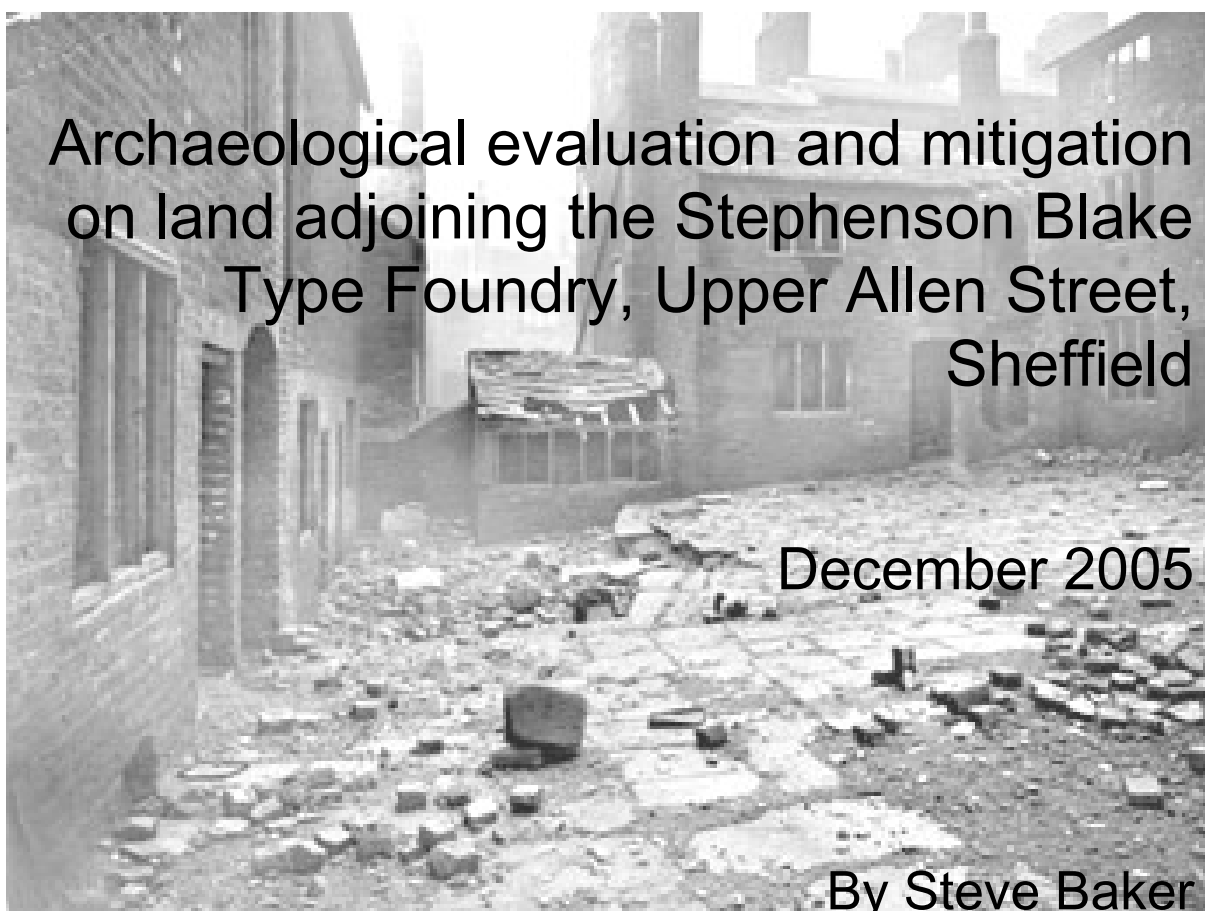




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Assessment Report 842c.1



Archaeological evaluation and mitigation on land adjoining the Stephenson Blake Type Foundry, Upper Allen Street, Sheffield

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By Steve Baker

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NON-TECHNICAL SUMMARY

ARCUS were commissioned by Watkin Jones Construction to undertake archaeological evaluation and mitigation on a site adjoining the former Stephenson Blake Type Foundry, Upper Allen Street, Sheffield, SK 3483 8762. The entire site area was machine stripped to the archaeological levels to allow rapid evaluation to take place. This process revealed the remains of three courts associated with early nineteenth century back-to-back housing. Preservation was variable across the site, with two courts truncated below ground-floor level. One court was, however, unusually well preserved, with ground floor rooms and internal features surviving, and a stratified sequence of yard surfaces and drainage and sewerage structures present. Full excavation and recording of sample areas was carried out, providing rare insights into the chronology and organisation of space within tenement buildings and within the communal yard areas. Although most archaeological deposits encountered on the site related to the construction (made-ground) or demolition of the buildings and courtyards, material deriving from the domestic occupation of the site was identified within building floor levels and within a silting sequence in a drain shaft.

Checked by: Date: 19 th December 2005	Passed for submission to client: Date: 19 th December 2005
Steve Baker ARCUS Project Archaeologist	Anna Badcock ARCUS Assistant Director

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1 INTRODUCTION

ARCUS were commissioned by Watkin Jones Construction to undertake archaeological evaluation and mitigation on land adjoining the former Stephenson Blake Type Foundry, Upper Allen Street, Sheffield, NGR SK 3483 8762 (**Illustration 1**). These investigations formed a stage of works relating to a planning application to develop the site (04/00215/FUL). The planning application included the submission of an archaeological assessment and buildings appraisal of the site, commissioned by the Hunshelf Group and undertaken by ARCUS (Jessop 2004). On the basis of this, South Yorkshire Archaeology Service (SYAS) determined that the site required a programme of archaeological mitigation in advance of development. The requirement is in line with government guidance as set out in DOE Planning Policy Guidance - Archaeology and Planning (PPG16, 1990). This document is an assessment report of the results of the archaeological evaluation and mitigation.

2 AIMS AND METHODOLOGY

2.1 Project aims and rationale

The requirement for archaeological fieldwork arose primarily from the need to provide a general characterisation of the archaeological resource within the area of the proposed development:

- to gather sufficient information to establish the character, extent, state of preservation and date of archaeological deposits within the areas of the proposed development;
- to provide sufficient information to determine the significance of the archaeology exposed in terms of its local, regional and national importance.

More specific objectives relating to the known or suspected archaeological potential of the site were derived from the results of the archaeological desk-based assessment (Jessop 2004). These were:

- to determine if any structures or deposits relating to the Kenyon Cutlery Works, the back-to-back housing along Edward Street, or earlier activity, survived within the site area;
- to identify archaeological evidence for the range of industrial and domestic activities that took place within the development area;
- to clarify the organisation of industrial and domestic activities and use of space;
- to establish how industrial and domestic activities were modified during the history of the site.

2.2 Methodology

The archaeological fieldwork and recording was carried out in accordance with the methodology outlined in the project design for the site (ARCUS 2005), with guidelines issued by the Institute of Field Archaeologists (IFA 1999) and with current industry best practice.

In summary:

An **archaeological watching brief** was carried out during the excavation of a 5-metre-wide strip along the Edward Street frontage of the site (to allow access for the piling rig), during the excavation of three geotechnical test pits, and during battering back of a standing section at the western end of the site (**Illustration 2**).

Machine-assisted ground level reduction was carried out over the remainder of the site, under archaeological supervision, to the surface of the archaeological deposits. This allowed **rapid archaeological evaluation** of the character and preservation of the surviving archaeology over the entire site. All structures and deposits exposed were recorded by EDM survey, annotated sketch plans, and a photographic record.

Full excavation and recording was carried out in four key sample areas across the site, targeting areas where preservation was particularly good or where well-stratified sequences were present.

2.3 Fieldwork programme

The project was managed by James Symonds, ARCUS Executive Director, and Steve Baker, ARCUS Project Archaeologist. The archaeological watching brief was carried out during April, May and August 2005 by Steve Baker, Ben Chan and Duncan Alexander (ARCUS Project Archaeologists). Fieldwork was supervised by Steve Baker, and carried out by Duncan Alexander, Jonas Enns, Craig Johnston, Phil Roberts, Hilary Sanders and Neil Walmsley (ARCUS Site Assistants) during June and July 2005.

2.4 Site location

The original assessment commissioned by the Hunshelf Group covered a block of land bounded by Upper Allen Street, Kenyon Alley, Edward Street, Brocco Street and Marsden Lane, Sheffield, including the buildings of the former Stephenson Blake Type Foundry along Upper Allen Street. Only part of this area was covered by the archaeological works in 2005, approximately 0.15ha in area, bounded by Brocco Street, Edward Street and Marsden Lane, and extending some 55 metres south-west along Edward Street from its junction with Brocco Street. Prior to the archaeological intervention this area was waste ground, sloping broadly from west to east, with a marked change of level associated with a collapsed but fairly recent retaining wall on the south side of Marsden Lane. The site lies within a proposed Conservation Area, although at the time of writing this had not been finalised.

3 ARCHAEOLOGICAL BACKGROUND

An archaeological assessment and buildings appraisal of the entire application area was undertaken by ARCUS in 2004 (Jessop 2004) on behalf of the Hunshelf Group. The conclusions of this report are briefly summarised here.

Urban development did not encroach upon the site until the late eighteenth- or early nineteenth-century. Extensive development from this time onwards is likely to preclude the survival of sub-surface remains from earlier periods.

The Blake Garnett and Company type foundry was established on Upper Allen Street in 1818. Piecemeal expansion took place over the next few decades, the company re-organising as Blake Stephenson in 1829. By 1850 the foundry encompassed areas fronting onto Kenyon Alley, Marsden Lane and Edward Street, and had expanded into new premises on the southern side of Marsden Lane. Also by this date, significant numbers of terraced and 'back-to-back' houses had been constructed, filling the plot between the foundry and Brocco Street to the north east and most of the plot between Marsden Lane and Edward Street to the south.

By 1920, terraced houses and courts abutting the foundry on Upper Allen Street and Marsden Lane in 1850 had been reduced substantially and contained type foundry buildings. Stephenson Blake continued to purchase and incorporate land on surrounding plots throughout the early twentieth century. The substantial Kenyon Cutlery Works south of Marsden Lane was demolished during the 1890s, the plot lying vacant until subsequently purchased by Stephenson Blake. By 1950 the foundry had completely taken over land fronting onto Edward Street, occupied by back-to-back housing on the 1920 map. It appears that housing was removed prior to post-war slum clearance, stimulated rather by the company's desire for further expansion.

Technological changes in the later twentieth century required less space, and much of the foundry, its workshops and offices lay empty by the 1970s. The range abutting Marsden Lane was demolished and a car park created adjacent to the works fronting Edward Street.

The study identified two key areas of sub-surface archaeological interest. The first concerned the demolished south range of the Works delineated by Marsden Lane. The demolition of this building during the 1970s involved the removal of all the standing remains and the infilling of the basement areas; these are likely to survive in good condition beneath the existing yard surface. The second area of interest concerned the land to the south of Marsden Lane, formerly occupied by terraced back-to-back housing arranged around open courts, the majority of which were subject to clearance during the mid twentieth century, and by the Kenyon Cutlery Works, which had been demolished by 1890. It was considered that there was high potential in this area for the survival of subsurface remains relating to domestic activity and to the cutlery industry.

The area earmarked for development during 2005 lay to the south of Marsden Lane, and to the east of the footprint of the Kenyon Cutlery Works. This area appeared to have been occupied by nineteenth-century back-to-back housing.

4 RESULTS

4.1 Archaeological watching brief

An archaeological watching brief was maintained by ARCUS during initial stripping to prepare level platforms for the piling rig, during the excavation of three test pits for soil sampling, and during the battering back of a standing section at the south-western end of the site.

4.1.1 Initial topsoil removal: 5 metre strip

In preparing the level platforms for the piling rig, topsoil was removed from a 5-metre wide strip of ground (**Plate 1**) beginning from the corner of Edward Street and Brocco Street and extending some 40 metres to the south west along the Edward Street frontage. Because of the rising ground surface along Edward Street, four level terraces were cut, to a maximum of 0.66m below the modern ground surface. For the first 10 metres of the strip, no archaeological features were encountered; the exposed surface comprised brick demolition rubble with nineteenth and twentieth century pottery. From 10 metres onwards, a series of walls were encountered, running perpendicular from the Edward Street frontage (SE-NW) with the top surviving courses between 0.60m and 0.70m below the modern ground surface.

Between 10 metres and 25 metres these walls were of handmade red brick or sandstone slab construction, generally in a pale grey or brown cementitious mortar with flecks of lime and charcoal, and were spaced in multiples of 1.90m or 3.80m (6 feet and 12 feet). Additional structural elements were noted, suggesting chimney breasts, coal holes or stairwells, often associated with underlying voids in the infilling rubble material. Springs for brick vaults were also noted adjacent to several of the walls, suggesting infilled cellar spaces.

From 25 metres onwards, the walls were consistently of sandstone block and slab construction, spaced at around 4.10 m.

4.1.2 Excavation of test pits for topsoil sampling

Three test pits were excavated, one at each end of the 5-metre strip described above, and one adjacent to the corner of Brocco Street and Marsden Lane.

Test Pit 1 was excavated at the south-west end of the 5-metre strip, adjacent to Edward Street. A clean natural yellow clay and mudstone was reached at 2.80m below the modern ground level. This was overlain by loose deposits of yellow clay with brick fragments and reddish gritty deposits, representing disturbed natural or possibly levelling deposits, to a depth of 0.90m, with brick and sandstone demolition rubble above.

Test Pit 2 was excavated at the other end of the 5-metre strip, near the corner of Edward Street and Brocco Street. From 0.20m below ground level, a large cellar was encountered, with intact brick-vaulted cellar roof and interior. Backfill and cellarage was present from 0.20m to 2.70m below ground level, with disturbed natural or made ground below to 3.80m.

Test Pit 3 was excavated adjacent to Marsden Lane on the lower part of the site. Cellar walls were located immediately beneath the ground surface, with cellar infill rubble extending to 1.10m, and disturbed natural or made ground from 1.10m to 1.80m, with clean natural yellow clay with mudstone below. The edge of the test pit clipped the ends of two vaulted cellars with ceilings 0.30m below ground level.

4.1.3 Additional excavation of 5-metre strip

The presence of largely intact vaulted cellars and significant voids below parts of the 5-metre strip adjacent to Edward Street necessitated further excavation and infilling of voids to provide a firm surface for the piling rig. This involved the excavation of this area of the site to a depth of between 2.5 and 3 metres, with subsequent infilling and compaction.

Towards the corner of Edward Street and Brocco Street further examination of the large cellar was possible (**Plate 2**); it consisted of a brick vaulted passage and the main vaulted cellar, both roofs with apex running parallel to Edward Street and ending at a substantial sandstone wall running along the Edward Street frontage. Another sandstone wall with a coal chute ran along the Brocco Street frontage. A series of stalls and a sandstone slab shelf were identified within the cellarage.

Further to the south-west, cellars were predominantly infilled, with minor voids present, and no brick vaults intact. Vault springs suggested a similar configuration of cellars, with vault apex running parallel to Edward Street, up to 19 metres along the strip. Possible cellar floor levels were encountered around 2.40m below ground level. Between 19 and 29 metres, further infilled cellarage was present, with vault apex now running perpendicular to Edward Street, various passageways and sandstone slab shelves/stalls present, and a possible floor level 1.70m below ground level. Between 29 and 37 metres, corresponding with Test Pit 1, evidence for cellarage was unclear, with natural mudstone at about 1.85m below ground level, disturbed natural or made ground to 1.40m, and rubble above. Infilled cellarage was again clearly present from 39 to 47 metres, with sandstone cellar walls and traces of a sandstone vault with apex running perpendicular to Edward Street. Cellar infill extended to at least 2.10m below ground level. From 47 metres on (under the entrance gateway to the site), more modern disturbance was evident, with building rubble and a substantial concrete platform, although a possible floor was located at 1.90m below ground level, with made ground below.

4.1.4 Battering of standing section

Following the demolition of a modern workshop building at the higher level beyond the south-western end of the Phase 1 site, a 1.70m high standing section between this level and the lower level of the Phase 1 area was battered 4 metres into the concrete slab of the former workshop. Below the slab was demolition rubble with unfrosted bricks in a sandy silt matrix. Within this material, 0.45m beneath the base of the slab, a black layer of slag, cinder and coke was noted, roughly 0.10m thick. These deposits appear to relate to the demolition of nineteenth century buildings, the resulting material being used to raise the ground level for the higher terrace below the modern workshop. No structural elements or natural subsoils were identified in this area.

4.1.5 Further battering of standing section

Following completion of the rapid evaluation and mitigation programme on site, one further phase of archaeological watching brief was carried out, during further battering of the standing section at the western end of the site, and construction of a machine ramp in the same location. Further well-preserved cellarage (**Plate 3**) was observed during this process, apparently representing a row of houses running north-south across the western end of Court No.10 (see below).

4.1.6 Discussion of watching brief findings

Although the circumstances of the watching brief precluded detailed recording, it was possible to draw some general conclusions concerning the nature of the sub-surface stratigraphy and remains.

- The upper area of the site appeared to contain a significant depth of made ground. Adjacent to Brocco Street this depth was at least 2.70m, narrowing to about 0.90m at the south-western end.
- This made ground in general comprised well-preserved cellarage and associated structures. Below the cellarage was a mixed yellowish clay representing natural disturbed during the construction process, or a layer of made ground. At the Brocco Street end of the site intact brick-vaulted cellars were present to a depth of 2.7m, but further to the south-west cellars were infilled by demolition rubble, with their brick vaults truncated.
- A large cellar on the corner of Edward Street and Brocco Street may correspond to a larger building shown on this site on Ordnance Survey maps between 1850 and 1920. Continuing along Edward Street, two styles of cellarage were present. The lower (north-east) part of the frontage was occupied by brick-vaulted cellars with internal walls spaced at 6 feet and 12 feet. Cellars on the upper (south-west) frontage were of more substantial sandstone construction (one sandstone vault was recorded), with internal walls spaced at over 4 metres (13-14 feet). Map evidence suggests that both these phases relate to nineteenth century back-to-back housing. The change in construction corresponds to the boundary between an upper and lower courtyard (see below), truncated at different levels during demolition.
- Structures and cellarage were present immediately below topsoil in the lowered area of the site adjacent to Marsden Lane.
- Well preserved structures are likely to be present beneath the raised area to the west of the site.

4.2 Ground level reduction and rapid evaluation

Machine excavation was carried out under archaeological supervision over the entire site, followed by archaeological cleaning to allow a rapid assessment of archaeological potential to be made. This exercise revealed the remains of early nineteenth century back-to-back houses in varying degrees of preservation, arranged around three open courts (**Illustration 3**). These corresponded with the courts and buildings shown on the 1850, 1890 and 1920 Ordnance Survey Maps (Jessop 2004, **Illustration 4**), and identified on the 1890 map as 'Court No.1', 'Court No. 3' and 'Court No. 10'. These identifiers will be used below to refer to the three courtyards, although this need not imply that they were in use throughout the history of these buildings.

4.2.1 Court No. 3 (Brocco Street/Marsden Lane)

At the lower level, along Marsden Lane, the structures comprising Court No. 3 were located only just below the modern ground level (**Plate 4**). In general, this area was truncated below the floor levels of the buildings and yard, with only infilled cellarage and foundations surviving, although some floor levels associated with building 16 at the south-western end of the court appeared to survive. In addition, the south-eastern edge of the court had been much disturbed by the excavation, construction and backfilling of a modern retaining wall [038], apparently following the boundary between Court No. 3 and the higher level of Court No. 1.

