



# Northamptonshire Archaeology

The excavation of the Portobello Cutlery Works and  
19th-century housing on the site of the former  
Assay Office, Sheffield  
January - May 2009



## Northamptonshire Archaeology

2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE  
t. 01604 700493 f. 01604 702822  
e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)  
w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



Northamptonshire  
County Council

Paul Mason

Report 09/160

January 2010



## STAFF

Project Manager	Iain Soden BA MifA
Text	Paul Mason BA AlfA
Editing and Census research	Andy Chapman BSc MifA
Pottery	Iain Soden
Metallurgy	Dr Rod Mackenzie, Freelance specialist
Shoes	Quita Mould MA, Freelance specialist
Cutlery manufacturing waste	Dr Joan Unwin, Archivist to the Cutlers Hall Preservation Trust Ltd
Building materials	Pat Chapman BA CMS AlfA
Other finds	Tora Hylton, Finds Officer, Northamptonshire Archaeology
Fieldwork	Jim Burke, Paul Clements BA Anne Foard-Colby Cert Ed, Jonathon Elston, David Haynes, Peter Haynes, Paul Mason, Laszlo Lichtenstein MA, Dan Nagy BA, Mark Patenall
Illustration	Richard Watts Amir Bassir BSc

## QUALITY CONTROL

	Print name	Signature	Date
Checked by	Pat Chapman		
Verified by	Iain Soden		
Approved by	Andy Chapman		

## OASIS REPORT FORM

PROJECT DETAILS		
Project name	The excavation of the Portobello Cutlery Works and 19th-century housing on the site of the former Assay Office, Sheffield	
Short description	Northamptonshire Archaeology undertook a desk-based assessment, watching brief, evaluation and open area excavation at the site of the former Sheffield Assay Office on behalf of Rose Project Services and their clients Cordwell Properties (Portobello) Ltd. In the 19th century the site was occupied by a firm of cutlers, Francis Newton and Sons, and court housing - both of which were cleared in the second quarter of the 20th century prior to the building of the Assay Office. As a result of the work a wide-ranging body of cartographic, documentary and excavated evidence has helped build a cohesive picture of the cutlery works and houses during their lifespan.	
Project type	Watching brief, evaluation and excavation (SAO09)	
Site status	Brownfield	
Previous work	Desk-based assessment (Walsh 2008)	
Current Land use	Former factory site	
Future work	Academic publication	
Monument type/ period	Factory and housing (19th to 20th centuries)	
Significant finds	Pottery, cutlery manufacturing waste, domestic waste	
PROJECT LOCATION		
County	South Yorkshire	
Site address	Portobello and Holland Streets, Sheffield	
Study area	c 645 sq m (excavation); 0.25ha planning block	
OS Easting & Northing	SK 348 873	
Height OD	c 89m above OD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	South Yorkshire Archaeological Services	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Paul Mason, Anne Foard-Colby	
Project Manager	Iain Soden	
Sponsor or funding body	Cordwell Properties (Portobello) Ltd through Rose Project Services Ltd	
PROJECT DATE		
Start date/end date	January 2009/May 2009	
ARCHIVES	Location	Content (eg pottery, animal bone etc)
	SHEFM: 2009.14	
Physical	Northamptonshire Archaeology	Pottery, stone, bone, glass, brick, leather
Paper	Northamptonshire Archaeology	Site records, photographic, drawings
Digital	Northamptonshire Archaeology	Mapinfo GIS data, photographs
BIBLIOGRAPHY		
Unpublished client report (NA report)		
Title	The excavation of the Portobello Cutlery Works and 19th-century housing on the site of the former Assay Office, Sheffield, 2009	
Serial title & volume	Northamptonshire Archaeology Report 09/160	
Author(s)	Paul Mason	
Page numbers	65	
Date	January 2010	

# Contents

<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>2</b>	<b>ACKNOWLEDGEMENTS</b>	<b>1</b>
<b>3</b>	<b>BACKGROUND</b>	<b>3</b>
3.1	Topography and geology	3
3.2	Planning background	3
3.3	Origins and development of the site	3
3.4	Notes on the destruction of the site	4
3.5	Results of the evaluation	11
<b>4</b>	<b>DOCUMENTARY EVIDENCE</b>	<b>13</b>
4.1	Documentation for the cutlery works	13
4.2	Documentation for the houses and their occupants	14
<b>5</b>	<b>THE EXCAVATED STRUCTURAL EVIDENCE</b>	<b>18</b>
5.1	General comments	18
5.2	The cutlery works	18
5.3	The workers' housing	31
<b>6</b>	<b>MATERIAL CULTURE: DOMESTIC AND MANUFACTURING</b>	<b>41</b>
6.1	Pottery by Iain Soden	41
6.2	Building materials by Pat Chapman	43
6.3	Cutlery manufacturing waste by Joan Unwin	44
6.4	Crucible fragments and 'Industrial Residues' by Roderick Mackenzie	51
6.5	Leather shoes by Quita Mould	52
6.6	Other finds by Tora Hylton	55
<b>7</b>	<b>DISCUSSION</b>	<b>59</b>
7.1	The cutlery works	59
7.2	The houses	61
	<b>BIBLIOGRAPHY</b>	<b>65</b>

## Tables

- Table 1: References to Portobello Cutlery Works from trade directories  
Table 2: Census returns for Holland Street showing head of household, their age and occupation and total number of occupants/number of rooms  
Table 3: Census returns for Portobello Street, Court 9 showing head of household, their age and occupation and total number of occupants/number of rooms  
Table 4: Cutlery-related occupations of residents of excavated houses from (census returns 1861-1911)  
Table 5: Recorded occupations of children under 16 for excavated houses (census returns, 1861-1911)  
Table 6: Pottery from pit fills (6150) and (6152) by type and sherd count  
Table 7: Brick details  
Table 8: Summary of crucible fragments and 'industrial residues'  
Table 9: Finds from cutlery works and houses by material type

## Figures

- Cover: The excavated cutlery works, looking south-east  
Fig 1: Site location  
Fig 2: A Map of the town and environs of Sheffield from an actual survey by William Fairbank (1808)  
Fig 3: A Map of the town and environs of Sheffield in the West Riding of Yorkshire by J Tayler (1832)  
Fig 4: 1851 Ordnance Survey Map  
Fig 5: 1890 Ordnance Survey Map  
Fig 6: Insurance Plan by C E Goad (1896)  
Fig 7: 1951 Ordnance Survey Map  
Fig 8: View of site prior to the demolition of the Assay Office, looking north-east along Holland Street  
Fig 9: Plan of evaluation trenches  
Fig 10: The excavated area of the factory and the housing  
Fig 11: Plan of excavated cutlery works  
Fig 12: The excavated cutlery works, looking south-east  
Fig 13: Section 1, showing the north wall of the handle cutting workshop and underlying stratigraphy  
Fig 14: The cellar at the eastern end of handle cutting workshop, looking north-west  
Fig 15: The southern extension to the forge, looking east  
Fig 16: The handle cutting room, looking north-east  
Fig 17: The engine house, looking north  
Fig 18: The machine base next to engine house, looking west, showing grooved sandstone block  
Fig 19: The boiler room, looking south-west, showing brick-lined housing and flue  
Fig 20: Steps leading to boiler room/furnace, looking north  
Fig 21: The boiler room, flue and chimney, looking east  
Fig 22: The brick foundations for the circular chimney stack, looking west  
Fig 23: Plan of excavated houses  
Fig 24: The houses, looking south-west  
Fig 25: The cellar floor of 32 Holland Street, from above  
Fig 26: Cellar vaulting scar and coal chute on front (south) wall of 32 Holland Street, looking south  
Fig 27: The wash house, from above, showing the concrete skimmed floor (foreground), brick partitions for basins and drainage (centre left)

- Fig 28: Base of ceramic toilet to rear of 30 Holland Street, looking south
- Fig 29: The cellar floor in No 7, Court 9, looking west, showing (left) the brick piers to support the ground floor fireplace
- Fig 30: The stone cellar wall of No 8, Court 9, looking south, showing scars of the removed brick piers beneath the ground floor fireplace, and the springing of the brick vault, with the removed stairs to the left
- Fig 31: The cellar stairs of No 9, Court 9, looking south-east, showing the ground floor fireplace on the south wall
- Fig 32: The front wall of No 10, Court 9, looking north-west, showing the threshold (r) and coal chute (l)
- Fig 33: Pottery found in fill of pit [6149] and drain [6153]
- Fig 34: The by-products of the handle working process, found in handle cutting workshop (Scale: 50mm)
- Fig 35: A scale tang handle with bone scales attached with three rivets (Scale: 50mm)
- Fig 36: A straight table blade with round tang showing evidence of burning (Scale: 50mm)
- Fig 37: Pocket knife blade with 'neb' to hold blade while forging (l) and single blade pocket knife (r) (Scale: 50mm)
- Fig 38: Stages in making handle scales from bone (Scale: 50mm)
- Fig 39: Crucible fragments found below surface of Court 9 (Scale: 100mm)
- Fig 40: Tools found during excavation of factory and houses (hammer heads, a possible awl and files) (Scale: 200mm)
- Fig 41: Grinding stones found during excavation of factory and houses (Scale: 250mm)
- Fig 42: Examples of glass bottles found in the rubble fill of house cellars
- Fig 43: Isometric reconstruction of No 9, Court 9 based on excavated evidence

**EXCAVATION OF THE PORTOBELLO CUTLERY WORKS AND  
19TH-CENTURY HOUSING ON THE SITE OF THE  
FORMER ASSAY OFFICE, SHEFFIELD  
JANUARY - MAY 2009**

**ABSTRACT**

*Northamptonshire Archaeology undertook a desk-based assessment, watching brief, evaluation and open area excavation on the site of the former Sheffield Assay Office on behalf of Rose Project Services and their clients Cordwell Properties (Portobello) Ltd. In the 19th century the site was occupied by a firm of cutlers, Francis Newton and Sons, and court housing - both of which were cleared in the second quarter of the 20th century prior to the building of the Assay Office. As a result of the work a wide-ranging body of cartographic, documentary and excavated evidence has helped build a cohesive picture of the cutlery works and houses during their lifespan.*

**1 INTRODUCTION**

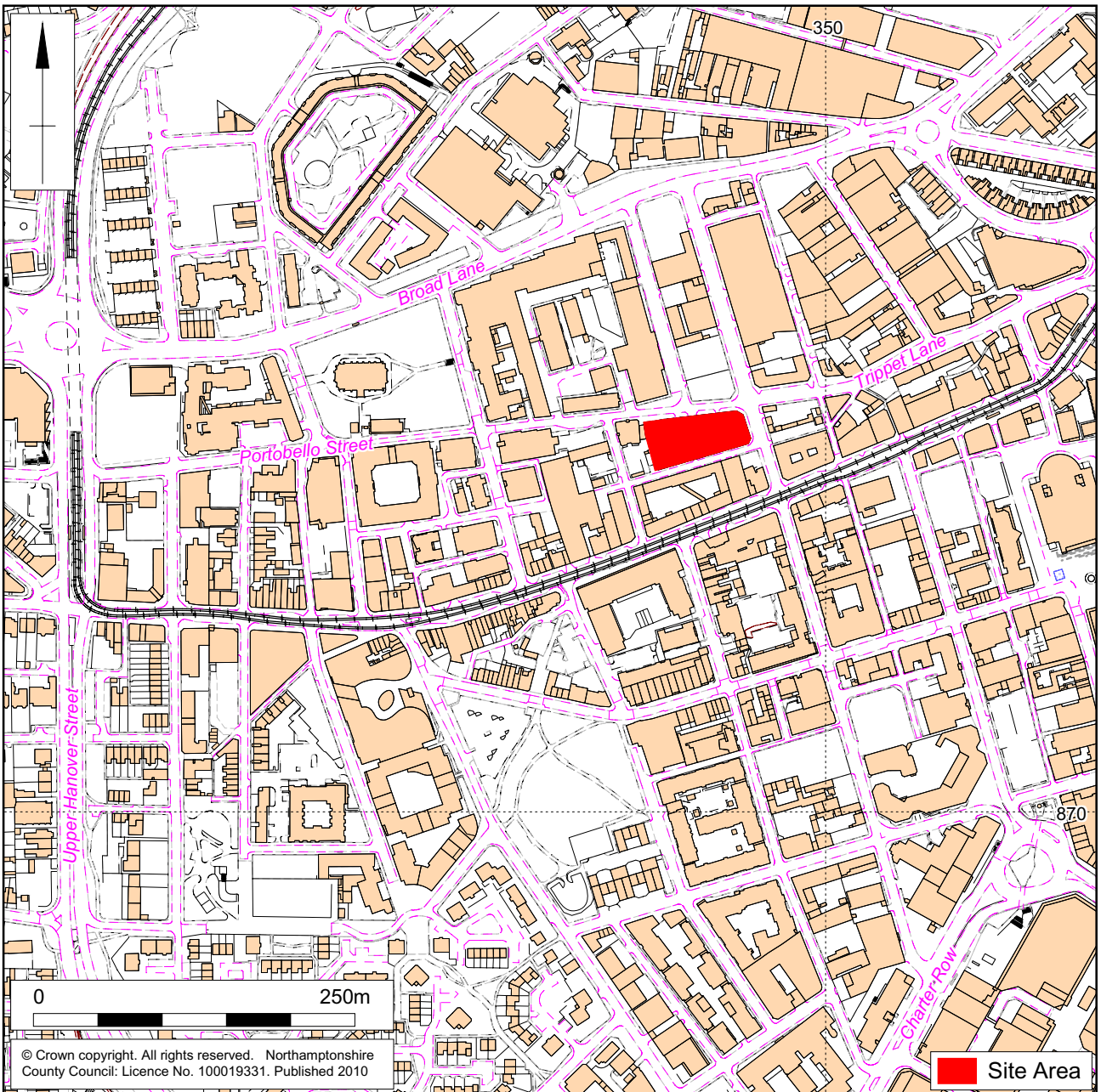
Northamptonshire Archaeology (NA) was commissioned by Rose Project Services Ltd, on behalf of their client Cordwell Properties (Portobello) Ltd, to undertake a series of archaeological investigations focussing on the site of the former Assay Office, Portobello Street, Sheffield (centred on SK 348 873, Fig 1). The work was undertaken at the request of South Yorkshire Archaeological Services (SYAS) to mitigate against the impact of residential development of the site.

The site had previously been the subject of a desk-based assessment undertaken by Northamptonshire Archaeology (Walsh 2008), which identified the potential for survival of significant 19th and early 20th-century remains including those of the Portobello Cutlery Works and court houses. The results of a watching brief and trial trench evaluation conducted in January/February 2009 confirmed that such remains were present but largely confined to the southern portion of the site along its Holland Street frontage. The areas of identified potential were subsequently the subject of two phases of open area excavation, one focussing on a cutlery works and the other on a court of houses. These works were undertaken in April and May 2009 and the level of survival was sufficient to identify individual rooms of the cutlery works and a number of dwellings grouped around the former Court 9, Portobello Street.

The program of fieldwork complied with a written scheme of investigation prepared by Northamptonshire Archaeology (Soden 2009a) and all elements of post-excavation analysis leading to the production of this report accord with the proposals set out in the post-excavation assessment (Soden 2009b), produced by Northamptonshire Archaeology. All procedural documents were approved by SYAS.

**2 ACKNOWLEDGEMENTS**

Northamptonshire Archaeology would like to thank Rose Project Services and their client Cordwell Properties (Portobello) Ltd for commissioning the fieldwork and Jim McNeil and Dinah Saich of SYAS for monitoring the project. Our thanks are also extended to Reddish Demolition for undertaking the machine-work on site.



Scale 1:5000

Site location Fig 1



For Northamptonshire Archaeology, the fieldwork was managed by Iain Soden, Senior Project Officer, with Paul Mason, Project Officer, and Anne Foard-Colby, Project Supervisor, directing the excavation of the cutlery works and the housing respectively. Mark Patenall, Assistant Project Supervisor, undertook watching briefs prior to the start of the excavation.

### **3 BACKGROUND**

#### **3.1 Topography and geology**

The development site is located on the western side of Sheffield city centre, to the north of West Street, and covers a total area of c 0.25ha (Fig 1). The site fronts onto Portobello Street to the north and is bounded by Holland Street to the south and Rockingham Street to the east. The site slopes sharply down from south to north, but Portobello Street also slopes c 3.5m (c 88.9m-85.3m OD) from west to east to the junction with Rockingham Street and Trippet Lane. The excavation area comprised a roughly rectangular strip along the Holland Street frontage (c 645sq m).

The underlying geology on the site is Upper Carboniferous Lower Coal Measures; weathered coal measures were proven by site investigation (Wardell Armstrong 2005).

#### **3.2 Planning background**

In accordance with the perceived archaeological potential of the site, South Yorkshire Archaeological Services (SYAS), as archaeological advisors to Sheffield City Council's Planning Department, required a programme of archaeological works to first assess this potential and then implement fieldwork designed to maximise the retrieval of what might remain. This was an incremental approach which, piece by piece, focussed in on significant 19th-century remains which had escaped a widespread programme of demolition around the time of the Second World War and the subsequent redevelopment of the site. The significance of these remains was entirely related to the former use of the site as part of Sheffield's post-medieval industrial engine, that of steel production and working and the manufacture of blades of international renown.

Informed by a desk-based assessment (Walsh 2008) and by agreement between SYAS and Rose Project Services (acting for Cordwell Properties) a watching brief began the archaeological fieldwork programme in January 2009, followed by evaluation in February.

The works and the sampling strategies employed throughout were in accordance with a Written Scheme of Investigation negotiated between Northamptonshire Archaeology (Iain Soden) acting on behalf of Cordwell Properties (Portobello) Ltd and their agents Rose Project Services Ltd on the one hand and South Yorkshire Archaeological Services (Dinah Saich and Jim McNeil) on the other. The document was dated 11 February 2009.

When evaluation indicated the extent of surviving remains, the works rolled straight into two episodes of pre-emptive excavation as two distinct halves of the site became available (Cutlery works and Court housing). This work was completed in May 2009.

#### **3.3 Origins and development of the site**

In the medieval period the area of Portobello Street lay beyond the boundary of the medieval town within the town fields. The cartographic evidence shows that the Portobello Street plan was laid out in the late 18th/early 19th century. A map of 1808

shows the area of the site of the verge of development, with fields to the west and built properties to the east, with Holland Street and Orange Street marked out but only a single property actually constructed (Fig 2). By the 1830s the central and eastern ends of the area had been developed for mixed domestic and light industrial use (Fig 3). The Portobello Cutlery Works (Francis Newton & Sons) occupied the central part of the block, bounded to the east by a court of domestic housing (later identified as Court 7, Portobello Street) and to the west by open ground, indicating that Court 9 was still to be built..

By the 1850s the site was totally developed and a hair seating works, court housing (Court 9) and an inn occupied the western end of the block. Contemporary trade directories confirm the mixture of domestic housing around the courts, and small services industry; such as bakers, coal merchants and taverns or shops, side-by-side with a small number of larger works, specifically the Portobello Works (Cutlery) and the Hair Seating Works.

