



ARCHAEOLOGICAL EVALUATION AT LAND OFF CHARLES STREET, SHEFFIELD

ARCHAEOLOGICAL EVALUATION REPORT

Report Number 2011/46 September 2011



ArcHeritage is a trading name of York Archaeological Trust. The Trust undertakes a wide range of urban and rural archaeological consultancies, surveys, evaluations, assessments and excavations for commercial, academic and charitable clients. It can manage projects, provide professional advice and monitor archaeological works to ensure high quality, cost effective archaeology. Its staff have a considerable depth and variety of professional experience and an international reputation for research, development and maximising the public, educational and commercial benefits of archaeology. Based in York and Sheffield its services are available throughout Britain and beyond.



ArcHeritage, Campo House, 54 Campo Lane, Sheffield S1 2EG

Phone: +44 (0)114 2728884 Fax: +44 (0)114 3279793

www.archeritage.co.uk

© 2010 York Archaeological Trust for Excavation and Research Limited
Registered Office: 47 Aldwark, York, UK, YO1 7BX
York Archaeological Trust is a Registered Charity No. 509060
A Company Limited by Guarantee Without Share Capital Registered in England No. 1430801

CONTENTS

NON-TECHNICAL SUMMARY	III
KEY PROJECT INFORMATION	III
1 INTRODUCTION	1
2 LOCATION, GEOLOGY AND TOPOGRAHY	1
3 AIMS AND METHODOLOGY	1
3.1 Aims.....	1
3.2 Methodology.....	1
4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.....	2
5 RESULTS	3
5.1 Trench 1	3
5.2 Trench 2	6
5.3 Trench 3	7
6 DISCUSSION.....	8
6.1 Discussion of evaluation results.....	8
6.2 Material culture	9
7 CONCLUSIONS	10
8 BIBLIOGRAPHY	10
9 ACKNOWLEDGEMENTS.....	10
10 FIGURES.....	11
11 PLATES.....	12
APPENDIX 1 – INDEX TO ARCHIVE	18
APPENDIX 2 – CONTEXT LIST.....	20
APPENDIX 3 – CERAMIC ASSESSMENT	22
APPENDIX 4 – CLAY TOBACCO PIPE ASSESSMENT.....	25
APPENDIX 5 – GLASS ASSESSMENT	26
APPENDIX 6 – METAL RESIDUES ASSESSMENT	29
APPENDIX 7 – HANDLE MANUFACTURING WASTE MATERIAL ASSESSMENT.....	30
APPENDIX 8 – FAUNAL REMAINS ASSESSMENT	33
APPENDIX 9 – CERAMIC BUILDING MATERIAL ASSESSMENT.....	34
APPENDIX 10 – MISCELLANEOUS ARTEFACTS	35
APPENDIX 11 – WRITTEN SCHEME OF INVESTIGATION	36

Figures

- Figure 1: Site and trench location plans
 Figure 2: Historic maps
 Figure 3: Trench locations overlain on 1851 OS map
 Figure 4: Plan of Trench 1
 Figure 5: Plan of Trench 2
 Figure 6: Plan of Trench 3
 Figure 7: Section drawings
 Figure 8: Plan of trenches showing 19th-century features

Plates

Cover: View of cellar in Trench 2, viewed facing northwest

Plate 1: View northeast along Trench 1, showing wall 110 (centre) and wall 105 (left)	12
Plate 2: Elevation of wall 123, with wall 105 to left and brick wall 110 to right.....	12
Plate 3: Section of yard deposits in Trench 1, and pipe 118, viewed facing southwest	13
Plate 4: Trench 1, detail of walls 115 and 119, wall 110 in foreground, viewed facing southeast.....	13
Plate 5: Trench 2, stone flag surface 204, viewed facing southeast	14
Plate 6: Trench 2, section of made ground deposits 205, viewed facing southwest.....	14
Plate 7: Brick structure 206, viewed facing northwest	15
Plate 8: Northwest cellar wall 208, with coal chute 209 above, viewed facing northwest	15
Plate 9: Trench 2, southwest wall of cellar (208), with overlying brick wall 216.....	16
Plate 10: Trench 2, floor 212 of cellar, viewed facing northwest	16
Plate 11: Trench 3, remnant of surface 302, viewed facing northwest.....	17
Plate 12: Trench 3, section through made ground 303, viewed facing northeast.....	17

Tables

Table 1: Trench rationale	2
Table 2: Summary of OASIS form.....	18
Table 3: List of archive contents	19
Table 4: List of contexts	21
Table 5: Catalogue of ceramic artefacts	24
Table 6: Catalogue of clay tobacco pipe	25
Table 7: Catalogue of glass artefacts	28
Table 8: Catalogue of metalworking debris.....	29
Table 9: Catalogue of handle-making waste material	31
Table 10: Catalogue of faunal remains showing species representation	33
Table 11: Catalogue of CBM.....	34
Table 12: Catalogue of miscellaneous artefacts	35

NON-TECHNICAL SUMMARY

This report presents the results of an archaeological evaluation by trial trenching at a site at Charles Street and Arundel Gate, Sheffield, South Yorkshire. The evaluation was required as a condition of planning consent for redevelopment of the site, which comprised a car park and a vacant lot at the time of the fieldwork. The work was undertaken by ArcHeritage on behalf of Sheffield Hallam University, and was monitored by South Yorkshire Archaeology Service. The fieldwork comprised three trial trenches. One trench was excavated in the vacant lot, revealing evidence of large-scale disruption of any archaeological remains resulting from the removal of foundations and basements. Two trenches were located in the car park, revealing good survival of archaeological features and deposits associated with 19th- to 20th-century activity. Trench 1 exposed foundations and cellars associated with early 19th-century terraced houses, though the yard to the rear had been truncated by mid-20th-century walls. Trench 2 contained a cellar and stone flag surface associated with a works fronting onto Charles Street. No evidence for furnaces or industrial processes were found in this trench. The remains are considered to be of local archaeological significance. Any requirements for further archaeological work should be agreed with SYAS.

KEY PROJECT INFORMATION

Project Name	Charles Street, Sheffield
ArcHeritage Project No.	5349
Report status	Full report for submission
Type of Project	Archaeological evaluation
Client	Sheffield Hallam University
Planning Application No.	10/02136/FUL
NGR	SK 3544 8691
Museum Accession No.	YORAT:2011.4
OASIS Identifier	archerit1-104986
Author	R. May
Illustrations	T. Davies and R. May
Editor	D. Aspden
Report Number and Date	2011/46 September 2011

Copyright Declaration:

ArcHeritage give permission for the material presented within this report to be used by the archives/repository with which it is deposited, in perpetuity, although ArcHeritage retains the right to be identified as the author of all project documentation and reports, as specified in the Copyright, Designs and Patents Act 1988 (chapter IV, section 79). The permission will allow the repository to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

Disclaimer:

This document has been prepared for the commissioning body and titled project (or named part thereof) and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of the author being obtained. ArcHeritage accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned.

1 INTRODUCTION

This report presents the results of an archaeological evaluation through trial trenching at land off Charles Street and Arundel Gate, Sheffield, South Yorkshire (NGR SK 3544 8691). The evaluation was requested by Sheffield City Council as a planning condition on proposed redevelopment of the site (planning application 10/01236/FUL). Fieldwork was undertaken in line with a Written Scheme of Investigation produced by ArcHeritage (2011) in response to a brief provided by South Yorkshire Archaeology Service (SYAS), and according to the guidance of the Institute for Archaeologists (IfA 2008). ArcHeritage were commissioned by Sheffield Hallam University to undertake the evaluation. Fieldwork took place between the 3rd and 12th May 2011.

2 LOCATION, GEOLOGY AND TOPOGRAPHY

The site covers an area of approximately 2615m². It is located within Sheffield city centre. The site is bounded on the northwest by Arundel Gate and on the northeast by Charles Street. The southeast and southwest sides are bounded by Eyre Lane and Clay Lane respectively. Brown Lane runs through the site on a northwest-southeast alignment, dividing it into two separate plots. The site currently consists of a car park and an area of vacant ground. The underlying geology comprises mudstone, sandstone and siltstone of the Pennine Lower Coal Measures formation.

The site is within the Cultural Industries Quarter Conservation Area, and there are several listed buildings within the vicinity, the closest being the Grade II* listed Butcher Works on the south side of Eyre Lane and the Grade II listed 92-92A and 94 Arundel Street.

3 AIMS AND METHODOLOGY

3.1 Aims

The aims of the evaluation were:

- to determine the extent, condition, character, importance and date of any archaeological remains present;
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made;
- to provide information to enable the local authority to decide on any requirements for further archaeological mitigation for the site.

3.2 Methodology

The evaluation comprised three targeted trial trenches, two in the car park and one in the vacant lot which had previously been subject to a watching brief during demolition of parts of the Eyre Street Works (Matrix Archaeology 2006). The rationale for locating the trenches is given in Table 1 below.

Trench no.	Size (m)	Rationale
1	10 x 4	Trench 1 was targeted to investigate remains associated with the early 19 th -century houses and a courtyard on Eyre Lane. The trench was located to cover the rear part of the houses and a significant area of the courtyard, to investigate whether there were any features, such as pits or phases of surfacing, within the yard.
2	10 x 4	Trench 2 was targeted to investigate the site of the workshop ranges of two works on Charles Street. This includes the range to the rear of Charles Street Works, a whitesmiths' works, later a cabinet manufactory, and the parallel range of the Canada Works, originally a brass foundry, and later a saw manufactory.
3	8 x 3	Trench 3 was targeted to investigate the extent of survival of sub-surface remains associated with a former cutlery works on Eyre Lane. This works was associated with the Butcher Works on the opposite side of Eyre Lane in 1841. The trench was also intended to assess the extent of impact caused by the removal of foundations of the Eyre Street Works in 2006.

Table 1: Trench rationale

The trench locations were surveyed using a Leica RTK survey grade GPS unit, to an accuracy of 20mm. The locations have been plotted on a 1:2500 Ordnance Survey map (Figure 1). Trenches 1 and 2 had to be moved slightly from their proposed locations due to the presence of services and car park infrastructure. A JCB mechanical excavator with a pecker and a toothless ditching bucket was used, under archaeological supervision, to remove the surface and superficial fill materials down to the top of the archaeological deposits. Where deep, homogenous backfill deposits were encountered, the machine was used to excavate through the deposits to determine their depth, following consultation with SYAS. Other archaeological deposits were cleaned and sample-excavated by hand. Details of the excavation methodology are stated in the WSI (Appendix 11).

All deposits and archaeological features were recorded using standard pro forma record sheets. Plans were drawn at scales of 1:50 and 1:20, with sections drawn at scales of 1:20 and 1:10, as appropriate. The photographic record included post-excavation shots of specific features as well as general views of the trenches. Black and white print, colour print and digital photographs were taken.

Following the completion of the excavation, the trenches were backfilled and the car park surface was reinstated. Artefacts collected from the site were sent to specialists for quantification and assessment.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

This summary of the archaeological and historical background is taken from a desk-based assessment prepared for the site (May 2010). The area comprised fields prior to the early 19th century, when it was sold off in plots for development. The site appears to have been purchased by Thomas Holy in 1804, and buildings were shown along the Eyre Lane and Brown Lane frontages by 1818. These structures appear to have been houses, shops and possibly workshops. By 1850, the two blocks of land were shown as a mixture of terraced and back-to-back housing, and larger metal trades works (Figure 2). Industries represented within the block fronting onto Charles Street in the 19th to 20th centuries included a whitesmith, a nickel silver

manufacturer, a cabinet case manufacturer, a brass foundry, a saw maker, a wood turner and an electrical goods manufactory. There is the possibility that crucible furnaces may have been located within some of the works in the 19th century, potentially for the casting of non-ferrous metals.

The plot to the southwest may have included a bricklayers yard in the first half of the 19th century, with back-to-back housing shown on the Eyre Street frontage by 1851. A manufacturing opticians works was later shown at the corner of Eyre Street in the 20th century. In the central part of the site was a cutlers' works, later a wire works. A steel manufactory was listed on the Eyre Lane side from 1841, part of the Butcher Works, the main block of which is still located to the south of Eyre Lane. In the early 20th century this works was occupied by cutlery manufacturers, then brass founders. It became a light engineering works by 1948, which spread to occupy the majority of the block. This works was demolished in 2006, and was subject to archaeological building recording (Matrix Archaeology 2005) and a watching brief during demolition (Matrix Archaeology 2006). The watching brief recorded remains of earlier building footings, cellars and a stone boundary wall. It was unclear from the watching brief whether the entirety of the archaeology below the works had been removed during the grubbing out of existing foundations.

5 RESULTS

The results of the evaluation are discussed by trench. Trenches 1 and 2 were located within the car park between Charles Street and Brown Lane. Trench 3 was located within the vacant plot formerly occupied by the Eyre Street Works. The trench locations are shown on Figure 1, and the locations overlain on the 1851 OS map are depicted on Figure 3.

5.1 Trench 1

Trench 1 was located along the southeast side of the car park. It measured 8m by 4m in extent, 2m shorter than its originally proposed length due to the presence of a buttress associated with the car park ramp. The trench was located to investigate remains of a row of houses and any associated yard deposits. The trench plan is shown in Figure 4, and the section in Figure 7. The upper layer of the trench comprised the tarmac car park surface (101), 10-20cm thick, which overlay a 20-30cm thick layer of concrete across the majority of the trench. The concrete, 102, contained rusted steel reinforcement rods, but was relatively friable. It may have represented a floor layer in the former works. The concrete was laid on a thin layer (10-15cm) of red brick rubble which appeared to be a bedding layer (103).

