ALDERMAN'S HOUSE, 117, 119 & 121 BISHOPSGATE CITY OF LONDON

AN ARCHAEOLOGICAL EXCAVATION

SITE CODE: BIH 14

REPORT NO: R12543

JULY 2016

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

ALDERMAN'S HOUSE
117, 119 & 121 BISHOPSGATE
CITY OF LONDON

EXCAVATION

Quality Control

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AN ASSESSMENT OF ARCHAEOLOGICAL INVESTIGATIONS AT ALDERMAN'S HOUSE, 117, 119 & 121 BISHOPSGATE AND 34-37 LIVERPOOL STREET, LONDON EC2

Local Planning Authority: City Of London

Planning Refs: 09/00192/FULMAJ, 13/01070/MDC, 13/01199/FULMAJ, 14/00729/MDC, 14/00965/MDC, 14/01272/MDC

Site Code: BIH14

Central National Grid Reference: TQ 33192 81506

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1 Abstract

1.1 Pre-Construct Archaeology Ltd. conducted a series of archaeological investigations at Alderman's House,117, 119 & 121 Bishopsgate and 34-37 Liverpool Street, in the City of London between the 13th of January 2014 and the 6th of October 2015, earlier elements of which, have already been reported on to some degree (Boyer 2014a; 2014b; 2015a; 2015b; 2015c). The excavation of trial trenches and monitoring of geotechnical test pitting revealed that post-medieval activity had heavily truncated earlier deposits, well into Pleistocene gravel towards the north of the site, whilst natural brickearth survived over the gravel in less-truncated areas to the south and east.

1.2 Although prehistoric artefactual material and possible prehistoric soil horizons were recorded, the earliest, clearly *in situ* archaeological deposits dated to the early Roman period (1st – 2nd century AD) and were associated with domestic activity, structural development and waste deposition to the west of a major Roman road, the apparent western ditch of which was also extensively exposed. A later Roman phase (3rd to 4th century AD) saw further activity including an area of the site used for inhumation burials as part of the far more extensive Northern Cemetery, which lay just outside the Roman city of *Londinium*.

1.3 There was no significant activity on the site during the immediate post-Roman period or during the early medieval period, but it was re-occupied at about the time of the Norman Conquest, with a number of cess and rubbish pits, along with other features suggesting domestic activity nearby at this time. The site continued to be exploited throughout the medieval period and into the early post-medieval period, when there was significant structural development, at least in the eastern half of the site.

1.4 Further structural development continued throughout the post-medieval period with the buildings at the east of the site at least, undergoing a number of phases of redevelopment. The site was fully developed by the second half of the 19th century with the eastern buildings still standing when the archaeological investigations commenced, dating to this and/or earlier periods. Redevelopment of the western half of the site continued until a much later date, buildings still standing here during the earlier phases of archaeological investigations, dating to the later 20th century.

1.5 Overall the investigations revealed important evidence for site development during a number of phases from the early Roman period until the later 20th century despite significant truncation in some areas. It has thus been possible to integrate the findings from the site with those from the wider area of this part of the City of London for a number of periods and therefore further enhance the archaeological and historical record for the development of the city.

2 Introduction

2.1 Between the 13th of January 2014 and the 6th of October 2015 Pre-Construct Archaeology Ltd. (PCA) carried out a series of archaeological investigations at Alderman's House, 117, 119 & 121 Bishopsgate and 34-37 Liverpool Street, City of London (Figures 1 & 2).

2.2 The site is being redeveloped for commercial and residential purposes, a series of planning applications for redevelopment having been submitted to The City of London and approved with archaeological conditions attached. This assessment report includes analysis of site records and finds data from all phases of investigations, which included watching briefs, evaluation and small-scale excavation.

2.3 The work was commissioned by Mills Whipp Projects on behalf of Amsprop Bishopsgate Ltd. and comprised six broad phases of work: Archaeological monitoring of geotechnical investigations was carried out between the 13th and 28th of January 2014; an archaeological evaluation, including monitoring of further geotechnical investigations was carried out between the 11th and 22nd of August 2014; an archaeological watching and stopping brief was carried out during the excavation of underpinning pits and structural tower foundation trenches between the 5th of November 2014 and the 9th of January 2015; archaeological monitoring of pile probing excavations and piling was carried out between the 11th of May and the 15th of June 2015; archaeological monitoring of ground reduction for a tower crane base foundation was carried out between the 30th of June and 3rd of July 2015; and a series of small-scale open area excavations was undertaken between the 24th of August and the 6th of October 2015 (Figure 2). In addition to these formal periods of archaeological investigations, progress on the site was regularly monitored by an archaeologist, particularly after the demolition of the pre-existing buildings in early 2015. A historic building recording of the site was also undertaken which was subject to a separate report (Garwood 2015).

2.4 The site is located at National Grid Reference (NGR) TQ 33192 81506 and the project was allocated the site code BIH14**.**

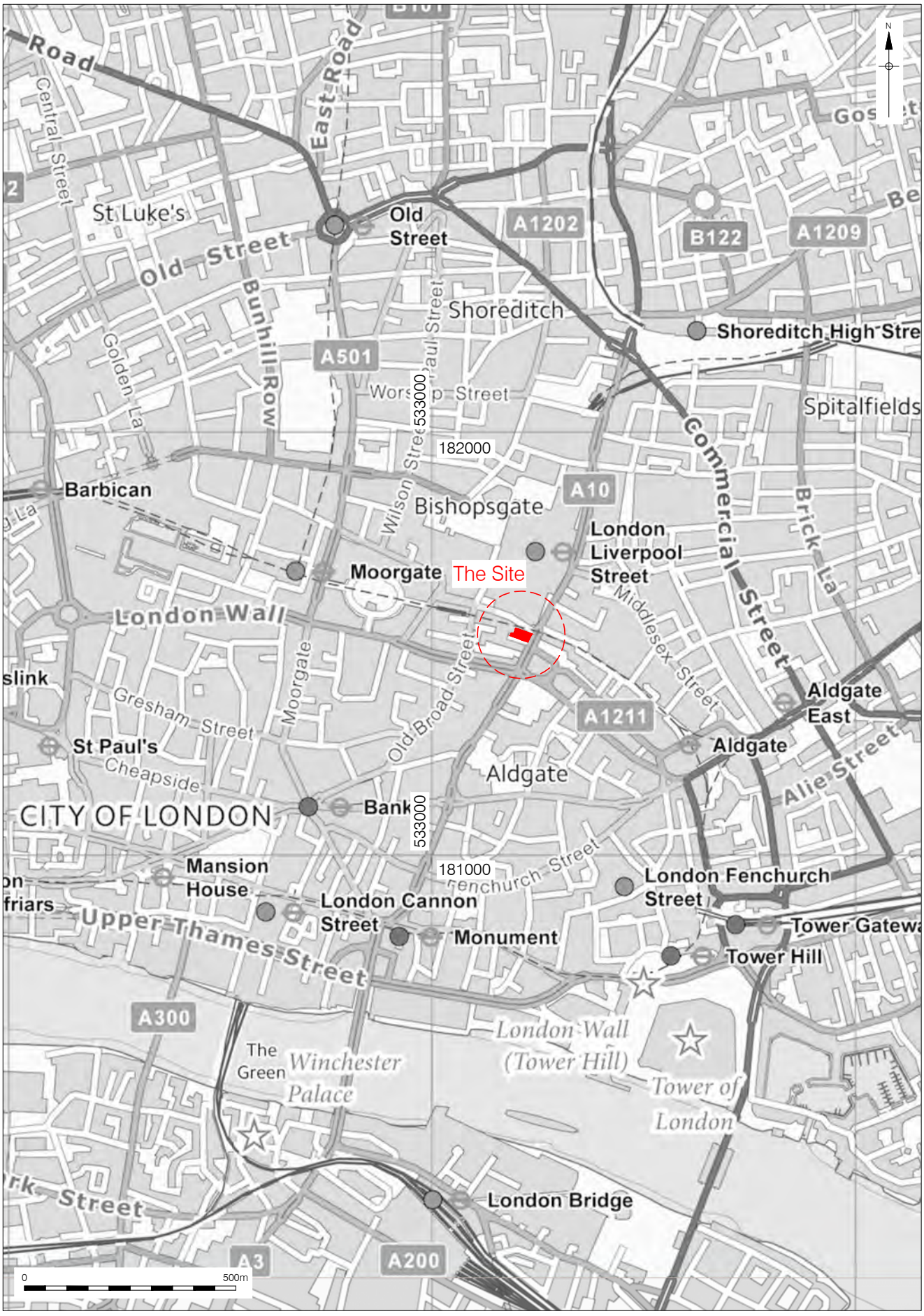

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Figure 1
Site Location
1:12,500 at A4

Location of Structures prior to Internal Demolition

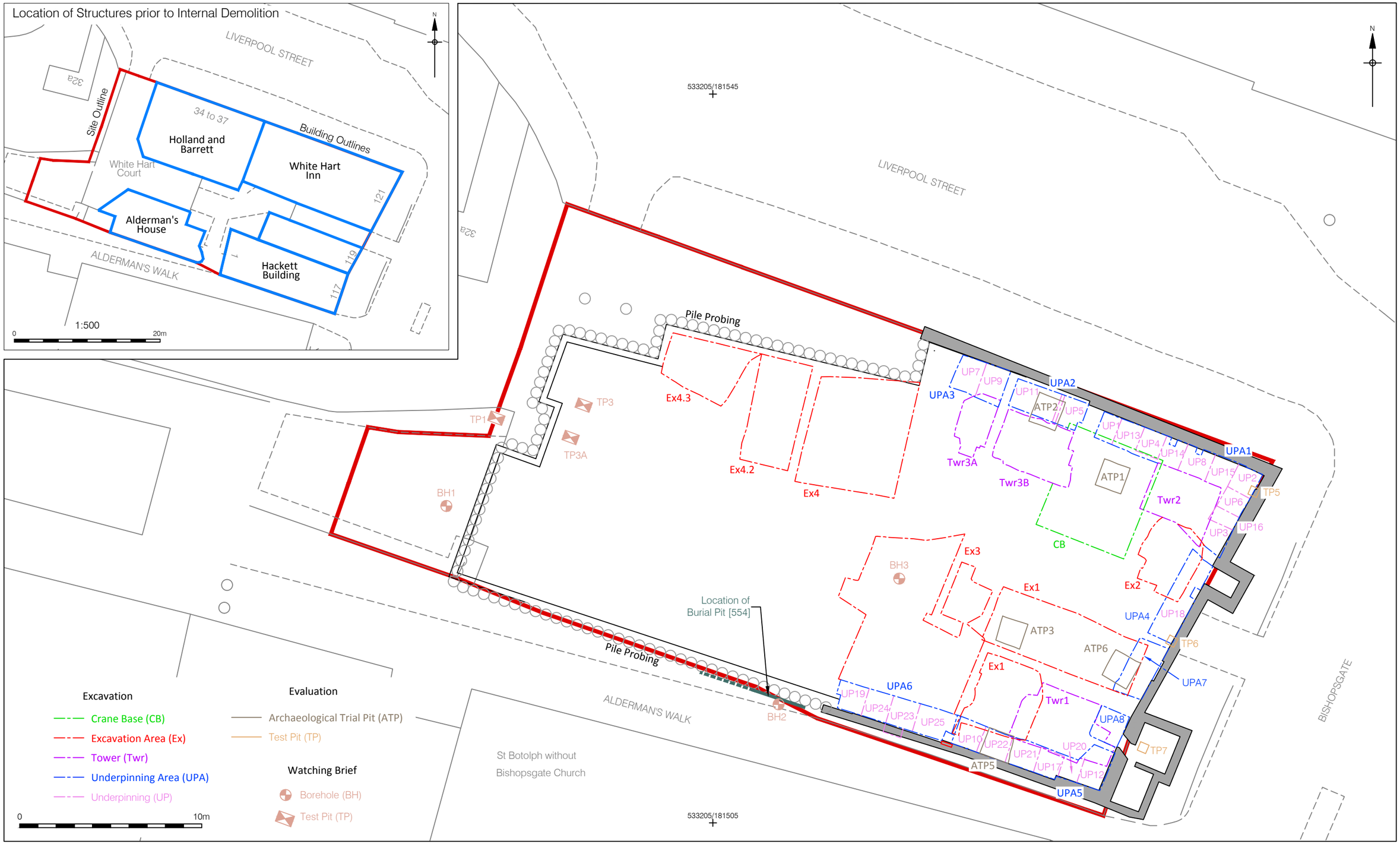

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Figure 2
Trench Location
1:200 at A3

3 Planning Background

3.1 The development of the site is subject to planning guidance and policies contained within the National Planning Policy Framework (NPPF), The London Plan and policies of The City of London, which fully recognises the importance of the buried heritage for which it is the custodian.

3.2 In March 2012, the government published the National Planning Policy Framework (NPPF), which replaced existing national policy relating to heritage and archaeology (Planning Policy Statement 5: Planning for the Historic Environment (PPS5)). In summary, current national policy provides a framework which protects nationally important designated Heritage Assets and their settings, in appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions regarding the historic environment and provides for the investigation by intrusive or non-intrusive means of sites not significant enough to merit *in-situ* preservation. Relevant paragraphs within the NPPF include the following:

128. *In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*

129*. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.*

132. *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

135. *The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.*

139. *Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.*

141. *Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.*

3.3 The Glossary contained within the NPPF includes the following definitions:

Heritage asset: A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).

Archaeological interest: There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

Historic environment: All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

Historic environment record: Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.

3.4 The London Plan, published July 2011, includes the following policy regarding the historic environment in central London, which should be implemented through the Local Development Framework (LDF) being compiled at the Borough level:

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

3.5 The local planning authority responsible for the study site is the City of London, which has developed a Local Plan in line with policies outlined in the NPPF and adopted on the 15th of January 2015. However, at the time initial planning applications were submitted for redevelopment of the site in 2009, current planning policies were those saved from the City's Unitary Development Plan (UDP) adopted in April 2002, whilst subsequent applications were also subject to policies within the Core Strategy adopted in September 2011. Saved UDP Policies included the following relating to the historic environment:

POLICY ARC 1
To require planning applications which involve excavation or groundworks on sites of archaeological potential to be accompanied by an archaeological assessment and evaluation of the site including the impact of the proposed development.