The 1851 Ordnance Survey map is the first map to show the arrangement of the cutlery works and neighbouring housing in detail (Fig 4). The central part of the block was occupied by the Portobello Works, with its entrance onto Portobello Street and buildings arranged to the east, south and west around a yard, with a central building extending back from Portobello Street towards the range of buildings backing onto Holland Street.

To the west of the cutlery works a court of houses backing onto Holland Street was accessed from Portobello Street, with a pump and trough located at its north end. At the north-west corner of the block there was an enclosed yard, with a single range of buildings - probably part of the building known later as the Willow Tree Inn.

By 1890 a number of additions had been made to the buildings. The Ordnance Survey map of that year shows the Portobello frontage of the cutlery works had been built up, with a new building to the west completing the street frontage (Fig 5). There was a new central entrance from Holland Street, facing a large chimney. The buildings either side of this entrance appear to have been more substantial than those shown earlier. The court to the west of the works is identified as Number 9 and individual properties within it are shown.

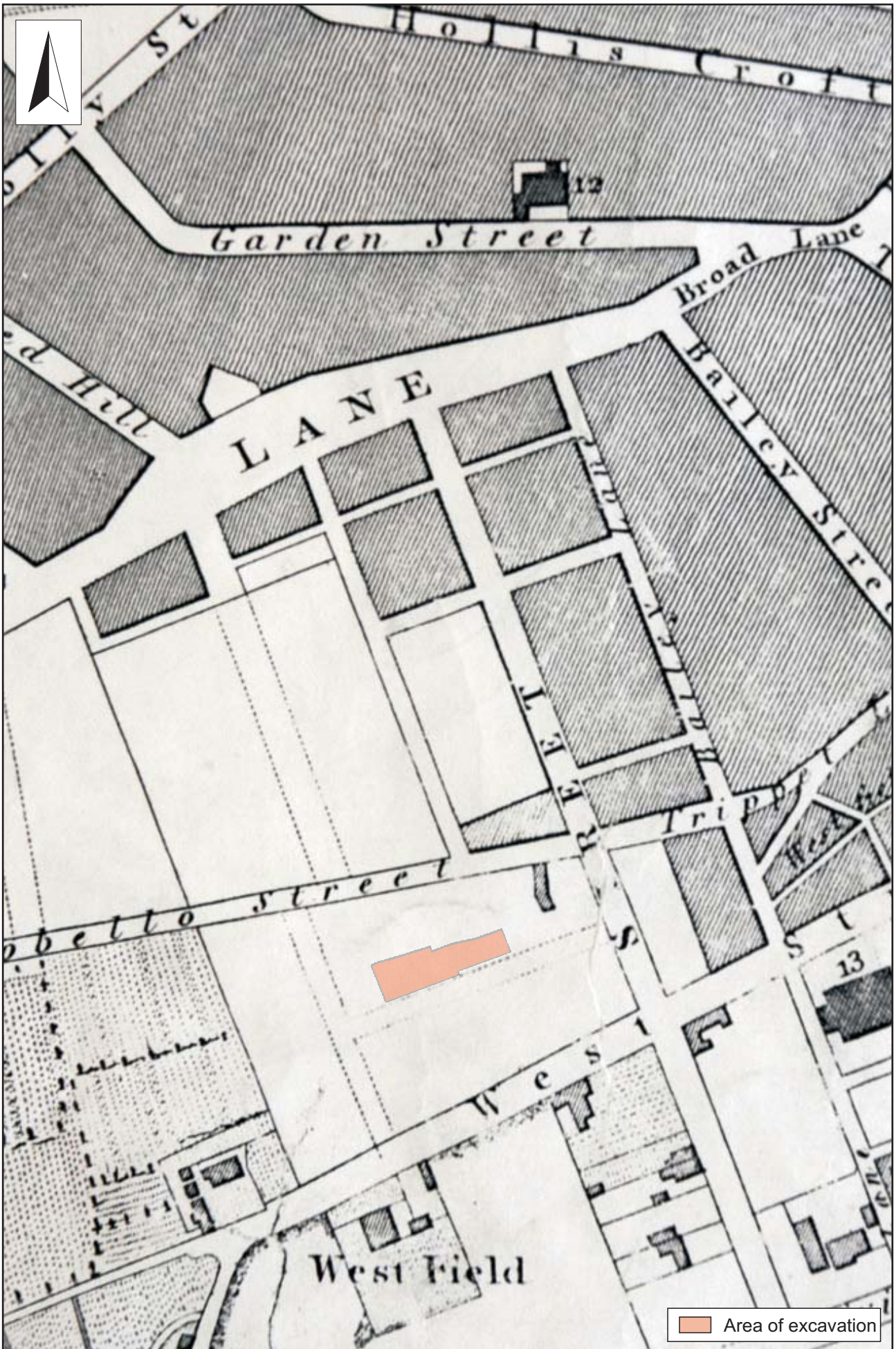
The Goad Insurance Plan of May 1896 (Fig 6) gives building numbers for the court houses and some indication of function within the Portobello Works where offices, a warehouse, two forge buildings, handle cutting and cutlery are all annotated. This general layout was retained until the 1930s, when mapped by the Ordnance Survey in 1935.

### **3.4 Notes on the destruction of the site**

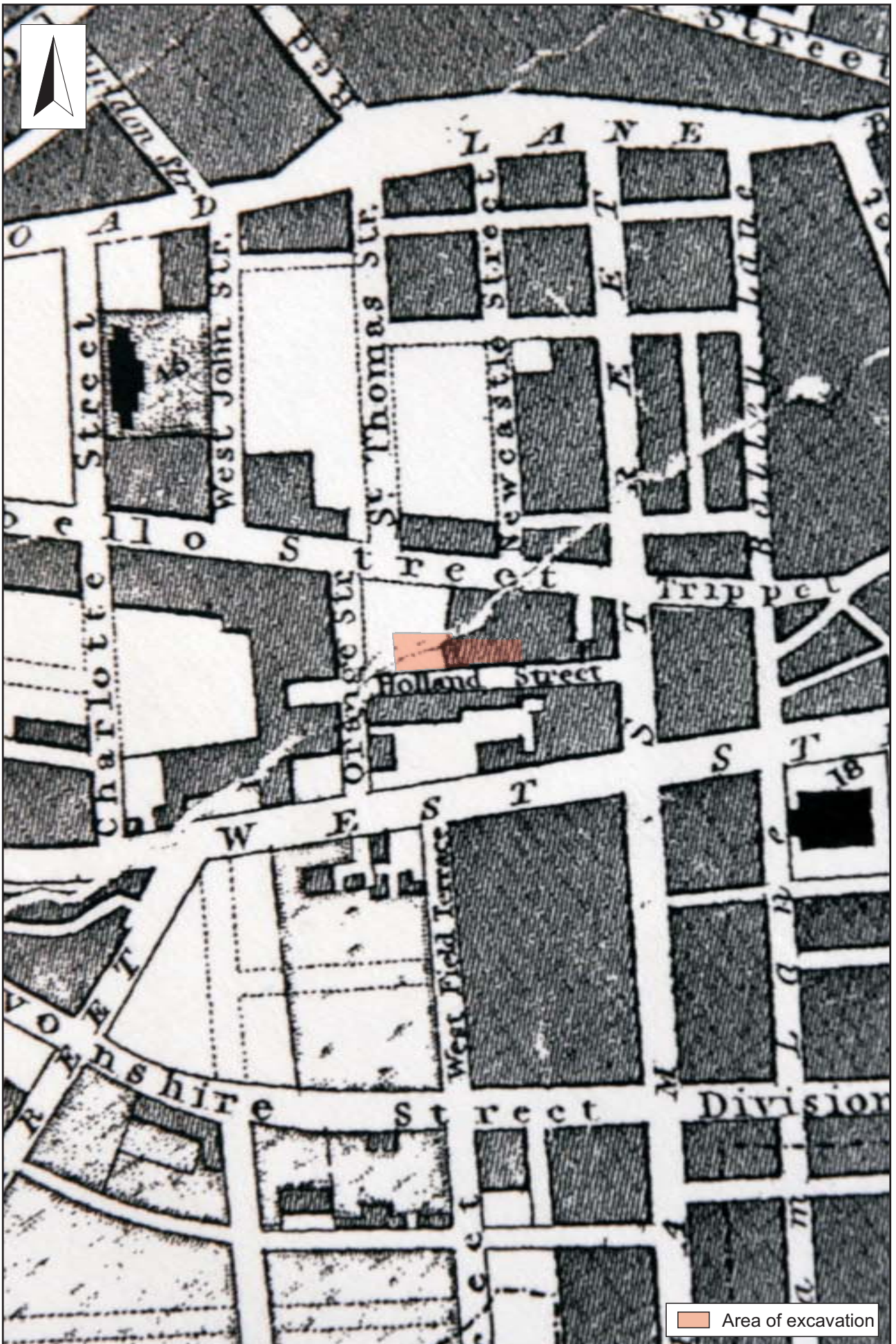
By the time the site was mapped by the Ordnance Survey in June 1951 (Fig 7) major changes from the earlier layout are evident. The Portobello Works are not named and the forges and the chimney are gone, and one minor building is a ruin. Court No. 9 had been cleared, but not redeveloped.

The ruins and clearances noted may be a result of bomb damage caused during the Second World War. However, the clearance of whole courtyards may also be due to the city council slum clearance policy which was undertaken in the 1930s.

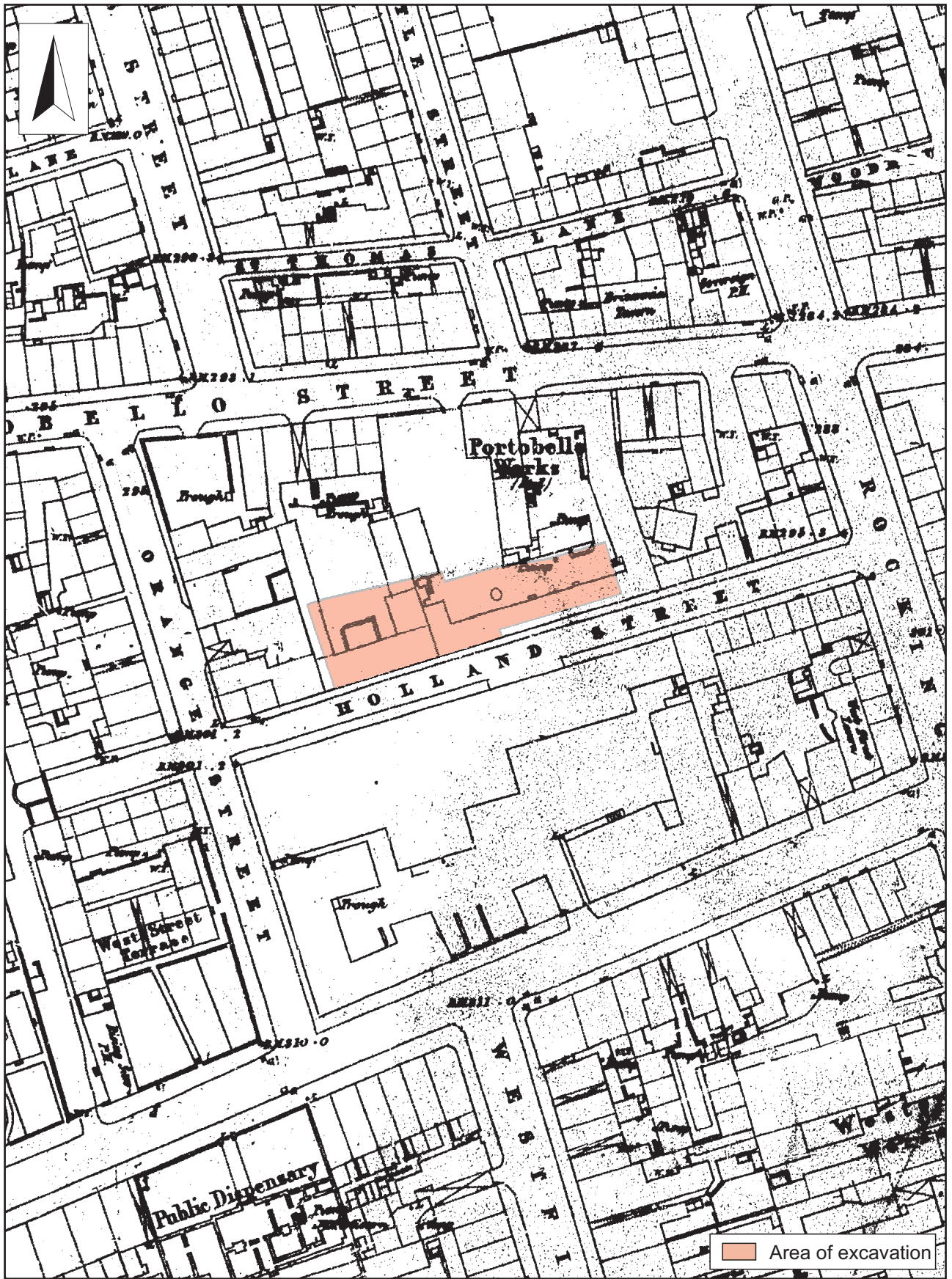
During the second half of the 20th century, the provision of buildings on site and their function was entirely changed. The buildings occupying the site at the time of excavation comprised the partially demolished remains of the Townroe Electroplating Works, which dates from 1947, and the offices and workshops of the Assay Office (Fig 8). The main building of the Assay Office was opened in 1958; extensions were made



A Map of the town and environs of Sheffield from an actual survey Fig 2  
by William Fairbank (1808)



A Map of the town and environs of Sheffield in the West Riding of Yorkshire by J Taylor (1832) Fig 3



1851 Ordnance Survey Map Fig 4



CCXCIV.7.25.

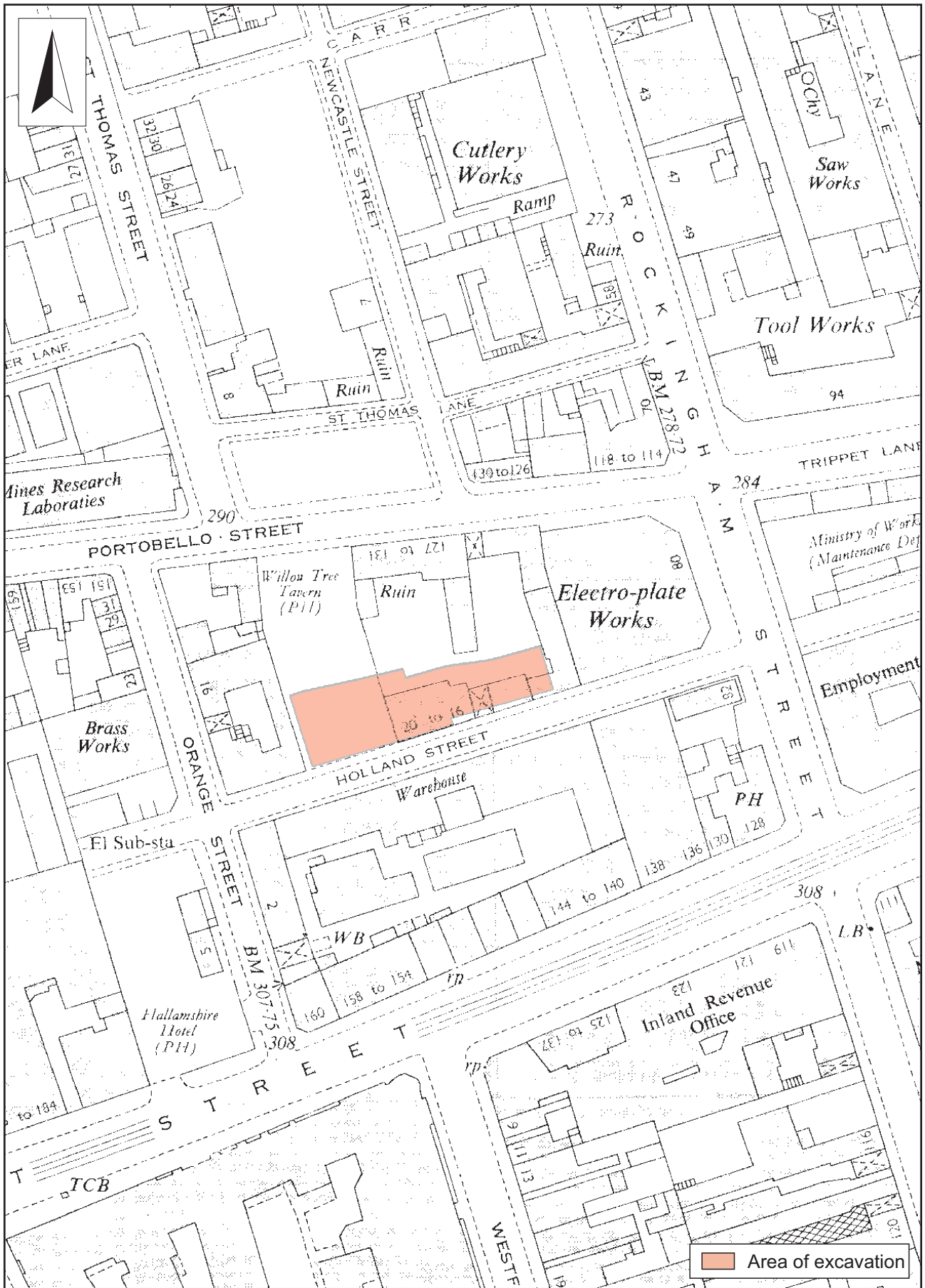
Printed and Published by the Director General at the Ordnance Survey Office, Southampton, 1890.  
 Above the assumed Mean Level of the Sea at Liverpool which is 0.650 of a Foot below the general Mean Level of the Sea.  
 and thus B.M. 54.7 refer to Bench Marks on Buildings, Walls, &c. those marked thus (+ 52) to surface levels.

Area of excavation

1890 Ordnance Survey Map Fig 5



'Insurance Plan' by C E Goad (1896) Fig 6



1951 Ordnance Survey Map Fig 7



internally in the 1970s for workshops, and new buildings were constructed upon adjacent properties with the Goldsmiths Wing in 1978 and the Guardians Hall (1983-6; heightened 2002).

The modern buildings were relatively massively built compared to the earlier ones and truncated archaeological evidence for the earlier 19th-century buildings. The electroplating works were constructed of brick external walls upon steel and concrete frames and floors of concrete. When in operation it had workshops, stores and effluent treatment in its extensive lower ground floor basements. The Assay Office was of brick and steel frame and also had extensive full height basements.



