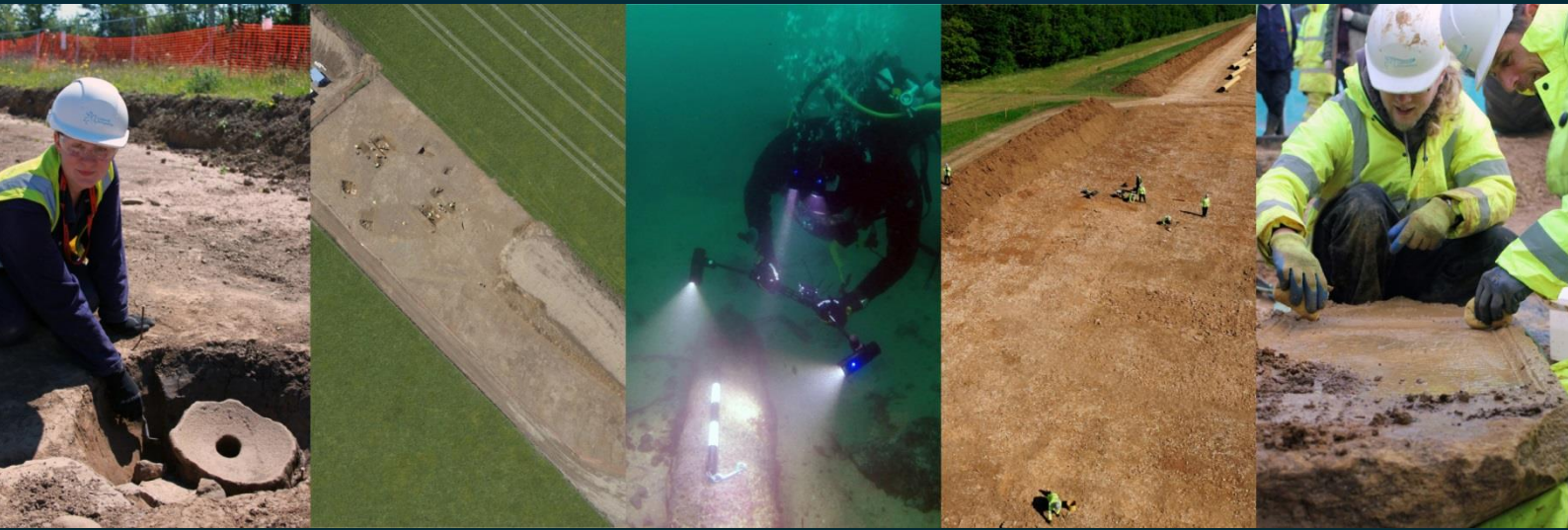


The former Radmore & Tucker Site, Frog Street, Exeter

Archaeological Excavation



for
Create Construction

CA Project: EX0031
CA Report: EX0031_1

September, 2019



The former Radmore & Tucker site, Frog Street, Exeter

Archaeological Excavation

CA Project: EX0031
CA Report: EX0031_1



Document Control Grid						
Revision	Date	Author	Checked by	Status	Reasons for revision	Approved by
A	05.07.2019	Jerry Austin		Internal review		
B	29.07.2019	Jeremy Clutterbuck				
	28.08.19		Richard Massey	Internal review		
	09.09. 19		KE Walker	QA		

This report is confidential to the client. Cotswold Archaeology accepts no responsibility or liability to any third party to whom this report, or any part of it, is made known. Any such party relies upon this report entirely at their own risk. No part of this report may be reproduced by any means without permission.

CONTENTS

SUMMARY	1
1. INTRODUCTION	2
2. ARCHAEOLOGICAL BACKGROUND.....	3
3. AIMS AND OBJECTIVES.....	4
4. METHODOLOGY	5
5. RESULTS (<i>Figs. 2-8</i>)	5
Fieldwork Summary.....	6
Period 1: medieval (1066 - 1539), Figures 2 - 5.....	8
Period 2: post-medieval (1540 -1800), Figures 2 - 8.....	9
6. THE FINDS	13
7. THE BIOLOGICAL EVIDENCE	15
8. DISCUSSION	16
9. SUMMARY STATEMENT OF POTENTIAL	18
10. CA PROJECT TEAM	19
11. STORAGE AND CURATION	19
12. REFERENCES.....	20
APPENDIX A: CONTEXT DESCRIPTIONS	23
APPENDIX B: DOCUMENTARY EVIDENCE BY JOHN ALLAN AND TONY COLLINGS	29
APPENDIX C: POTTERY BY PETE BANKS	38
APPENDIX D: MIXED FINDS BY PETE BANKS	43
APPENDIX E: WORKED STONE BY RUTH SHAFFREY	44
APPENDIX F: INDUSTRIAL RESIDUES BY DAVID DUNGWORTH.....	45
APPENDIX G: ANIMAL BONE BY ANDY CLARKE	46
APPENDIX H: PALAEOENVIRONMENTAL EVIDENCE BY SARAH F WYLES	48
APPENDIX I: OASIS REPORT FORM	49

LIST OF ILLUSTRATIONS

- Fig. 1 Site location plan (1:25,000)
- Fig. 2 Plan of site with locations of evaluation trenches and Excavation Area A (1:300).
- Fig. 3 Site and parish boundaries overlain onto 1891 Ordnance Survey map (1:500)
- Fig. 4 Area A: plan of excavated features (1:50)
- Fig. 5 Plan photographs of excavated features in Area A
- Fig. 6 West-facing section and photograph of north/south sondage on west side of Area A (1:20)
- Fig. 7 Furnaces 2005 and 2006: section and photographs (1:20)
- Fig. 8 Furnace 2007: photograph
- Fig. 9 Cartographic evidence of 1618 (a) and 1638 (b)
- Fig. 10 Cartographic evidence of 1743 (a) and 1758 (b)
- Fig. 11 Cartographic evidence of 1819 (a) and 1891 (b)
- Fig. 12 Cartographic comparison between 1758(a) and 1891(b)
- Fig. 13 Cartographic comparison between 1789 (a) and 1891(b)

LIST OF TABLES

- Table 1: Quantification of finds
- Table 2: Quantification of biological evidence
- Table 3: Context Descriptions
- Table 4: Bridges over the higher Leat, over which Exeter City claimed an annual rent in 1758
- Table 5: Pottery: summary quantification
- Table 6: Ceramic building material by fabric
- Table 7: Ceramic building material by form
- Table 8: Summary of Industrial Residues from Frog Street
- Table 9: Identified animal species by fabric count (NISP), and weight and context
- Table 10: Assessment table of the palaeoenvironmental remains

SUMMARY

Site Name:	The former Radmore & Tucker site
Location:	Frog Street, Exeter, Devon
NGR:	291690 092240
Type:	Excavation
Date:	November, 2018
Planning Reference:	16/0113/03
Location of archive:	The Archaeological Data Service (ADS) and to be offered to the Royal Albert Memorial Museum (RAMM) and
Museum Ref.:	RAMM: 17/18
Site Code:	FROG 17

A programme of archaeological investigation was undertaken by Cotswold Archaeology in November 2018, at the request of Create Construction, at the former Radmore and Tucker site, Frog Street, Exeter. An area of 90 square metres was excavated within the proposed development area.

The excavation followed a programme of evaluation, which had identified structural features and the remains of furnaces across the site. Excavation Area A targeted the area surrounding the furnaces, and exposed one medieval wall and a number of medieval deposits. The medieval features may relate to a series of tenements suggested by historical cartographic and documentary sources. The remains of five post-medieval walls had been disturbed or truncated by later robbing and industrial activity. Stratigraphic relationships suggested a number of sub-phases of construction and modification during this period, and two distinct phases of industrial activity of post-medieval date were identified. The first was represented by the remains of a single furnace, which was sealed by later post-medieval demolition deposits and made ground. A later post-medieval phase, dating possibly as late as the early nineteenth century, comprised the remains of two brick-built furnaces and an ancillary building and surfaces, all of which were sealed by modern overburden.

The specific industrial activity undertaken on the site could not be confirmed by archaeological evidence, although documentary and cartographic research has emphasised the significance of cloth-working and dyeing in this part of Exeter during the post-medieval period. A number of eighteenth and nineteenth-century occupants of Frog Street properties have been identified, and their involvement with dyeing and cloth-working activities confirmed.

1. INTRODUCTION

- 1.1 During November 2018, Cotswold Archaeology (CA) carried out an archaeological excavation on the former Radmore and Tucker site, at Frog Street, Exeter, (centred on NGR: 291690 092240; Fig. 1). The work was undertaken at the request of Create Construction. The scope of the excavation was determined in consultation with Andrew Pye, the Exeter City Council Principal Project Manager (Heritage) (ECCPPMH).
- 1.2 Planning permission (Planning ref: 16/0113/03) for the demolition of an existing building on the site and the construction of new student accommodation, was granted by Exeter City Council (ECC), conditional (Condition 7) on a programme of archaeological work. This comprised an archaeological watching brief, a trial trench evaluation and a targeted excavation.
- 1.3 The excavation was undertaken in accordance with a detailed *Written Scheme of Archaeological Works* (WSAW) produced by CA (2017), and approved by Andrew Pye, Principal Project Manager for Heritage at Exeter City Council. The fieldwork also followed *Standard and Guidance for Archaeological Excavation* (ClfA 2014); *The Management of Research Projects in the Historic Environment* (MORPHE): Project Manager's Guide (Historic England 2015a) and accompanying *PPN3: Archaeological Excavation* (Historic England 2015b). It was monitored by Andrew Pye, including a site visit made on 15 November, 2019.

The site

- 1.4 The development site (Fig. 2) is approximately 0.16ha in extent, and is situated on the southern margin of Exeter city centre, to the north of the River Exe. It is located directly below the line of the Roman and medieval city wall along Lower Rackclose Lane, and immediately west of the former location of the West Gate of the city (Fig. 3). The site lies at an elevation of 8.61m above Ordnance Datum (aOD).
- 1.5 The development site is bounded by Frog Street/Western Way to the south, by the rear elevations of Nos. 5a, 5b and 6, New Bridge Street, to the west, by the side elevation of No. 5 New Bridge Street, Lower Rackclose Lane and an above-ground section of leat to the north (Fig. 3), and a surface car park to the east. The

topography of the site rises towards New Bridge Street to the north and West Street to the east.

- 1.6 The solid geology of the site is mapped as Whipton Formation sandstone, of the Permian Period, overlain by alluvial clays, silts, sands and gravels (BGS 2017).

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 The proposed development site has been the subject of a heritage statement (Stephen Levrant Heritage Architecture Ltd 2016), and an archaeological desk-based assessment (AC Archaeology 2016). The following section presents a brief summary of data from these sources, which has been augmented by information from the Devon and Dartmoor Historic Environment Record (DDHER) and the published archaeological record.

- 2.2 The site is situated within the Exeter Area of Archaeological Importance, as defined by the Ancient Monuments and Archaeological Areas Act, 1979. This reflects the recognised high archaeological potential across the site and surrounding areas, which relates to predicted remains of the Roman, early medieval and medieval periods.

Roman (AD 43 – AD 410)

- 2.3 The site is located immediately outside the Roman and medieval city wall of Exeter, large sections of which are designated as a Scheduled Monument (list entry number: 1003858). While few Roman finds from the surrounding area have been recorded, it is possible that medieval and post-medieval deposits overlie aspects of the Roman-period defences and/or evidence of extramural burials or occupation along the road leading from the West Gate (cf. Bidwell 1980; Holbrook 2015).

Medieval (1066 - 1539)

- 2.4 The site is located immediately west of the former location of the West Gate of the medieval city, in what would have been a marshy and sandy area situated between the River Exe and the city walls. Limited previous archaeological investigations within the environs of the site have indicated that there may not have been a defensive ditch fronting the wall in this location, with the river and, later, the Lower and Higher Leats (see below) effectively serving as defensive moats (Brown 1991).

- 2.5 Two medieval leats were constructed in this area. The Higher Leat (the line of which passes through the site) was the earliest of these, and is thought to be of possible 10th-century origin, although it was first documented in c. 1220 (Fig. 3). The Lower Leat is thought to have been constructed in the 14th century.
- 2.6 The area between the city wall and the river was subject to silting, drainage and progressive reclamation after the stone-built Exe Bridge (now known as Old Exe Bridge) was constructed in the early 13th century (Brown 1991; 2010; Fig.10). The land was subsequently subject to gradual development and industrial and commercial use, including the construction of houses and water mills.
- 2.7 By the 13th century, an accumulation of river-deposited sands on the north-eastern side of the first arch of the Old Exe Bridge, provided sufficient reclaimed land for two medieval tenements, which would have fronted onto Frog Street. These were excavated in 1975–9, when the stone foundations of the rear elevations of two houses were recorded (Parker 2008). There was evidence for industrial activity in at least one of these houses, with two late 13th-century barrels sunk into a floor probably associated with leather-working.
- 2.8 Significant medieval deposits, including wall foundations, pits and floors, were recorded on the opposite side of Frog Street to the current site (Exeter HER No. 56; Brown 1991, section 18). These were recorded at a depth of only 0.10m below the present ground level (bpgl), and continuing to a depth of 5.75m aOD.

Post-medieval - modern (1540 - present)

- 2.9 During the English Civil War (1642–1651), properties close to, and abutting, the exterior of the city wall were demolished to improve fields of fire, and to accommodate additional earthwork defences where necessary (Stoyle 1996). Abundant documentary and cartographic evidence indicates rapid reconstruction from the later seventeenth century onwards, when Frog Street and surrounding areas comprised a densely built-up mix of residential and commercial properties, with dyeing and cloth-working comprising principal economic activities (Passmore *et al.* 2009).
- 2.10 The post-medieval and early modern development of the site is described in further detail in Appendix B of this report. Prior to re-development, a building of 1950s date (the Radmore and Tucker premises) was demolished. This had comprised workshops and a retail premises for garden tool supplies.

3. AIMS AND OBJECTIVES

3.1 The aims of the excavation were to establish the character, date, extent and level of survival of any archaeological remains or deposits within the site. This information will constitute the preservation by record of archaeological features within the site, and thus mitigate the disturbance or removal of archaeological levels by the ground works entailed by the proposed development.

3.2 The objectives of the excavation were laid out in a Written Statement of Archaeological Work (WSAW) produced by CA (2017), and were as follows:

- to record and analyse any evidence of past occupation, industry, or other land use, prior to impacts arising from the proposed new development;
- to recover and analyse any artefactual evidence to date any archaeological remains that may be identified;
- to sample and analyse environmental remains to create a better understanding of industrial activity; and
- to archive, analyse, report on and publish the archaeological results at a level appropriate to their significance.

4. METHODOLOGY

4.1 Three phases of fieldwork were undertaken, including a watching brief, evaluation trial trenching and excavation. The excavation fieldwork commenced with the removal, under archaeological supervision, of topsoil and subsoil from the excavation area by mechanical excavator with a toothless grading bucket.

4.2 The archaeological features thus exposed were hand-excavated to the base of the formation level required by the proposed development. Below this level, features were considered to be preserved *in situ*. All features were planned and recorded in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (CA 2013). Six deposits were assessed for their environmental potential in accordance with CA Technical Manual 2: *The taking and processing of environmental and other samples from archaeological sites* (CA 2012). Bulk samples were taken from the flues of the exposed furnaces. Brick samples were taken from the base of flues, for possible residue analysis, and to assess whether the bricks were of modern standard size. Mortar samples were taken to assess their composition. All artefacts recovered from

the excavation were retained in accordance with CA Technical Manual 3: *Treatment of finds immediately after excavation* (CA 1995).

5. RESULTS OF EXCAVATION (FIGS 2–8)

5.1 This section provides a summary of the initial findings of the watching brief and evaluation, before giving a detailed and phased overview of the excavation results. Detailed descriptions of the contexts, historical documentary evidence, finds and biological evidence are to be found in Appendices A to H of this report.

5.2 The spot dating evidence indicates that archaeological activity on site dates to the medieval and post-medieval/Early Modern periods. Stratigraphical analysis of excavated features has indicated two distinguishable phases of activity:

- Period 1: medieval (1066 -1539)
- Period 2: post-medieval – early modern (1540 - 1800)

5.3 Some features could not be assigned to a phase on the basis of stratigraphy or spot-dating evidence, and remained unphased.

Fieldwork summary

Watching brief (Fig. 2)

5.4 The watching brief was focused on the footprint of the former Radmore and Tucker building (Fig. 2). In this location, the natural substrate was only intermittently exposed at variable depths of 1.45m to 1.7m below present ground level (bpgl) across the area. This varied across the site; in the western area it comprised grey/brown sandy silt gravel, and in the east, around Trenches 18 and 8, it was a compact, degraded red sandstone. The natural substrate had been sealed by post-medieval levelling deposits and modern infilling associated with the construction of the building. Only one feature, an undated possible ditch, present at 0.2m bpgl and located centrally in the south of the site, was observed (Fig. 2). The ditch (207) was north/south-aligned, and returned to the east at its northern end, where it had been truncated, and otherwise continued into the southern baulk section. This ditch measured 2m in width and 0.4m in depth, and cut the natural substrate.

Evaluation (Fig. 2)

- 5.5 The excavation of 17 small evaluation trenches was conducted during piling works for the new building. Archaeological features were encountered in 11 of the evaluation trenches; Nos. 1, 2, 3, 4, 6, 7, 13, 14, 16, 17 and 18 (Fig. 2). The natural substrate was only exposed in seven of these trenches; Nos. 1, 2, 3, 4, 8, 9 and 18. Trench 5 (not illustrated) was not opened, due to health and safety considerations.
- 5.6 The evaluation had demonstrated that ground in the south and east of the site had been extensively truncated during the construction of the former Radmore and Tucker building. A feature, 406, which was potentially the earliest investigated on this site, was observed in evaluation Trench 4. This was an undated ditch, present at 2.3m bpgl, cut into the natural substrate, only the southern edge of which was exposed (Fig. 2). It had been infilled with blue alluvial clay, with peat inclusions. The ditch was only partially excavated, due to its depth, but was north-west/south-east aligned, and respected the alignment of the modern leat.
- 5.7 The majority of features exposed by evaluation works comprised walls, with a single exception, a post-medieval pit, 305, containing slate, metalwork and mortar. This was present at 1.7m bpgl, in evaluation Trench 3, together with the remains of sub-circular furnaces in Trench 1 (Fig. 2). The latter features were targeted by the subsequent excavation.
- 5.8 These walls were undated, but displayed differences of form and construction. Potentially the earliest was the north/south-aligned wall 705, in Trench 7 (Fig. 2). This was present at 0.85m bpgl, and had been sealed by demolition and levelling deposits. It was solely constructed of stone, and had been bonded with red clay. This inferred a medieval date.
- 5.9 Other stone-built walls were also encountered in evaluation Trenches 2 and 6. In Trench 2, wall 209 was present at 0.3m bpgl, and was aligned west/east (Fig. 2). It had been truncated on its southern side by modern works associated with the construction of the former Radmore and Tucker building. The lower part of the wall had been bonded with red clay, whereas its upper part was bonded with lime mortar. This suggested a late medieval or early post-medieval date. The stone wall 605, in Trench 6, was encountered at 1.1m bpgl, and was aligned west/east and terminated to the east (Fig. 2). It had been sealed by demolition and levelling layers. It was lime

mortar-bonded, and its eastern limit was of modern brick construction. This eastern limit corresponded with the line of a brick-built wall, 604, which ran on a north-west/south-east alignment, and returned to the south. It seems probable that there was originally an entrance between the two walls 604 and 605, and that the stone-built wall 605 survived into the post-medieval/modern period.