Two pairs of back-to-back houses (11/12,13/14) were located along the Brocco Street edge of Court No. 3, with a passageway leading between them from Brocco Street through to the courtyard (20) behind (**Plate 7**). Houses 13 and 14, situated on the corner of Brocco Street and Marsden Lane, were represented by infilled cellars with associated sandstone stair structures, each cellar measuring 3.40m wide by 3.60m long and the rear cellar (13) having been disturbed during excavation of Test Pit 3 (above). The exterior cellar walls were of sandstone slab construction with a light brown sandy mortar; the wall between the cellars and the adjoining passageway was double-skinned, of handmade red 3" brick with lime mortar. The dividing wall between cellars 13 and 14 was a single skin of similar brick and lime mortar construction, dog-legged to accommodate two separate stair structures. Access to each cellar was from the room above, from the north corner of the ground floor of house 13 and the south corner of 14, via a steep curving staircase of roughly triangular sandstone slabs (upper part only exposed).

Beyond the passageway, houses 11 and 12 appeared to be of identical construction to 13 and 14, but were mostly obscured by modern disturbance along the south-eastern edge of Court No.3. The passageway (19) was 0.93m wide and extended 8.80m from the Brocco Street frontage to the interior of the court. Voids in the surface towards the rear of the passageway suggested that a drain ran beneath it, presumably from the court interior to the main Brocco Street drainage system.

The courtyard itself (20) ran alongside Marsden Lane with its long axis parallel; it measured approximately 14 metres by 4.5 metres. No evidence for a yard surface was identified beyond some irregular sandstone paving in the rear eastern corner. A layer of dark compacted made ground covered the yard, above disturbed natural or made ground, with clean natural 0.70m below the surface. Concrete and ceramic drains were present along the south-eastern edge of the yard, in front of a double-skinned wall of hand-made red bricks in a light brown sandy mortar. This is presumably the front wall of a row of three buildings shown along the south-eastern edge of the yard on the 1920 Ordnance Survey map; modern disturbance had obscured the remainder of these buildings.

A series of brick structures at the south-western end of the courtyard (Area 16; **Plate 8**) was associated with ceramic drains and disturbed areas of sandstone flag, and may represent part of a series of toilet cubicles (machine-made red bricks in cementitious grey mortar). A sandstone threshold with door frame sockets, and an adjacent area of red linoleum surviving over a sandstone flag, appeared to be associated with the entrance area for one of the obscured buildings along the south-eastern yard edge.

4.2.2 Court No.1 (Brocco Street/Edward Street)

Court No.1 (**Plate 5**) was the best preserved of the three courts identified during rapid evaluation, separated from Court No.3 by the modern retaining wall [038] and on a higher level. Court No.1 extended 27 metres south west from the Brocco Street frontage, to a substantial sandstone retaining wall associated with a change in ground level to Court No.10 above.

Three pairs of back-to-back houses (5 /6, 7/8, 9/10) were present along the Brocco Street frontage, with an intervening passageway (18) running from Brocco Street through to the interior of the yard. Buildings at this end of the court were in general truncated around or below ground floor level. Infilled cellarage with brick vault springs visible and associated stair structures were present in the houses along the Brocco Street frontage (6, 8 and 10), but not in the rear houses adjoining the yard (5, 7 and 9). Cellars 8 and 10 were each clearly subdivided by a central wall running perpendicular to Brocco Street, each subdivision roofed with a brick vault. Houses 5

and 6 were only partially present, the remainder of these buildings along Edward Street having been removed during the earlier watching brief phase. A partial ground floor level had survived in House 7, with *in situ* sandstone slabs associated with linoleum traces, and the footing of a chimney breast. These pairs of houses were of similar construction; the best preserved pair (7 and 8) were selected for detailed excavation and recording (see below). In general, each ground floor room was approximately 3.80 metres wide by 3.50 metres long. Cellarage was present beneath the front house of each pair, with the cellars subdivided giving access to one half from the front house and to the other half from the rear. The space between the front and rear houses again accommodated two stairwells, giving access from the front and rear upper rooms to the subdivided halves of the cellar.

Along the south-eastern edge of the courtyard, rooms 1-4 were associated with increasing levels of preservation, with Room 1, at the south-western end, surviving up to 1.90m above ground level. This enhanced preservation was due to the protection offered by the retaining wall at the south-western end of the yard, but also due to a step up in ground level between Court No.1 and Edward Street: the ground floor rooms adjoining the courtyard were at cellar level from Edward Street. Rooms 1-4 appear to have represented the rear portions of pairs of back-to-back houses running along Edward Street, the front buildings having been removed during the earlier watching brief. Complete sandstone flag floors were present in the four rooms fronting onto the yard, along with complete or partial chimney breasts and kitchen range structures, and sandstone sinks with associated supports. In each room these structures were arranged in the same configuration along the south-western internal wall. Plaster was present on internal walls, as well as a cement or concrete skirting above the flag floor. Rooms measured approximately 3.70 metres wide by 3.40 metres front to back. Rooms 1-4 were selected for detailed excavation and recording (see below).

Between Room 4 and the back of Room 5 was a passageway, 2.45 metres wide, presumably leading from the interior of the court to Edward Street. The interior courtyard (17) was rectangular, measuring approximately 18.45 metres by 6.15 metres, with the long axis parallel to Edward Street. The courtyard surface was tarmac, with ceramic drains present along the two long sides of the court, and two additional drains in the centre. This surface was in general well preserved, although it was disturbed in linear patches apparently corresponding to the positions of drain trenches within the court. This appeared to be due to the tarmac surface subsiding into the soft fills of drain trenches, perhaps under the weight of demolition rubble above. Evidence for earlier brick structures beneath the tarmac surface was noted in the western part of the court, and this area was targeted for further investigation (see below).

Running along the north-western edge of the court, from its western corner, was a row of eight toilet cubicles (15). The rear wall and partition walls were of frogged machine-made red brick in a dark grey cementitious mortar. Each cubicle had a sandstone threshold with sockets for door posts, and a poured concrete floor, with the bases of ceramic toilets surviving *in situ*. A row of sandstone flags ran along the front face of the building. This area was targeted for further investigation along with the court area immediately to the south. The northern part of the rear edge of the court was disturbed by recent excavation associated with the modern retaining wall; it appeared that the original rear retaining wall of the court had been on the same alignment as the modern wall. Fragmentary structures survived in this area, attested to by sandstone thresholds. Ceramic drains were also present along the rear of the yard.

The south-western end of Court No.1 was defined by a substantial retaining wall, of roughly hewn sandstone blocks, and surviving to a maximum height of 2.18m above

the Court 1 surface. The retaining wall appeared to have been patched towards the rear of the court with handmade 3" red bricks in a dark grey cementitious mortar.

4.2.3 Court No. 10 (Edward Street)

To the south-west of the retaining wall at the end of Court No.1, Court No.10 (**Plate 6**) was laid out at a significantly higher level; a typical level for the court surface was 70.97m AOD, some 2.35m higher than the Court No.1 surface. Preservation was consequently less impressive, with many buildings truncated below ground floor level, and the court surface only surviving in isolated patches.

The front range of buildings along Edward Street evidently continued along the same line as the buildings in Court No.1, as suggested by the results of the watching brief. Little evidence for these buildings was encountered during the rapid evaluation stage: their rear wall, surviving only as rough sandstone slab foundations, was observed at its north-eastern extent, on the same alignment as the rear wall [032] of Rooms 1-4 in Court No.1. The continuation of this wall was obscured by a ramp used for machine access.

Along the north-eastern edge of the court, adjoining the retaining wall, one infilled cellar was identified, measuring 4.00m by 3.60m; a surviving vault spring suggested that the apex of the brick cellar vault ran perpendicular to the retaining wall. The construction of this cellar was of handmade red brick in lime mortar, with sandstone slab beneath; the build and dimensions are therefore comparable with the back-to-back cellarage encountered in other areas. Along the remainder of the retaining wall edge, the sequence of structures was probably too narrow to relate to further housing, with the front wall only 2.30m from the retaining wall at the rear. A sandstone threshold suggested access from the courtyard, through a front wall two skins thick, of handmade red brick with lime mortar. Parts of a brick floor, of apparently re-used handmade bricks with traces of lime mortar, were present in this area, with sandstone flags in the extreme northern corner of the yard. A segment of concrete trough, presumably an open drain, was present behind the front wall. This narrow paved area may therefore have been an open passage providing access to the side of the range of buildings along the Marsden Lane edge of the court, although no entrance to these buildings was identified to confirm this.

The buildings along Marsden Lane (**Plate 9**) were located at some height above the lane itself, and backed onto a modern retaining wall, presumably a rebuild of an original structure. This range of buildings comprised a row of six individual rooms (not paired as in Court No.1), presumably with access from the court, although no thresholds were present despite floor levels surviving in the northern two rooms. These rooms were typically 4.40m deep and 3.40m wide, slightly larger than the Court No.1 rooms. In the northernmost room a floor of re-used handmade bricks and frogged machine-made bricks had been replaced by a concrete floor, and then in turn by a second floor of re-used bricks. A partial concrete floor survived in the next room to the south. The other four rooms were increasingly truncated below floor level. Cellar infill rubble was present in three of these rooms; one room appeared to be uncellared with a disturbed natural made-ground deposit below. Evidence for partitioned cellars was identified in the southern two rooms of the range, and appeared similar to the excavated cellars below Room 8 in Court No.1, with cellar partition walls (and vault apex) running perpendicular to the back of the court and to Marsden Lane. Stairwells with sandstone steps were located at the rear of the buildings.

No evidence for a retaining or boundary wall was identified at the south-western end of Court No.10; the site appeared therefore to end just within the boundaries of the court. Structural elements were also present in the central court area; a sub-divided

brick building with ceramic soil pipes, likely to be a toilet block, was selected for further investigation (see below). Also in the central area was a rectangular building of re-used plain handmade red brick, two skins thick, constructed in mid grey cementitious mortar, and truncated into foundation level. Two recent drain shafts were also present.

Only fragments of the Court No.10 yard surfaces survived, with a recent tarmac surface preserved in the north corner along with an iron manhole cover, and an open sandstone drain. Small patches of an earlier cobbled surface survived in various places in the centre of the court (**Plate 10**); this was investigated further in one area (see below). The cobbles were set into a black ashy layer, with a compact yellow clay below, probably close to natural but with some evidence for disturbance. Lengths of open sandstone drain ran parallel to the rear edge of the yard.

4.3 Detailed excavation and recording

On the basis of the rapid evaluation exercise documented above, four areas were selected for detailed archaeological treatment. Three of these areas were located in Court No.1, as a consequence of the high levels of preservation, with a fourth area in the centre of Court No.10:

- **Court No.1, Rooms 7 and 8:** a pair of back-to-back houses, with partially-preserved ground floor levels in Room 7 and well-preserved cellars beneath Room 8 (**Illustration 4**).
- **Court No.1, Rooms 1-4:** a row of four rooms along the front edge of the court, at the rear of buildings fronting onto Edward Street. Only Room 1 was preserved in its entirety (**Illustration 5**), with the strip of ground disturbed during the watching brief phase impinging increasingly onto Rooms 2-4 (**Illustration 6**). However, these rooms were preserved well above ground floor level, with internal structures still present.
- **Court No.1, west end of courtyard (Area 17) and adjoining toilet block (Area 15):** the intact yard surface offered potential for surviving sub-surface stratigraphy, and a structural sequence relating to drainage and sanitation (**Illustration 9**).
- **Court No.10, toilet block and adjoining cobbled surface (Area 22):** this area was selected as a counterpoint to the corresponding area in Court No.1, to assess levels of preservation and the potential for sub-surface stratification (**Illustration 11**).

4.3.1 Court No.1, Rooms 7 and 8

Rooms 7 and 8 formed one of the pairs of back-to-back houses located along the Brocco Street frontage of the site, with rear access to Court No.1. A pair of well-preserved cellars was located beneath Room 8; these were cleaned and recorded, and a slot was excavated below the cellar floor. The flag floor of Room 7 was partially preserved. This level was recorded in detail, before excavation of two trenches through the sub-floor layers.

The pair of houses represented by Rooms 7 and 8 formed part of a row extending along the Brocco Street frontage, and also including Rooms 5/6 and 9/10, and presumably the larger building on the corner of Brocco Street and Edward Street shown on Ordnance Survey maps between 1850 and 1920. The row was continued at a lower level along the Brocco Street edge of Court No.3, although the slightly different stairwell design here may indicate a different phase of building. A passageway ran from Brocco Street to the interior of Court No.1 immediately to the south of Rooms 7/8.

The building containing Rooms 7 and 8 was constructed by excavating the entire footprint to a depth of 2 metres below the court surface. Cellarage (**Plate 16**) was constructed below the front (Brocco Street) house (Room 8); the rear house (Room 7) was uncellared, with about 2 metres of made ground beneath the ground floor level. The front cellar walls and south cellar wall along the passageway were built first, with the north cellar wall added next. The brick structures (partition wall, brick vaults and stairwells) appear to form one build and were perhaps constructed together from the ground up, with flagged cellar floors added afterwards.

The front wall [011] along Brocco Street only survived at cellar level. [011] was of sandstone block and slab construction, twelve to seventeen courses high, in a dark brown silty matrix, from the cellar base to 1.31m above the floor (1.54m in the central part of the cellar). Above 1.31m the build was of handmade plain 3" bricks, with many broken bricks indicating re-use (use of 'seconds'), in lime mortar. A maximum of six brick courses were present, with much root disturbance. As noted above, the cellar was subdivided along its centre, perpendicular to Brocco Street, each half cellar having a coal hole approximately 0.50m wide within the front wall [011] extending upwards from 0.85m above floor level, and with an angled sandstone slab providing the chute.

The side cellar walls [013] and [014] were of sandstone slab and block construction, roughly but fairly evenly faced to the inside, in a silty yellowish to dark brown matrix. Both [013] and [014] extended to a height of 1.27m (around 16 courses although this varied) above the cellar floor level, with the remains of brick vaults [007] and [008] above. The southern wall [014], on the passageway side of Room 8 was keyed into the front wall [011], while the northern wall [013], dividing the Room 8 cellars from those beneath Room 10, was added in later, abutting [011]. The central partition wall of the cellars, [006] was a two skin wall of plain handmade 3" red bricks in a soft light brown mortar, 16 courses high to a height of 1.27m above the cellar floor, above which height the cellar vaults [007] and [008] were built on. Many of the bricks were broken, and about 30% were refractory bricks, again suggesting use of 'seconds'. [006] abutted the front wall [011], and ran 4.30m to the rear of the cellar to join the stair structures. Iron brackets, presumably to hold shelving, were present along the side and central walls of the cellars, generally located at the tops of the walls just below the vault spring.

Each half cellar had a brick vaulted roof ([007] over the northern cellar, [008] over the southern), running from the sandstone side walls [013] and [014] to the central wall [006]. These were of plain handmade 3" bricks in lime mortar, and again appeared to have been re-used. The vault was composed of a single skin of bricks laid edgeways. Neither [007] nor [008] survived intact, but in general a few courses survived above the vault spring (a maximum of six courses for [007] and eleven courses for [008]). The vaults ran from the front of the cellar, abutting the front wall [011], to the front edge of the stairwells [009] and [010], a distance of 3.46m. Beyond the vaults, a single skin of bricks laid above [006] provided a partition between the two stairwells.

The ground floor rooms of houses 7 and 8 each had access to a half cellar (3.40m x 1.60m) in Room 8; presumably so that coal could be delivered from Brocco Street without entering the court itself. Cellar access was by means of two self-contained stairwells between Room 7 and Room 8. Apart from the sandstone steps (see below), these were of re-used handmade plain 3" red brick in lime mortar, with many broken bricks evident. The southern stairwell [009] provided access from the south-east corner of Room 7 to the southern half cellar; the northern stairwell [010] ran from the north-west corner of Room 8 to the northern half cellar. Because of the necessity of accommodating two stairwells within a 1.0m strip across the width of the building (3.80m), the stairways were steep and each incorporated two turns. Each stairwell structure consisted of:

- (1) A western wall, 1.76m (23 courses) high and one skin thick, running across the building and abutting the western end of [006], the cellar partition wall.
- (2) A support wall, eight courses high and one skin thick, abutting (1) halfway across its width and running 0.73m east across the cellar floor, providing support for the stair structure above.
- (3) Seven sandstone slab steps, each an elongated triangular shape (sides typically 1.07m, 0.90m, 0.36m) and 0.08m thick, on a riser of two brick courses, built into the outside walls of the stairwell including the central cellar wall [006]. These had presumably been sawn to shape.
- (4) Upper edging wall, eleven courses in total and one skin thick, built above the upper three steps on the eastern side of the stairwell; this wall was built up underneath the cellar vault, and continued above it, indicating that the stairwell and vault were part of the same build.

Flag floors [023] and [024] were inserted into the half cellars after construction of the stair structures [009] and [010]. The flags were of sandstone, typical dimensions 0.75m x 0.65m x 0.06m, with even upper surfaces, and had been laid in regular rows. The southern cellar also had narrow bands of brick floor at the east and west ends, presumably to fill spaces too narrow for the sandstone flags. Traces of pinkish degraded lino or lino-backing were present around the foot of the northern stairwell [010]. A sondage below the floor [024] of the southern cellar revealed 0.08m of a dark silty levelling material (025), with coal fragments and coal dust probably reflecting the use of the cellar for coal storage. Below (025) was a clean and compact yellow clay (054); this is likely to represent the lower boundary of the excavation of the building footprint into natural.

In Room 7, wall foundations and sub-floor make-up deposits (**Plate 15**) appeared to have been introduced at the same time, but probably in several stages. No clear construction cut was visible through the sub-floor deposits for any of the walls, but the sandstone slab foundations of the side walls appeared too irregular to have stood independently before backfilling. Material close to the foundations appeared to have slumped down and towards the walls from each sub-floor layer. It appears likely, therefore, that the foundations and sub-floor layers were introduced in a number of stages, each perhaps involving the construction of a few courses of foundations followed by raising of the interior level. This process is considered likely to have taken place during or after the construction of the cellar structures.

The foundations of the south (passageway) wall [015] and the north wall [018] of Room 7, were of rough unworked sandstone slab up to 0.15m thick. Towards the base of the foundations, about two metres below room floor level, no coursing was present, with slabs fairly roughly assembled. More evenly laid slabs were visible towards the top of the foundations, which was reached 0.33m below the room floor level. The foundations of [018] were keyed into the footings of the chimney breast [019], of similar unworked sandstone slab construction. The exterior wall [016] along the west (courtyard) side of Room 7 was of brick construction down to the limit of excavation 1.00m below room floor level, and may therefore have been fully built within the excavated footprint before introduction of the sub-floor fills.

The sub-floor make-up sequence in Room 7 consisted of a number of layers, generally mounded slightly in the centre of the room and dipping towards the side walls [015] and [018]. (033), (034) and (035) comprised lenses of a dirty redeposited natural yellowish clay, and a darker looser silty sand, up to around 0.30m below the room floor level (coinciding with the tops of the side wall foundations). Similar mixed layers (066)-(070) were encountered against [016] in the western part of the room.

Pottery dating from the eighteenth and early nineteenth centuries was recovered from the sub-floor layers below Rooms 7 and 8, consistent with construction in the earlier nineteenth century, at any rate before 1850.

Wall [015] ran along the southern (passageway) side of Rooms 7 and 8; its relationship with the front wall [011] was obscured, but it was keyed into the exterior courtyard wall [016] at its western end. [015] was of handmade plain 3" red brick construction, with lime mortar. Along the southern edge of Room 8, its base was two skins thick and four courses high, mortared onto the spring of the vault [008] above the cellar wall [014]; along the southern edge of Room 7 the wall base was a single header course resting on the deep sandstone foundations already described. Above these base levels, [015] was a single skin wall four courses high in Room 8, seven courses high in Room 7. Broken bricks were frequent below ground, with complete bricks predominating above ground.