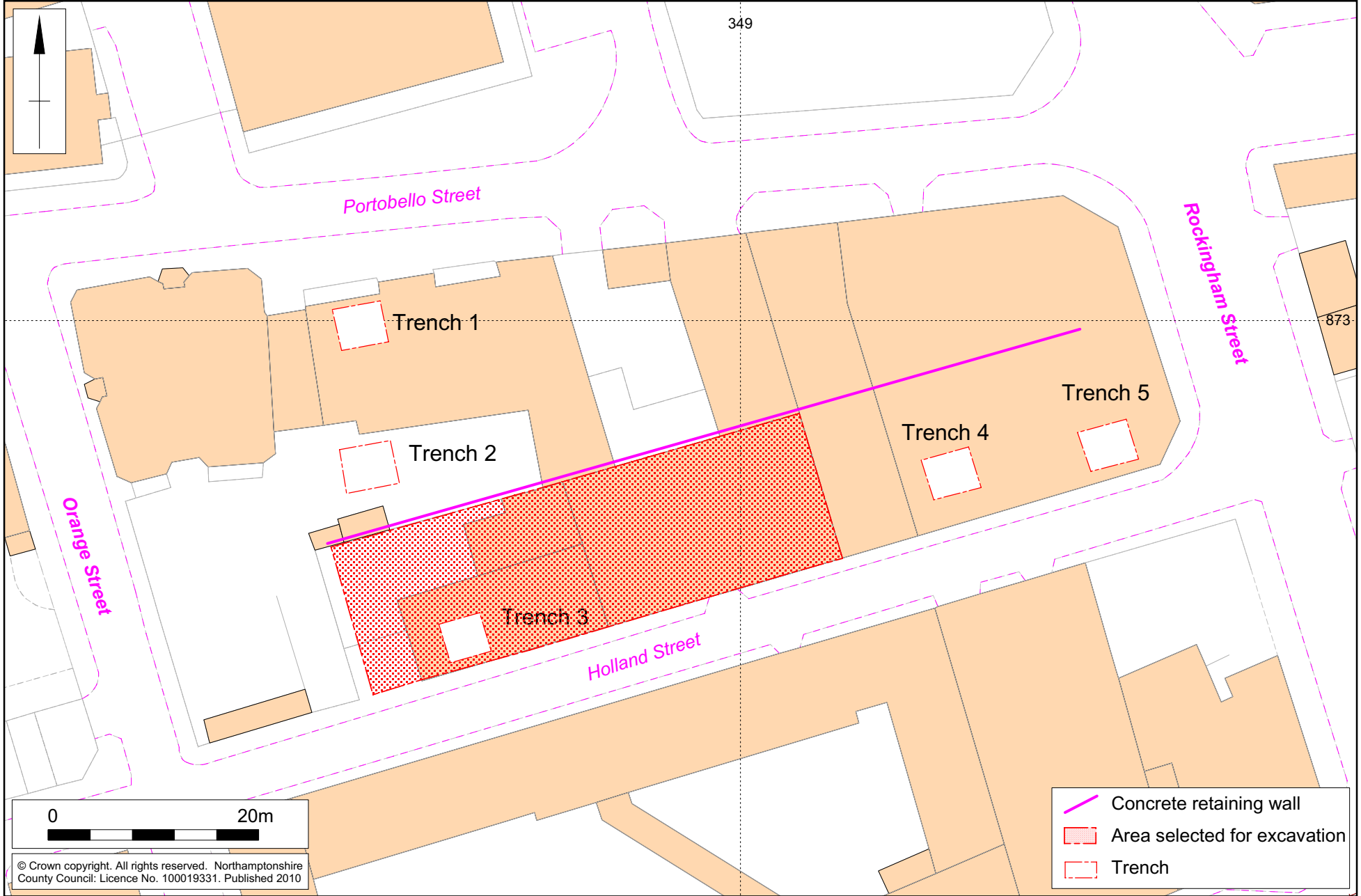
View of site prior to the demolition of the Assay Office,  
looking north-east along Holland Street Fig 8

### 3.5 Results of the evaluation

Prior to the excavation of the cutlery works and court housing a programme of evaluation was set in train to assess the extent of the survival of structural remains across the development site as a whole. This took the form of five square test-pits, each measuring 4m x 4m at selected points on the site (Fig 9). Their general locations were agreed with South Yorkshire Archaeological Services to provide extensive coverage of the most likely areas of survival which had not been affected by known constraints.

Four of the trenches produced little or no archaeology, indicating the extent to which the 20th-century redevelopment of the site had truncated earlier remains. This was entirely because of the terracing of the steeply inclined slope which characterises all of the streets crossing Portobello Road, in this case Rockingham and Orange Streets.

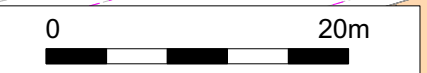
However, one trench (Trench 3) exposed a number of stone and brick structural






Scale 1:500

Location of evaluation trenches and the area selected for further excavation

Fig 9



© Crown copyright. All rights reserved. Northamptonshire County Council: Licence No. 100019331. Published 2010

-  Concrete retaining wall
-  Area selected for excavation
-  Trench

remains at depth, including a stone- and brick-lined pit filled with pottery. Recourse to historic maps already highlighted in the desk-based assessment suggested this belonged to a structure noted at the entrance to Court 9 on the 1890 Goad Insurance Map (Walsh 2008, fig 6b and see below).

## 4 DOCUMENTARY EVIDENCE

### 4.1 Documentation for the cutlery works

#### *Trade directories*

Online searches of relevant websites have produced a small body of information pertaining to the cutlery works:

[www.historicaldirectories.org](http://www.historicaldirectories.org)  
[www.genuki.org.uk](http://www.genuki.org.uk)  
[www.shef.ac.uk/hawley/project/research.html](http://www.shef.ac.uk/hawley/project/research.html)  
[www.sheffieldrecordsonline.org.uk](http://www.sheffieldrecordsonline.org.uk)

For the most part this information is contained within trade directories, *Whites Directory of Sheffield and Rotherham*, holding the most useful references. These are presented in Table 1 below.

*Table 1: References to Portobello Cutlery Works from trade directories*

Year	Directory	Description
1846	Slaters	Francis Newton, Merchant(s), factor(s) and manufacturer(s) Residing at Portobello St
1852	Whites	Newton Francis & Sons, merchants and cutlery, saw, file, &c., manfrs., Portobello Works, 127 Portobello street...
1856	Whites	Newton Francis and Sons, merchants & cutlery, saw, file, steel, &c. mfrs. Portobello Works, 127 Portobello Street
1862	Whites	Newton Francis and Sons, general works and cutlery, saw, file, steel, &c., mnfrs., Portobello Works, 127 Portobello Street
1871	Whites	James Bacon Addis is listed as a carving tool manufacturer at 127 Portobello
1879	Whites	Newton Francis & Sons, Portobello Works, 127 Portobello street' Haley George Robert, ivory cutter, 127 Portobello Street... Morton and Hall bone handle and button slab cutters, Portobello Works, 127 Portobello Street Oates William, table knife hafter, 127 Portobello Street...
1901	Whites	Newton Francis & Sons, manufacturers of table & butchers' knives & razors & merchants, Portobello works, 127 Portobello street'
1911	Whites	'Newton Frances & Sons Limited, cutlery manufacturers, Portobello works, 127 Portobello street, T.A "Try;" T.N. 1080

The earliest reference to the cutlery works comes from Slaters Directory of 1846 where they are identified under the name of their proprietor Francis Newton. Subsequent directories, dating from 1852 onwards, refer to Francis Newton and Sons, Portobello Works and give their address as 127 Portobello Street, which is shown on the Goad Insurance Plan of 1896 as a two-storey building spanning the main entrance to the works.

The earlier references (pre 1870s) list saws, files, cutlery and steel as the products manufactured at the Portobello Works. During the 1870s the directories list multiple entries for 127 Portobello Street; the works themselves are mentioned together with the names of individual craftsmen engaged in trades associated with the cutlery industry, perhaps indicating that a number of individual workshops were trading under the umbrella of Francis Newton and Sons. Such a ‘tenement’ arrangement was typical of the 19th-century cutlery industry (Symonds 2002, 100).

By 1901 the directories once again list the works as a single entity engaged in the manufacture of, ‘table & butchers’ knives & razors’; no reference is made to the saws and files of the early works. This may indicate that the works were now supplying a different, more ‘refined’ market. The period in which these changes occur appears to correspond with the rebuilding phase first indicated on maps of the 1890s.

### **Francis Newton**

The Portobello Cutlery Works were founded by Francis Newton, who in 1844 became the Master Cutler of the Company of Cutlers in Hallamshire. He resided at Broombank House, Broomhall, the building of which he commissioned in the 1820s. It is now a pub with the former grounds a community open space known as Lynwood Gardens. He was also a director of the Sheffield Banking Company Ltd ([www.avel65.dsl.pipex.com/lynwood/heritage.html](http://www.avel65.dsl.pipex.com/lynwood/heritage.html)). Newton died in 1864, a date which loosely corresponds to the splintering of the works into tenement workshops that is implied by the trade directories (see above).

## **4.2 Documentation for the houses and their occupants**

### **Census records**

A search was made of the census returns for the addresses that fell within the excavated area. The results are presented in Tables 2 and 3 where the head of household is named, their age and occupation given together with the total number of people comprising the household/number of principal rooms they shared.

*Table 2: Census returns for Holland Street numbers 28-32; showing head of household, their age and occupation and (total number of occupants/number of rooms)*

House/ Year	No. 28	No. 30	No. 32	No. 34
1841	Holland Street appears but no house numbers listed			
1851	Not found			
1861	Not found	Not found	Unoccupied	Unoccupied
1871	John Fearne Aged 36 illegible (4/?)	James Higgins Aged 31 Scale knife cutler (5/?)	George Raynor Aged 39 File cutter (6/?)	Martha Bryan Aged 44 n/a (7/?)
1881	Arthur Cook Aged 25 Edge blade striker	Unoccupied	James Laugshaw Aged 33 Driver	Alfred Trotwell Aged 28 Spring knife cutler

House/ Year	No. 28	No. 30	No. 32	No. 34
	(5/?)		(2/?)	(5/?)
1891	Arthur Cooke Aged 36 Edge tool striker (6/4)	Joseph Sellers Aged 41 Engine fitter (?) (3/4)	John Dunnagan Aged 40 Night watchman (2/3)	Walter Smedley Aged 26 Steel **** turner (4/3)
1901	Frederick Ludlum Aged 25 Razor grinder (3/3)	John W Goodwin Aged 47 Shoemaker (3/3)	John Weston Aged 26 Slater (3/3)	Lawrence Cook Aged 38 Foreman Rolling mill (5/3)
1911	Walter Carr Aged 32 Fitters labourer (4/3)	J W Goodwin Aged 56 Boot repairer (4/3)	Mary Henderson Aged 49 Charrwoman (5/3)	Thomas Hibbard Aged 34 Steelworks labourer (8/3)

Table 3: Census returns for Portobello Street, Court 9; showing head of household, their age and occupation and (total number of occupants/number of rooms)

House/ Year	No. 7	No. 8	No. 9	No. 10	No. 11	No.12
1841	Portobello Street appears, but no house numbers and no specific reference to any Courts					
1851	Portobello Court appears between Portobello St No. 141 and 143, but only three properties are listed					
1861	Edward Melton Aged 27 Plumber (5/?)	Thomas Hall Aged 34 Hair Seating Presser (7/?)	Thomas Wobatham Aged 25 Awl blade maker (3/?)	John How-Blagdon Aged 41 Warehouse man (3/?)	Sarah Blagdon Aged 48 Silver burnisher (2/?)	John Jenkins Aged 77 Spring knife cutter (3/?)
1871*	No house numbers listed for Thompson's Sq, but tabulated below on the assumption that order runs from 1-17					
	Robert Streets Aged 24 Horse keeper (5/?)	Ellen Maquines? n/a Aged 62 (5/?)	Thomas White Aged 26 Sheep shear Maker (?) (3/?)	Joseph Matthews Aged 40 File Forger (3/?)	Peter Byrne Aged 30 Stone mason (6/?)	John White Aged 58 Farm labourer (2/?)
1881	John Webster Aged 54 Scissor smith (4/?)	Patrick Henry Aged 41 Slater (4/?)	Not listed Probably unoccupied	Edward Lawton Aged 47 Furnace man (2/?)	George England Aged 58 Scale presser (2/?)	Ernest Higginbotham Aged 33 Electro plater (5/?)
1891	Bob Marshall Aged 29 General labourer (5/3)	Not occupied	Patrick O'Brian Aged 47 Whiteworkers Labourer (4/3)	William Rawson Aged 29 Razor smith (5/3)	George England Aged 69 Scale presser (2/3)	Richard Pearson Aged 41 Cutler (4/3)
1901**	Lawrence Lucas	William Shaw	Henry Frith Aged 50	Martha Stringfellow	Percy Stringfellow	John Thornhill

House/ Year	No. 7	No. 8	No. 9	No. 10	No. 11	No.12
	Aged 28 Labourer (3/3)	Aged 38 Table blade grinder (3/3)	Edge tool striker (5/3)	n/a Aged 45 (6/3)	Aged 23 Scissor smith (3/3)	Aged 38 Pearl & bone grinder & cutter (9/3)
1911	John McNulty Aged 45 Miner hewer (7/3)	Herbert Walker Aged 55 Table blade grinder (6/3)	Annie Goodwin Aged 49 Spoon & fork buffer (4/3)	Mary Walsh (Joseph Roberts) n/a (7/3)	Harry Evans Aged 44 Pocket blade grinder (8/3)	Frank Pennington Aged 27 Stretcher (?) (6/3)

*\*identified as Thompson's Square*

*\*\*identified as Thomson's Sq, Portobello St*

### *Chronology*

With regard to the dating of the houses, the census records appear to corroborate the cartographic evidence. Court 9, Portobello Street first appears in the census return of 1851, but no record is made of the house numbers 7-12, suggesting that they were either not built or, perhaps (based on the evidence of the 1851 Ordnance Survey map), newly built but still unoccupied. The Holland Street properties have not been located on the census returns until 1861, when numbers 32 and 34 are listed as unoccupied.

### *Cutlery related occupations of residents*

A wide range of occupations are listed in the census returns for the excavated houses, some, but by no means all, are related to the cutlery industry. These are summarised below (Table 4).

*Table 4: Cutlery-related occupations of residents of excavated houses (census returns, 1861-1911)*

Year	Occupations listed
1861	Silver burnisher x3, awl blade maker, spring knife cutler x2
1871	File forger, sheep shear maker, spring knife whetter?, table knife cutler, file cutter x4
1881	Edge blade striker, spring knife cutler, scissor smith x2, furnaceman, electro plater
1891	Scale presser, razor smith, cutler, edge tool striker, table knife cutler x2
1901	Table blade grinder, spring knife cutler, edge tool striker, edge tool grinder, plate worker, scissor smith, pearl and bone grinder and cutter, razor cutter and grinder
1911	Cutler, horn buffer, pocket blade grinder, spoon and fork buffer x3, edge tool striker, table knife cutler, table blade grinder

These occupations reflect the main stages of manufacture that would have been undertaken in the adjacent works. 'Forgers', 'cutlers' and 'smiths' would have been responsible for shaping the metal into knives and tools, though the term 'smith' is not usually used by the Sheffield cutlery trade (Symonds 2002, 26). 'Strikers' worked

alongside them, wielding a heavy hammer to help shape the tang, bolster and blade. ‘Grinders’ gave the blades their edge and finished shape by holding the forged object against an abrasive grinding wheel; their job was hazardous; not only did the wheels have a propensity to break when revolving at high speed, but particles of ground material were invariably inhaled. Electroplating was a process whereby a thin layer of silver was applied over the base metal; it rose to prominence in the latter half of the 19th century. A ‘scale presser’ was responsible for compressing softened bone between dies to form handles - which were also manufactured from materials such as pearl and horn. Burnishers and buffers applied the finish to the blades and handles.

The shift in emphasis of cutlery-related occupations over time, listed in the census returns corroborates those suggested by the trade directories. Occupations connected to the manufacture of tools dominate the earlier returns, those with more refined products such as tableware and razors predominate in the latter.

### *Child labour*

While many of the children living in the houses were schooled throughout their early teens (usually referred to as ‘scholar’ in the census returns) some, as young as eleven, were employed. Table 5 presents the range of occupations these minors were engaged in.

*Table 5: Recorded occupations of children under 16 for excavated houses from census returns (1861-1911)*

<b>Year</b>	<b>Labourer</b>
1861	Mary Hall (11), silver burnisher
1871	Arthur Bryan (14), file cutter
1881	Thomas Henry (15), slater’s labourer
1891	Rebecca Cooke (14), washer out
1901	Arthur Shaw (15), cutler - spring knife; Walter Shaw (13), errand boy; Annie Smith (14), errand girl
1911	Joe Roberts (13), errand boy

Of those employed in the cutlery trade, fifteen year old Arthur Shaw, who is listed as a spring knife cutler, is assumed to have been an apprentice rather than a fully qualified cutler; an apprenticeship of at least seven years was advocated by the Cutler’s Company (Symonds 2002, 16).

### *Social conditions*

The census returns indicate that the excavated houses had three principal rooms in which the occupants would live, cook, eat and sleep. While some of the households comprised very large numbers for such small dwellings – in 1901 nine people are registered at No 12, Court 9 - the average number of occupants was, in general, quite low. The average number of occupants for the Holland Street properties over the years 1871-1911 was 4.4 per household and 4.65 for the court houses over the same period. The year 1911 saw the greatest number of occupants when spread over both locations, with an average household of six.

While households were, therefore, not overly crowded by contemporary standards, the provision of sanitation for the court housing appears somewhat insufficient given the available evidence. Six of the seventeen houses shown of the Goad Insurance Plan of

1896 fell within the excavated area. These were occupied by 29 people in 1901 and 38 in 1911, suggesting that the whole court may have had a population of around 100 in the first decade of the 20th century. Cartographic evidence together with the available excavated evidence (see below) suggests that the seventeen houses were served by a single wash house and two outside toilets.

## **5 THE EXCAVATED STRUCTURAL EVIDENCE**

### **5.1 General comments**

Informed by the evaluation, the area designated for open area excavation was limited to the southern part of the site, comprising an area of c 645sq m (Figs 9 and 10). The northern edge of excavation was delimited by a concrete ground beam that marked the southern extent of a modern terrace that had removed all traces of the cutlery works and housing - barring disparate and uninformative elements of cellarage and drainage - in the northern half of the development site.

Within this area, the archaeological remains fell into two distinct blocks; those associated with the cutlery works in the eastern part of the site and those in the west which related to the remains of the houses along the Holland Street frontage and Court 9, Portobello Street.

Beneath the modern ground surface deposits of rubble were spread across the excavated area, filling the voids between the various structural elements. These deposits, comprising mainly bricks, were removed by machine to expose the remnants of the structures they were once part of. As such they are not described in detail in the following sections except where they produced finds relevant to the interpretation of the site.

For the purposes of clarity all modern walls relating to the structures that supplanted the cutlery factory and 19th-century houses have been omitted from the plans in this report and are not described in the text.