All of the City is considered to have archaeological potential unless it can be demonstrated that archaeological remains have been lost, due to basement construction or other groundworks. The Corporation will indicate the potential of a site, its relative importance, and the likely impact to a developer at an early stage so that the appropriate assessment and design development can be undertaken. Map 11.2 indicates areas of archaeological potential and this information will be updated periodically.

On sites of archaeological potential, which may be affected by development schemes or groundworks, an archaeological assessment will be required to be submitted with the application. This will set out the archaeological potential of the site and impact of the proposals. Where appropriate, this should be supplemented by evaluation, carrying out trial work in specific areas of the site to provide more information and inform consideration of the development proposals by the Corporation, prior to a decision on that application.

POLICY ARC 2
To require development proposals to preserve in situ, protect and safeguard important ancient monuments and important archaeological remains and their settings, and where appropriate, to require the permanent public display and/or interpretation of the monument or remains.

POLICY ARC 3
To ensure the proper investigation, recording of sites, and publication of the results, by an approved organisation as an integral part of a development programme where a development incorporates archaeological remains or where it is considered that preservation in situ is not appropriate.

On sites where important monuments or archaeological remains exist, development proposals should take this fully into account and be designed to enhance physical preservation and avoid disturbance or loss. This can be done by the sympathetic design of basements, raising ground levels, site coverage, and the location of foundations to avoid or minimise archaeological loss and securing their preservation for the future, although they remain inaccessible for the time being.

The interpretation and presentation of a visible or buried monument to the public and enhancement of its setting, should form part of the development proposals. Agreement will be sought to achieve reasonable public access. The Corporation will consider refusing schemes

which do not provide an adequate assessment of a site or make no provision for the incorporation, safeguarding or preservation in situ of nationally or locally important monuments or remains, or which would adversely affect those monuments or remains.

In some cases, a development may reveal a monument or archaeological remains which will be displayed on the site, or reburied. Investigation and recording of those features will be required as part of a programme of archaeological work to be submitted to and approved by the Corporation. Where the significance of the remains is considered, by the Corporation, not sufficient to justify their physical preservation in situ and they will be affected by development, archaeological recording should be carried out. A programme of archaeological work for investigation, excavation and recording, and publication of the results, to a predetermined research framework, by an approved organisation, should be submitted to and approved by the Corporation, prior to development. This will be controlled through the use of conditions and will ensure the preservation of those remains by record.

3.6 The Core Strategy contains the following Policy relating to the historic environment:

POLICY CS12: HISTORIC ENVIRONMENT
To conserve or enhance the significance of the City's heritage assets and their settings, and provide an attractive environment for the City's communities and visitors, by:

1. Safeguarding the City's listed buildings and their settings, while allowing appropriate adaptation and new uses.

2. Preserving and enhancing the distinctive character and appearance of the City's conservation areas, while allowing sympathetic development within them.

3. Protecting and promoting the evaluation and assessment of the City's ancient monuments and archaeological remains and their settings, including the interpretation and publication of results of archaeological investigations.

4. Safeguarding the character and setting of the City's gardens of special historic interest.

5. Preserving and, where appropriate, seeking to enhance the Outstanding Universal Value, architectural and historic significance, authenticity and integrity of the Tower of London World Heritage Site and its local setting.

3.12.1 The City's unique townscape of historic buildings, streets and open spaces juxtaposed with contemporary modern buildings creates a varied, attractive and lively environment which attracts companies and visitors who support the services which contribute to its cultural vibrancy. The City contains a large number of heritage assets which include almost 600 listed buildings, 26 conservation areas, 48 scheduled ancient monuments and 4 historic parks and gardens. There are many protected trees in conservation areas and with Tree Preservation Orders. Historic buildings characteristic of the City include notable buildings such as Mansion House, Guildhall and St Paul's Cathedral, livery company halls and a large number of churches. In addition, the Tower of London, which lies just outside the City boundary, is inscribed by UNESCO as a World Heritage Site of universal significance and its protection includes a buffer area which is partly within the City.

3.12.2 The City is the historic core from which the rest of London developed. Its townscape is derived from its historical development and role as a centre of commerce and trade. The street pattern comprises medieval lanes and alleyways, overlain by later, wider streets. The dense nature of development is ameliorated by the many green spaces, including a high number of small open spaces such as former churchyards, as well as larger gardens.

3.12.3 The City is characterised by many historically important buildings and collections of buildings. Its varied townscape includes areas of formal layout, those with a more domestic and small scale character, as well as larger building complexes such as Smithfield and Leadenhall Markets. There is a close proximity of very different historic areas with a common purpose and business function, which contributes to the special character of the townscape. The City can claim to have one of the greatest concentrations of church buildings of outstanding architectural quality in the country, with 42 places of worship, all but one of which are listed. The City also possesses a modern architectural heritage including, for example, the listed Barbican and Golden Lane Estates.

3.12.4 The City is one of the most important areas in the country in terms of archaeology. Its unique archaeological heritage dates back to the Roman settlement and has evolved through Saxon, medieval and later periods. Many Roman, Saxon and medieval remains still survive in the City today, including buried as well as visible remains, such as the Roman amphitheatre

below Guildhall, the Roman and medieval London wall and the reconstructed Temple of Mithras in Queen Victoria Street. Archaeological investigation is an important aspect of development proposals.

3.7 There are no Scheduled Ancient Monuments or Statutorily Listed Buildings within the development site but the entirety of the City of London is considered to have archaeological potential and the site lies within the Bishopsgate Conservation Area as defined by The City of London.

3.8 The site is now being redeveloped for commercial and residential purposes, including a three-storey below ground car park, a planning application (Ref. No. 09/00192/FULMAJ) having originally been submitted in 2009 and conditionally approved in March 2012. Archaeological conditions attached to planning consent were as follows:

> 9. No works except demolition to basement slab level shall take place until the developer has secured archaeological evaluation in order to compile archaeological records in accordance with a timetable and scheme of such archaeological work submitted to and approved in writing by the Local Planning Authority before any commencement of archaeological work.
>
> REASON: To ensure that an opportunity is provided for the archaeology of the site to e considered and recorded in accordance with the following policy of the Unitary Development Plan: ARC1.
>
> 10. No works except demolition to basement slab level shall take place until the developer has secured the implementation of a programme of archaeological work to be carried out in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Local Planning Authority. This shall include all work on site, including details of any temporary works which may have an impact on the archaeology of the site and all off site work such as the analysis, publication and archiving of the results. All works should be carried out and completed as approved, unless otherwise agreed in writing by the Local Planning Authority.
>
> REASON: In order to allow an opportunity for investigations to be made in an area where remains of archaeological interest are understood to exist in accordance with the following policies of the Unitary Development Plan: ARC2, ARC3.
>
> 11. No works except demolition to basement slab level shall take place before details of the foundations and piling configuration, to include a detailed design and method statement, have been submitted to and approved in writing by the Local Planning Authority, such details to show the preservation of surviving archaeological remains which are to remain in situ.
>
> REASON: To ensure the preservation of archaeological remains following archaeological investigation in accordance with the following policies of the Unitary Development Plan: ARC2, ARC3.

3.9 A further application for the approval of details reserved by condition (Ref. No. 13/01070/MDC) was submitted in September 2013 and approved in January 2014. This application detailed the methodologies for standing building recording and archaeological works to be carried out on the site and archaeological monitoring of geotechnical investigations was subsequently carried out (Boyer 2014). An application for changes to the original approved planning scheme (Ref. No. 13/01199/FULMAJ) was also submitted in November 2013 and conditionally approved in June 2014. Conditions 9, 11 and 12 placed on planning consent reiterated the archaeological conditions placed on the original application. A further application for the approval of details reserved by condition (Ref. No. 14/00729/MDC)

was submitted in July 2014 and approved in November 2014. This related to demolition and construction works associated with the development, and outlined proposed archaeological works on the basis of the earlier archaeological monitoring of geotechnical investigations.

3.10 In September 2014 an application was submitted for underpinning and propping work (Ref. No. 14/00965/MDC), which detailed a programme of archaeological works pursuant to Conditions 11 and 12 of the original planning consent. This was approved in November 2014 and the archaeological monitoring of underpinning and other works carried out between November 2014 and January 2015. A further application was submitted in December 2014 for piling works (Ref. No. 14/01272/MDC), which also gave details of the archaeological monitoring of these works. The application was approved in March 2015 and the works, along with archaeological monitoring, were carried out during May and June 2015.

3.11 Archaeological reports and interim statements were produced for all of the phases of work carried out according to conditions attached to the various planning applications. This report considers all of the archaeological work carried out and therefore relates to a number of planning applications submitted to and approved by the City of London.

4 Geology and Topography

4.1 The site lies within the City of London, a short distance south of Liverpool Street station and immediately west of Bishopsgate. The site lies at a surface elevation of *c*. 15m OD on ground that is generally flat with some minor undulations, but has been significantly modified by previous development of the area. South of the site, the current land surface slopes downwards towards the River Thames.

4.2 According to the British Geological Survey (Sheet 256; North London) the underlying geology of the site comprises sand, silt and clay of the Palaeogene (Eocene) London Clay formation, deposited between *c*. 34 and 55 million years ago. This is overlain by Quaternary Taplow Terrace Gravel, the surface of which lies at approximately 10.50m OD, but slopes downwards to the south and west of the site towards the River Thames and historic Walbrook valley respectively. The gravel is capped by clay and silt brickearth, which has been variably truncated in the area by historic quarrying activity. An archaeological watching brief during development of part of the site in 1981 recorded the surface of the brickearth at approximately 12.20m OD (Miller 2007, 8).

4.3 Historically the site occupied numbers 117, 119 and 125 Bishopsgate though the current address is recorded as numbers 117, 119 and 121 Bishopsgate, with a former building to the north-west occupying 34-37 Liverpool Street and the former Alderman's House occupying the western half of the Alderman's Walk frontage. The site was originally accessed from Liverpool Street to the north and Bishopsgate to the east via White Hart Court, which bisected the northern and southern parts of the site. There was also pedestrian access from Alderman's Walk to the south. During the course of redevelopment of the site there were a number of changes to the access; White Hart Court was removed, pedestrian access was eventually from Bishopsgate via Alderman's Walk (which was closed to the public) and there was vehicular access only from Liverpool Street.

4.4 The site is bounded to the north by Liverpool Street, to the east by Bishopsgate, to the south by Alderman's Walk and to the west by open pedestrian areas and properties within Liverpool Street Arcade. It is located a little less than 1km north of the tidal River Thames on the eastern side of the upper reaches of the historic Walbrook valley, in an area that may have been crossed in the past by tributary streams of the River Walbrook, itself a tributary of the Thames.

5 Archaeological and Historical Background

5.1 Research into the archaeological and historical background of the site was previously carried out as part of a desk-based assessment (Miller 2007), whilst a detailed map regression explaining the post-medieval development of the area was included in a report of a historic building survey carried out on the site (Garwood 2015). It is not necessary to repeat the details included in those reports here, though the main points should be highlighted:

Prehistoric

5.2 Archaeological evidence for prehistoric activity in the vicinity of the site is limited and for earlier periods (Palaeolithic to Bronze Age) is virtually non-existent, though residual Late Iron Age pottery has been found on sites to the west in the Moorgate/Finsbury area, which has been interpreted as possible evidence for pre-Roman settlement of the city. It is possible that the lack of prehistoric evidence may in part be due to intensive exploitation and truncation in the Roman and later periods, rather than the area being uninhabited during prehistory; there is certainly extensive evidence for later prehistoric exploitation of the Terraces immediately north of the Thames both upstream and downstream of the city.

Roman

5.3 *Londinium* was established in the early years following the Roman Conquest, with the city wall constructed around AD 200. The site lies approximately 55m north of the wall and its extensive outer, 'V-shaped' ditch which has been exposed *c*. 100m to the south-west at 90-94 Old Broad Street/63-64 New Broad Street. Although the site lies beyond the Roman city walls, Ermine Street, which ran northwards from the city, followed approximately the same alignment as the present Bishopsgate and therefore passed a short distance east of the site. The road was flanked by an extensive cemetery to the north of the city, which extended at least as far as the modern Spitalfields area. Roman burials, both inhumations and cremations, have been found at a number of locations within the vicinity of the site, the most significant of which, was a 3rd-century interment recorded within the site boundary during an archaeological watching brief on development work in 1981 (White 1981). This burial was east-west aligned and located in the area of the present 34-37 Liverpool Street at a basal level of *c*. 12.00m OD.

5.4 In addition to lying in the vicinity of an extensive Roman cemetery, the site also lies in an area where there was extensive brickearth quarrying during the Roman period. Quarry pits were recorded during the 1981 watching brief on the western part of the site and further extraction pits have been identified within 100m to the north at 154-170 Bishopsgate and 16 New Street.

5.5 The site lies towards the eastern edge of the Upper Walbrook valley, the river flowing approximately along the line of the present Blomfield Street, west of the site, in the early Roman period. Subsequent development of the area involved ground-raising and reclamation along with canalisation of the river. However, construction of the city wall in the late 2nd century effectively blocked the flow of the river, which resulted in severe drainage problems in the area north of the wall and west of the site, culminating in abandonment of much of the area by the 4th century. The Moorfields area west of the site had thus become a marshland by the late Roman period and remained as such into the post-Roman era.

Saxon

5.6 There is no evidence for a continuity of occupation of the city after the Roman withdrawal in the 5th century, Early and Middle Saxon activity becoming focussed in The Strand/Covent Garden area to the west. The walled city was re-occupied during the Late Saxon period but the evidence for activity in the vicinity of the site at this time is very limited.

Medieval

5.7 The city wall was largely repaired and rebuilt and the ditch widened in the medieval period. Bishopsgate, which runs adjacent to the site on the alignment of the former Roman road was named after the Bishops Gate, which stood opposite Camomile Street to the south of the site and probably had medieval origins. The original church of St Botolph without Bishopsgate, immediately south of the site is first recorded in 1212, whilst the Priory and Hospital of St Mary Bethlehem (later 'Bedlam') was founded to the west in 1247. Two pits of medieval date were recorded on the site during the 1981 watching brief indicating that there was also activity here at this time.