The western exterior wall [016] was of the same construction, but two skins thick; a variety of brick types and colours were evident in the construction, including one broken firebrick, although most bricks above ground were complete. A sandstone threshold [017] was set into [016] 0.24m north of the passageway, and with its upper edge 0.1m above the yard surface/room floor, thus confirming access from Room 7 into the court interior.

[018], the northern wall of Room 7, ran 3.60m east-west between the courtyard wall [016] and the back of stair structure [010], abutting both. This was a single skin partition wall between Room 7 and Room 9, with two header courses above the sandstone foundations described above and three further stretcher courses above. [019], the chimney breast footing of Room 7 was keyed in to [018] and comprised two perpendicular projections from [018] located roughly centrally along the north edge of the room and enclosing an area 0.85m across. Each projection was two skins thick and two bricks long, with five courses extending to 0.40m below floor level, and sandstone foundations below. [020], the northern wall of Room 8, was much disturbed, but appeared to consist of a double skin brick wall resting on rough sandstone slab foundations above the vault spring of [007] and the cellar wall [013].

Above foundation level in Room 7, the room floor had been levelled up with a brown sandy silt (002), with loose areas of broken crucible and slag (066), these deposits having apparently been imported after construction of the walls. A sandstone flag floor [003] had been added; it was unclear whether this was an original feature or had been added during later remodelling. Remodelling is perhaps suggested by the pottery assemblage from (002). The majority of this assemblage dates from the eighteenth to early nineteenth centuries, and is consistent with the original construction of the building. However a few later sherds (later nineteenth or twentieth century) are present, and these may have been introduced during refurbishment of the floor. The flag floor [003] survived *in situ* in the north-west corner of Room 7, where traces of degraded red lino or backing survived. The upper surface of the flags was smooth and even, and typical slab dimensions were 0.74m x 0.64m x 0.06m. It appeared that the flag floor had been patched with concrete in the centre of the room.

No *in situ* occupation layers were identified within Rooms 7 and 8; sub-floor layers related to possibly imported levelling material during construction; Cellar fill and the above-ground fill of rooms was rubble relating to the demolition of the buildings in the mid twentieth century. Pottery within these contexts (001), (004) and (005) was consistent with this date.

4.3.2 Court No.1, Rooms 1 to 4

Rooms 1 to 4 opened off the southern edge of Court No.1, forming the rear half of a row of structures fronting onto Edward Street, and ending at the retaining wall at the western end of the court (although similar structures probably continued along the same line in Court No.10). There was a change in ground level between the front and back of these buildings, with ground level at front corresponding to the modern level of Edward Street, but ground level at the rear corresponding to the lower level of Court No. 1 (cellar level from Edward Street). Room 1 was exposed in its entirety (**Plate 13**), but Rooms 2-4 lay increasingly within the disturbed area of the earlier watching brief, with only the rear parts exposed. Remnants of the demolition rubble (022) and (049) originally filling these rooms was removed from above the floor levels.

Rooms 1-4 shared a common rear wall [032], running along the courtyard side of the building (**Illustration 7**). At the east end of Room 2 the rear wall turned (wall [109]), to run at a slight angle towards Edward Street across the backs of Room 3 and 4 foreshortening these two rooms. At the east end of Room 4 the rear wall turned (wall [110]) to run perpendicular towards Edward Street as one edge of a presumed access passageway with steps. [032] survived 22 courses high at the western end of Room 1, but was progressively truncated away from the retaining wall, to the level of the court surface in Room 4. Construction was of handmade plain 3" red bricks two skins thick in a soft light grey lime mortar, with several fabrics present and a number of fragmentary bricks suggesting re-use of 'seconds'. Two courses of bricks were present below the courtyard surface, above substantial sandstone slab foundations. Evidence for a construction cut was equivocal, with yard and external floor layers abutting the wall but a very narrow possible cut visible in places at foundation level. Construction of the wall and deposition of ground make-up layers may therefore have been staged, as suggested above for the Room 7/8 building. Access from the courtyard was indicated by sandstone thresholds in [032] at the north-eastern corner of each room ([096], [101], [105], [108]), with door-post sockets; these were of a well-finished fine-grained sandstone about 0.25m thick but varying slightly in size, with the Room 3 and 4 thresholds (0.96m x 0.36m and 1.02m x 0.38m) larger than Rooms 1 and 2 (0.81m x 0.25m and 0.84m x 0.14m). The exterior room doorways were 0.88m wide. Part of a sandstone windowsill (0.34m x 0.24m x 0.13m) survived in situ towards the western end of Room 1, 8 courses above courtyard level and with four courses of the western window edge surviving above.

The four rooms exhibited a modular design, with identical layout and internal features. The internal width of the rooms was around 3.78m; the internal depth of Room 1 was 3.40m. Dividing walls [027], [097], [102] and [106] were of the same re-used brick and light grey lime mortar construction as [032]. [027], at the western end of Room 1, abutted the sandstone retaining wall and survived fourteen courses above floor level; the other walls were progressively truncated. The internal walls [097], [102] and [106] were a single skin of bricks abutting the courtyard wall [032] but keyed in at foundation level (foundations of sandstone slab similar to [032]).

Two doorways, with (much decayed) wooden doorposts [052] and [053] still in place, were present within [050], the south wall of Room 1 (**Illustration 8**). These internal doorways were 0.82m wide, not including the doorposts. [050] was a double-skinned brick wall of the same build as the other structural walls, surviving 15 courses high, with a narrow structure [051] one brick wide between the doorways, and a sandstone slab door jamb [029] at the western end.

Sandstone flag floors [028], [098], [104] and [112] had been laid in each of the four rooms. The rectangular flags were well-finished in a fine-grained yellowish-grey sandstone, typical dimensions 0.80m x 0.44m x 0.08m, and were laid in a random pattern (not in rows). Sub-floor levels were investigated in Rooms 1 and 2. Each flag

had been laid on four pads of a mid grey cement, pressed into a layer of sub-floor material around 0.07m thick, (079) in Room 1, (114) in Room 2. The presence of an 1862 penny in (079) confirms that the insertion of the flag floor occurred some time after construction of the building (shown on the Ordnance Survey map of 1850). It is not clear whether (079) and (114) represent sub-floor layers pre-dating the sandstone flags, or levelling material inserted with the flags. In Room 1, very fine layers of material (077) and (078), lying directly below the flag floor towards the eastern edge of the room and in front of the hearth, contained small bone fragments, pottery, and in places fragments of plaster. These deposits appear likely therefore to represent occupation material at or below floor level, albeit possibly disturbed during insertion of the later floor. A concentration of rabbit bones, some butchered, within (077) may reflect the disposal of food waste.

Below (079) the sequence of sub-floor fills (084) and (116) was similar to those in Rooms 7 and 8, although not investigated to the same depth, with yellowish lenses of redeposited natural clay alternating with looser dark silty material with coal fragments, apparently inserted sequentially in tandem with building up of the wall foundations during construction. Eighteenth- and early nineteenth-century pottery was again present, consistent with the map evidence for construction by 1850.

A chimney breast and flue structure was located on the western internal wall of each room; various inserts into this structure appeared to form a kitchen range, with a number of separate components. The range [030] in Room 1 (**Plate 11**) was the best preserved of the four, though still incomplete. The chimney breast was formed by two projections from [027], each two skins thick and projecting 0.55m into the room, surviving to a maximum height of 1.50m. Each side of the chimney breast was faced with a vertical sandstone slab 1.08m tall x 0.18m wide and 0.05m thick, forming the sides of the fire surround. A flue structure above was also integral to the wall [027] but survived only in fragmentary form. The internal kitchen range structures within the chimney breast in Room 1 appeared contemporary, with some refractory bricks present; no ironwork remained, but the structures probably comprised a separate grate and oven, with various soot and ash deposits adhering. The flag floor [028] in Room 1 was constructed around the kitchen range structures [030], suggesting that these were contemporary with the original build. In contrast, some of the internal structures [099] within the Room 2 chimney breast [119] were constructed above the flag floor [098] in a dark grey cementitious mortar, suggesting that the kitchen range structures had been remodelled after insertion of the flag floor (**Plate 14**).

A sandstone sink with supporting structures ([031], [100], [103], [107]) was present in the north-west corner of each room, against the western internal wall. Each was composed of a single very fine-grained and well-finished sandstone block, typically 0.68m x 0.55m x 0.14m with a shallow (0.04cm deep) rectangular trough in the centre measuring 0.54m x 0.40m. A circular drain hole was present in the north-west corner. The sinks apparently drained through holes in the courtyard wall [032] into corresponding ceramic drains at the edge of the courtyard. Each sink rested on two brick supports, with the base of the sink 0.58m above the flag floor. To the south of the sink was another brick structure of uncertain purpose ([064], [100]), possibly the support for a draining board, which provided the footings for the southern sink support. These brick supports abutted the internal room walls, and generally appeared later, composed of orange machine-made bricks, with frogged and bullnose bricks present, in a dark grey cementitious mortar. Additionally, in all rooms, the sink support structures rested on the flagstone floors.

Skirting boards, apparently of cement or concrete and 0.16m high by 0.03m deep, were present on the internal room walls above the level of the flag floors. Plaster surfaces apparently representing a number of different phases were present in

patches on internal walls; plasters were generally grey in colour, with greenish surfaces probably due to the growth of mould in damp conditions.

The area to the south of Room 1 was later investigated (**Plate 12**) under watching brief conditions during ground-level reduction across the site; up to a further metre of good preservation was encountered beyond Room 1, before disturbance associated with earlier groundworks. The western (corner) doorway in the back wall [050] led to a probable cellar with a sandstone flagged floor, at a slightly lower level down two sandstone steps with brick risers. It is not clear whether the cellar was subdivided as in Room 8. The central doorway in [050] was probably associated with a stairway to an upper storey, not surviving but suggested by a possible stair support wall running back perpendicular to [050] and reminiscent of stair structures encountered in Room 8.

4.3.3 Court No.1, west end of courtyard (Area 17) and adjoining toilet block (Area 15)

A tarmac surface [046] associated with ceramic drain covers represented the immediate pre-demolition phase of the courtyard itself, and abutted the sandstone edging slabs of the toilet block [039]. The tarmac surface was removed towards the western end of the courtyard, revealing a number of structures, generally relating to the sequence of sewerage and drainage improvements made in the courtyard up to its demolition in the mid twentieth century.

Below the tarmac surface [046] was a fine (0.03m) layer of clinker and crushed brick (026), interpreted as a levelling deposit prior to laying of tarmac. Below (026) was a layer of made ground (047), between 0.84m and 1.11m deep thick where excavated. (047) was a friable dark brown sandy silt, with fragments of brick, sandstone and coal, and abundant pottery and clay pipe. Occasional lenses of yellowish redeposited natural clay were also present. This deposit was interpreted as ground make-up in the context of the construction of Court No.1, and lay above a fairly clean natural clay (065). No construction cuts were visible in (047) relating even to the latest structures in the yard; it seems likely however that structures were dug in and backfilled with the same material, rendering the cuts difficult or impossible to detect. (047) is likely therefore to have been subject to a deal of reworking and redeposition. The majority of the pottery assemblage from (047) dated to the eighteenth and early nineteenth centuries, and is consistent with the initial made-ground episodes. Later material is however present, and probably reflects episodes of reworking not visible stratigraphically.

Phase 1 (Plate 17): The earliest structural phase detected in the courtyard relates to a rectangular brick-lined pit sealed with puddling clay, located against the western retaining wall close to the rear of the court, and interpreted as a privy midden probably with superstructure above (**Illustration 10**). The dimensions of the pit were 2.98m north-south by 2.24m east-west, and the brick floor was located at 67.51m AOD, 1.03m below the yard surface at 68.54m AOD. The pit walls [121] were two skins thick, with an inner skin of plain handmade red brick in a soft dark brown sandy cementitious mortar, with broken bricks indicating re-use of 'seconds'. The outer skin was an irregular revetting structure [057] of broken brick and sandstone slab. The western wall had apparently been removed during a later phase of remodelling (see below), and the north and south walls were therefore truncated a little way short of the courtyard retaining wall. The base of the pit was a brick surface [122] composed of the same re-used material: bricks aligned north-south and mostly lying flat, with a few bricks on their edges. [121] and [122] were packed around with a sealing layer of bluish-yellow puddling clay (125), 0.23m thick. Within [122] were two brick pillars, each two brick widths (0.24m) square, of the same build as [121] and [122], with eight courses (0.79m) surviving above [122] and a further four (0.41m) below. The

pillars may have supported a floor above the pit, and survived into a later phase (see below).

Perhaps contemporary with the pit [121]/[122], a brick and sandstone drain [126] ran east-west along the rear edge of the court, 0.40m from the northern edge of [121], with puddling clay (125) in between. (125) was associated with nineteenth-century pottery. [126] was situated beneath the later toilet block [039] and clearly pre-dated this building and all its related drainage. [126] was only partially exposed, but had parallel single skin walls 0.11m apart of plain handmade 3" bricks, in a hard grey cementitious mortar, with a lime mortar skim on some bricks indicating re-use. Three brick courses were visible above the limit of excavation, with a single sandstone slab course below a sandstone cap 0.07m thick spanning the drain. The drain was filled with brick and sandstone rubble in a greyish silt.

Phase 2 (Plate 17, Plate 18): A second phase of construction involved the insertion of a brick-lined shaft [059] immediately to the east of the cesspit; this structure was roughly square in plan (sides 0.80m – 0.98m) and extended to at least 66.75m AOD, about 1.80m below the (tarmac) courtyard surface. [059] was lined with a single skin of plain machine-made 3" red bricks, with sixteen courses to the base. At this level, a layer of pitch was encountered in the shaft base which may represent the bottom of the feature. No exit drain was present at the base of the feature, which may therefore represent a soak pit. It was neither practicable nor safe to excavate further; however the feature may continue below the pitch layer, with an exit drain below the limit of excavation.

Also during this phase, a brick-lined channel [123] was inserted into the base of the privy midden tank. This consisted of two single rows of machine-made frogged 3" bricks mortared flat onto the tank floor [122] to create a channel running from the south-west corner of the tank to the centre of its eastern side where it entered the shaft [059]. The channel was 0.17m wide, narrowing to 0.07m where it entered [059]. At the eastern edge of the tank, the channel base fell to flow through an opening 0.25m high and 0.11m wide built into the western edge of [059] and comprising a sandstone slab base 0.05m thick, sides formed of three courses of single bricks, and a brick roof. Fragments of ferrous metal plate from the fill of [123] suggested that the channel was roofed; it appears therefore to have been a conduit for storm water or waste water, kept separate from the tank contents to enter [059]. The origin of [123] towards the south-west corner of the cesspit may suggest that it was fed from the area of the demonstrably later structure [045], possibly the site of a pump or water trough; [045] may therefore have replaced a similar structure of the same purpose.

Phase 3 (Plate 19): A third stage of drainage/sewerage design in this area involved a complete refurbishment [043] of the privy midden tank [121]/[122] with insertion of a concrete base and a new inner skin of bricks. Before insertion of the concrete base the floor level over [122] had been raised with a levelling layer (124) 0.15m thick of sandstone and brick fragments in a yellow brown clay sand. The poured concrete base 0.20m thick raised the floor level inside the pit to around 67.85m AOD, 0.69m below the courtyard surface; the phase 1 brick pillars survived into this phase, with the concrete poured around them. Seven courses of machine-made frogged 3" red brick were inserted inside the original two skin wall. Drainage into the shaft [059] was also remodelled, with a sluice gate or overflow structure of copper or copper alloy set into the eastern edge of [043]/western edge of [059], above the earlier drainage structure associated with [123]. An extra course of bricks was added to the top of [059], which was capped with a substantial sandstone slab with a small inspection hole 0.40m square covered by an iron draincover. A ceramic drain (untraced) entered [059] on the eastern side 0.82m below the top of the shaft; this may represent the joining of the soak pit to the main sewerage system; the ceramic drain from [044] (below) had been inserted into the south-east corner of [059] towards the top.

At the same level as the slab covering [059], a partial yard surface [042] survived over the north-western corner of Court No.1, surface typically at 68.30m AOD. [042] was composed of rough-hewn sandstone slabs of different sizes 0.06m thick and only finished on the top surface, with small areas of handmade and machine-made brick flooring and sandstone cobbles (typically 0.27m x 0.05m x 0.16m deep). The disposition of [042] suggested that the sandstone slabs had been laid in the context of the drainage/sewerage improvements discussed above, after the insertion of drains under the courtyard. Areas of mixed brick floor may represent patching of this yard surface; the small remaining areas of cobble may be remnants of an earlier yard surface. [042] had been laid above material (113) indistinguishable from the general sub-yard material (047).

A small rectangular structure [044] had been added to the south wall of [043], constructed from machine-made frogged 3" bricks in a greyish sandy mortar. A double-skin wall two courses high survived on the eastern and southern sides, creating a rectangle 1.28m (east-west) by 0.97m (north-south) apparently open on the west side. Irregular sandstone blocks and part of a damaged sandstone sink had been used to raise the floor within [044]. The floor level of [044] survived at the western end, and comprised a dished concrete layer and ceramic drain. The drainpipe from this feature was traced to the south-east corner of [059]. [044] may therefore represent the location of a sink, standpipe or pump.

Phase 4 (Plates 20-22): Construction of the toilet block [039] involved decommissioning of the privy midden [043], and presumably demolition of the associated building. [043] was filled to the courtyard level with demolition rubble (072) with slate and brick throughout. Toilet block [039] was constructed along the western edge of the courtyard, partly over the yard surface [042]; fragments of brick yard surface [063] and [086] were preserved beneath [039]. The rear wall of [039], two skins of machine-made plain 3" red brick in a mid grey cementitious mortar, ran 7.70m, probably against the rear retaining wall; a western end wall, 1.82m long of the same build, ran alongside the retaining wall of the court; the eastern end wall did not survive. A drain [055] 1.01m wide was constructed along the extreme rear edge of the yard, with ceramic drainpipe set in concrete dropping eastwards, and ceramic soil pipes entering from each toilet cubicle above. Sandstone slabs were set over the drainpipe to support the stall divider walls, keyed into the rear wall of [039] at the back, and resting on rough mortared sandstone slab supports at the front. A foundation level at the front of the building was formed by the re-used northern wall of [121]/[043], and a new wall [058] (three skins of machine-made frogged bricks and re-used handmade bricks in a dark grey cementitious mortar) continuing this line to the east. Two courses of [058] survived, cut into the earlier yard surface [042] with shallow sandstone slab foundations and backfilled with a yellowish clay. Stall divider walls formed of a single skin of machine-made 3" red brick (some stamped 'RIPLEY HILLSBRO') rested on this front foundation level and on the sandstone drain cap slabs of [055], and divided the building into eight cubicles 1.40m deep and 0.82m wide. The floor level of each cubicle had been raised by the introduction of brick and sandstone rubble (056), (062), (085) and the insertion of a concrete floor about 0.10m thick. Pottery from the sub-floor rubble was consistent with a late nineteenth- or early twentieth-century date. The remains of a ceramic toilet plinth and soil pipe were present at the rear of each cubicle, with soil pipe running down into the drain [055] beneath. Eight dressed sandstone blocks [040] formed the front thresholds of the stalls, each measuring around 0.91m x 0.23m x 0.14m, with small (0.02m square) sockets for the door frames. The row of thresholds rested on the front foundation structure [058], with a fine layer of levelling material (061) in between. A row of eight sandstone slabs [041] was laid in front of [040] along the front of [039], resting on [058] and on the earlier yard surface [042].