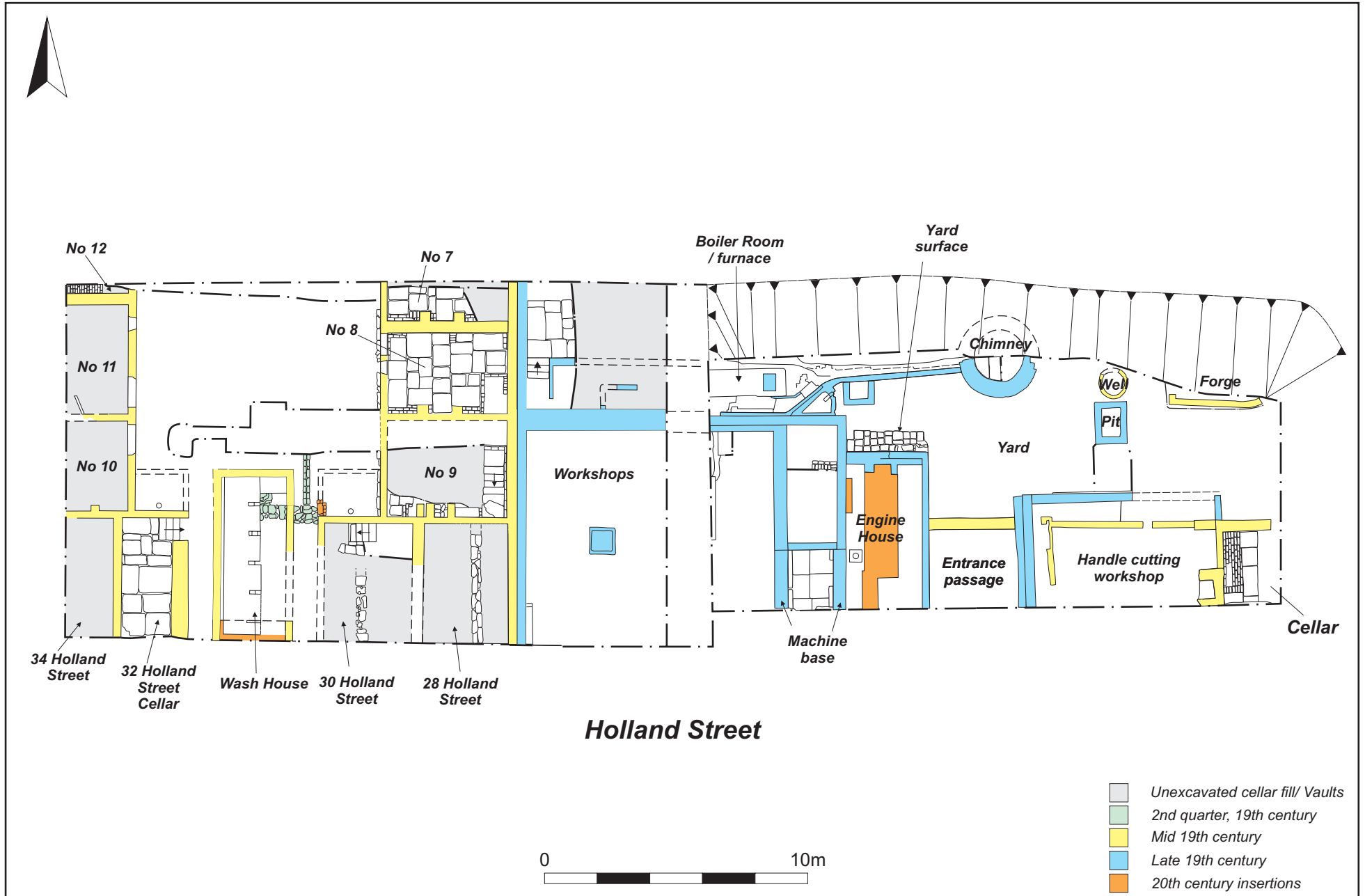
### **5.2 The cutlery works**

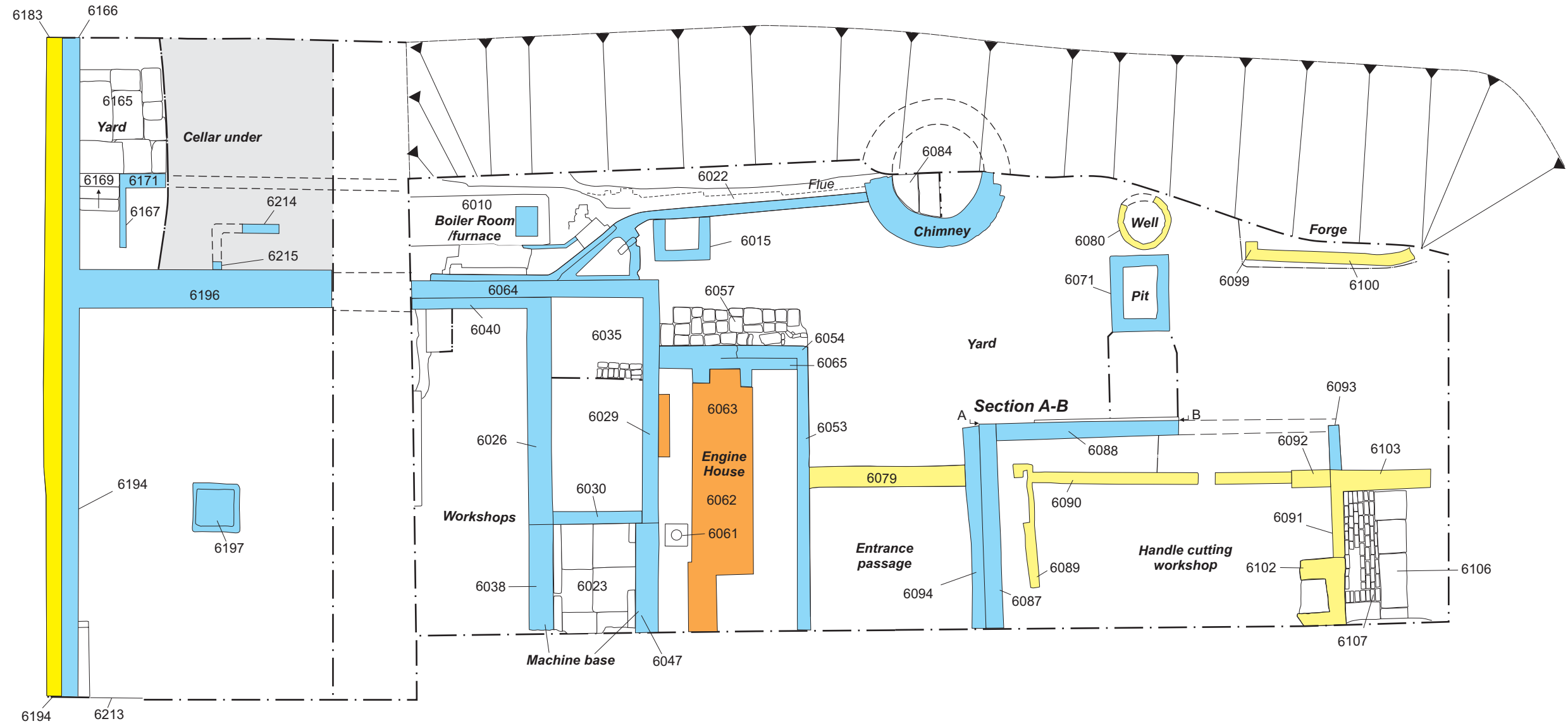
In the eastern part of the excavated area the remains of the Portobello Cutlery Works included a number of upstanding brick walls, foundations and floor and yard surfaces of brick and flagstones (Figs 11 and 12). Cartographic evidence allows the excavated elements to be identified as parts of the southern wing of the works depicted on plans of the 19th and earlier 20th centuries. Most of the factory complex, including its eastern and northern wings and forges that occupied an enclosed yard, lay outside the excavated area. Of those that were revealed by the excavation, two main phases of buildings were identified; the earliest relates to structures depicted on the 1851 Ordnance Survey map (Fig 4) and the later to the factory buildings indicated in close detail on the Goad Insurance Plan of 1896 (Fig 6).

The underlying clay geology (6001) in this area of the site was much truncated by the later building works. One of the few areas where it lay undisturbed was beneath a yard in the eastern part of the excavated area where it was observed c 1.50m below the modern ground surface at c 89m OD (Fig 13). Overlying the clay in this location, and noted elsewhere at levels underlying the earliest building foundations, were deposits of greyish brown clay loam (eg 6098) contaminated with charcoal, ash and clinker but probably representing the original horizon of topsoil. No dating evidence was present in this horizon.



The excavated area of the factory and the housing Fig 10





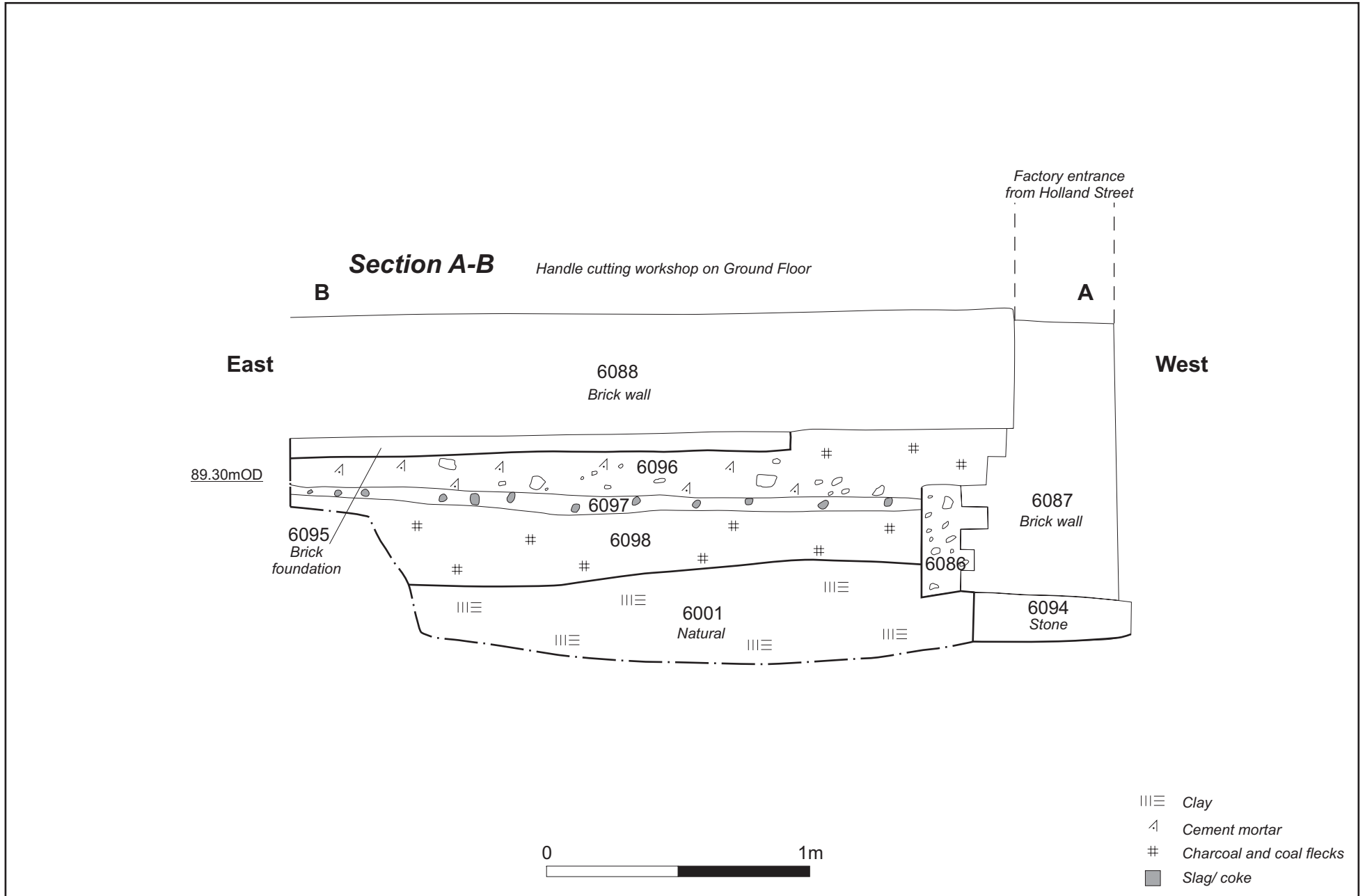
- Unexcavated cellar fill/ Vaults
- 2nd quarter, 19th century
- Mid 19th century
- Late 19th century
- 20th century insertions

Plan of the Cutlery works Fig 11



The excavated cutlery works, looking south-east Fig 12

Section 1, showing the north wall of the handle cutting workshop and underlying stratigraphy  
 Fig 13



### ***Mid 19th-century origins***

In the south-eastern corner of the excavated area were the remains of brick walls which were clearly part of the long, narrow southern range of the works which backed onto Holland Street and are depicted on the 1851 Ordnance Survey map (Fig 5). In the western part of the factory site these earlier structures had been completely removed by later redevelopment.

#### *The southern range*

A series of truncated sections of the north wall of this range, [6079], [6090], [6092] & [6103], along with internal partition walls, [6089] and [6091], defined at least three separate rooms (Fig 11). The central room within the three excavated was 6.20m long and in excess of 3m wide. There may have been an entrance in the north-eastern corner, where a lightly-built insertion of brickwork was suggestive of a blocked doorway.

The eastern wall of the central room [6091] also formed the west wall of a cellar, which was partially exposed in the south-eastern corner of the excavated area (Fig 14). Fifteen courses of brickwork were visible on the cellar side together with an in-built relieving archway measuring 0.80m high at its apex at least 1.90m wide at its base (it extended beyond the excavated area). The base of the cellar lay at c 87.90m OD and was floored with flagstones (6106) and bricks (6107).

Above the arch and projecting into the neighbouring room, two deeply-founded brick piers [6102] were keyed into the west face of wall [6091]. These may have supported heavy machinery, with the relieving arch reducing the stress on the cellar wall.

To the west of the central room a truncated section of the north wall [6079] had survived below what later became the Holland Street entrance to the cutlery works.

All of the walls of the original southern range comprised bricks measuring c 240mm x 110mm x 70mm (9½" x 4⅓" x 2¾") bonded with light grey lime mortar.

Other than at cellar level, the contemporary floor surfaces, whether of stone, brick or floorboards, had been completely robbed, exposing the clay geology (6001) below.

To the north of this range, in the factory yard, deposits of compacted fuel residues (6097) had either accumulated or been deliberately spread, over the underlying soils (Fig 13). Similar deposits underlay the later factory buildings to the west.

#### *The forges*

In the north-east corner of the site there was part of a distinctively shaped brick structure (Fig 15) that can be identified on the 1851 Ordnance Survey map as a southern extension to a building which is annotated on the later Goad plan as 'Forges'. The surviving wall [6100] was 3m long and at the eastern end it curved northward before being truncated by a modern intrusion. To the west a right-angled return [6099] was also truncated. The interior of the structure was filled with a deposit of ashy loam (6101) containing 19th-century pottery.

A short distance to the west of this structure was a brick-lined well [6080], also marked on the 1851 map.

### ***Late 19th-century development***

During the second half of the 19th century modifications and extensions were made to the cutlery works which involved the demolition and rebuilding of some of the earlier buildings, including the southern range, producing the layout depicted on the Goad Insurance Plan of 1896 (Fig 7).



The cellar at the eastern end of handle-cutting workshop, looking north-west Fig 14



The southern extension to the forge, looking east Fig 15

Evidence for redevelopment comprised deposits of loam containing brick, mortar and fuel residues (eg layers (6105) and (6096); Fig 13) which sealed layers contemporary with the early southern range. These were layers of demolition material from the earlier buildings, subsequently levelled over the site prior to re-development and cut by the foundations for the later 19th-century walls.

Many of these later walls were well preserved and the rooms and structures that they define can be readily identified on the Goad Insurance Plan which, in most instances, annotates them allowing their function to be ascertained. Most of the handle cutting workshop survived and an entrance way leading to Holland Street had been created next to it. Part of the base of the chimney stack lay in the yard, together with a flue connecting it to a boiler room to the west. A large structure to the south where blade grinding probably took place, replaced the western part of the south range. It housed a sizeable workshop that was subsequently subdivided into three smaller cells, and an engine room to provide power for the workshop machinery abutted its eastern wall.

Most of these later structures were built of bricks measuring c 225-240mm x 110mm x 65-70mm (8¾-9½" x 4⅓" x 2½-2¾"), bonded with cement of varying hue and hardness.

#### *The handle cutting workshop*

Walls in the south-eastern part of the excavated area (Figs 11 and 16) were remnants of the building annotated 'Handle Cutting' on the 1896 plan. Much of the north wall of the new southern range survived [6088], which was 1.3m wider than its predecessor. It was built over a light foundation comprising a single course of bricks [6095] which lay at a level comparable to the top of the reduced remains of the original north wall of the range [6090].

The western wall of the handle cutting workshop, [6087], was a brick wall with substantial stone footings [6094] set in a deep construction trench [6085] (Fig 13). This wall also flanked the eastern side of the covered passage which gave access to Holland Street – hence, presumably, the need for deeper footings.

The eastern end of the north wall was lost, a stub of brick wall further east [6093], abutted the walls of the cellared room of the southern range, which had evidently been retained. The Goad Insurance Plan depicts flights of external steps here, which presumably gave access to the cellar.

The floor surface of the handle cutting workshop is assumed to have been taken up prior to demolition of the cutlery works in the mid-20th century. Amongst the resultant demolition material filling the room was a large number of artefacts relating to the manufacture of bone cutlery handles, confirming the documented identification of the building (see Section 6.2).

#### *The entrance passage and yard*

A 3.5m-wide passage leading between the handle cutting workshop and an engine house (see below) connected the yard at the rear of the frontage buildings to Holland Street. The Goad Insurance Plan indicates that the passage was covered at first floor level. The surface of this passage had been robbed exposing the reduced north wall of the earlier south range and the clay geology.

The yard area to the rear was reduced to the level of the clay in most places without encountering any evidence for hard standing. The closest indication of the contemporary ground level was the top of the rubble (6096) through which the wall foundations were cut, and which lay at c 89.30m OD (Fig 13) and the top of a brick-lined pit in the yard [6071] which lay at c 89.45m OD. However, there was evidence for a later, raised yard surface of flagstones (6057) surviving to the north of the engine house. This lay at c 90.27m OD and was probably constructed when modifications were made to the surrounding structures (see below).



The handle-cutting room, looking north-east Fig 16



The engine house, looking north Fig 17



*The engine house and workshops*

To the west of the passage lay a 3.0m wide room with its east and north walls [6053] and [6054], which were of brick over heavy stone foundations, abutting the eastern wall [6029] of the workshop (Fig 17). The Goad plan indicates that it housed a steam engine which would have powered the grinding wheels used to sharpen the blades, examples of which were found unstratified in the rubble overlying the factory remains to the west and in the vicinity of the court housing.

A stone-lined drain or soakaway [6061] subsequently encased in a later floor surface (6062) may relate to the original build and would have drained off spillages, but otherwise the interior had been extensively modified in the 20th century. The internal face of the north wall [6054] had been re-clad with a single thickness of bricks [6065] keyed into the fabric of a large brick-lined pit [6063] which had been dug through the original floor level. These modifications were perhaps associated with the electroplating works that later occupied the site (post 1947), and had removed any evidence for internal fittings associated with the Victorian steam engine. The presence of a number of damaged spoons in the demolition rubble filling this room would support the association with the electroplating works as these items were normally plated in this manner.