- 5.10 The other walls were either of modern brick and concrete, or of mixed brick and stone, construction and were therefore of post-medieval/Modern date. This included the walls in evaluation Trenches 13, 14 and 17, which were constructed of brick and concrete, and were encountered at 1.3m, 1.45m and 1.1m bpgl respectively (Fig. 2). These walls may represent the south-western side of the original leat in the post-medieval/modern period, until it was moved with the construction of the Radmore and Tucker building. The wall in evaluation Trench 18, 1804, possibly represents the north-western side of the post-medieval leat wall. It was encountered at 1.4m bpgl, and was aligned west-north-west/east-south-east and constructed of cement-bonded stone, brick and slate. The final wall, 1603, recorded in Trench 16, was of brick construction and aligned north-east/south-west, and present at 0.6m bpgl (Fig. 2). It had been sealed by post-medieval levelling deposits.

Excavation (Figs. 2 – 8)

- 5.11 The excavation (Area A) was targeted on the group of structural features recorded within evaluation Trench 1, within the north-western corner of the site. Archaeological features were exposed at 0.5m bpgl (8.33 AOD). The excavation area was bounded to the north by the modern leat, and to the west by an extant building.
- 5.12 The remains of three furnace structures, 2005, 2006 and 2007, were located centrally within the excavation area, with related Structure 2038 and surfaces 2008 and 2058 located to the south-east (Figs. 4, 5, 6 and 7). These structures had cut earlier walls and deposits, and two distinct sub-phases of industrial activity were identified. There was a notable difference between respective deposits on the eastern and the western sides of the excavation area. The construction of the two later furnaces (2005 and 2007), and associated features, had truncated or removed any direct stratigraphic relationships between the western and eastern sides of the excavation area, although it was possible to phase the area as a whole (see Figs. 3 and 4).

Period 1: medieval (1066 - 1539)

- 5.13 The earliest deposit in the western half of the excavation area, 2015 (Fig. 6, section AA), was exposed in section only. This comprised a dark-brown sandy clay, with inclusions of 11th to 14th-century pottery and slate, and probably represented a medieval levelling layer. This had been overlain by a 11th to 16th-century levelling deposit, 2014, of red clay, which lay to the west of the two later post-medieval furnaces, and towards the south-western corner of the excavation area (Fig. 4). The earliest medieval structural feature, wall 2010, was located on the eastern side of the area (Figs. 4 and 5). The features and deposits on the western side of the excavation area are discussed below.
- 5.14 Wall 2010 was north/south-aligned, and returned to the east at its northern end. No dating evidence was recovered from the wall itself, although it surrounded a compact floor make-up deposit, 2059, of red/brown silty clay, which contained pottery of 10th-12th-century date. The eastern return continued into evaluation Trench 2, as wall 209 (Figs. 2 and 4). The wall was abutted on its north side by a medieval layer (2028/2060) of pale red/brown silty clay, which contained pottery of predominantly 12th – 16th century date, with a single abraded later sherd of 16th – 18th century date, which was probably intrusive. Wall 2010 was also abutted, on its west side, by a continuation of layer 2014 (Fig. 4), and was constructed of limestone, with clay bonding at its base, and lime mortar in the upper parts, matching wall 209. In stratigraphic sequence, this wall had first been cut by wall 2026, immediately to the north-west (Figs. 4 and 5). Both walls had then been cut or overlain by the later, east/west-aligned wall 2009. Wall 2010 had been cut in the south by the single brick wall 2020, which represented the latest structural feature in the sequence (Fig. 4).

Period 2: post-medieval – early modern (1540 -1901)

- 5.13 The only wall-line which was fully investigated was 2026, which cut medieval layer 2028 in the west and layer 2060 in the east (Figs. 4 and 5). The latter comprised a red/brown silty clay. These were shown to comprise elements of the same layer, as the base of the wall overlay this deposit. Wall 2026 was partly aligned south/north, and returned to the west at its northern end, broadly on the same alignment as wall 2011 in the west (Fig. 4). However, it appeared unlikely these features represented a continuation of the same wall. Wall 2011 was constructed of different materials, and was seen to be of considerably deeper construction (Fig. 6). The base of wall

2011 was not exposed at 7.67m (aOD), whereas 2026 was bottomed at 0.35m bpgl. Wall 2026 was constructed of large breccia stones, which were bonded with both clay and lime mortar. The northern part of the wall had been robbed out, and backfilled with deposit 2048, a dark, red/brown silty clay, containing mortar, slate and stone inclusions (Fig. 4). A compacted pure clay deposit, 2027, was recorded between 2048 and the northern edge of excavation Area A, indicating that the wall was previously wider and that it had been butted by 2027. This deposit extended to the west, where it was truncated by Furnace 2005, as was the remnant of wall 2026.

- 5.14 The east/west-aligned wall 2009 was of mixed construction, including breccia stone, limestone, brick and slate. It was the latest in the sequence between walls 2010 and 2026, and truncated both (Fig. 4). It cut layer 2028 in the north, and was cut by Furnace 2005 in the west. The wall was abutted by the brick element of Structure 2038 immediately to its south, which was contemporary with the second phase of furnace construction (Fig. 4).
- 5.15 The earliest post-medieval structure comprised a west/east-aligned wall, 2011, located in the north-west of the excavation area (Figs. 4 and 6, section AA). Its construction cut, 2051 (not illustrated), truncated the medieval levelling layer 2014 on its southern side, and a probable levelling deposit, 2050, on the northern, least side. Levelling layer 2014 comprised a dark, brown/red sandy silt, and its relationship with cut 2051 was diffuse. Deposits on the northern side of wall 2016 displayed contrasting variations in their west and east-facing sections. Deposit 2016, a white clay, was only extant in the west-facing section, and overlay 2050 (Fig. 6, section AA). This deposit abutted wall 2011. Deposit 2016 was overlain by an additional levelling deposit, 2053, of red/brown silty clay. The wall itself was constructed of limestone, breccia stone and rare brick, and had been lime mortar-bonded. This structure had been partly robbed-out within robber cut 2032, and subsequently backfilled with 2033, a brown/grey clay silt, containing demolition material (Figs. 4 and 6, section AA). Further to the east, 2033 was truncated by Furnace 2006, as were the remnants of wall 2011, beneath 2033 (Figs. 4 and 6, section AA). Possibly part of this robbing phase was pit 2057 (Fig. 4), located in the south-western corner of the excavation area. It stratigraphically pre-dated the field drain 2003 and wall 2012.
- 5.16 Pit 2057 cut medieval layer 2014, and measured 2.6m in maximum diameter by 0.42m in depth, with steep sides and a flat base. It contained a single fill, 2055, of

mid-brown silty clay, with inclusions of slate, pottery and charcoal, of 16th – 18th-century date. The southern edge of the pit (located to the south of wall 2012) had been removed by modern disturbance.

- 5.17 Both the robber backfill 2033 and demolition backfill 2055 were sealed by a bedding layer, 2013, for a north/south-aligned ceramic drain, 2003 (Fig. 4; Fig. 6, section AA). The open drain had been infilled with a sedimentary fill 2002, of dark, blackish clay silt. The drain had been cut in turn by the west/east-aligned wall 2012, of mixed construction of breccia, stone and brick (Fig. 4). It was bonded with lime mortar, and had been cut in the east by Furnace 2007.

First sub-phase of furnace construction

- 5.18 The earliest furnace structure was 2006, which was located in the north-western corner of the excavation area (Figs. 4, 5 and 7), and cut the robber fill 2033 in the west.. Furnace 2006 was aligned west-north-west/east–south-east. The construction appeared slightly cruder than that of the later furnaces, 2005 and 2007, and was also smaller, measuring 2.2m in length and 1.4m in width. It was also of a slightly different, more irregular plan i.e. more ‘key-hole’ in shape, contrasting with the distinctly ‘horseshoe’ shape of the later furnaces. The fabric was of stone and brick, which were laid longitudinally for the outer courses, and alternately longitudinally and transversely, forming a ‘stretcher bond’, for internal elements. The flue was centrally located, with a stoke-hole on the east side (Figs. 5 and 7). Overall, the furnace measured 1.8m in length and 0.39m in depth, with widths tapering from 0.56m in the west to 0.44m in the east. The flue element was constructed solely of bricks, which were laid longitudinally along its length, and were stretcher-bonded. In the western end of the flue, the bricks were stretcher-bonded and laid transversely. At the eastern, ‘stoke-hole’ end, the bricks were laid on their edge as a ‘soldier course’, at an approximate 45-degree angle. The base was level, and the bricks had been laid longitudinally. The whole structure was bonded with a weak lime mortar. The stoke-hole had been backfilled with demolition material (deposit 2017), which included bricks, slate and tile (Fig. 7, section BB).
- 5.19 Furnace 2006 was partly overlain by a highly-disturbed wall, 2004, which could represent a consolidation layer (Fig. 4). The relationship between these two features was diffuse, although constituent stones of the wall appeared to survive *in situ*. However, it is possible that they had been slightly dislodged over the furnace by the effect of modern piling, immediately to the north. At the point where disturbed wall

2004 overlaid the furnace, it was of a single course in height, with stones laid on a broad west/east alignment (Fig. 7). The wall fabric comprised large breccia stones, similar to those of wall 2026, and bonded with a pure yellow clay, similar to that in 2027. The wall had been truncated at its eastern end by Furnace 2005, and was butted by the cobbled surface 2001 in the north-west (Fig. 4). Wall 2004 was truncated by a modern concrete ring-beam, which appeared to relate to the leat located to the north.

- 5.20 A small surviving patch of cobbles, 2001, was laid in a red/brown silty sand bedding material, 2049, which overlay the robber fill 2033 (Fig. 4). The cobbles also directly overlay the fill of drain 2003. The cobbled surface was of mixed construction, which included brick, large water-worn pebbles and limestone. Wall 2004 and cobbled surface 2001 are contemporary, and post-date the first furnace, 2006.

Second sub-phase of furnaces

- 5.21 Furnaces 2005 and 2007, structure 2038, and surfaces 2058 and 2008, are all contemporary, and represent a single phase of industrial activity. The brick construction of 2007 partly abutted that of Furnace 2005 (Figs. 4 and 5). However, the bricks of 2005 were bonded differently to those within the main build of 2007, with cinder/lime mortar employed, rather than conventional lime mortar. This may represent a later modification to the two structures, rather than a different phase of construction.
- 5.22 The furnaces were of similar style and construction, with 2005 constructed on a south/north alignment, and 2007 west/east. Both furnaces were of the same width, of 2.5m, although 2005 was slightly longer, at 2.9m, with 2007 at 2.7m. The furnaces were constructed predominantly of brick, but with elements of breccia stone. The brickwork had been laid in the same way as Furnace 2006, and was lime mortar-bonded, excluding the modification described above, where both furnaces connected (Fig. 5). The outer ring of Furnace 2005 was more disturbed than that of 2007, which may reflect the result of later robbing. The flues had been constructed in the same manner as the earlier Furnace 2006, and were both of similar length, measuring approximately 3.5m, with a similar width of 0.5m. However, there were some notable differences between the two furnace structures; the maximum depth of the flue of 2005 was 0.55m, and that 2007 was 0.7m. In addition, the floor of Furnace 2005 was constructed solely of brick, whereas that of 2007 included large breccia stones (Figs. 5, 7 and 8). The bases of both furnaces were flat. The flue of

Furnace 2007 also widened into a funnel shape at the stoke-hole end, whereas that of 2005 was consistently straight. At the stoke-hole end of 2007, bricks were laid as a 'soldier course' similar to that in Furnace 2006. However, in 2005, a large breccia stone had been employed as the butt end. Both flues contained waste material from the final firing, in addition to intrusive demolition material.

- 5.23 The flues opened out on to a brick surface, 2008, which was set higher than the base of the flues (Figs. 4 and 5). Surface 2008 extended to the west, in line with the edge of Furnace 2005, and to the south, and respected the line of 2007. It was constructed predominantly of brick, with some breccia stone inclusions. This surface probably represents a working area for the loading and cleaning of stoke-holes, with additional space available in the south, to rake out Furnace 2005.
- 5.24 On the south-eastern side of Furnace 2005 was located a small ancillary building, Structure 2038 (Figs. 4 and 5). The building was open on its western side, adjacent to Surface 2008. It enclosed an area measuring 2m in length by 1.4m in width. The northern and southern walls were of brick construction, of which two courses survived, and butted against walls 2009 in the north, and 2010 in the east. The two earlier walls had been incorporated to form part of Structure 2038. The southern side was constructed of breccia stone. The floor within the building comprised a cobbled surface, 2058, which butted against Surface 2008, with a slight step up to this surface (Fig. 4). A deposit of coal dust residue, 2044, overlay Surface 2058, and strongly suggested the function of this building as a coal store.

Evidence of later activity

- 5.25 Following abandonment in the later post-medieval period, there is evidence of demolition and robbing on the site. Cut 2039, to the south-west of Surface 2008, had been backfilled with demolition material, following the robbing of bricks (Fig. 4). The ancillary building represented by Structure 2038 had also been infilled with demolition and levelling deposits, including concrete. A later wall, 2020, was constructed in the south from reused bricks from the furnace (Fig. 4). This wall effectively demarcated the area of deposits which had been removed by construction of the former Radmore and Tucker building, and possibly related to this phase. The surrounding area was then sealed by modern concrete and made ground associated with the Radmore and Tucker premises.

6. THE FINDS

6.1 Finds recovered are quantified in Table 1, below. Detailed assessments are to be found in Appendices C – F of this report.

Table 1: Quantification of finds

Type	Category	Count	Weight (g)
Pottery	medieval	43	427
	post-medieval	72	3224
	Total	115	3651
CBM	medieval	15	607
	post-medieval	10	1489
Worked Stone	Slate roof Tile	2	279
Clay Pipe	Stem fragments	10	30
Glass	Window fragments	2	16
Metalworking debris	Slags, clinker	-	16612.8

6.2 The finds assemblage is limited in both range and quantity, and is overwhelmingly represented by industrial debris recovered from furnace structures, which provided no definitive evidence of the specific industrial activity relating to the three furnace structures. A small pottery group was of medieval and post-medieval date. Other finds comprise ceramic building material, glass and clay tobacco pipe, of post-medieval date.

Pottery

6.3 The majority of the pottery assemblage from the Frog Street site has been recorded from levelling deposits, which limits its value as dateable material. In particular, the majority of post-medieval sherds are derived, as residual material, from a layer of modern overburden; layer 2000. A small number of features, including pit fill 305, date the site with more certainty, and confirm medieval and post-medieval periods of activity. The majority of the medieval wares were probably produced locally, although a sherd of Midlands Purple ware and two Beauvais ware sherds hint at Exeter's wider regional and international trading links during the medieval period and later. The medieval jugs and cooking pots generally suggest low-status domestic activity within the proximity of the site. During the post-medieval period, the material resulting from Exeter's regional trading links become more prominent, with wares from Bristol, North Devon and South Somerset dominating the assemblage. A more detailed assessment of the pottery is presented in Appendix C of this report.

Ceramic Building Material (CBM)

- 6.4 The majority of the 25 CBM fragments recovered dated to the medieval period. The small assemblage includes fragments of crested roof tile and a painted floor tile. Post-medieval CBM includes pan tile and a tapered roof tile, together with a fragment of glazed floor tile. A brief assessment of the CBM, together with other mixed finds, is presented in Appendix D of this report. Some CBM items, including bricks from Furnaces 2005 and 2007, were retained for possible residue analysis, although this was considered unlikely to confirm any industrial processes concerned (Dr Julie Dunn, Bristol University, pers comm), and was not undertaken. The bricks themselves were typical of a late eighteenth or early nineteenth date.

Glass

- 6.5 Two fragments of clear window glass were recovered from demolition layer 2031.

Clay Tobacco Pipe

- 6.6 Ten stem-fragments of post-medieval clay tobacco pipe were recovered from deposits 1001, 2000 and 2049.

Worked Stone

- 6.7 A burnt fragment of Permian breccia, from deposit 2040, proved on assessment not to have been humanly modified. Two fragments of slate roof tile were recovered from backfill deposit 2055, one of which retained a square hole to accommodate a wooden peg. A brief assessment of the worked stone is presented in Appendix E of this report.

Industrial residues and associated materials

- 6.8 The material recovered from the Frog Street furnaces indicates the sustained combustion of coal at temperatures sufficiently hot (c.1000°C) to ensure vitrification of at least some of the ash. However, it is unlikely that this was associated with metalworking activity, given the absence of hammerscale in the finer fractions of residues from environmental soil samples. A more detailed assessment of the industrial residues is presented in Appendix F of this report.



7. THE BIOLOGICAL EVIDENCE

- 7.1 Biological evidence recovered is quantified in Table 2, below. Details are to be found in Appendices G and H of this report. This was restricted to six bulk samples obtained from furnace deposits, together with a small assemblage of animal bone of largely post-medieval date

Table 2: Quantification of biological evidence

Type	Category	Count	Wt (g)
Samples	Environmental	6	n/a
Animal bone	Fragments	35	558

Animal Bone

- 7.2 A small animal bone assemblage, totalling 35 fragments (558g), was recovered from seven archaeological deposits. The material was highly-fragmented and poorly-preserved, although cattle and sheep/goat could be identified. Ten identifiable bone fragments were recorded from medieval features, and included both cattle and sheep/goat. Neither the medieval or post-medieval material displayed evidence of butchery. A more detailed assessment of the animal bone is presented in Appendix G of this report.

Palaeoenvironmental evidence

- 7.3 Six samples were recovered from the fills of Furnaces 2005 and 2007, principally to assist in the identification of the industrial processes involved. A more detailed assessment of the environmental evidence is presented in Appendix H of this report. Sample flots were generally large, with little rooty material or uncharred seeds, and comprised mostly coal waste. No charred plant remains were observed within any samples. A few fragments of charcoal greater than 2mm in size were recorded in all four of the sampled deposits, and included roundwood and twigwood fragments. Large quantities of coal fragments and some industrial waste fragments were present in the samples, in particular from context 2045. This industrial waste material appears to derive from the burning of coal at high temperatures (see Dungworth, Appendix F). The samples provide no indication of the specific industrial function of the furnaces, and these results broadly support the evidence from the industrial residues recovered from this site.