A narrow rectangular structure [045], 3.34m long and 0.82m wide, extended along the western edge of the court, against the retaining wall, and at the northern end had been cut into the walls and backfill of the privy midden tank [043]. Construction was of machine-made bricks with fine striations stamped onto one surface and a single rectangular frog visible. The outer wall was two skins thick surviving to a maximum of three courses; an inner single skin wall divided the structure into two sections each 1.37m long. The rear wall rested on rough sandstone slab foundations, with a large sandstone slab placed over the infill of [043] at the northern end to give extra support. A large sandstone block (1.39m x 0.28m x 0.13m) rested along the southern front wall; at least one more such block had been present but was disturbed during machining. No associated drainage was encountered during investigation of this feature, but its shape may suggest the base for a pair of water troughs, perhaps associated with a standpipe or pump.

Phase 5 (Plate 5): The final courtyard phase related to the laying of the tarmac surface [046], associated with ceramic draincovers around the outside of the yard. [046] sealed the earlier yard surface [042], including the slab cover and inspection hole of shaft [059], and structure [044]; these structures must therefore have been out of use by this time. By way of contrast, [046] abutted the edge of the slabs [041] along the front of the toilet block [039], and also ran around the narrow structure [045]; these structures therefore continued in use.

When excavated, the brick-lined shaft [059] was filled almost to the top by a silty sequence of deposits (060), apparently rich in iron oxide. The layered and silty nature of this material suggests accumulation in the shaft over a considerable period of time, rather than a single episode of dumping to decommission the shaft. Eighteenth- to possibly early twentieth-century pottery from (060) suggests a fairly lengthy period of use. Accumulation in the shaft must have occurred through use of structures [121]/[122], [043] and [044], and would presumably have ended when these structures were decommissioned. In any case, (060) was clearly sealed by the later tarmac surface [046], preventing any further accumulation.

4.3.4 Court No.10, toilet block and adjoining cobbled surface (Area 22)

In contrast to Court No.1, the late tarmac yard surface in Court No.10 had been laid directly onto an earlier cobbled surface. However, these surfaces survived only in patches across the yard, presumably due to truncation during the demolition process. One surviving area of cobbles [080], adjacent to a probable toilet block in the centre of the western part of the yard, was selected for investigation (**Plate 23**). The rounded sandstone cobbles were oriented roughly east-west, of typical dimensions 0.08m x 0.06m x 0.09m deep, and were bedded in a loose black silty material (074), 0.12m thick with ash and clinker. (074) lay directly above a very compact yellow and grey clay (075), interpreted as a natural deposit. No further stratification was encountered below the yard surface, here or in other parts of Court No.10, where geotechnical pits were excavated several metres into (075).

The probable toilet block/wash-house building to the south of [080] was also investigated, and appeared to relate to one phase of construction only, with no evidence for sub-yard structures as in Court No.1. This building comprised a row of at least three and probably more toilet cubicles arranged side by side east to west, with a larger rectangular room, possibly a wash-house, at the eastern end. The northern and eastern exterior walls [081] and [092] were of the same build, two skins thick with a combination of re-used handmade bricks and rectangular-frogged machine-made bricks in a blackish cementitious mortar. The (incomplete) wall [087], four skins thick of re-used handmade bricks in grey cementitious mortar, formed the southern and western walls of the possible wash-house, creating a rectangular room 3.40 metres long (north to south) and 2.10 metres wide. A maximum of two courses

of [081] survived, with no visible foundations. A sub-floor made ground layer (094) filled the room, composed of compact mixed clay and rubble; at least one ceramic drain had been cut down into this material (cut [083]); this was traced through [081] to a ceramic drain cover just outside the building; two other drain covers were present around the outside of this room, supporting its interpretation as a wash-house. Three toilet cubicles were arranged to the west, truncated well below floor level with soil pipes at the southern end, and [092] forming the front wall. The rear wall [091] was two skins thick, of machine-made oval-frogged brick in a greyish black mortar, with three courses surviving. The stall divider walls [088], [089] and [090] ran 1.30m between [091] and [092], abutting both, to create stalls about 0.60m wide (smaller than those in Court No.1). All the structural walls were truncated close to their lowest course, with no evidence of foundations beneath. Between the stall foundations was a made ground material (082), similar to (094).

5 ARTEFACTS

5.1 Assessment of the pottery by Dr. C.G. Cumberpatch

The pottery assemblage consisted of a total of 2176 sherds of pottery ranging in date from the later seventeenth to the early twentieth centuries. The assemblage consisted mainly of the range of wares familiar from eighteenth- and nineteenth-century sites in Sheffield with examples of utilitarian wares (Brown Glazed Coarseware, Brown Salt Glazed Stoneware, grey Stoneware), tablewares (Creamware, Pearlware (plain and transfer printed), Whiteware (plain and transfer printed), Cane Coloured wares, Black Basalt ware, Slip Banded and Blue Banded wares), decorative items (a hat pin holder, vase and figurine fragments) and toys. It also included a number of decorative glazed wall tiles of the type commonly seen in the porches of nineteenth century terraced houses. The assemblage also included one sherd of medieval pottery.

Small quantities of medieval pottery occur regularly on sites in Sheffield, but always (to date) as residual elements within later deposits and the same situation appears to exist in this case. One sherd of medieval pottery was noted in context (069) and it seems unlikely that its presence indicates undisturbed medieval features or deposits on the site.

The existence of a tripartite division within eighteenth-century pottery assemblages between utilitarian wares, vernacular tablewares and formal tablewares has been discussed elsewhere (Cumberpatch, in prep.) and is evident in the Edward Street assemblage. Utilitarian wares (particularly the Brown Glazed Coarsewares) are virtually impossible to ascribe to anything in the way of a close date range, being largely standard in form from the later seventeenth into the nineteenth century (albeit with variations in the fabrics which are intuitively discernable but have not been verified empirically). Brown Salt Glazed Stonewares offer a higher degree of resolution, given the changes in vessel form between the eighteenth and nineteenth centuries, related to the appearance of coal fired cooking ranges in the nineteenth century. The majority of the sherds examined appeared to be of nineteenth-century date, but eighteenth-century material was also present.

Vernacular tablewares are far more closely datable than utilitarian wares and examples of press-moulded slipware dishes were noted in context (047). However this context represents imported made ground and is not therefore of direct relevance to the nature of occupation on site.

Formal tablewares (Creamware, Pearlware and Black Basalt ware) are more widely represented within the assemblage and although both types remained in production into the nineteenth century, it appears that a substantial proportion are of mid to later eighteenth-century date. The identification of designs and of makers' marks will form a major part of the proposed full analysis of the assemblage. Although the relationship between design and manufacturer is not a simple or straightforward one (and can be extremely misleading), the existence of a useful body of specialist literature relating to the Don Valley potteries does provide the opportunity to link at least some designs with the manufacturers who used them.

Edged wares, Pearlwares and some later Creamwares can be characterised as of later eighteenth- to early nineteenth-century date. They appear to constitute a substantial part of the assemblage and may even constitute the greater part of the formal tableware category. They offer the best opportunity for providing a chronological framework for the site although to maximise this potential, the material

will have to be considered in relation to more closely datable artefacts such as tobacco pipes. Vessel forms include the full range of tablewares, from individual vessels (cups, plates, saucers) to communal vessels (tureens, servers etc).

Nineteenth- and early twentieth-century wares formed a substantial part of the assemblage, although the exact proportion and the relative importance of eighteenth- and later eighteenth-/early nineteenth-century wares cannot be fully assessed at the present time. The full range of utilitarian and tablewares appeared to be present, including Brown Salt Glazed Stoneware cooking vessels (stewpots, hash pots etc), Cane Coloured wares (plain, slip banded and Mocha wares), Whitewares (plain and transfer printed), Colour Glazed ware and porcelain/bone china. It appears that nineteenth-century wares are commoner than early twentieth-century types (although small numbers of over-glaze transfer decorated vessels were noted, including a hat-pin holder and a small vase) and, in general, the assemblage can be described as an eighteenth- to nineteenth-century one with a small later nineteenth- to early twentieth-century component.

A number of sites in Sheffield (notably London Road, Suffolk Road, Sheaf Square and Sheffield Riverside) have produced evidence of extensive dumping, most probably the result of the use of domestic refuse as a building material (hardcore, levelling deposits etc), and subsequent work on this material suggests that this material is not of local origin. It would seem that a similar process may have taken place at Edward Street. The precise origin of the material remains in question and is to be the subject of future research carried out outside the framework of developer-funded archaeology.

Material from made-ground contexts forms major part of this assemblage and is not of direct relevance to the stated research aims of the project (ARCUS 2005), which relate to the nature of occupation within the back-to-back houses and courtyards on the site. A catalogue of this material has been prepared, which will form part of the archive. No further work is recommended on material from these contexts,

A smaller part of the assemblage, recovered from demolition layers, and a small number of probable occupation layers, relates directly to occupation of the nineteenth-century houses and courtyards. This material, though only a subset of the total assemblage, offers the opportunity to further extend our understanding of nineteenth- and early twentieth-century society in Sheffield.

The following work, to be conducted only on material from contexts directly related to occupation or demolition, is necessary for a full report to be produced addressing the stated research aims of the project:

- Full description and quantification of the assemblage by ware type, vessel form and function using sherds numbers, sherd weight and estimated (maximum) number of vessels to conform to established professional standards;
- Identification and recording of decorative motifs and designs;
- Selection of material for illustration (drawing and photography/scanning);
- Discussion of the assemblage by context and phase, in collaboration with the site director and other specialists;
- Discussion of the assemblage with reference to the conclusions derived from other assemblages excavated within Sheffield in terms of site formation processes, the representation of different wares and use-classes;
- Presentation of the data and discussion in a full report to conform to the requirements of ARCUS and the South Yorkshire Archaeology Service.

5.2 Assessment of the animal bone by Sarah Viner

The establishment of the Blake Garnett type foundry at the Edward Street site in 1818 and the continued subsequent use of the area makes it unlikely that any earlier archaeological evidence will have survived. The bones contained within the assemblage come from a variety of contexts associated with 'back-to-back' housing and other domestic areas. Domestic use of the locality was definitely established by the mid nineteenth century, and continued into the twentieth century (Jessop 2004).

The surface preservation of the excavated bone material was generally good, with little indication of the type of damage caused by exposure and weathering. Preliminarily, dog gnawing does not appear to have been a major factor affecting preservation of the assemblage, however, a significant number of specimens had gnawing patterns comparable to those produced by scavenging rodents.

Evidence of butchery was extensive, many bones having been chopped during processing. Such activity will have affected the quantity of bone that has survived and been recorded. The evidence that bone working might have been practised also has implications for assemblage bias.

Although only a single occurrence, the presence of an unfused metaphysis with its associated epiphysis is indicative of remains recovered from primary deposits.

All of the material included here was recovered by hand during excavation. Bones were identified using the reference collection at the University of Sheffield. The technique employed for recording was that outlined by Davis (1992). This method employs a system by which particular zones are recorded, if more than half of the specified zone is present. The measurements that would be taken during the final analysis are outlined by von den Driesch (1976), Payne and Bull (1988) and Davis (1992). Distinction between sheep (*Ovis aries*) and goat (*Capra hircus*) was not attempted during the assessment.

Bones were recovered from occupation contexts, demolition layers and from made ground contexts (e.g. sub-floor layers within rooms). The assemblage is relatively small consisting of 68 countable bones (**Table 1**), 34 of which are measurable (**Table 2**). No ageable mandibles were recovered. This absence provides some limitation to the final interpretation of the domestic animal assemblage.

All of the countable bones came from mammalian species, apart from a single bird bone. Rabbit (*Oryctolagus*) remains were abundant in the assemblage. A number of the bones identified as belonging to rabbit showed signs of having been butchered. The bones should be considered as the result of human activity and not intrusive to the contexts. Sheep/goat (*Ovis aries/Capra hircus*), cattle (*Bos taurus*), dog (*Canis familiaris*) and chicken (*Gallus gallus*) were identified in small concentrations from the site. These are probably all the remains of domestic animals, with the possible exception of the rabbits that might have been hunted. A number of non-countable fish bones attest to the preferential survival conditions within the deposits.

Due to the small size of the assemblage and the fact that the majority of the bones were from a single context (077), no further work is recommended.

Context	Cattle	Sheep/goat	Rabbit	Dog	Bird	
001	1					
002		1	3			
060		2	1			
072			2			
077	1	1	37			
078			7			
079			4			
084			3			
113				1		
114			1		1	
115		1				
116				1		
unstratified	1					
Total	3	5	58	1	1	68

Table 1: Summary of the countable bones from each context

Context	Cattle	Sheep/goat	Rabbit	Dog	Bird	
002			3			
072			2			
077		1	15			
078			6			
079			1			
084			1			
113				1		
114			1		1	
unstratified	1					
Total	1	1	30	1	1	34

Table 2: Summary of the measurable elements from each context

5.3 Assessment of the metal finds by Dr. J. Unwin and Mr. K. Hawley

Dr Joan Unwin and Mr Ken Hawley at the Hawley Building, University of Sheffield, examined the metal artefacts recovered from this site, the majority relating to architectural furniture and domestic items. There is nothing to indicate any industrial activity on this site. Much of the collection derives from demolition of the houses, with fittings relating to doors, windows and roofs. There were also a very few personal items and domestic items such as paint tins and thimbles. The quality of the material is generally poor. The finds will be considered in three groups – structural, domestic and personal.

Many of the contexts contain small pieces of metal which were part of the structure of a building, such as those for holding guttering and pipes, window and door fastenings and metal grates (**Table 3**). Few items are complete and are typical for the period in which these houses were built and occupied.

The following items were identified:

Context	Notes
001	2 nails; three inch holdfast; grating; pieces of cast iron
002	Gutter bracket; pipe hook
005	2 gutter brackets; pipe hook; metal bracket 14 inches overall
022	Part of a shelf bracket;
060	Cast iron grate bar
062	Wrought iron stay
U/S Room 8	3 out of 4 pieces of a cast iron Rawl foundation bolt, 'Rawl' on one piece
U/S Room 8	Fourth piece of Rawl bolt
U/S Room 2	Sash window weight, 10 inches long with hole for rope in top
U/S Court No.3	Rim lock; door latch; 2 copper roofing nails; 2 ½ inch round wire nails
U/S Court No.1	2 gutter brackets; 1 holdfast; part of a gutter bracket;
U/S Court No.1	Copper roofing nail; round stay with two holes at one end; slate lathe with copper strip folding slate;
U/S Court No.1	Copper roofing nail;
U/S Court No.3	2 copper roofing nails; piece of spring steel; 2 door staples; 3 inch nail

Table 3: Structural metal finds by context

Little information can be drawn from these finds, most of which represent support for guttering, pipes and shelving. Some roofing material in the form of roofing nails was recovered. Door fittings, such as the rim lock and door staples, and window fittings such as the sash weight, suggest that not all re-usable items were removed prior to demolition. The sash weight and the four-piece Rawl bolt for fixing a large item to a floor (possibly a machine) are the most interesting items in this group.

A few domestic items probably relate to the occupation of the buildings, though some might have been dumped on the site later (**Table 4**).

Context	Notes
002	Brass encased iron rod (from bedstead ?); 2 rods, linked, one with chain link and one with a hook; eight inch carriage bolt
004	Covered electrical wire
005	Brass electric light socket; tin lid; 16 inch piece of wire
026	Handle for a box
034	Nickel silver or silver decorated wire
072	Metal can
072	Very thin brass strip, possibly decorative
073	1 inch x 2 inch x 3/8 inch hexagonal set screw
078	Thin soft brass strip ¾ inch by 6 inches; small shaped brass piece
U/S Court No.3	Part of a late 20th century metal container
U/S Court No.1	One pint enamel mug
U/S Court No.1	Cistern valve; 8 inch brassed iron rod (bedstead?)
U/S Court No.1	Stainless steel scimitar table blade with whittle tang; salt spoon; bed knob in two pieces
U/S Court No.1	Paint tin
U/S Court No.3	Possibly a scissor blade

Table 4: Domestic metal finds by context

There are few items which are clearly identifiable – items such as an enamelled mug, a knife blade and various tins, including paint tins. There are two metal rods, ferrous but with a brass surface, which might be parts of a brass bedstead. A few miscellaneous screws and bolts were found with little to indicate their function. There were a few small pieces of metal which might be decorative parts of other items.

Few personal items were recovered. Included in this group are the few identifiable tools (**Table 5**).

Context	Notes
002	File tang;
002	12 inch cold chisel; 2 pieces of Meccano(?);
005	Possibly copper token
022	Copper etching plate ?
022	Suitcase (?) handle of leather with steel wire inside
025	Brass disc, 1 inch diameter
026	Handle for a box
072	Very thin brass strip, possibly decorative
077	Shoe button with shank
079	Two parts of centre hinge for carpenter's two foot folding rule
U/S Room 3	Brass ferrule for tool handle
U/S Court No.1	10 inch half round file; 1 broken mill saw file with two round edges;
U/S Court No.1	14 inch hand file; 12 inch hand file
U/S Court No.1	Brass thimble; chromium plated brass strip, decorated (bracelet?)
U/S Court No.1	Small brooch pin
U/S Court No.3	Brass thimble

Table 5: Personal items and tools by context

There are few personal items which give any information about the occupiers. The number of files is perhaps interesting but since these tools were ubiquitous, little can be deduced.

The number and quality of the metal finds is consistent with the demolition of domestic properties at the lower end of the social scale. Much of the material came from the unstratified layers in the courtyard areas and cannot add anything very definitive. There were the typical architectural metalwork pieces which were parts of the structure of the house, both inside and outside. The domestic items and parts of furniture used in the kitchen and other rooms seem to have been totally removed when the occupants moved out. The small pieces which were found appear as refuse items. The personal items which remain also seem to be oddments which have been forgotten or lost.

There were several items which could not be identified, or which were very small pieces from larger items. However, overall, the metal finds from this site appear to be discarded, broken pieces which were little regarded by their owners. No further work is recommended on this assemblage.

5.4 Assessment of the clay pipe by Dr. S.D. White

This assessment considers the clay tobacco pipes recovered by ARCUS from excavations in Edward Street, Sheffield. In their Research Priorities for Post-Medieval Archaeology, the Society for Post-Medieval Archaeology have identified the systematic collection of clay tobacco pipes as an area of particular importance where more work is needed (Anon 1988, 6). The north-east of England, and in particular Yorkshire, has remained little studied so far as pipe research is concerned. In the Bibliography of Clay Pipe Studies (Atkin 1989) only 21 entries are listed for the whole of Yorkshire. The majority of these reports are site specific and seven of them relate to York. This has been partly remedied by the author's PhD research focussing on certain aspects of the clay tobacco pipe industry in Yorkshire during the seventeenth and eighteenth centuries (White 2004). Regional synthesis or discussion of the nineteenth century material from Yorkshire, however, remains poorly represented.

The excavation produced a total of 414 clay tobacco pipe fragments consisting of 80 bowls, 323 stems and 11 mouthpieces. The majority of these fragments (405 pieces) were recovered from 24 different pipe-bearing contexts (**Table 6**). The remaining nine fragments were unstratified. In addition to the clay tobacco pipe fragments six

clay marbles (four complete and two halves) and one stone marble were also recovered.

