring
The excavation must be carried out to the satisfaction of Birmingham City Council, and will be monitored by the Planning Archaeologist. At least five working days' notice of commencement of the excavation must be given to the Planning Archaeologist, so that monitoring meetings can be arranged. The monitoring stages will be as follows:
(i)Consideration of excavation strategy;
(ii)Site visits during excavation, at least weekly;
(iii)Consideration of post-excavation assessment report;

(iv)Monitoring post-excavation analysis;
(iv)Consideration of draft report for publication

10. Archive deposition
Subject to the agreement of the site owner, it is recommended that the written, drawn and photographic records of the excavation, together with any finds, are deposited in the Department of Human History, Birmingham Museums and Art Gallery, within a reasonable time of completion. The deposit will be accepted in accordance with the guidelines issued by the Society of Museum Archaeologists, Transfer of Archaeological Archives to Museums. Finds must be deposited in the standard boxes used by the City Museum and accompanied by box lists.

11. Publication
In addition to the full report described in Part 6 above, the contractor must submit a short summary report for inclusion in West Midlands Archaeology and summary reports to appropriate period journals.

BIRMINGHAM CITY COUNCIL
Date prepared: 4 October 2007
Planning Archaeologist: Dr Michael Hodder 0121-464 7797 fax 0121-303 3193 Mike.hodder@birmingham.gov.uk
Planning
Birmingham City Council
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Birmingham B1 1TU

25-27 Heath Mill Lane excav brief 041007.doc

APPENDIX 2

WRITTEN SCHEME OF INVESTIGATION

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION
25-27 HEATH MILL LANE, BIRMINGHAM (SMR 20729)

1.0: PLANNING BACKGROUND

The proposed office development (planning ref. C/04426/04/FUL) at 25-27 Heath Mill Lane, Birmingham will affect below-ground archaeology.

An archaeological excavation of the site is required in accordance with Planning Policy Guidance Note 16 (PPG 16), Policy 8.36 of Birmingham City Council Unitary Development Strategy and the City Council's Archaeology Strategy (adopted as Supplementary Planning Guidance).

This document describes the work specified in a Brief prepared by Birmingham City Council (dated 4/10/2007) which details the archaeological requirements of Birmingham City Council.

This document details the methodology to be undertaken by Birmingham Archaeology in fulfilment of the Brief. Any changes to the work described in this document will be discussed and agreed with the Planning Archaeologist, Birmingham City Council before implementation.

2.0: PREVIOUS STAGES OF WORK

The site was included in an extensive desk-based assessment of the Digbeth/High Street Deritend/High Street Bordesley frontage undertaken in 1995. This report highlighted the potential importance of the site for medieval and later below-ground remains, including evidence of pottery manufacture, metalworking and past environmental remains.

An archaeological evaluation was undertaken at the site in 2004.

3.0: LOCATION

The site is located at NGR SP 080860. The western site boundary is formed by Heath Mill Lane; the northern and southern boundaries are formed by surface car parks, with a yard to the east.

The eastern half of the site was occupied by a car repair business, with an area of concrete hardstanding to the west.

4.0: ARCHAEOLOGICAL BACKGROUND

The archaeological background is described in the desk-based assessment (1995) and in the trial-trenching report (2004).

A number of archaeological investigations have been undertaken in the surrounding area. Excavations in 1994 to the south of the site, in the yard of the Old Crown provided evidence of the working of a pottery kiln on/near the site in the 13th or 14th centuries. West of the site, investigations at Gibb St/Heath Mill Lane during 2000 revealed 13th-14th century occupation, 17th-18th century clay pits and 18th century tanning-pits and wells.

The archaeological evaluation of the site in 2004 consisted of two trenches. The western trench identified a pit cut by a ditch, both containing 13th-14th century pottery. The earliest feature, the pit, was probably dug to extract clay for pottery manufacture. The ditch was a continuation

of a property boundary recorded in the yard of the Old Crown to the south. The western trench identified pits and post-holes, sealed by a yard surface which may have been 17th century in date.

5.0: AIMS

The general aim of the excavation is to preserve the archaeological remains affected by the development by record, including appropriate publication of the fieldwork results.

The particular aims of the project are the following:
1) achieve an understanding of activity on site prior to the layout of property boundaries.
2) provide dating evidence for the property boundary
3) elucidate the date, function and sequence of features in the west of the site
4) provide an understanding of past environmental conditions
5) provide an understanding of medieval/post-medieval industrial activity

6.0: STAGES OF WORK

Stage 1: Demolition of existing buildings to slab level. This operation does not require archaeological monitoring provided that the slab/below-ground foundations are not removed as part of this operation.