Underlying the tarmac at the northeast end of the trench was a brick wall, 104. This was constructed of hard, dark purple-red machine-made bricks, possibly engineering bricks, and was two courses high, sitting on a horizontal I-beam girder (117). The tarmac was thicker over this feature, possibly due to the lack of concrete over it. A modern pipe trench, 108, ran parallel with and southwest of wall 104, containing a metal pipe within a loose brown rubbly fill, 109. A substantial modern wall, 105, was located along the northwest side of the trench, four brick-widths wide (Plate 1). Map evidence suggests that 105 was an external wall of the Canada Works, shown on the 1953 OS map (Figure 2). Wall 105 was at least 15 courses high, with small buttress-like features on the south side (Plate 2). It was set in a steep-sided foundation cut (121), which was backfilled with a loose gritty dark grey-black soil containing

brick rubble (122). The base of the foundation cut and wall 105 were not reached during the evaluation.

The construction of wall 105 and its foundation cut appear to have removed or truncated any deposits associated with the former yard surface to the rear of the 19th-century houses on Eyre Lane. About 1m to the southeast of wall 105 was an east-west wall, 110 which appears to have formed the rear external wall of the houses. Wall 110 was of handmade red brick construction, two skins wide with no cavity, bonded with a yellow, friable mortar, possibly lime-based. The wall was aligned northeast-southwest, and was not perfectly straight, bending slightly inwards towards the cellars (Plate 1). The base of the wall was not reached during the evaluation. The wall was set in a foundation cut, 124, which cut through a redeposited subsoil layer, 126, and possibly through the overlying made ground layer 111 (Plate 3). The cut contained fill 125, a dark-grey black gritty deposit containing brick and stone rubble. The fill also contained some fragments of 18th- to early 19th-century glass and clay tobacco pipe, mid-to late 19th-century pottery sherds and a worked bone offcut. Wall 110 was covered by a 20-40cm thick made ground layer, 106, which contained a large proportion of rubble including bricks, stone, degraded mortar and plaster, and may have been derived from the demolition of the houses.

Two single-skin brick walls were bonded to the south side of the external wall 110. These walls, 115 and 116, were interpreted as dividing walls for the cellars associated with the terraced houses. They were constructed of handmade brick, and butted against the rear wall, partially tied in to the upper courses. Plaster was visible on the southwest face of wall 116. Walls 115 and 116 were 3.45m apart, indicating the width of the former houses. Two cellars were investigated, one between walls 115 and 116, the other to the northeast of wall 115. Sondages were excavated into the cellar fills; due to the narrow area of the cellars exposed in the trench, it was not possible to excavate to the floor level. A further cellar fill, 120, was located to the southwest of wall 116. This was not investigated, as only a very small segment of this cellar was exposed in the trench.

Two infill layers were recorded within the southern cellar, the upper layer being a rubble deposit in a grey brown sandy matrix, 112, with lots of plaster fragments and bricks (both handmade and machine-made). Below this was a black, gritty deposit, containing brick, stone and slate rubble (113). Relatively few artefacts were recovered from these layers. The sondage within the northern cellar revealed another single-skin brick wall, 119, butting against and at right angles to the dividing wall 115 (Plate 4). The base of this wall was not reached in the sondage, but it was exposed to a depth of five courses. As with 115, it was made of unfrogged red bricks bonded by a soft lime mortar. This wall would have formed a narrow compartment within the cellar, of unknown purpose. The fill of the northern cellar was a blackish-brown soil, 114, containing brick (handmade and machine-made), stone and slate rubble. This deposit contained numerous fragments of stone slabs, as well as a large quantity of ceramics, including terracotta plant pots and large earthenware vessels, all from the area within the narrow compartment. Though the fill was only partially excavated, many joining sherds of pottery with sharp breaks were found, suggesting they had been broken during deposition. Apart from several plant pots, two other almost complete vessels were represented, a yellow-glazed slipware pancheon, and a black-glazed red earthenware jar. The pottery was of 19th-century date.

A stone-built wall, 123, was encountered to the north of wall 110. The relationship of these walls was difficult to establish; wall 123 appeared to butt against 110, but the foundation trench for 110 cut through the redeposited natural (126) that appeared to lie against 123, suggesting 110 is later and may have cut through the earlier stone wall. The northwest end of 123 was cut by the foundation trench for modern wall 105, so only a 0.8m length of the wall survived (Plate 2). A sondage was excavated adjacent to 123, but the base of the wall was not reached. The wall was constructed with irregular coursing, with hints of a rubble core between two rows of larger stones. It was topped by a single row of bricks laid on their heads, and may have been the southwest exterior wall of a cellar. A grey-brown gritty silt rubble deposit (127) was located to the northeast of this wall, west of wall 110, possibly the cellar fill. A structure was shown in this location on the 1851 OS map, depicted on the 1896 Goad fire insurance plan as two single-storey buildings, possibly sheds or outshots to the rear of no.114 Charles Street.

As mentioned above, the former yard area to the rear of the terraced houses on Eyre Lane had been disturbed by the construction of the 20th-century wall associated with the Canada Works. No yard surface elements survived within the evaluation trench, but a 1m wide strip of deposits running between walls 110 and 105 appeared to be related to the yard. These mainly comprised made ground deposits, and were covered by the upper rubble dump material, 106, which overlay the cellars, house walls and yard deposits and was interpreted as a post-demolition levelling deposit. The junction between 106 and the underlying cellar fills and yard deposits was unclear.

The upper deposit, 111, was a reddish-brown soil with a high rubble content. This was cut by trench 130 for a ceramic water/drain pipe, 118. The pipe ran parallel with the rear wall of the houses (110), at just under 1m distance from the wall. The cut was only visible in section (Figure 7; Plate 3), and had been truncated by the foundation trench for modern wall 105. The pipe trench was filled by a dark grey sandy loam with rubble inclusions (129). The pipe had been damaged by the construction of 105, and clearly related to the 19th-century houses rather than the 20th-century works. The pipe was of ceramic construction, with a junction visible in the exposed part, which headed east towards the wall 110. It is likely that this represents water or drainage supply to the houses, and was probably a late 19th-century addition.

Below made ground 111 was the redeposited subsoil layer 126. As mentioned above, this appeared to lie against the stone wall 123, but had been cut by the foundation trench for brick wall 110. The deposit was c.40cm thick. At first this layer was thought to be the natural subsoil, but it was found to overlie a black gritty clinker deposit 128, which also appeared to be deposited against the southwest side of wall 123. No natural subsoil was encountered within this trench. Material culture suggested a 19th-century date for all of these contexts, with the glassware from 126 and 128 being exclusively 18th- to early 19th-century in date, whilst that from 111 comprised early and late 19th-century types; this is slightly contradicted by the pottery analysis, which could reflect a broader date range for the pottery types represented. Bone handle-making waste material was found in contexts 126 and 128, as well as three crucible fragments and ironworking slag. The crucibles appeared to relate to ferrous smelting, though one had a blob of a copper alloy material on the outside. The worked bone represented a small assemblage but was the largest concentration of this material on the site,

possibly suggesting that cutlery or handle manufacture may have been undertaken in the vicinity in the earlier 19th century.

5.2 Trench 2

Trench 2 was located towards the northwest side of the car park. It was intended to investigate remains of the former Charles Street Works. The trench was 11m by 4m in extent. It was moved 5m to the north of its original position, in agreement with SYAS, due to the presence of electricity cables for the car park lighting. The trench plan is shown in Figure 5, and the section in Figure 7. As with Trench 1, the upper layer within the trench comprised the tarmac surface of the car park (201). This overlay a levelling layer, 203, comprising a light brown silty sand containing brick and stone rubble, mainly relatively small fragments. In the north corner of the trench, a stone flag surface was exposed below 203. The flags, 204, appeared to represent a former yard surface (Plate 5). One of the flags had a circular drainage hole, with incised grooved channels leading towards it. The flags towards the southeast and south edges of the surface were broken, possibly as a result of the later disturbance which had removed any further areas of the surface. At the northwest side of the trench, a patch of concrete, 202, lay between the flags and bedding layer 203, but this was not continuous across the trench. The flagstones were interrupted at the northern edge of the trench, with more fragmentary remains of flags set at a slightly lower level visible in this area. The lower flags, context 215, were partially overlain in the northeast section by two courses of machine-made bricks.

The flags were sitting on made ground, 205, which comprised a series of dumping or levelling layers including rubble, brick rubble, clay lenses and gravelly material. At the northwest corner of the trench, these made ground layers continued down to 1.8m below the tarmac surface, where a yellow-grey clay was encountered, possibly the natural bedrock (Plate 6). This was revealed in a machine-excavated sondage. To the southwest of the flagged surface, the made ground 205 surrounded an irregularly-shaped brick-built feature, 206. This feature was constructed of frogged, machine-made red bricks, and had two parallel sides running at a diagonal angle from the north end of the feature, forming a narrow chamber (Plate 7). The structure was quite poorly built, with awkward joins between the north end and the diagonal walls. Structure 206 was a maximum of six brick courses in height, and the south ends of the sides were stepped, apparently truncated. The feature was half-sectioned, revealing a concrete base with a narrow linear hollow along its centre, suggestive of a pipe trench or drainage channel. The concrete was overlain by a thin, sticky, green-brown deposit. The purpose of the feature was unclear; it is tentatively interpreted as being related to 20th-century sanitary arrangements. It was filled by a brick rubble deposit with a high proportion of whole or nearly-whole bricks, which was interpreted as part of dumping layers 205. The bulk of the finds recovered from layer 205 came from within and around this feature, and included a relatively large quantity of ceramic sherds, mainly domestic forms of 19th- to 20th-century date, as well as 19th- to 20th-century bottle and window glass.

The remains of a cellar occupied the southeast end of the trench. The tops of the cellar walls were covered by the made ground layer 205. The cellar walls were predominantly of stone construction (208) in an irregular coursing, with concrete mortar on the inner faces and lime mortar visible within the wall from the top (Plate 8). This suggests that the concrete mortar represents a later re-pointing of the walls, with the original bonding agent being the lime

mortar. The walls on the northwest and southwest sides are tied into each other, whilst the northeast wall abuts the northwest wall, suggesting that it may be a partition wall rather than part of the main structure. This would concur with the 1851 map, which suggests that the two tied-in walls represent the exterior of the building to the rear of no.102 Charles Street.

On top of the northeast and southwest cellar walls were the remnants of springers for a vaulted brick ceiling (207). On the southwest wall this was topped by unfrogged brick wall (216), which presumably formed the main fabric of the building (Plate 9). Within the northwest wall were the remains of a structure interpreted as a coal chute, a rectangular compartment extending to the northwest of the cellar, constructed of handmade red brick (209). The interior of the compartment contained coal dust (217), which sloped downwards towards the cellar and could also be seen in patches on wall 208 below the coal chute. The coal chute appeared to have been altered at some point, with stone blocking (214) reducing it to half its original width. The 1851 and 1896 maps suggest that the coal chute would have been accessed from the yard to the rear of no.100 Charles Street, which could be reached via a cart passage between nos.100-102. No remains of the passageway survived within the trench, with the flagged surface 204 having been removed in this area.

The cellar appears to have had an earth floor, with the clay bedrock at the base (211) being stained with coal dust indicating that it was exposed during the cellar's use. Patches of mortar (212) overlay the clay, particularly at the southwest side of the cellar, suggesting there had been a later mortar floor (Plate 10). The cellar fill, 210, comprised a rubble deposit including sections of the cellar ceiling, suggesting that the backfilling coincided with the demolition of the building. The fill contained industrial waste material, including bundles of steel wire and a grindstone.

The cellar walls appeared to be cut through a gritty, cindery deposit 213 on the southwest side of the building. This contained some brick rubble, mainly relatively small fragments, and with noticeably less rubble than 205. Ceramics recovered from this layer comprised predominantly domestic forms of 19th-century date, and there were also two fragments of late 18th- to early-19th century bottle glass. Deposit 213 underlay a 5-8cm thick layer of firm, sticky yellow clay, 219, which adhered to the side of the cellar wall, possibly a levelling deposit below 205.

5.3 Trench 3

Trench 3 was located within the area of vacant ground between Brown Lane and Clay Lane. This part of the site is thought to have been substantially disturbed during the demolition of the Eyre Street Works in 2006. The trench measured 8m by 4m, and the plan is shown in Figure 6.

The upper layer of the trench comprised a dark brown sandy clay with frequent brick and stone fragments, representing crushed demolition rubble (301). This layer was c.50cm thick. In the southeast end of the trench, 301 overlay the remnants of a stone flag surface, 302. This comprised several large sandstone flagstones and unfrogged brick fragments set on a patchy bedding layer of lime mortar (Plate 11). The flagstones were aligned at an angle of c.45 degrees to the orientation of the streets and former buildings as shown on historic maps. No associated structural remains were noted, and only a small patch of the surface survived (1m by 2m), so its date and relationship to earlier works buildings are unclear. The surface overlay a dark brown, very compact sandy clay made ground deposit, 303.

Deposit 303 comprised all the made ground deposits underlying 301, and was excavated by machine to a depth of 2.3m below the ground surface in the centre of the trench (Plate 12). No natural subsoil or bedrock layers were encountered within this trench. This part of the site is assumed to have been disturbed by the removal of foundations and cellarage associated with the former works buildings.