The majority of the pipe fragments are plain stems, which account for 75% of the total assemblages. Only four marked pipe fragments were recovered. These comprise two stamped marks and two moulded marks. The first stamped mark belongs to William Southorn and Co of Broseley, Shropshire who were working from 1823-1960. This particular incuse mark appears along the stem on a type of bowl known as a "Golf" which was made from c1870 right through until the firm closed in 1960. The second stamp mark reads DUBLIN and appears on a heavy Irish style bowl facing the smoker. The two moulded marks are the initials TW on the bowl facing the smoker, and a small stem fragment with the moulded pattern number 204 on one side of the stem.

The vast majority of the pipe fragments recovered date from the late eighteenth or early nineteenth century, although there are one or two fragments that could date as late as the early twentieth century. The majority of these fragments are plain stems for which it is only possible to offer a broad date range. No seventeenth or early eighteenth century material was recovered from the site.

The following table gives a context summary showing the number of bowls (B), stems (S) and mouthpieces (M) from each context as well as the number of marked or decorated fragments. In addition a broad date range is given for each context together with any comments.

Ctxt	B	S	M	Mkd	Dec	Tot	Date Range	Comments
002	5	89	2			96	19th	Mainly stems, some quite large pieces. Nine of the stems have traces of glaze. One of the bowls has a production flaw near the front seam. Both mouthpieces have brown glaze.
002	11	49	2		3	62	19th	Six of the 11 bowls have a production flaw near the front seam. Both mouthpieces have green glaze and there are also traces of glaze on at least four of the stems.
002		1				1	18th/19th	Single stem fragment.
025		5	1			6	18th/19th	Mouthpiece is overfired with a brown glazed tip.
026	1	2			1	3	19th/20th	Includes one heavily slagged stem; pipe bowl marked W Southorn & Co Broseley.
034		3				3	19th	Quite large, fresh pieces of plain stem including one with green glaze. One of the stems has two bore holes at the bowl end. Also in this group a clay marble.
034	3	8				11	19th	
035	1					1	19th	Plain bowl.
047		1				1	18th	Single plain stem.
047		5				5	19th	Plain stems only.
047	15	22			4	37	19th	Decorated fragments include fluted bowls and a complete bowl with Masonic motifs. There is also a number of plain bowls with a production flaw near front seam. Four of the stems have green glaze.

Ctxt	B	S	M	Mkd	Dec	Tot	Date Range	Comments
056	1	6				7	18th/19th	Very small plain bowl fragment that could be either late 18th or early 19th century in date. All stems are plain and appear to be mainly 19th century.
060	5	3	1		4	9	19th	Three of the decorated bowl fragments join, coming from a single bowl. One of the stems is also decorated. The only mouthpiece from this group is of a nipple type from a short-stemmed cutty pipe of c1850+. Group includes some overfired ?brick fragments.
060	1					1	19th/20th	Very heavy Irish style bowl. This has a sanded surface and may originally have had a meerschaum wash.
060		2	1	1		3	19th/20th	Part of a cutty stem with the pattern number 204 moulded into the side. Mouthpiece is a nipple type of c1850+.
062		1				1	19th	Single stem fragment.
067		1				1	19th	Single stem fragment.
069		1				1	18th/19th	Single stem fragment.
072		8				8	18th/19th	Includes one ground stem.
072	1			1	1	1	19th/20th	Single bowl with the moulded lettering TW facing the smoker and with a hatched heart moulded into the side of the bowl on the smokers right.
072		1				1	19th	Single, very small, fragment of stem and one and a half clay marbles.
072	2		1	1		3	18th/19th	Complete Irish style bowl with moulded milling and a DUBLIN stamp on the bowl facing the smoker. Mouthpiece is of the nipple type and shows tooth wear.
073		3				3	18th/19th	Plain stems possibly late 18th or early 19th century in date. Group includes a clay marble.
074	1	4				5	18th/19th	
075	1	1				2	18th/19th	
077		2				2	18th/19th	Two plain stems. Also a ?stone marble.
077		1				1	19th	
078	1				1	1	19th	Decorated with grapes on smokers left and a barrel on the smokers right.
079	2	17				19	18th/19th	
084	2	2				4	18th/19th	
084	3	6			1	9	18th/19th	Decorated bowl has scallops and leaf decorated seams typical of late 18th/early 19th century.
113	3	14	1		1	18	18th/19th	Most complete bowl is very crudely made. Fragment of a bowl decorated with leaves down the seam. Stems of mixed 18th/19th century date. Single mouthpiece covered with green glaze.

Ctxt	B	S	M	Mkd	Dec	Tot	Date Range	Comments
113	5	6				11	18th/19th	Bowls include two with production flaws near the front seam. Stems very small and of mixed date with pieces from both the 18th and 19th centuries. Group includes half a clay marble with ?flash glazing and marked with a cross.
114	1					1	18th/19th	Plain bowl fragment with production flaw near the front seam.
114		5				5	18th/19th	Small plain stem fragments.
115	10	39			3	49	18th/19th	Six of the stems have traces of glaze. Decorated bowls comprise one with leaf-decorated seams; one with flutes; and one with a standing figure, possibly an Indian. Group also includes a ?clay marble.
116	1	1				2	18th/19th	
116	3	6			1	9	18th/19th	Decorated bowl has flutes and swags. One of the plain bowls has a production flaw near the front seam.
u/s		1	1			2	18th/19th	Mouthpiece has brown glaze. Stem is possibly late 18th or early 19th century.
u/s		1	1			2	18th/19th	Plain stem possibly late 18th or early 19th century. Stem has a green glazed tip and therefore dates from before c1910.
u/s		1				1	19th	Single stem fragment.
u/s	1	5				6	19th	Single plain bowl and stems that appear to be contemporary.
Totals:	80	323	11	4	19	414		

Table 6: Summary of clay pipe by context

Sheffield's transition from a medieval market town through to a large industrial city at the heart of the steel industry provides the potential for clay tobacco pipes of all periods to be represented. Pipe fragments offer one of the most accurate and reliable classes of artefact for dating deposits of this period. The excavated pipes should be able to provide a valuable contribution to the identification and phasing of these contexts.

Clay tobacco pipes also have two other significant attributes; their regional diversity allows them to be used to study trade and marketing contacts while differing qualities allow for an examination of social status. Although only a small number of marked pipes are present in this assemblage they should be able to go some way towards assessing the catchment area from which services and supplies were drawn.

The majority of the bowl fragments recovered, 76% of the total assemblage, are from plain bowls. Plain bowls from the late eighteenth and nineteenth centuries are difficult to date accurately within this period. An assessment of a large group of substantially complete bowls may help to refine the dating of some of the plain forms present in Yorkshire during this period.

One of the most interesting features of the assemblage is the high number of pipe bowls with a distinctive production flaw on the left hand side of the bowl (as viewed by the smoker), near the front seam. This is a feature that has been noted by the author on pipe bowls from a number of other sites in Sheffield. The working hypothesis is that the bowls that exhibit this distinctive mark may have originated from the same workshop.

Material from made-ground contexts forms a major part of this assemblage and is not of direct relevance to the stated research aims of the project (ARCUS 2005), which relate to the nature of occupation within the back-to-back houses and courtyards on the site. No further work is recommended on material from these contexts,

A smaller part of the assemblage, recovered from demolition layers, and a small number of probable occupation layers, relates directly to occupation of the nineteenth-century houses and courtyards. This material, though only a subset of the total assemblage, offers the opportunity to further extend our understanding of nineteenth- and early twentieth-century society in Sheffield.

The following work, to be conducted only on material from contexts directly related to occupation or demolition, is necessary for a full report to be produced addressing the stated research aims of the project:

- Detailed examination of each pipe fragment and compilation of an archive catalogue;
- Preparation of a context summary synthesizing the evidence for each context;
- Illustration of a small number of pipes;
- Research to compare and contrast the assemblage in both social and geographic terms;
- Production of a full report text.

5.5 Assessment of the glass by Dr. H. Willmott

A reasonable sized assemblage of glass was recovered from forty-five different contexts across the excavation at Edward Street, Sheffield. These relate to both occupation and demolition contexts, as well as made ground. Interestingly almost all the glass is domestic in nature and can be associated with the housing that occupied the site.

Only a small amount of the glass comes from windows, and although this is found in small quantities and many disparate contexts, it is relatively uninformative as to the nature of the activities being undertaken on site. All is 19th and 20th century in date. However, the majority of the glass comes from vessels and is more diagnostic. The largest group of vessels is containers, and these include late 19th-century press-moulded bottles and jars, as well as a few examples of free-blown bottles. There is also a small, but significant, amount of vessels that are either tablewares, or decorative items such as vases.

The window glass is very limited in nature, and therefore cannot contribute further to the overall interpretation of the site, and it is therefore recommended that no further work is undertaken on this material. However, the vessel glass, of which the vast majority derives from demolition contexts, is much more interesting. First, it represents a domestic assemblage that can be directly related to the domestic dwellings on the site, a situation that has previously been quite rare in Sheffield. Second, this material comes from a social group often overlooked archaeologically. For both these reasons it has the potential to contribute significantly to the overall understanding of the occupation on site. Consequently it is recommended that all the vessel glass from demolition or occupation contexts be fully catalogued and written up to full publication standard.

5.6 Assessment of the environmental samples by Ellen Simmons

Three soil samples were provided for assessment. These were found to contain both burnt material and organic material preserved by waterlogging. It was therefore

decided to process 17 litres of each sample for charred plant remains using a flotation machine as well as processing 2 litres of each by soaking then sieving over a stack containing 2mm, 1mm, 500µm and 300µm meshes, for waterlogged plant remains. Waterlogged material was stored in jars in distilled water. Charred material from the flots was collected in 1mm and 300µm sieves, and the remaining heavy residue washed over a 1mm mesh. Flots and heavy residue were dried.

A preliminary assessment of this material was made by scanning all flot and waterlogged fractions under a low power microscope and recording the abundance of the main classes of plant material present. It was found that no charred plant remains appear to have been present in these samples and as such, only the results from the scan of waterlogged plant material is presented below (**Table 7**).

Preservation of all archaeological plant remains in these samples was by waterlogging. Very little plant material was present in these samples and the majority was found to be very fragile. Only woody seeds such as bramble appear to have survived the preservational conditions. This may be due to there being little plant material incorporated into this context in the first place or to repeated drying and rewetting which caused aerobic decomposition and destruction of all but the more woody material.

The three samples from Edward Street were taken from the upper, middle and bottom fills of a drain shaft, which was thought to possibly contain human waste. The presence of the seeds of bramble (*Rubus fruticosus* AGG.) in these samples would be consistent with such an interpretation, however, in the absence of more definitive evidence for human waste such as bran or the remains of other food plants, this cannot be stated with confidence. Both bramble and buttercup (*Ranunculus* sp.) are often associated waste or disturbed ground and may have been growing in the vicinity of the drain (Stace 1997).

Hazel nut shell fragments, present in sample <2>, however, may well represent waste from human consumption of this commonly collected food resource. Also present in both the flots and the heavy residue of all samples was abundant numbers of fish bone and fish scale, again most likely representing waste from human consumption.

Sample No.	Context	Litres	Main sample contents	Overall ranking*
1	060 Top	2	Fish bone, fish scales, wild plant seeds including bramble (<i>Rubus fruticosus</i> AGG) and buttercup (<i>Ranunculus</i> sp.)	2
2	060 Middle	2	Fish bone, wild plant seeds including bramble (<i>Rubus fruticosus</i> AGG) and buttercup (<i>Ranunculus</i> sp.), hazel nut shell	2
3	060 Bottom	2	Wood chips, bramble (<i>Rubus fruticosus</i> AGG)	1

* Number of items of plant material 1 = < 5, 2 = > 5, 3 = > 30, 4 = > 100, 5 = > 500

Table 7: Abundance of waterlogged plant remains present in samples

The three samples taken from a deposit exhibiting signs of organic preservation were found not to contain any significant numbers of preserved plant remains. Evidence for the probable consumption of hazelnut was however present as was ample evidence for the consumption of fish.

Further analysis of samples from Edward Street would not be expected to yield significant further information relating to the stated research aims of the project. No further work is therefore recommended.

5.7 Assessment of crucible fragments by Dr. R. Mackenzie

The crucible fragments and industrial process residues recovered from the site have been examined to assess their archaeometallurgical significance and potential to provide further information about the site. **Table 8** below summarises the material assessed.

Context no.	Description	No. of items
001	Fuel ash slag	1
002	Fragment from crucible walls and bases	17
002	Fragments from crucible walls and base	28
002	Fuel ash slag	3
002	Piece of refractory cement	1
035	Crucible fragments	2
047	Crucible fragment	1
047	Fuel ash slag	2
084	Fuel ash slag	1
113	Crucible fragment	1
114	Piece of coal	1
114	Fuel ash slag	1
034	Crucible fragment	1
115	Fuel ash slag, one with fragment of coal embedded	10
115	Coal	1

Table 8: Crucible fragments and industrial process residues

The crucible fragments present in the assemblage are all from steelmaking crucibles. Fragments from used steelmaking crucibles are a common find on brownfield sites within Sheffield. Steelmaking crucibles were prone to erosion by slag during steel melting and were usually disposed of after one days use. Each steelworks would generate a substantial amount of used crucibles and these were commonly broken up and used as 'hardcore' material. It is not unusual to find crucible fragments in archaeological contexts that are not directly associated with crucible steel production.

Further analysis of crucible fragments using scientific techniques can yield information relating to the crucible technology being employed and the alloys of steel being produced. However, given the nature of the site and the archaeological contexts from which it was recovered, the material in the assemblage is of limited significance and archaeometallurgical potential.

The type of fuel ash slag in the assemblage is the typical by-product of coal and coke fuelled hearths, this type of slag was commonly used as hardcore material and it is of limited archaeometallurgical value unless recovered from specific archaeological contexts.

No further archaeometallurgical analysis is recommended on the material covered by this assessment, although a small representative sample of crucible fragments should be kept for the site archive. The selection of crucible fragments for the site archive should be carried out by an archaeometallurgist; the remaining material can then be disposed of.

6 DISCUSSION

6.1 Preservation and potential

Levels of preservation varied across the site, due to the differing levels of the three courtyards, and the differential truncation of the modern site surface effected by the modern retaining wall and drop down in level to Marsden Lane. Court No.3, at the lowest level, was the least well preserved, with fragmentary ground floor levels surviving only at the western end. Court No.1, its surface protected up to two metres below the modern ground surface, was exceptionally well-preserved, with rooms along the court preserved in places midway up their ground floor walls and internal structures surviving; the entire late phase yard surface was also present. Court No.10, at the highest level, had been significantly truncated, in general some way below ground level, although some floor and yard surfaces survived towards the north-east corner.

Despite the enhanced preservation of structures, particularly in Court No.1, few deposits relating to the occupation period of the courts were encountered. Sub-floor and sub-yard layers in the main reflected levelling up of surfaces during construction; deposits above the structures comprised rubble deriving from the demolition of the buildings. The cesspit structures [121]/[122] and [043] had been emptied before remodelling and before their eventual infilling. The exceptions were two pockets of possible occupation debris (077) and (078) immediately below the flags of Room 1, and the fill (060) of soakaway or catchpit shaft [059], accumulated before deposition of the late tarmac surface [046]. The fill (072) of cesspit [043] appears to relate to a single episode of infilling and was sealed by flags [040] and the later tarmac surface [046].

In addition to good preservation of back-to-back houses in Court No.1, excavation beneath the court surface yielded a stratified sequence of sanitation structures, relating to five separate phases of construction and remodelling.

6.2 Chronology

The three courtyards later distinguished as Courts No.1, No.3 and No.10, were established between the 1823 Leather map of Sheffield, which shows no development on the site, and the 1850 Ordnance Survey map (Jessop 2004). The majority of the back-to-back houses located during the 2005 archaeological investigations are clearly shown on the 1850 map, and the handmade brick and lime mortar construction accords well with this early nineteenth-century date. Pottery from deposits associated with construction is also consistent with this date.

In Court No.3 (Marsden Lane), Houses 11 and 12, and the passageway (19) are visible on the 1850 map; the corner plot (Houses 13 and 14) is still empty, and some smaller structures at the western end of the court were not encountered during the investigations, probably because they were replaced by later buildings. The similarity of Houses 11/12 to 13/14 suggests that they were constructed not long afterwards; they are certainly visible on the 1890 and 1920 maps.

In Court No.1, Houses 1-4 (with the inclined rear wall behind Rooms 3 and 4), Houses 5/6, 7/8, 9/10, and the passageway (18) were all constructed by 1850. Small structures in the north-west yard corner perhaps represent the original location of privies or a wash-house, but do not accord with any of the excavated structures.

In Court No.10, the cellared buildings along the northern and southern yard edges, and the narrower structures along the eastern (retaining wall) edge, were all in place

by 1850. No structures were shown in the yard centre, and the single cellared building at the eastern yard edge was also absent.

After 1850, little structural alteration was made to the houses; the corner house in Court No.3 was added by 1890. A row of three buildings along the rear edge of Court No.3 had been added by 1920, of which only the front wall was encountered during the excavations. Also by 1920, the cellared building on the eastern edge of Court No.10 had been constructed. No major rebuilding was encountered in any of the excavated houses.

In addition to the map evidence, renumbering of addresses in the area in trade directories from 1841 may reflect the construction of the new housing developments (Jessop 2004, 3). The main phase of construction can probably therefore be placed between 1823 and 1841.

The four phases of sanitation structures identified in Court No.1 can also be partially dated on map evidence. As noted above, the structures shown in the extreme north-west corner of the yard on the 1850 map do not accord with any of the excavated structures. It is however possible that the Phase 1 privy midden tank may relate to the original pre-1850 court, with the building over added sometime after 1850; this building is shown on the 1890 map and was still present in 1903. By 1920 it had been replaced by the narrow Phase 4 toilet block.

Phases 2 and 3, (construction of soak pit [059] and channel [123], and subsequent rebuilding of the privy midden tank to form [043]), had taken place by the earlier twentieth century, when the privy midden was decommissioned and toilet block [039] built (between 1903 and 1920). Phase 5, the tarmac surface associated with drainage around the yard edge, dates from after the construction of [039] and possibly after 1920.

All three courts and associated buildings had been demolished by 1941 (Jessop 2004, 4), probably due to the desire of the Stephenson Blake company for further expansion.

6.3 The nature and context of construction

The deep foundations beneath Room 7, extending two metres below courtyard level, suggest that the buildings above may have stood to some height. Old photographs of Sheffield court interiors in general show buildings of two or three stories, sometimes mixed within the same court. Although no photographs of the three excavated courts could be located, four photographs show similar buildings in the immediate area:

- A photograph taken in the 1900s looking up Brocco Street towards Solly Street from the Edward Street junction, shows three-storey buildings on both sides of Brocco Street;
- A photograph of 66-70 Edward Street taken in the 1930s appears to show surviving three-storey court buildings in the background; these might relate to Court No.12 Edward Street, immediately to the west of Court No.10;
- A photograph of Court 33, Upper Allen Street, shows three-storey buildings on both sides of the entrance and within the court itself;
- A photograph of Court 3, Edward Street in the 1940s (not the excavated Court No.3 on Brocco Street/Marsden Lane), shows both two- and three-storey buildings within the court.

It appears likely therefore, that at least some of the excavated buildings stood to a height of three storeys, with cellarage beneath.

Also notable in the construction of above- and below-ground structures was the use of 'seconds', re-used or recycled bricks identified through the frequent presence of broken and fragmentary bricks and remnants of older mortar. Re-used brick was identified in all structures relating to the original courtyard houses; fragmentary bricks were however more prevalent below ground, in the walls and vaults of the cellars, with fewer broken bricks in the above-ground walls. Dressed sandstone blocks were used throughout for thresholds and window-sills. The lower portions (typically 1.27m) of cellar walls were in roughly faced sandstone slab, and wall footings were of random unfaced sandstone slab extending up to 2 metres below the ground floors of buildings.