Stage 2: Removal of slab. This operation will be undertaken under continuous observation by an experienced archaeologist, to ensure that sensitive archaeological deposits underlying the slab are not disturbed by this operation.

Stage 3: Removal of overburden. An experienced archaeologist will monitor the mechanical removal of all overburden, to expose the uppermost archaeological horizon. The machine to be used for this stage of work will be a tracked 360 excavator equipped with a toothless ditching bucket.

The area for excavation will comprise a maximum of 9m by 25.5m, to allow a stand off distance of 1.5m around the perimeter walls, for safety. Where the overburden exceeds 1m, the sides of the area will be battered at 45 degrees, for stability.

Stage 4: Hand-excavation and recording. Archaeological features and deposits will be excavated systematically. Weekly monitoring meetings will be held throughout the fieldwork.

Stage 5: Post-excavation assessment, see section B below for details.

Stage 6: Full post-excavation analysis, report preparation and publication of report in recognised archaeological journal, see section B below for details.

Archiving. Subject to approval from the landowner the paper and finds archive will be deposited with Birmingham Museum and Art Gallery. The archive will be prepared in accordance with guidelines issued by the Society of Museum Archaeologists.

7.0: STAFFING

Project Manager: Alex Jones
Field Officer: Bob Burrows
Number of site assistants: four

Specialists:
Post-Roman pottery: Stephanie Ratkai
Charred/waterlogged plant remains: Pam Grinter

Pollen: Dr Ben Gearey
Insect remains: Dr David Smith
Small finds: Erica Macey-Bracken

8.0: PROGRAMME

Week 1: 2 days removal of floor slab
Week 1: 3 days removal of overburden
Weeks 2-4: three week excavation, hand-excavation and recording of archaeological deposits

GENERAL METHODOLOGY

A: METHODOLOGY

Overburden (including B-horizon) will be machined by a 360 excavator equipped with a toothless ditching bucket, working under continuous archaeological supervision.

Machining will cease once the uppermost archaeological horizon is reached. All spoil will be stored away from the area investigated for the duration of the archaeological fieldwork. The excavation edges would be vertical except where undertaken at depths greater than 1m, or when unstable materials are encountered, in which case the excavation edges would be battered for additional safety.

All subsequent excavation will be by hand.

Following completion of machining the exposed surface will be hand-cleaned as necessary to enable a base-plan of the main features and feature concentrations to be prepared.

Once base-planning is complete a monitoring meeting will be held, including the Planning Archaeologist, to define the precise strategy for hand-excavation, which will be subject to ongoing review during the fieldwork.

Subject to the results of machine-stripping the following strategy for the hand-sampling of archaeological features and deposits is proposed:

Plot boundary ditches, 10% by length, including all terminals.
Discrete features (pits and post-holes), 50%. Industrial features may require a 100% sample.
Beam-slots, 50% by length, to include all terminals.

Human remains

No excavation of human remains would be undertaken until a Home Office Licence was obtained, and the Planning Archaeologist, the local Coroner, and the Police were consulted.

Recording

Recording would be by means of pre-printed pro-formas for contexts and features, supplemented by plans (1:20 and 1:50 as appropriate) and sections (1:10 and 1:20 as appropriate), and 35mm monochrome print and colour slide photography.

Finds

Finds would be recovered by context and would be washed, marked and bagged. Appropriate conservation work would be undertaken. A metal detector would be used as an aid to finds recovery.

Environmental sampling

All datable features would be sampled objectively for the recovery of charred or waterlogged plant remains pollen and insect remains. Deposits likely to contain industrial residues will be sampled and analysed.

B: REPORTING

Reporting would be undertaken in two stages.

The first stage of reporting would involve the preparation of a post-excavation assessment, in accordance with The Management of Archaeology Projects 2 (English Heritage), to include
Site narrative, supported by an appropriate level of site plans
Quantification of the paper, finds and environmental archives
Specialist assessments of the finds and environmental data.
Updated Project Design
Post-Excavation Task List and programme

Following approval from the Planning Archaeologist, the work programme outlined in the assessment would then be implemented in full.

The second stage of reporting would involve the preparation of a report for a recognised archaeological journal.

This will include:
Introduction to the project, including its scope and the relevant archaeological context
Site narrative, comprising description and interpretation of the excavated evidence; supported by an appropriate level of site plans, sections and plates
Finds and environmental reports, supported by appropriate illustration and tables
An integrated overview and discussion of the evidence
Tabulated appendices containing relevant primary data

A short summary report would also be prepared for inclusion in an appropriate period/and or regional journal.