Post-medieval

5.8 During the early post-medieval period there was gradual urbanisation of the area north of the city walls, though the site probably remained within an area of largely semi-rural suburbs. The Bishopsgate frontage of the site had however, been built upon by the middle of the 16th century, as demonstrated on the Agas map of *c*. 1562, whilst Faithorne and Newcourt's map of 1658 shows the southern frontage, north of St Botolph's church also developed. Ogilby and Morgan's map of 1676 shows a narrow lane separating the site and church, whilst the site is occupied by a number of small buildings surrounding a yard (shown later as White Hart Yard) accessed from Bishopsgate. The White Hart Inn, still extant at the north-east corner of the site at the time of the earlier investigations, had 17th-century origins but replaced a much earlier structure, whilst the former Hackett building at the south-east of the site had early to mid 18th-century origins. All of the buildings at the east of the site underwent various

phases of development during the 18th and 19th centuries, with a major redevelopment of the White Hart public house taking place in 1829.

5.9 The 1st edition Ordnance Survey map of 1873 shows the site located some 120m to the south of Broad Street Station, which had opened in 1866. The map shows the public house at the north-east corner of the site with further buildings to the west, fronting Liverpool Street, and shops to the south, fronting Bishopsgate. A large, single building is located within the site, to the rear of the shops and all buildings surround White Hart Court. By 1893 the large, single building had been divided into three single properties, though the layout of buildings remained largely unchanged throughout much of the 20th century.

5.10 The buildings to the north-west of the site were demolished in the early 1980s and replaced with the structures that comprised 34-37 Liverpool Street and Alderman's House at the time of the initial archaeological investigations. The site layout remained largely static from the 1980s development up until the current redevelopment.

6 Archaeological Methodology

6.1 There were six broad phases of archaeological investigation on the site commencing with monitoring of geotechnical work in January 2014 and culminating in a phased excavation, which was completed in October 2015 (Figure 2). The different phases of archaeological work involved varying methodologies, which are outlined here:

6.2 **Archaeological Monitoring of Geotechnical Investigations (January 2014)**

6.2.1 The first phase of fieldwork comprised the archaeological monitoring of the excavation of three boreholes and two trial pits. The sequence in one of the pits was also confirmed by limited coring through a basement slab adjacent to the pit location. The fieldwork was carried out according to a method statement prepared by PCA (Bradley 2013) and approved by Kathryn Stubbs on behalf of the City of London. The geotechnical investigations were also carried out according to a method statement (Tyler 2013) approved by the client and the City of London.

6.2.2 It had originally been intended to excavate three trial pits, two at the surface and one at lower basement level, but the methodology was changed to include just two pits, TP1 at the surface and TP3 in the basement, the location of the former also being changed slightly from the original methodology.

6.2.3 TP1 was located towards the west of the site, adjacent to a wall that partly supported Alderman's House. Surface paving slabs were carefully removed to avoid breakage and thereafter underlying deposits were excavated by hand under archaeological supervision. It had originally been intended to excavate the pit to 1.5m below ground level (bgl) but *in situ* concrete was encountered a short distance from the surface. It was therefore only practical to excavate to a depth of 0.71m in the narrow gap between the concrete and the wall. The trial pit was extended to the south, initially in the paved area and subsequently into the motorcycle parking area south of the wall, but the concrete was found to continue into the areas and excavation ceased.

6.2.4 TP3 was located against the northern wall of the north-western room in the lower basement of Alderman's House. Following removal of a plastic floor covering the basement slab was broken out using an electrically-powered jackhammer. The slab was found to be substantial and reinforced with rebars; subsequent drilling indicating a thickness of at least 1.7m. Consequently the trial pit was abandoned but a small borehole (TP3a) was excavated further to the south using an electrically-powered, 150mm diameter hollow drill, which penetrated the less-substantial floor slab at this location, into underlying natural deposits.

6.2.5 The three boreholes (BH1 – BH3) were all excavated from the current surface ground level. BH1 was located in the motorcycle parking area at the west of the site, BH2 was located adjacent to Alderman's Walk at the south of the site and BH3 was

located adjacent to White Hart Court and to the north of BH2. At each location surface hard-standing materials were removed using hand-held power-tools, whilst underlying deposits were removed by hand under archaeological supervision to a depth of 1.2m bgl. Thereafter coring through underlying deposits was carried out using a mechanically operated, cable-percussion coring rig with 150mm diameter coring heads. Material was removed in spits up to 0.5m in thickness and its composition recorded both archaeologically and geologically as the coring progressed, though archaeological recording ceased once natural London Clay was penetrated.

6.3 Archaeological Evaluation and Further Monitoring of Geotechnical Investigations (August 2014)

6.3.1 It had originally been intended to excavate five archaeological trial pits (ATP1-5), three within the public house and two within the Hackett Building, and five geotechnical test pits (TP4-8), again with three in the public house and two within the Hackett Building. However, due to logistical factors, two of the archaeological and geotechnical test pits were combined, one of the archaeological pits in the Hackett Building was not excavated but a fourth pit was located in the public house, and one of the geotechnical pits was re-located to the south of its original intended position (Figure 2).

6.3.2 ATP1 was located towards the west of the former cellar bar area of the public house in the position originally suggested in the method statement, whilst the original location of ATP2, in the toilet area of the cellar bar was found to be impractical so it was moved to the north-east and combined with TP4 at the northern edge of the building. ATP3 was located towards the south-west corner of the cellar area of the former public house in the position stated in the method statement, though the suggested position of ATP4 at the western end of the Hackett Building basement was found to be impractical as this lay over a major sewer and the vicinity of numerous other services. This evaluation trench was therefore abandoned. ATP5 was located at the southern edge of the Hackett Building basement, in the position suggested in the method statement. It was combined with TP8, the original location of which, at the south-east corner of the basement, was found to be impractical. Because of the need to abandon ATP4, a further trial trench, ATP6, was excavated towards the south-east corner of the public house cellar area and east of ATP3.

6.3.3 The three remaining geotechnical test pits were located along the eastern edge of the site. TP5 was located at the north-east corner of the vaulted cellar in the position originally proposed, whilst it was necessary to reposition TP6 a little further south than its original proposed location due to the presence of a substantial sewer feature. TP7 was located as planned at the eastern end of the Hackett Building basement.

6.3.4 Basement floor levels in the vaulted cellar varied between 11.67m OD and 12.08m OD, whilst those in the basement of the Hackett Building were somewhat higher, varying between 12.89m OD and 12.93m OD.

6.4 Archaeological Watching and Stopping Brief (November 2014 – February 2015)

6.4.1 The watching/stopping brief was conducted during the excavation of underpinning pits and tower bases, which was carried out in order to support the southern, eastern and northern façades of existing buildings to be retained during redevelopment of the remainder of the site and incorporated within new structures as part of a condition placed on planning consent.

6.4.2 The underpinning involved the excavation of a series of *c*. 1.4m wide pits along the inside of the external supporting walls and extending underneath the walls themselves in order that concrete could be poured to support the foundations, which in some areas were very insubstantial. It had been intended that each underpinning pit would be individually archaeologically monitored but where possible, extended strips alongside walls were excavated archaeologically prior to the excavation of the pits, in order to gain a better understanding of the spatial spread of archaeological deposits.

6.4.3 These strips were allocated underpinning area (UPA) numbers for recording purposes, a total of eight UPAs being defined: UPA1 included the northern and eastern walls of the former White Hart public house (121 Bishopsgate) at the north-east of the site; UPA2 covered part of the northern wall immediately west of UPA 1 and a former internal partition (Plate 1); UPA3 was in a small area at the north-west of the former public house, west of UPA 2; UPA4 was in a small area at the eastern end of the site, south of a partition that marked the southern edge of UPA1; UPA5 extended from the south-east corner of the site and included approximately half of the southern wall of the former Hackett building at 117 Bishopsgate; UPA6 covered the western half of the former Hackett building south wall; UPA7 was located in a small area south of a partition that marked the southern edge of UPA4 at the eastern end of the site; and UPA8 was a small area at the eastern end of the site, south of UPA4 and UP7 and north of UPA5.

6.4.4 Some pits, particularly along the southern edge of the site, were excavated individually and all excavation under the standing walls was monitored under watching brief conditions. Most individual underpinning pits were allocated numbers (prefixed UP) again to aid location recording (Figure 2). UP numbers were allocated to underpinning areas as follows:

UPA Number	UP Numbers Included
1	1, 2, 3, 4, 6, 8, 13, 14, 15, 16
2	5, 11
3	7, 9

4	18
5	10, 12, 17, 20, 21, 22
6	19, 23, 24, 25
7	No individual UPs allocated
8	No individual UPs allocated

6.4.5 The retention of the façades was also to be supported by stanchions supported on piles and located in three corner towers, each measuring *c*. 5m by 5m. Tower 1 was located at the south-east corner of the site, Tower 2 was located at the north-east corner and Tower 3 was located at the north-west corner of the former White Hart public house, though the latter was archaeologically excavated in two parts Tower 3a to the west and Tower 3b to the east, the two being separated by a retained internal wall (Figure 2). The tower areas overlapped with underpinning pits in the corners of the site but the area of each tower not previously impacted upon by underpinning was excavated archaeologically prior to piling and ground reduction.

6.5 Archaeological Monitoring of Pile Probing and Piling (May – June 2015)

6.5.1 A watching brief was conducted during the excavation of pile probing trenches from current ground level, which was carried out in order to clear an area around the periphery of the site to permit deep piling prior to construction of a new building. The watching brief was carried out as part of a condition placed on planning consent. A second watching brief was carried out during piling in the areas cleared by the pile probing to ensure that no further remains likely to be of archaeological interest were disturbed.

6.5.2 The pile probing trenches extended in a straight line from the western end of the former Hackett Building on the southern edge of the site to the south-west corner of the development (PP1 – PP37), turning north and dog-legging up to the north-west of the development (PP37 – PP77), and then turning east and continuing to the western end of the former White Hart public house (PP77 – PP104). A short trench beyond the main pile probing area was also excavated to the north-west of the main pile probing area to clear the ground for three further piles (P105 – P107).

6.5.3 Concrete surfaces were initially broken out using a breaker attached to 23 tonne 360º tracked excavator. Thereafter, unconsolidated deposits were removed using the same excavator with a large, toothed-bucket attachment, recourse occasionally being made to the breaker when buried concrete slabs and other structural remains were present. Excavation continued to the surface of natural deposits to ensure that all buried obstacles to piling had been removed. The excavations were conducted under archaeological supervision, though because of the methodology employed and the deep and potentially unsafe nature of the trenches preventing entry, full recording was not possible, relying on written and photographic records.

6.5.4 Much of the area probed had only been subject to minimal archaeological investigation during previous phases of work on the site. The probing would therefore give an indication of the likely survival of archaeological deposits from ground level downwards in these areas for future reference and excavation of adjacent areas.

6.6 Archaeological Monitoring of Crane Base Ground Reduction (July 2015)

6.6.1 The watching brief was conducted during ground reduction below existing basement level to accommodate a tower crane towards the north-east corner of the development area. The watching brief was carried out as part of a condition placed on planning consent.

6.6.2 The area of ground reduction extended 7m south of the retained north wall of the development site and was a little more than 5m wide, lying between steel towers previously erected as support structures for the retained wall. The ground reduction was carried out in an area that had previously been largely excavated: An area extending *c*. 1.5m south of the wall had been excavated for underpinning pits and the areas east and west had been excavated for the steel towers, both phases of work under archaeological supervision. Additionally an archaeological trial pit had been located within the area south of the underpinning and between the towers and consequently a significant part of the ground reduction area had already been excavated and recorded archaeologically.

6.6.3 Work initially involved the removal of rubble that had accumulated in the area during previous phases of work. Much of the basement slab had already been broken out during the previous phases of work, which had weakened the surviving surface. Consequently this could be removed with a machine bucket. Thereafter all ground reduction was carried out using a smooth-bladed ditching bucket attached to a 5 tonne 360º, tracked excavator under archaeological supervision. Layers were removed in spits to the formation level *c*. 1.5m below the former basement floor surface. Any significant archaeological deposits were recorded during the course of the ground reduction, keeping machine stoppages to a minimum.

6.7 Archaeological Excavation (August – October 2015)

6.7.1 The main phase of archaeological excavation was carried out over a number of sub-phases, each concerning small areas within the overall site (Figure 2) and was preceded by extensive removal of modern overburden down to basement levels. In each area the basement concrete slab was initially broken out using a breaker attached to a mechanical excavator. The loose concrete rubble was then removed using the same excavator with a large, toothed-bucket attachment, recourse occasionally being made to the breaker when buried concrete slabs and other structural remains were present. Following removal of the concrete rubble, underlying deposits were then removed in spits using a flat bladed ditching bucket under

archaeological supervision until the surface of significant archaeological deposits was reached. Thereafter all excavation was carried out by archaeologists using hand tools. The first excavation area was located towards the south-east of the site. It was 'L-shaped' in plan and called area EX1. The second area, EX2 was a small part of the site towards the north-east, immediately south of Tower 2, investigated during the archaeological watching and stopping brief. EX3 was opened up to the west of EX2 and formed a continuation with that area (Plates 2-4). Immediately to the west of the former White Hart public house at the north of the site, Area 4 was opened up concurrently with EX1 and EX2. This was later extended westwards as Area 4.2 and Area 4.3.

6.8 All aspects of the work followed national (IFA 2008a; 2008b; CIfA 2014a; 2014b; 2015) and local (GLAAS 2009; 2015) guidelines, and complied with PCA's own fieldwork manual (Taylor and Brown 2009). The fieldwork was carried out according to written schemes of investigation (Mills 2014a; 2014b) and method statements prepared by PCA (Bradley 2013; 2014) and approved by Kathryn Stubbs on behalf of the City of London.

6.9 All significant deposits and features were assigned individual context numbers and recorded using a standard single context recording system compatible with that used elsewhere in the Greater London Area. Context information was recorded on pro-forma context sheets and all plans and sections were drawn at a scale of 1:20 and 1:10 respectively on polyester based drawing film (permatrace).