Construction was apparently effected by excavation of the entire footprint of the row of houses, followed by construction of cellarage structures and the footings of uncellared areas. Along Brocco Street, cellars were constructed along the street frontage but not under the rear houses facing Court No.1. Once the building footprints had been excavated and cellar structures inserted along the street frontage, the footings for the rear houses were built in conjunction with raising of the floor levels. This appears to have been a staged process, with a few courses of footings at a time built and then infilled. The sub-floor infills were a mixture of redeposited natural yellow clay (presumably from excavation of the footprint) and looser dark material of uncertain origin, with clinker, pottery and in some cases crucible fragments. It is possible that this material was imported by builders, perhaps as a job lot bought from rubbish collectors. A similar dark made ground deposit was used to create the external courtyard surface. In Court No.1 this was up to one metre in depth, although in Court No.10 the yard surface was only just above natural: this variation probably results from terracing of the underlying slope.

Back-to-back housing in Sheffield was prevalent during the earlier nineteenth century as a response to industrial expansion and accompanying population growth, until its construction was outlawed by a local building regulation of 1864. Typically these structures were built in blocks of ten or fifteen houses as speculative enterprises by local tradesmen (Hey 1998, 192). The Edward Street/Brocco Street site formed part of an area laid out for 'sundry new streets' by 1779 (Jessop 2004, 2) between Broad Lane and the west end of Scotland Street and Pea Croft. The piecemeal nature of the subsequent development is however illustrated by the fact that the site still appears as a vacant plot on maps of 1808 and 1823 (*ibid.*), with most of the development occurring between 1823 and 1841. While the houses in all three courts correspond broadly to the general model, with a frontage of about 12 feet (Hey 1998, 192), slight differences in room dimensions suggest that the three courts may have been built as separate enterprises.

6.4 Internal structure and sequence

Court No.1 was notable for the preservation of ground floor levels within Houses 1-4 and 7, and of ground floor rooms within Houses 1-4 adjoining the courtyard itself. Well-preserved cellarage was present beneath a number of houses in all three courts, and was investigated beneath House 8. Court No.1 was unusual in having cellars only beneath houses along the street frontages and not beneath the court houses, while cellars were present adjoining Courts 3 and 10. The presence of coal chutes and deposits of coal dust on the Room 8 cellar floors strongly suggests that coal storage was a primary function of the cellars. The absence of cellars within Court No.1 may reflect its inaccessibility to carts, the passage from Brocco Street being too narrow and the broader passage from Edward Street stepped. The street-front cellars were therefore subdivided with self-contained access from each of the front and rear rooms above, and coal delivered from the street. By contrast, Court No.3 was open on the Marsden Lane side, and map evidence suggests level access

to Court No.10 from Edward Street. In addition to coal storage, evidence for shelving brackets on cellar walls suggests a more general storage function, probably including meat and other foods (Belford 2001, 106); cellars were not used as living space (Pollard 1959, 18).

Within each house, the ground floor room served as kitchen, scullery, dining room, living room, wash room and bathroom, and the fireplace was fitted with an oven to one side and a side boiler to the other. Staircases up and down opened from the back of the room, and behind was the partition wall to the other house of the pair (*ibid.*). The two-level nature of the back-to-back row along Edward Street/Court No.1 necessitated a variation to this general pattern, with ground-floor level on the court equivalent to cellar level on the street frontage. The ground-floor Rooms 1-4 on the court therefore had rear access (from the western corner) down two steps to cellarage behind, below the street frontage. Evidence from the earlier watching brief suggested that these cellars may have been subdivided, presumably also with access down from the front ground-floor rooms above. A central doorway was also present in the rear walls of Rooms 1-4, apparently associated with a stairway to the rooms above.

The modular nature of Rooms 1-4 has been noted above; the chimney breast and flue, identically located in each room, are part of the original build of these houses, and this confirms that they represent a single phase of development. Other structures within the ground floor rooms (remodelling of fireplaces, flagged floors, stone sinks) were added later; however, the identical nature of these developments in all four houses suggests that they remained in a single ownership, and that refurbishments, when they occurred, were implemented throughout the row rather than in a piecemeal fashion. No evidence was found for the original flooring material in these rooms, although the presence of sub-floor make-up to the ground level precludes a raised board floor; the floor may have been of earth. Some time after 1862, a stone flagged floor was introduced into all four rooms, and this pre-dated remodelling of the kitchen range structures and insertion of a sandstone sink into the north-west corner of each room. The kitchen range structures were poorly preserved, but are not inconsistent with a fireplace and associated oven and boiler, as suggested by Pollard (*ibid.*). The sandstone sinks drained through the external wall to ceramic surface drains in the yard; these drains are probably late nineteenth- or early twentieth-century in date, and provide a possible chronology for the introduction of the internal kitchen sinks.

The development of Rooms 1-4 therefore confirms that these houses, and very possibly the entire court, remained a single unit of property, from their construction before 1841 into the twentieth century, and at any one time are likely to have been owned by a single landlord.

Pollard (*ibid.*) notes that the first floors of back-to-back houses were generally used as a sleeping 'chamber' by husband and wife and younger children, with older children and/or a lodger sleeping in an attic above.

6.5 Sanitation: context and sequence

Archaeological evidence for water supply was not definitively located during the excavations at Edward Street/Brocco Street. However, the fragmentary rectangular structure [045] located at the western end of Court No.1, against the retaining wall, may well have been a water trough. Due to the prevailing slope it seems likely that water supply would have been from Court No.10 above, perhaps to the base of the retaining wall, and this should be considered the probable location of the pump or standpipe). A drain running across the base of the privy midden tank may have carried waste water from this location to a soak-pit. Construction of a reservoir

system at Crookesmoor and subsequently in the Upper Don Valley during the late eighteenth and early nineteenth centuries allowed an 'ample' supply of water to be provided three times a week by 1843 (Hey 1998, 101). The rectangular structure [044] with floor drain and ceramic piping may represent the later re-siting of a standpipe. Piped water had not been introduced to any of the houses when they were demolished; the courtyard water supply appears to have persisted throughout the lifetime of the buildings.

The brick-lined tank (Phase 1) towards the rear of Court No.1 has been identified as a privy midden tank, a brick pit with internal pillars supporting a seat or seats over, into which household ashes and rubbish also thrown, with the contents removed at night by contractors. The above ground privy building (shown on the 1890 Ordnance Survey) was eventually demolished, with the rubble used to decommission the tank below. This building appears to have been of brick, with a slate roof. The deposits within the tank related exclusively to its modification and ultimate decommissioning.

The improvement and ultimate eradication of privy middens was motivated by concerns over public health, culminating in the Public Health Act of 1872. A report of 1844 concluded that while the streets of Sheffield were drained and cleaned regularly, the courts and alleys were not, with ashes, slops and excrement accumulating for weeks and privy middens undrained (Pollard 1959, 13). Sheffield was, however, slow to implement sanitary improvements. Drainage and sewerage improvements of 1866 and 1884 were ineffective, as property owners were not compelled to connect houses. By 1888 there were only 4300 water closets in Sheffield compared to 37,000 privies. The Sheffield Corporation Act of 1890 conferred powers compelling property owners to install sanitation measures. The wholesale conversion of middens and ashpits began in 1894, and only 11,000 middens remained in 1914, with the process virtually complete by 1928.

Court No.1, Edward Street illustrates this time lag between legislation and implementation, particularly when applied to back-to-back courtyard housing. Despite the legislation of the 1870s and 1880s the row of water closets (Phase 4) at the rear of the courtyard was not constructed until sometime between 1903 and 1920. The tarmac yard and surface drains (Phase 5) followed even later. It appears however that interim measures were taken to improve the functioning of the privy midden, with the addition of an overflow soak-pit (Phase 2; feature [059]), presumably to prevent overflow of the privy tank itself. Further improvement (Phase 3) was effected by the relining of the tank in concrete and brick, and connection of the overflow pit, presumably to the main sewerage. These minor episodes of remodelling appear to reflect gradual piecemeal improvements made to the existing privy midden, probably during the period between legislation and the final imposition of water closets.

Unfortunately, little primary material of any phase remained with the privy midden or its associated structures. The only exception was the material accumulated within an adjacent, later soak-pit [059]. This was found to include fish bone and fish scales, and hazel nut shell fragments. These are likely to represent waste from human consumption. Wild plant seeds including bramble (*Rubus fruticosus* AGG) and buttercup (*Ranunculus* sp.) were also present; bramble may derive from human waste, although both species may be present on waste or disturbed ground. This assemblage is consistent with the soak-pit containing liquid overflow from the main tank; repeated drying and rewetting may be considered to have caused decomposition of all but the more woody material.

6.6 Material culture and occupation: problems and potential

A sizeable collection of material culture was recovered from the site, with 2176 sherds of pottery and 414 fragments of clay pipe. However, the vast majority of this

material derived from made-ground material used in levelling the site prior to and during construction of the back-to-back houses. This material is useful in confirming the date of construction, with eighteenth- and early-nineteenth century pottery predominating. The origin of this material is less clear, however, and it is likely that these infill deposits did not originate on site: there is no archival or archaeological evidence for the levels of activity necessary to generate such quantities of material; the presence of steelmaking crucible fragments strongly suggests the presence of imported material.

The mechanisms by which this made-ground material was introduced are imperfectly understood. It seems likely that solid domestic (and presumably also industrial) waste material was collected and accumulated by contractors during the nineteenth century (Cumberpatch in prep.), in addition to the collection of 'night soil' from privy middens. The building industry represents a possible market for the solid waste collected by contractors. Due to the relatively small scale of building enterprises in Sheffield at this period, it is likely that material changed hands piecemeal, with 'one-off' deliveries used for developments on the scale of a single court (ibid.). Layers of redeposited natural are also present within made ground. These probably derive from the excavation of cellars or the terracing of the underlying slope.

Further work is required to more fully understand the nature and scale of these transactions, but this lies outside the scope of this report. It appears, then, that a significant proportion of the material culture from the site derives from imported ground and does not relate to occupation of the site. While this material is clearly of use for dating purposes, and may contribute to a wider study of refuse management processes in Sheffield, it has no potential relating to occupation of the back-to-back houses.

A smaller, though still significant, quantity of material culture was recovered from rubble infilling cellars and lying above the ground floor levels of rooms. This material is likely to derive from the mid twentieth-century demolition of the buildings on site. The associated pottery and a number of intact glass bottles therefore appear likely to relate to the very latest stages of occupation, in terms of objects left behind when the last tenants moved out. The potential of this material is however reduced by the lack of clear spatial resolution attached to demolition material. In addition, objects left behind before demolition have been subject to a degree of selection, and should not be seen as an uncomplicated record of occupation.

Only a few contexts can be seen as clearly relating to the occupation of the back-to-back houses, notably the floor-level or sub-floor deposits in Room 1, and the infill of the soak pit shaft in Court No.1. Material culture from both of these areas allowed insights into everyday life. The concentration of rabbit bone in Room 1, including butchered fragments, suggests that rabbits were eaten, with small bones simply disposed of at floor level. Material throughout the soak pit shaft [059] was rich in fish bone, suggesting the prevalence of fish in people's diet.

These insights, however, are limited by the relative scarcity of *in situ* occupation material. The significance of the record from Edward Street should be seen rather in terms of the structural sequence of the houses and the associated sanitation.

6.7 Conclusions

Excavations at Edward Street revealed the remains of back-to-back housing, constructed during the early- to mid-nineteenth century and arranged around three open courts. The buildings were probably three stories high, with re-used brick 'seconds' above ground level and rough sandstone foundations. Slight differences in room dimensions between the three courts suggest that each was built as a separate enterprise and possibly at a different time.

In Court No.1, significant quantities of made ground had been used to infill around the cellars and foundations of the buildings, and to level up the floors and yard surfaces. It is likely that this material was imported by the builders and did not derive directly from activity on site. Court No.10, however, was constructed almost directly onto natural sandstone clay, and the lack of made ground here is probably due to the way in which the underlying slope had been terraced.

Well-preserved ground floor rooms were encountered in parts of Court No.1. These had originally been furnished with a chimney breast and probably had earth floors. The chimney breast structure was probably furnished with an oven and side-boiler, although these structures had been remodelled during the life of the building. Stone flag floors were introduced some time after 1862, and during the late nineteenth century stone sinks were added, with drainage into the yard. The uniform nature of these changes suggested that the court remained in a single ownership for most or all of its existence. No evidence for mains water or electricity supply was identified in any of the houses. Water supply throughout was probably therefore by pump or standpipe in the yard.

Each house was associated with a cellar, primarily for coal storage. In Court No.1 these were located around the outside of the plot due to the inaccessibility of the court interior to wheeled vehicles. Cellars were therefore subdivided between the front and rear house of each pair of back-to-backs.

A brick-lined privy midden tank was originally located in the central yard of Court No.1, apparently associated with a privy building over. This was later associated with a soak-pit, probably to prevent the overflow of liquid waste from the tank. The privy midden tank was subsequently refurbished with a concrete lining, and the soak pit ultimately connected to mains drainage or sewerage. By 1920 the midden tank had been infilled and replaced by a row of water closets connected to mains drainage. The yard surface was subsequently renewed with tarmac, and a system of surface drains added. This sequence illustrates the time lag between sanitation legislation in the 1870s and 1880s, and its implementation in the poorest housing during the early decades of the twentieth century. During this period, however, piecemeal improvements were made to the basic privy midden system, presumably by a private landlord in response to ongoing legislation.

7 ARCHIVE

The site archive will be deposited with Sheffield City Museum, Weston Park (accession number to be confirmed).

8 COPYRIGHT

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10 ILLUSTRATIONS

11 PLATES

APPENDIX 1: LIST OF CONTEXTS

Context Number	Sub-Division	Context Type	Description
001	7	Deposit	Demolition rubble above floor
002	7	Deposit	Immediate sub-floor make-up
003	7	Structure	Flag floor
004	8	Deposit	Demolition rubble N cellar
005	8	Deposit	Demolition rubble S cellar
006	8	Structure	Central r/b wall between cellars
007	8	Structure	N cellar vault (remnants)
008	8	Structure	S cellar vault (remnants)
009	8	Structure	Stairwell structure S cellar
010	8	Structure	Stairwell structure N cellar
011	8	Structure	Sandstone front wall of cellars
012	8	Structure	r/b rear wall of cellars
013	8	Structure	Sandstone north cellar wall
014	8	Structure	Sandstone south cellar wall
015	7/8	Structure	r/b south wall along passageway
016	7	Structure	West wall along court (2 skins r/b)
017	7	Structure	Sandstone slab threshold
018	7	Structure	North wall (1 skin r/b)
019	7	Structure	Chimney breast
020	8	Structure	North wall (disturbed r/b)
021	7	Structure	Cellar entrance slabs
022	2	Deposit	Demolition rubble filling room
023	8	Structure	Flag floor north cellar
024	8	Structure	Flag floor south cellar
025	8	Deposit	Sub-floor deposit south cellar
026	17	Deposit	Brick and clinker levelling for tarmac surface
027	1	Structure	West wall
028	1	Structure	Flag floor
029	1	Structure	Sandstone ?door jamb, south-west corner of room
030	1	Structure	Kitchen range structure
031	1	Structure	Sandstone sink and supports
032	1-4	Structure	North (courtyard) wall Rooms 1-4
033	7	Deposit	Yellowish sub-floor deposit
034	7	Deposit	Brown/black sub-floor deposit
035	7	Deposit	Mixed sub-floor deposit
036	7	Cut	Staged construction cut for 015
037	7	Deposit	Fill of 036 – slumped material from sub-floor fills
038	-	Structure	Modern east-west retaining wall, Court No.1
039	15	Structure	Toilet block rear of courtyard
040	15	Structure	Sandstone thresholds for 039
041	15	Structure	Sandstone slabs along front of 039/040
042	17	Structure	Partial early yard surface (flags, brick, cobbles)
043	17	Structure	Late build of ?soil tank with sluice gate
044	17	Structure	Square r/b structure with drain
045	17	Structure	?water trough along retaining wall

Context Number	Sub-Division	Context Type	Description
046	17	Structure	Late tarmac yard surface
047	17	Deposit	Yard make-up material below 026
048	17	Structure	Fragmentary structures east of 039
049	1	Deposit	Demolition rubble filling room
050	1	Structure	South (partition) wall of room
051	1	Structure	r/b partition between doorways in 050
052	1	Structure	Central doorway structures in 050
053	1	Structure	Western doorway structures in 050
054	8	Deposit	Clay natural or disturbed natural below 025
055	15	Structure	Drain structure running below 039 - contemporary
056	15	Deposit	Rubble backfill below concrete floor 039 cubicle 3
057	15	Structure	Outer (earlier) wall of 043 – r/b and sandstone
058	15	Structure	3 skinned brick foundation under front of 039/040
059	15	Structure	r/b lining of drain shaft
060	15	Deposit	Deposit filling shaft 059
061	15	Deposit	Thin layer of rubble between 058 and 040
062	15	Deposit	Rubble between 063 and concrete floor cubicle 6
063	15	Structure	Brick floor below cubicle 6 – fragment of early yard
064	1	Structure	Structure between range and sink, west wall
065	17	Deposit	Yellowish clay - ?natural, below courtyard surface
066	7	Deposit	Crucible/slag layer below 003
067	7	Deposit	Sub-floor clay layer with brick/sandstone rubble
068	7	Deposit	Loose black sub-floor layer
069	7	Deposit	Loose black sub-floor layer
070	7	Deposit	Fill of 071; contains chalk fragments
071	7	Cut	Possible staged foundation cut for 016
072	17	Deposit	Rubble backfill of 043
073	17	Deposit	Levelling material between foundations of 045
074	22	Deposit	Black levelling for cobbled surface
075	22	Deposit	Yellowish clay ?natural
076	17	Deposit	Sub-floor material between foundation of 044
077	1	Deposit	Immediate sub-floor material, E side close to wall
078	1	Deposit	Immediate sub-floor material, below hearth slab
079	1	Deposit	Immediate sub-floor material
080	22	Structure	Cobbled yard surface
081	22	Structure	East exterior wall of toilet building (2 skins r/b)
082	22	Deposit	Sub-floor material between foundations of toilets
083	22	Cut	Cut for ceramic soil pipe
084	1	Deposit	Loose dark sub-floor material in hearth area
085	15	Deposit	Rubble below concrete surface cubicle 7
086	15	Structure	r/b floor below 085 – former yard surface?
087	22	Structure	South exterior wall of toilet building (3-4 skins r/b)
088	22	Structure	Partition wall between cubicles (2 skins r/b)
089	22	Structure	Partition wall between cubicles (2 skins r/b)
090	22	Structure	Partition wall between cubicles (2 skins r/b)
091	22	Structure	?front wall of cubicles (2 skins r/b)
092	22	Structure	North external wall of toilet building (2 skins r/b)
093	22	Deposit	Sub-floor internal make-up
094	22	Deposit	Sub-floor internal make-up
095	1	Structure	Duplicate number – same as 064

Context Number	Sub-Division	Context Type	Description
096	1	Structure	Sandstone threshold in 032
097	1/2	Structure	Internal wall between Rooms 1/2
098	2	Structure	Sandstone flag floor
099	2	Structure	Kitchen range structure
100	2	Structure	Structure between hearth and sink
101	2	Structure	Sandstone threshold in 032
102	2	Structure	Internal wall between Rooms 2/3
103	3	Structure	Sandstone sink and support structure
104	3	Structure	Sandstone flag floor
105	3	Structure	Sandstone threshold in 032
106	3	Structure	Internal wall between Rooms 3/4
107	4	Structure	Support structure for sink
108	4	Structure	Sandstone threshold
109	4	Structure	NE external wall (continuation 032)
110	4	Structure	E external wall (continuation 032)
111	17	Structure	Sandstone court flags adjoining Room 4
112	4	Structure	Sandstone flag floor
113	15	Deposit	Yard make-up below early surface 042
114	2	Deposit	Immediate sub-floor layer
115	2	Deposit	Sub-floor material below 114
116	1	Deposit	Sub-floor make-up: compacted clay and mortar
117	1	Cut	Construction cut 097
118	1	Deposit	Fill of 117
119	2	Structure	Chimney breast walls
120	1	Structure	Footings for chimney breast 030
121	17	Structure	Early (outer) walls of 043
122	17	Structure	Brick floor of early ?soil tank below 043
123	17	Structure	Brick-lined drain on 122
124	17	Structure	Infill between 122 and concrete base of 043
125	17	Deposit	Yellow clay sealing layer around/below 121/122
126	15	Structure	Early drain north of 121 (pre-dates 055)
127	15	Deposit	Fill of 126



Plate 1: Watching brief: 5-metre strip along Edward Street, looking north west



Plate 2: Vaulted cellarage close to corner of Edward Street/Brocco Street, looking east



Plate 3: Section at western end of site before battering; vaulted cellars at the western edge of Court No.10 are visible



Plate 4: Court No.3 (Brocco Street/Marsden Lane), looking east



Plate 5: Court No.1 (Edward Street/Brocco Street), looking north west, showing latest (tarmac) yard surface (*Phase 5*)



Plate 6: Court No.10 (Edward Street), looking east



Plate 7: Back-to-back houses 13/14 and passageway 19 (foreground), looking north



Plate 8: West end of Court No.3, showing back wall of court (foreground), looking north



Plate 9: Infilled cellars, north edge of Court no.10, looking east



Plate 10: Court No.10, remnants of cobbled yard surface and surface drainage, looking east



Plate 11: Room 1: chimney breast and sandstone sink structures, looking west



Plate 12: Entrances leading from Room 1 into cellarage to south, looking west



Plate 13: Room 1, looking south west



Plate 14: Room 2, looking north west



Plate 15: Sondage within Room 7, showing wall foundations and sequence of made ground, looking south



Plate 16: Room 8: double vaulted cellar and stair structures, looking west.