8. DISCUSSION

- 8.1 As the scope of excavation was governed by the formation depth stipulated by the developer, a complete stratigraphic record was not produced. The natural substrate was not exposed within the areas investigated, and potential exists for *in situ*, earlier archaeological remains beneath the levels recorded, most particularly those of the Roman and early medieval periods.
- 8.2 The site revealed elements of structural continuity between the medieval, post-medieval and Early Modern periods. This was particularly evident where the two later post-medieval furnace structures (2005, 2007) and probable coal store (2038) respected, and perhaps utilised, the western face of a medieval wall (2010). In addition, the parallel post-medieval walls (1305/1404/1702 and 1804) identified on the site may represent a post-medieval revetment of the Higher Leat, as they appear to continue its course (cf. Brown 1991). A similarly-aligned undated ditch, 406, located to the south, may comprise an earlier leat/ditch. The proposed formation level of construction groundworks on this site did not, however, permit any assessment of possible stratigraphic relationships which might have refined earlier chronologies.
- 8.4 There was insufficient evidence to indicate whether any levelling deposits related to directly to the Civil War siege of Exeter, mentioned in section 2.7 (Stoyle 1996). The most plausible candidates would be levelling layers 2014, 2015, 2028 and 2060, which appeared to post-date the medieval wall 2010, and pre-date other alignments of post-medieval brick-built walling. However, almost no 17th-century material was encountered in these layers, with the exception of one abraded sherd in 2028. The only features securely dated to this period were pits 2032, 2057 and 304, which inferred that stone wall 2011, which pre-dated pit 2032 and cut medieval levelling layer 2014, may have comprised part of a building of this period. Levelling deposits 2016 (white clay) and 2053 (red/brown silty clay) both post-dated wall 2011, and were cut by pit 2032; these could be similarly associated.
- 8.5 The furnaces have been suggested by John Allan and Tony Collings to be associated with the cloth-dyeing industry at Frog Lane (both studies documented in Appendix B, below). The cloth industry is recorded as providing primary occupations for most of the tenements here from at least 1562 onwards, and the northern boundary of Roper's Court Tenement, within which the furnaces were

located, meets the Higher Leat, an immediate source of fresh water, with an associated small bridge (41 – Fig. 12b). Part of the dyeing process entailed the heating of vats of water, cloth and dye; a process potentially relevant to the furnaces (J. Austin pers. comm). Circular hearths were suggested to support dyeing cauldrons or vats between the late 13th and early 15th centuries at Redcliff Street, Bristol (Alexander (ed.) 2015, 143), but these features were associated with nearby pits with well-preserved evidence of dye-plants. Such palaeoenvironmental evidence is wholly absent in the samples from this site, and in the absence of conclusive archaeological evidence, documentary sources provide the only means of interpreting the furnace structures. In 1671, Anthony Mapowder was recorded to be paying tax on four hearths at the east end of Frog Street, possible for a similar operation (Appendix B.7), but the evidence for any direct link to the investigated Frog Street furnaces is inconclusive.

- 8.6 The absence of hammerscale in bulk samples suggests that the industrial activity on this site was not associated with ironworking, though the presence of clinker in the furnace flues and contemporary work surfaces indicates a temperature altogether too high for the heating of dyeing vats. If the furnaces were used for any form of metalworking, then this will have been a very contained process. Furthermore, the two sub-phases of furnace construction identified suggest a substantial increase in industrial activity on this site during Period 2, since the simultaneous operation of two furnaces (2005, 2007) and a coal store (2038) would permit a continuous process, whereby one furnace might be raked-out after cooling, while the other was stoked by an immediate source of coal. The single earlier furnace (2006) would have involved an altogether slower process, involving the cooling down, clearance, and re-stoking required for each production cycle.

9 SUMMARY STATEMENT OF POTENTIAL

- 9.1 The chronological range of archaeological features exposed during evaluation and excavation stages was confined to the medieval and post-medieval/Early Modern periods. A medieval wall and deposits were encountered in the north-western corner of the site, within the excavation area and Trench 2. The rest of the features were of post-medieval date, and cut post-medieval layers. The principal features exposed were the industrial furnaces, of which there were two phases. The second phase of furnaces could possibly be dated as late as the early 19th century. Furnace 2005 cut

deposits which overlay pit 2057, which contained pottery and CBM of 18th and 19th-century date. As stated, there is potential for earlier archaeological features to be preserved below the exposed medieval and post-medieval features.

- 9.2 An assessment of stratigraphy and finds has provided a broad narrative of the development of the site from the medieval period onwards. However, the archaeological evidence, including samples, has provided no indication of the specific industrial activity relating to the three furnace structures. Any further analysis of the excavation record would have very little potential to add to knowledge or understanding of the site.
- 9.3 The three furnace structures, 2005, 2006 and 2007, were relatively well-preserved and provide considerable information regarding use of materials and mode of construction. However, neither the structure of the furnaces nor the industrial residues, plant remains and finds recovered from the site, retain potential for elucidating the industrial activity involved.
- 9.4 The limited archaeological evidence relating to post-medieval industrial activity on the Frog Street site has been considerably augmented by the detailed documentary research undertaken on the occupational and economic history of the immediately surrounding area (Allan and Collings, this report, Appendix B). This has not only confirmed the probability of dyeing and clothworking on the current site, but has provided a valuable insight into the development of this industry and the associated processes carried out. Overall, this body of evidence suggests considerable potential for the survival of archaeological remains relating to the clothworking industry and associated domestic occupation within Frog Street and the surrounding area.

10. ACKNOWLEDGEMENTS

- 10.1 The field work and post-excavation projects were funded by Create Construction, and their support is gratefully acknowledged. We also welcome the support and advice provided by Andrew Pye, Principal Project Manager for Heritage at Exeter City Council. Fieldwork was undertaken by Jerry Austin, assisted by Paul Clarke, Jake Godfrey, Parris Stubbings, Tim Brown, Jonny Martin, George Gandham, Tina Tappleby and Edoardo Vigo. The report was written by Jerry Austin and Jeremy Clutterbuck. The pottery report was written by Pete Banks (CA), and the palaeoenvironmental report by Sarah Wyles (CA). The assessment and reporting of

industrial residues was undertaken by David Dungworth, and invaluable documentary research on Frog Street and its economic history was undertaken by John Allan and Tony Collings. The archive has been compiled and prepared for deposition by Hazel O'Neill. The illustrations were prepared by Ryan Wilson. The fieldwork was managed for CA by Derek Evans, and the post-excavation was managed by Richard Massey, who also contributed to this report.

11. STORAGE AND CURATION

- 11.1 The archive is currently held at CA offices in Exeter, while post-excavation work proceeds. On completion of the project, and with the agreement of the legal landowners, the site archive will be deposited with the Archaeological Data Service, and artefactual collection will be offered to the Royal Albert Memorial Museum, Exeter (current reference RAMM:17/18). A summary of information from this project, set out within Appendix I, will be entered onto the OASIS online database of archaeological projects in Britain.

12. REFERENCES

- AC Archaeology 2016 *Radmore and Tucker Site, Frog Street, Exeter: Archaeological assessment of potential survival and impact*, AC Archaeology Document No: **ACD1208/1/3**.
- Alexander, M. (ed.) 2015. *Medieval and Post-Medieval Occupation and Industry in the Redcliff Suburb of Bristol: Excavations at 1-2 and 3 Redcliffe Street, 2003-2010*, Cotswold Archaeology Monograph **8**.
- Allan, J.P. 1984 *Medieval and post-medieval finds from Exeter, 1971-80*, University of Exeter.
- Barclay, A., Booth, P., Knight, D., Evans J., Brown, D.H. and Wood, I., 2016 *A Standard for Pottery Studies in Archaeology*, Historic England.
- BGS (British Geological Survey) 2016 Geology of Britain Viewer <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html> Accessed 27 January, 2017.
- Bidwell, P. T. 1980 *Roman Exeter: Fortress and Town*, Exeter, Exeter Museums.

- Brown, S. 1991 *Excavations on the Medieval Exe Bridge, St Edmund's Church and Frog Street Tenements, Exeter, 1975-9*, Exeter Museums Archaeological field Unit report **No. 92.52**.
- Brown, S. 2010 *The Exe Bridge, Exeter*, Exeter.
- Brown, S. 2019 *The Medieval Exe Bridge, St Edmund's Church, and Excavation of Waterfront Houses, Exeter*, Devon Archaeol. Soc. Monograph **1**.
- CA (Cotswold Archaeology) 1995 *Treatment of finds immediately after excavation: Technical Manual No. 3*.
- CA (Cotswold Archaeology) 2012 *The taking and processing of environmental and other samples from archaeological sites: Technical Manual No. 2*.
- CA (Cotswold Archaeology) 2014 *Fieldwork Recording Manual Technical Manual No. 1*.
- CA (Cotswold Archaeology) 2017 *Radmore and Tucker Site, Frog Street, Exeter: Written Scheme of Archaeological Work for a Programme of Archaeological Investigation*.
- Chapman, S. 1978 *The Devon Cloth Industry in the Eighteenth Century. Sun Fire Office Inventories of Merchants' and Manufacturers' Property, 1726–1770*, Devon Cornwall Rec. Soc. (new ser.) **23**.
- ClfA (Chartered Institute of Archaeologists) 2014 *Standard and Guidance for Archaeological Excavation*.
- Collings, A.G. 2009 'History of the site,' in Passmore *et al.* 2009, 134–43.
- Crocker, J. 2014 *Elizabethan Inventories and Wills of the Exeter Orphans' Court, Volume 2*, Devon & Cornwall Rec. Soc. new ser., **57**.
- Edmonds, J. 2014 *A Manual of 18th-Century Textile Dyeing: a Collection of Original Dye Recipes, with Modern Instructions for use by Dyeing Enthusiasts Today* (Lulu Inc.).
- EPJ: Exeter Pocket Journal*, Exeter, Trewman.
- Griffiths, E.W. 1888 *Through England on a Side Saddle in the Time of William and Mary, Being the Diary of Celia Fiennes*, London, Leadenhall Press.
- Hart, J. and Alexander, M. 2015 'Excavations of Medieval and Post-medieval Tenement Blocks at 1-2 Redcliff Street, 2007-2010', in Alexander, M. (ed), *Medieval and Post-Medieval Occupation and Industry in the Redcliffe suburb of Bristol. Excavations at 1-2 and 3 Redcliff Street, 2003-2010*, Cotswold Archaeology Monograph **8**.

Historic England 2015a *The Management of Research Projects in the Historic Environment: The MORPHE Project Manager's Guide*.

Historic England 2015b *Management of Research Projects in the Historic Environment. PPN 3: Archaeological Excavation*.

Historic England 2015c *Archaeometallurgy. Guidelines for best practice*, London, Historic England.

Holbrook, N. 2015 'The Towns of South-West England', in Fulford, M. and Holbrook, N. (eds) *The Towns of Roman Britain: The Contribution of Commercial Archaeology since 1990*, Britannia Monograph **27**, 90-116.

Hoskins, W.G. 1957 *Exeter in the Seventeenth Century: Tax and Rate Assessments 1602–1699*, Devon & Cornwall Rec. Soc., (new ser.), **2**.

Hoskins, W.G. 1972 *Exeter Militia List 1803*, Chichester, Phillimore.

Orme, N. 2014 *The Churches of Medieval Exeter*, Exeter, Impress Books.

Parker, R.W. 2008 *Archaeological Survey and Recording at No. 1 New Bridge Street, Exeter*, Unpublished Exeter Archaeology Report No. **08.03**.

Passmore, A.J., Jones, P. & Allan, J.P. 2009 'Dyers, fullers and brewers: post-medieval housing and industries at Tudor Street, Exeter', *Proc. Devon Archaeol. Soc.* **67**, 133–96.

Pigot's Directory 1822–3 *Pigot's Directory of Cornwall and Devonshire*, Manchester, Pigot & Co.

Rowe, M.M. and Jackson, A.M. 1973 *Exeter Freeman 1266–1967*, Devon Cornwall Rec. Soc. (new ser.) **1**.

Stephen Levrant Heritage Architecture 2016 *Frog Street, Exeter: Heritage Statement: Significance and Impact*, Unpublished SLHA Report.

Stoyle, M. 1996 *From Deliverance to Destruction: Rebellion and Civil War in an English City*, Exeter, University of Exeter Press.

TEFP: *Trewman's Exeter Flying Post* (from 1763; microfilms at DHC).

Valuation 1838: *Valuation of the Houses and Lands in the City of Exeter by Order of the Guardians of the Poor and the Improvement Commissioners* (Exeter).

HISTORICAL DOCUMENTARY SOURCES

Devon Heritage Centre

Exeter City Archives (ECA)

Book 59:

Book 193: John Mannington's survey of city properties, 1700

Book 204: Listing of city properties to be mapped in Book 58 (below)

Book 214: Particular of certain Property belonging to the City of Exeter, 1848

CMB: Chamber Map Book (Book 58), map 3

EIB: Exe Island Bailiffs' Accounts, 1551–1723

John Hayman's plan and survey of the St Edmund parish lands, 1789 (57/13/13/1)

Robert Sherwood's map of Exeter (Letter Book G/6, fos 618/620)

John Coldridge's map of Exeter, 1819

Inland Revenue 1910 Valuation Book (3201V/2/35)

SEPR: St Edmund's parish register transcriptions (3 vols)

Devon & Exeter Institution

Working copies of Valuation maps based on OS 1:500 2nd edn. Devonshire LXXX.6.21
(1891)



APPENDIX A: CONTEXT DESCRIPTIONS

Table 3: Context Descriptions

Context	Context type	Fill of	Context Description
-402	layer		Concrete foundation. >0.2m deep.
-401	layer		Deposit of bricks and iron bars. 1.2m deep.
-400	layer		Concrete. 0.2m deep.
-303	layer		Natural; red-pink sandy clay with occasional pebbles.
-302	layer		Layer; dark grey sandy clay with frequent charcoal. 0.7m deep.
-301	layer		Made-ground; orange-brown sandy clay with occasional-frequent concrete, charcoal and bricks. 0.57m deep.
-300	layer		Concrete. 0.18m deep.
-214	layer		Foundation/concrete.
-213	layer		Made ground- dark grey silty clay. 0.2m deep.
-212	layer		Made-ground; brown sandy clay with occasional concrete and pebbles. >0.85m deep.
-211	layer		Made-ground; orange-brown sandy clay with occasional bricks, concrete and pebbles. 0.2m deep.
-210	layer		Concrete rubble. 0.2m deep.
-209	layer		Concrete. 0.1m deep.
-208	layer		Natural; light yellowish brown sand with pebbles.
-207	cut		Cut of ditch, linear in plan with moderate slate sides and a flat bottom. 0.2m wide x 0.4m deep.
-206	fill	207	Fill of possible ditch; black silty-sandy clay with frequent charcoal and pebbles. 2m wide x 0.4m deep.
-205	layer		Concrete. >0.35m deep.
-204	masonry		E/W aligned brick built wall. >1.5m thick.
-203	layer		Made-ground; mid grey sandy clay with occasional bricks and concrete. >1.14m deep.
-202	layer		Made-ground; orange sand. 0.1m deep.
-201	layer		Concrete. 0.08m deep.
-200	layer		Concrete. 0.08m deep.
-103	layer		Mage-ground; mid grey-orange sandy clay with occasional bricks and concrete. 0.27m deep.
-102	layer		Concrete. 0.1m deep.
-101	layer		Hardcore backfill with bricks and concrete. 0.18m deep.
-100	layer		Concrete. 0.12m deep
100	layer		Redeposited crushed concrete. 0.7m deep.
101	layer		Mid-dark brown silty clay with frequent sub-rounded and sub-angular stones, frequent charcoal, slate and bricks. 0.46m deep.
102	layer		Made-ground; mid brown silty clay with occasional rounded stones and slate. 0.4m deep.
103	layer		purple clay with compact gravels. 0.1m deep.
104	layer		Natural; light brown sandy silt with occasional rounded gravels.
105	layer		Concrete. 0.16m deep.
106	layer		Levelling deposit; mid red-brown silty clay with brick and sand. 0.44m deep.
107	layer		Red-brown silty clay with occasional small sub-rounded stones and slate. 0.6m deep.
108	cut		Construction cut for structure 109
109	masonry	108	E/W aligned brick built furnace. >1.9m long x >1.1m wide.
110	fill	115	Backfill of structure; mid brown silty clay with occasional brick, rare-occasional stone and rare charcoal. 1.46m long x 0.58m wide x 0.12m deep.
111	cut		Construction cut of furnace 112. Not excavated.
112	masonry	111	Rounded superstructure for furnace 114. Brick built. >2.5m long x >1.6m wide x >0.24m deep.
114	fill	112	Backfill of structure; mid-dark brown silty clay with occasional bricks, occasional-frequent charcoal and occasional mortar. >1.18m long x 0.42m wide x >0.24m deep.

Context	Context type	Fill of	Context Description
115	masonry		Brick built furnace. 1.5m long x 0.94m wide x 0.12m deep.
116	layer		Levelling deposit; mid brown silty clay with large stones.
200	layer		Concrete. 0.16m deep.
201	layer		Made-ground; red-brown silty clay with concrete inclusions. 0.18m deep.
202	layer		levelling deposit; red-brown silty clay with occasional pebbles, grit and slate. 0.45m deep.
203	layer		Levelling deposit; grey-brown silty clay with occasional charcoal, slate and stones. >0.38m deep.
204	cut		Modern intrusion. 0.9m wide x 1.3m deep.
205	layer		Scalping. 1m deep.
206	layer		Made-ground; dark black silty clay with occasional stone and brick. 0.75m deep.
207	layer		Made-ground; mid-light brown silty clay with abundant rounded pebbles. 0.9m deep.
208	layer		Made-ground; mid grey-brown silty clay with frequent rounded stones. 0.26m long x 0.2m deep.
209	masonry	211	E/W aligned stone wall. 2m long x 0.6m wide x >0.4m deep.
210	layer		Natural; grey-brown sandy silt with gravels.
211	s		Construction cut for wall 209. Not visible.
300	layer		Scalping. 0.8m deep.
301	layer		Levelling deposit; dark black silty clay with frequent brick, slate and concrete. 0.75m deep.
302	layer		Made-ground; mid brown silty clay with occasional-frequent brick, redeposited clay, gravel and sub-rounded stone. 0.7m deep.
303	layer		Natural; grey-brown rounded gravels.
304	cut		Cut of pit; circular in plan. > 1.4m long x 0.8m wide. Not excavated.
305	fill		Only fill of pit; dark brown silty clay with frequent slate and mortar with occasional charcoal. >1.4m long x 0.8m wide. Not excavated.
400	layer		Modern scalping. 1m deep.
401	layer		Made-ground; silty clay with occasional-frequent brick, concrete, stone and rebar. 1m deep.
402	cut		Modern intrusion, steep sided. 2m long x >1m wide and 0.55m deep.
403	fill	402	fill of modern intrusion. 0.55m deep.
404	layer		Made-ground; mid-dark brown silty clay with occasional brick and concrete, frequent subangular stones and pebbles. 0.3m deep.
405	layer		Natural; light brown sandy silty with frequent rounded stones.
406	cut		Possible cut for leat. E/W aligned with a strady slope. 2m long x >0.8m wide.
407	fill	406	Fill of possible leat; blue-grey silty clay with organic deposits. >0.1m deep.
600	layer		Modern scalping. 0.65m deep.
601	layer		Made-ground; mid brown silty clay with occasional brick, frequent sub-rounded pebbles. 0.35m deep.
602	layer		Demolition layer; redeposited blue clay with frequent brick, slate and stone inclusions. 0.28m deep.
603	layer		Dark black gravels with occasional charcoal. >0.3m deep.
604	masonry	606	NW/SE turning S aligned wall, brick built. 1.4m long x 0.4m wide x >0.35m deep.
605	masonry	607	E/W aligned wall, brick and stone built. 1.25m long x >0.65m wide x >0.26m deep.
606	cut		Construction cut for wall 604. Not visible.
607	cut		Construction cut for wall 605. Not visible.
608	layer		Demolition deposit; mid brown silty clay with frequent slate, brick and stone.
700	layer		Concrete. 0.3m deep.
701	layer		Levelling deposit; mid brown silty clay with lenses of silt and sand. 0.6m deep.
702	layer		Demolition deposit; mid grey-brown silty clay with slate and stone. >0.15m deep.
703	layer		Demolition deposit; red clay with degraded sandstone. >0.1m deep.
704	cut		Construction cut for 705. Not visible.
705	masonry	704	N/S aligned wall, stone built. >2.4m long x 0.64m wide.
800	layer		Modern scalping. 0.68m deep.
801	layer		Levelling deposit; mid brown silty clay with frequent brick and stone. 0.7m deep.