The engine house abutted the eastern wall of a large rectangular structure, walls [6194], [6196/6064], [6029], which may have housed a workshop, or grinding 'hull', where the cutlery was sharpened. It measured c 11.5m (east to west) by c 8m (north to south) and was later divided into at least three separate rooms.

Only the eastern part of the building was fully excavated. The western part was observed during a watching brief, when the last upstanding remains of the electroplating works were demolished, and the only identified internal feature was a brick plinth [6197] standing over a large block of sandstone.

The subdivision of the eastern part of the building had been achieved by adding a brick partition wall [6026], which was contemporary with a single brick-thick re-cladding [6040] of the north wall. As a result the main room was reduced to a width of 9.0m-wide, and a 1.9m wide chamber was created against the eastern wall. This space had been further sub-divided by the insertion of brick wall [6030] to create two smaller rooms.

The northern room was 4.45m long. A firm clay loam (6033) that sealed the construction trench for the wall foundations may have been a bedding layer for the original floor surface (c 89.55m OD). From this level the room had been deliberately backfilled with fragmentary building materials and clay (6034), then surfaced over with bricks (6035) making a floor surface whose level was comparable to the raised yard to the rear of the engine house (see above). These alterations are assumed to pre-date the modification of the engine house in the mid-20th century.

The chamber to the south was 1.70m wide, with a pair of large sandstone blocks [6038] and [6047], each measuring 2.1m x 0.50m x 0.60m, set into the adjoining walls. It is assumed that they supported some heavy machinery, although it is unclear what, but the interior faces of both blocks bore distinctive curved grooves (Fig 18).

The floor was flagged with large concrete slabs (6023) lying at 88.91m OD - a level some 0.60m below the postulated floor level of the room to the north. A small aperture at the base of the eastern wall, in the north-east corner of the room, appeared to facilitate drainage - probably in association with the soak away [6061] in the engine house.

*The boiler room, furnace and chimney*

The Goad Insurance Plan indicates that the steam for the engine was generated by a



The machine base next to engine house, looking west, showing grooved sandstone block Fig 18



The boiler room, looking south-west, showing brick-lined housing and flue Fig 19

boiler set to the north of the postulated workshops. A chimney lay to the east of this, in the yard opposite the Holland Street entrance to the cutlery works. Remnants of both features were located together with the brick-lined flue that connected them.

The sunken boiler room was fully brick lined, with a walkway surrounding the rectangular brick-lined pit [6010] that had contained the boiler (Fig 19). The pit was 1.0m wide and the sides were in cream-coloured fire bricks. A ceramic block set in the base of the pit towards its eastern end was perhaps a plinth to support the boiler. The brickwork at the eastern end of the boiler pit was damaged, and the western end of the pit had been truncated by the foundations of a later structure.

The boiler room continued further to the west, into an area heavily disturbed by later footings. However, during the final phase of watching brief a set of steps [6169] was uncovered at the western end of the boiler house [6167/6171] (Fig 20). These steps probably gave access to a sunken furnace room at the western end of the boiler. However, the only further evidence uncovered in the watching brief were two heavily truncated sections of brick wall, [6214] and [6215], which probably lay within the furnace room forming internal partitions, perhaps a coal bunker.

At the top of the flight of steps was a flagged yard surface (6165). It lay at 90.24m OD, a level comparable to the raised yard surface lying to the north of the engine house (6057). As groundworks were monitored during the final phase of archaeological works, it was noted that a cellared space lay below the yard surface. This may have been part of an earlier building demolished prior to the building of workshop, boiler house and engine room.

To the east, the southern wall of the boiler room angled in to meet the end of the brick-lined flue [6022] (Fig 21), which sloped gently downwards to the east for some 6.5m before running into the base of the circular brick chimney stack. The flue was filled with very fine purple sand (6018) with ashy lenses. A square brick-lined inspection pit [6015], providing access to the flue, had been built into the raised yard surface to the east of the boiler house.

Approximately half of the circumference of the chimney lay within the excavated area, allowing its exterior diameter to be estimated as c 3.0m and its internal diameter as c 1.8m (Fig 22). The walls of the surviving half of the chimney were five bricks thick and stood to a height of fifteen courses. Its base was formed by stone flags [6084] cut to fit the interior of the chimney and mortared into place with a white lime mortar. These were overlain with mottled yellow-grey-brown clay loam with fragmentary building material, in turn overlain by a 0.2m thick layer of dark grey sand and soot (6082). This was sealed by a 0.55m deep deposit of reddish-brown sand (6070), perhaps an accumulation of brick dust from the interior of the chimney.



Steps leading to boiler room/furnace, looking north Fig 20



The boiler room, flue and chimney, looking east Fig 21



The brick foundations for the circular chimney stack, looking west Fig 22

### 5.3 The workers' housing

Cartographic and documentary evidence indicates that by the mid-19th century a court of houses had been built to the west of the factory site. The Goad Insurance Plan (Fig 6) shows their arrangement in some detail. The court is identified as Court No 9 and comprises two rows of six small terraced houses either side of a yard. An entrance to the court lies to the north, where a row of 'back-to-backs' fronts Portobello Street. Only the southern area of the court, comprising parts of six of its houses, lay within the excavated area, together with the remnants of a wash house and toilets and parts of the four houses that fronted onto Holland Street.

At ground level the remains of these structures were severely truncated. However, each house had a small cellar and these were found largely intact, filled with rubble deriving from both the demolition of the houses and the neighbouring factory buildings.

The house walls were constructed from bricks measuring 235-245mm x 110-115mm x 70mm (9¼-9⅝" x 4⅜-4½" x 2¾"), laid as a double-thickness in a stretcher bond, with no cavity, using white/grey lime mortar. The eastern wall of the properties, [6183/6136) abutted the factory walls to the east, and the front and back walls and the party walls between the house were of the same build. The cellar walls were constructed from roughly hewn limestone blocks, patched up with brick, and were broader than the standing walls. The cellar floors were laid with York stone flags and the cellar roofs

were brick barrel vaults. The houses were roofed in slate.

### **28 – 34 Holland Street and the wash house**

Fronting onto Holland Street were the rubble-filled remains of four cellared houses (Figs 23 and 24), annotated numbers 28-34 on the Goad Insurance Plan (Fig 6). Number 28 lay to the east adjoining number 30, which was separated by a passageway from a narrow rectangular building, which may have functioned as a wash house. A passageway to the west divided the wash house from 32 and 34 Holland Street.

#### *28 Holland Street*

This house was 3.20m wide and at least 4.50m long: the southern frontage onto Holland Street would have lain just beyond the southern limit of excavation. There was no surviving floor surface. The only internal feature was a rough rubble wall or 'rafter' [6201] running the length of the house and built over the rubble that buried the barrel-vaulted roof of the underlying cellar, which was exposed during the later watching brief. The rubble 'rafter' may have supported a timber beam for a suspended wooden floor. Access to this house must have been from Holland Street.

#### *30 Holland Street*

This house was near identical in size to its neighbour. It too had a rubble 'rafter' running the length of the building [6203]. To the north a flight of stone steps [6142] built against the rear wall gave access to the cellar. At the foot of the steps a small area of the cellar floor, flagged in stone (6144), was uncovered, while at the top of the steps there was a area of laid stone [6216].

#### *32 Holland Street*

This house lay to the west of the wash house, and had survived at cellar level only, with a broad east wall [6115] of brick and sandstone rubble. The cellar enclosed a space measuring 4.50m by 1.90m, and the stone flagged floor (6116) (Fig 25) lay at 88.83m OD. The south wall [6112] lay at the southern limit of excavation, with the scar of the vaulted ceiling surviving to just below its apex. This allowed the original height of the cellar to be established at approximately 1.80m (Fig 26). A coal chute had been built into the south wall of the cellar, and against the north wall were a flight of brick-steps [6210], that opened into the passageway between this building and the wash house, indicating that there was no access to the cellar from within the building.

#### *34 Holland Street*

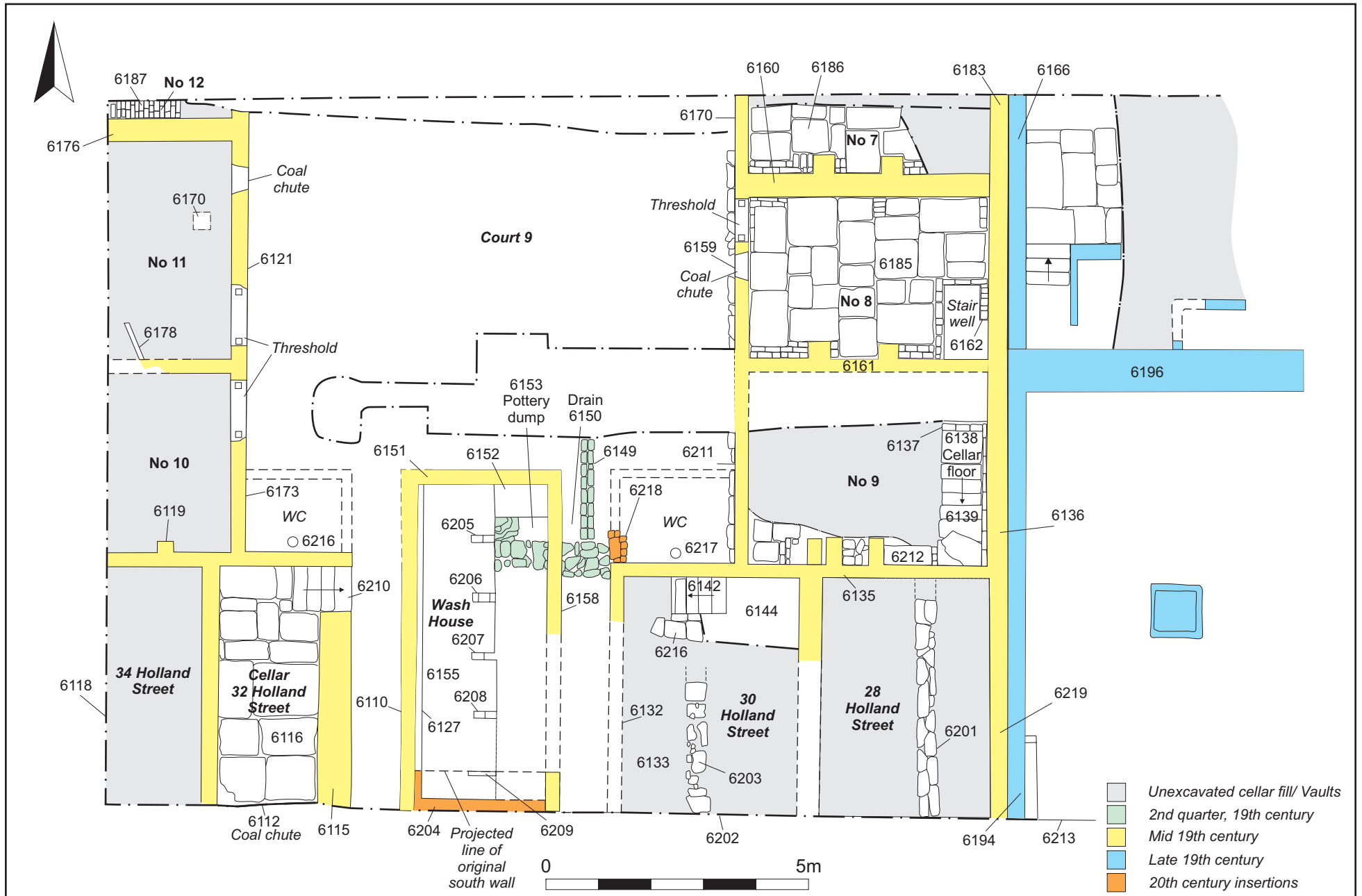
This house lay in the extreme south-west corner of the site. Due to constrained working space and overlying structural elements the rubble filling its interior was not removed, although the brick vaulting of the cellar could be seen in the southern edge of the excavated area.

#### *The wash house*

Between 30 and 32 Holland Street heavily truncated walls, drains and surfaces related to a probable wash house (Figs 24 and 27), which presumably served the whole court of houses. Parts of the brick walls survived to the west [6110], north [6151] and south [6204] and to the east there was a foundation [6158]. The floor space was 6.0m long by 2.3m wide.

The Goad Insurance Plan depicts a pathway that divided the structure from the neighbouring houses and wrapped around its frontage onto Holland Street (Fig 6). The east and west arms of this path, measuring c 0.90m wide, were located but the southern part appeared to have been built over, with the wash house extended, sometime after Goad Insurance Plan was produced in 1896, to the Holland Street frontage, although there was little surviving archaeological evidence for this rebuild.

Plan of excavated 'houses' Fig 23





The houses, looking south-west Fig 24





The cellar floor of 32 Holland Street, from above Fig 25



Cellar vaulting scar and coal chute on front (south) wall of 32 Holland Street, looking south Fig 26



The wash house, from above, showing the concrete skimmed floor (foreground), brick partitions for basins and drainage (centre left) Fig 27



Base of ceramic toilet to rear of 30 Holland Street, looking south Fig 28

Below the north-eastern corner of the washroom there was a heavily truncated stone and brick-lined drain [6153]. It was filled with clay silt (6152) and contained pottery dated to the second quarter of the 19th century. Externally a drain ran northwards, flanked by the wash house wall on one side and a brick lining on the other [6149]. This drain was filled with dark clay silt (6150) and contained pottery of a similar date, including sherds cross fitting with those found in the fill of the drain within the building [6153]. These two drains features predate the final phase of the wash house building, but seem most likely to have been related to an earlier wash house, contemporary with the earliest usage of the Court.

Little remained of the internal layout of the wash house. A brick floor, 1.3-1.4m wide, and later skimmed in concrete (6155), ran the length of the western half of the building. Adjacent to this floor the wall was thickened with a lining of bricks [6127] and rendered in concrete. Projecting 0.4m into this floor were the bases of five brick piers [6205-9]. The piers may have supported a row of wash basins running the length of the eastern half of the building, and part of a contemporary drain survived in the south-eastern corner of the building. Drainage would probably have emptied out to the north, as with the earlier drains, but had not survived.

Perhaps at the same time as alterations were made to the wash house, toilets were added to either side of the wash house, set in the angle between the Holland Street frontages and the two lines of Court houses to the rear. The truncated remains of ceramic toilet bowls [6216] and [6217] were found to the rear of numbers 30 and 32 Holland Street (Fig 28); presumably they were enclosed by lightly built cubicles, of which nothing remained other than a small stub of stone wall foundation [6218] attached to the west wall of number 30. A section of salt-glazed ceramic pipe was located to the north of one of the toilets, presumably once connecting to the sewage system serving the toilets/wash house.

### **7-11, Court No 9 Portobello Street**

The southern part of Court 9 fell within the excavated area and the remains, or partial remains, of numbers 7-9 lay to the east and numbers 10-12 to the west. Access to these houses was from the open courtyard, which was 9m wide.

#### *Number 7*

The southern part of this house lay at the northern fringe of the excavated area. The cellar was 4.5m long, and the stone-flagged floor (6186), patched up in places with bricks, lay at c 87.60m OD (Fig 29). Built into the southern wall of the cellar there were two brick piers which would have lain below the ground floor fireplace, in a similar fashion to the neighbouring house, see below.

#### *Number 8*

The front wall of this house survived at ground level. At the northern end there was a doorway marked by a stone threshold, which had small rectangular holes at either end to house wooden door jambs. A central coal chute opened into the cellar.

The cellar was 3.0m wide by 4.5m long, and in the south-eastern corner there were the remnants of a largely removed brick-built stair case [6162] giving access from the ground floor (Fig 30). The cellar floor, which was flagged in stone (6185), lay at 87.95m OD, some 0.35m higher than that of number 7. The southern wall was well preserved at cellar and ground floor level. In the stone wall of the cellar there were the scars of two brick piers, similar to those in number 7, which had run up to the springing of the brick vault (Fig 30). Above this there were brick piers of the ground floor fireplace surround.



The cellar floor in No 7, Court 9, looking west, showing (left) the brick piers to support the ground floor fireplace Fig 29

### Number 9

This house was slightly broader than its neighbour to the north, at c 3.50m wide.

Although most of the rubble fill of the cellar was left *in situ*, a complete flight of stairs (6139) constructed of brick with stone treads, lay against the eastern, rear wall of the house (Fig 31). At the foot of the stairs a small area of the stone-flagged cellar floor (6138) was uncovered (c 88.0m OD). At the top of the stairs there was an angled tread and the scar of a lost angled tread, giving access into the ground floor room next to the fireplace.

A flagstone (6212) at the top of the staircase indicated the level of the ground floor (c 91.0m OD); allowing the distance from cellar floor to ground floor to be established at c 2.0m. The springing of the brick-built cellar vault was visible beneath this flagstone. A scar on the upstanding remains of the eastern wall indicated the position and pitch of the staircase leading to the first floor, which stood directly above the cellar steps.

As with numbers 7 and 8, the fireplace was in the southern wall. The original width had been reduced by a re-lining of brickwork, and there was a niche or cupboard to one side. The fireplace had a stone hearth and a lintel made of iron.



The stone cellar wall of No 8, Court 9, looking south, showing scars of the removed brick piers beneath the ground floor fireplace, and the springing of the brick vault, with the removed stairs to the left Fig 30



The cellar stairs of No 9, Court 9, looking south-east, showing the ground floor fireplace on the south wall Fig 31

*Number 10*

On the western side of the court, adjoining the rear walls of 32 & 34 Holland Street, number 10 was c 3.5m wide, but due to its close proximity to the edge of the excavation the rubble filling its interior was not excavated.

The front wall contained a number of features. The position of the front door at the northern end of the wall was indicated by a c 1.10m-wide threshold stone, with a worn and rounded surface and square recesses to house the timber door jambs (Fig 32). There was also a central coal chute. A stone 'buttress' built into the southern cellar wall was similar to those observed in numbers 7, 8 and 9.



The front wall of No 10, Court 9, looking north-west, showing the threshold (right) and coal chute (left) Fig 32

*Number 11*

This house was broader than its neighbour, at c 4.2m wide. To the north only the broader stoner cellar wall [6176] had survived. The stone threshold lay at the southern end of the brick front wall, with remnants of a coal chute towards the northern end of the wall.

A hand-dug test pit through the rubble fill of the cellar revealed its stone-flagged floor (6170) lying at c 87.65m OD. A stub of wall [6178] may have indicated the position of a stairwell.

*Number 12*

In the extreme north-western corner of the site a small section of the brick vault [6187] over the cellar of number 12 was uncovered.

## 6 MATERIAL CULTURE: DOMESTIC AND MANUFACTURING

### 6.1 Pottery by Iain Soden

Beneath the walls of the wash house lay a partially stone-lined pit. It was first seen in Evaluation Trench 3 and was emptied during later excavation of the court. The pit pre-dates the wash house wall in this area, but may have been part of its original drainage system, perhaps later replaced by piped drains. The pottery from the pits fills (6150, 6152) is therefore probably associated with the early usage of the court houses in the mid-19th century.