7 Archaeological Sequence

7.1 This section records the stratigraphic sequences recorded during the various phases of archaeological investigations, which have been combined and divided into eleven broad chronological phases from the formation of natural deposits to site usage in the relatively recent past

7.2 **Phase 1: Natural Deposits**

7.2.1 Palaeogene London Clay was exposed during deep geotechnical coring and piling but the earliest deposit exposed during most of the investigations was Pleistocene Terrace Gravel, which was encountered sporadically during investigations beneath the former White Hart public house, at the north-east corner of the site, where the basement had been reduced to its lowest level. It was recorded at an upper elevation of 10.74m OD and was overlain by natural brickearth. Gravel was also exposed during machine excavation in UPA5 at the southern edge of the site and was recorded at an upper elevation of 10.53m OD in UP12. It was further exposed during pile probing and observed during general ground reduction across the site. The brickearth was recorded in a number of areas of the site, where there had not been significant later truncation; it was in excess of 1m deep in some locations and beneath the former Hackett building at the south of the site, where the basement level was not so deep, was recorded at an upper elevation of 12.32m OD. Brickearth extending to some depth was recorded in the deeper basement to the north and west of that basement, in Area EX4, it survived to an upper elevation of 11.62m OD. There is a suggestion that the original surface of natural deposits may have sloped upwards from north to south and that excavated basement levels may originally have partly reflected the natural topography rather than simply indicating deeper basements below the former public house than the Hackett building.

7.3 **Phase 2: Prehistoric**

7.3.1 Occasional finds of prehistoric date were sporadically recovered, often residually in later contexts, including an unfinished Neolithic flint tool from a 19th-century pit (see Appendix 2), though some possible prehistoric deposits also survived, generally as disturbed or redeposited brickearth in the southern half of the site where later truncation was generally less severe than to the north. The deposit was generally described as a soft, mid to light orangey brown, silty clay, between 60mm and 0.50m thick and was recorded in three of the underpinning pits in UPA6; [368] (UP19), [427] (UP23) and [502] (UP25). The upper elevation in these exposures varied between 12.35m OD and 12.54m OD, whilst that of similar material [535] in Tower 1 was recorded at 12.44m OD. Towards the south-east corner of the site, similar material [413] was recorded in UP12 of UPA5, though at a much lower level (11.03m OD), indicating that this was more likely to have been a redeposited rather than reworked

deposit. Further to the north, similar material [662] was also recorded in EX3 at an upper elevation of 11.74m OD. Additionally, two features may also have been of prehistoric date (Figure 3): Small, squarish pit [512], recorded at an upper elevation of 12.16m OD in UP24 of UPA6 measured 0.55m by 0.50m and was 0.35m deep, with steep straight sides and a flattish base. The fill [511] was composed mostly of redeposited brickearth with some charcoal flecking and occasional small bone splinters, though no dateable finds were recovered. Pit [592], recorded at an upper elevation of 11.23m OD in EX1 was sub-circular in plan, measuring up to 0.80m across and 0.53m deep, with steep sides and a slightly concave base. The fill [591] was again composed largely of redeposited brickearth with occasional charcoal flecks, though no dateable artefactual evidence was present.

7.4 Phase 3: Earlier Roman

7.4.1 In addition to reworked/redeposited brickearth of possible prehistoric date, similar material of likely early Roman date was also recorded, again, predominantly from southern areas of the site. Such material was first identified during the evaluation in TP7 at the south-east of the site, where natural brickearth was overlain by a possible disturbed soil horizon [70] that included redeposited brickearth and was recorded at an upper elevation of 12.32m OD. A small quantity of Roman pottery and brick was recovered dating to AD 70-150. A further possible soil horizon [69] above this also contained Roman pottery dated AD 70-120. Further redeposited/reworked brickearth [90] was recorded to the west in ATP5 at an upper elevation of 12.28m OD, though contained no dateable finds. Redeposited brickearth deposits of likely Roman date were also identified during the wider investigations. In UP10 at the southern edge of the site, a sandy, silty clay layer [221], lying directly over natural brickearth and recorded at an upper elevation of 12.21m OD contained small fragments of ceramic building material (CBM), daub and charcoal, though no clearly dateable material. Further to the west, apparent prehistoric pit [512] in UP24 was sealed by a possible subsoil [509] of Roman date and redeposited brickearth [547] recorded to the west of this during pile probing may also have dated to the Roman period.

7.4.2 Possibly the earliest Roman feature recorded on the site was an approximately north to south aligned ditch that ran close to the eastern site edge (Figure 4). This was recorded in Tower 1 and underpinning pits in the south-east corner of the site as [194/[253]/[530]/[541], in underpinning area UPA7 at the east of the site as [370], in Area EX2 as [584] and in underpinning pits and Tower 2 at the north-east of the site as [133]/[402] (Plates 5 & 6). A profile extending to the base of the ditch was only visible in the more extensively horizontally truncated areas to the north, which revealed a broad 'V', though slightly variable profile. In the more elevated areas to the south, the ditch extended beyond the eastern edge of the investigated area but a feature measuring in excess of 3m wide and 2m deep was extrapolated. Given the

scale, location and alignment of the feature, it seems likely that this was the western roadside ditch associated with the Roman route approximately followed by the present Bishopsgate. Backfilling of the ditch appears to have been a lengthy and complex process; in the area of greatest preservation to the south, numerous backfilling deposit were recorded and it appears that some features were dug into the ditch after it had been partially infilled and prior to full backfilling.

7.4.3 In the most complete backfilling sequence in UP12 at the south-east corner of the site the earliest fill that could be fully recorded was a firm, mid brownish grey, sandy clay [252], which produced sherds of Roman pottery dated AD 70-100 and CBM dated AD 55-160. For health and safety reasons this deposit could not be fully excavated archaeologically, but further excavation associated with the underpinning revealed that it appeared to extend to the base of the ditch, which was recorded at an elevation of 11.03m OD and was therefore in excess of 1m thick. Fill [252] was cut by a small sub-circular pit [220], up to 0.35m across and approximately 0.20m deep, recorded at an upper elevation of 11.96m OD (Figure 5). Within the pit was a largely complete pot that appeared to have been deliberately placed, before further infilling of the ditch commenced. The upper fill of the ditch in this area [189] was a soft, light greyish brown, sandy clay, up to 0.24m thick and recorded at an upper elevation of 12.21m OD, though the original top of the ditch was probably originally at a higher level than this. The upper fill produced a moderate artefactual assemblage including pottery dated AD 70-120 and CBM dated AD 55-160 along with fragments of Roman glass.

7.4.4 A short distance to the north at the eastern edge of the Tower 1 area a slightly different backfilling sequence was recorded in section: The earliest deposit that could be safely recorded archaeologically here was a soft, light brownish grey, silty clay [540], recorded at an upper elevation of 11.92m OD, though not fully excavated. This was overlain by a 70mm thick deposit of sandy gravel [539], which in turn was sealed by a 0.20m thick layer of apparent redeposited brickearth [534]. Above this was a further gravelly deposit [533], 0.33m thick, with upper fill [532] comprising a soft, mid brownish grey, sandy clay, 0.11m thick and recorded at an upper elevation of 12.63m OD. Towards the northern edge of Tower 1 the western edge of the ditch [530] was recorded a little further west than elsewhere, indicating the full extent of the feature. A little to the east of this, the ditch infilling sequence had been recorded during the UPA8 investigations (Figure 6.1). The earliest deposit recorded (though not necessarily the basal fill) [479] was a firm, mid greyish brown sandy clay recorded at an upper elevation of 12.44m OD and at least 0.65m thick. Cut into this was a north-south alignment of three postholes [485], [486] and [487], which appeared as empty voids with no fill. Backfilling of the ditch recommenced with [470], a friable, mid brownish grey, sandy silt, which produced pottery dated AD 70160 and CBM dated AD 50-160. The upper fill at this location was a firm, light brownish grey, sandy silt

[469], up to 0.40m thick and recorded at an upper elevation of 12.50m OD, which produced similarly dated pottery and CBM assemblages.

7.4.5 Further to the north in UPA7 the ditch [370] had been more heavily horizontally truncated and only a single fill [369] was recorded. This comprised a firm, mid brownish grey, sandy clay, which produced a small assemblage of pottery dated AD 70-160. The upper elevation of the deposit was recorded at 11.32m OD and it appeared to extend to the base of the ditch at 10.76m OD. Further north still the ditch had been even more heavily horizontally truncated by the basement of the former public house and in EX2 the feature [584] survived to a depth of just 0.15m, the base being recorded at 10.71m OD. However, it was possible to record the full lower profile in the UPA1 and Tower 2 investigations. Towards the south of Tower 2 the base of the ditch [402] was recorded at 10.91m OD and there was a suggestion that the sides of the feature may originally have been revetted (Figure 6.2); silty clay deposits [406] and [407] at the eastern and western sides of the ditch respectively, may have represented slumping of material into voids left by decayed timber shoring. The basal fill within the ditch [401] was a soft, mid brownish grey, sandy clay that was 0.30m thick and contained fragments of daub but no clearly dateable artefactual evidence. It was overlain by a soft, mid greyish yellow, sandy clay [400], which was 0.15m thick but again contained no dateable artefactual remains. This was sealed by [399], a 0.23m thick deposit of firm, light brownish grey, sandy clay that did contain a small artefactual assemblage, including pottery dated AD 50-200 and CBM dated AD 50-160. Above the slumping layer [406] on the east side of the ditch were two further, thin sandy clay deposits [405] and [404], though these again contained no dateable finds. Towards the northern edge of the site the ditch [133] exhibited a slightly different profile (Figure 6.3). The base here was recorded at 10.65m OD and included a narrow, vertical sided slot, not dissimilar from an 'ankle-breaker' one might associate with a military ditch, before widening out to more gently sloping, concave sides. The basal fill within the 'ankle-breaker' element was a 0.21m thick, very soft, brownish grey clay [137], which appeared to be a naturally accumulated deposit and contained no finds. It was overlain by a more substantial deposit of moderately stiff, mid brownish grey, clayey silt [132], which contained a small assemblage of pottery dated AD 50-100 and CBM dated AD 55-160+. Whilst the top of the ditch at the south of the site survived to elevations above 12.6m OD, beneath the former public house cellar it survived barely above 11.4m OD.

7.4.6 A short distance to the west of the roadside ditch in the south-east corner of the site, a number of features indicated possible structural development alongside the road (Figure 5). Three broad groups of postholes and stakeholes may have represented elements of three different structures, though the observed patterns have been partly a function of the three groups being located in different underpinning pits and excavated by different individuals. The easternmost group in UP20 comprised

stakeholes [277], [287], [328], [330], [332], [340], [342], [344], [346] and posthole [275]. A number of the features produced small pottery assemblages broadly dated AD 70-160. Some of these features along with stakehole [358] in UP12 may have truncated the upper fill at the western edge of the roadside ditch suggesting some structural development post-dated ditch infilling. The second group in UP17 comprised stakeholes [224], [226], [228], [230], [232], [234], [236], [238], [246], [248], [255], [258] and posthole [250]. None of these features produced any dateable artefactual material though they may have been part of the same structure as the features in UP20. A third group was located in a small area at the south-east corner of UP21 and comprised stakeholes [298], [300], [302], [304], [306], [308], [322], [324] and [326]. Again, no dateable artefactual evidence was found in any of the features.

7.4.7 In addition to the stakeholes and postholes, some layers in UP17 were also interpreted as possible contemporary or slightly later floor or surface deposits. To the centre and south of the underpinning pit, layer [217] was a soft, light brownish grey, silty, sand clay deposit just 50mm thick, which appeared to be bedding for layer [211], a very firm, mid to dark yellowish brown, sandy silty clay, possible floor surface, also 50mm thick and recorded at an upper elevation of 12.45m OD. To the north, very firm, mid yellowish brown sandy clay deposit [210] may have been the same or a similar floor deposit. This was 100mm thick and recorded at an upper surface elevation of 12.38m OD. A further possible floor layer [259] extended westwards from UP17 into UP21 and was recorded at a surface elevation of 12.42m OD. All of the deposits except the latter produced small pottery assemblages broadly dated AD 70-160.

7.4.8 Slightly post-dating some of the stakeholes and floor deposits, the most extensive structural feature here was a possible beamslot [196] that was aligned approximately east to west, perpendicular to the orientation of the road and ditch. The beamslot was up to 1.8m in length, extending across UP21, UP17 and UP20, 0.40m wide and up to 0.28m deep, surviving to an upper elevation of 12.49m OD. The lower fill [205]/[289] produced pottery generally dated AD 70-160, though possibly intrusive material was also present. Secondary fill [204] contained no dateable artefactual material but the upper surviving infilling deposit [195] included pottery dated AD 70-100 and CBM dated AD 55-160.

7.4.9 Because there had been significant recent truncation to the north and north-west of the area where the potential structural remains were identified, particularly by the construction of a lift shaft and associated works, further structural evidence was limited, though a small number of features and deposits were identified elsewhere. A fragment of possible floor deposit [366] was recorded at a surface elevation of 12.59m OD in UP19 below the south-west corner of the former Hackett building, sandwiched between two fragmentary layers [365] and [367]. Postholes [499], [501]

and [508] in UP24, a short distance to the east, may have represented remains of a timber structure. A small group of features, postholes [394], [396] and stakehole [398] to the west of the roadside ditch in Tower 2 towards the north-east of the site may have been fragmentary elements of a further possible structure. None of these features however, produced any dateable artefactual remains. A further isolated posthole [615] was recorded in EX1, but again produced no dating evidence.

7.4.10 As well as the potential structural evidence there were also a number of cut features dating to this earlier Roman phase that may have been associated with domestic occupation. Possibly one of the earliest of these was pit [350], which actually pre-dated the possible floor in UP19 (Figure 5). This heavily truncated feature measured at least 0.3m across and was 0.13m deep. It contained a small assemblage of pottery dated AD 50-100 though was difficult to directly associate it with other features because of extensive truncation in the area. Towards the south-east of the site, pit [216] may have been associated with the possible structures in this area but truncated the backfill of the roadside ditch indicating a later usage. Immediately to the west was larger pit [294] that truncated some of the possible structural elements again indicating later activity, though both of these pits produced finds consistent with a 1st- to 2nd-century date. Further to the west pits [267] and [320] may have been associated with the possible structures or may even have been large postholes directly related to the structures. The former produced a very broadly dated Roman pottery assemblage, whilst the latter lacked any dateable finds. A further pit [200] to the west was so heavily truncated that it was difficult to define and relate to any other features and it produced no dateable finds.