Context	Context type	Fill of	Context Description
802	layer		levelling deposit; grey-brown silty clay with frequent brick and stone. 0.62m deep.
803	layer		Dark black silty clay with frequent brick and stones. 0.2m deep.
804	layer		Light grey-brown sandy clay with frequent gravels. . 0.3m deep
805	layer		natural; compact degraded sandstone.
900	layer		Concrete. 0.4m deep.
901	layer		Made-ground, crushed stone. 0.3m deep.
902	layer		natural; brown-red/pink sandy clay with occasional shillet.
1000	layer		Levelling deposit; dark red with frequent crushed stone. 0.4m deep.
1001	layer		Made-ground; dark brown silty sand with frequent bricks and stones. 0.6m deep.
1002	layer		Made-ground; light red silty sand with stones and gravels. 0.55m deep.
1100	layer		Levelling deposit; dark brown-red silty clay with frequent crushed stone. 0.23m deep.
1101	layer		Levelling deposit; dark black-grey silty sand with frequent gravels. 0.18m deep.
1102	layer		Made-ground; light orange-red silty sand with frequent stones and gravels. 0.63m deep.
1103	layer		Made-ground; dark brown silty sand. 0.55m deep.
1200	layer		Made-ground; orange-grey hardcore. 0.8m deep.
1201	layer		Modern backfill; brown-black sandy clay with occasional-frequent brick and charcoal. 0.6m deep.
1202	layer		concrete. 0.15m deep.
1203	layer		Concrete mixed with stones and bricks. >0.3m deep.
1300	layer		Mid brown hardcore. 0.1m deep.
1301	layer		Orange hardcore. 0.2m deep.
1302	layer		Grey hardcore. 0.25m deep.
1303	layer		orange hardcore. 0.7m deep.
1304	masonry		Possible edge of leat. Brick and concrete built. 1.6m long x 1.1m wide.
1305	masonry		E/W aligned wall made of concrete and bricks. 1.7m long x 0.6m wide.
1400	layer		Brown hardcore. 0.15m deep.
1401	layer		Orange hardcore. 0.2m deep.
1402	layer		Made-ground; light brown-grey clay with occasional brick and stones. 1.1m deep.
1403	masonry		E/W aligned wall, brick and concrete constructed. 0.5m wide x >0.25m deep
1500	layer		Mid brown sandy hardcore. 0.5m deep.
1501	layer		Concrete. 0.15m deep.
1502	layer		Made-ground; orange sand with occasional bricks and stones. 0.15m deep.
1503	layer		Made-ground; orange sand and red sandy clay with occasional bricks and stones. 0.9m deep.
1600	layer		Hardcore onto light brown crushed stone. 0.4m deep.
1601	layer		made-ground; ,of red-brown silt with grit, stone and gravels. 0.3m deep.
1602	fill	1604	Fill of construction cut; dark grey-green-brown silty sand with occasional grit and stone. 0.4m wide.
1603	masonry	160	NE/SW-aligned brick wall. 0.2m wide x 0.5m high.
1604	cut		Construction cut for wall 1603. >1m long x 0.4m wide.
1605	layer		Natural; red-brown sand.
1700	layer		Harcore. >0.4m deep.
1701	layer		Made-ground; red-grey-brown silty clay with occasional-frequent rubble and brick. >0.5m deep.
1702	fill	1704	Fill of construction cut; dark grey-brown sandy silty with occasional stones and grit. >1.5m long x >0.9m wide x >0.6m deep.
1703	masonry	1704	E/W-aligned wall, concrete and brick constructed. 0.7m wide x >0.8m deep.
1704	cut		Construction cut for wall 1703. >1.2m long x >0.9m wide x >0.6m deep.
1705	layer		Made-ground; grey-yellow-brown clayey sand with occasional stones. 0.4m deep.
1800	layer		Demolition deposit; light brown silt with frequent stones and bricks. 0.8m deep.
1801	layer		Made-ground; brown-pink silty sand with occasional gravels and stones. 0.3m deep.
1802	layer		Made-ground; black silty sand with occasional gravels and stones. 0.1m deep.
1803	layer		Levelling deposit; yellow-green clayey silt with occasional sub-angular stones. 0.17m deep.

Context	Context type	Fill of	Context Description
1804	masonry		E/W aligned wall, brick and stone constructed. 2.3m long x 0.75m wide.
1805	layer		natural; brown-red silty sandy.
2000	deposit		Modern overburden
2001	masonry		Cobbled surface
2002	fill	2003	Only fill of drain; dark grey clay silt with rare-occasional sub-rounded and sub-angular stones, rare charcoal. 4.16m long, 0.09m wide and 0.07m deep.
2004	masonry		E/W-aligned uneven stone wall with reddish sandy mortar. 2.75m long, 0.97m wide and >0.52m deep.
2005	masonry	2034	N/S aligned brick built furnace. >2.5m long x >1.8m wide and >0.6m deep.
2006	masonry	2035	E/W aligned brick built furnace. >2.2m long x >1.4m wide x >0.39m deep.
2007	masonry	2036	E/W aligned brick built furnace. 2.7m long x 2.5m wide and >0.71m deep.
2008	masonry		E/W aligned brick surface.
2009	masonry	2046	NE/SW aligned roughly squared stone wall. 1.95m long x 0.44m wide and >0.49m deep.
2010	masonry		E/W aligned limestone wall incorporated into furnace structure 2038. 0.71m long x 0.55m wide x >0.5m deep.
2011	masonry		E/W aligned stone wall. 2m long x 0.48m wide x >0.54m deep.
2012	masonry	2054	E/W aligned stone and brick wall. >2.1m long x 0.45m wide and >0.6m deep.
2013	layer		Levelling deposit below drain 2003, light red-brown sandy clay with occasional grit and rubble inclusion. 0.11m thick.
2014	layer		Levelling deposit; dark brown-red sandy silt with occasional brick and rounded stone fragments.
2015	deposit		Levelling deposit; dark brown silty clay with rare stone and slate. >0.24m thick.
2016	layer		Possible clay lining for wall 2011. Orange clay with white flecks. 0.52m long x 0.13m wide.
2017	fill		Backfill of stoke for furnace 2006; red-brown silty clay with brick, mortar, slate and tile. 0.3m thick.
2018	deposit	2007	Only fill of furnace 2007; dark grey-brown sandy silty with frequent charcoal/coke and occasional slag. 1.87m long x 0.44m wide x 0.44m thick.
2019	fill	2005	Only fill of stoke for furnace 2005; dark grey-brown silty clay with abundant charcoal, CBM, mortar and slag. 0.3m thick.
2020	masonry	2056	E/W aligned stone and brick wall. >6m long x 0.25m wide x 0.25m deep.
2021	cut		Cut for modern pipe.
2023	layer		Demolition debris; light yellow sandy silt with frequent mortar. 2m long x 0.5m wide x 0.2m thick.
2024	masonry		Ceramic pipe. 0.9m long x 0.65m wide x 0.15m thick.
2025	fill	2024	Fill of modern pipe.
2026	masonry	2047	N/S aligned stone built wall with clay bonding. 1.25m long x 0.6m wide x 0.35m deep.
2027	layer		Possible clay lining against wall 2026; reddish-brown clay. >0.3m thick.
2028	layer		Levelling deposit; dark red-brown silty clay.
2029	cut		Robber cut of wall 2038. 0.78m long x 0.58m wide x >0.2m deep.
2030	fill	2029	Only fill of robber cut; reddish brown silty clay with frequent lime mortar. >0.2m thick.
2031	layer		Destruction debris; red-brown mix of brick, stone, cobbles and mortar. 2.1m long x 0.5m wide x 0.45m thick.
2032	cut		E/W-aligned linear robber cut of wall 2011, moderate concave sloping sides. 0.99m wide x 0.37m thick.
2033	fill	2032	Only fill of robber cut; brown-grey clayey silt with frequent charcoal, slate, brick, and stone fragments, rare mortar. 0.99m wide x 0.37m thick.
2034	cut		N/S aligned Construction cut for furnace 2005. Unexcavated.
2035	cut		Construction cut for furnace 2006. Unexcavated.
2036	cut		Construction cut for furnace 2007. Unexcavated.
2037	cut		Construction cut for structure 2038. Rectangular in plan with concave sloping sides. 1.98m long x 0.45m thick.
2038	masonry	2037	Structure using existing walls and furnace, brick and stone-built. 2.1m long x 0.4m wide .
2039	cut		N/S aligned linear robber cut, steep straight sloping sides, with a flat bottom. 1.2m long x 0.5m

Context	Context type	Fill of	Context Description
			wide x 0.45m deep.
2040	fill	2039	Only fill of robber cut; yellow mortar with rare mid brown silt, frequent CBM and slate. 1.6m long x 1.4m wide x 0.3m deep.
2041	masonry	2043	N/S-aligned modern stone and brick wall. 2.2m long x 0.6m wide x 0.47m deep.
2042	layer		Levelling deposit; mid grey-brown silty clay with occasional slate and rare charcoal, grit and CBM. 2.4m long x 0.8m wide x 0.32m deep.
2043	cut		E/W aligned construction cut for wall. Vertical sides, with a flat bottom. 2.2m long x 0.8m wide x 0.1m deep.
2044	layer	2038	Possible fuel for furnace; dark black charcoal with rare slag. 1.9m long x 1.2m wide x 0.03m thick.
2045	layer	2005	Possible fuel in furnace; dark black charcoal with rare clinker. 1.2m long x 0.5m wide x 0.02m thick.
2046	cut		N/S aligned linear construction cut for wall 2009.
2047	cut		Construction cut for wall 2026,
2048	layer		Destruction debris; dark red brown silty clay with frequent mortar, slate and stone. >0.3m thick.
2049	deposit		Levelling deposit; mid red-brown silty sand with rare mortar, frequent brick, slate and stone. 0.45m wide x 0.31m thick.
2050	deposit		Levelling deposit; light grey-brown silty sand with occasional slate, stones and charcoal. >0.32m thick.
2051	cut		Construction cut of wall 2021; linear, steep straight sides. Not fully excavated. >0.18m wide x >0.47m deep.
2052	fill	2051	Fill of construction cut; mid grey-brown silty sand with occasional rounded stones. >0.18m wide x >0.47m deep.
2053	layer		Levelling deposit; red-brown silty clay with frequent small grit, gravels and stone. 1m long x 0.3m wide x 0.25m deep.
2054	cut		Construction cut for wall 2012. Not visible.
2055	fill	2057	Fill of cut; mid brown silty clay with abundant slate and charcoal. >2.6m long, 1.8m wide x 0.42m deep.
2056	cut		Construction cut for wall 2020. Not visible.
2057	cut		Cut from demolition; linear with steep straight sides and a flat bottom. >2.5m long x 1.8m wide x 0.42m deep.
2058	masonry		Cobbled surface related to structure 2038. 1.2m long x 1.32m wide.
2059	layer		Levelling deposit; red-brown silty clay with gravel, stone and slate inclusions. Not fully excavated.
2060	layer		Levelling deposit; red-brown silty clay with gravel, stones and slate. Not bottomed.

APPENDIX B: DOCUMENTARY EVIDENCE

Documentary evidence for the historical development of the Frog Street site

by John Allan and Tony Collings

Introduction

The excavated area occupies a triangle of land bounded on its southern side by Frog Street (Fig. 2), from which tenements fronting onto the street extended northwards, where their backs were formed by the Higher Leat. A second row of buildings occupied the narrow strip between the northern bank of the leat and Lower Rackclose Lane, formerly open ground sloping up to the city wall, and a third group of smaller houses was packed into the restricted but commercially attractive space immediately outside the West Gate of the city, where Exe Bridge met Frog Street. Excavation on the southern side of the street in the 1970s recovered a continuous sequence of occupation from the early 13th century, with a scatter of 10th to 12th-century finds which suggested settlement, or at least nearby activity from the late Saxon period (Brown 2019, 62–119, 124–5).

The site straddles three historic parishes (Fig. 3). Most of the Frog Street tenements fell within the parish of St Edmund, whose church was built on Exe Bridge (Brown 2018, 10). Higher Leat marked the northern boundary of St Edmund's parish, and the narrow strip of buildings between the leat and Lower Rackclose Lane formed part of the adjoining parish of Allhallows-on-the-Walls. Since this parish consisted of lands within and outside the city walls, the latter, including the excavated area, were sometimes described as 'Allhallows-on-the-Walls Without'. The small group of tenements at the south-eastern corner of the site lay in the parish of St Mary Steps, whose church lay within the walls, but whose parish was largely outside, on the river floodplain.

All three parishes had formed by the start of the 13th century, implying a sufficiently large population outside the West Gate to support one church and parts of two others. The earliest documentary record of St Edmund's and Allhallows is in 1194 and 1204; Mary Steps was presumably in existence by the 12th century, since it has a Norman font. Their parish bounds were confirmed in 1222 (Orme 2014, 28–31, 68, 99, 137–9). The ancient origin of these boundaries is attested by the fact that the one between St Mary Steps and St Edmund's did not run down Exe Bridge, but along the middle of the ford which had preceded it, suggesting that it had been laid out before the bridge had been built around 1200.

In the middle ages, the site formed part of the manor of Exe Island, which was owned by the Courtenay Earls of Devon; thus it rarely features in the rich medieval documentation surviving from the various institutions of the city. After the fall of Henry Courtenay in 1538, the city was granted the manor in 1550, so its lands may be recorded in successive accounts of the Manor of Exe Island (see Fig. 10(a)). For the properties they retained, it may sometimes be possible to reconstruct a complete list of the leaseholders in the manorial accounts back to 1550.¹ However, where tenements were being leased as an investment to be sub-let, the lists may tell us nothing about what was happening on the sites. Moreover, many of the city lands were sold off in the 17th and early 18th centuries, and generally St Edmund parish is not as well supplied with surviving documentary material as the city's richer central parishes.

Maps

A fine series of maps shows the development of the area from the late 16th century. Braun and Hogenburg's celebrated view, published in 1618 but based on a survey of c. 1584, shows housing extending from the West Gate in a continuous strip along most of the Frog Street frontage (Fig 9a). Sherwood's view of c. 1638 adds further housing between the City Wall and Higher Leat in Lower Rackclose Lane, with densely-packed houses extending the entire length of Frog Street and beyond, with their gable ends facing the street (Fig. 9b).

Of the various 18th-century records, the recently discovered Birchynshaw map of 1743 gives a vivid view of the densely-packed buildings of the suburb at the height of its fortunes (Fig. 10a). The Map Book of the Chamber of the City of 1758 is an especially valuable source, being at a larger scale and showing individual properties owned by the city (Fig. 10b). The first map showing plans of the buildings occupying the excavated site is Coldridge's of 1819 (Fig. 11a), superseded in the late 19th century by the detailed and highly accurate OS 1:500 maps of 1876 and 1891 (Fig. 11b).

Histories of Individual Properties

Washing bridges

A good starting point in reconstructing the history of many parts of the city is the Map Book of 1758. Although the Chamber had no tenements in Frog Street at that time, it owned Higher Leat and claimed rents (sometimes called 'considerations') from the bridges or rooms built over it (Fig. 10b). Their purpose was to allow cloths to be washed free of noxious substances; they were used mainly (perhaps exclusively) by dyers. Since the bridges were

¹ We are obliged to our former colleague Jannine Crocker for her transcripts.

accessible from the backs of properties on Frog Street (they were described as being 'at their dwelling houses' in 1848; see below), they provide valuable evidence of most of the owners and occupiers of the adjoining tenements with their houses on the Frog Street frontage in the mid-18th century.

Such bridges certainly existed by the 16th century. Six were recorded in the account of the Manor of Exe Island in 1562–3; at least four of them were rented by dyers (Collings 2009, 134). By 1758, the Map Book of the Chamber showed ten numbered bridges on Higher Leat. Three of them fell within the excavated area, two stood over the leat where it runs behind the western part of the site, and two others stood behind the adjoining properties to the west (Fig. 10b, respectively Nos 43–5, 41–2 and 39–40). They are listed in the accompanying rental as follows:

Table 4: Bridges over Higher Leat on which Exeter City claimed an annual rent in 1758 (ECA 58 & 59).

<i>Number on map</i>	<i>Number in rental</i>	<i>Bridge lessee's name</i>	<i>Length x breadth (ft)</i>	<i>Rent</i>
39	27	Henry Willmot	72 x 12	10s
40	28	Henry Floud	28 x 10	10s
41	29	Widow Carter	–	–
42	30	Samuel Coombe	30 x 8	10s
43	31	Widow Coombe	18 x 8	10s
44	32	Widow Baker	–	2s 6d
45	33	Mr Paul	18 x 8	10s

For reasons which are unclear, only six of the ten bridges numbered on the map appear in the rental document prepared with the map (ECA Book 204), and there is also one unnumbered bridge on the map, which is identifiable with a payment in the rental by James Pitman (discussed further below). A further problem arises in establishing the locations of the bridges shown in 1758, on the much more accurate Ordnance Survey maps of 1876 and later, since there is a quite serious inaccuracy in the Georgian map at this point: the Frog Street tenements are shown appreciably shorter, and the spacing of the bridges is at variance with the later mapping (Fig. 12a). An initial fit with the modern maps leaves some bridges straddling two properties, creating doubt about which they belong to. This problem can be resolved, however, because the positions of three bridges (Nos 42–4) are shown on a second map dated 1789 (described below, Fig. 13a), and one of these (No. 43) survived to be recorded on the 1891 map. Using these as fixed points, it is therefore possible to use the

Map Book of the Chamber to establish those in possession of most of the properties on the site in the mid-18th century (Fig 12b).