The assemblage comprised 257 sherds in fifteen basic types, all mass-produced from the 18th century onwards. A minimum of 34 vessels were represented, although the smashed nature of mass-produced wares means that only very distinct form-sherds have been used in this estimation. The pottery was kept separated into its distinct halves, to either side of the wash-house wall foundation. There was material in both sides which derives from the same vessels but there were few joining sherds, fractures being indistinguishable in the heavily pre-prepared clays of mass production types. No tip-lines were apparent in the pit, nor was there any indication from which side or sides the pit was filled. The wash house wall through the middle of the pit had accounted for an unknown amount while with only three pit sides extant, an unknown percentage of the pit has also been lost and with it more of the pottery assemblage.



Pottery found in fill of pit [6149] and drain [6153] Fig 33

The pottery from each side of the pit, separated by the later wall, is listed below (Table 6).

Although the pit has clearly lost its top, one end and its middle portion, the remaining material does indicate a snapshot of what had recently been in use in a court-housing situation at about the middle of the 19th century. The first inhabitants of Court 9 clearly had access to a wide range of mass-produced tablewares redolent of the ceramic heyday of, especially, nearby Staffordshire. The relative completeness of a number of Mocha ware vessels in a variety of uses suggests a deposition date of c 1850 or soon after. The occurrence of a few individual types such as White salt-glazed stoneware and sprigged bone china may suggest some old heirlooms being broken when they had been in use for some time. There is no indication that the material derives from one household or more than one household.

Figure 33 shows the most re-constructible vessels, clockwise from top left: Mocha Jug; Nottingham stoneware bowl; Mocha chamber pot; Mocha colander; Blue shell-edge pearlware dish; Underglaze blue transfer-printed tea cup; Sprigged earthenware tankard. In most cases no more than half the vessel was present.

*Table 6: Pottery from pit fills (6150) and (6152) by type and sherd count*

Type	Forms	Likely Production range	Sherds (6150)	Minimum vessel numbers (6150)	Sherds (6152)	Minimum vessel numbers (6152)
Black or white dairy-wares	Pancheons	19th century	3	2	30	5
Misc Blackwares	Tablewares	18th century	--	--	4	4
Nottingham Stoneware	Bowls, cistern, ?alembic? square tureen or salting pan	18th-19th century	19	5	17	6
Underglaze transfer-printed earthenware	Assorted table wares	19th-century	18	13	26	--
Plain White glazed earthenware	Assorted tablewares	19th-century	9	4	46	--
Pearlware	Tablewares	19th-century	2	1		
Blue-banded white slip/earthenware	Jug/jar	1820s-	3	1	24	2
Bone china	Tableware	18th-19th century	1	1	--	--
Sprigged bone china	Tableware	1760s-70s	--	--	3	1
Press-moulded earthenware	Jug	19th-century	1	1		
Blue, shell-edge pearlware	Plate, deep dish	1780-1840	9	2	14	4
Mocha ware	Jug, colander, chamber pot	1830-50	17	4	10	8
Sprigged	Tankard	19th century	7	1	--	--



Type	Forms	Likely Production range	Sherds (6150)	Minimum vessel numbers (6150)	Sherds (6152)	Minimum vessel numbers (6152)
earthenware						
English stoneware	Inkwell	19th-century	--	--	3	3
White salt-glazed stoneware	Tableware	1720-80	--	--	1	1
Totals			89	35	168	34

## 6.2 Building materials by Pat Chapman

### **Bricks**

Six bricks from Holland Street and Court 9 were retained as a sample. They comprise three taken from walls, one from a fireplace and two from rubble (Table 7).

The three bricks from the cellar wall of 32 Holland Street (6115), the partition wall between numbers 7 and 8 Court 9 (6160), and the east wall of number 10 Court 9 (6173) are similar in both dimensions and appearance. The fabrics were originally red-brown, but the east wall brick is damaged, cracked and blackened, and the cellar wall brick is overfired and friable, held together by cement. They have no frogs that are apparent, even under the cement. The brick from the fireplace (6135) is slightly longer than the rest and is slightly bloated from overfiring. These are most likely locally made bricks at the cheapest end of the market, which were produced according to demand in the industrial cities of the north. They had been laid with white lime mortar, containing small gravel and chalk, with some grey mortar, containing tiny gravel inclusions, overlying the white.

The other two bricks, unfortunately not found in situ, were much better made. They are about 10mm (½ inch) shorter than the wall bricks and are in a white sandy fabric. The brick from the rubble on the boiler room steps (6168) is frogged and stamped on both sides with LEEDS FIRECLAY CO LD, with a brown surface on one stretcher and white glaze on the other. From the backfill of the beam cutting Court house number 7, the other brick is white glazed on both stretchers and frogged with HALIFAX on one side and BROOKE the other.

The Leeds Fireclay Company was formed in 1889, by an amalgamation of several companies making a range of good quality ceramic products. One of those was Joseph Brooke & Sons of Halifax ([www.postmaster.co.uk/~jason31/51000/page\\_1.html](http://www.postmaster.co.uk/~jason31/51000/page_1.html)).

It seems more likely that these two quality bricks, dated to the 1880s, are from the factory buildings, and perhaps associated with the extensions made at about this time. As glazed bricks they could have come from a decorative exterior, or were used as protective material inside.

Table 7: Brick details

Context / type	Dimensions mm /(inches)	Description
6115 / east cellar wall, 32 Holland Street	235 x 115 x 70 (9¼ x 4½ x 2¾)	Mauve-brown, cracked, burnt
6135 / fireplace, number 9, Court 9	245 x 110 x 70 (9⅝ x 4⅜ x 2¾)	Purplish-brown, bloated to 80mm, very cracked, mortar with small chalk lumps
6160 / partition wall between 7 and 8, Court 9	235 x 112 x 70 (9¼ x 4⅜ x 2¾)	Red-brown, friable,
6168 / rubble on steps to boiler room	225 x 110 x 70 (8¾ x 4⅜ x 2¾)	LEEDS FIRECLAY CO LD both sides White, white glaze one stretcher
6173 / east wall number 10 Court 9	240 x 108 x 70 (9½ x 4¼ x 2¾)	Red-brown, blackened, friable, no frog, cement top and bottom
Backfill of concrete beam cutting no 7	223 x 110 x 70 (8¾ x 4⅜ x 2¾)	HALIFAX one side BROOKE the other White, white glazed stretchers

### Stone and ceramic wall and floor tiles

There are three glazed wall tiles and three stone floor tiles from the rubble fill of the cellar for 30 Holland Street (6184).

The glazed wall tiles are a set of three white tiles each inlaid with a green glazed letter, S, I and N, with foliate terminals. Each letter is surrounded by a raised outline in light brown.

The S and N tiles are 149mm square and 8mm thick (5⅞ inches by less than ⅜ inch), the I tile is rectangular, at half the width. On the back of the tiles is the maker's name, MINTON HOLLINS CO STOKE ON TRENT, and the design reference NO 2W. The Minton tile company has a long and complicated history, but the particular tile above was created in 1845 (Beulah and van Lemmen 2001).

The three stone floor tiles are 112mm square and 16mm thick (4⅜ x ⅝ inches), and slightly chamfered. Two are made from a white stone and one from black, so they would probably have been used to make a floor with a black and white chequer effect.

### Roof tile

Four retained sherds of slate and one of sandstone indicate the nature of some of the roofing material used, and confirm the descriptions on the Goad map of 1896. The dark grey slate is probably Welsh as they were the largest producers at the time. The biggest sherd is 350mm long x110mm wide, and was obviously quite large, with two small holes close together 3mm and 6mm in diameter. One hole still retained the clenched copper nail which fixed it to the roof. Another sherd is much smaller, only 112mm wide but has lost some length. The slate comes from rubble fills (6164, 6168, 6182).

The fine grained micaceous sandstone fragment is 15mm thick with a partially surviving peghole. This came from the rubble within the wash house (6154), suggesting a use of local stone for the roof.

## 6.3 Cutlery manufacturing waste by Joan Unwin

### Provenance

The Sheffield Assay Office occupied the site from 1958 to 2008. When it was built, the Portobello Works (cutlery) and houses in courtyards were demolished with much of the rubble apparently being used to level the ground. The demolition rubble was pushed into cellars and stairwells. This suggests that although cutlery manufacture was known

to have taken place on the site, specific locations of finds may not correspond to the actual activity within the factory site.

### ***Quantity and condition***

Approximately 350 pieces of material came from 22 contexts, most coming from the cutlery works handle cutting room. The material consisted of 239 pieces of bone; two pieces of ivory; two pieces of pearl; one piece of horn; three pieces of stag antler; seven pieces of wood; eight pieces of plastic; 32 pieces of ferrous metal and 53 pieces of non-ferrous metal (nickel silver and brass). Most of the material related to cutlery handle making and to flatware (spoon and fork) manufacture. The items, which had been cleaned to remove soil, but not corrosion, were dry and in good condition.

### ***Range and variety***

The material ranged from ends sawn from long bones, squared sections of bone shafts from which usable dense bone had been sawn, lengths of rib part-made into handle scales, pocket knives, finished scale fragments trimmed from bone, a small number of ivory and pearl pieces, one horn core tip, wood scales, nickel silver flatware fragments and brass pocket knife liners.

The material is consistent with similar sites all over Sheffield. The natural material itself is not datable by visual examination because such material had been used in Sheffield for centuries.

### ***Methodology***

The finds were examined by type of material, identified and brief descriptions entered into the spreadsheet. Some photographs were taken. The following summaries relate to these material groupings, followed by a short review combining this data as it relates to the Sheffield cutlery industry. Conclusions as to the potential of this material are given, with some recommendations on storage. The finds are listed in an Appendix held in archive.

### ***Summary of finds***

The bulk of the finds was bone associated with the manufacture of handles for table and pocket knives. Because bones have a relatively dense outer layer over a 'spongy' inner core, only thin sections of dense bone are useable for handles. This dense bone is sawn into thin rectangles to be made into 'scales' which are riveted on each side of a knife tang or to the brass liner of pocket knives.

#### ***Bone and ivory***

The bone scales from this site were produced principally from metacarpal and some metatarsal bones of cattle (species and butchery identified by Karen Deighton, Environmental Officer, Northamptonshire Archaeology). The process involved sawing the ends from the shafts, then sawing these shafts into useable lengths, between 80-120mm long. These sections were sawn vertically and the dense bone cut from the outer layers, resulting in scales which are flat or slightly semi-circular in cross section. These processes also resulted in waste material - ends of bones and thin slivers of bone. These stages can be seen in the finds from the handle cutting room (Fig 34). A small number of pieces of ribs were also recovered, which had been sawn to length and which would then have been sawn longitudinally to produce two thin scales.

Only a very small number of finished scales were found, though a handle was found with the scales attached to each side of the flat scale tang of a table knife [context 3007/small find 2] (Fig 35). Bone was used to make many other items, especially button making. No evidence for this has been found here, though a bone 'washer' may in fact be a button with the central depression totally cut through [6182/147].



The by-products of the handle working process, found in handle cutting workshop (Scale: 50mm) Fig 34



A scale tang handle with bone scales attached with three rivets (Scale: 50mm) Fig 35



A straight table blade with round tang showing evidence of burning (Scale: 50mm) Fig 36



Pocket knife blade with 'neb' to hold blade while forging (l) and single blade pocket knife (r) (Scale: 50mm) Fig 37

Ivory was a material used on better quality knives; one broken ivory handle was found, probably broken when the central hole was being bored [6182/139].

#### *Pearl, stag and horn*

Handles for table knives and pocket knives could also be made from higher value materials such as pearl. Useable pearl came from a variety of shells and produced thin scales of varying length. Two rectangular pieces, for scales for pen/pocket knives, were recovered [6168/132, 133].

Antlers from a variety of deer, and known generically as 'stag', could be used to produce scales, in much the same manner as with bone, but the tips of the antler tines could also be used as complete handles, especially for carving knives. None was found here, but three stag scales for pocket knives were found [3009]. To mimic the more costly stag, bone could be scored or 'scratted' and stained. Three examples have been found [6168, 137].

Horn from a variety of cattle could be used to make solid handles for table knives or scales for pocket knives. None was found but the tip of a horn core indicates this activity on this site [6168, 146].

#### *Wood*

Wood, especially exotic hardwoods, were popular materials for table knives, trade knives and pocket knives. Five wood scales (species unknown) were found in context 6168 and included a pair for pocket knives, three likely to be for trade knives, such as those for leatherworkers and one longer wood handle with a slit at one end for the tang of a knife, to be fastened in with three rivets. The handle is tapered away from the blade, is quite long and it is not known for what kind of knife this could be for [6168/129].

#### *Plastics*

Many plastics were introduced into the cutlery trades to replace the costlier materials such as ivory and tortoiseshell, as well for their cheapness as for their ease of manufacturing in specific shapes. There are three examples of black plastic used for the scales of open razors [6168/152, 153, 154]. There were several examples of a white laminated plastic, typically called xylonite or 'Ivorine' which was used extensively for table and pocket knives. There are three pocket knife scales [6168/132, 133, 134] as well as two broken table knife handles [6168/144].

#### *Ferrous metal*

The metal used in the cutlery trades for blades was steel - carbon steel and from the 1920s, stainless steel. Without further cleaning, it is not possible to say which, though the thin section table blades, which have been stamped out are likely to be stainless steel. There were no table knives found on the site, only a number of blades, many broken. A number of straight table knife blades with round tangs were found, especially in the area of the boiler room (Fig 36). Two blades with offset tangs were also recovered – these were possibly destined to be chopping/food preparation knives (also from the boiler room). Two small pocket knife blades were recovered; one showing that it had been hand forged, still having the 'neb' on the tang [6129/49] plus a pocket knife spring [6140/59] (Fig 37). One broken flat file was also found [6153/70].

#### *Non-ferrous metal*

Non-ferrous metals were used in cutlery and flatware manufacture. Brass was commonly used as the inner liners of a pen and pocket knife, to which the outer scales of bone, pearl, etc. were riveted. A small number of examples were found, some having one or two bolsters attached [6129/99].

Flatware (spoons and forks) were often made from nickel silver, or metals which were

then electro-plated. Nickel silver, an alloy of copper, zinc and nickel, was sometimes called German silver. A number of very thin spoons, mainly teaspoons were found, as well as some broken spoon handles from the engine house.

### ***Manufacture of knives and flatware***

The main processes for knife manufacture involve the making of the blade, either by forging from bar metal or stamping out of steel sheet or strip. The bolster and tang may be forged together with the blade or made from a separate piece of metal and then attached to the blade. This method leaves a distinctive mark on the back of the blade. However, this was not visible on any of the blades.

The tang attaches the knife blade to the handle and can be round to fit into a solid handle bored with a central hole. A cheaper alternative is the whittle tang – a short, thin, flat tang stamped out with the blade. The other main way of attaching the handle is to rivet two matching scales to each side of a flat tang. Examples of all three types were found. There is evidence of the manufacture of table and dessert knives, but the finds here cannot determine whether the blades were made on site or 'bought in'.

The blades do not appear to have been ground, which is the second main process in knife manufacture.

The making of handles involves the processing of natural materials into handle lengths, between c 80-129mm. Handles could be made on site, as in this case, or bought from specialist handle makers. Bone, horn, antler, ivory, etc was sawn to maximise the useful parts, resulting in thin scales or solid blanks, from which a handle would be made to the style required. This resulted in waste scraps which could either be sent to other workers in bone or ivory, etc or collected and sent to the bone mills for fertilisers.

Pocket knife making is a more complex assembly process. Blades can be forged or stamped out, then ground and fitted between two parts of the handle, which is made up of two brass liners supporting the handle scales of stag, pearl, wood, etc. The blade is held open and closed by a spring along the back of the knife between the two scales (Fig 37).

Only spoons, as examples of flatware, were found especially in the engine house. Spoons and forks are stamped out of flat sheets of metal, ferrous and non-ferrous. Only one complete and undamaged fiddle pattern spoon was recovered, the rest included bent and corroded spoons and a number of small spoon handles. All the damaged spoons and handles were very thin and probably were damaged in manufacture, possibly in making the spoon bowl. These spoons would have been electro-plated.

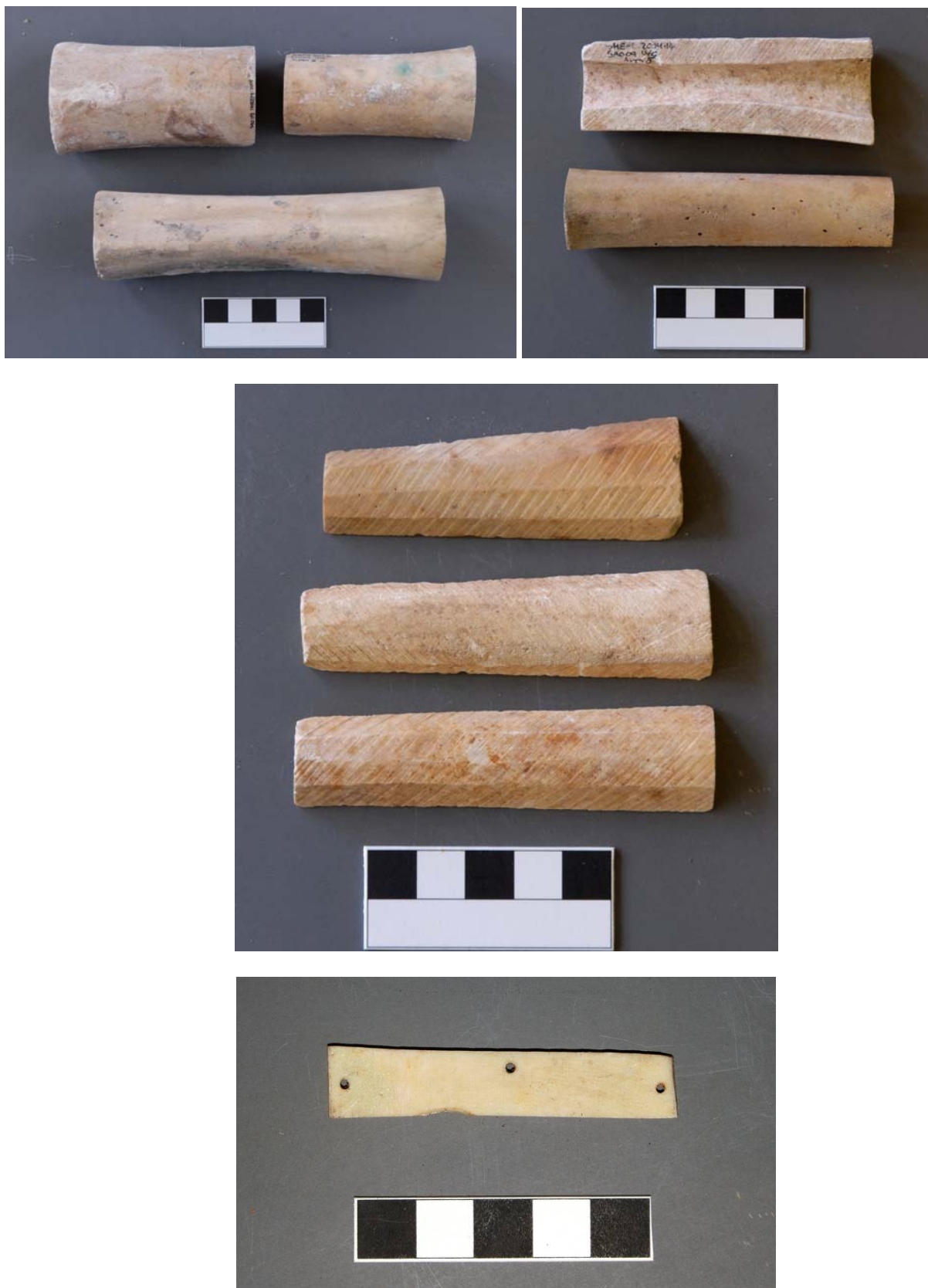
One broken flat file was found, but was probably a tool being used either in a house or in the factory. There is no evidence from this sample that files were being made on the site.