7.4.11 A group of intercutting but truncated features was recorded at the western edge of EX3, though relationships between these were sometimes masked by a series of medieval features in the same area, which had truncated them (Figure 4). Stratigraphically the earliest of these was heavily truncated pit [678], of which only a small portion at the south-east survived, though it was up to 0.98m deep. Pottery from the firm, dark greyish brown, silty clay fill [677] was dated to AD 50-100 and the backfilled feature was slightly truncated to the south by the more extensively preserved, oval pit [684]. This measured up to 1.50m across and was 0.68m deep with moderately sloping sides and a flattish base. The firm, greyish brown, silty clay fill [683] produced assemblages of Roman pottery dated AD 70-100 and CBM, along with a bone stylus (SF25). This feature in turn was partly truncated to the south by pit [682], a heavily truncated feature measuring at least 1.15m across and 0.40m deep, with concave sides and a flattish base. To the south was a more extensive, though also heavily truncated feature [686], which may have followed a north to south linear alignment. It measured at least 3.24m in length and was 1.16m wide, with a depth of at least 0.38m. The fill [685] produced a small assemblage of Roman pottery dated AD 70-160. Both features [682] and [686] were truncated by the extensive (though

itself heavily truncated by medieval features) pit [674]/[680], which was possibly sub-rectangular in shape, measuring at least 3m north to south by 1.10m east to west and 0.30m deep. It had steeply sloping, concave sides and a flattish base. The various fills ([672], [673], and [679]) produced assemblages of Roman pottery dated AD 100-120, AD 70-100 and AD 140-200 respectively and CBM. The north-east of feature [686] was also slightly truncated by another heavily truncated pit [667], only a south-eastern part of which remained, though it survived to a depth of 0.39m. A small assemblage of Roman pottery dated AD 50-200 and CBM was recovered from its fill [666]. Although heavily truncated, this group of features appears to have been largely associated with waste, probably including cess disposal and may therefore have been associated with nearby domestic activity. Ironically the extensive truncation of these features was partly as a result of the excavation of a number of medieval cess pits a millennium or so later (see below).

7.4.12 To the north-west of the possible structures was a very large pit [590]/[606]/[620] that occupied a significant area of EX1 and EX3 (Figure 4; Plates 7 & 8). It measured at least 6.5m north to south by 4.5m east to west and was up to 0.56m deep. Given its size it was initially interpreted as a quarry pit but it had quite regular, straight sides and a flattish base, suggesting it may have performed a more formal function and a posthole [615] at the eastern edge suggested it may have had a structural purpose. The feature was backfilled with a number of deposits, some of them producing moderate to large finds assemblages and some giving indications of having been burnt. Indeed, three layers [94], [96] and [97] recorded in ATP3 of the evaluation as possibly being associated with midden deposits, appear to have been fills of this pit. Deposits [94] and [96] also produced pottery and CBM assemblages of 1st- to 2nd-century date as well as Roman glass. The backfilled feature was partly truncated by a smaller, sub-circular pit [565] that measured 0.90m across but was just 0.17m deep, though a small assemblage of Roman pottery was recovered from the fill [564]. Another small, truncated, shallow pit [581] was located to the north-east, which again produced small assemblages of Roman pottery. The possible functions of these shallow features were unclear.

7.4.13 Although not on the same scale as [590]/[606]/[620], other largish pits were recorded to the west in UP19/UP24/EX3 and much further to the north-west in areas EX4.2 and EX4.3. The former, [318]/[506]/[638], measured at least 5.5m north to south by 2.5m east to west and was up to 1.45m deep, though was shallower beneath the deeper truncation in EX3. It had truncated some of the intercutting pits in EX3 and contained numerous backfilling deposits, most of which produced pottery and CBM assemblages of 1st- to 2nd-century date, though some possible later material was also present. A small, heavily truncated pit [675] immediately to the north, may have been contemporary. Pit [707]/[714] to the north-west in Areas 4.2 and 4.3 was somewhat irregular in shape, measuring a little less than 4m east to west by 1.7m north to south

and was at least 0.65m deep. It exhibited a much less complicated backfilling sequence than the feature to the south but yielded finds assemblages of a similar date.

7.4.14 To the south-east of pit [318]/[506]/[638] a series of truncated, intercutting features was recorded in UP23. Stratigraphically the earliest of these was a heavily truncated, north-east to south-west aligned linear feature [410], at least 0.40m deep and 0.23m deep with straight sides. The single fill [409] gave the appearance of redeposited brickearth but contained a small assemblage of pottery dated AD 50-120. The backfilled feature was sealed by a 0.27m thick deposit of very soft, light greyish brown sandy clay [377]/[392] interpreted as a possible subsoil and recorded at an upper elevation of 12.54m OD. This was overlain by a thin and heavily truncated similar deposit [372]/[391] but one which produced a small assemblage of pottery dated AD 50-120. This layer was cut by a further three features. The northernmost feature [390] had been heavily truncated to the extent that only the southern edge was visible, but appeared to be a small pit measuring at least 0.55m across and 0.13m deep. Its loose, stony fill [389] produced a small assemblage of pottery dated AD 70-160. To the south, feature [388] appeared to be another small pit but was heavily truncated to the west and extended beyond the southern limit of excavation. This too measured at least 0.55m across and was 0.29m deep with slightly concave sides and a flat base. It yielded CBM dated AD 50-120 and a small pottery assemblage dated AD 50-200, along with a single possible prehistoric flint-tempered sherd. Feature [384] had also been heavily truncated with only small parts of the north-east and south-east edges visible. It measured at least 0.49m across but was 0.66m deep and appeared to have vertical sides and a flat base. The primary fill [408] produced assemblages of CBM dated AD 50-160 and pottery dated AD 70-160. The upper fill [383] produced CBM dated AD 50-160 and was truncated by the more extensive, though shallow, pit [379] which measured at least 1.06m north to south by 0.54m east to west but was just 0.11m deep. It had near vertical, straight sides and a flattish base and its single fill [378] produced pottery and CBM assemblages of 1st- to mid 2nd-century date.

7.4.15 To the west, pit [425] had been heavily truncated on its western side and its shape was unclear but it measured 0.62m north to south by at least 0.50m east to west and was 0.75m deep. This too had steep, straight sides and a flat, even base, the single fill [424] producing a pottery assemblage dated AD 70-120. In UP24 to the west posthole [501] had been truncated by an apparent, north to south aligned linear feature [497], which itself had been heavily truncated to the north and west. It measured 1.06m north to south by 0.46m east to west and was 0.22m deep, with steeply sloping sides and a flat base. Primary fill [496] produced pottery and CBM assemblages of mid 1st- to mid 2nd-century date, whilst more broadly dated pottery along with daub was recovered from the upper fill [495].

7.5 Phase 4: Later Roman

7.5.1 Activity during the later Roman period (3rd to 4th centuries AD) was dominated by an inhumation cemetery, which partly survived at the southern edge of the site, where untruncated deposits survived to their highest level, though some contemporary non-funerary deposits were also present (Figure 7).

7.5.2 In an area a little less than 10m west of the backfilled roadside ditch, the remains of five inhumation burials indicated the presence of part of a Roman inhumation cemetery. All of the burials were aligned north to south, with the head at the southern end. The westernmost interment, skeleton [313] within grave cut [296] in UP19, survived to an upper elevation of 12.53m OD and had been cut to a basal level of 12.30m OD, but had been extensively truncated to the south by a later cess pit to the extent that only the feet and lower legs survived. Consequently interpretations of the nature of the burial were limited. Residual 1st- to 2nd-century pottery and CBM was recovered from the grave fill [295]. A short distance to the east, skeleton [261] within grave cut [262] was more extensively preserved, though had been truncated below the pelvis (Plate 9). The interred individual was probably a male aged 17 to 25 years, though no immediately obvious pathology was noted on the remaining bones (see Appendix 13). Residual 1st- to 2nd-century pottery and broadly dated CBM was again recovered from the grave fill [260], along with possible coffin nails. The grave had been cut to a base level of 12.31m OD, survived to an upper elevation of 12.57m OD and had near vertical, straight sides, though the base exhibited a slight slope to the north.

7.5.3 Immediately to the east, though positioned further south, was skeleton [488] within grave cut [353]/[490] (Figure 7; Plate 10), which had truncated the western side of earlier Phase 3 linear feature [497] (Figure 8.1). The skeleton, most of which survived was of an individual, possibly a male of about 25 years of age, though exhibited no obvious signs of pathology (Appendix 13). The grave cut was rectangular with vertical sides and a flat base. It measured at least 1.80m north to south, extending beyond the southern edge of excavation (some horizontal excavation was required to recover the skull), was 0.60m wide and survived to a depth of 0.49m, being recorded at an upper elevation of 12.50m OD. Possible coffin nails were again recovered from grave fills [352] and [489], whilst residual earlier Roman pottery and CBM was also present.

7.5.4 A little more than 1m to the east, though again located further to the south was a skeleton [445] within a lead coffin [446] in grave cut [444]. The northern end of the coffin had been truncated by a late 19th- or early 20th-century sewer pipe but the remainder appeared largely intact (Plate 11). Unfortunately the coffin and skeleton within lay mostly beneath the southern wall of the former Hackett building and beyond and because of the urgency required to underpin the unstable wall (Figures 7 and 8.2), it was necessary to excavate the feature using unconventional horizontal

methodology. Nevertheless, it was possible to recover much of the remaining undisturbed skeleton, apart from the skull, which had suffered from some type of post-burial decay. The remains were those of a juvenile/adolescent aged 12 to 16 years and therefore not possible to assign to gender. Neither was any obvious pathology visible on the skeletal remains. The coffin was also recovered, the sides, southern end and lid of which were in reasonable condition, the latter exhibiting a scalloped pattern known elsewhere from later Roman burials. The base of the coffin however, appeared to have suffered from some type of decay and was in a more fragmentary state. The limited fill within the coffin [447] produced small assemblages of residual, earlier Roman pottery and CBM, as did the fill materials [443] and [442] above the coffin.

7.5.5 Approximately 2m to the east of the coffined burial was a fifth interment [691] in grave cut [692] that also extended beyond the southern edge of the site (Plate 12). The foot bones had been removed during the construction of the south wall of the Hackett building and the tibiae and fibulae were exposed when the wall was demolished. These were recovered by horizontal excavation to ensure that no elements of the skeleton were disturbed by further work on site but the remainder of the body was left *in situ* behind a protective layer of clay and concrete. Because of the limited skeletal material recovered, little could be said about the nature of the burial. The grave cut however, was clearly visible in section behind the demolished wall, exhibiting straight, vertical sides and a flat base (Figure 8.3). It was 0.60m wide and survived to a depth of 0.38m OD, the base of the cut being recorded at 12.36m OD; similar level to grave cuts [262] and [296] to the west but not as deep as cuts [453]/[490] and [444].

7.5.6 In addition to the burials, a small number of further features and deposits also appeared to be of later Roman date (Figure 7). Lying immediately to the east of grave [353]/[490] was pit [474], which truncated the same earlier Roman deposits as the grave cut. This feature had been extensively truncated but measured at least 0.86m by 0.50m and was 0.21m deep. Its function was unclear and its fill [473] produced only residual earlier Roman pottery. Approximately 1m east of the coffined burial and immediately west of grave cut [692] in UP25, was what initially appeared to be a north to south aligned linear feature [483], which prior to the exposure of grave cut [692] had been interpreted as a ditch marking the eastern edge of the cemetery area. It was 0.85m wide and 0.74m deep, with near vertical straight sides and a flattish base and extended beyond the southern edge of the site, being heavily truncated by post-medieval activity to the north. A primary fill [493] on the west side of the feature produced a small assemblage of 1st- to 2nd-century Roman pottery, whilst the more extensive upper fill [476] produced pottery and CBM assemblages of earlier date. Given the location of the grave to the east the feature clearly did not demarcate the edge of the cemetery and its actual function remains unclear. It was partly truncated by an apparent sub-circular feature [492], which itself had been heavily truncated

(Figure 8.4). This had generally steep sloping, slightly concave sides, though the slope was gentler to the west, where the base was shallower and flattish, dropping down to the east to give a sharp 'V' profile here. The feature measured at least 0.90m north to south by 0.65m east to west and was 0.34m deep. Its function was unclear and the fill [491] produced assemblages of 1st- to 2nd-century pottery and CBM.

7.5.7 In UPA8 at the eastern edge of the site, a series of deposits overlying the backfilled roadside ditch was recorded (Figure 6.1). The earliest of these [468] was a very firm and compacted gravel, which appeared to have been deliberately laid to form a hard surface (Plate 13). The deposit was only 0.30m thick, so not substantial enough to form a road but it may have been part of a pathway to the west of the road that ran along the line of Bishopsgate. There was no evidence of a roadside ditch having been re-excavated to the west of the original 1st-/2nd-century feature so it can only be assumed that that the road and/or the ditch were located further to the east in the later Roman period and that surface [468] lay west of these. The surface deposit was overlain by a 50mm thick deposit of loose, mid greyish brown, sandy silt [459], which in turn was overlain by a 100mm thick layer of firm, sandy clay [481]. This was sealed by a 0.14m thick layer of friable, dark greyish brown, sandy silt [480]. Both the gravel surface and the thin layer of material above contained pottery dated to the 1st or 2nd century, whilst the layers above these were undated. Given that this sequence was only exposed in a small area of the site it is difficult to interpret but it appears that there was a later Roman hard surface to the west of the road, whilst the materials above were either late Roman or possibly early post-Roman; they are unlikely to have been much later as they were truncated by a medieval cess pit (see below). In Tower 1 to the south, a small pit [537] could also be seen cutting into the ditch backfilling deposits at the eastern edge of the site. This feature measured 0.46m across and was 0.36m deep, with fairly steeply sloping, straight sides and a concave base, so could have been a posthole. No finds were recovered from the fill [536] but it was very similar to that in other Roman features in the area.