6 DISCUSSION

6.1 Discussion of evaluation results

The results from Trench 3, within the vacant ground between Brown Lane and Clay Lane, suggest that this area has been disturbed by the grubbing-out of foundations and cellarage of the former works in this area. The potential for the survival of significant remains within this area is considered to be negligible.

The remains within the car park between Charles Street and Brown Lane indicate that archaeological remains do survive within this area, at depths of between 30cm and 80cm below the current ground surface. The remains exposed in Trenches 1 and 2 include structures related to 19th-century houses and a works, as well as to 20th-century works buildings and services. In Trench 1, the walls exposed during the evaluation match up well with those shown on the 1851 OS map (Figure 3). The yard deposits associated with the houses on Eyre Lane have been largely disturbed by the construction of 20th-century walls associated with the Canada Works, and no remains of surfacing, pits or yard activities were found beyond a ceramic pipe probably associated with the late 19th-century provision of drainage or water to the houses. The cellar walls exposed indicate that the individual houses were 3.45m (11 feet) wide, with double skin exterior walls and single-skin internal division walls. The narrow area of the exposed cellars meant that the base of the cellars could not be reached in the sondages.

The fills of the two cellars examined in Trench 1 differed in that one had a very high ceramic content. This was found in a compartment within the cellar between the rear wall and a parallel wall to the southeast. The pottery included many sherds from the same vessels, with some whole and almost whole examples represented, and most of the breaks were relatively fresh, suggesting that they were broken during deposition. Forms included large domestic vessels, such as pancheons, jars and bowls, as well as a number of terracotta plant pots, and the assemblage was generally of 19th-century date. This suggests a single deposition episode of local material within this area. The assemblage from this context (114) is of a substantially different character to those from the other made ground/backfill layers within the site in terms of completeness of vessels as well as the density of ceramic within a small area.

It has not been possible to establish from the evaluation whether the cellars extended across the full extent of the houses, though the lack of coal chutes along the rear edge of the buildings suggests that this is likely. The houses may have consisted of a single room on each floor, with a cellar below. It is possible that ground floor layers associated with structures on the Charles Street frontage may survive along the northeast side of the site. The remains of early 19th-century housing in the town centre are considered to be of high local archaeological significance; however, the amount of information that can be recovered from cellars is limited, and the relative lack of yard deposits and ground floor levels in this area means that there is little chance of recovery of features and sealed deposits related to human activity associated

with the houses. The unusual nature of the material within cellar fill 114 suggests that at least some of the cellar backfill may relate to activity within the site; in general it is difficult to establish whether the material in backfill and made ground deposits derives from the houses or has been brought in from elsewhere in the town.

The remains within Trench 2 comprised a cellar and part of a stone flag surface. The cellar appears from map evidence to be associated with a building to the rear of no.102 Charles Street, shown in 1851 as part of the Charles Street Works, with the flag surface likely to be associated with the yard of the works, behind no.100 Charles Street. Remains of a structure possibly associated with sanitary accommodation for a later phase of the works were found in the trench. The cellar was of stone construction, unlike those of the houses in Trench 1, although one stone wall possibly associated with a cellar was recorded at the northeast side of Trench 1, again associated with a building fronting onto Charles Street. The cellar had a coal chute facing into the yard. No remains clearly associated with industrial activity were identified within Trench 2, though some of the material in the backfill layers was indicative of waste material from industrial processes. It is likely that further remains associated with the works survive within the car park area.

6.2 Material culture

Artefactual material recovered from Trenches 1 and 2 was dominated by later 19th to 20th-century items, including a variety of ceramics (mainly domestic forms), window glass, bottles and jars, a relatively small number of clay tobacco pipes, handle-making and metalworking waste, animal bone and a small amount of ceramic building material. In general, the material appeared to be relatively typical of a 19th- to 20th-century urban site, and was not considered worthy of further analysis. As mentioned in section 6.1 above, the ceramic assemblage from one context, 114, was of a substantially different nature to the rest of the pottery from the site, in terms of the completeness of vessels and nature of deposition, suggesting that this could relate to material derived from the site rather than brought in specifically as backfill material. The glass assemblage included some pre-1830 material, with exclusively 18th- to early 19th-century types found in the deposits underlying the former yard in Trench 1 and in a made ground layer which appeared to pre-date the cellar in Trench 2. The clay tobacco pipes recovered mainly comprised plain stems, the majority of which appeared to be 19th-century types. Fragments of four clay pipe bowls all appeared to date to the period 1830-1860.

The handle-making waste included worked bone, antler and possible ivory fragments as well as a nickel-silver handle, whilst the metalworking waste comprised three crucible fragments, undiagnostic ironworking slag and iron/steel wire. The small size of the assemblage meant that it was not possible to state that the activity related to cutlery manufacturing or other metalworking trades at the site. The manufacturing material from Trench 2 came from backfill layers and could relate to material brought in from off-site; whereas some of the Trench 1 material was found in the fill of the foundation cut for a 19th-century wall or made ground interpreted as underlying the former yard, and could therefore relate to activity in the vicinity.

Specialist assessment reports for all the material culture recovered are contained in Appendices 3-10.

7 CONCLUSIONS

The archaeological evaluation indicated that archaeological remains of 19th- to 20th-century date survive within the car park area in relatively good condition, whilst the vacant plot to the southwest appears to have been substantially disturbed by modern construction and demolition activities. The archaeological potential within the vacant plot is considered to be negligible. Archaeological remains within the car park comprised cellars and a yard surface associated with 19th-century housing and a workshop. These remains are considered to be of local archaeological significance. Any requirements for further archaeological work should be discussed and agreed in consultation with South Yorkshire Archaeology Service prior to the commencement of development.

8 BIBLIOGRAPHY

ArcHeritage. 2011. *Written Scheme of Investigation for Archaeological Evaluation: Land off Charles Street, Sheffield*. Unpublished ArcHeritage report.

IfA. 2008. *Standard and Guidance for Field Evaluation*. Institute for Archaeologists: Reading.

May, R. 2010. *Arundel Gate/Charles Street, Sheffield, South Yorkshire: Archaeological Desk-Based Assessment*. Unpublished ArcHeritage report 2010/25.

Matrix Archaeology. 2005. *44 Eyre Lane and 161/163 Arundel Gate, Sheffield City Centre. Archaeological Assessment and Building Appraisal*. Unpublished Matrix Archaeology report.

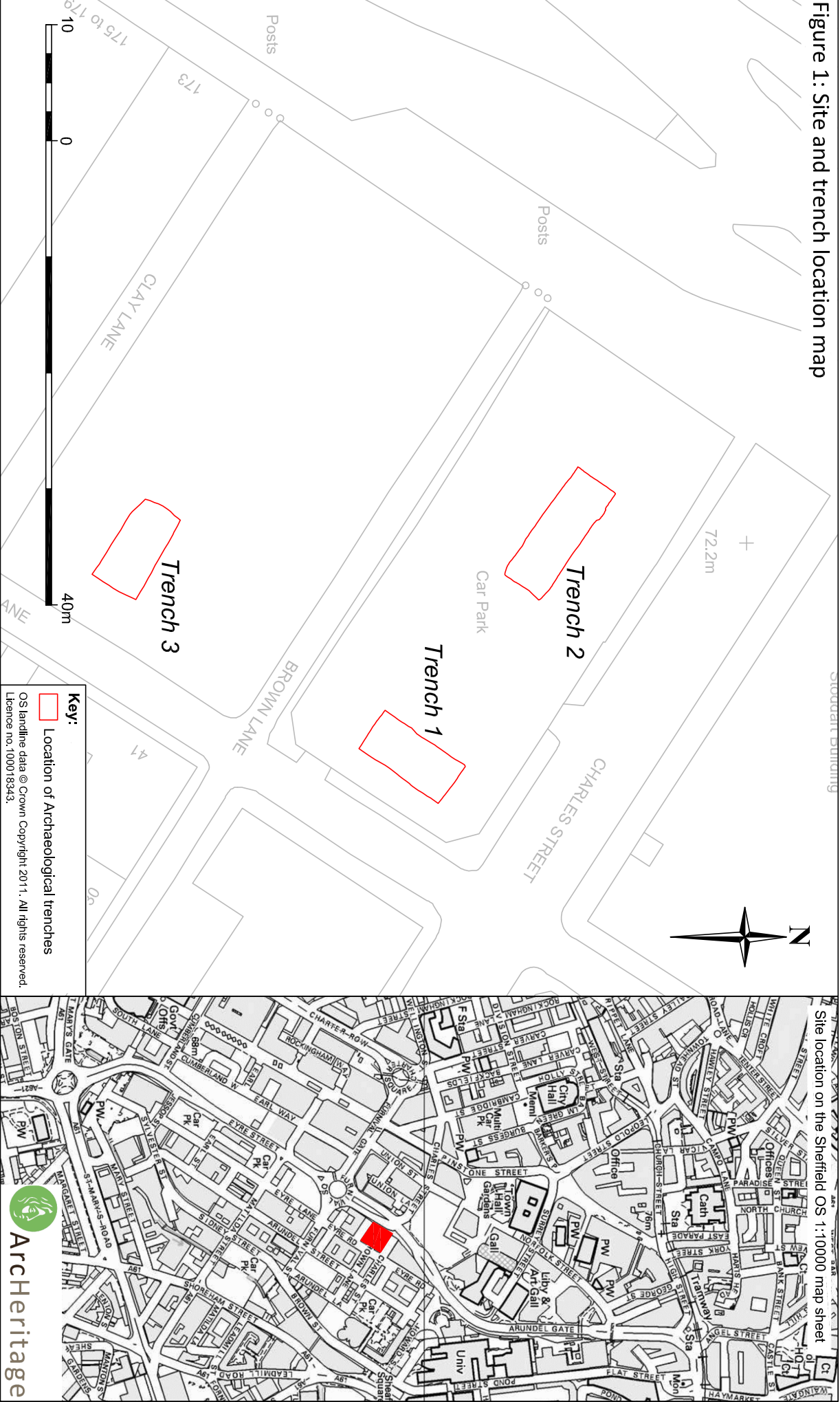
Matrix Archaeology. 2006. *44 Eyre Lane and 161/163 Arundel Gate, Sheffield City Centre. Archaeological Watching Brief*. Unpublished Matrix Archaeology report.

9 ACKNOWLEDGEMENTS

ArcHeritage would like to thank Dave Holland of Sheffield Hallam University's Estates Department for aid and for facilitating access to the site, and Dinah Saich of SYAS for advice and monitoring.