### ***Conclusion***

This assemblage of bone and metal finds is typical of excavations in the centre of Sheffield. Because many of the contexts were demolition rubble, little can be said about the location within the site of these processes. Dating cannot be very specific either, but the presence of plastic and stainless steel, would put the finds around the end of the 19th and first part of the 20th centuries.

The finds of bone residue from the unstratified context of the handle cutting room illustrates the possible sequences in processing bones for knife handles. The written information about bone handle making is sparse and the excavated finds from this and other sites are proving to be very informative as to the sequence of production.

The metal finds are not really significant, except as evidence of the activity on that site.



Stages in making handle scales from bone (Scale: 50mm) Fig 38



The knife blades are typical and the spoons only have some interest in that a) the number which have been broken and b) the thinness of the spoons prior to plating.

It is only from bone handle fragments that a sequence of manufacturing processes can be deduced, either generally or on a site-specific basis. Therefore a range of bone and other handle material has been chosen to demonstrate the sequence of sawing bone to produce the handle shape (Fig 38). This may be seen as preserving a relative seriation and reference material for subsequent finds from Sheffield. It is likely that such an assemblage is the only evidence there will ever be about bone handle-making.

#### 6.4 Crucible fragments and 'Industrial Residues' by Roderick Mackenzie

The crucible fragments and possible industrial residue samples recovered from the site were examined to assess their archaeometallurgical significance and potential to provide information about activities at the site (Table 8).

The assemblage contained several fragments of used steelmaking crucibles (Fig 39). Traditional Sheffield (or 'Huntsman') steelmaking crucibles had a very short service life and were typically discarded after one day's use, fragments of used crucibles are a relatively common archaeological find within Sheffield, where they were often used as free draining hardcore to make up ground. Although common finds, used crucible fragments can be of archaeometallurgical potential when recovered from specific 'dateable' contexts or those that can be related to a particular steelworks.



Crucible fragments found below surface of Court 9  
(Scale: 100mm) Fig 39

The fragments in this assemblage were recovered from unstratified contexts that lay beneath a 19th-century courtyard. The difference in size between some of the crucible bases suggests that the assemblage contains crucibles from more than one works.

The samples of sand from chimney deposits 6070 and 6082 did not contain any diagnostic 'process specific' metalliferous residues, although the darker colour of the sample from 6082 suggests the presence of soot. Both samples were recovered from the remains of a chimney, which was linked to the flue of a boiler room structure. If the chimney and associated structures were part of the former cutlery factory, they may relate to either a reheating furnace or small steam boiler. The presence of the sand in the base of the chimney may be the result of the undisturbed accumulation of brick dust and soot from the inner surface of the chimney.

*Table 8: Summary of crucible fragments and 'industrial residues'*

<b>Context</b>	<b>Fragments/ Sample No</b>	<b>Description</b>
Soils below Court 9	3	Complete lids from used steelmaking crucibles
Soils below Court 9	2	Fragments from the walls of used steelmaking crucibles
Soils below Court 9	2	Base fragments of used steelmaking crucibles, with external diameter of approx. 620mm
Soils below Court 9	1	Base fragment of used steelmaking crucible, with external diameter of approx. 480mm
Below No 8, Court 9	1	Fragment from the wall of a used steelmaking crucible
1013 (evaluation)	1	Fragment from the wall of a used steelmaking crucible
6188	2	Fragments from the walls of used steelmaking crucibles
6070 (chimney)	(Sample 3)	Reddish brown sand with no metalliferous residues present
6082 (chimney)	(Sample 4)	Dark grey sand, possibly containing soot. No metalliferous residues present

## 6.5 Leather shoes by Quita Mould

### **Methodology**

The leather was identified and diagnostic pieces dated. The information gathered was correlated with the site information. A record of the material is provided below.

All measurements are in millimetres (mm). No allowance has been made for shrinkage. Shoe sizing has been calculated from insole measurements according to the modern English Shoe-Size scale, continental sizing is given in brackets. The sizing is given for guidance only.

Leather species were identified by hair follicle pattern using low-powered magnification. Where the grain surface of the leather was heavily worn identification was not always possible. Where the grain pattern of the immature animal (calf) could not be easily distinguished from the mature animal (cattle hide) the term bovine leather has been used. Shoe bottom components are assumed to be of cattle hide unless stated otherwise.

### **Summary**

Leather footwear was recovered from three contexts [6168, 6182 and 6199] all backfill deposits relating to the demolition of two cellars and a factory building. Four items of footwear were found in backfill of the cellar of number 8 Court 9. A boot for a child came from backfill of the cellar of number 7 in the same court. Part of a sports boot,

for football or rugby, was found in backfill of the factory building. All appear to be the result of domestic rubbish disposal.

### ***Provenance and date***

#### *Backfill of cellar of number 8 Court 9 [6168]*

Four items of footwear were recovered from backfill [6168]. Two had been worn by women; a lady's Balmoral boot of brown kidskin (SF8) and a bar shoe with brogue detail (SF13) possibly of a tan glaze leather. Two had been worn by men; a Balmoral boot of black polished calfskin (SF9) and a front lacing shoe of Oxford or Derby style also with brogue detail (SF11) of black polished bovine leather. The shoes were of styles current during the first quarter of the 20th century and all date prior to the Second World War (Swann 1982). Three were well worn; the lady's bar shoe was not heavily worn.

The following comprises a detailed description of the items:

Context 6168 backfill of the cellar of number 8 Court 9

SF8 Leather front-lacing ankle boot, Balmoral boot, right foot

Almost complete front-lacing ankle boot, broken with slag adhering, shoe parts adhering obscuring some technological details, appears to be of stitched construction.

Bottom: Oval toe, medium tread, narrow waist and medium seat. Sole with curved profile at the waist. Tread sole with iron nailing, worn down at the toe with grain/flesh stitch holes visible, middle packing likely, and insole. Low, wide D-shaped heel of stacked leather with iron nailing, comprising a top piece and three thick lifts in all 20mm (c ¾ inch) high.

Upper: Galosh with oval toe, now broken away, with long convex curving wings with double stitched lapped seams to join to the leg. Single low, straight side seam on the left side. Quarters with back seam c 48mm high at centre back. Legs with six pairs of lace holes with brass eyelets and leather facings. Heel stiffener at centre back and lining present on the right side. Leather brown goatskin (kidskin)

Present sole length 236mm, width tread 78mm, waist 30mm, seat 48mm. Estimated insole length 230mm. Estimated shoe size Adult 2(34)

SF9 Leather front-lacing ankle boot, Balmoral boot, left foot

Almost complete front-lacing ankle boot, right side of leg missing, upper split across the great toe joint. Shoe parts adhering obscuring some technological details, appears to be of cemented construction.

Bottom: oval toe, medium tread, waist and seat, a 'modern' bottom shape. Tread sole with iron nailing, sole, middle/insole and textile insock. No sign of stitched construction. Welt with rouletted/milled lines but no actual stitching. Low, D-shaped heel of stacked leather with closely spaced iron nails/pins, comprising a top piece and six lifts in all 19mm (c ¾ inch) high.

Upper: Galosh made in three sections, a vamp with right side seam at the waist and left seam close to the heel with a separate wide back strap and a short quarter on the right side. Seams and low straight top edge have double stitched lapped machine-stitched seams. Leg survives on the left side joining to the top edge of the vamp with double stitched lapped seam, with five lace holes remaining with brass eyelets. Heel stiffener with inner counter placed next to the foot. Impression of a textile lining present on the inside of the leg. Quarter is 48mm in height at centre back, this was extended to just above ankle height by the leg. Leather black polished bovine (calfskin) 1.08mm thick

Total sole length 295mm, width tread 103mm, waist 53mm, seat 64mm. Estimated insock/insole length 270mm. Estimated shoe size Adult 7(41)

SF11 Leather Oxford or Derby shoe, left foot

Almost complete shoe, leg pieces missing, of riveted construction.

Bottom: broad round toe, wide tread, waist and seat. Tread sole, worn through, with iron rivets/pins. Sole, also worn through, with iron riveted construction, middle and insole. Welt with rouletted/milled lines, but no stitching. Large, low, D-shaped heel of stacked leather comprising a top piece and two lifts with iron nailing in all 15mm (c ½ inch) high.

Upper: Round-toed vamp with small peaked throat, curved wings joining to quarters with double stitched lapped seams. Straight toe cap with brogue detail. Long, low quarters with stitching for

a back strap (now missing) c 50mm high at centre back. Straight, stitched top edge with concave curving front seams. Vamp and quarters fully lined with calfskin. Upper black polished surface, much soil adhering.

Total sole length 285mm, width waist 65mm. Insole length 255mm, width waist 46mm. Estimated shoe size Adult 5(38)

SF13 Ladies bar shoe, iron riveted construction, left foot

Complete shoe of iron riveted construction, deteriorated on the right side.

Bottom: oval toe, medium tread, waist and seat. Sole deteriorated on the right side of the tread and insole with holes and iron staining from iron riveted construction. D-shaped, relatively thick, stacked leather heel with a top piece with iron nailing both around the edge and in the middle of the top piece, in all 31mm (1 ½ inches) high.

Upper: Vamp (right side missing) with oval toe, deep concave curving throat and double stitched lapped side seams. Quarters c 75mm high at centre back with machine stitched top edge. Front of quarters extend into a small fastening strap on the left side with a button hole and a long strap on the right to button across the instep. Brogue detail along the vamp throat and in a curved line across the quarters with a four lozenge cut out motif at the base of the fastening straps. Quarters fully lined, no lining present at the vamp. The quarters lining extends as a 'tongue' to line part of the vamp throat area. The upper leather is black in colour with a light-coloured surface coating, now cracked, possibly a tan glaze or a metallic patent leather finish. Not heavily worn.

Upper bovine leather c 1.67 mm thick, lining worn calfskin 0.72mm thick. Estimated insole length 215mm, width waist 32mm. Estimated shoe size Adult 1(33).

Backfill of cellar of number 7 Court 9 [6182]

A deteriorated front-lacing boot (SF10) of black polished kidskin was found in 6182. The boot of child size was of mid calf height, a style popular in the late 19th and early 20th centuries.

The following comprises a detailed description of the item:

Context 6182 backfill of the cellar of number 7 Court 9

SF10 remains of front-lacing boot, iron riveted construction, right foot.

Bottom: much deteriorated with the right side of the toe area missing, medium tread, waist and seat. Tread sole with iron nailing, sole and insole. Low D-shaped stacked leather heel comprising a top piece and a single lift in all c 10mm (less than ½ inch) high

Upper: remains of vamp, technically called a 'front', with a convex curving side seam with a double stitched lapped seam and straight throat area. Remains of highly deteriorated tall boot leg, technically called a 'whole back' with twelve pairs of lace holes with brass eyelets, the lace holes have separate facings. Estimated original leg height 130mm, certainly over the ankle, likely to be of mid calf height. Upper black polished sheep/goatskin (kidskin) 1.66mm thick. Surviving length 185mm. Estimated insole length uncertain, width waist 32mm. Estimated shoe size no larger than Child size 10(28).

Rubble backfill of western factory building (basement with central pillar) [6199]

Part of a boy's sports boot (SF12) for football or rugby was found in backfill [6199] of the factory building. As little of the boot survives it is difficult to date but of all the footwear found this is the only item that might be contemporary with the slum clearances in the area undertaken in the 1950s and 1960s.

Context 6199 rubble backfill of western factory building (basement with central pillar)

SF12 bottom of sports boot, iron riveted construction, right foot

Bottom: medium waist and seat area present broken away across the lower tread, the upper tread and toe area are now missing. Part of a tread sole with iron nailing, sole with curved profile at the waist, middle and insole. A single heel lift is present at the seat placed between the sole and the middle. A large stud of round section is present at the left side of the sole seat 15mm in diameter and 15mm high with the impression made by a second example visible on the right side.

Upper: small areas of upper and lining present at centre back. Much soil adhering obscuring any surface details.

Present length 158+mm, width waist 45mm, seat 65mm. Insole length ?mm, width waist 45mm, seat 57mm. Estimated size child size.

## Conclusion

The footwear provides independent dating evidence to corroborate that provided by the ceramic and other evidence. The footwear directly reflects the gender and status of the wearers and on some occasions also indicates their age.

### 6.6 Other finds by Tora Hylton

The excavations produced a group of 20th-century finds. A small number of finds were recovered from the remains of the Portobello Cutlery factory site but the majority were recovered from demolition deposits overlying the adjacent domestic properties. Much of the rubble lying in the cellars and stairwells originated from the demolition of the factory and this is reflected in the range of finds recovered, which includes tools for quite specific manufacturing processes and a large amount of manufacturing waste.

In addition to the manufacturing waste (reported on by Dr Joan Unwin) and the leather shoes (reported on by Quita Mould), 68 individually recorded small finds were recovered, together with vessel glass, clay tobacco-pipes and miscellaneous pieces of stone which have been recorded under the bulk finds system. The assemblage includes a range exterior and interior structural fittings and a small group of domestic related items.

The small finds may be quantified by material type as follows:

*Table 9: Finds from cutlery works and housing by material type*

Material	Cutlery works	Houses
Copper alloy		18
Iron	8	30
Ceramic		5
Glass		2
Plastic		2
Stone		2
Shell		1
Total	8	60

#### ***Finds from the cutlery works***

Eight small finds were recovered from deposits related to the cutlery works. They include a hammer from the boiler room, and a file from the engine room. The other items include, a double pointed implement, possibly an awl from the handle cutting workshop (Fig 40, top right), two nails from the yard and three undiagnostic fragments.

In addition a small group of objects relating to the manufacture of cutlery were recovered from demolition deposits overlying the workers houses and from topsoil. These are represented by four grinding stones, two from deposits adjacent to the wash house (between walls 6110/6111 to the west, and walls 6149-6151 to the east) and two from topsoil. Other tools include a claw hammer and a spanner from the wash house pit (6153) and a file from rubble deposits to the west of the wash house (between wall 6110 and 6111).

It is impossible to determine if all the iron tools recovered, originated from the Portobello Cutlery Works, but the grinding stones must have. They would have been used during the final stage of knife manufacture, to execute a sharp cutting edge and clean the surface of the blade (polish). Three different grades of stone are represented, coarse-grained millstone grit, medium-grained sandstone and fine-grained sandstone, each presumably used to achieve a different finish. Three forms of



Tools found during excavation of factory and houses  
(hammer heads, a possible awl and files) (Scale: 200mm) Fig 40

grinding stone are represented (Fig 41), two are discoid, one tapered and one although incomplete, may originally have been part of a stone for grinding razors or files. All have central square perforations, which measure 55mm or 60mm cross. The dimensions of the stones range from 220mm-320mm in diameter and the faces measure 40mm-75mm across. All grinding faces display signs of wear and three of the stones are furnished with faint, shallow or deep incised linear markings cut into their grinding surface, a form of dressing known as 'hacks'. The 'hacks' are represented by three different patters, zig zag, diamond-shaped and oblique parallel grooves, and they would have helped to produce a better finish.

There are two iron files; these would have been used for filing and fitting the individual components together (Fig 40, bottom). As with most tools the form and the arrangement of the teeth varies depending on the required outcome. This difference is reflected in the two examples recovered, one has a D-shaped cross-section and the other has a rectangular cross-section. They measure c 305-310mm in length and 30-33mm wide, and they terminate in short rectangular-sectioned tang (Length: 65mm) to which a handle would have been hafted. One of the files (rectangular) is furnished with faint oblique incisions or teeth (c 24 teeth per square inch), the spacing of the teeth suggests that it would have been for fine work. Corrosion deposits obscure the teeth on the other example.

Other tools recovered include, a claw hammer (weight: 419g) (Fig 40, top middle) and a "double faced" hammer (weight: 820g) (Fig 40, top left), and these may have had any number of uses including riveting (cf. Symonds 2002, 31).



Grinding stones found during excavation of factory and houses  
(Scale: 250mm) Fig 41

### ***Finds from the Houses***

In total 60 finds were recovered from deposits relating to the workers houses. Although some of the finds probably originated from the properties, the presence of a large amount of cutlery manufacturing waste suggests that much of the material had been redeposited during the demolition and levelling of the factory prior to the construction of the Assay Office. It is therefore difficult to be certain, if any of the items recovered from the infill of individual cellars actually originated from the property. The majority of finds were recovered from deposits relating to the infilling of the cellars (Court 9, numbers 7, 8, 9; 32 Holland Street), but with the exception of number 7, none of the assemblages appear to reflect the occupants or their occupations. The finds from number 7 provide a possible glimpse; the presence of sixteen ceramic (x 10) and glass (x 6) marbles, one glass bead, a lipstick dispenser and a copper alloy thimble; together with the remains of a Silver Cross pram (Anne Foard, pers comm.; not retained), suggests that the property was occupied by a family with young children.

The range of finds from the other properties include exterior and interior structural fittings (gutter bracket, latch lifter, sash window weights), together with a small selection of iron wire drawn nails measuring up to 82mm in length. Personal items are represented by a plastic smoker's pipe terminal and a small copper alloy brooch/photographic frame from number 8, and part of a fountain pen and a halfpenny of George V, dated 1910 from 32 Holland Street.

### ***Clay tobacco-pipes***

A group of 51 clay tobacco-pipe fragments were recovered from nineteen individual

deposits. The majority of pipe fragments (41) were found in demolition deposits overlying the houses, while the remainder were recovered from the factory area. The assemblage comprises six complete or fragmented pipe-bowls and 45 stem fragments. A small number of the pipe fragments display signs of abrasion, suggesting that they have been re-deposited repeatedly. The stem fragments measure up to 125mm in length and one example retains a mouthpiece.

Five bowls are sufficiently complete to enable dating. Chronologically the earliest datable pipe was recovered from beneath the wash-house, from the pit-fill between foundations. The pipe is a G24 datable to c 1810-40 (Oswald 1975, 37-41) from context 6152. This is in accord with the pottery from the pit which suggests deposition in the second quarter of the 19th century or very soon after. The remaining bowls date to the mid 19th century, three of the bowls are plain and one is furnished with an elaborate moulded decoration. The joining seams are ornamented with a line of leaves, while the remainder is decorated with a foliate motif incorporating vine leaves, tendrils, bunches of grapes and a possible barrel. All the bowls are unmarked therefore cannot be attributed to an individual maker.