7.6 Phase 5: Medieval

7.6.1 During the first two phases of archaeological investigation on the site, evidence for medieval activity was largely restricted to residual artefactual material, most likely because medieval deposits were extensively truncated by structural developments in the post-medieval period. However, during the wider subsequent investigations a number of medieval features became apparent, some possibly from a very early date, around the time of the Norman Conquest (Figure 9). The medieval archaeology was dominated by two broad and perpendicular alignments of features, many of which appeared to have been cess pits. The first alignment extended from the southern edge of the site, below the south-west corner of the former Hackett building, north-eastwards towards the northern edge of the site below the basement of the former

public house (Plate 14). At the southern end of this alignment, pit [285] in UP19, which had extensively truncated the westernmost Roman burial, was sub-rectangular in plan, measuring 1.20m north-east to south-west, though extending beyond the southern limit of excavation, by 0.82m north-west to south-east. It had near vertical, straight sides extending down to a slightly concave base and survived to a depth of 0.75m, the top having been recorded at 12.68m OD. The primary fill [284] was an 80mm thick deposit of soft silty sand, above which, was a 0.23m thick deposit of soft, mid brownish grey, clayey, sandy silt [283] that yielded pottery and CBM assemblages of broad Roman date. The more extensive upper fill [282] also yielded Roman finds assemblages. A short distance to the east in UP24 and partly truncating backfilled grave [353]/[490] was a small, sub-rectangular feature [472], measuring just 0.79m east to west by 0.32m north to south and 0.31m deep. It had generally straight, vertical sides and a flattish base and was filled with a fairly loose, mid brownish grey, gravelly, clayey sand [471], which yielded small quantities of early Roman pottery and CBM. The function of the feature was unclear but it clearly post-dated the late Roman burial and stratigraphically appeared to be broadly contemporary with cess pit [285].

7.6.2 A little more than 1.5m north of pit [285] was sub-rectangular feature [660] in EX3 (Plate 15), which measured 1.24m north to south by 0.90m east to west and was 1.61m deep, with the base recorded at 10.43m OD. In common with the cess pit to the south it had steeply sloping, straight sides and a flattish base, though was clearly somewhat deeper. The lower fill [676] was a soft, mixed silt that included frequent fragments of decayed wood that may have been remnants of a timber lining, as well as a skeleton of a cat. Roman pottery and CBM were also recovered along with a copper alloy Roman coin (SF24). The upper fill [659] also contained wood fragments, pottery dated 1000-1100 and Roman CBM, along with fragments of worked stone, possibly from Roman structures. This feature also appears to have been a medieval cess pit. Approximately 1.5m to the east of pit [660] and north-east of [472] was another sub-rectangular feature [635], which measured 1.50m east to west by at least 1.00m north to south and was 1.10m deep. The sides appeared slightly stepped and the nature of the base was difficult to ascertain as it cut into an earlier feature [638], the upper fill of which, initially appeared to be a lower fill of this feature. The actual lower fill [634] of pit [635] was a soft, dark grey, slightly silty clay, which included a moderate finds assemblage including Roman pottery and a Roman coin dated AD 69-96 (SF14). It was overlain by a moderately compacted, light brownish grey, sandy clay [624], which also produced a moderate finds assemblage including Roman pottery.

7.6.3 The alignment of apparent medieval cess pits was continued to the north of pit [660] where an earlier feature [665] appears to have been recut or replaced by the later pit [653]. Pit [665] was sub-rectangular in plan, measuring 1.70m north to south by 1.30m east to west and 0.86m deep, having been cut to a basal level of 10.96m OD.

It had straight, near vertical sides and a flattish base (Figure 10.1). It was backfilled with a moderately soft, mid to dark greyish brown silty clay [664] that included lenses of small wood fragments, possibly derived from a decayed timber lining. It also produced a moderate finds assemblage including pottery dated 1050-1150, Roman CBM, animal bone and a possible metal ring fragment (SF22). Pit [653], which truncated [665] to the south-west, was also sub-rectangular in plan and measured 1.76m east to west by 1.60m north to south with a depth of at least 0.81m. Its form was similar to the earlier feature and its friable, variably coloured fill [652] also contained wood fragments from a possible lining. The recovered finds assemblage included pottery dated 1140-1220, glass, Roman CBM, animal bone and a number of metal artefacts (SFs 15-18, 20 & 21). A short distance to the west were two further pits [661] and [644], the latter possibly having been a replacement for the former. Pit [661] was sub-rectangular in plan though with more gently sloping sides than the features to the east and had been truncated by the foundations of the Hackett building. It measured 1.70m north to south by at least 1.04m east to west and was 0.70m deep. Its fill [646] was a firm, orangey brownish grey silty clay that contained a small artefactual assemblage, including Roman pottery. It had been partly truncated to the south by pit [644], which had itself been heavily truncated by post-medieval structural development to the extent that only a small part of the feature remained. Again, a small finds assemblage including Roman pottery was recovered.

7.6.4 A short distance to the east of pit [665] the base of a heavily horizontally truncated sub-rectangular pit [688] was exposed below internal building walls. The feature measured 1.40m north to south by 0.95m east to west but survived to a depth of just 100mm, having been excavated to a basal level of 10.87m OD. The base was flat and the remnants of a slightly friable, very dark greyish brown, sandy silt fill [687] were present, from which a small assemblage of Roman pottery, CBM and animal bone was recovered. Almost immediately to the north of pit [665] was another sub-rectangular feature [658] that continued the alignment of possible cess pits. This measured 1.24m east to west by 1.56m north to south and was 1.20m deep, having been excavated to a basal level of 10.72m OD. It had originally extended further north but had been truncated by a large, 19th-century sewer. The visible sides were straight and near vertical and the base was flat. The basal fill [663] was a firm, dark greyish brown silty clay, up to 1.18m thick and produced a moderate assemblage of artefactual material, including Roman pottery, whilst the less extensive upper fill [657] was a soft, mid greyish brown sandy silt, which produced a moderate finds assemblage, including a number of large sherds from a substantial cooking pot of 11th- to 12th-century date.

7.6.5 To the north of pit [658] there was extensive truncation of earlier deposits by structural development associated with the basement of the former public house, but the alignment of possible medieval cess pits continued beyond this, with three further

features being exposed at the western end of UPA2 and in the Tower 3A area. The southernmost of these was oval pit [431], which had steeply sloping sides and a concave base (Figure 10.2). It measured 1.44m east to west by 1.14m north to south and was 0.50m deep, having been excavated to a basal level of 10.76m OD. The basal fill [428] was a thin layer of redeposited brickearth that had probably accumulated naturally and was overlain by a layer of soft to friable, mid to dark greyish brown, clayey silt [429], which was up to 0.20m thick and produced a small finds assemblage, including pottery dated AD 970-1100. Above this was a more extensive deposit of soft, mid to dark greyish brown, clayey silt [430] that produced pottery dated 1050-1150. The upper fill of the pit was a 30mm thick deposit of soft, mid to dark greyish brown, clayey silt [423], though produced no dateable finds. Almost immediately to the north was sub-rectangular pit [155], which measured 1.40m north to south by 1.07m east to west and was 1.00m deep, having been excavated to a basal level of 10.43m OD. The remnants of a decayed timber lining [156] were recorded around the inner edge of the pit and it had been backfilled with a soft, mottled, mid grey and orangey brown clay [154], which produced a small finds assemblage, including pottery dated 1140-1220 and Roman CBM. A short distance to the west was what had originally, probably been a very similar feature [153], though this had been heavily truncated by structural development associated with the former public house cellar. This had been excavated to a basal level of 10.38m OD and also contained the remnants of a timber lining [158]. It had been backfilled with a moderately compacted, very dark greyish brown, clayey silt [152], though this only contained residual Roman pottery and CBM, along with clay tobacco pipe (CTP), which was clearly intrusive.

7.6.6 The westernmost features of the apparent perpendicular alignment of medieval cess pits were located in Area EX4.2, though all had been truncated to some extent. At the northern edge of the area and originally extending beyond the northern edge of the site, pit [703] appears to have been sub-rectangular in plan and measured at least 2.10m east to west. It had steeply sloping, straight sides. The fill [702] was a friable, dark greenish brown, sandy silt that produced a small assemblage of Roman pottery and CBM. Immediately to the south-east was pit [705], which had been truncated by post-medieval activity to the south. This survived as an oval feature, measuring 1.70m north to south by 1.10m east to west and at least 0.60m deep. It had undercutting sides, probably as a result of slumping of the edges and was filled with a soft, mid brownish grey, silty clay [704] that produced a small amount of pottery dated 1240-1350, CBM of broad medieval/post-medieval date and animal bone. To the south-west was a heavily truncated pit [709], the exact form of which, was difficult to ascertain because of the truncation. It measured at least 1.89m north to south by 1.22m east to west, with a depth of at least 0.44m. Pottery dated 1140-1200,

medieval CBM and animal bone were recovered from its firm, dark brownish clay, clayey silt fill [708].

7.6.7 A little more than 1m to the east of pit [705], towards the western edge of Area 4 was a vertical-sided, sub-rectangular pit [609] that measured 1.30m north to south by 1.10m east to west and was at least 0.56m deep. It was filled with a moderately firm, dark greyish brown, silty clay [608], which produced Roman pottery, CBM and a small iron fragment, probably a nail. A little more than 1m to the south-east was sub-rectangular pit [613], which appeared to have been recut as [611]. Pit [613] had vertical sides and measured 1.28m north to south by 0.90m east to west. It was filled with a firm, mid to dark grey, clayey silt [612] that contained a small finds assemblage including Roman pottery and had been truncated by the vertical sided recut [611], which covered a smaller area in plan. The fill of this [610] was a firm, dark brownish grey silty clay that produced a small assemblage of Roman pottery and CBM. A short distance to the north-east and lying just to the west of the former public house cellar was a further pit [600]. This had been partly truncated by post-medieval activity but it was possible to ascertain that it was sub-rectangular in plan with near vertical, straight sides. The single fill [599] was a moderately firm, greyish brown, silty clay that produced a small quantity of pottery dated 1080-1150 and metal-working slag.

7.6.8 Some distance to the east, the apparent alignment of medieval features was continued by two features exposed during excavation of the crane base. The westernmost feature [559] was sub-rectangular in plan with near vertical, straight sides, measuring 1.20m north to south by 1.00m east to west. The fill [558] was a mid greenish brown silt that had a very 'cessy' appearance and produced a small finds assemblage including Roman pottery, brick and tile. However, given the similar form and fill of features to the west and the continuity of a broad easterly alignment of these features, this was interpreted as a medieval cess or latrine pit. Just 1.8m to the east was pit [561], which measured 1.40m north to south by 1.35m east to west, being almost square in plan. This too had near vertical straight sides but the fill [560] was different to that in the feature to the west, being a rather more firm sandy silt, exhibiting a less greenish hue. A small assemblage of Roman pottery was recovered and this too was interpreted as a medieval cess or latrine pit, though the fill was less convincing. Given the likely extent of truncation by basement construction, these two features must originally have been very deep; certainly in excess of 2m and probably more than 3m.

7.6.9 In addition to the apparent medieval features within the perpendicular alignments, a small number of further features appeared to be contemporary. Approximately 3m east of pit [635] towards the southern edge of the site a feature initially excavated as [213] during the underpinning works and completed during the EX1 excavation as [563] was sub-rectangular in plan with near vertical, straight sides and a flattish base.

It measured a little more than 1.5m both north to south and east to west and was approximately 1m deep. It was largely filled with a soft, very dark grey, silty clay [562], which produced a small finds assemblage, including pottery dated 1050-1150, glass, Roman CBM, animal bone and a bone pin (SF5). A less extensive upper fill [212], only extant at the south of the feature was a friable, mid reddish/yellowish brown, silty, sandy clay that produced a small finds assemblage, though only Roman pottery and CBM was present.

7.6.10 In UPA8 towards the south-east of the site was a sub-rectangular pit [464] with vertical sides and a slightly uneven base. It measured 1.15m north to south by 0.60m east to west but only survived to a depth of 0.25m. The basal fill [461] comprised a firm, mid pinkish brown, sandy clay, just 50mm thick, though it did produce a small quantity of Roman pottery. It was overlain by a more extensive deposit of firm, mid bluish grey, sandy clay [460], which produced a larger finds assemblage, though this was all Roman. Towards the north-east corner of the site, a more extensive feature interpreted as a possible ditch [362] was recorded in the Tower 2 area (Figure 10.3). It appeared to be aligned north-east to south-west with near vertical sides and a flattish base but had not been observed in UPA1 to the north and was not subsequently seen in the crane base or any areas to the south, though the latter had experienced considerable post-medieval truncation. On the base of the feature was a 0.11m thick layer of firm, light greyish brown, silty clay [376] that probably represented natural silting. This was overlain by a 0.20m thick deposit of soft, dark greyish brown, silty clay [375]. Above this was a more extensive deposit of firm, light greyish brown, silty clay [374] and the upper fill [361] comprised a soft, light brownish grey silty clay. This was also quite extensive and the only fill of the feature to produce dateable artefacts, which included Roman pottery and worked flint. Although interpreted as a ditch during excavation the actual function of the feature remains unclear, though located immediately to the east was an oval posthole [386], which may have been contemporary but produced no dateable finds.

7.7 **Phase 6: 15th-17th Century**

7.7.1 Given the extent of later post-medieval truncation of earlier deposits there was little evidence to demonstrate a continuity of occupation of the site from the late medieval into the early post-medieval period. Historic building recording showed that structural remains extant prior to redevelopment dated to a number of building phases, the earliest being the north external and south internal walls along with the vaulting in the cellar beneath the former White Hart public house, which dated to the 17th century (Garwood 2015). However, an indication of some type of presence in the period preceding this was identified (Figure 11). Towards the north-east corner of the site, a sub-rectangular pit initially recorded as [127] during underpinning works in UP15 and further defined as [280] during the investigations in Tower 2, measured 1.97m north

to south by 0.92m east to west but survived to a depth of no more than 0.18m. It had vertical sides, breaking to a flat base and was filled with a friable, dark greyish brown, clayey silt [126]/[279], which also filled a small, sub-circular pit cut into the base of the southern half of the feature. This deposit contained 16th-century pottery along with broadly contemporary and earlier CBM. The pit had evidently been excavated prior to construction of the cellar in this area and would most likely have originally been much deeper, though its function was unclear. A short distance to the west, heavily truncated, sub-circular pit [139] may have been a contemporary feature, though no dateable finds were recovered from its firm, mid yellowish grey, sandy clay fill [138]. Further evidence of possible 16th-century activity came from a small pit [264] in UPA4 to the south, at the eastern edge of the site. This was squarish in plan, measuring up to 1.08m across and 0.24m deep, having been truncated by an early 19th-century internal wall to the north. It had vertical sides, a flat base and was filled with a variably compacted, mid brownish grey, silty clay [263] that contained CBM, some of which, may have been intrusive, and glass of late medieval/early post-medieval date.