Plate 17: Probable brick-lined privy midden tank [121]/[122] (*Phase 1*), with drain [123] added to surface and soak pit [059] at top of picture (*Phase 2*), looking east.



Plate 18: Detail of soak pit/drain shaft [059] showing entrance of drain [123] below later concrete surface of midden tank [043], looking west



Plate 19: *Phase 3* privy midden tank [043], with concrete base and additional brick lining added, along with overflow gate into soak pit/drain shaft [059], looking east.



Plate 20: Tank [043] under excavation, showing backfill and later yard surface over, looking west (*Phase 4*)



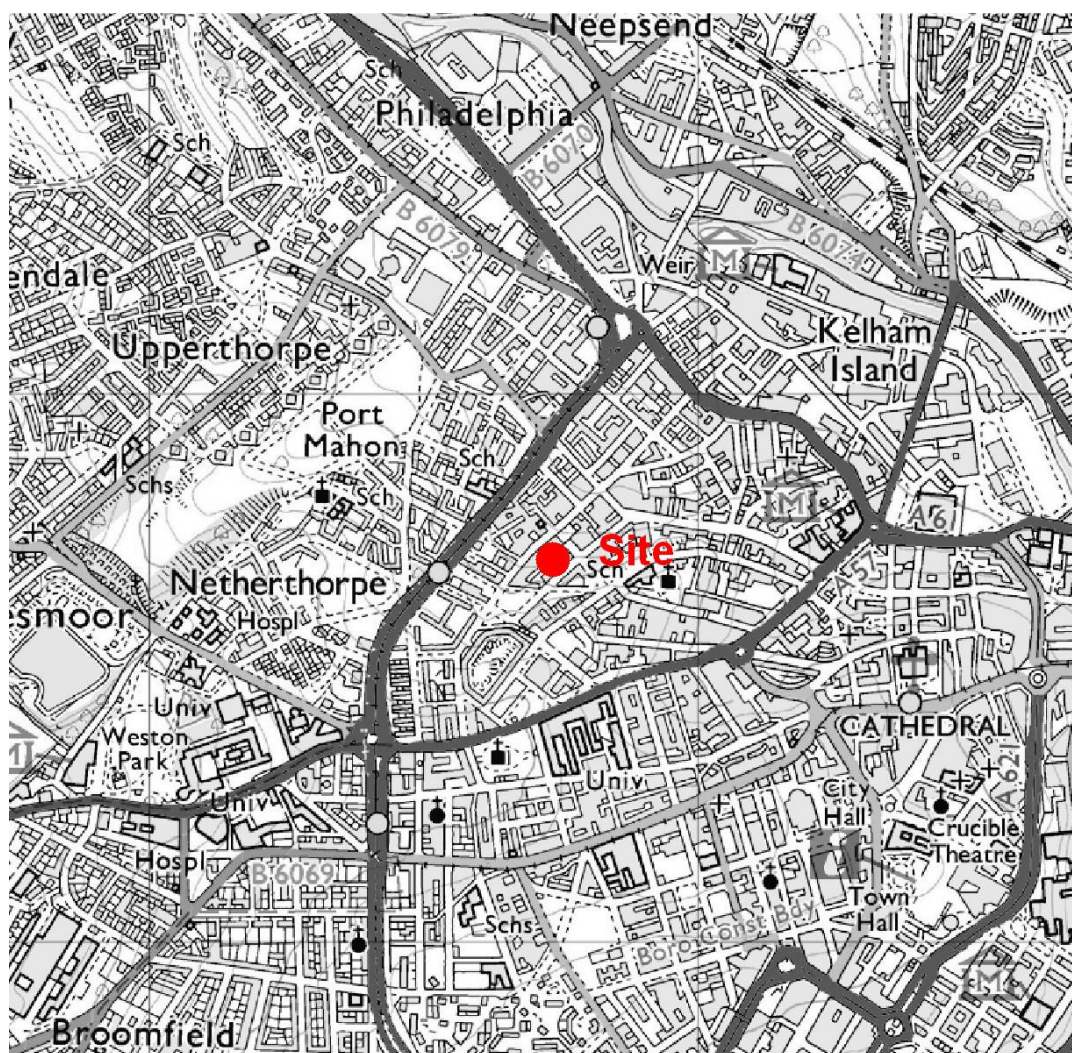
Plate 21: Water closets [039] (*Phase 4*), showing infilled tank [043] at left of picture, looking north



Plate 22: Water closet cubicles, showing fragments of earlier yard surface preserved below floor level, looking south



Plate 23: Section through cobbled surface [080], Court No.10, showing terraced natural below.



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Project:

Upper Allen Street, Sheffield

Title:

Site Location Plan

Scale:
1:25000

Date:
June 2007

NGR:
SK 3483 8762

Drawn:
S. Baker

Project No.:
842c.2

Illustration No.:
1



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Sheffield.**

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**Stages of the
archaeological
programme**

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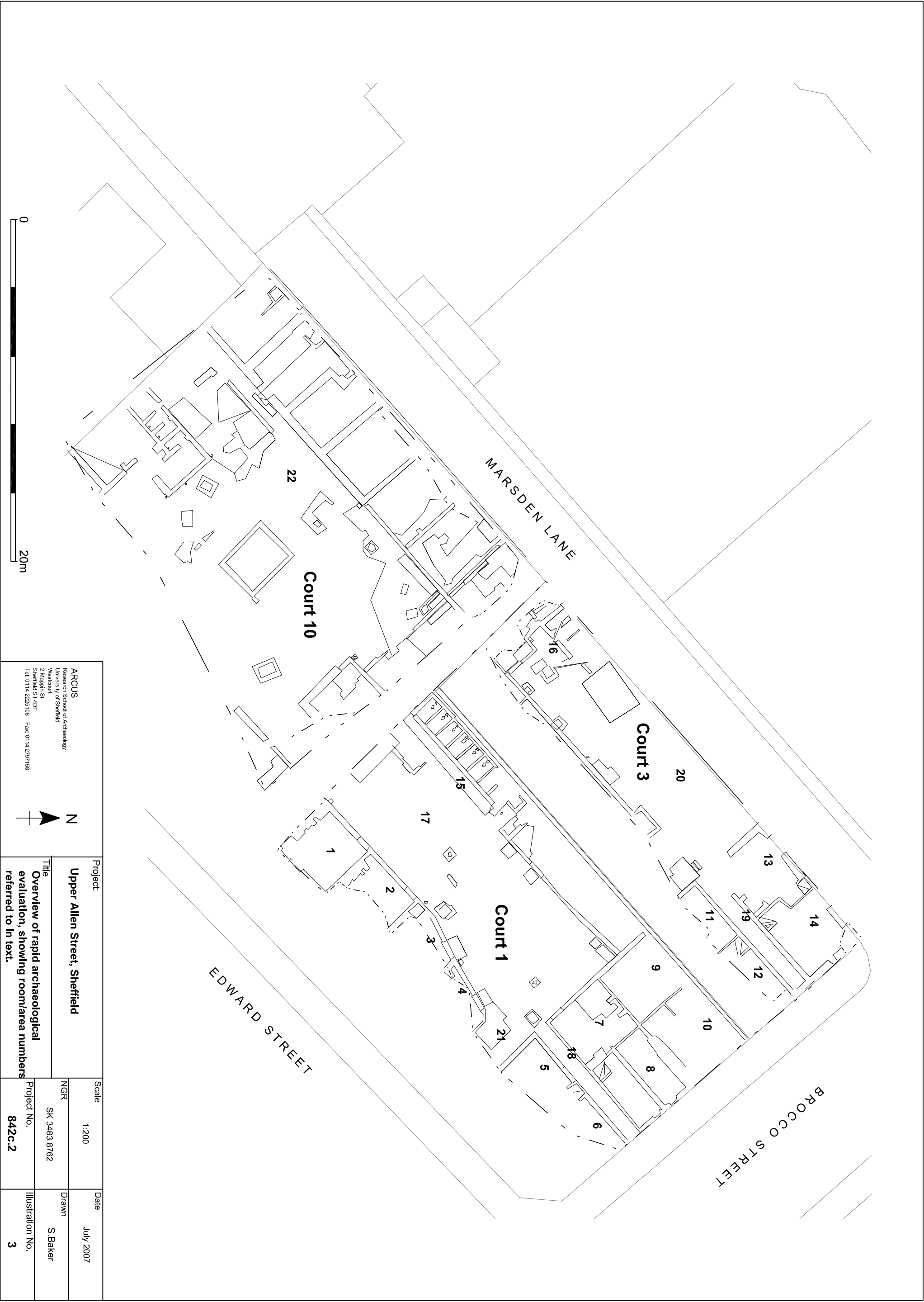
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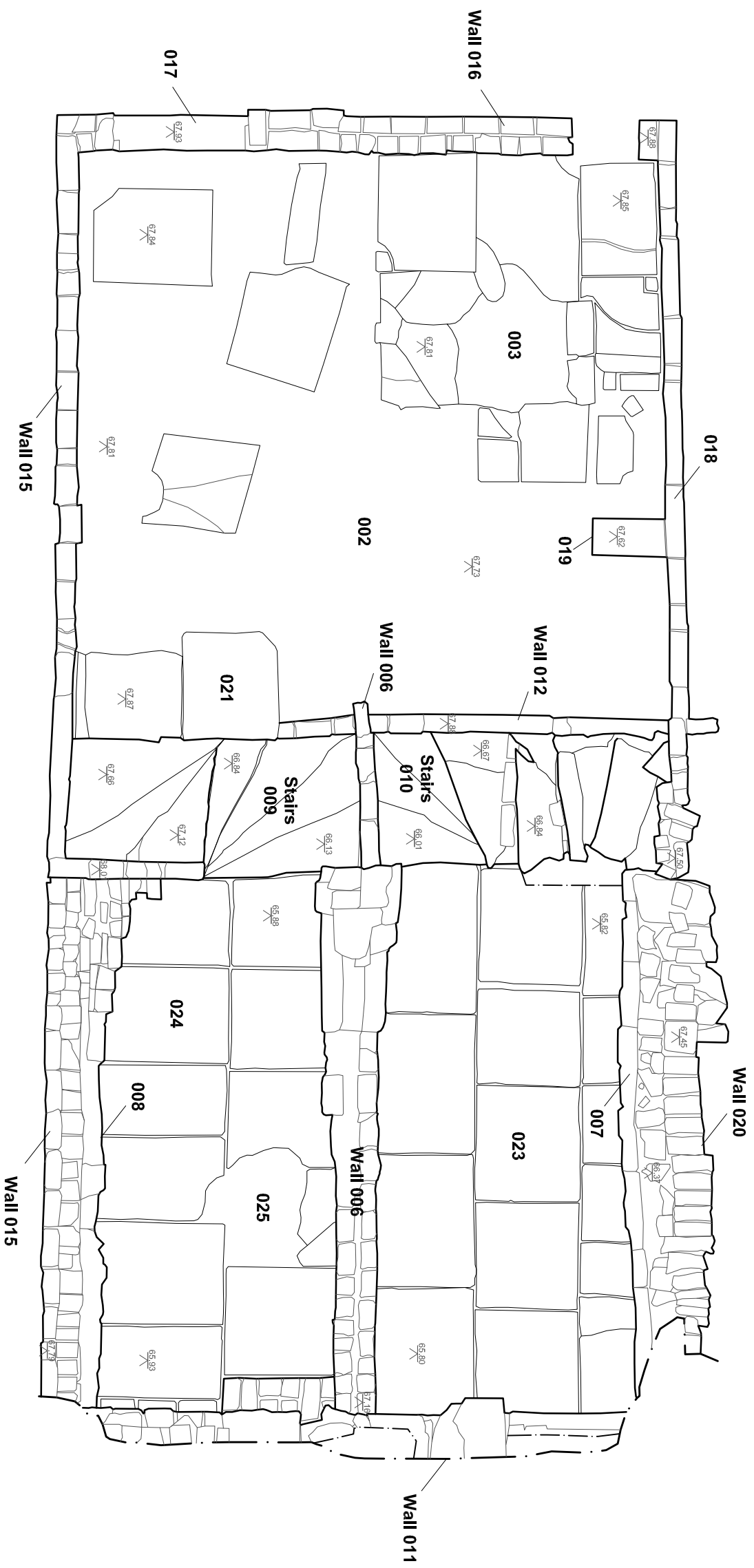
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	Upper Allen Street, Sheffield	1:200		July 2007
	Title	NGR	Drawn	
	Overview of rapid archaeological evaluation, showing room/area numbers referred to in text.	SK 3483 8762	S. Baker	
	Project No.	Illustration No.		
	842c.2	3		

ROOM 7

ROOM 8



SITE
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→

Project: **Upper Allen Street, Sheffield**

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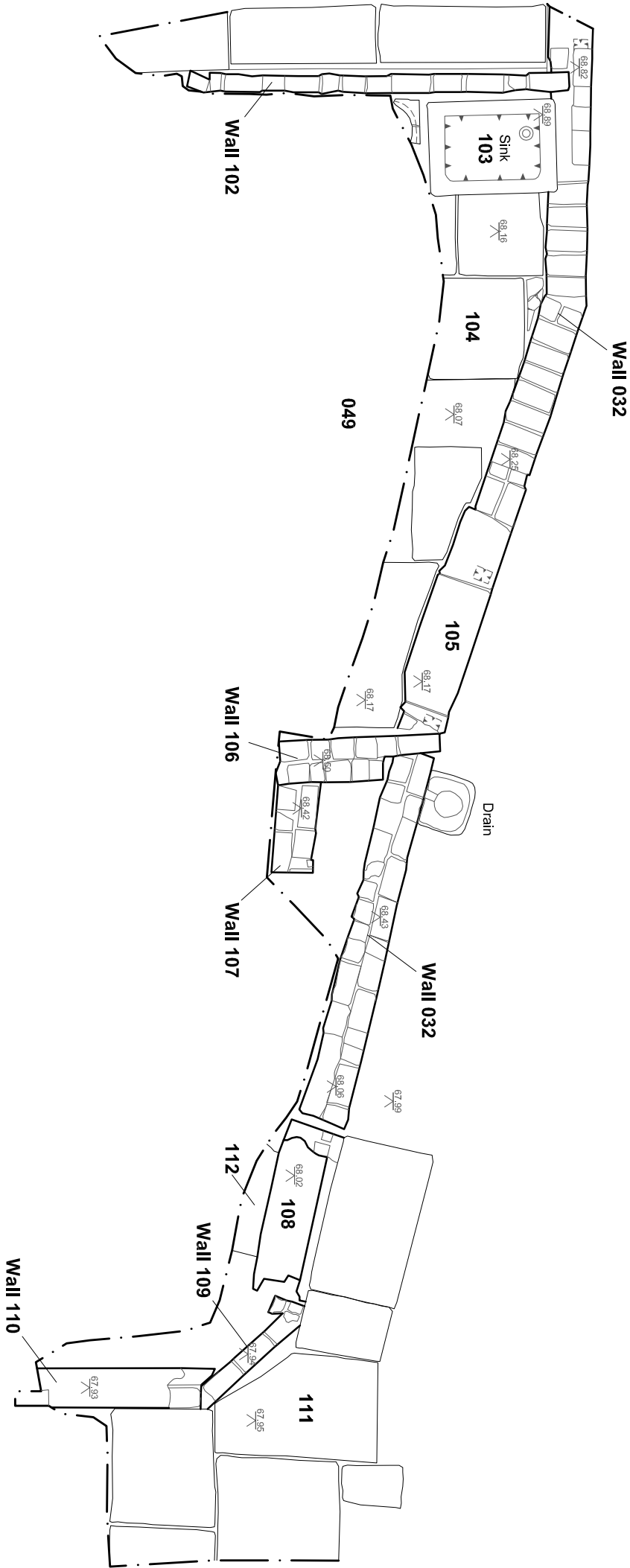
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Rooms 7 and 8: Plan**