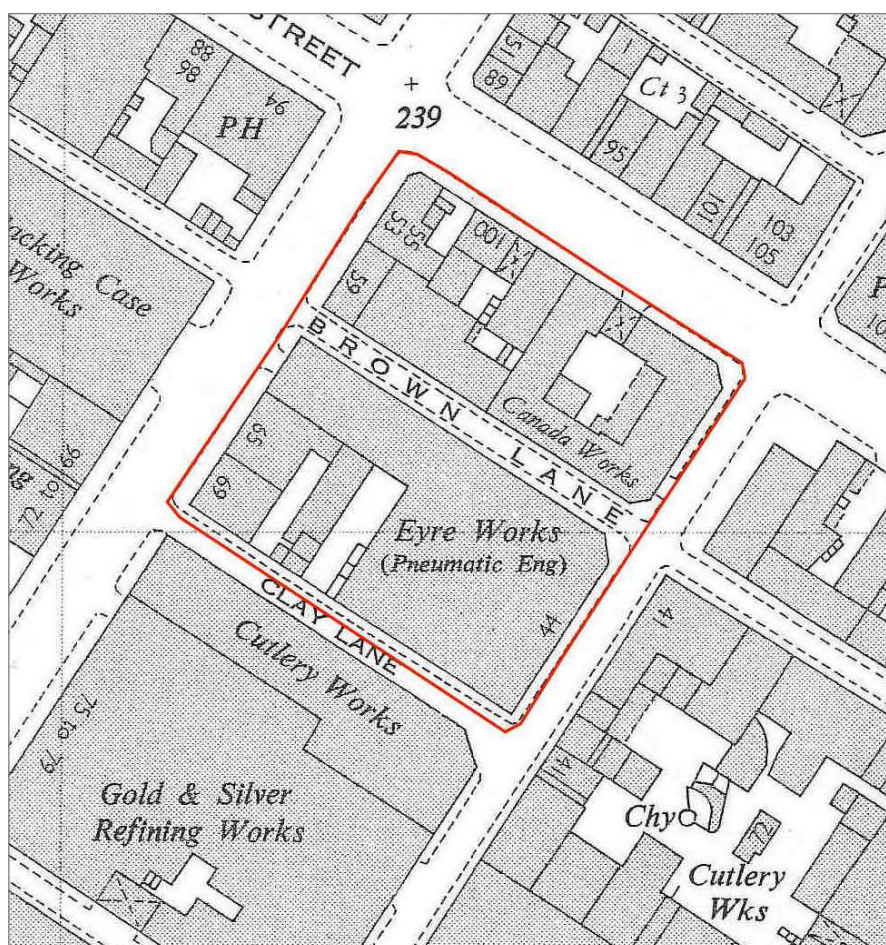
10 FIGURES

Figure 1: Site and trench location map





1851 OS map



1953 OS map

π 70.83





4m

Figure 6: Plan of Trench 3

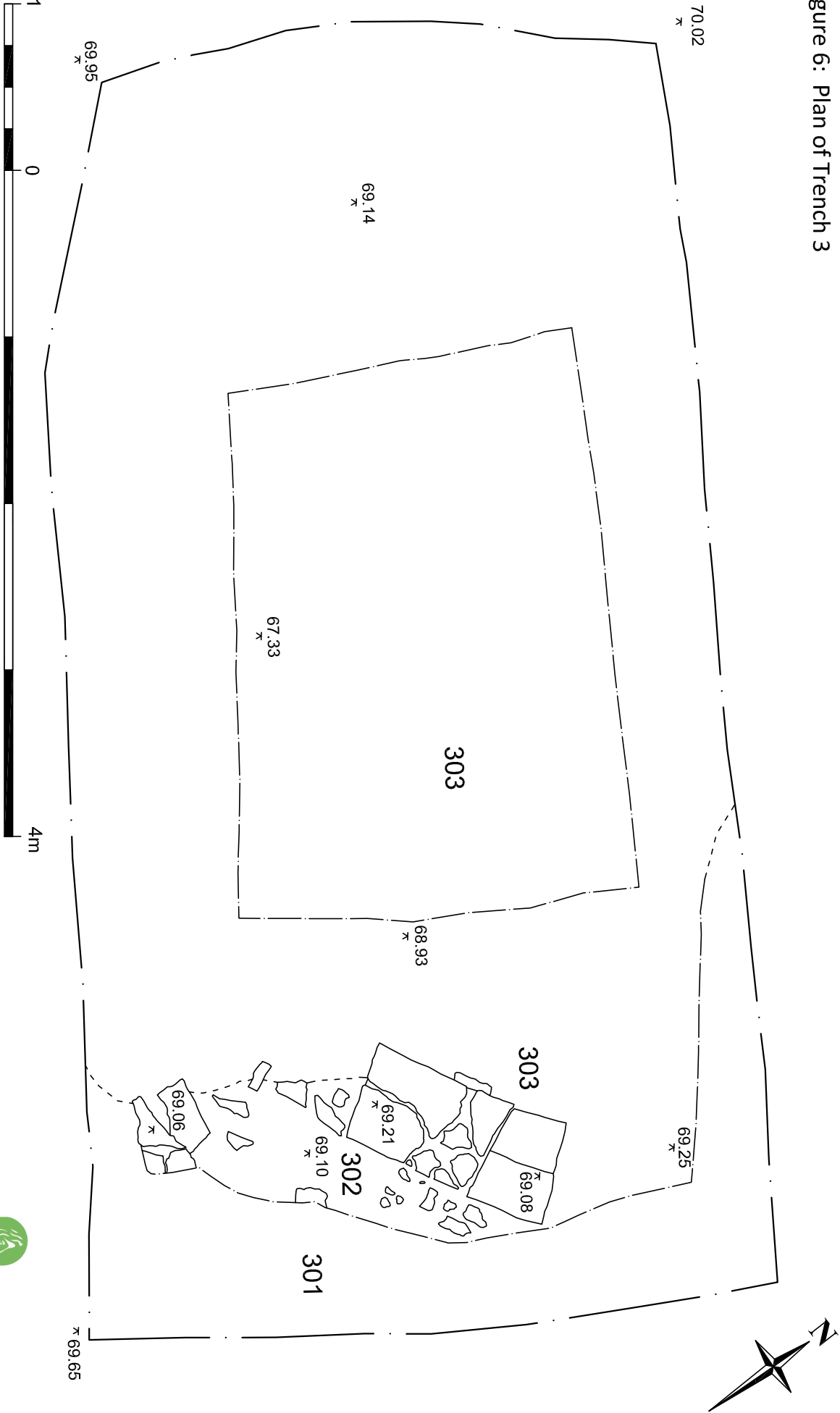
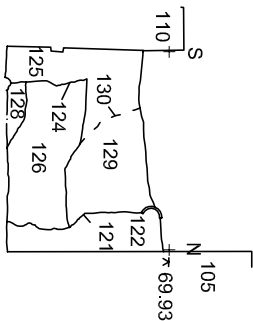
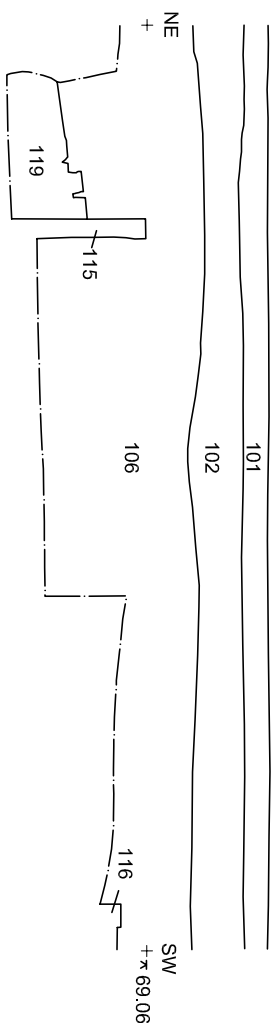


Figure 7: Section drawings

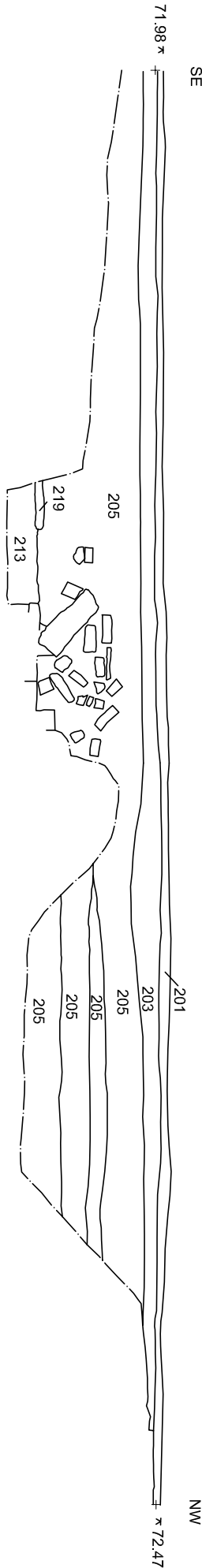
Section 3 - north-east facing section of sondage in Trench 1



Section 4 - north-west facing section of Trench 1

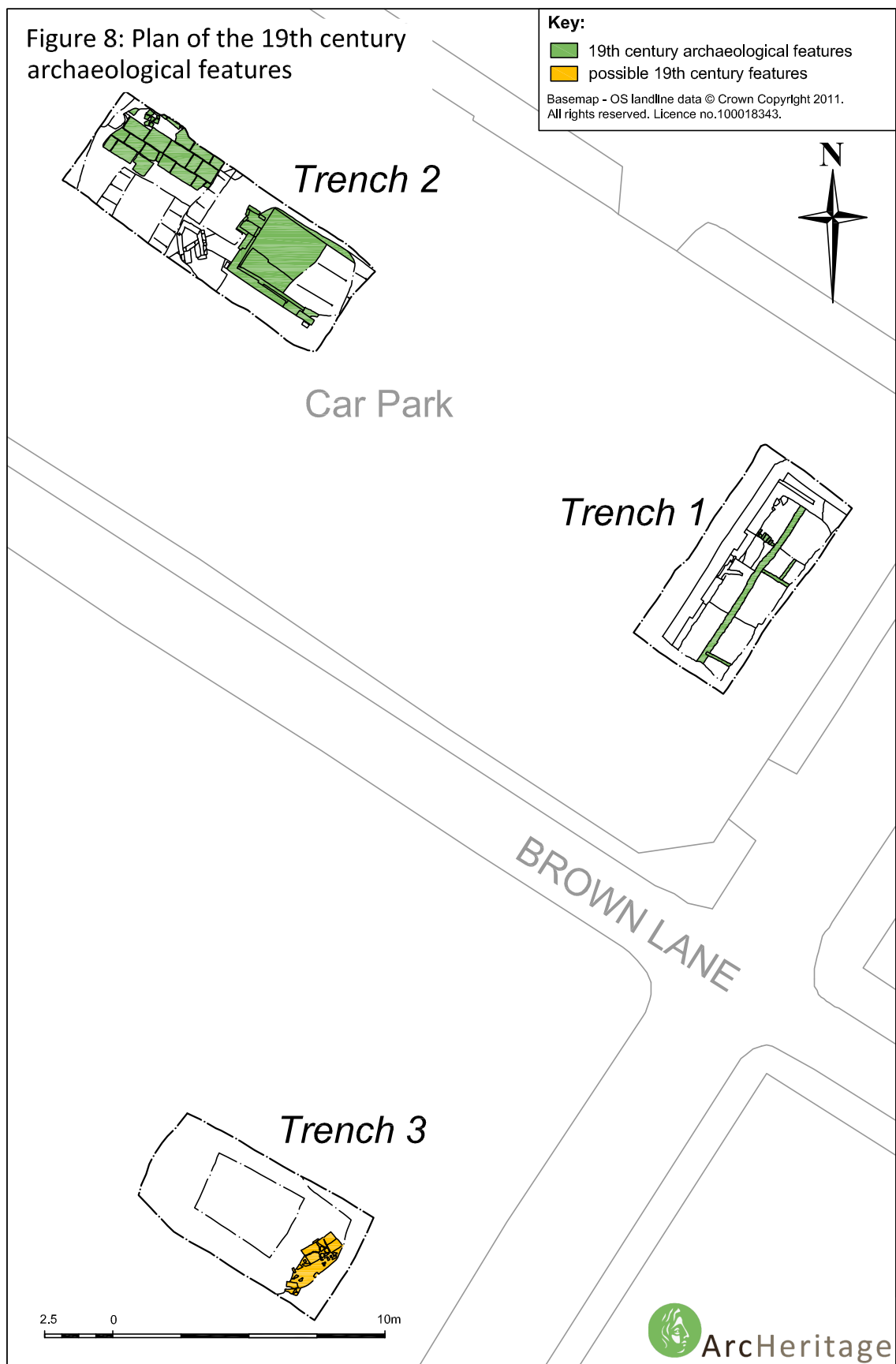


Section 8 - north-east facing section of Trench 2



----- Depth below surface after final machine excavation in trench 2

Figure 8: Plan of the 19th century archaeological features



11 PLATES



Plate 1: View northeast along Trench 1, showing wall 110 (centre) and wall 105 (left)



Plate 2: Elevation of wall 123, with wall 105 to left and brick wall 110 to right, viewed facing northeast



Plate 3: Section of yard deposits in Trench 1, and pipe 118, viewed facing southwest



Plate 4: Trench 1, detail of walls 115 and 119, wall 110 in foreground, viewed facing southeast



Plate 5: Trench 2, stone flag surface 204, viewed facing southeast



Plate 6: Trench 2, section of made ground deposits 205, viewed facing southwest



Plate 7: Brick structure 206, viewed facing northwest



Plate 8: Northwest cellar wall 208, with coal chute 209 above, viewed facing northwest



Plate 9: Trench 2, southwest wall of cellar (208), with overlying brick wall 216



Plate 10: Trench 2, floor 212 of cellar, viewed facing northwest



Plate 11: Trench 3, remnant of surface 302, viewed facing northwest



Plate 12: Trench 3, section through made ground 303, viewed facing northeast

APPENDIX 1 – INDEX TO ARCHIVE

An online OASIS form has been completed for the project (<http://www.oasis.ac.uk/>). OASIS is a project undertaken by the Archaeology Data Service in association with local authority planning archaeologists to provide an online index to unpublished fieldwork reports completed in the UK. A summary of the key fields is given in Table 2.

OASIS no.	archerit1-104986
Project details	
Project name	Charles Street, Sheffield
Project dates	03-05-2011 to 12-05-2011
Project reference codes	5349 (Contracting unit number)
Type of project	Field evaluation – targeted trenches
Site status	Conservation Area
Current land use	Vacant land previously developed
Monument types	Back-to-back houses, cutlery works - post-medieval
Significant finds	Domestic ceramics, steel wire - post-medieval
Development type	Public building
Prompt	Planning condition
Project location	
Site location	Arundel Gate/Charles Street, Sheffield, South Yorkshire
Study area	2615 square metres
Site coordinates	SK 3544 8691 (point)
Project creators	
Project brief originator	SYAS
Project design originator	ArcHeritage
Project manager	David Aspden
Project supervisor	Glyn Davies
Sponsor/funding body	Developer
Project Archives	
Archive recipient	York Archaeological Trust (temporary)
Archive ID	YORAT:2011.4
Archive notes	Held at YAT pending identification of suitable recipient
Archive contents	Ceramics, CBM, metal,; survey, digital photographs, photographs, site records
Project Bibliography	
Report type	Unpublished technical report (grey literature)
Title	Archaeological Evaluation of Land off Charles Street, Sheffield
Author	R. May
Report no	2011/46
Issuer/date	ArcHeritage, Sheffield/2011

Table 2: Summary of OASIS form

The project archive is currently held by the York Archaeological Trust, under the accession number YORAT:2011.4, pending identification of a suitable recipient. The contents of the archive are listed in Table 3.