7.7.2 Close to the southern edge of the site in UP21 was a small, shallow, sub-circular pit [310], which although producing Roman glass and CBM, may have been another feature of early post-medieval date and certainly one that pre-dated the Hackett building cellar. It was truncated to the south by the more extensive, though barely any deeper, sub-circular pit [273]. However, the friable, dark brownish grey, silty clay fill [272] also only produced pottery of Roman date.

7.7.3 Further to the west in UP10, a small, sub-circular pit or posthole [193] was filled with a well compacted, dark greyish brown clayey silt [192] that contained abundant chalk and CBM fragments, the latter broadly dated 1480-1900. This may have been associated with structural development that predated the construction of the Hackett building basement in the early to mid 18th century, and may have been as early as 16th century. A short distance to the north, small, sub-rectangular posthole [207] may have been a related feature, though no dateable finds were recovered from its fill [206]. Nearby heavily truncated, sub-circular pit [180] may have been a further contemporary feature though only residual Roman pottery was recovered from its friable, mid greenish brown, clayey silt fill [179]. A number of layers within UP10, including remnants of a possible chalk floor foundation [241], also indicated some structural development pre-dating the Hackett building, possibly as early as the 16th century, though none of these deposits contained dateable artefactual material.

7.7.4 During excavation of the southern pile probing trench, part of the southern basement wall west of the former Hackett building collapsed, revealing a large pit [554] to the south (see Figure 2), containing multiple, articulated human burials within a loose, dark greyish brown, silt matrix [553]. The full extent of the pit was not clear but extended at least 3m east to west from close to the western edge of the former

Hackett building, at least 0.5m north to south and was at least 1.5m deep. The top of the pit lay less than 1m below the current land surface and was sealed by ground-raising deposits though these and the pit had been heavily truncated by construction of the basement wall. The fill of the pit was very loose and consequently a large volume of material, including a number of burials collapsed into the trench. The collapsed material was removed by machine and placed on plastic sheeting to the north of the trench and the trench was then rapidly backfilled because of the danger of further collapse of material beneath Alderman's Walk and potential collapse of the road. The retrieved material was sifted by hand in order to recover human skeletal remains and other finds. Retrieval of materials revealed that the remains of at least ten individuals had fallen into the trench, though further numerous burials remained *in situ* within the burial pit (see Appendix 13). In addition to the human remains, a number of animal bones were also recovered, along with pottery and building materials, which included residual Roman material, though the latest dated finds suggested an early post-medieval date of deposition; pottery from the pit fill has been dated to the period 1580 – 1700. The burial pit therefore probably dated to sometime during the 17th century and most likely pre-dated the earliest structures extant on the site at the time of the historic building recording survey (Garwood 2015, 15).

7.8 Phase 7: 17th-18th Century

7.8.1 In addition to the construction of the vaulted cellar to the White Hart public house in the mid to late 17th century, a number of features and deposits appear to have been broadly contemporary with this phase of development, if not slightly earlier or slightly later (Figure 12). A large, sub-rectangular pit initially identified during the underpinning in UPA2 as [136] and further exposed during the Tower 2 investigations as [315] probably immediately preceded cellar construction. The pit measured in excess of 6m east to west by 2.5m north to south and survived to a depth of more than 0.5m. It had quite regular, near vertical sides but a base that was somewhat uneven and for this latter reason was interpreted as a possible quarry pit, possibly associated with cellar development. Its fill [135]/[314] produced a varied finds assemblage, including CBM dated 1480-1900, glass dated after 1640 and clay tobacco pipe (CTP) from [135] dated 1580-1740, though the CTP from [314] appeared to be slightly later. Deposit [62], a friable, mid yellowish brown, sandy silt recorded in evaluation trench ATP1 was probably also a fill within this feature and produced CBM of a likely 17th-century date, though residual Roman pottery was also present. Deposit [57] above probably represented a later phase of infilling. A short distance to the west in UP5, a much smaller pit or possible posthole [150] was sub-rectangular in plan with steeply sloping sides tapering to a pointed base. It measured up to 0.78m across and was 1.03m deep, with a soft, light greyish brown, sandy silt fill [149] that contained abundant chalk blocks, along with a CBM assemblage broadly dated 1480-1900. This too may have been associated with initial cellar development.

Further to the west, sub-rectangular pit [437] in Tower 3A had vertical sides and a flat base, measured up to 1m across and was 0.57m deep (Figure 17.1). It comprised two fills, the lower of which [436], was a soft, mid brownish grey, silty, sandy clay up to 0.20m thick. It produced Roman and medieval pottery, though CBM also recovered was broadly dated to the period 1450-1700. The upper fill [435] was similar to the lower deposit but included orange mottling and produced broadly dated, post-medieval CBM and glass. This feature may have been associated with cellar development though lay to the west of the earlier dated structural remains identified during the historic building survey. However, the foundations of the north external wall of the building in this area may have been contemporary with the vaulting to the east; only the wall above cellar floor level dating to a later phase of development. Following removal of the western end of the cellar wall a slightly friable, very dark grey to black, sandy silt [689] was exposed, which may have been the truncated fill of an earlier feature. However, it contained a near-complete, 17th-century Bartmann Jug and it is possible that this may actually have been a deliberate foundation deposit, such vessels sometimes being associated with superstitious beliefs.

7.8.2 Another large pit was exposed towards the south of the site, initially as [522] in Tower 1 and subsequently as [571] in Area EX1. This measured at least 3.5m north to south by 3.0m east to west and was 1.35m deep. It was slightly irregular in plan with near-vertical, straight sides, though a slightly uneven base. The variable, mixed fills [520], [521] and [570] produced finds assemblages generally dated to the 17th century, though CTP from [520] and some of the CBM was possibly a little later. This feature lay beneath the Hackett building to the south of the 17th-century cellar under the public house but may have been contemporary with the cellar development. A smaller pit [291], a short distance to the south also appeared to be broadly contemporary. This was sub-rectangular in plan, though had been heavily truncated, with straight, vertical sides, with some undercutting and a flattish base. It measured up to 0.94m across and was 0.95m deep, with a loose, mid brownish grey, silty clay fill [290]. This produced post-medieval glass and CBM broadly dated 1480-1900.

7.9 **Phase 8: 18th – 19th Century**

7.9.1 The historic building survey indicated that the extant basement structure below the Hackett building dated to the early to mid 18th century and archaeological investigations during underpinning along the southern edge of the site indicated that here at least, the building wall did not extend far beneath the cellar floor level; there being little or no foundation! A number of features recorded during the archaeological investigations were broadly contemporary with this 18th-century development, the most significant of which, were a number of sub-basement level, brick-built structures, three of which, lay below the Hackett building basement (Figure 13). The westernmost of these (SBS1) was a sub-triangular structure initially recorded during

the underpinning investigations in UP23 and UP25 and further exposed during the investigations in Area EX3. The initial investigations close to the southern building wall exposed a structure that had been slightly truncated to the east by a later internal wall but comprised a north-west to south-east aligned wall [412]/[477], north-east of which was a brick structure [478] that supported a brick floor [403] at the upper level of [412]/[477]. Remnants of a small brick and stone structure of unknown function [208] lay over part of the floor. The north-eastern edge of [478] incorporated a further north-west to south-east wall, though one that diverged from [412]/[477] to the north. The investigations in EX3 explained this divergence when the remainder of the brick structure was exposed as [622]. The complete structure measured approximately 2.8m from south-east to north-west and was a little less than 2m wide at its north-western end. The south-eastern end had been truncated by the later internal cellar wall but was probably less than 1m wide. Removal of later infill revealed that the structure was 1.54m deep, the base being recorded at 10.96m OD. The structure had been built from unfrogged red bricks and occasional stone blocks, irregularly coursed and bonded with a moderately hard, light grey, lime mortar. Wall [412]/[477] at the south-west was two brick widths wide, whereas the remaining walls were only one brick wide. Analysis of brick samples suggested that the structure had been built in the second half of the 18th century, though some earlier, re-used bricks were also present, and it appeared to have been some type of sub-basement storage structure, though the nature of the stored material was unclear as the extant fill was clearly dumped material of a later date.

7.9.2 A short distance to the east was a similar structure of sub-triangular or 'wedge-shaped' plan (SBS2), though this one widened out from south-west to north-east. This was initially exposed in ATP5 during the evaluation, when the south-west end of the structure [80] along with the north-west [77] and south-east [78] walls were recorded (Plate 16). The structure had been partly truncated to the east by a later internal cellar wall but was further exposed as [523] during the Tower 1 investigations and as [568] in Area EX1. The dimensions were similar to those of the structure to the west and it was constructed from similar materials in a similar fashion, with the walls mostly being one brick width wide, except to the south-east where the width was double. There was also no associated structure supporting a floor. Retrieved brick samples suggested a similar date of construction to the structure to the west, and again there appeared to have been significant re-use of earlier materials. This was also probably some type of sub-basement storage feature and it appeared to be associated with a blocked gap observed high on the southern external wall of the cellar, suggesting material was tipped into the chute-like structure from ground level on Alderman's Walk.

7.9.3 Further to the east was a third structure beneath the Hackett building basement floor (SBS3), initially recorded as [178]/[183] during the underpinning investigations at the

east end of UPA5, further exposed in UPA8 as [485] and fully defined as [513] in the Tower 1 investigations (Plate 17). The structure was rectangular in plan, measuring 2.50m east to west by 2.22m north to south and at least 1.05m deep. It was constructed from variably coursed, mid reddish brown to purple, unfrogged bricks, bonded with a firm, light grey, sandy mortar, though some courses also incorporated wooden beams (Figure 17.2). The walls of the structure were two brick's width wide all round and samples recovered suggested construction in the second half of the 18th century. This structure had also been deliberately backfilled at a later date so it was difficult to ascertain its original use or what it contained but it is likely that it was used for sub-basement storage of materials.

7.9.4 To the north of the Hackett building there was a large, east to west aligned structure beneath the basement floor of 119 Bishopsgate (SBS4), initially recorded as masonry elements [98], [99] and [100] in ATP6 during the evaluation (Plate 18) and further exposed as [578] during the investigations in Area EX1. The structure measured 6.5m in length, was slightly less than 2m wide and in excess of 1m deep. It was constructed from variably coursed, unfrogged red bricks and chalk blocks, forming vertical walls to the north, east, south and west, with brick vaulting sprung from the north to south walls, though much of the latter had been destroyed by later activity. The structure was free-standing, lying approximately 1.5m from the eastern edge of the building. Recovered masonry samples suggested construction in the second half of the 18th century. Again the structure appears to have been used for sub-basement storage though it lay within a different property to the features beneath the Hackett building and its form was very different. It is possible that at the time of its construction it was associated with the public house to the north so may have been used as a sub-basement beer or wine cellar, or served a similar purpose. To the north of the vaulted structure was a possible posthole [587], which measured 0.30m across but was just 100mm deep, having clearly been heavily horizontally truncated. It is unclear whether this had any association with the structure but it appeared to be broadly contemporary.

7.9.5 In Trench ATP3 of the evaluation beneath 119 Bishopsgate was a substantial, east to west aligned linear or sub-rectangular feature [85] that had been cut from an apparent level of 11.37m OD. It was at least 1.25m wide and up to 1.54m deep, though it had been extensively truncated by later activity. It had very steeply sloping sides to the south, though the form of the base and northern edge were not seen. The main fill of the feature was an extensive deposit of loose, light, slightly yellowish grey, sandy silt [84] up to 1.52m thick that largely contained demolition rubble, including mortar, building stone fragments, bricks and tiles, analysis of the artefactual remains suggesting a late 17th- to early 18th-century date of deposition. It was overlain by a 20mm thick layer of mostly redeposited brickearth [83], which appeared to have been deliberately deposited to seal the lower fill. Given the nature of the main backfilling

material and the apparent linear nature of the feature it seems likely that this represented robbing of the southern wall at the west end of the vaulted structure. In UPA7 beneath the eastern end of the 119 Bishopsgate basement was an irregular pit [364] with variably sloping sides and a flat base, which measured up to 0.47m across and was 0.18m deep. It was filled with a soft, light greyish brown, clayey silt [363], which produced a finds assemblage suggesting deposition in the second half of the 18th century. The function of the pit was unclear but it appeared to be broadly contemporary with construction of the vaulted feature immediately to the west.

7.9.6 At the northern edge of the site, below the cellar of the former public house, was a second, sub-basement vaulted structure (SBS5), initially recorded as [55] in ATP2 during the evaluation (Plate 19), further exposed as [168] (west wall), [169] (north wall) and [170] (east wall) in UP11 during the underpinning and fully exposed as [451]/[452] during the Tower 3B investigations (Figure 17.3; Plate 20). This structure measured 4.7m north to south by 2.8m east to west and was a little more than 1.5m deep, with the base at approximately 9.80m OD. The vault had been constructed from red, unfrogged bricks, bonded with light brown lime mortar with the walls laid in alternating courses of headers and stretchers, though the vault had been topped with a mix of broken brick, tile and chalk fragments. Much of the vaulted part of the structure, which sprang from east to west, had been demolished during later development of the cellar. A number of brick samples taken from the structure suggested a broad date between 1450 and 1700, though many of the bricks had been re-used and construction was more likely to have taken place during the 18th century, suggesting a broad contemporaneity with the other sub-basement structures on the site. In common with the structure beneath 119 Bishopsgate, this may also have served as a beer or wine cellar.

7.9.7 Remnants of a further, though extensively truncated to the west and south, possible sub-basement structure (SBS6) were recorded during the Tower 3A investigations towards the north-west of the former public house cellar. Only the north-east corner of the structure [434] survived and comprised irregularly coursed, light reddish, unfrogged bricks, bonded with a firm, pale yellow, lime mortar. A recovered brick sample suggested a date of 1450-1700 but this is likely to have been another sub-basement storage structure of 18th-century date.

7.9.8 In addition to the sub-basement structures, there were a number of other features that appeared to have a broadly contemporary or slightly later, 18th-century date (Figure 13). At the eastern edge of evaluation trench ATP3, the upper levels of the backfilled robber trench were cut by a sub-circular small pit or posthole [82] that was 0.46m in diameter and 0.26m deep with steeply sloping, slightly concave sides and a flattish base. Fragments of CBM and lead window came were recovered from the friable, very dark greyish brown, sandy silt fill [81], the former suggesting a broad date

of deposition later than 1480. The function of the feature was unclear but it clearly post-dated the robbing of the vaulted cellar wall. It was sealed by an apparent gravel surface [76], which was overlain by a mixed, dumped deposit [65], finds from which suggested deposition after 1770.