### **Glass**

There are seven small finds manufactured from glass, an azure coloured bead and six marbles, all were recovered from the fill of cellar number 7.



Examples of glass bottles found in the rubble fill of house cellars Fig 42

Within demolition deposits 40 complete or partially complete glass vessels were recovered. With the exception of two pieces recovered from the factory area, the entire assemblage was located within demolition deposits overlying the cellared houses; much of it deriving from the stairwell in house number 8. The range of vessels illustrate the types which would have been in use within a domestic setting in the early



20th century, and include bottles for food use (relishes, beer and wine), medicine, ink and poisonous substances. Some of the bottles are embossed with the contents of the bottle, the manufacturer of the goods in the bottle and or the trade mark (Fig 42).

Those represented include:

HENDERSON'S RELISH – SHEFFIELD  
WATERHOUSE'S YORKSHIRE MANS RELISH, SHEFFIELD & ROTHERHAM  
TENNANT BROTHERS LTD – SHEFFIELD  
DUNCAN GILMOUR CO LTD, SHEFFIELD  
DUNCAN GILMOUR CO LTD, SHEFFIELD, LIVERPOOL  
CHARLES NEWTON, WOODHOUSE  
COTTAM & CO, SHEFFIELD  
PASCALL, LONDON

## 7 DISCUSSION

A wide-ranging body of evidence gathered from the excavation, historic mapping and documentary sources has helped build a cohesive picture of the cutlery works and houses in the 19th and 20th centuries.

### 7.1 The cutlery works

#### *The form and function of the buildings*

Cartographic evidence for the origin of the cutlery works dates to 1832 when it is depicted on J Taylor's map (Fig 3); the works themselves are named in Whites directory of 1846 where they are referred to by their owner's name, Francis Newton, who had been appointed Master Cutler of the Company of Cutlers in Hallamshire two years earlier. The form of the early works is clearly shown on the Ordnance Survey map of 1851 (Fig 4) where long, narrow buildings are ranged in and around a yard and annotated as 'Portobello Works'. The excavation exposed remains of the southern wing of these buildings together with part of the forge.

Though this early morphology is loosely retained throughout its lifespan, modifications and additions undertaken in the period 1851-96 resulted in a more expansive works. This is most clearly evident on the Goad Insurance Plan of 1896 (Fig 7) which depicts them in some detail. While the east range, the eastern part of the north range and the original forges appear to have been retained, the southern was largely rebuilt and a second block of forges had been built in the yard. On Portobello Street the frontage was completed by the addition of a new building to the west, identified as 'office and warehouse'. Between this and the arched entrance passage, the large square building (number 129 Portobello Street) is identified as a dwelling and connects via its first floor to 127 Portobello Street, which in 1851, so the census return tells us, was the home of 'Michael Finnan, warehouseman'.

Much of the ground plan of two of the cutlery works' principal buildings was recorded as a result of the excavations; the handle cutting workshop and a large building which was probably for grinding 'hulls', with the steam engine room attached to the east. These structures, divided by a 3.5m wide passage leading to Holland Street, together formed the southern arm of the works. A combination of the excavated evidence and the detail included on the Goad Insurance Plan (Fig 7) allows the general form of these buildings (c 1896) to be reconstructed.

The handle cutting workshop was a two storey brick structure roofed with slate, c 11m

long (east to west) and c 4.5m wide (c 49.5 sq m). Both storeys were accessed via doors connecting with the eastern arm of the works and the passage and workshop above (to the west). At the eastern end of the workshop was a cellar that had been retained from the earlier southern range.

To the west, the workshops were housed in a three-storey building, slate roofed and presenting a 16.5m-long frontage to Holland Street. The ground floor had an area of some 85 sq m. Attached to the northern side of the workshops was the steam boiler, set in brick, and to the west of this was a single-storied, metal-roofed building over the furnace room. The Goad Insurance Plan indicates that neither of these was connected directly to the engine room or workshop yet some arrangement of pipe-work, not present in the archaeological record, must have linked the steam boiler to the engine, which stood in a building abutting the eastern side of the workshop. A brick flue joined the boiler room to the chimney, which was 3m in diameter and brick-built. The later internal partitioning of the workshop may have been to create a new engine room, as a replacement for the original steam power, with the new generator sat on two massive stone piers.

A short distance to the east of the chimney, and just beyond the excavated area was one of two blocks of forges that served the cutlery works. A second forge lay to the north of the boiler house, both beyond the excavated area.

### ***Scale and range of production***

By the late 19th century the Portobello Works were a reasonably large scale operation when compared to the many hundred smaller cutlery workshops scattered all over Sheffield - though not quite in the same league as market leaders operating from works such as Dixons Cornish Place, Butchers Works and Soho Works (Symonds 2002, 99). At the Portobello Works, the combined area of floor space falling within the excavated area, when multiplied by the number of stories indicated by the Goad plan equates to some 450 sq m. This area represents about a quarter of the entire works, suggesting a total of roughly 2000sq m including offices and warehouses.

As the appearance and layout of the cutlery works changed over time, so did the range of the products being manufactured and also, perhaps, their mode of production. Trade directories of the 1850s, 60s and 70s indicate that alongside cutlery, tools were being manufactured, including files (which were found during the excavations) and saws. During the same period census returns for the neighbouring houses list occupations such as file cutters, an awl blade maker and a sheep shear maker. Prior to the 1870s the directories attributes these products to Francis Newton and Sons at 127 Portobello Street. During the 1870s, however, alongside the company the names of a number of different tradesmen engaged in occupations related to cutlery are given for this address. This appears to indicate that tenant craftsmen were operating from individual workshops under the umbrella of Francis Newton, thus demonstrating a shift from what are known as 'integrated' to 'tenement' works' (Symonds 2002, 100). By 1901 the address is again attributed solely to Francis Newton and Sons who are now producing razors alongside tableware but no longer manufacturing tools. The grinding stones found during the excavations are evidence for this shift to razor production as their diameter is too small to have been used for knives (Symonds 2002, 91).

Such modifications to both the physical appearance and *modus operandi* of the cutlery works are no doubt consequences of market forces that were brought to bear upon the Sheffield cutlery industry in the latter quarter of the 19th century and early years of the 20th century.

From the 1870s, Sheffield's monopolisation of the worldwide cutlery trade was increasingly challenged by American and German manufacturers who embraced the latest methods of mass production. In Sheffield, on the grounds of quality, traditional methods of production were favoured over the mass produced. Mechanisation was also resisted by the workforce whose livelihood they perceived that it threatened. The late 1860s had seen widespread trade union action against the use of machines, including the 'great filemaker's strike' of 1866 (Hey 2005, 203-4). The Sheffield manufacturers responded to these pressures by exploiting the top end of the market where there was less competition, and relied increasingly on Sheffield's reputation for quality to buoy the industry (Taylor 2003, 202). In the short term this policy succeeded and many firms, including perhaps, the Portobello Works, were seen to extend their premises in the early 1880s (ibid, 199).

### ***The demise of the works***

The Portobello Works was listed as 'cutlery manufacturers' in White's Directory of 1911, and was evidently still operating to be annotated on the Ordnance Survey map of 1935. By 1947, however, it had been supplanted by the Townroe Electroplating Works, having no doubt fallen foul of the decline of the industry in the 1920s and 30s. This was caused partly by the effects of the First World War which hit the demand for luxury goods and saw the work force diminished by fatalities or moving on for better pay in the city's steelworks (Hey 2005, 261). Ominously for the Portobello Works, the cut throat razor trade collapsed when Gillette's 'Sheraton' safety razor was launched in 1938 (ibid 263).

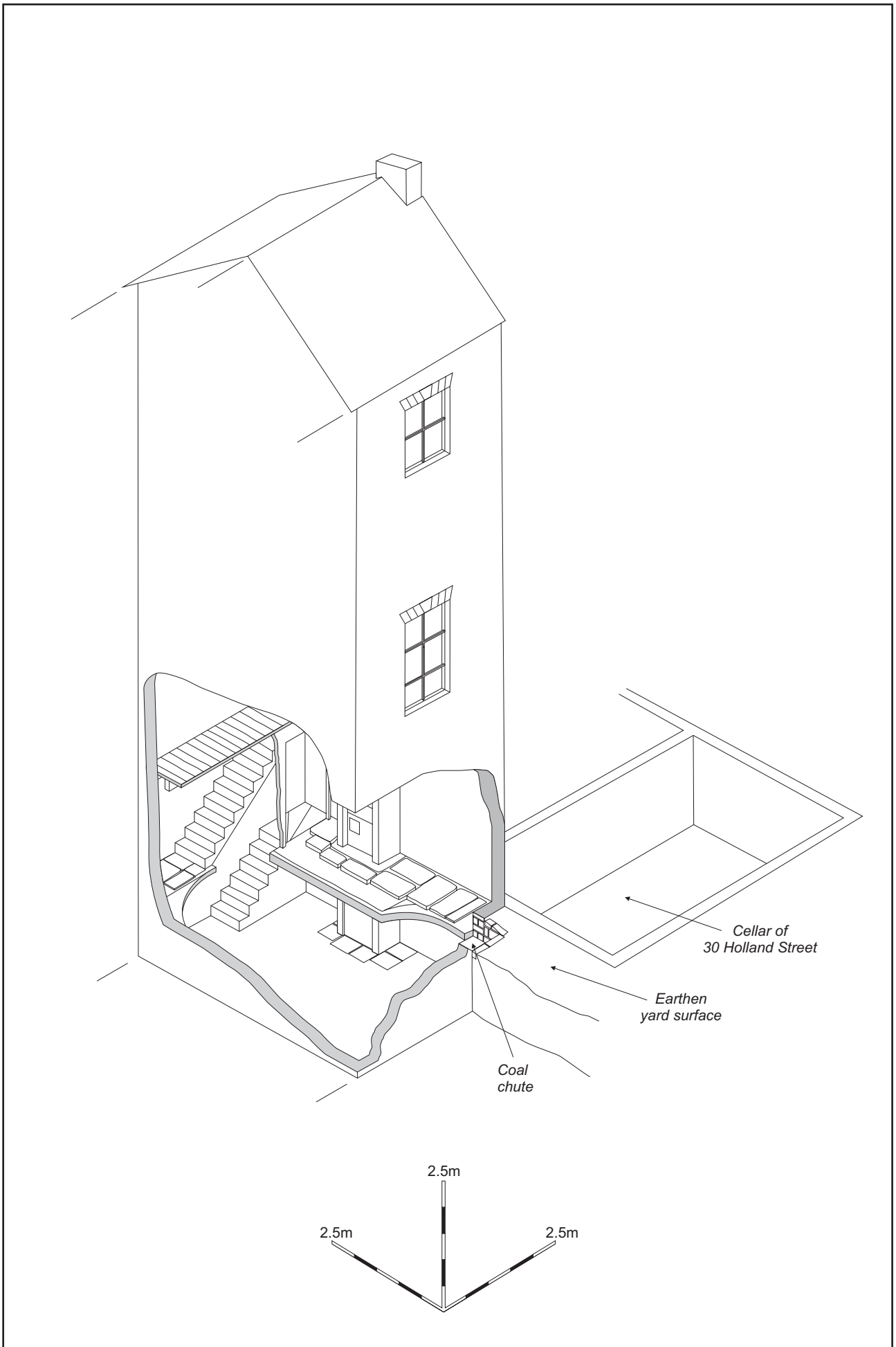
Rather than being demolished wholesale, the electroplating works appear to have adapted many of the existing buildings when they occupied the site. Brick pits inserted into the former engine house were probably related to the electroplating process; a number of thinly made spoons found in this vicinity attest to the site's continued association with Sheffield's most famous product.

## **7.2 The houses**

### ***Chronology and physical appearance***

After the cutlery works were built, the land to the west remained a vacant plot until the construction of the houses sometime between 1832 and 1851 when they are shown on the Ordnance Survey map of that year (Fig 5). The later part of this date range is favoured as highly distinctive decorative wall tiles found in the cellar fill of 30 Holland Street were designed in 1845 (though they could, of course, have been re-used). The census returns also suggest a date closer to the middle of the century; as only some of the Court 9 houses were recorded on the census of 1851. A drain, perhaps serving a predecessor of the later wash house, contained pottery dating to the second quarter of the 19th century which would also be consistent with construction in the mid-19th century.

While the Ordnance Survey map does not show individual dwellings, the basic form of Court 9 and the Holland Street frontage does not alter significantly during the latter half of the 19th century. The Goad Insurance Plan of 1896 (Fig 6) depicts individual houses; seventeen arranged around the court and four fronting Holland Street, either side of the postulated wash house. Next to the Portobello Street entrance there was a shop, identified in census returns, for a time, as a tobacconist. There was a pub next door at number 147 Portobello Street, the Willow Tree Inn.



Isometric reconstruction of No 9, Court 9 based on excavated evidence Fig 43

All of the excavated houses were three storied with cheaply-constructed brick walls and slate roofs. Their dimensions were roughly comparable at c 3.5m x 4.5m; the Holland Street properties were slightly narrower and longer than those of the court. The latter had 1.0m wide entrances located to one side of their court-facing frontage. Each house had a small stone-lined, barrel-vaulted cellar accessed by a set of steps located against the back wall and coal chutes emptied into them from the front.

Evidence for internal fittings was sparse, with only Court 9, number 9 retaining any meaningful ground floor detail (Fig 43). Here flagstones at the top of the staircase indicated the level of the ground floor thus allowing the distance from cellar floor to ground floor to be established at c 2.0m. The brick-built cellar vault was also visible where the flagstones had been robbed away. Further evidence for the vertical proportion of the house was presented by a scar on the upstanding remains of the eastern wall which indicated the position and angle of the staircase leading to the first floor. A fireplace, whose original width had been reduced by a re-lining of brickwork, was present in the side wall of the ground floor with a niche to one side, perhaps the location of an oven-range. It had a stone hearth and an iron lintel-strap.

It is assumed that each of the houses had a similar internal layout with kitchen on the ground floor and, as implied by the census returns, a single room on each of the other floors

The wash house was a single storey brick building (6m x 2.3m), roofed in slate and probably accessed via a short flight of steps that led from the courtyard. Inside, five brick compartments constructed against the east wall are assumed to have housed wash-basins, probably of flat, shallow type. An original brick floor was skimmed in concrete. Toilets, not depicted on the Goad Insurance Plan (and perhaps post-1896), were located either side of the wash house where the truncated remains of ceramic toilet bowls were found, along with the salt-glazed connecting pipe to an inserted sewer.

### ***Social conditions and the lives of the occupants***

The houses were modest structures typical of the time. Though small they do not appear to have been overcrowded by the standards of the day; the average number of occupants for the Holland Street properties over the years 1871-1911 was 4.4 persons per three-room house and 4.65 for the court houses over the same period. These figures compare favourably with those for Sheffield as a whole where the average number of persons per household between the years 1841-1901 averaged c 4.88 (Craven 1993, 65-70). Sanitary conditions, however, may have been bleak by modern standards with, probably, a single wash house and (as eventual additions) two toilets serving the court houses whose population in any given year may have totalled one hundred or so. There was no evidence of a surface to the courtyard so conditions under-foot may also have been poor through the winter months. A pump and trough are depicted in the northern part of the court on the 1851 Ordnance Survey map.

Many of the houses' occupants worked in the cutlery industry, with a number presumably employed at the neighbouring works. Their trades reflect the differing array of manufactured goods produced by Francis Newton and Sons throughout the 19th and early 20th centuries. One striking aspect of the census returns is the apparent transitional nature of the workforce, there being only two incidences of the same head of household in occupancy in consecutive returns: Arthur Cooke, 28 Holland Street, edge tool striker (1881, 1891) and John W Godwin, 30 Holland Street, cobbler (1901, 1911). This transience may indicate that Court 9 and adjacent Holland Street were relatively undesirable in the long term and families aspired to move as

quickly as possible to better accommodation as opportunities allowed.

Cartographic evidence suggests that the houses were demolished sometime after the 1935 Ordnance Survey map was produced and were certainly gone by the time of the 1951 map (Fig 8). A date after the mid-1930s would accord with a period of slum clearance given impetus by central government subsidies of the 1930s; by 1938 24000 of Sheffield's houses had gone (Crook 1993, 80). The plot was soon enveloped by the Assay Office and Townroe Electroplating works.

## BIBLIOGRAPHY

- Beulah, K, and van Lemmen, H, 2001 *Church Tiles of the Nineteenth Century*, Shire Books, **184**
- Binfield, C, Childs, R, Harper, R, Hey, D, Martin, D, and Tweedale, G (eds), 1993 *The History of the City of Sheffield 1843-1993*, **2**, Sheffield
- Craven, M A, 1993 Housing before the First World War, in Binfield *et al* (eds), 1993, 65-75
- Crook, A D H, 1993 Needs, standards and affordability: housing policy after 1914, in Binfield *et al* (eds), 1993, 76-99
- Hey, D, 2005 *A History of Sheffield*, Lancaster
- Oswald, A, 1975 *Clay pipes for the archaeologist*, British Archaeological Reports, **14**
- Soden, I, 2009a *Archaeological methodology for Sheffield Assay Office excavation*, Northamptonshire Archaeology
- Soden, I, 2009b *Archaeological post-excavation assessment of the Assay Office Site, Sheffield, South Yorkshire*, Northamptonshire Archaeology Report, **09/103**
- Swann, J, 1982 *Shoes*, London
- Symonds, J, (ed) 2002 *The Historical Archaeology of the Sheffield Cutlery Industry 1750-1900*, BAR British Series, **341**
- Taylor, S, 1993 The Industrial structure of the Sheffield cutlery trades, 1870-1914, in Binfield *et al* (eds), 1993, 194-210
- Walsh, T, 2008 *Desk-based assessment for Sheffield Assay Office, Portobello Street, Sheffield, South Yorkshire*, Northamptonshire Archaeology Report **08/35**
- Wardell Armstrong, 2005 *Sheffield Assay Office: Land Quality Statement*

## Websites

[www.avel65.dsl.pipex.com/lynwood/heritage.html](http://www.avel65.dsl.pipex.com/lynwood/heritage.html)  
[www.genuki.org.uk](http://www.genuki.org.uk)  
[www.historicaldirectories.org](http://www.historicaldirectories.org)  
[www.postmaster.co.uk/~jason31/51000/page\\_1.html](http://www.postmaster.co.uk/~jason31/51000/page_1.html)  
[www.shef.ac.uk/hawley/project/research.html](http://www.shef.ac.uk/hawley/project/research.html)  
[www.sheffieldrecordsonline.org.uk](http://www.sheffieldrecordsonline.org.uk)



Northamptonshire County Council

# Northamptonshire Archaeology



**Northamptonshire Archaeology**  
2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE  
t. 01604 700493 f. 01604 702822  
e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)  
w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)