Item	Number of items
Context register	4
Context sheets	52
Levels register	3
Photographic register	3
Drawing register	1
Original drawings	9
B/W photographs (films/contact sheets)	16 (1)
Colour photographs (films)	33 (1)
Digital photographs	42 (1 CD)
Written Scheme of Investigation	1
Report	1
Ceramic	574 sherds
Clay tobacco pipe	22 fragments
Glass	57 shards
Metalworking residues	5 items
Animal bone	15 items
Worked bone	1 small box
Ceramic building material	10 fragments
Miscellaneous items	1 box

Table 3: List of archive contents

APPENDIX 2 – CONTEXT LIST

Trench no	Context no	Description
1	101	Tarmac surface
1	102	Concrete layer below tarmac
1	103	Red brick rubble levelling layer
1	104	Brick wall at east end of trench
1	105	Modern brick and concrete wall on north side of trench
1	106	Backfill/dump layer beneath 103
1	107	Modern pipe
1	108	Pipe trench cut for 107
1	109	Fill of pipe trench 108
1	110	East-west brick wall forming rear of buildings
1	111	Deposit below yard level
1	112	Upper fill of central cellar
1	113	Lower fill of central cellar
1	114	Fill of east cellar
1	115	Cellar wall
1	116	Cellar wall
1	117	Girder under 104
1	118	Water drainage pipes
1	119	Red brick wall
1	120	Fill west of wall 116
1	121	Foundation trench cut for modern wall 105
1	122	Fill of foundation cut 121
1	123	Drystone wall with brick top
1	124	Foundation trench cut for wall 110
1	125	Fill of foundation cut 124
1	126	Redeposited natural layer against wall 123
1	127	Grey-brown gritty silt deposit north of 110
1	128	Black gritty layer below 126
1	129	Fill of pipe trench 130
1	130	Cut of trench/gully for drain pipe
2	201	Tarmac surface
2	202	Patch of concrete below tarmac
2	203	Upper rubble backfill
2	204	Flagstone floor
2	205	Backfill layers
2	206	Brick structure
2	207	Roof arch at top of cellar
2	208	Sandstone cellar walls
2	209	Coal chute in cellar
2	210	Fill of cellar
2	211	Clay in base of cellar

Trench no	Context no	Description
2	212	Mortar/concrete floor patches in cellar
2	213	Gritty layer below clay 219
2	214	Alteration to coal chute
2	215	Lower flagstones below 204
2	216	Brick wall on west side of cellar
2	217	Coal dust deposit in coal chute
2	218	Fragment of brick wall in section over flags 215
2	219	Clay deposit between 205 and 213
3	301	Upper dump/backfill layers
3	302	Fragmentary stone surface
3	303	Lower dump/backfill layers

Table 4: List of contexts

APPENDIX 3 – CERAMIC ASSESSMENT

By Anne Fletcher, York Archaeological Trust

A small assemblage of 574 sherds, weighing a total of 20964g, was retrieved from Charles Street (Project 5349). It consists almost entirely of domestic vessels of a relatively mundane and functional nature. There are no imported fine wares. The table wares consist of a handful of banded wares and even less hand-painted ware, small numbers of transfer printed wares and a slightly larger amount of cream and white earthenware.

Some of the transfer printed wares could have been made anywhere in the country but are probably of relatively local origin. The painted foliate tea cup sherds were almost certainly made locally and parallels can be found in publications of pottery from South Yorkshire (see Griffin 2000).

The majority of the wares are functional kitchen wares used for preparing and storing, rather than heating. These wares are mainly locally-made red earthenware pancheons and bowls with black glaze. Locally-made, slip coated red earthenware pancheons and bowls and English stoneware also form part of the archive.

One context [114] contained three smashed vessels: plant pots, a pancheon and a steep sided jar with bung hole. These vessels may have been used for brewing. The large size of the sherds suggests that they are the result of primary discard. The lack of abrasion also suggests that the sherds have not travelled far from the site of their original use.

There are no recommendations for further study.

Context	Spot date	Details	Total
111	C19th	2 transfer printed tea pot lid with blue and white decoration medium and small sized sherds. 1 transfer printed flanged dish with blue and white decoration medium to large sherd. 12 transfer printed open forms with blue and white decoration small. 2 transfer printed open form with maroon foliate decoration. 2 china bowl with fluted rim and band of blue and white decoration inside rim join small sherds. 1 transfer printed cup with stylised blue decoration on white ground small sherd. 17 black glazed red earthenware pancheon bowl and mug and jar base small to large sherds. 2 white earthenware with moulded scalloped edge decorated with blue feathering. 2 banded ware jar with blue stripe on white ground. 1 banded slip ware bowl with brown and white stripes on yellow ground. 2 banded slip ware with diced squares and sgraffito decoration in blue and brown on a white ground jar. 1 English stoneware mug. 21 English stoneware bowls with Nottingham type glaze and stamp decorated with stars and rows of rectangular impressions. 2 English stoneware with mottled brown glaze. 6 English brown stoneware with mid grey fabric. 1 banded slip ware plain yellow. 2 English stoneware with white internal and yellow external surfaces. 1 over fired earthenware jug or jar base ?waster. 1 white earthenware tea cup decorated with applied broken white particles externally slip ware moulded dish with tiny thumb edging. 1 brown lustre ?tea cup rim. 1 light blue china tea cup. 1 fine red stoneware with white internal glaze and dark brown external glaze. 5 pearl. 2 stoneware marmalade jar. 1 red earthenware with manganese brown glaze. 37 cream ware shallow bowl with short flanged rim. 1 creamware with light blue internal surface. 1 cream ware with ?edge of brown painted design.	129 sherds 1830g

Context	Spot date	Details	Total
114	C19th	<p>25 slip ware pantheon with yellow internal glaze and brown stripe along the rim almost complete smashed into large pieces (2473g).</p> <p>1 slipware vessel with yellow glaze and thin wall.</p> <p>12 terracotta plant pot complete and smashed in large pieces.</p> <p>43 black glazed red earthenware deep sided jar with rolled rim and bung hole almost complete, smashed into large pieces (8989g *draw).</p> <p>1 high fired white earthenware glass ware jar with angle at shoulder.</p> <p>1 English brown stoneware bowl rim.</p> <p>1 cream ware small, deep sided dish with small flanged rim.</p> <p>1 fine white earthenware with degraded glaze.</p> <p>1 transfer printed ware flanged dish with light blue floral decoration.</p>	86 sherds 12251g
122	C19th	<p>1 slip ware shallow bowl with moulded base and thrown wall red fabric and yellow glaze with brown ?marbling and thumbled at rim edge (*profile).</p> <p>1 slipware moulded bowl in lightly oxidised fabric with feathered decoration in brown chestnut and yellow glaze.</p> <p>1 highly fired red earthenware unglazed curved body sherd with three horizontal incised lines.</p> <p>1 terracotta plant pot spald.</p> <p>2 white earthenware with blue feathered scalloped rim edge shallow.</p> <p>2 banded slipware brown stripes on yellow ground.</p> <p>1 English stoneware with mid grey fabric and brown external glaze.</p> <p>1 English stoneware with light grey fabric and light brown external glaze.</p> <p>3 transfer printed with maroon foliate design and wide scalloped rim.</p> <p>7 English stoneware in mid grey fabric and Nottingham style glaze two bowls with flanged and rolled rims and a small ?jar; one sherd has a white concretion.</p> <p>14 transfer printed tea cup shallow dish rim and bowl.</p> <p>1 hand painted tea cup or bowl with hand painted brown stripe inside rim and green foliate design.</p> <p>1 ?waster cup or bowl with lightly oxidised fabric with rough surfaces and raised dark grey black raised areas.</p> <p>3 pearl ?jug rim with row of impressed chequer design.</p> <p>9 black glazed red earthenware bowl or pantheon.</p> <p>20 black glazed red earthenware two chamber pots or jars with a rib at the base.</p> <p>32 cream ware including two flanged dish rims with raised rolled rim edge and one bowl base.</p>	100 sherds 1266g
125	Mid-/late C19th	<p>2 transfer printed tea cup rims blue and white stylised floral design small sherds.</p> <p>1 white salt glazed stoneware cup or bowl base small sherd.</p> <p>1 banded ware with brown stripe inside rim.</p> <p>1 fine china tea cup rim with hand painted reddish orange horizontal lines inside the rim filled in geometric design in light brown.</p> <p>6 English stoneware two bowls with pedestal and flat bases and Nottingham style glaze black glazed red earthenware rim with ?spout.</p> <p>2 terracotta unglazed scraps.</p> <p>1 white earthenware shallow dish with moulded blue feathered rim edge.</p> <p>25 white and cream earthenware shallow flanged dish small to large sherds.</p> <p>3 cream ware shallow flanged dish small to large sherds.</p> <p>1 pearl cup.</p> <p>6 black glazed red earthenware ?mug small to medium sherds.</p> <p>10 black glazed red earthenware pantheon with squared off bifid rim mainly large sherds.</p>	59 sherds 845g
126	Mid-/late C19th	<p>1 English stoneware ?balcking bottle base with light grey fabric medium.</p> <p>1 English stoneware with mid grey fabric small.</p> <p>1 white earthenware with dark brown stripe decoration at rim and above shoulder small.</p> <p>4 English stoneware bowl with rib at base and rolled rim and Nottingham style glaze one sherd has a thick white powdery concretion small to large.</p> <p>26 black glazed red earthenware bowl with rolled rim, two pancheons and three mugs small to large sherds.</p> <p>1 transfer printed scrap.</p> <p>1 cream ware with light green ribs and watery brown stripe below small.</p> <p>1 cream ware tea cup covered with thin rough whitish concretion.</p> <p>10 cream ware flanged dish and bowl with pedestal base including one sherd with iron concretion over break.</p> <p>1 white earthenware shallow dish with scalloped moulded blue feathered rim shows signs of overheating with iron rich concretion over all surfaces and breaks medium.</p> <p>1 white earthenware with dark grey rough concretion on surface small.</p>	48 sherds 1415g

Context	Spot date	Details	Total
128	Mid-/late C19th	<p>5 English stoneware bowl with rib at base and rolled rim and three incised lines below with Nottingham type glaze.</p> <p>2 red earthenware unglazed.</p> <p>1 buff fabric bottle rim with wide neck shoulder and dark brown glaze medium.</p> <p>1 red earthenware with mid brown external glaze with brown specks and white internal glaze small.</p> <p>1 fine mid grey stoneware flanged bowl with dark brown surfaces.</p> <p>15 black glazed red earthenware pancheon with squared off bifid edged rim mainly medium and large sherds.</p> <p>4 black glazed red earthenware bowl small.</p> <p>2 black glazed red earthenware bowl with small flanged rim small and medium.</p> <p>2 red earthenware bowl with collared rim and brown iron flecked glaze.</p> <p>1 lightly oxidised ware ribbed based bowl with brown manganese dusted glaze inside and sooting under base medium.</p> <p>1 white earthenware shallow dish with flanged rim with moulded scalloped blue feathered rim minor ?pre-firing cracks (*profile) large.</p> <p>1 cream ware with grey concretion ? over fired small. 1 fine white earthenware cup with overglaze painted fine brown line small.</p> <p>10 cream ware shallow flanged dish small and medium.</p>	46 sherds 1952g
205	C19th/ C20th	<p>1 white earthenware sanitary large.</p> <p>3 English stoneware with Nottingham type glaze fine walled bowl with simple everted rim small.</p> <p>1 English stoneware whitish fabric light glaze small.</p> <p>2 banded ware with brown stripes on white ground small.</p> <p>7 black glazed red earthenware pancheon bowl and mug small to large.</p> <p>1 flow blue cup small.</p> <p>6 transfer printed bowl end dish including Wan Li and floral small.</p> <p>1 white earthenware dish with scalloped blue feathered moulded rim small.</p> <p>1 simple deep sided small bowl with feathered blue line at rim.</p> <p>1 white earthenware tankard with pedestal base and rib with two incised lines and thin blue line above small.</p> <p>2 white earthenware with matt white surfaces and parts of three perforated holes small.</p> <p>1 white salt glazed stoneware bowl small.</p> <p>2 cream ware with bluish tinge pedestal base and series of crude evenly spaced groups of incised lines inside the lower wall base join medium.</p> <p>1 white earthenware with raised letters EN under base medium.</p> <p>23 cream ware bowl and dish small to medium.</p> <p>1 white earthenware tile with curved edge and yellow glaze medium ?from fireplace.</p> <p>1 English stoneware with light grey fabric and matt light buff grey glaze medium.</p>	55 sherds 756g
213	C19th	<p>11 English stoneware bowls with Nottingham type glaze and flat base and one rolled everted rim and one simple rounded off wall width rim with rows of stab and slash marks small.</p> <p>1 white earthenware shallow flange rimmed dish with scalloped moulded blue feathered rim small to medium.</p> <p>1 white earthenware with blue stripe scrap.</p> <p>13 black glazed red earthenware bowl and pancheon with squared off bifid edged rim small to large .</p> <p>1 red earthenware bowl with simple everted rim and iron flecked dark brown glaze small.</p> <p>1 red earthenware strap handle small.</p> <p>1 red earthenware with mottled iron flecked metallic brown glaze small.</p> <p>1 red earthenware pancheon with flaky brown glaze small.</p> <p>2 white earthenware with curved sgraffito lines and light and mid blue infill small.</p> <p>1 white earthenware with light blue glaze on both surfaces small.</p> <p>18 cream ware plate dish and bowl small and medium.</p>	51 sherds 649g

Table 5: Catalogue of ceramic artefacts

Bibliography

Griffin, J. 2000. *The Don Pottery, 1801-1893*. London.

APPENDIX 4 – CLAY TOBACCO PIPE ASSESSMENT

By Dr. S. D. White, University of Liverpool

A small group of 47 clay tobacco pipes, comprising six bowl fragments and 41 plain stems, were recovered from archaeological work in Charles Street, Sheffield (see table below).