The subsequent history of the bridges is recorded in later rentals. Nos 41 and 42 were taken down when New Bridge Street was built in the 1770s (ECA 59, f53, rents 3.29, 3.30), and this must also have been the fate of Bridge 40. By 1828, Bridges 43 and 44 were rented by Elizabeth Moore (ECA D2/314, rents 31, 32), but the smaller one (No. 44) was removed soon afterwards. Only two [presumably Nos 43 and 45] were left by 1848, when the city derived 10s rents from George Read and Messrs Worthy from ‘bridges over the leat at their dwelling houses in Frog Street’ (ECA 212, 12–13). The last survivor on this stretch of Higher Leat (No. 43) was still standing in 1891, long after the city’s cloth industry had collapsed (Fig. 12b). Rents of 10s or £1 were still charged on a few bridges in the parish at the beginning of the 20th century.

The Properties on the Western side of the site

At the western end of the site were three freehold properties whose deeds appear not to have survived. However, some information can be assembled by combining map evidence with information from rentals and insurance policies.

1. Henry Willmot, later Mr Pyne

At its western edge, the excavation sampled a small area of a large property occupied in 1819, by Mr Pyne, whose child-bed linen warehouse on New Bridge Street is listed in the *Exeter Pocket Journal* of 1816 (EPJ 1816, 49). This was merely a fragment of a former large tenement extending to Higher Leat, the rear part of which had been buried below Lower Bridge Street in the 1770s. In 1758, the leat behind this tenement was occupied by an unusually large washing bridge, leased by Henry Willmot, a wealthy dyer, whose estate was insured at the end of his life for £4000 (Fig 12a; Table 4; Chapman 1978, 79–81). Willmot died in 1779; the estate was declared bankrupt in 1786, and his house was sold in the following year (TEFP 27.8.1779, 3c; 15.2.1787, 3d). Rather than being in Frog Street, however, Willmot’s dwelling house stood closer to the river Exe, ‘fronting the Island’, and it is probable that his principal commercial premises also lay there.

2. Taylor’s Court: Henry Floud

In 1891, the most westerly tenement examined in the excavation was known as Taylor’s Court; Coldridge indicates that in 1819 the occupier was Mr Thomas, chandler – the tallow chandler Robert Thomas of Frog Lane listed in *Pigot’s Directory* of 1822–3 (Fig. 11a). The rear of this tenement formerly extended to Higher Leat, but had been built over when Lower Bridge Street

was constructed in the 1770s (Figs. 11a, 11b, 12b; ECA 59 f53). In 1758, Bridge 40 stood at the back of this tenement, rented by Henry Floud, who can therefore be taken to be the owner of the entire property (Figs. 10b,12b; Table 4).

Floud was a dyer, who succeeded his father of the same name as a freeman of the city in 1750. Four of his apprentices – three dyers and one feltmaker – became Exeter freemen in the period 1761–80 (Rowe and Jackson 275, 286, 292–3, 295, 309). Over a period of 25 years (1750–75), he took out no fewer than eight policies on his property in Frog Street (Chapman 1978, 79–81). They suggest a growing business, the value of the policies rising from £300 in 1748 (perhaps his father's policy) to £400 in 1751, then £1400 in 1754 and £1600 in 1757, reaching a maximum of £1900 in 1759 (although the last three sums included property of his undertenants, the dyers John Bartlett, Matthew Saunders and Widow Collins; it also included Floud's house within the city walls in Guinea Street, valued at £100). By this time, he was evidently one of the more prosperous of the Exeter textile workers; typical sums insured by sergemakers, tuckers and fullers were in the range £200–500. His last policy, in 1775, was for the rather lower sum of £1300 and he was holding much less stock, valued at £400 compared with £900 in 1757 and 1759 (*ibid.*), and he was declared bankrupt in 1778 (*TEFP* 20.11.1778, 3b).

Floud's successive policies also demonstrate the growth of his buildings in the period 1750–75. In 1751 they comprised 'his dwellinghouse, warehouse and dyehouse adjacent in Frog Lane', built of stone, brick, lath and plaster, with slate roofs. In 1754, a second dyehouse is mentioned, described as 'opposite, stone and slated,' but valued at only £20, and he was also holding stock in trade in a thatched cob stable on the opposite side of the street, valued at £100. The policy of 1757 mentions three dyehouses: one listed with his house, warehouse and linhay adjacent in Frog Street, the other two described with an outhouse 'opposite the dwelling', built of stone, brick and timber, and roofed in tile and slate, the three buildings being valued jointly at £100. By 1759, Floud was in the process of rebuilding his house 'which when finished will be part in his possession and part undertenants.' In the last policy, dated 1775, his property consisted of 'three tenements, a dwellinghouse, ware rooms, chambers over and dyehouse in the court in Frog Lane in the tenure of himself and others, brick, timber and slated', valued at £400, with new buildings of stone, plaster and slate in Frog Lane, valued at £100 (*ibid.*).

Floud's tenement was one of several adjoining dyeing businesses occupying this side of Frog Street and extending upstream into Tudor Street.

3. Roper's Court

In 1891, the large group of buildings to the east of Taylor's Court was known as Roper's Court (Fig. 11b); Coldridge shows that a Mrs Pretty, probably the widow of the cooper Henry Pretty, was in possession in 1819 (for his trade: Hoskins 1972, 28). A washing bridge was attached to the rear of this property too (Figs. 11a, 12b, - Bridge 41), leased in 1758 by Widow Carter. She was the widow of the Daniel Carter whose death is recorded in the parish register of St Edmund's in 1752 (SEPR). We have found no further reference to this holding.

The Properties in the central part of the site: The Parish Lands

Three narrow, adjoining properties near the centre of the excavated area, extending from Frog Street to the leat, were owned by the parish of St Edmund; they probably represent the subdivision of a single wide tenement. Among the surviving parish documentation is a plan and survey of the parish lands of 1789 – a key source in reconstructing the tenement histories of the area (DHC 57/13/13/1). Fig. 13a shows the map, and Fig. 13b the projected positions of the tenements on the 1891 OS map.

4. The western tenement: Samuel Coombe

The western tenement in the group of three was described in 1789 as a dwellinghouse, curtilage and dyehouse, merely 14ft 6ins wide and 88ft long [4.4 x 26.8m] (*ibid.*). In 1758, bridge 42 stood behind it, rented by Samuel Coombe (Fig. 12b; Table 4). He was another dyer, as was his son William, whose trade was recorded when he became a freeman of the city in 1753 (Rowe and Jackson 1973, 278). By 1789, the lessee was to Christopher Gullett Esq (DHC 57/13/13/1).

We learn more about the earlier history of this tenement from the annotations at the foot of the 1789 map. Below the entry for this tenement is a note written by Hayman stating:

Mem: A lease was heretofore granted by the feoffees of a Dwellinghouse and Diehouse in Frog Lane, now in the possession of Thomas Gibbons for 500 years, of which term 154 years were unexpired in 1781... The feoffees have no counterpart... (*ibid.*)

This seems to show that a 500-year lease for this holding had been shown to the feoffees, but they could not find the counterpart held by the parish. Some 154 years of this period had elapsed by 1781, indicating that it was drawn up as early as 1435.

5. The central tenement: Axe's Estate and William and Elizabeth Coombe

The central tenement in the group of three was described in 1789 as a dwellinghouse, curtilage and millhouse, 16ft 6ins wide on the Frog Street frontage and 80ft long [5.0 x 24.4m]. Fig. 12b shows the property, with its courtyard accessed through a narrow side

passage below a first-floor room. Washing bridge No. 43 stood at the back of the premises, rented in 1758 by Widow Coombe (Figs. 12b, 13a; Table 4). This was Elizabeth Coombe, whose husband William had rented the same bridge six years earlier (EIB 12933; 12937; DHC 49/12/3/2). They had married in 1751 (SEPR). In the following year 'William Coombe, maltster and dyer' took out a Sun Fire Insurance policy on his premises. It listed his 'dwellinghouse of timber and slate in Frog Lane', valued at £100, with a dyehouse behind it, 'brick, timber and slated' at £100, with utensils, stock in trade and goods in trust a further £200 (Chapman 1978, 79). William was still alive in 1755, when 'Mr Coombe's Dyehouse' was listed in the Poor Rate of St Edmund's parish, taxed at 5s, but had evidently died before 1758.

An entry of 1785, in a city rental, shows that Bridges 43 and 44 were then leased to Robert Deane, maltster (Fig. 12b; ECA 59 f53). The rental adds the following description of the property: 'a Dwelling House, Malthouse, Room over the Mill Leat & two New Built Dwelling Houses on the avenue of the New Exe Bridge.' In 1780 Richard Parnell took out a 99-year lease on the property with an annual rent of £1 6s 8d (DHC 57/13/13/1). By 1828, Elizabeth Moore was leasing both bridges (D2/314).

We learn something of the earlier history of the tenement from William Coombe's insurance policy of 1752, which describes the dwellinghouse in which he lived as 'Axis Estate' (Chapman 1978, 79), presumably because it was a property of the Axe family, who had been prominent members of St Edmund's parish for more than a century. Matthew Axe was one of the seven highest taxpayers of the parish in the subsidy of 1629, paying on £3 in goods; he (or another man of the same name) was a collector of the poll tax for the parish in 1660, paying the second-highest sum of £1 10s 6d, and Samuel Axe or his occupier paid 4d there in 1699, with an additional 4d 'for Martayns lands' [lands of Martin's Charity] (Hoskins 1957, 10, 35, 37, 89). Matthew and Samuel each held a bridge in Exe Island (EIB 12933; 12937; 12945, 12964).

6. The eastern tenement: Charles Baker and Daniel Campion

The annotations below John Hayman's map of 1789 describe the eastern tenement of the three owned by the parish (Figs. 12b, 13a and 13b - Tenement 1) as messuage, with a frontage of 15ft 8ins and depth of 75ft [4.8 x 22.8m] containing a dwellinghouse, curtilage and sulphur house, leased for 21 years (1785–1806) to Charles Baker, and occupied by Daniel Campion, the rent being £1 6s 0d (DHC 57/13/13/1).

A sulphur house was a building in which sulphur was burnt to produce the sulphur dioxide, which bleached cloth prior to dyeing. This was an extremely hazardous process, since sulphur and sulphur dioxide are both toxic and corrosive; exposure can cause damage to lungs, skin and eyes, or even death. William Partridge's *Practical Treatise on Dyeing ... Including the Most Improved Methods of the West of England* (1823) gives a good description of the operation of sulphur houses of the late 18th century:

On some occasions the whites that are dyed without blueing are hung up in a sulphur house to bleach. A sulphur house for cloth is a square building, closely plastered to prevent the sulphureous gas from escaping. The cloth is hung up ... on wooden hooks, and no two folds are permitted to touch each other. The cloth, when hung up, should be thoroughly moistened with whiting liquor, but not so wet as to run. When the house is filled with cloth... some rolled sulphur bruised is put on four iron dishes, which are previously covered two or three inches thick with fine dry siliceous sand, on which the sulphur lies. One of these is left in each corner of the room, and a small hole is left near the bottom of the building near each pot to admit a supply of external air... When these are set on fire the door is closed until the following morning, when it is thrown open and as soon as the workmen can enter safely the cloth is shifted...more sulphur is placed on the sand plates... [and ignited]. When the cloth has finished this second process it is finished sulphuring and will have to be tentered and dried (Edmonds 2014, 39).

Properties on the Eastern side of the Parish Land

7. Mapowder, later Pitman

The map of parish lands of 1789 shows that the parish properties were bounded on the east by 'Lands of James Pitman Esq'. These lands consisted of three former Chamber properties which had been sold off soon after 1700 to help fund the canal extension, so they were not plotted on the 1750s Chamber Map Book and their leases are lost. However, the survey of city properties of 1700 (ECA Book 193) probably abstracts the last of the leases granted by the city before the sale.

The map of 1789 also records that James Pitman's property had been leased in 1667 to the gentleman Anthony Mapowder (f68v); the schedule of city property of c.1758 likewise describes James Pitman as owning a property 'Late Mapowders' (ECA 204). Anthony Mapowder appears in the 1660 poll tax for St Edmund's, paying the sum of 5s 6d, and in the hearth tax of 1671, paying on four hearths; these sums suggest modest affluence (Hoskins 1957, 37, 77).

8. Sanford's

The property on the east side of Mapowder's was leased in 1696 to Elizabeth Sanford (Fig. 12b), at the rent of 41s 4d – a high figure suggesting a substantial estate (f69v). One of the three named lives was William Sanford the younger, described as a dyer. 'Widow Sanford or occupier of her houses' appears in the poor rate for St Edmund's in 1699, paying just 3d (Hoskins 1957, 89). This is useful confirmation that the tenement fell in St Edmund's parish rather than St Mary Steps; the reference to more than one house may account for the large rent of 1696.

Tenements at the Eastern end of the Site: Parish of St Mary Steps

9. Mr Paul

Washing bridge No. 45 was owned in 1758 by Mr Paul, who probably occupied the small tenement beside the parish boundary (Fig. 12b).

10. Corner house outside Westgate

The Chamber Map Book recorded an annual chief rent of 1s 4d paid to the city 'out of a corner house next without Westgate' owned by the parish of St Mary Steps (Figs. 10b, 12b: property 46). In 1758 it was 'where Mrs Glyde the Chandler now lives' (ECA 59, f54).

An Outline History of the Exeter Dyers by A.C. Collings

Industrial-scale cloth dyeing was practised in Exeter over a period of more than 550 years. The very first page of *Exeter Freeman* records that in 1286, 'Ralph Dyer (*Tinctor*)' became free, while in 1851 the census showed the presence of the dyer Samuel Poole in Tudor Street still able to employ three workers (HO/107/1869/f429/p24). Throughout most of the period the industry was particularly localised, being largely confined within the Manor of Exe Island, and to a length of some 200 metres along the southern side of the Higher Leat immediately above the medieval Exe Bridge. Initially, the sites were behind the Frog Street properties, before extending north-west, perhaps around 1600, to the rear of the Tudor Street properties where they survived for longer.

In order for the 'craft and mystery' of dyeing to remain a mystery, very little would have been written down, so that the treatment of the subject in Professor Hoskins' book of Exeter's industry (Hoskins 1935) is sparse, as had been the survival of documentary material from the period when the manor was owned by the Courtenay Earls of Devon. In

1550, following the attainder of Henry Courtenay, the manor was granted to the City of Exeter, when documentary survival and availability of transcripts vastly improves. Oddly, the City's archives include in Miscellaneous Roll No. 48, a rental from the Courtenay period, for 1493–94. It shows rents totalling 18s from 10 bridges, and while it is not clear that they are dyers' washing bridges, enabling the necessary noxious substances to be washed out, it must be probable that several were.

After 1550, rentals survive for most years into the early 18th century, although occupations are rarely given, and have to be inferred. They show the bridge rents to fluctuate, initially with a maximum of ten, presumably due to the state of trade, and an indication that they were held on annual tenancies rather than being leased. Some indication of the work involved can be found in the 1593 inventory of the dyer Richard Wills, who had been rated at twice as much as anyone else in St Edmund parish in 1577 (Rowe 1977, 63). In 1593, his dye-house had included three furnaces, three woad vats and a lead cistern. His stock provided evidence of long-distance trade. It included one and a half tons of woad, 'Shomake' (Sumach, from Southern Europe?), 'Argall', which would have been either argol, the tartar deposited on the sides of wine vats, or possibly orchil, derived from lichens, and 'brasyll', a tropical hardwood from the East Indies or Brazil (Crocker 2014, 299–300). A lease of 1659 Cuckingstool Mills, on the Lower Leat at the end of Frog Lane, showed that it possessed a wood mill (ECA deed ED/M/1407). Although it is not obvious that Richard rented any bridges, by the end of the century his son Zachary, the equal highest-rated in 1602 (Hoskins 1957, 6), was paying 2s for two bridges at the end of the century (EIA 1599–1600). There is a suggestion that he was succeeded by Richard Mayne (EIA 1629–30), but it does not seem possible to locate the property.

A very rare account of a visit to a dye works was provided by the equestrian Celia Fiennes, who passed through the city in 1695 (Griffiths 1888, 208). While accepting that most of the cloths were 'sent up for London white' she continued:

I saw the several ffats they were a dying in of black, yellow, blew and Green, w^{ch} two Last Coullours are dipp'd in the same fatt, that w^{ch} makes it differ is what they were dipp'd in before w^{ch} makes them either Green or blew; they hang the Serges on a great beame or great Pole on top of y^e fatt and so keep turning it from one to another — as one turns it off into the ffatt y^e other Rowles it out of it, soe they do it backwards and forwards till its tinged deep Enough of the Coullour. Their ffurnace that keepes the dye pannels boyling is all under that roome made of Coale ffires. There was in a roome by itself a ffatt for the Scarlet that being a very Changeable dye noe waste much be allow'd in that, Indeed I think they make as fine a Coullour as their bowdies are in London.

With the new century, ten bridges were still being rented, but by the early 1720s the City's record-keeping declined drastically, and remained poor for some 30 years until the appointment of the polymath John Richards as surveyor. His Chamber Map Book of 1756 again showed ten bridges of varying lengths and breadths (ECA 58, map 3, Nos 36–45). Later that century, printed material becomes commoner. A broadsheet listing the voters at the 1776 election named 12 dyers, although it is not clear that they were all employers and not employees (Devon Library Services, 1991, n.p.] A trade directory of 1789 named nine dyers, only one of whom lived in Frog Lane. Five were said to be in Exe Island, an area of uncertain extent, but as there was no mention of Tudor Street it was presumably included. This was the era of rapid industrial decline, caused both by the loss of markets during the wars and the growth of the woollen trade in Yorkshire. The Exeter paper had advertised the sale of seven dye-houses between 1776 and 1794. However, the trade did survive for a few more decades. When John Bennett's premises were advertised in 1817, his stock included an eight horse-power steam engine and bar wood, from equatorial West Africa (*EFP* 27.3.1817 4d). The particularly detailed valuation of 1838 indicated two dye-houses, still present at the rear of Tudor Street properties and a third, adjacent to Rosemary Lane, which must have been on the Lower Leat (pp. 23–4).

APPENDIX C: POTTERY AND MIXED FINDS

Pottery by Pete Banks

Introduction and Methodology

A small pottery assemblage of 115 sherds (3651g) was recovered from 12 deposits. The condition of the pottery is moderately good; the majority of fractures and surfaces are not heavily abraded. The mean sherd weight for the assemblage is 31.7g, and the EVE value is 2.32.

The pottery assemblage has been recorded in full, in accordance with the Historic England guidelines (Barclay *et.al.* 2016). Recording of the pottery assemblage was direct to an Access database. The Fabric codes used for recording are defined below. A concordance with the Exeter type-series (Allan 1984) has been provided, where possible. The pottery was examined by context, using a x40 hand lens, and quantified according to sherd count and weight by period date (Table 5). Vessel forms, profiles and rim morphology were recorded, as was sherd thickness, rim diameter, the style and location of decoration/surface treatment and rim EVEs (estimated vessel equivalents).