Project No:	Illustration No.
842C.2	4

4

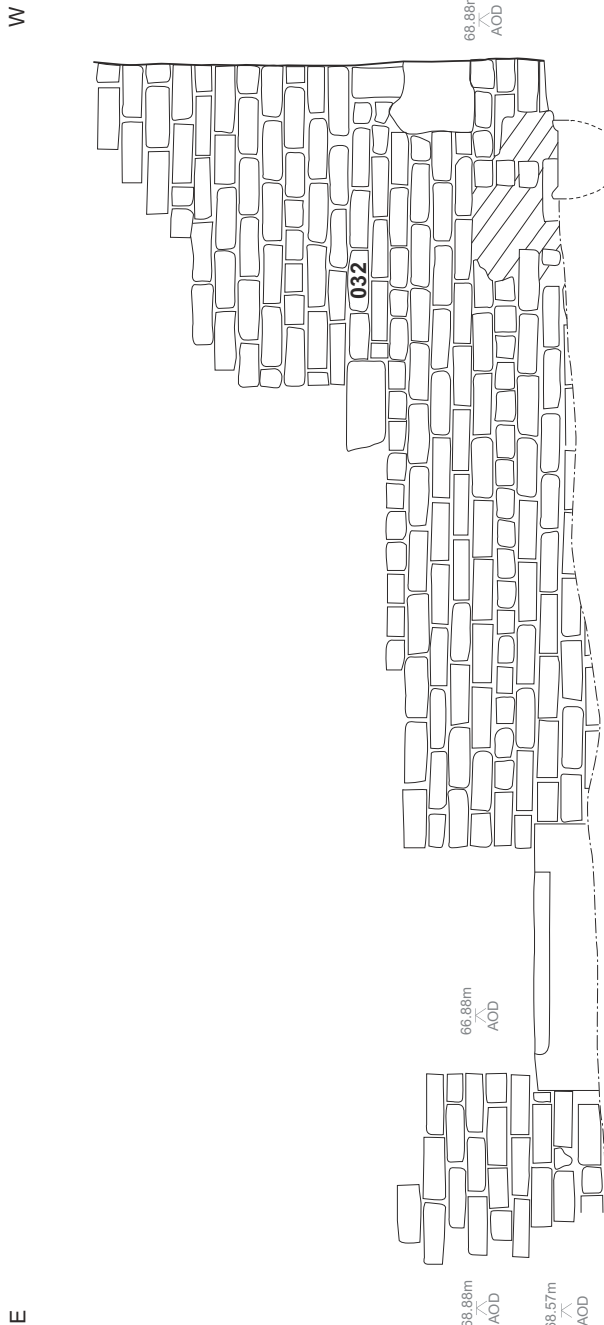
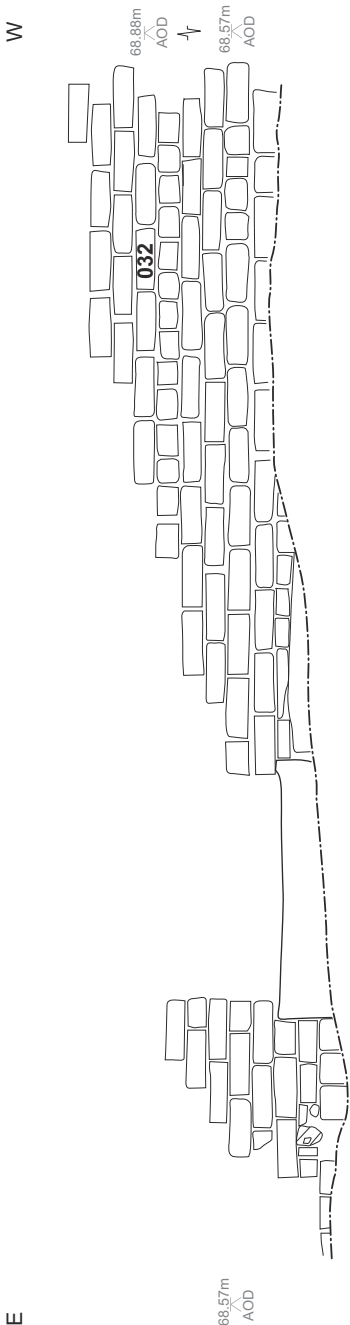
ROOM 3


ROOM 4

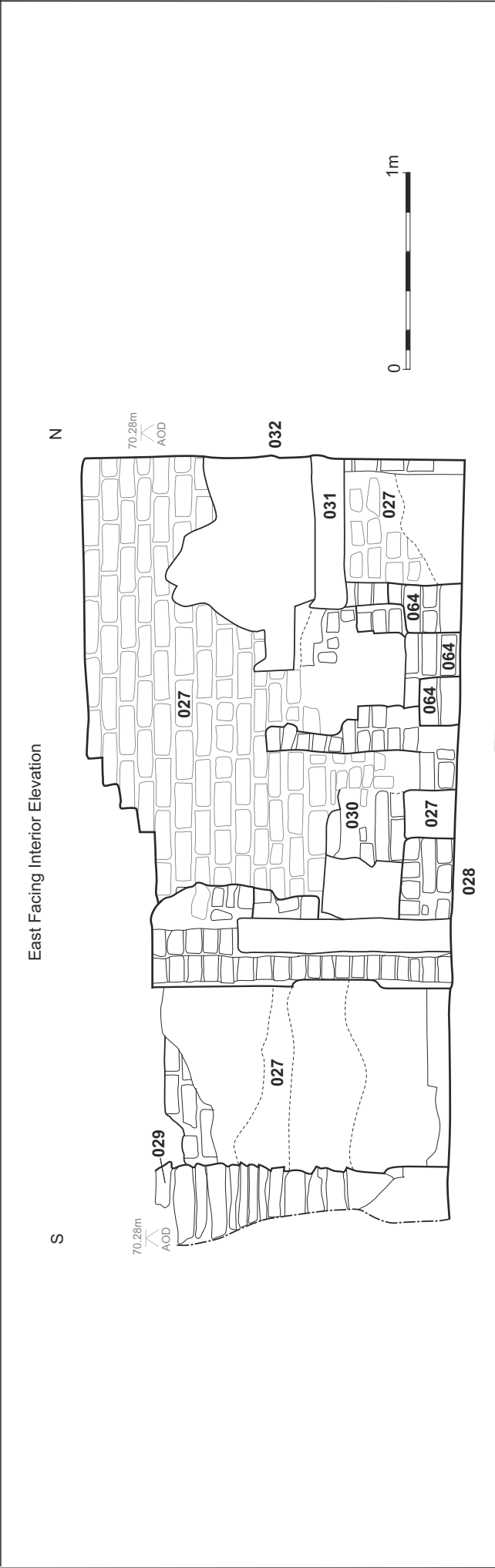
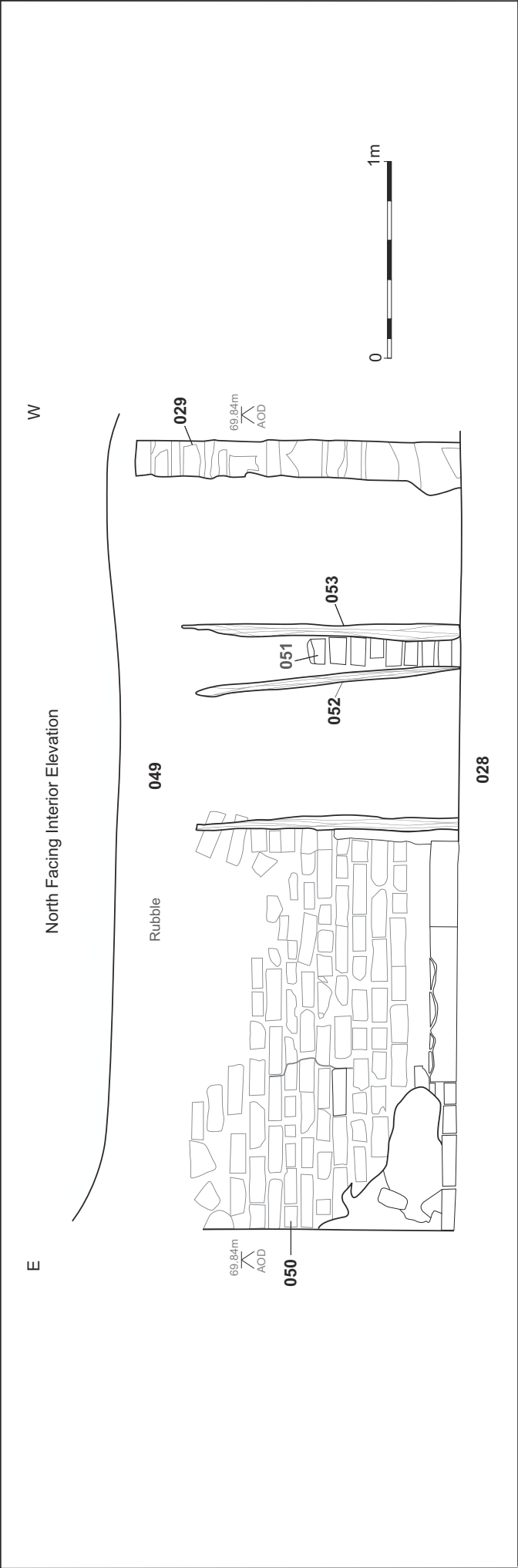



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	Upper Allen Street, Sheffield	1:30	September 2005
	<div>Title</div> <div>Count No 1,</div> <div>Rooms 3 and 4: Plan</div>	<div>NGR</div> <div>SK 3483 8762</div>	<div>Drawn</div> <div>K.Speight</div>
	Project No:	842c	Illustration No. 6

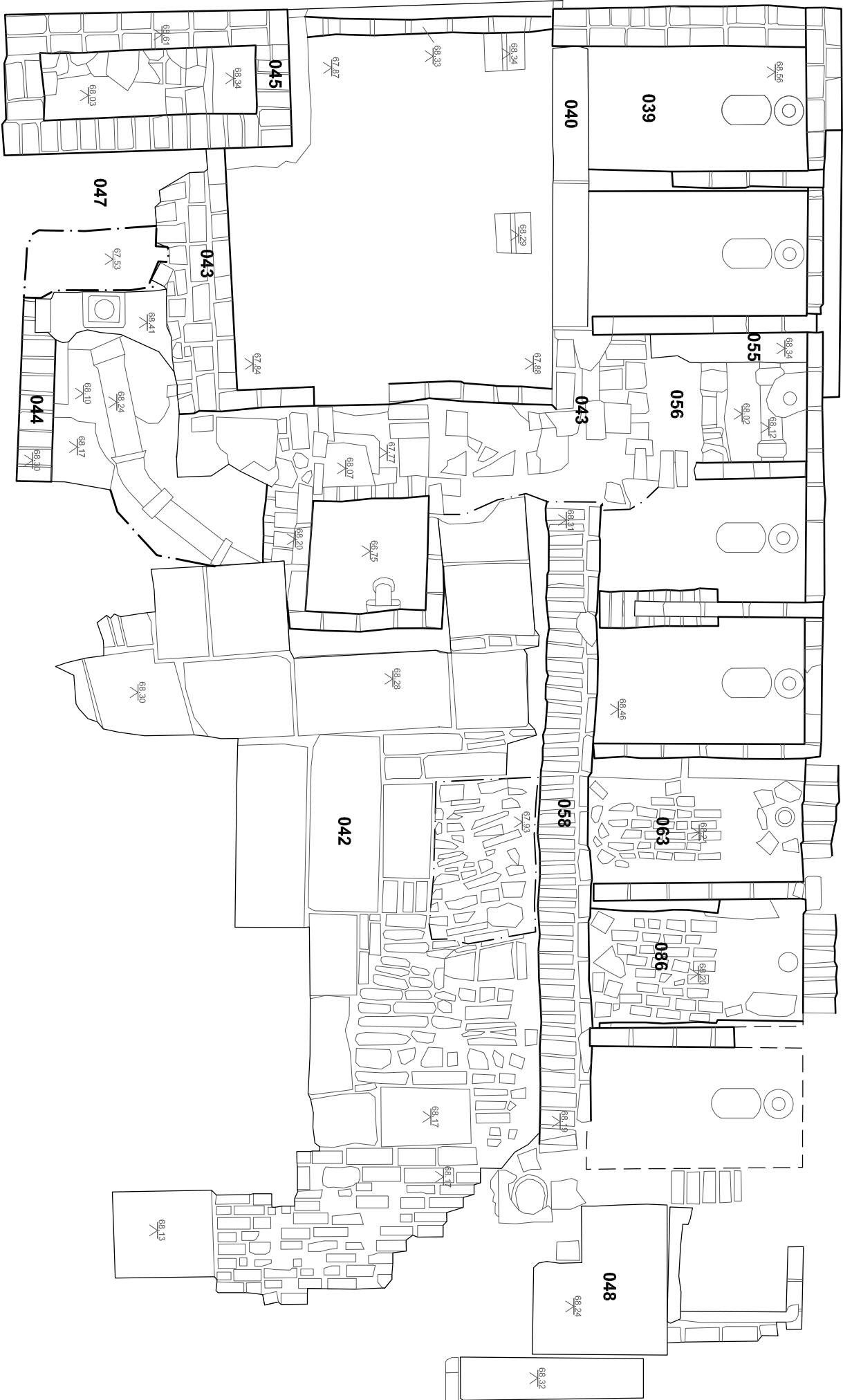
Court No. 1, Room 1 and 2: Front Elevation



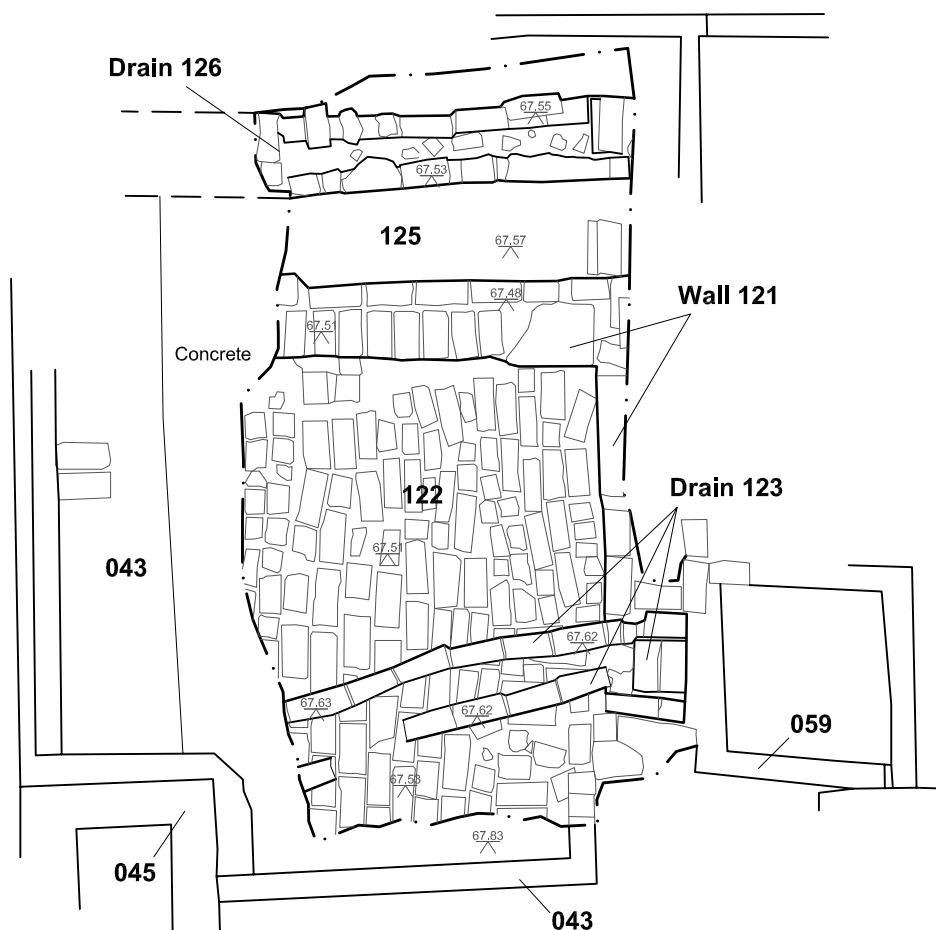
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	Title: Court No. 1, Room 1 and 2: Front Elevation		NGR: SK 3483 8762	Drawn: Jo Mincher
			Project No: 842c.2	Illustration No: 7



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	Title: Court No.1: Interior Elevation. North Facing Interior Elevation		Project No: 842c.2	Illustration No: 8



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Title Court No 1, yard structures post excavation		NGR SK 3483 8762	Drawn K. Speight	Project No: 842c.2	Illustration No. 9



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Project

Upper Allen Street, Sheffield

Title

**Court No 1,
Earliest Phase of Possible Soil Tank:
Plan**

NGR

SK 3483 8762

Scale

1:30

Project No.

842c.2

Date

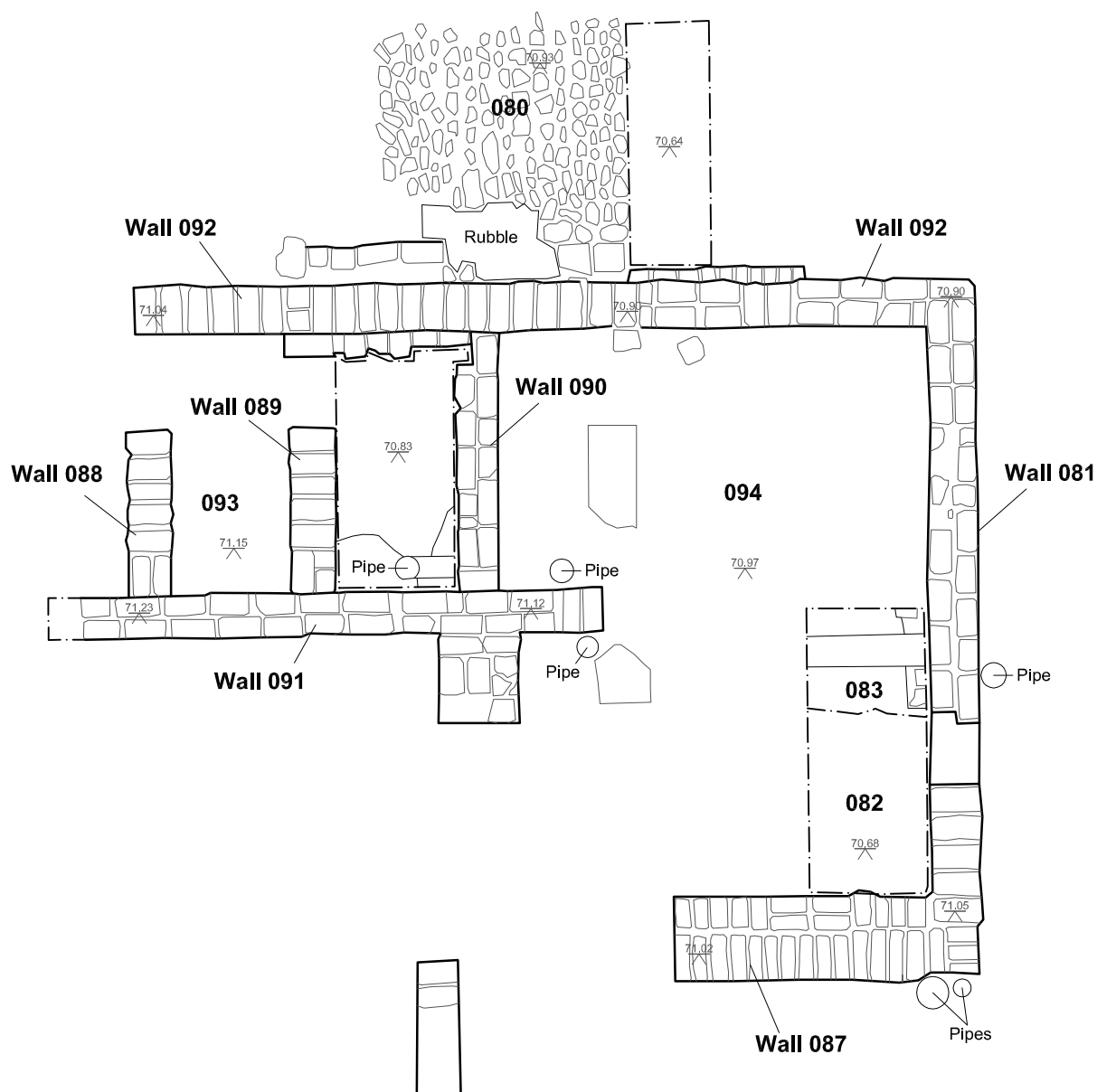
September 2005

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10



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Project

Upper Allen Street, Sheffield

Title

**Court No 10,
Yard Structures: Plan**

NGR

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Scale

1:30

Project No.

842c.2

Date

September 2005

Drawn

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Illustration. No.

11