Context	SF	Description	Date Range
111		Qty 8 – plain stems	1800-1900
111	23	Qty 16 fragments; 14 plain stems, two of which have traces of glaze; one spur fragment; one bowl fragment	1830-1860
112		Qty 1 – plain stem; possibly burnished	1700-1780
122	12	Qty 2 fragments; one plain stem, one bowl fragment	1800-1900
125		Qty 2 – plain stems; one possibly late C18th, the other C19th	1780-1900
126		Qty 1 – plain stem	1800-1900
128		Qty 1 – plain stem	1800-1900
205		Qty 9 – plain stems	1800-1900
213	7	Qty 6 fragments – two plain stems (one burnished C18th and one C19th), three joining bowl fragments (flower motif); one bowl fragment (possible Masonic motifs)	1760-1860

Table 6: Catalogue of clay tobacco pipe

The six bowl fragments account for four individual bowls. Context 111 produced two plain spur bowls c.1830-1860, the most complete of which has an internal bowl cross in the base of the bowl cavity, and a post-production flaw on the side of the bowl. These two features have previously been noted on a number of bowls from sites across Sheffield and appear to be associated with a particular local workshop practice.

The two remaining bowl fragments, both from Context 213, have traces of moulded decoration – one with flowers and one with what may be Masonic motifs – both appear to date from c.1830-1860.

The rest of the assemblage is made up of plain stems. Plain pipe stems are always more difficult to date accurately. However, the general appearance of the stem fragment and the size of the stem bore can give an indication as to the likely century in which it was produced. Stem dates should be used with caution since they are much more general and less reliable than dates that can be determined from bowl fragments or from stems that are decorated or marked by known makers.

Almost all of the pipe stems from Charles Street are plain 19th-century types. There are just three stems that may date to the eighteenth century; one burnished stem from Context 112; a plain stem from Context 125; and another burnished stem from Context 213.

APPENDIX 5 – GLASS ASSESSMENT

By J. Kemp

Very little glass is present, but what there is can be divided into a relatively small number of categories:

1. Freeblown cylindrical 'black glass' wine bottles of the late 18th and/or early 19th centuries. Fragments of these bottles occur in every context where glass was present. In contexts 111, 122, 125 and 205 these sherds co-occur with items of later manufacture (late 19th or 20th century), but in contexts 126, 128 and 213 they are the only glass present.
2. Window glass. Occurs in contexts 111, 122, 125, and 205. All appears to be late 19th or 20th century in date.
3. Opaque white, or 'milk' glass pane. This distinctive glass occurs in several contexts, suggesting possible cross-contamination. If this possible contamination is ignored in context 125, all other glass in that context is of 18th or early 19th century date.
4. Various late 19th or early to mid 20th century bottles. A variety of bottles and jars, ranging from late 19th century to mid 20th century occur in several of the contexts. The two small emerald green sherds found separately in contexts 111 and 122 appear to be from the same container, which was probably a ribbed hexagonal 'poison' bottle typical, in that colour, of approximately 1900 to the 1940s. The lip treatment of this example suggests a pre-1930 date. One base fragment from a large opaque 'milk' glass container is pontilled, and may be from an apothecary or chemists storage or display bottle.
5. A single fragment of a freeblown apothecary phial of the 18th century or first half of the 19th century. This was found along with sherds of mid to late 18th or early 19th century freeblown cylinder wine bottles in context 125.

Context 111 contains the widest range of dates and types but, while it does include some pre-1830 material, it is dominated by late 19th or 20th century window glass, bottles, and jars.

Context 122 appears to consist of 19th century and early 20th century vessels, with no sherds that can be definitively dated to after approximately 1910.

Contexts 125, 126, 128, and 213, all consist entirely of 18th and/or early 19th century items. Although the fairly ubiquitous sherds of 'milk' glass pane occur in context 125 these sherds cannot be dated with any confidence.

A catalogue of the glass artefacts is given in Table 7.

Context	Number of sherds	Fabric	Form	Date	Comments
111	5	Colourless, and pale aqua blue	Window glass	Late 19 th -20 th century.	Varies from 3mm - 8mm.
	4	Colourless	Wide mouth jars	Post-1920	Flat sided square / rectangular. One very large, external screw stopper machine made. Probable food containers.
	3	Aqua green	Bottles.	ca 1900 - 1930	Cylinder beer / wine / spirit, and flat sided panelled utility.
	3	Olive green	Cylinder wine	Pre-1830	Freeblown, three small sherds: one base and two body.
	1	Emerald green	Medicine / poison bottle	circa 1880s-1920s	Neck / lip sherd from poison or medicine bottle. May be from same container as small emerald green sherd in context 122 and 125.
	3	Opaque white 'milk' glass.	Flat 2 - 3mm glass pane.	Unident	Appears identical to single similar sherd in context 122. Contamination?
122	5	Olive green	Cylinder wine	Ca. 1800	Freeblown. Lip & neck, body and base sherds, possibly all from one vessel.
	1	Dark olive green / black	Cylinder wine, spirit or ale	Pre-1900.	Sherd too small / uninformative for further dating or ID.
	1	Emerald green	Bottle	Post-1840	Probable 1880s - 1930s. Sherd too small / uninformative for further ID or dating.
	1	Opaque white/'milk' glass	bottle or jar	ca. 1850 - 1930	Base sherd. Large partially ground out pontil scar. Large cylindrical chemist / apothecary type container.
	1	Opaque white/'milk' glass	Flat 2-3mm glass pane.	Unident	From decorative ware, or possibly shop display cabinet. (See three sherds from context 111 - appear identical - contamination?)
125	5	Olive green	Cylinder wine	Pre-1830	Freeblown. Small sherds of base / body. Possibly all from one vessel.
	1	Aqua blue	Cylindrical phial	Pre-1850	Freeblown. Body sherd only. Very thinly blown.
	3	Opaque white 'milk' glass.	Flat 2 - 3mm glass pane.	Unident	Appears identical to similar sherds in context 111 and 122. Contamination?
126	6	Olive green	Cylinder wine	1760 - 1820	Freeblown. Base and body sherds from at least two different vessels. Cylinder form, date range ca 1760 - 1820 (lips absent so no more accurate dating possible)
128	2	Olive green	Unident.	Pre-1830	Freeblown wine, two shoulder / lower neck sherds, both small. Too little for precise ID.
205	8	Pale aqua green	Flat pane, 3mm - 7mm	20 th Century	Three different types of window pane. Six sherds identical 3mm pane roughly painted white on one side.

Context	Number of sherds	Fabric	Form	Date	Comments
205	2	Olive green	Cylindrical bottles	Pre-1830.	Two small sherds freeblown cylinders, probably large (i.e. 'wines').
213	2	Olive green	Cylinder wine	1790 - 1820	Freeblown. Lip/neck and body sherd.
Total	57				

Table 7: Catalogue of glass artefacts

APPENDIX 6 – METAL RESIDUES ASSESSMENT

By R.S. Cubitt, York Archaeological Trust

Context	SF no	Slag type	Weight (g)	Comments
126	9	Non-diagnostic ironworking slag	8	
126	21	Fired clay crucible	202	Body sherd, 23mm thick, fairly thick (2mm) layer of glass slag on interior. Similar thickness dull grey slag exterior. Internal diameter c.18cm. Some iron corrosion amongst inner slag.
128	25	Fired clay crucible	326	Base 12mm thick. Slagged outside with iron staining and yellow residue. Thin layer of whitish slag and iron staining on interior. Round base with exterior diameter of 9cm and interior diameter of 7cm.
128	26	Fired clay crucible	286	Rounded base. All surfaces covered in yellow powdery residue and iron corrosion. Blob of copper alloy waste on outside. Charcoal and vegetable fibers adhering to surface. 10mm thick walls. Base exterior diameter 8cm, interior diameter 6cm.
128	27	Non-diagnostic ironworking slag	1070	With concretion, stones and charcoal.

Table 8: Catalogue of metalworking debris

Table 8 describes the small quantity of material relating to metalworking that was recovered from excavations at Charles Street in Sheffield. All fragments were assessed visually.

Three crucible fragments were recorded, including two round bases of a similar size. From the slag adhering to these vessel fragments it appears that they were used in connection with the production of iron objects. Small find 26 also had traces of copper alloy waste, suggesting that the manufacturer was working with more than one metal.

There was a just over 1kg of non-diagnostic ironworking slag. It is not possible to distinguish whether these fragments derive from smelting iron from its ore, or the production of objects through smithing or casting.

The contexts which contained these finds both date to the late 18th/early 19th centuries. Metalworking, cutlery manufacture in particular, was a prevalent industry in Sheffield at this period. It is noted that other waste relating to the manufacture of cutlery handles came from this same site. However, it is not possible to say with certainty whether the metalworking finds are connected with cutlery manufacture.

APPENDIX 7 – HANDLE MANUFACTURING WASTE MATERIAL ASSESSMENT

By Dr. Joan Unwin, Archivist to the Company of Cutlers in Hallamshire

Factual data

Charles Street is an area to the west of the town centre of Sheffield, developed during the late 18th century. It was an area of housing and tenement factories.

Quantity of material

A small quantity of material relating to cutlery handle manufacture – cattle bone, antler and nickel silver – was assessed. Twenty-eight items were sent for examination.

Provenance of material

The material came from the excavation in Charles Street, site ID 5349, from seven contexts.

Range and variety of material

The items were typical of scrap waste from cutlery handle manufacture. The items included the ends of long bones, a shaft sawn to length, with numerous fragments left when the useable parts were removed. One tiny fragment was possibly ivory or antler, plus two antler tips. One nickel silver King's Pattern knife handle was assessed also.

Discussion

Bone was a cheap handle material but it was still important to use every available piece of the dense bone from the shafts of limb bones, the 'spongy' bone from the ends are useless. Bone was sawn across the shafts, removing the ends, and then the shafts were sawn into the lengths required for the handles, typically 8cms. Four quadrants of dense bone were then sawn lengthways from these pieces, leaving a square central core of bone canal. Each quadrant would become the outer scale of a knife handle. Two scales were riveted to a flat knife or fork tang to form the handle.

The material in this assemblage is typical of such finds, but the small amount does not indicate that cutlery-manufacturing activity was taking place there. These fragments could have come from almost anywhere in the city.

The antler tips are in poor condition, but such tips would have been used on hunting knives or table knives.

The King's Pattern handle is nickel silver and made in two parts, soldered together. This has no great age, but there is no evidence of its having been attached to a knife. There is nothing to indicate date in any of the finds. They could be anything from late 18th century to mid-20th century.

Brief Description

Find No.	Name	Context	Material
4	Manufacturing waste; sawn fragment.	125	Bone
5	Offcut; thin section, possibly half a rib bone; poor condition.	114	Bone
6	Offcut; antler tip; poor condition.	126	Antler
11	Offcut; antler tip; poor condition.	213	Antler
16	Manufacturing waste; 8 pieces; including a sawn shaft.	128	Bone
17	Manufacturing waste; 13 pieces.	126	Bone
22	Manufacturing waste; sawn end of a long bone.	111	Bone
32	Offcut; thin slightly curved fragment, vertical striations on outer side.	205	Possibly ivory or antler; not bone
34	Cutlery handle; King's Pattern.	205	Copper alloy, known as nickel silver

Table 9: Catalogue of handle-making waste material

Images of the assemblage



Figure 1. Left; ref 111/22, sawn end of a long bone. Right, ref 128/16, the shaft is sawn to the required length. Fragments from handle preparation.



Figure 2. Left, ref 114/5 sawn bone, cross section suggests a rib. Right, ref 205/34, manufacturing waste; showing the square section from which 'quadrants' were removed.



Figure 3, Left, ref 126/6, sawn antler tip. Right, ref 205/32 possibly stag antler or ivory.



Figure 4. Ref 205/34, nickel silver, King's Pattern knife handle.

Conclusions

This assemblage is typical and consistent with excavations in many parts of Sheffield. The bone is from handle manufacture, but there is insufficient to say whether the processes of handle manufacture and/or cutlery assembling was taking place here. This small amount could have been waste from nearby premises.

Storage and Conservation

There seems to be little here that is worthy of conservation or even storage, since it is so typical and not in particularly good condition. I would recommend that the items are carefully photographed and then disposed of.

APPENDIX 8 – FAUNAL REMAINS ASSESSMENT

By Clare Rainsford, York Archaeological Trust

Fifteen bones were recovered from four contexts, of which six (40% of assemblage) were identified to species level. Identified bone was only recovered from the two largest contexts, [126] and [213]. All species identified were common domesticates, with cattle accounting for 50% of the identified assemblage, and sheep/goat, horse and pig each represented by one fragment (Table 10). No bird or fish bone was present in the assemblage. Bone preservation was variable, with some fragments showing evidence of much heavier weathering than others. Evidence of heavy butchery was present on the bones, with two rib fragments sawn through and one cow metapodial butchered cleanly above the distal end. This is consistent with the late post-medieval date for the site, with the development of new butchery technology. There is no obvious source from which the bones are deriving. A sheep metatarsal recovered from [126] may relate to other bone-working activities recorded at the site as these elements were often used for the manufacture of bone artefacts, although no evidence of working was present on the element itself. Three distal epiphyses of cow metapodia were also recovered, two unfused (context [126]) and one butchered above the fusion line (context [213]). This is difficult to explain in terms of standard butchery practice, and may indicate a bone-working use for the shafts of these elements.