Medieval

A total of 43 sherds (427g) of pottery can be dated to the medieval period. The majority of these comprise handmade coarsewares. MED1, a coarse sandy fabric with inclusions of limestone, mostly probably dates to between the 10th and 12th centuries. A cooking pot, made in fabric MED1, from layer 2014, exhibits similarities with a vessel recovered from excavations in Exeter dating to between the late 10th and 11th centuries (Allan 1984, 47, fig.13, no. 150). Another cooking pot, from layer 2015, decorated with incised wavy line on the exterior and interior of the rim, has parallels with a similar undecorated example dating to between the 11th and 12th centuries recorded from Goldsmith Street, Exeter (Allan 1984, 48, fig.14, no. 212). The remaining coarseware fabrics are slightly later in date, probably dating to between the 12th and 14th centuries. Layer 2028 produced a cooking pot rim made in fabric MED4, a coarse sandy fabric with inclusions of rock fragments. A comparative vessel from Goldsmith Street has been dated to the 12th century (Allan 1984, 49, fig.15, no. 292). A small sherd from a possible jug with a double-beaded rim, is recorded from the fill of robber cut 2032. The vessel is made in fabric MED2, a soft sandy fabric with clay pellet, mudstone and rocky inclusions, with a green exterior glaze. A similar vessel dating to the mid-late 13th century is known from Polsloe Priory, Exeter (Allan 1984, 68, fig.30, no. 853).

Late medieval and transitional post-medieval

Fine sandy fabrics MED5-8, are wheel thrown and most probably date to the between the 14th and 16th centuries. One sherd, from layer 2028 and made in a fine sandy matrix with rare brown mudstone inclusions, MED7, is decorated with a green glaze and a horizontal band of stabbed decoration. Similar examples from Queen Street, Exeter, date to the early 15th century (Allan 1984, 92, fig.48, no.1517). Layer 2049 produced one plain body sherd of Midlands Purple ware (MIDP). This fabric dates to between the 14th and 16th centuries. Layer 2000 produced a small Beauvais ware (BEAU2) cup, with a square rim. This material was imported from northern France between the late 15th to 16th centuries. One plain body sherd of Beauvais ware (BEAU2) is also recorded from layer 203. The origin of the remainder of the late-medieval material is not known, although it is likely to have been produced locally and comprises undecorated body sherds.

Post-medieval

A total of 72 sherds (3224g) of pottery can be dated to the post-medieval period. The most frequently recorded post medieval material are earthenwares, both glazed and unglazed, produced in South Somerset (GSSEW/SSEW). Production of this material dates to between the 16th and 18th centuries. A near-complete money box with yellow under-slip decoration, made in fabric GSSEW, is recorded from layer 2000. A near-identical vessel, found at

Goldsmith Street, Exeter, dates to the early 16th century (Allan 1984, 163, fig.77, 1783). Dish and bowl forms are also recorded in South Somerset fabrics. A shallow bowl with a plain rim, a brown glaze and a yellow under-slip is also recorded from layer 2000. The decoration is badly abraded, although similar examples of this type of vessel from Exeter are dated to the 17th century (Allan 1984, 151, fig.65, no.3). Layer 2000 also produced four sherds of tin-glazed earthenware (TGE), dating to between the 16th and 18th centuries. The sherds are from a vessel decorated with a painted blue floral design. Five plain base-sherds of glazed red earthenwares (GRE), dating to between the 16th and 18th centuries, are recorded from layer 2000 and demolition backfill 2055. Pottery produced in the region of North Devon, dating to between the late-16th and 18th centuries, accounts for 11 sherds of the assemblage. A jug with an expanded rim and an interior coating of a thick green glaze is recorded from layer 2000. A plain rim jug with an internal yellow glaze, made in North Devon gravel ware (NDG), is recorded from the same feature. A similar vessel recorded from Exeter is dated to between the late 16th and 18th centuries (Allan 1984, 149, fig.63, no.2C). A large bowl with a hooked flange rim, and an internal green glaze (NDG), is also recorded from layer 2000. Again, similar examples dating to between the late 16th and 18th centuries are recorded from Exeter (Allan 1984, 149, fig.63, no. 3G). A sherd of German stoneware (GSW), most probably dating to between the 17th and 19th centuries, is recorded from demolition backfill 2055. A sherd of Westerwald stoneware (GSW5), decorated with brown incised horizontal banding, is recorded from layer 2000. Westerwald stoneware dates from between the early 17th and 19th centuries. A Bristol moulded slip ware (BMSW) dish, with a crimped rim decorated with a brown glaze and yellow under-slip design, dating to the 17th and 19th centuries, is also recorded from layer 2000. A number of Creamwares (CRW), most probably produced in the Bristol region, are derived from layer 2000. Two plates with moulded floral-decorated rims, a plain-rim bowl and a teacup with a blue floral decoration can all be dated to between the early 18th and 20th centuries. A plain-rim porcelain teacup (PORC) also dates to the same period, and a porcelain base-sherd, decorated with a blue rural design and recorded from layer 2000, may be a Chinese import.

Table 5: Pottery summary quantification

Period	Fabric Description	Fabric Code	Exeter Concordance*	Date-Range	Count	Weight (g)
medieval	Coarse quartz and limestone. Black-brown. Unglazed. Hard fired. Handmade.	MED1	Fabric 22	C10-C12	16	112
	Coarse quartz, brown mudstone, rock frags and clay pellets. Pink. Green/brown glaze. Soft crumbly fabric. Handmade.	MED2		C12-C14	3	13
	Coarse quartz and brown mudstone. Grey. Green glaze. Handmade.	MED3		C12-C14	1	4

	Coarse quartz and rock fragments. Orange-pink/buff. Hard fired. Unglazed.	MED4		C12-C14	8	76
Late medieval	Fine sandy matrix w/ gold mica and rare clay pellets. Buff-pink w/ grey core. Patchy green glaze. Handmade	MED5	Fabric 106	C14-C16	2	35
	Fine sandy matrix w/ rare clay pellets and rock frags. Grey/pink-orange. Green glaze. Hard fired. Wheel thrown	MED6		C14-C16	5	124
	Fine matrix with quartz and brown mudstone. Pink-orange w/ grey/pink core. Green glaze. Hard fired. Wheel thrown	MED7		C14-C16	4	20
	Quartz. Grey. Yellow glaze. Hard fired. Wheel thrown	MED8	Fabric 44	C14-C16	1	5
	Midlands Purple Ware	MIDP		C14-C16	1	9
	Beauvais ware	BEAU2		LC15-C16	2	29
				C16-C18	4	119
post-medieval	Tin glazed earthenware	TGE		C16-C18	4	119
	Glazed red earthenware	GRE		C16-C18	5	971
	Glazed South Somerset earthenware	GSSEW		C16-C18	21	1076
	South Somerset earthenware	SSEW		C16-C18	1	9
	North Devon gravel ware	NDG		LC16-C18	4	298
	North Devon gravel free ware	NDGF		LC16-C18	7	255
	Westerwald Stoneware	GSW5		EC17-C19	1	15
	German Stoneware	GSW3		C17-C19	1	35
	English Stoneware	ESW		C17-C19	2	10
	Bristol moulded slip ware	BMSW		C17-C19	2	127
	Creamware	CRW		EC18-C20	20	171
	Porcelain	PORC		C18-C20	4	138
Grand Total					115	3651

* Exeter type-series codes (Allan J.P. 1984)

C = century

Discussion

The majority of the Frog Street finds assemblage was recorded from levelling deposits, which limit the ability of the ceramic material to date the site. In particular the majority of the post-medieval pottery is derived from a layer of modern overburden; layer 2000. A small number of deposits, such as pit fill 305, can be used to date the site with more certainty. The ceramic evidence suggests that activity at the site took place during the medieval and post-medieval periods. The majority of the medieval wares have most probably been produced locally, although the sherd of Midlands Purple ware and the two Beauvais ware sherds hint at Exeter's wider regional and international trading links during the medieval period, and later. The medieval jugs and cooking pots recorded suggest that low-status domestic activity was taking place in the proximity of the site. During the post-medieval period, Exeter's regional trading links become more prominent, with wares from Bristol, North Devon and South Somerset dominating the assemblage. The importance of Exeter as a port is

illustrated by a small number of imported wares from continental Europe and China. The presence of fine table creamwares and porcelains also suggests a rise in status of the area from the medieval period. Although the material indicates the importance of Exeter as a port during the medieval and post-medieval periods, the majority only represents unstratified debris from the local vicinity.

APPENDIX D: MIXED FINDS

Mixed Finds by Pete Banks

Ceramic Building Material

A total of 26 fragments (2133g) of ceramic building material (CBM) was recorded from 13 deposits. The fabrics are described in Table 6, below. The majority of the material by fragment count can be dated to the medieval period, however, the fabrics are soft and most fragments are heavily abraded. Ridge tiles (RID), flanged tiles (FLT), roof tiles (RT) and floor tiles (FT) are all produced in medieval fabrics. The quantification of the ceramic building material by form is provided in Table 7. Two crested roof tiles are recorded from robber cut 2033 and layer 2060. Similar examples of crested roof tile are recorded from excavations at Exeter (Allan 1984, 230, fig.134, no. 2956-8). A painted medieval floor tile, from layer 2049, is comparable with similar decorated examples found at Exeter (Allan 1984, 237, fig.138, no.12). The post-medieval ceramic building materials, although fewer in number, are better preserved, and therefore make up the majority of the assemblage by weight. Demolition backfill 2055 produced two post-medieval pan tiles (PAN) and a tapered roof tile (RT). A post-medieval glazed floor tile (GFT), decorated with a floral yellow under-slip design, is recorded from layer 2000. One fragment of modern floor tile made in refined white fabric (refw), and decorated with a printed floral design, was also recorded from layer 2000.

Table 6: Ceramic building material by fabric

Period	Fabric Description	Fabric Codes	Count	Weight (g)
Medieval	Fine sandy	fs	1	70
	Coarse sandy and rock fragments	csr	13	464
	Coarse sandy mixture and rock fragments	csrx	1	73
Post-Medieval	Coarse sandy	cs	1	1
	Coarse sandy and calcareous inclusions	csc	3	410
	Coarse sandy and rock fragments	csr	2	209
	Fine sandy and calcareous inclusions	fsc	3	251
	Fine sandy and ferrous inclusions	fsfe	1	618
Modern	Refined white	refw	1	37
Grand Total			26	2133

Table 7: Ceramic building material by form

Period	Form Description	Form Code	Count	Weight (g)
Medieval	Flange Tile	FLT	1	108
	Floor Tile	FT	2	118
	Ridge Tile	RID	3	181
	Roof Tile	RT	8	183
	Unknown	UN	1	17
Post-Medieval	Curve Tile	CT	2	209
	Floor Tile	FT	2	37
	Pan Tile	PAN	4	1028
	Roof Tile	RT	1	214
	Unknown	UN	1	1
Modern	Floor Tile	FT	1	37
Grand Total			26	2133

Glass

Two fragments (16g) of transparent window glass were recorded from demolition layer 2031. The glass can be dated to the post-medieval period. No further meaningful discussion can be provided for this material.

Clay Tobacco Pipe

Ten stem fragments (30g) of post-medieval clay tobacco pipe were recorded from layer deposits 1001, 2000 and 2049. No further meaningful discussion can be provided for this material.

APPENDIX E: WORKED STONE

Worked Stone *by* Ruth Shaffrey

A total of three items of stone were assessed. These were examined with the aid of a x10 magnification hand lens, and fully recorded. Details of both items can be found in a Microsoft Excel spreadsheet in the archive.

One of the items is a burnt, but unworked, piece of Permian breccia (2040). As it has not been humanly modified, it can now be discarded.

Demolition backfill 2055 produced two fragments (279g) of post-medieval slate roof tile. The largest of these retained a square hole, of 19mm width. Its function is not certain, although

the hole suggests a fragment of roof slate, with the hole for a wooden peg (rather than the typical nail).

APPENDIX F: INDUSTRIAL RESIDUES

Industrial residues by David Dungworth

Methods

All of the material submitted for assessment was examined visually, and recorded, following standard guidance (Historic England 2015c). The categories of material identified include the following:

Non-diagnostic ironworking slag (ndfe)	Most ironworking slag assemblages include a significant proportion of slag which lacks a diagnostic surface morphology that would allow the identification of the process(es) which produced them. In many cases, this is simply because the lumps of slag are small fragments of a larger whole; however, in some cases the lumps of slag are essentially complete but amorphous (cf Historic England 2015c, Figure 18).
Heat-magnetised residues (hmr)	Heat-magnetised residues are fine, granular materials which tend to be orange-brown in colour. These residues are commonly recovered from the heavy fraction of environmental soil samples using a magnet. The careful visual examination of such residues shows that they are not metallurgical. While a variety of circumstances can be imagined to interpret the formation of this material, the simplest explanation is the accidental heating (and magnetisation) of soil. It is likely that this material could be formed whenever a fire is made at ground level.
Coal	Naturally occurring carbon-rich material used as a fuel since Roman times.
Clinker	The combustion of coal usually leave ash; however, if the temperature is sufficiently high (this will depend largely on the chemical composition of the ash) then the ash can vitrify (Historic England 2015c, Figure 55)

Results

The material recovered from the Frog Street site comprises residues taken from several environmental soil samples, with a few bulk recorded slags (Table 8). These residues (especially the finer fractions) are dark-coloured, due to the presence of a large proportion of unburnt coal. Clinker is abundant in these residues, and takes on a variety of forms, including tiny spheres, threads and (larger) amorphous lumps. The non-diagnostic ironworking slag could have been produced by smelting or smithing; however, the absence of any diagnostic iron smelting slags suggests that the non-diagnostic ironworking slags were probably produced by smithing. It is also possible that the non-diagnostic ironworking

slag is simply iron-rich clinker (the iron content of coal is rather variable). The clinker shows that coal was burnt and that this took place at high temperatures. An accurate estimate of the temperature would require chemical analysis, but it is likely to have been close to 1000°C. The clinker might have formed during the use of coal in a blacksmith's fire; however, it is not certainly connected to any particular metalworking process. The absence of hammerscale in the finer fractions of residues from environmental soil samples suggests that blacksmithing did not take place.

Table 8: Summary of industrial residues from Frog Street

Context	Description	Weight (g)
2018	Residues from environmental soil sample. Contains clinker, coal, stones and hmr.	6566
2019	Residues from environmental soil sample. Contains clinker, coal, stones and hmr.	5219
2040	Non-diagnostic ironworking slag	74
2044	Residues from environmental soil sample. Contains clinker, coal, stones and hmr.	4320
2045	Residues from environmental soil sample. Contains clinker, coal, stones and hmr.	433
4063	hmr	0.2
4075	hmr	0.6
		16612.8

Conclusions

The material recovered from Frog Street indicates the sustained combustion of coal in a fire which was sufficiently hot to ensure that at least some of the ash vitrified (1000°C), however, it is unlikely that this was connected to any metalworking activity. The assemblage of industrial residues is relatively small, and is unlikely to provide further significant information.

APPENDIX G: ANIMAL BONE

Animal Bone by Andy Clarke

Animal bone amounting to 35 fragments (558g) was recovered from seven archaeological layers, in association with artefactual material dating from the medieval to the post-medieval/Early Modern periods (See Table 5, Appendix C). The material was highly fragmented and poorly preserved, although it was possible to identify the remains of cattle (*Bos taurus*), and sheep/goat (*Ovis aries/Capra hircus*). The animal bone is summarised in Table 9, below

Medieval

Ten fragments (150g) were recovered from layers 2014, 2015 and 2028. Cattle and sheep/goat were both identified from partial mandibles and metapodial shafts, none of which displayed any cut-marks or impact damage which suggested an origin in butchery waste.

Post-medieval/Early Modern

Three bone fragments (63g) were recovered from layers 2049 and 2050. Cattle were identified from an isolated incisor and a partial metapodial.

Results

The low recovery of identifiable remains, coupled with the absence of butchery marks severely limits the amount of useful interpretative information to be gained from this assemblage. However, both species are represented by skeletal elements frequently encountered in the waste from primary butchery, and as common domestic species their presence is to be expected.

Modern/undated

A total of 14 (345g) fragments were recovered from layers 302 and 2000. Once again cattle and sheep/goat were identified from mainly meat-poor bones which displayed no evidence of butchery practice.

Table 9: Identified animal species by fragment count (NISP) and weight and context.

Fill	BOS	O/C	LM	MM	Total	Weight (g)
Medieval						
2014	1			2	3	21
2015			2		3	41
2028	2		5	1	2	10
Subtotal	3		7	1	7	18
Post-medieval/Victorian						
2049	1			1	2	18
2050	1				1	45
Subtotal	2			1	3	63
Modern/undated						
302				1	4	5
2000	5		1	3		9
Subtotal	5		1	4	4	14
Total	10		8	5	12	35
Weight	336		78	83	61	558

BOS = Cattle; O/C = sheep/goat; LM = cattle size mammal; MM = medium sized mammal

APPENDIX H: PALAEOENVIRONMENTAL EVIDENCE

Palaeoenvironmental Evidence by Sarah Wyles

A series of six environmental samples (45 litres of soil) were processed from four deposits within a post-medieval furnace, with the intention of recovering environmental evidence to assist with determining the industrial activity for which this furnace was used. The samples were processed by standard flotation procedures (CA Technical Manual No. 2).

The flots were generally large, with little rooty material and uncharred seeds. No charred plant remains were observed within these samples. A few fragments of charcoal greater than 2mm in size were recorded in all four sampled deposits. These remains included roundwood and twigwood fragments. Large quantities of coal fragments and some industrial waste fragments were recovered in these samples, in particular from context 2045. This industrial waste material may well be from the burning of coal (Table 10).

There is no indication from these samples of the likely function of this furnace, and the results support the evidence from the industrial residues (Appendix F), and other related finds reports from this site.

Table 10: Assessment table of the palaeoenvironmental remains

Feature	Context	Sample	Vol (L)	Flot size (ml)	Roots %	Grain	Chaff	Charred Other	Charcoal > 4/2mm	Other
Post- medieval furnace										
2005	2019	2A	8	250	<1	-	-	-	*/*	Coal + Industrial waste
2005	2019	2D	8	125	<1	-	-	-	-	Coal + Industrial waste
2005	2045	3	8	4000	<1	-	-	-	-/*	Coal + Industrial waste
2007	2018	1A	7	350	<1	-	-	-	*/*	Coal + Industrial waste
2007	2018	1D	5	250	<1	-	-	-	-	Coal + Industrial waste
2038	2044	4	9	80	<1	-	-	-	-/*	Coal + Industrial waste

Key: * = 1–4 items; ** = 5–19 items; *** = 20–49 items; **** = 50–99 items; ***** = >100 items

APPENDIX I: OASIS REPORT FORM

PROJECT DETAILS	
Project Name	Frog Street
Short description	Excavation Area A targeted the area surrounding the furnaces, and exposed one medieval wall and a number of medieval deposits.