C: PROFESSIONAL STANDARDS

Birmingham Archaeology is a Registered Archaeological Organisation (RAO) with the Institute of Field Archaeologists (IFA)
All Birmingham Archaeology staff will follow the Code of Conduct of the IFA at all times.
The desk-based assessment will be undertaken in accordance with the standards laid down in the 'Standard and Guidance for Archaeological Excavation' (1999)

D: HEALTH AND SAFETY

A Risk Assessment will be undertaken before commencement of the fieldwork.

Draft 25/03/2008; revised 27/3/08.

APPENDIX 3

Stratigraphic details

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3000	Layer		surface		4
3001	Layer		layer		4
3002	Layer				4
3003	Layer				4
3004	Fill	3005	Drain		4
3005	Cut	3004	Drain		4
3006	Fill	3007	Pit		4
3007	Cut		Pit		1b
3008	Fill	3009	Pit		4
3009	Cut		Pit		4
3010	Layer		surface		2
3011	Fill	3009	Pit		4
3012	Fill	3007	Pit		1b
3013	Fill	3014	Pit		3
3014	Cut		Pit		3
3015			Pillar		4
3016	Fill	3017			3
3017	Cut		Pit		3
3018	Fill	3019			-
3019	Cut		Post-hole		-
3020	Fill	3021	Post-hole		1b
3021	Cut		Post-hole		1a
3022					1a
3023	Fill	3007	Pit		1b
3024	Cut		Gully		4
3025	Fill	3024	Gully		4
3026	Fill	3027	Ditch		1a
3027	Cut		Ditch		1a
3028	Fill	3029			4
3029	Cut		Pit		4
3030	Fill	3031			4
3031	Cut		Pit		4
3032	Fill	3033			3
3033	Cut		Post-hole		3
3034	Cut		Post-hole		3
3035	Fill	3034			3
3036	Cut		Post-hole		3
3037	Fill	3036			3
3038	Cut		Post-hole		3

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3039	Fill	3038			3
3040	Layer				-
3041	Fill	3042			4
3042	Cut		Post-hole		4
3043	Fill	3044			4
3044	Cut		Post-hole		4
3045	Fill	3046			-
3046	Cut		Pit		-
3047	Fill	3007			1a
3048	Fill	3007			1a/b
3049	Fill	3050			-
3050	Cut		Ditch		-
3051	Fill	3024			4
3052	Fill				4
3053	Surface	3055	floor		4
3054	Fill	3055			4
3055	Cut		F-Trench		4
3056	Fill	3057			1a
3057	Cut		Gully		1a
3058	Fill	3059			3
3059	Cut		Gully		3
3060	Fill	3055			4
3061	Fill	3024			4
3062	Fill	3063			-
3063	Cut		Post-hole		-
3064	Fill	3065			4
3065	Cut		Pit		4
3066	Fill	3067			4
3067	Cut		Pit		4
3068	Fill	3069			1b
3069	Cut		Stake-hole	B	1b
3070	Fill	3071			1b
3071	Cut		Stake-hole	B	1b
3072	Fill	3073			1b
3073	Cut		Stake-hole	B	1b
3074	Fill	3075			1b
3075	Cut		Stake-hole	B	1b
3076	Fill	3077			1b
3077	Cut		Stake-hole	B	1b
3078	Fill	3079			1b
3079	Cut		Stake-hole	B	1b
3080	Fill	3081			1b
3081	Cut		Stake-hole	B	1b
3082	Fill	3083			1b

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3083	Cut		Stake-hole	B	1b
3084	Fill	3085			1b
3085	Cut		Stake-hole	B	1b1b
3086	Fill	3087			1b
3087	Cut		Stake-hole	B	1b
3088	Fill	3089			1b
3089	Cut		Stake-hole	B	1b
3090	Fill	3091			1b
3091	Cut		Pit		1b
3092	Fill	3093			1b
3093	Cut		Post-hole		1b
3094	Fill	3095			1b
3095	Cut		Pit		1b
3096	Fill	3097			-
3097	Cut		Post-hole		-
3098	Fill	3099			1b
3099	Cut		Post-hole		1b
3100	Fill	3101			1b
3101	Cut		Pit		1b
3102	Fill	3103			1b
3103	Cut		Post-hole		1b
3104	Fill	3105			4
3105			Post-hole		4
3106	Fill	3107			-
3107	Cut		Post-hole		-
3108	Fill	3109			1b
3109	Cut		Post-hole		1b
3110	Fill	3111			-
3111	Cut		Post-hole		-
3112	Fill	3113			1b
3113	Cut		Post-hole		1b
3114	Fill	3115			1b
3115	Cut		Pit		1b
3116	Fill	3117			1b
3117	Cut		Pit		1b
3118	Fill	3119			1b
3119	Cut		Post-hole		1b
3120	Fill	3121			1b
3121	Cut		Post-hole		1b
3122	Fill				-
3123	Cut		Post-hole		1b
3124	Fill	3125			4
3125	Cut		Post-hole		4
3126	Fill	3127			1b