Methods

All material was identified to the lowest taxonomic level possible, and identifications were confirmed by comparison to reference specimens from the Department of Archaeology, University of York. Where identification to taxon was not possible (e.g. for ribs, vertebrae, and shaft or cranial fragments without identifiable features), fragments were assigned a size category based on the size of mammal from which they derived. Bone was kept bagged by context following analysis. Data were stored as Excel spreadsheets and notes as MS Word documents.

Species	Context				
	114	126	205	213	Total
Cow		2		1	3
Sheep/goat		1			1
Pig		1			1
Horse		1			1
Total ID		5		1	6
Unidentified	1	5	1	2	9
Total	1	10	1	3	15

Table 10: Catalogue of faunal remains showing species representation

APPENDIX 9 – CERAMIC BUILDING MATERIAL ASSESSMENT

By J. M. McComish, York Archaeological Trust

Ten fragments of ceramic building material (CBM) were examined, weighing a total of 5975g; all the material examined was of modern date dating to the mid-19th century or later. The material was recorded to a standard YAT methodology.

There were six fragments of machine made glazed drains, one fragment of Welsh roofing slate with a circular nail-hole 4mm in diameter and one machine made tile with a flange running along one side. The remaining two fragments were sanitary wares, which though partially preserved seemed to be parts of drain junctions. The first was part of a basin which in plan has an octagonal outer edge and oval interior and in profile has a rim 50mm broad and concave surface leading to an oval hole in the base of the block to accommodate a pipe; all the original surfaces are covered in dark brown glaze. The second fragment was three adjoining surfaces forming the corner of a block, two of the faces were pierced by circular holes to accommodate pipes; all the original surfaces are covered with pale grey glaze.

The CBM is mainly of use for dating the contexts in question, and does not merit any additional research or retention.

Context	Date	Forms
111	1850+	Slate, drain, sanitary
113	1850+	Other
125	1850+	Drain
126	1850+	Drain
205	1850+	Drain, brick
213	1850+	Drain

Table 11: Catalogue of CBM

APPENDIX 10 – MISCELLANEOUS ARTEFACTS

By Nicky Rogers, York Archaeological Trust

Find	Material	Name	Context	Description
SF1	Copper Alloy	Nail	111	Nail, appears modern.
SF2	Lead Alloy	Strip	111	Double layered strip, one end with perforation, other end bent round.
SF3	Iron	Nail	125	Nail fragments (2).
SF8	Iron	Fragment	122	Fragment, undiagnostic.
SF10	Iron	Object	122	Object, possibly formed from 2 strips connected at one end, also ?perforation. Investigate further if context merits it.
SF13	Slag	Glassworking waste	125	One fragment.
SF14	Copper Alloy	Nails	111	Nails (2), appear modern.
SF15	Copper Alloy	Tag	111	Sub-oval ?tag made of strip (although no sign of any perforations).
SF18	Iron	Staple	113	Substantial U-shaped staple, tips flattened and rounded.
SF19	Plaster	Plaster/wall Plaster	126	Small fragment, thin walled, pale blue painted. See also SF20.
SF20	Plaster	Plaster/wall Plaster	112	Large fragments x 2, smaller x 2, all differing shades of blue painted. See also SF19.
SF24	Iron	Nail, Objects	111	1 x large nail, 2 x fragments, both undiagnostic. Also 2 x ?corrosion fragments, 1 x fragment of crumbly material of unknown ID (not metallic).
SF28	Leather	Strap	111	Leather fragment with a double row of machined stitching, cut for re-use. Probably part of a reinforcing band for a band or strap.
SF29	Stone	Disc	210	Large disc with central perforation, grindstone?
SF30	Iron	Wires	210	235 lengths of iron wire. A single wire measures 382mm long and 3mm diam, or 15 inches long and 1/8 inch diam. Some are corroded into bundles, the largest of which measures 395x90x70mm. There is charcoal, copper alloy waste and minerally preserved textile and ?paper among the corrosion.
SF31	Textile	Fragments	210	Approx. 30 fragments of textile (found associated with wires, SF 30). Require specialist ID if context of interest.
SF33	Copper Alloy	Nail	205	Nail, modern.
SF35	Iron	Scissors	205	One arm with oval looped handle, and part of one blade with rivet hole.

Table 12: Catalogue of miscellaneous artefacts

APPENDIX 11 – WRITTEN SCHEME OF INVESTIGATION

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION

Site Location:	Land off Charles Street, Sheffield
NGR:	SK 3544 8691
Proposal:	New build for the Faculty of Development and Society
Planning ref:	10/01236/FUL
Prepared for:	Sheffield Hallam University, [28/04/11]
Status of WSI:	[Final]

1 SUMMARY

1.1 Sheffield Hallam University are proposing to deliver a new building for the Faculty of Development and Society on Charles Street, Sheffield. The building is expected to be in the order of 9500m² gross internal floor area and will provide teaching and office accommodation for the Departments of Education and Architecture. The project has detailed planning permission with a condition requiring a programme of archaeological works.

1.2 This Written Scheme of Investigation (WSI) has been prepared in response to a Brief supplied by South Yorkshire Archaeology Service (SYAS). The work will be carried out in accordance with the Brief and this WSI, and according to the principles of the Institute for Archaeology (IfA) Code of Conduct and all relevant standards and guidance.

2 SITE LOCATION & DESCRIPTION

2.1 The proposal site covers an area of approximately 2615m² located to the southeast of Arundel Gate (Figure 1), within Sheffield city centre. The northeast side of the site is bounded by Charles Street, the southeast side by Eyre Lane, and the southwest side by Clay Lane. Brown Lane runs through the site on a northwest-southeast alignment, dividing it into two separate plots.

3 DESIGNATIONS & CONSTRAINTS

3.1 The site lies within the Cultural Industries Quarter Conservation Area, and there are several listed buildings within the vicinity, the nearest being the Grade II* listed Butcher Works on the south side of Eyre Lane and the Grade II listed 92-92A and 94 Arundel Street.

4 ARCHAEOLOGICAL INTEREST

4.1 The area was fields prior to development in the early 19th century. The initial development consisted of houses, shops and industrial workshops. Industries represented within the site from the first half of the 19th century to the late 20th century included a whitesmith's works, a cabinet makers, a brass foundry, a saw manufactory, cutlery works, an engineering works, a wire works and a mark maker's works. The buildings were demolished between 1970 and 2006 and the site currently consists of a car park and a vacant lot.

4.2 An archaeological watching brief was conducted on the vacant lot in 2006 during the removal of building foundations and basements, and recorded the remains of earlier building footings, cellars and a stone boundary wall. The extent of subsurface disturbance across the vacant lot is unclear, but it is likely that much of the underlying archaeology will have been impacted in areas where foundations and basements have been removed. There is a higher potential for the preservation of archaeological remains within the current car park site.

5 AIMS

5.1 The aims of the evaluation are:

- to determine the extent, condition, character, importance and date of any archaeological remains present
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made
- to provide information to enable the local authority to decide any requirements for further archaeological mitigation for the site

6 EXCAVATION METHODOLOGY

6.1 The evaluation will comprise the following elements:

- Trial trenching
- Reporting

Please note that further stages of work or other mitigation measures could be required by the local authority, depending upon the results of the evaluation.

6.2 A series of 3 trenches will be excavated. The location of the trenches is shown on Figure 2. Trenches will be stepped if necessary, to ensure their stated size at the base of the trench.

No.	Size (m)	Rationale
1	10 x 4	Trench 1 is targeted to investigate remains associated with early 19th-century houses and a courtyard on Eyre Lane. The trench is located to cover the rear part of the houses and a significant area of the courtyard, to investigate whether there are any features, such as pits or phases of surfacing, within the yard.
2	10 x 4	Trench 2 is targeted to investigate the site of the workshop ranges of two works on Charles Street. This includes the range to the rear the Charles Street Works, a whitesmiths' works, later a cabinet manufactory, and the parallel range of the Canada Works, originally a brass foundry, and later a saw manufactory.
3	8 x 3	Trench 3 is targeted to investigate the extent of survival of sub-surface remains associated with a former cutlery works on Eyre Lane. This works was associated with the Butcher Works on the opposite side of Eyre Lane in 1841. The trench will also assess the extent of impact caused by the removal of foundations of the Kismet Works in 2006.

6.3 The trench locations will be accurately plotted using an EDM Total station, by measurement to local permanent features shown on published Ordnance Survey maps. All measurements will be accurate to +/-10cm, and the trenches locatable on a 1:2500 Ordnance Survey map. This is to ensure that the trenches can be independently relocated in the event of future work.

6.4 Overburden such as turf, topsoil or other superficial fill materials would be removed by a machine fitted with a toothless bucket. Mechanical excavation equipment would be used judiciously, under archaeological supervision down to the top of archaeological deposits, or the natural subsoil, whichever appears first. If archaeology is present machining will cease and excavation will normally proceed by hand. Where deep homogenous deposits, or deposits such as rubble infills, are encountered, these may be carefully removed by machine, after consultation with South Yorkshire Archaeology Service (SYAS).

6.5 The use of mechanical, air-powered, or electrical excavation equipment may also be appropriate for removing deep intrusions (e.g. modern brick and concrete floors or footings) or through deposits to check that they are of natural origin, after consultation with SYAS. The machine will not be used to cut arbitrary sondages down to natural deposits.

6.6 All trenches will be sufficiently cleaned by hand to enable potential archaeological features to be identified and recorded; areas without archaeological features will be recorded as sterile and no further work will take place in these areas. The stratigraphy of all trenches will be recorded on trench record sheets even where no archaeological features are identified.

6.7 All archaeological features and deposits revealed will be excavated in an archaeologically controlled and stratigraphic manner in order to establish the aims of the evaluation.

- Discrete features will be half-sectioned in the first instance.
- Linear features will be sample excavated (to a minimum of 25% of their length) with each sample being not less than 1m in length
- Deposits at junctions or interruptions in linear features will be sufficiently excavated to allow relationships to be determined.
- Structures will be sample excavated to a degree whereby their extent nature, form, date, function and relationships to other features and deposits can be established.

7 RECORDING METHODOLOGY FOR EXCAVATION

7.1 All archaeological features will be recorded using standardised pro forma record sheets. Plans, sections and elevations will be drawn as appropriate and a comprehensive photographic record will be made where archaeological features are encountered.

7.2 Archaeological deposits will be planned at a basic scale of 1:50, with individual features requiring greater detail being planned at a scale of 1:20. Larger scales will be utilised as appropriate. Cross-section of features will be drawn to a basic scale of 1:10 or 1:20 depending on the size of the feature. All drawings will be related to Ordnance Datum. Where it aids interpretation, structural remains will also be recorded in elevation. One long section or representative section of each trench will be drawn.

7.3 Each context will be described in full on a pro forma context record sheet in accordance with the accepted context record conventions. Each context will be given a unique number. These field records will be checked and indexes compiled.

7.4 Photographs of work in progress and post-excavation of individual and groups of features will be taken. This will include general views of entire features and of details such as sections as considered necessary. The photographic record will comprise 35mm format colour slides and black and white film. Digital photography may be used in addition, but will not form any part of the formal site archive. All site photography will adhere to accepted photographic record guidelines.

7.5 Areas which do not contain any archaeological deposits will be photographed and recorded as being archaeologically sterile. The natural stratigraphic sequence within these areas will be recorded.

7.6 All finds will be collected and handled following the guidance set out in the IfA guidance for archaeological materials. Unstratified material will not be kept unless it is of exceptional intrinsic interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or fragility will be retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete

deposits of finds will be collected as Bulk Finds, from discrete contexts, bagged by material type. Any dense/discrete deposits will have their limits defined on the appropriate plan.

7.7 All artefacts and ecofacts will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds*, and recording systems must be compatible with the recipient museum. All finds that fall within the purview of the Treasure Act (1996) will be reported to HM Coroner according to the procedures outlined in the Act, after discussion with the client and the local authority.

7.8 Other samples will be taken, as appropriate, in consultation with ArchHeritage specialists and the English Heritage Regional Science Advisor, as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, etc.). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.

7.9 In the event of human remains being discovered during the evaluation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place in compliance with environmental health regulations and following discussions with, and with the approval of, the Ministry of Justice. If human remains are identified, the Ministry of Justice and SYAS will be informed immediately. An osteoarchaeologist will be available to give advice on site.

- If **disarticulated** remains are encountered, these will be identified and quantified on site. If trenches are being immediately backfilled, the remains will be left in the ground. If the excavations will remain open for any length of time, disarticulated remains will be removed and boxed, for immediate reburial by the Church.
- If **articulated** remains are encountered, these will be excavated in accordance with recognised guidelines (see 6.12) and retained for assessment.
- Any grave goods or coffin furniture will be retained for further assessment.

7.10 Where a licence is issued, all human skeletal remains must be properly removed in accordance with the terms of that licence. Where a licence is not issued, the treatment of human remains will be in accordance with the requirements of Civil Law, IfA Technical Paper 13 (1993) and English Heritage guidance (2005).

8 SPECIALIST ASSESSMENT

8.1 The stratigraphic information, artefacts, soil samples, and residues will be assessed as to their potential and significance for further analysis and study. The material will be quantified (counted and weighed). Specialists will undertake a rapid scan of all excavated material. Ceramic spot dates will be given. Appropriately detailed specialist reports will be included in the report.