	<p>The medieval features may relate to a series of tenements suggested by historical cartographic and documentary sources. The remains of five post-medieval walls had been disturbed or truncated by later robbing and industrial activity. Stratigraphic relationships suggested a number of sub-phases of construction and modification during this period, and two distinct phases of industrial activity of post-medieval date were identified. The first was represented by the remains of a single furnace, which was sealed by later post-medieval demolition deposits and made ground. A later post-medieval phase, dating possibly as late as the early nineteenth century, comprised the remains of two brick-built furnaces and an ancillary building and surfaces, all of which were sealed by modern overburden.</p> <p>The specific industrial activity undertaken on the site could not be confirmed by archaeological evidence, although documentary and cartographic research has emphasised the significance of cloth-working and dyeing in this part of Exeter during the post-medieval period. A number of eighteenth and nineteenth-century occupants of Frog Street properties have been identified, and their involvement with dyeing and cloth-working activities confirmed.</p>	
Project dates		
Project type	Watching Brief, Evaluation and Excavation	
Previous work	AC Archaeology 2016 Radmore and Tucker Site, Frog Street, Exeter: Archaeological assessment of potential survival and impact AC Archaeology Document No: ACD1208/1/3	
Future work	Unknown	
PROJECT LOCATION		
Site Location	Exeter, Devon	
Study area (M ² /ha)	90m ²	
Site co-ordinates	291690 092240	
PROJECT CREATORS		
Name of organisation	Cotswold Archaeology	
Project Brief originator	Andrew Pye	
Project Design (WSI) originator	Cotswold Archaeology	
Project Manager	Derek Evans	
Project Supervisor	Jerry Austin	
MONUMENT TYPE		
None		
SIGNIFICANT FINDS		
None		
PROJECT ARCHIVES		
	Intended final location of archive	Content (e.g. pottery, animal bone etc)
Physical	Royal Albert Memorial Museum	ceramics, animal bone etc
Paper	Royal Albert Memorial Museum	Context sheets, matrices
Digital	Royal Albert Memorial Museum	Database, digital photos
BIBLIOGRAPHY		
CA (Cotswold Archaeology) 2019 <i>Frog, Street, Exeter, Devon Post-Excavation Assessment and Updated Project Design</i>		



● Site



0 1km

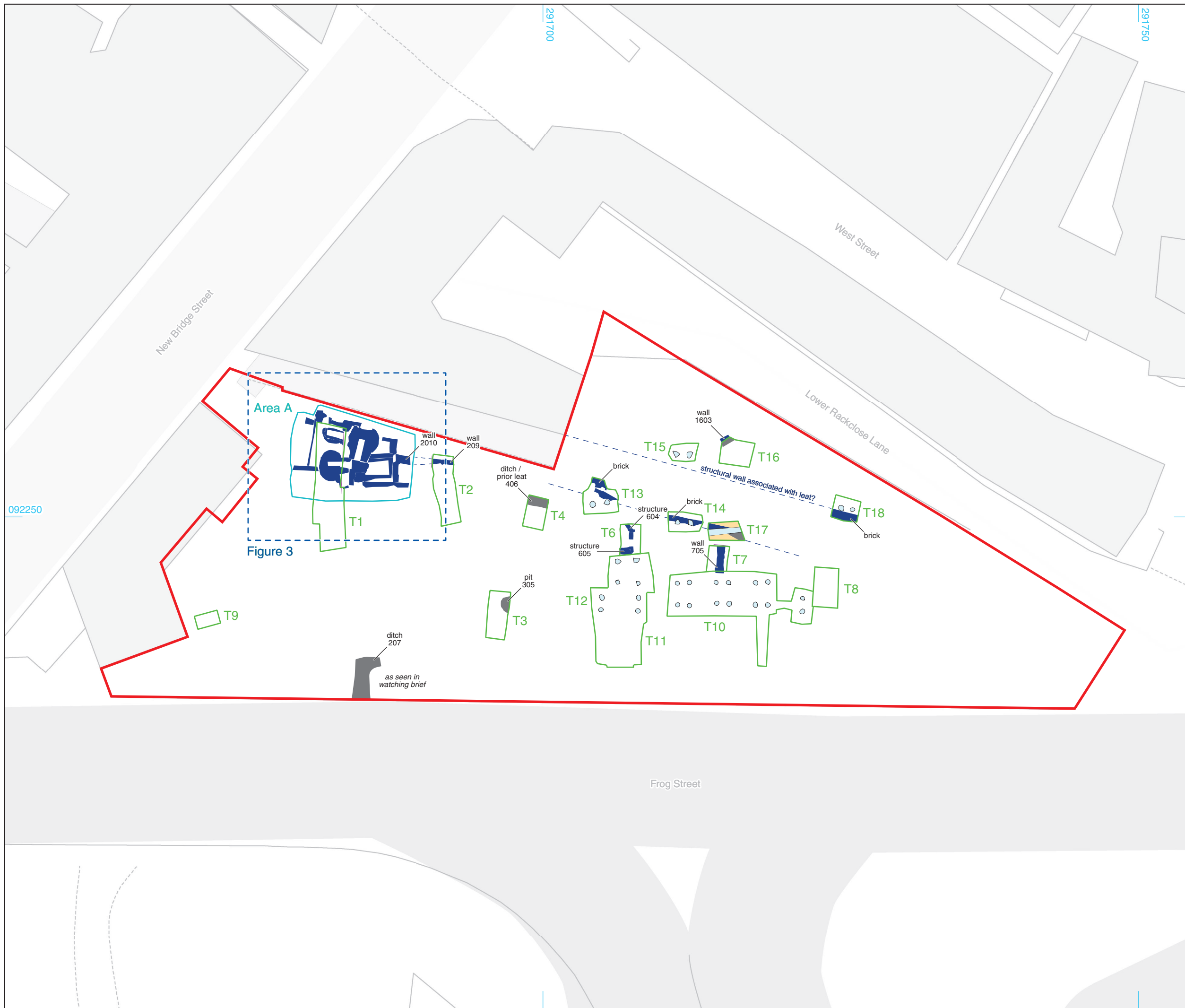


Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

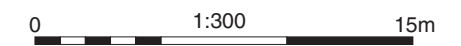
PROJECT TITLE
 Frog Street, Exeter, Devon

FIGURE TITLE
 Site location plan

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	
APPROVED BY	JC	SCALE@A4	1:25,000	1



- Site boundary
- Evaluation trench
- Excavation area
- Cut feature
- Structural feature
- Projected feature
- Modern feature
- Deposit



© Crown copyright and database rights 2019 Ordnance Survey 0100031673

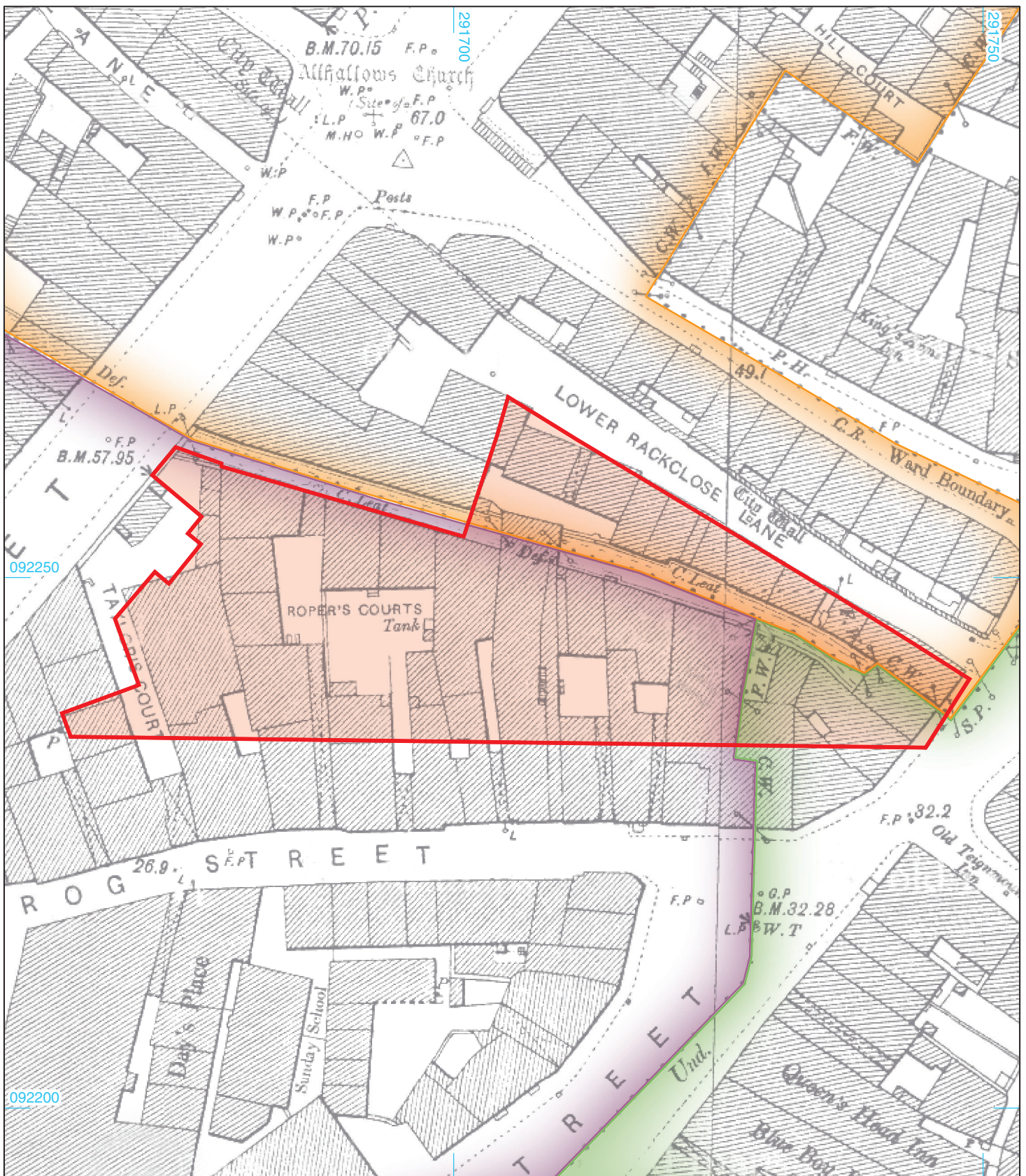
Cotswold Archaeology

Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
 www.cotswoldarchaeology.co.uk
 enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Frog Street, Exeter, Devon

FIGURE TITLE
Plan of site, with locations of evaluation trenches and Excavation Area A

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	2
APPROVED BY	JC	SCALE@A3	1:300	



- Site boundary
- Parish of Allhallows-On-The-Walls
- Parish of St Edmund
- Parish of St Mary Steps



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
 Frog Street, Exeter, Devon

FIGURE TITLE
 Site and parish boundaries overlain
 onto 1891 Ordnance Survey map

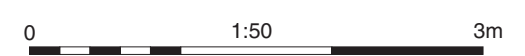
DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	
APPROVED BY	JC	SCALE@A4	1:500	3

0 1:500 25m

Map courtesy of the Devon & Exeter Institution



- Site boundary
- Trenching
- Wall face
- Cut line
- Deposit line
- Structural feature
- Surface feature
- Period 1: Medieval deposit
- Period 1: Medieval structural feature
- Modern feature
- Level (AOD)
- Section line



© Crown copyright and database rights 2019 Ordnance Survey 0100031673

Andover 01264 347630
Cirencester 01285 771022
Exeter 01392 573970
Milton Keynes 01908 564660
Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Frog Street, Exeter, Devon

FIGURE TITLE
Area A: plan of excavated features

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	4
APPROVED BY	JC	SCALE@A3	1:50	

092250



Area 1, north-west corner of site, plan view looking west (1m scales)



Furnaces 2005-2007 (top and centre), and coal-burner 2038 (bottom), looking north-west (1m scale)



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
 www.cotswoldarchaeology.co.uk
 enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

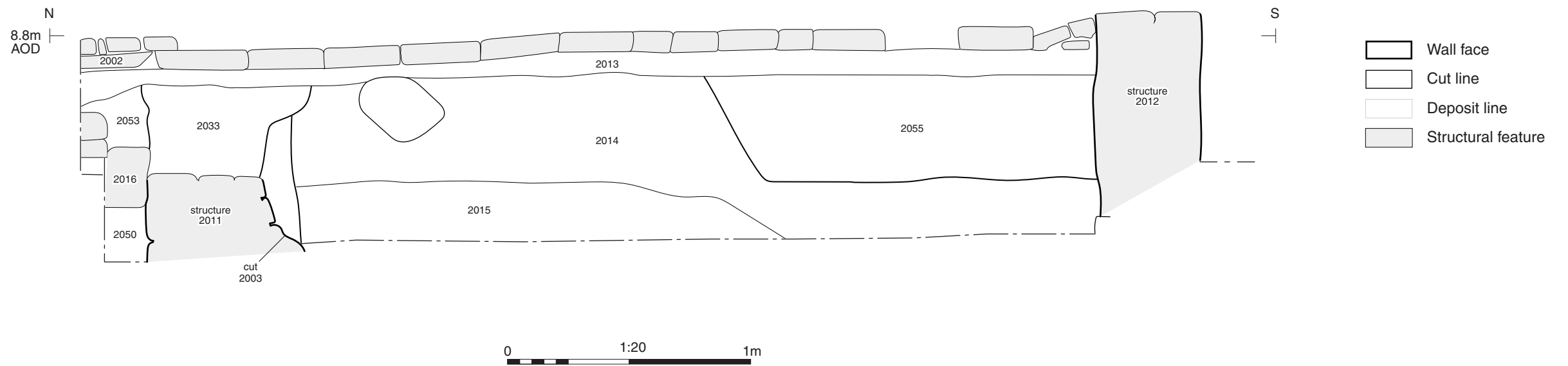
Frog Street, Exeter, Devon

FIGURE TITLE

Area A: photographs of excavated features

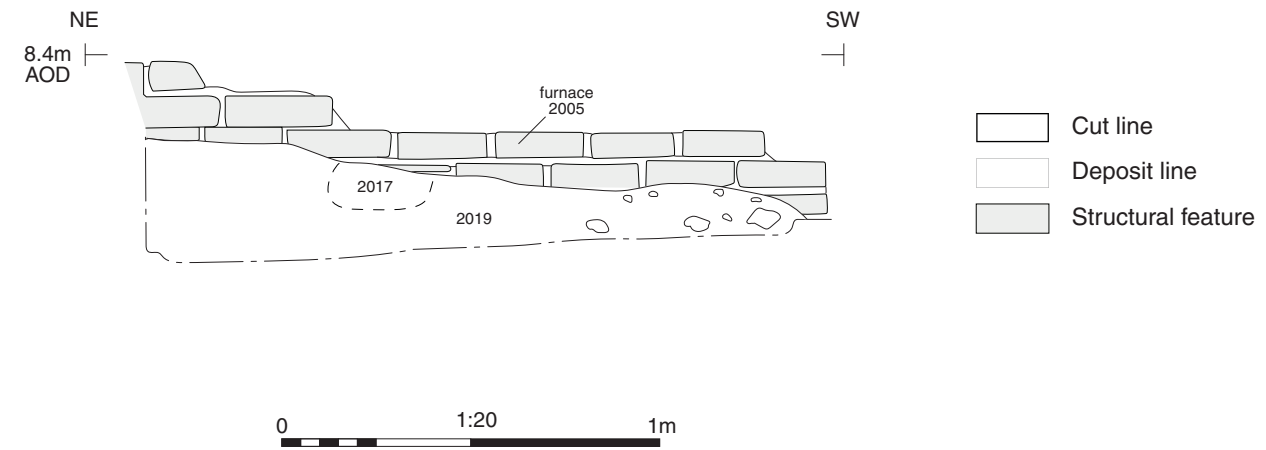
DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	5
APPROVED BY	JC	SCALE@A4	N/A	

Section AA



Sondage at west edge of excavation area, looking east (1m scale)

Section BB



Furnace 2005, looking north (0.5m scale)



Furnace 2006, looking west (0.5m scale)


Cotswold Archaeology
 Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
 www.cotswoldarchaeology.co.uk
 enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
 Frog Street, Exeter, Devon

FIGURE TITLE
Furnaces 2005 and 2006: section and photographs

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	7
APPROVED BY	JC	SCALE@A3	1:20	



Furnace 2007, looking west (0.5m scale)



Andover 01264 347630
Cirencester 01285 771022
Exeter 01392 573970
Milton Keynes 01908 564660
Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

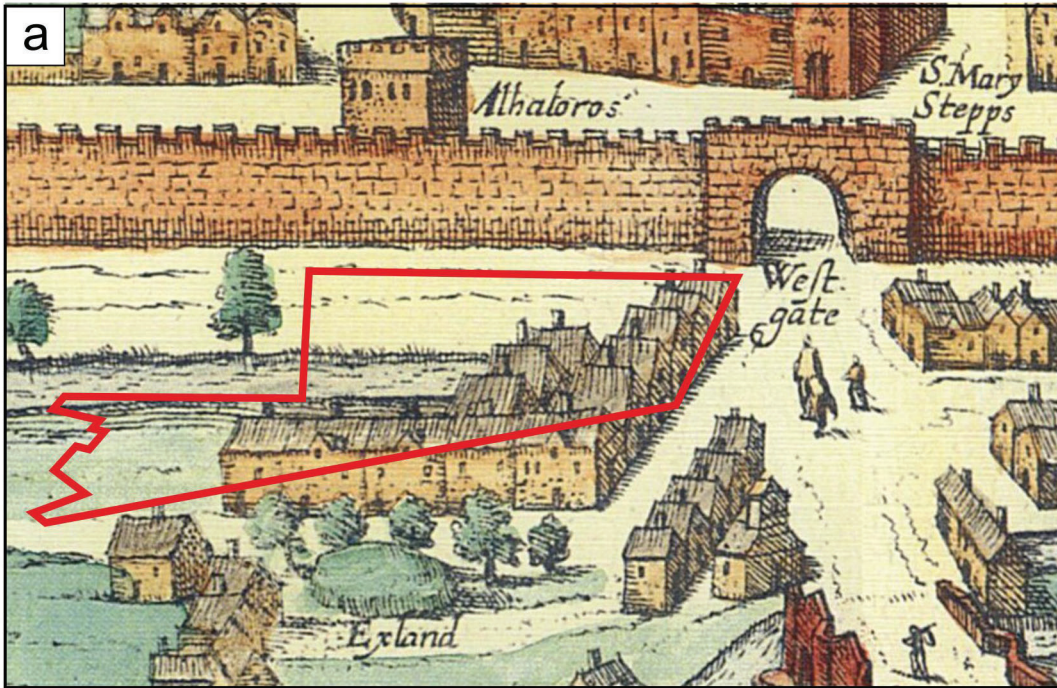
PROJECT TITLE

Frog Street, Exeter, Devon

FIGURE TITLE

Furnace 2007: photograph

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	8
APPROVED BY	JC	SCALE@A4	NA	



Extract from Braun and Hogenburg's view of Exeter, published 1618 (courtesy of the Devon Heritage Centre)



Extract from Sherwood's view of Exeter, circa 1638 (courtesy of the Devon Heritage Centre)