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3127	Cut		Post-hole		1b
3128	Fill	3129			1b
3129	Cut		Post-hole		1b
3130	Fill	3131			1b
3131	Cut		Post-hole		1b
3132	Fill	3133			4
3133	Cut		Post-hole		4
3134	Fill	3135			1b
3135	Cut		Pit		1b
3136	Fill	3137			1b
3137	Cut		Post-hole		1b
3138	Fill	3139			1b
3139	Cut		Post-hole		1b
3140	Fill	3141			1b
3141	Cut		Post-hole		1b
3142	Fill	3143			1b
3143	Cut		Post-hole		1b
3144	Fill	3145			1b
3145	Cut		Post-hole		1b
3146	Fill	3147			1b
3147	Cut		S-hole		1b
3148	Fill	3149			1b
3149	Cut	3148	S-hole		1b
3150	Fill	3151			-
3151	Cut		Drain		4
3152	Fill	3153			1a
3153	Cut		Ditch		1a
3154	Fill				-
3155	Cut		Ditch		1a
3156	Fill	3157			1b
3157	Cut		Post-hole		1b
3158	Fill	3159			1b
3159	Cut		Post-hole		1b
3160	Fill	3161			1b
3161	Cut		Stake-hole		1b
3162	Fill	3163			1b
3163	Cut		Post-hole		1b
3164	Fill	3165			1b
3165	Cut		Stake-hole		1b
3166	Fill	3167			1b
3167	Cut		Post-hole		1b
3168	Fill	3169			1b
3169	Cut		Ditch		1b
3170	Fill	3171			1b

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3171	Cut		Post-hole		1b
3172	Fill	3173			1b
3173	Cut		Beam-slot		1b
3174	Fill	3175			1b
3175	Cut		Post-hole		1b
3176	Fill	3177			3
3177	Cut		Post-hole		3
3178	Layer				-
3179	Fill	3180			1b
3180	Cut		Post-hole		1b
3181	Layer				-
3182	Fill	3183			4
3183	Cut		Post-hole		4
3184	Fill	3185			4
3185	Cut		Post-hole		4
3186	Fill	3187			4
3187	Cut		Post-hole		4
3188	Fill	3189			4
3189	Cut		Post-hole		4
3190	Fill	3191			-
3191	Cut		Post-hole		-
3192	Fill	3193			-
3193	Cut		Post-hole	A	1b
3194	Fill	3195			1b
3195	Cut		Post-hole	A	1b
3196	Fill	3197			1b
3197	Cut		Post-hole	A	1b
3198	Fill	3199			1b
3199	Cut		Post-hole	A	1b
3200	Fill	3201			1b
3201	Cut		Stake-hole		1b
3202	Fill	3203			1b
3203	Cut		Post-hole		-
3204	Fill	3205			3
3205	Cut		Floor?		3
3206	Fill	3207			3
3207	Cut		Pit		3
3208	Fill	3209			3
3209	Cut		Post-hole		3
3210	Fill	3211			1b
3211	Cut		Post-hole		1b
3212	Fill	3213			1b
3213	Cut		Post-hole		1b
3214	Fill	3215			1b

Strat No	Unit Type	Assoc Cut	Feature Type	Construct	Phase
3215	Cut		Post-hole		1b
3216	Fill	3217			1b
3217	Cut		Post-hole		1b
3218	Layer				-
3219	Fill	3220			1b
3220	Cut		Pit		1b
3221	Fill	3222			-
3222	Cut				-
3223	Fill	3224			4
3224	Cut		Post-hole		4
3225	Fill	3226			1b
3226	Cut		Post-hole		1b
3227	Fill	3228			4
3228	Cut		Drain		4
3229	Spread				1b
3230	Fill	3231			-
3231	Cut		Post-hole		-
3232	Fill	3233			-
3233	Cut		Post-hole		-
3234		unexc	Cellar		-
3235		unexc	Structure		1b
3236		unexc	Pillar		-
3237		unexc	Pillar		4
3238		unexc	Tank		-
3239			Stake-hole	B	1b
3240			Stake-hole	B	1b
3241			Stake-hole	B	1b
3242			Stake-hole		1b
3243			Stake-hole	B	1b
3244			Stake-hole	B	1b
3445			Stake-hole		1b
3246			Stake-hole		1b
3247			Stake-hole		1b
3248			Stake-hole		1b
3249			Stake-hole		1b
3250			Stake-hole		1b
3251			Stake-hole		1b


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