8.2 Materials considered vulnerable should be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues on or in pottery, and mineral-preserved organic material). Allowance will be made for preliminary conservation and stabilization of all objects and a written assessment of long-term conservation and storage needs will be produced. Once assessed, all material will be packed and stored in optimum conditions, in accordance with Watkinson and Neal (1998), IfA (2007) and Museums and Galleries (1992).

8.3 All finds will be cleaned, marked and labelled as appropriate, prior to assessment. For ceramic assemblages, any recognised local pottery reference collections and relevant fabric Codes will be used.

8.4 Allowance will be made for the recovery of material suitable for scientific dating and contingency sums will be made available to undertake such dating, if necessary. This will be decided in consultation with SYAS.

9 REPORT & ARCHIVE PREPARATION

9.1 Upon completion of the site work, a report will be prepared to include the following:

- a) A non-technical summary of the results of the work.
- b) An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place.
- c) An account of the methodology and detailed results of the operation, describing structural data, archaeological features, associated finds and environmental data, and a conclusion and discussion.
- d) A selection of photographs and all drawings, including a detailed plan of the site accurately identifying the areas monitored, trench locations, selected feature drawings, and selected artefacts, and phased feature plans where appropriate.
- e) Specialist artefact and environmental reports where undertaken, and a context list/index.
- f) Details of archive location and destination (with accession number, where known), together with a context list and catalogue of what is contained in that archive.
- g) A copy of the key OASIS form details
- h) Copies of the Brief and WSI
- i) Additional photographic images may be supplied on a CDROM appended to the report

9.2 Three copies of the report will be submitted to the commissioning body. A bound and digital copy of the report will be submitted direct to the SYAS for planning purposes, and subsequently for inclusion into the SMR/HER.

9.3 A field archive will be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of contexts, finds, soil samples, plans, sections and photographs will be produced. ArcHeritage will liaise with Sheffield museum prior to the commencement of fieldwork to establish the detailed curatorial requirements of the museum and discuss archive transfer and to complete the relevant museum forms. The relevant museum curator would be afforded access to visit the site and discuss the project results.

9.4 The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the Local Authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.

9.5 Upon completion of the project an OASIS form will be completed at <http://ads.ahds.ac.uk/project/oasis/>.

10 POST EXCAVATION ANALYSIS & PUBLICATION

10.1 The information contained in the evaluation report will enable decisions to be taken regarding the future treatment of the archaeology of the development site and any material recovered during the evaluation.

10.2 If further archaeological investigations (mitigation) take place, any further analyses (as recommended by the specialists, and following agreement with SYAS) may be incorporated into the post-excavation stage of the mitigation programme unless such analysis are required to provide information to enable a suitable mitigation strategy to be devised. Such analysis will form a new piece of work to be commissioned.

10.3 In the event that no further fieldwork takes place on the site, a full programme of post excavation analysis and publication of artefactual and scientific material from the evaluation may be required by SYAS. Where this is required, this work will be a new piece of work to be commissioned.

10.4 If further site works do not take place, allowance will be made for the preparation and publication in a local and/or national journal of a short summary on the results of the evaluation and of the location and material held within the site archive.

10.5 The results of the work will be publicised locally e.g. by presenting a paper at the South Yorkshire Archaeology Day and talking to local societies, as appropriate.

10.6 A summary report accompanied by illustrations will be presented in digital format for publication in the appropriate volume of *Archaeology in South Yorkshire*.

11 HEALTH AND SAFETY

11.1 Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.

11.2 A Risk Assessment will be prepared prior to the start of site works.

12 PRE-START REQUIREMENTS

12.1 The client will be responsible for ensuring site access has been secured prior to the commencement of site works, and that the perimeter of the site is secure.

12.2 The client will provide ArcHeritage with up to date service plans and will be responsible for ensuring services have been disconnected, where appropriate.

12.3 The client will be responsible for ensuring that any existing reports (e.g. ground investigation, borehole logs, contamination reports) are made available to ArcHeritage prior to the commencement of work on site.

13 REINSTATEMENT

13.1 Following excavation and recording the two trenches within the current car park will be reinstated to highways specification (New Roads and Street Works Act 1991, SROH April 2010) and white lines will be repainted. The third trench will be backfilled with the excavated material, compacted and levelled.

13.2 During the first monitoring visit (see section 15) an a suitable staged backfill timetable for the trenches will be discussed, to avoid leaving all trenches open at once for health and safety reasons.

14 TIMETABLE & STAFFING

14.1 The timetable for the project is to be confirmed.

14.2 Specialist staff available for this work are as follows:

- Head of Artefact Research - Dr Ailsa Mainman
- Human Remains - Malin Holst (York Osteoarchaeology Ltd) & Rebecca Storm (University of Bradford)
- Palaeoenvironmental remains - Palaeoecology Research Services Ltd
- Head of Curatorial Services - Christine McDonnell
- Finds Researcher - Nicky Rogers
- Post-medieval Pottery – Dr David Barker
- Medieval Pottery Researcher - Anne Jenner
- Finds Officers - Geoffrey Krause & Rachel Cubitt
- Archaeometallurgy & Industrial Residues - Dr Rod Mackenzie & Dr Roger Doonan
- Conservation - Ian Panter.

15 MONITORING OF ARCHAEOLOGICAL FIELDWORK

15.1 As a minimum requirement, SYAS will be given a minimum of one week's notice of work commencing on site, and will be afforded the opportunity to visit the site during and prior to completion of the on-site works so that the general stratigraphy of the site can be assessed and to discuss the requirement any further phases of archaeological work. ArchHeritage will notify SYAS of any discoveries of archaeological significance so that site visits can be made, as necessary. Any changes to this agreed WSI will only be made in consultation with SYAS.

15.2 With the client's agreement illustrated notices will be displayed on site to explain the nature of the works.

16 COPYRIGHT

16.1 ArchHeritage retain the copyright on this document. It has been prepared expressly for the named client, and may not be passed to third parties for use or for the purpose of gathering quotations.

17 KEY REFERENCES

ArchHeritage. 2010. Arundel Gate/Charles St, Sheffield, South Yorkshire. Archaeological Desk-Based Assessment ArchHeritage Report No: 2010/25

Department for Communities and Local Government 2010 Planning Policy Statement 5: planning for the Historic Environment.

English Heritage. 2001. *Archaeometallurgy*. Centre for Archaeology Guidelines.

English Heritage. 2002. Environmental Archaeology. A guide to the theory and practice of methods from sampling and recovery to post-excavation.

English Heritage. 2002. With Alidade and Tape – graphical and plane table survey or archaeological earthworks.

English Heritage. 2003. Where on Earth are We? The Global Positioning System (GPS) in archaeological field survey.

English Heritage. 2004. Geoarchaeology: using earth sciences to understand the archaeological record.

English Heritage. 2005 Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England.

- English Heritage. 2006. Guidelines on the x-radiography of archaeological metalwork.
- English Heritage. 2006b. Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.
- English Heritage. 2007. Understanding the Archaeology of Landscape – a guide to good recording practice
- English Heritage. 2008. Investigative Conservation.
- Institute for Archaeologists. 1993. Technical paper No 13 by McKinley, J. I., and C. Roberts. *Excavation and post-excavation treatment of cremated and inhumed human remains*.
- Institute for Archaeologists. 2007. Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation by D.H. Brown.
- Institute for Archaeologists. 2008. Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.
- Institute for Archaeologists. 2008. Standard and Guidance for Archaeological Field Evaluation
- Museum and Galleries Commission. 1992. Standards in the museum care of archaeological collections.
- RCHMS. 1999. 'Recording Archaeological Field Monuments – a descriptive specification.
- Standing Conference of Archaeological Unit Managers (SCAUM). 2007. *Health and Safety in Field Archaeology*
- Neal, V., and D. Watkinson (eds). 1998. *First Aid for Finds: practical guide for archaeologists*. United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section; 3rd Revised Edition.
- See also the **HELM** website for a full list of English Heritage Guidance documents.
<http://www.helm.org.uk/server/show/nav.19701>

OS data reproduced with permission of OS on behalf of HMSO. © Crown Copyright 2010. All rights reserved. Licence no. 100018343.

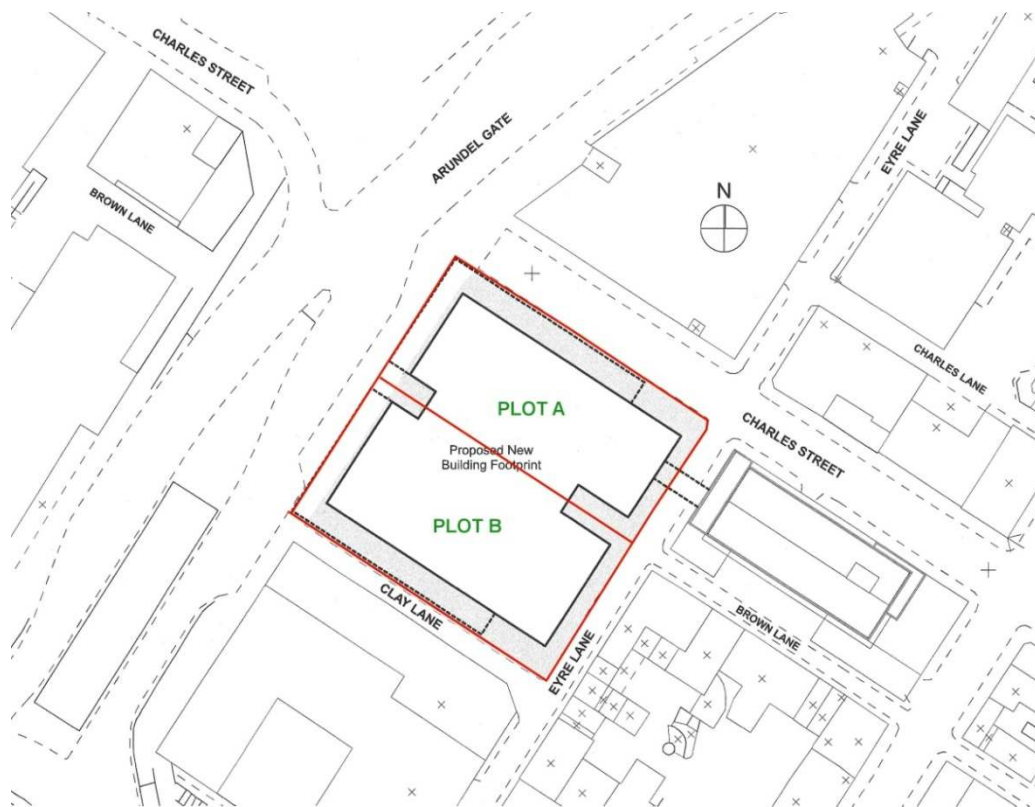


Figure 1: Site location

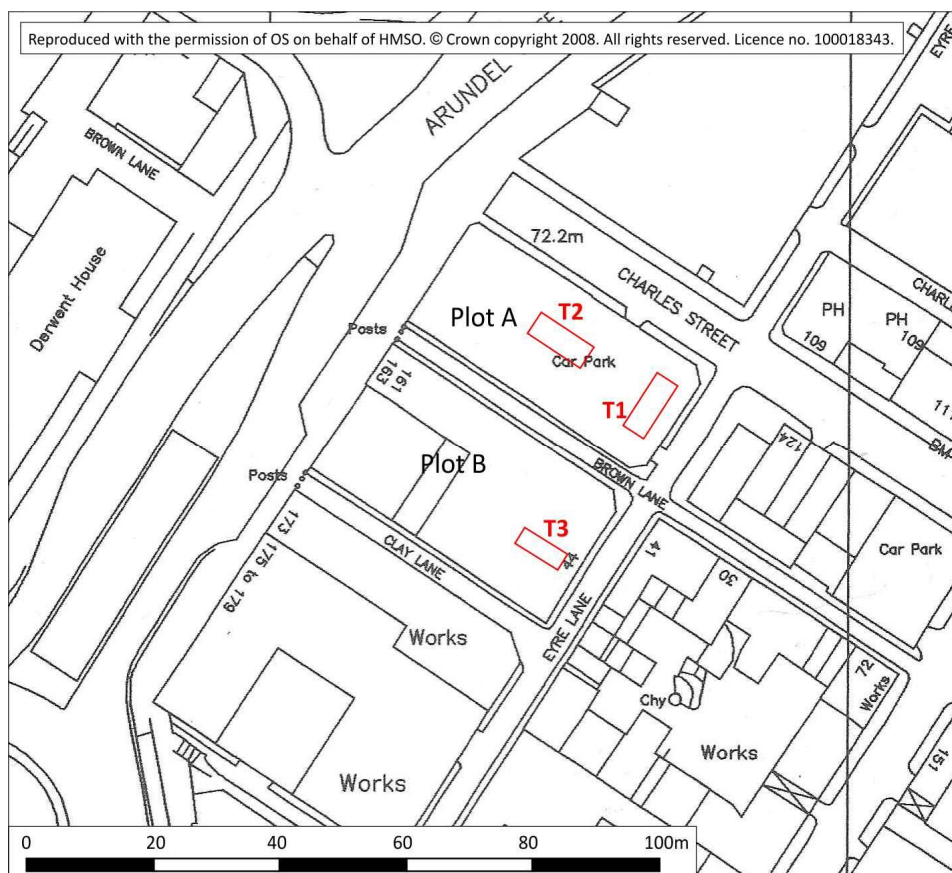


Figure 2: Proposed trial trench locations (SYAS 2010)