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

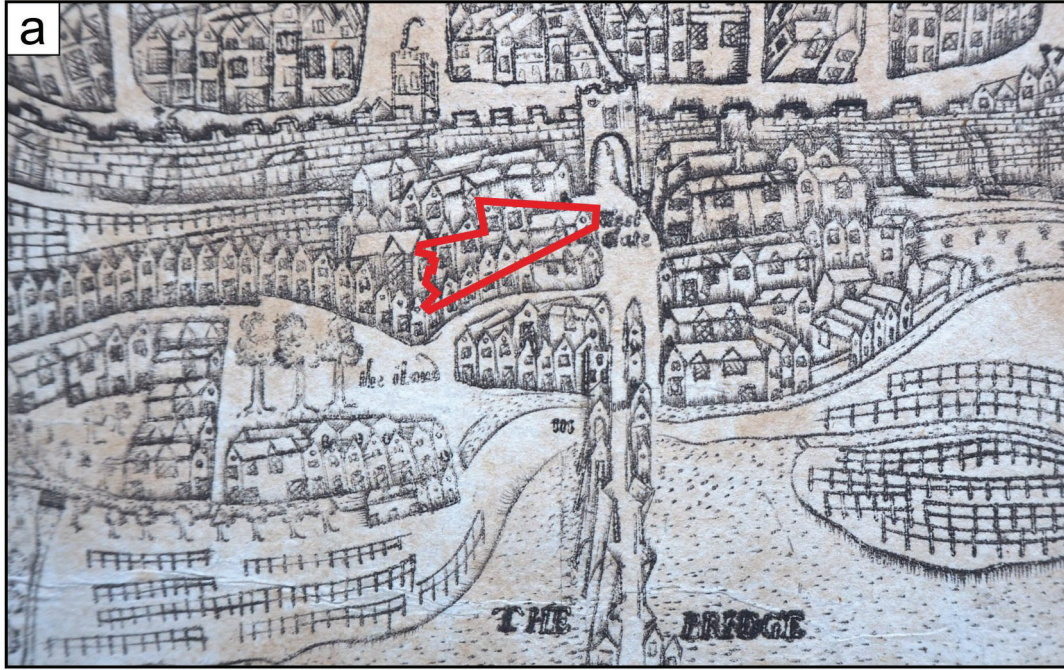
PROJECT TITLE

Frog Street, Exeter, Devon

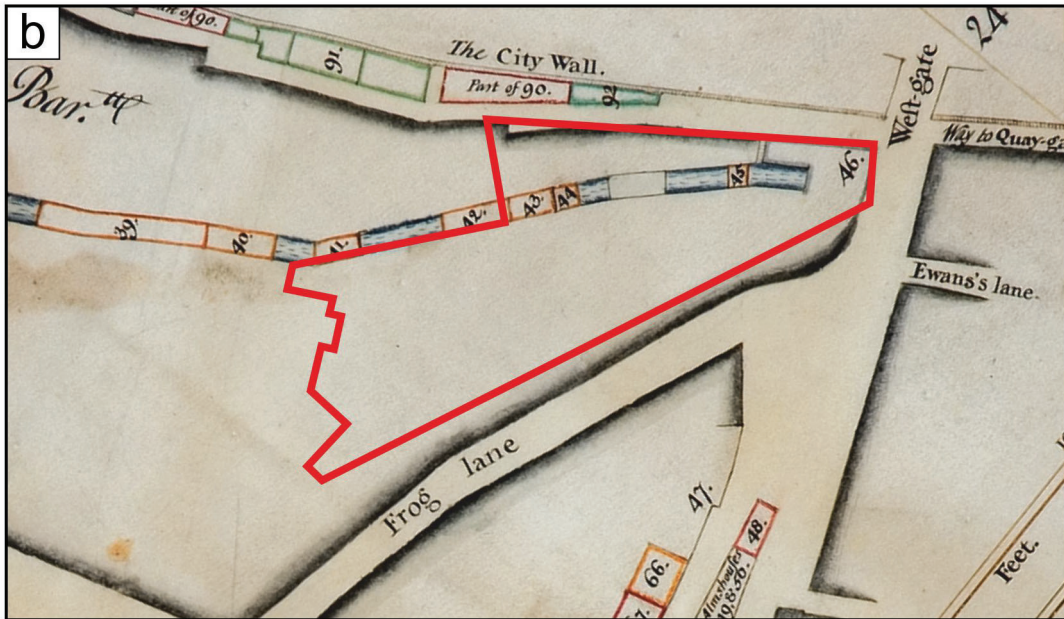
FIGURE TITLE

Cartographic evidence of 1618 (a) and 1638 (b)

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	
APPROVED BY	JC	SCALE@A4	NA	9



Extract from Birchynshaw map of 1743 (courtesy of Dr Todd Gray)



Extract from the Mapp Book of the Chamber of the City (courtesy of the Devon Heritage Centre)



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

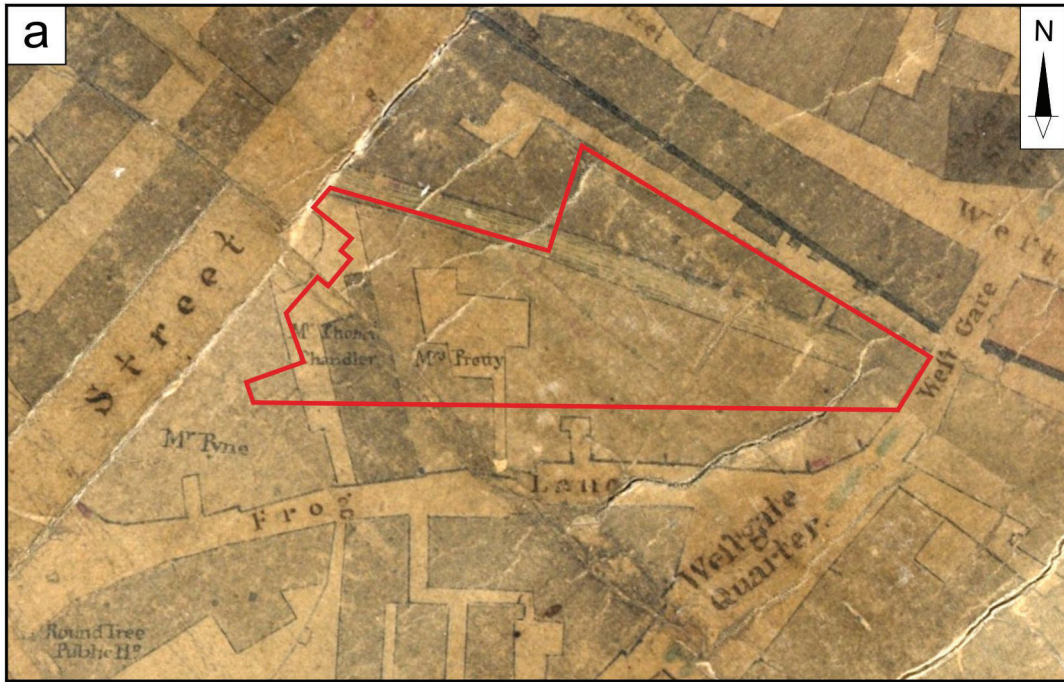
PROJECT TITLE

Frog Street, Exeter, Devon

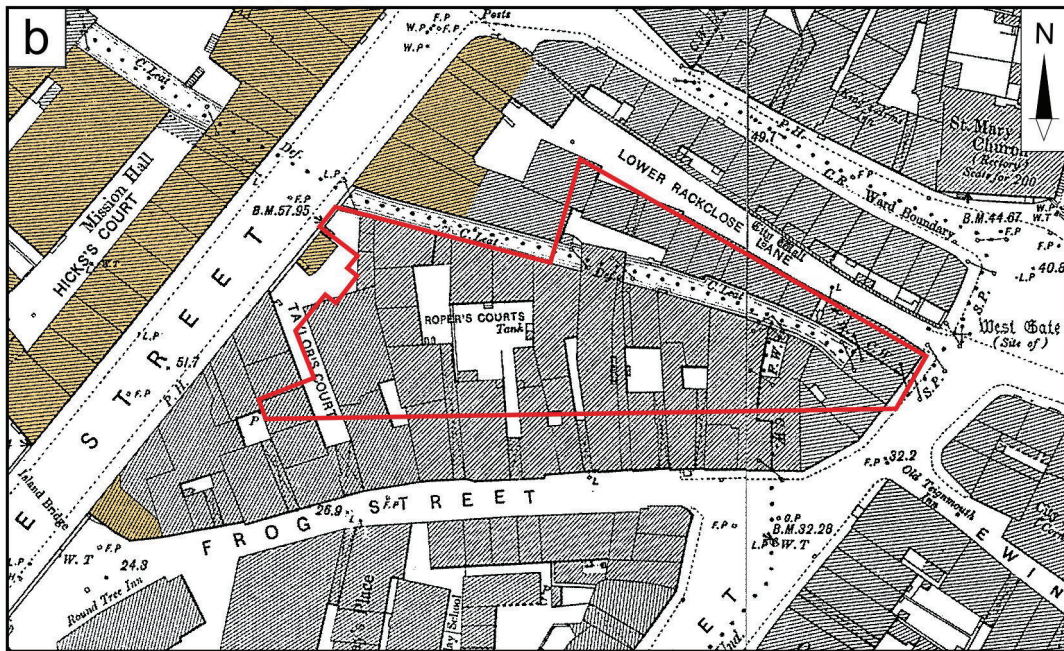
FIGURE TITLE

Cartographic evidence of 1743 (a) and 1758 (b)

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	10
APPROVED BY	JC	SCALE@A4	NA	



Extract from Coldridge's map of 1819 (courtesy of the Devon Heritage Centre)



Extract from the 1891 Ordnance Survey, with Lower Bridge Street highlighted yellow (courtesy of the Devon & Exeter Institution)



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

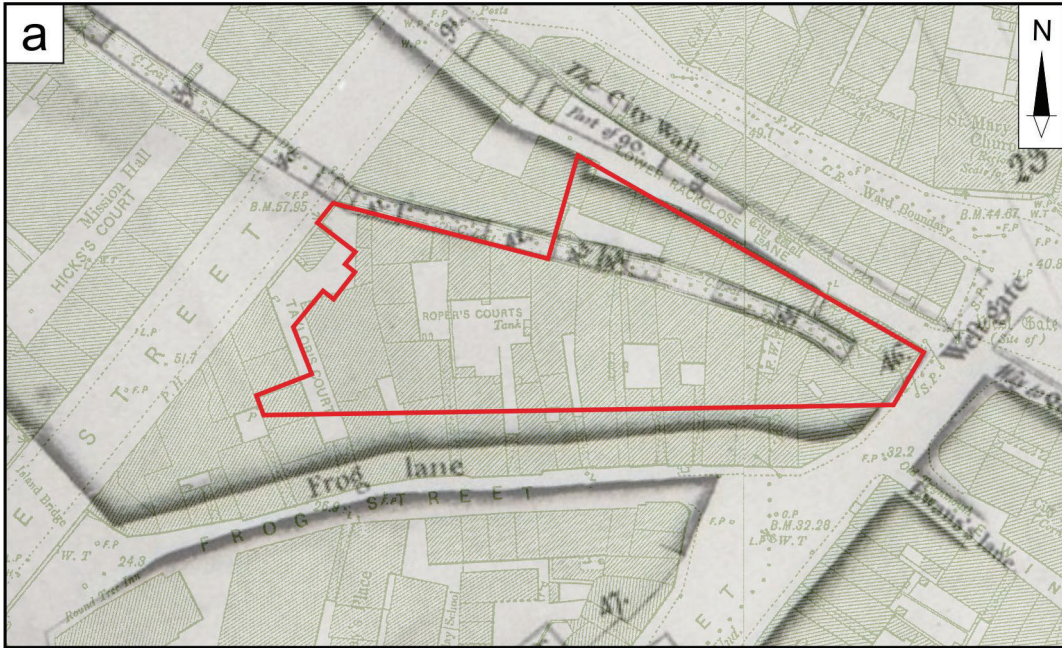
PROJECT TITLE

Frog Street, Exeter, Devon

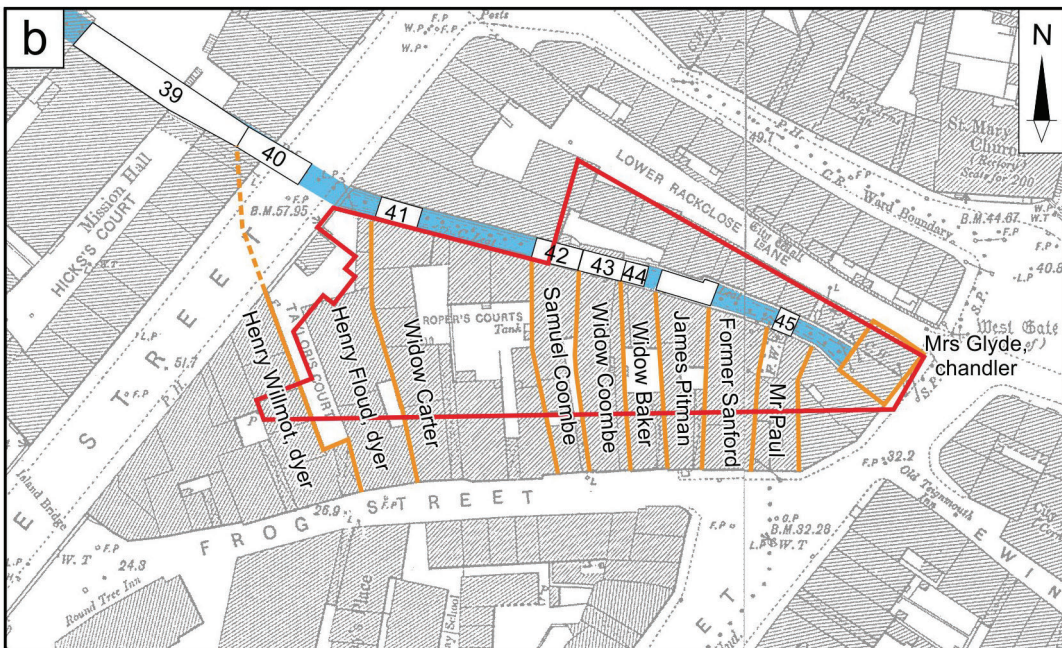
FIGURE TITLE

Cartographic evidence of 1819 (a) and 1891 (b)

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	11
APPROVED BY	JC	SCALE	A4 NA	



Extract from the Map Book of the Chamber and the OS 1891 map superimposed (source: xxx)



Suggested positions of owners and occupiers of the site in 1758 (courtesy of xxx)

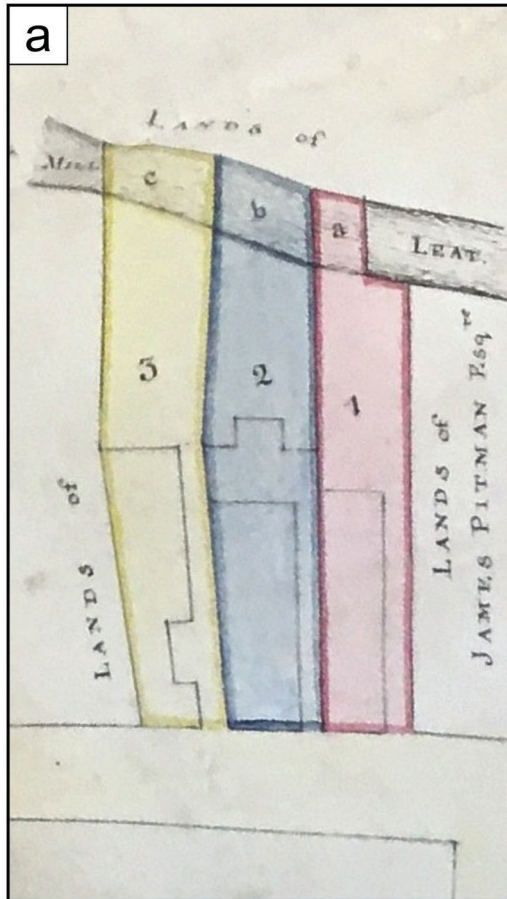


Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
 enquiries@cotswoldarchaeology.co.uk

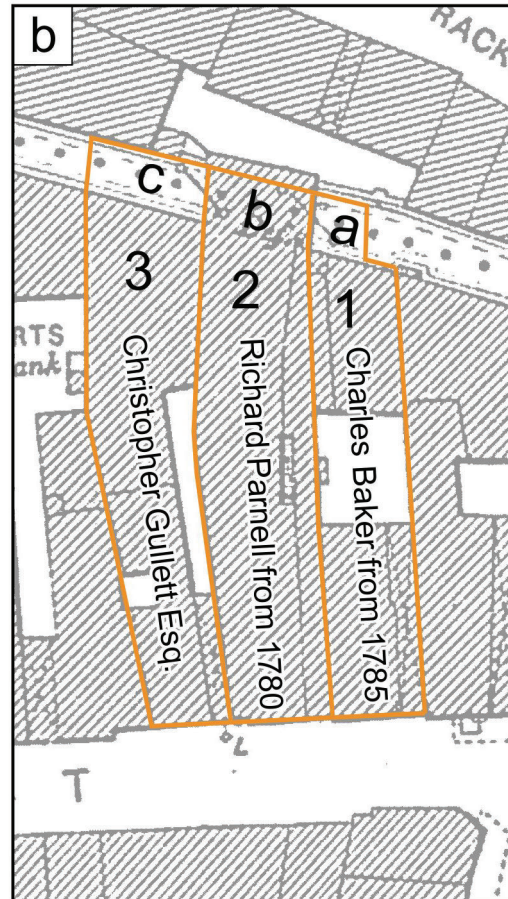
PROJECT TITLE
 Frog Street, Exeter, Devon

FIGURE TITLE
 Cartographic comparison between
 1758 (a) and 1891 (b)

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	12
APPROVED BY	JC	SCALE@A4	NA	



John Hayman's plan of 1789 showing lands of St Edmund's parish in Frog Street (courtesy of the Devon Heritage Centre)



Location of the tenements in (a) on the 1891 Ordnance Survey (source: xxx)



Andover 01264 347630
 Cirencester 01285 771022
 Exeter 01392 573970
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

Frog Street, Exeter, Devon

FIGURE TITLE

Cartographic comparison between 1789 (a) and 1891 (b)

DRAWN BY	RW	PROJECT NO.	EX0031	FIGURE NO.
CHECKED BY	DJB	DATE	06/08/2019	13
APPROVED BY	JC	SCALE@A4	NA	

Andover Office

Stanley House
Walworth Road
Andover
Hampshire
SP10 5LH

t: 01264 347630

Cirencester Office

Building 11
Kemble Enterprise Park
Cirencester
Gloucestershire
GL7 6BQ

t: 01285 771022

Exeter Office

Unit 1, Clyst Units
Cofton Road
Marsh Barton
Exeter
EX2 8QW

t: 01392 573970

Milton Keynes Office

Unit 8 - The IO Centre
Fingle Drive, Stonebridge
Milton Keynes
Buckinghamshire
MK13 0AT

t: 01908 564660

Suffolk Office

Unit 5, Plot 11, Maitland Road
Lion Barn Industrial Estate
Needham Market
Suffolk
IP6 8NZ

t: 01449 900120

e: enquiries@cotswoldarchaeology.co.uk