7.9.9 At the eastern edge of the Tower 1 area and extending under an eastern wall of the Hackett building was a sub-circular pit [526], which had steeply sloping, concave sides and a flat base. It measured at least 0.55m across, was 0.41m deep and contained two backfilling deposits. The primary fill [525] was a soft, light brownish grey, sandy clay that appeared to have acted as a lining to the feature, which was then filled with a loose, very dark grey silt [524] that included burnt material including coal fragments. CTP from this deposit suggested a late 18th- to early 19th-century deposition date, which is rather curious given that the wall above had previously been dated to the early to mid 18th century. The function of the pit was unclear but appeared to relate to some type of minor industrial usage.

7.9.10 In UP9 of the underpinning investigations and Tower 3A towards the north-west corner of the former public house cellar was a cub-circular pit [148]/[439] with steeply sloping sides and a flat base, which measured up to 1.05m across and was more than 0.90m deep. It was filled with a soft, mid grey, silty clay [147]/[438] that produced a finds assemblage that suggested deposition at the end of the 18th century or possibly in the early 19th century. The function of the pit was unclear but it appears to have predated a major phase of development that took place on the site in the early 19th century as it was truncated by the construction of an internal wall during this phase (see below).

7.9.11 At the latter end of this phase of activity (late 18th-early 19th century) the Hackett building basement was extended to the west, the east wall of the extension being recorded in UP25 as [209]. A short distance to the east, the investigations in UP10 revealed that a modern internal wall was underlain by an earlier foundation [164] that sat upon a concrete base [165] within construction cut [173] but there appeared to be remnants of an earlier foundation [166] below this.

7.10 **Phase 9: Early-Mid 19th Century**

7.10.1 Changes to the basement layout of the former White Hart public house continued into the 19th century and there was a major phase of redevelopment in 1829 beneath the public house and 119 Bishopsgate. The structural development of the buildings at this time is detailed in the report on the historic building survey (Garwood 2015) but evidence of some broadly contemporary activity was exposed and recorded during the various phases of archaeological investigations (Figure 14). In some areas of investigation, excavation against walls associated with this phase of development produced finds from backfilling deposits within wall construction cuts. At the north-west of the public house the fill [145] of the construction cut [146] of the 1829 north

wall contained 18th-century pottery and broadly dated CBM and CTP. The fill [161]/[420] of construction cut [162]/[421] for a contemporary internal wall [422] a short distance to the east, produced CTP broadly dated 1730-1910. The remains of a small brick structure [462] at the south-east corner of the Tower 3A area of investigation, may have been associated with construction of an internal wall here. The date of the bricks used in the construction suggested a broad contemporaneity with the 1829 development and CTP from the fill [466] of the construction cut [467], was of early to mid 19th-century date. At the north-east corner of the former public house cellar was a small area of surviving east wall from the 1829 development in UP2. The fill [115] of the construction cut [117] for this produced a varied finds assemblage, including Roman pottery and glass, broadly dated, post-medieval CBM and CTP dated 1770-1845. Further south the fill [119] of construction cut [120] of an internal wall contained CTP broadly dated to the period 1720-1910. Within the fill [359] of construction cut [360] for the wall at the east end of 119 Bishopsgate (UPA7) were 18th-century CTP, late 18th- to early 19th-century glass and pottery dated 1770-1840.

7.10.2 Towards the north-west corner of Area EX3 was a circular, brick-built soakaway [641], which was constructed from unfrogged red bricks bonded with a greyish mortar that contained chalk and charcoal flecks. Bricks from the structure were dated to the 19th century, whilst the fill [639] of the construction cut [640] produced a Victorian penny dated 1860-95 (SF 8). The northern edge of the soakaway was slightly truncated by a substantial later brick culvert [669] that extended across the eastern half of the site and had been live during the early phases of investigations. Medieval pit [688] in EX3 was partly truncated by a shallow, irregular feature [651] that contained three thin, silty clay fills, the upper of which [648] produced 17th-century pottery and CTP. The backfilled feature was sealed by a deposit of moderately firm, very dark greyish brown, silty clay [654], up to 0.20m thick and recorded at an upper elevation of 11.38m OD. This was truncated by a shallow, irregular pit [627], measuring up to 2m across. The lower, firm, mid greyish brown, silty clay fill [626] contained no dateable finds, whilst a thin deposit of moderately firm, vary dark greyish brown, silty clay [625] above produced an unfinished flint tool of late Neolithic date (see Appendix 2) and very broadly dated CBM.

7.10.3 A short distance to the east in evaluation trench ATP3 beneath 119 Bishopsgate was a moderate sized, sub-circular pit [75], measuring at least 1.38m across and 1.08m deep. It was filled with a soft, dark greyish brown, sandy silt [74] that contained large amounts of demolition rubble. A moderate finds assemblage was recovered, which included pottery dated 1805-1830, along with CBM, CTP and glass. A short distance to the east was a smaller feature [67], which was sub-rectangular in plan with near-vertical, straight sides and a flat base. It measured 0.54m by 0.28m and was 0.29m deep, and contained a loose, very dark greyish brown, sandy silt fill [66], which

contained 18th- to 19th-century CTP, whilst three glass bottles of late 18th- to early 19th-century date appeared to have been deliberately placed on the base of the pit. The original functions of the pits in ATP3 were unclear but they were probably associated with a phase of development in the basement area and the bottles in [67] perhaps suggested some association with activity in the public house.

7.10.4 A significant occurrence at about the time of the redevelopment was the partial demolition and/or infilling of the various 18th-century sub-basement features. Towards the north-east of the former public house the roof of the vaulted structure was largely destroyed and the feature infilled with a soft, mid to dark brownish grey, sandy silty clay [53] that included large volumes of building rubble, some of it clearly from the vaulted roof. This deposit also produced a moderate finds assemblage, which included 18th- to 19th-century CTP, broadly dated post-medieval CBM and pottery dated 1800-1830. To the west, the heavily truncated sub-basement structure in Tower 3A contained two backfilling deposits, the earlier of which [433] produced no dateable finds, but the upper fill [432] contained pottery of 16th- to 17th-century date and CBM of a similar date range. The partly demolished vault below 119 Bishopsgate was backfilled with a mixed deposit [95] that mostly comprised demolition rubble but also produced a small finds assemblage including late 17th-century CTP, broadly dated, post-medieval CBM and glass, and 19th-century pottery.

7.10.5 Beneath the former Hackett building basement, the westernmost sub-triangular structure was backfilled with various mixed deposits [411], [475] and [621], which produced finds assemblages that included 19th-century pottery and 18th- to 19th-century CBM and CTP. The easternmost sub-triangular structure was infilled with various mixed deposits [79], [86] and [566], which produced small finds assemblages, including 18th- to 19th-century CBM and CTP. Above this, the west wall of the strong room was constructed and recorded during the UP21 and Tower 1 investigations as [182]/[337]/[518]. It was found to sit on a concrete base [336]. A short distance to the east, the earliest deposit [515] within the large, rectangular brick-built structure was a very soft, mid brownish grey silt that was overlain by a loose, generally dark brownish grey silt containing large volumes of demolition rubble [514]. This contained a moderate finds assemblage including 18th- to 19th-century CBM and CTP, and 19th-century pot and glass, though the pot was dated after 1830 so finally infilling of this feature may have post-dated the significant developments in the public house basement to the north.

7.10.6 The basements of buildings to the west of the former public house were infilled and largely destroyed during the development of the Holland and Barratt building in the later 20th century but excavation in Areas EX4, EX4.2 and EX4.3 revealed surviving features associated with these basements that appeared to have been broadly contemporary with the major redevelopment of the White Hart. A somewhat *ad hoc*

brick and tile drain [596] within construction cut [597] extended westwards from close to the western edge of the public house west wall with a perpendicular branch heading northwards a short distance from its eastern end. Further west the drain split into two branches heading south-westwards and north-westwards and possibly passing beneath a north to south aligned wall [598] to the west, though heavy truncation in the area prevented its full course being exposed. Tiles formed the base of the drain, whilst unfrogged red bricks laid flat or edge on as stretchers formed the walls, the masonry being bonded with rough, sandy mortar and clay. The drain was 0.56m wide, though the north-western branch was significantly narrower and the internal area approximately 0.20m deep. It was recorded at an upper elevation of 11.63m OD, which appeared to approximate to cellar floor level in this area, though no apparent flooring material was present.

7.10.7 The northern branch of the drain close to its eastern end was covered with stone slabs [604] and fed into a square soakaway [602], which was built within construction cut [601] from reddish and purple frogged bricks bonded with greyish mortar. The structure was a single brick's width and defined an internal area 0.60m across. Masonry sampled from the drain and soakaway was dated to the 18th to 19th century, whilst the fill of the drain [594] produced mid 19th-century pottery and 18th-century CTP. The fill of the soakaway [602] also produced 19th-century pottery, along with CTP broadly dated 1730-1910. Wall [598], under which the western branches of the drain appeared to extend, was constructed from irregularly coursed, unfrogged red bricks bonded with light greyish mortar. It was 0.46 m wide and survived to a height of 1.20m above the floor level defined by the drain. This was the only evidence of a cellar wall west of the former public house.

7.10.8 To the west of wall [598] a further brick-built drain [695] was exposed in Area EX4.2 and appeared to be the western continuation of the southern branch of drain [596]. The upper level of this was recorded at 11.57m OD suggesting a slight drop and therefore flow of material from east to west. Pottery recovered from the backfill of the drain has been broadly dated to the 19th century and the structure was seen to extend further west into Area EX4.3, where it was recorded as [716]. Again there was a drop in the level of the gully indicating a westwards flow of material, and the feature appeared to turn slightly to the north-west. Within Area EX4.2, drain [695] appeared to have been built over a sub-circular, brick-built soakaway [700], which was constructed from unfrogged red bricks, laid in alternating courses of whole and half bricks, and bonded with sandy clay. The structure measured 1.50m across and rather than being fed by the drain, this feature passed over it suggesting two phases of activity may have been represented here. Immediately north-west of the soakaway was a sub-rectangular, east to west aligned pit [699], which was in excess of 1.05m in length, 0.58m wide and 0.45m deep. It had near-vertical straight sides and a base that was generally flattish but exhibiting a subtle slope downwards from east to west.

The soft, dark greyish brown, silty sand fill [698] of the pit produced 18th-century pottery and CTP broadly dated 1730-1900, suggesting it may have been earlier than the drain and soakaway though its function was not apparent.

7.10.9 Within Area EX4.3, there had been an earlier sub-phase of activity that pre-dated the construction of drain [716]. The natural brickearth here was truncated by a sub-rectangular cut [720] measuring 2.00m east to west by 1.60m north to south. At the western and eastern edges of the cut respectively were the remnants of north-south aligned walls [718] and [721]. Each was constructed from irregularly coursed, unfrogged red bricks, bonded with a light greyish mortar, though masonry samples from each suggested various materials of 15th- to 19th-century date were present. It appeared that the walls were remnants of a cess pit or soakaway structure that would have extended beneath the basement floor of a property west of the White Hart public house. The feature was backfilled with soft, mid greenish grey, silty clay [717] and a more mixed deposit [719] and sealed by a further mixed deposit [722]. This was overlain by a floor constructed from unfrogged red bricks [712], which was generally even but lay at a surface elevation between 11.40m OD and 11.53m OD. Incorporated within the floor was a circular structure that may have been some type of drain that lay partly above the earlier cess pit/soakaway and may have been a replacement for this feature. The floor was covered with a deposit of variably compacted, dark greyish brown, clayey silt [711], recorded at an upper elevation of 11.69m OD. Although this produced CTP dated 1680-1710, pottery also recovered from the deposit was dated after 1830. It was in the top of this deposit that drain [716] had been constructed.

7.11 Phase 10: Mid-Late 19th Century

7.11.1 Following the major redevelopments of 1829, there were some further developments in the mid to late 19th century within all areas in the eastern half of the site (Figure 15), though in Area EX4, west of the public house, soakaway [700] also appears to have been sealed at this time with a deposit of loose, light brownish grey, silty sand [693], which contained mid 19th-century finds.

7.11.2 The investigations in the cellar of the former public house indicated that some structural developments in the late 19th and 20th centuries were possibly built upon earlier foundations, though not necessarily as early as 1829. Within the UP8/14 and Tower 2 areas, a 20th-century north to south internal wall was found to lie on a foundation [134] that may have been of earlier date. This was constructed from red and yellow, unfrogged bricks, bonded with a hard, light grey, lime mortar. A brick sample taken from the foundation was dated 1830-1950, whilst the fill [128] of the construction cut [129] for the wall produced an array of finds, including 18th- to 19th-century pottery, broadly dated CBM, late 17th- to early 18th-century glass and CTP broadly dated 1730-1910.

7.11.3 At some time during this phase an east to west brick culvert [124]/[450] was constructed below cellar level in the public house (Plate 21). This was constructed from unfrogged red bricks bonded with soft, light grey, chalky mortar, had a flat base, vertical sides and an arched roof, the latter comprising two courses of bricks whereas the base and sides had only one (Figure 17.4). The culvert was 0.60m wide, 0.55m deep and appeared to extend the full length of the public house cellar, presumably discharging into a main sewer beneath Bishopsgate. The base of the culvert had become infilled with a thin layer of moderately compacted, dark greyish brown, clayey silt [122], probably when it was still functioning, but when it went out of use and the roof was largely removed, it was fully backfilled with a moderately compacted, mid greyish brown, clayey silt [121] that contained pottery dated 1760-1830, CTP broadly dated 1580-1740 and 19th-century glass. Towards the north-west corner of the public house cellar, a north-south aligned drain [144] cut through medieval pit [155] and appeared to feed into the culvert, though the direct relationship between the two features was lost by later truncation. The drain cut was 0.70m wide and 0.86m deep with vertical sides and a flattish base. The lower fill [151] was a loose, mid greyish brown, sandy silt that yielded mid to late 19th-century finds. This was overlain by similar material [143] that also produced mid to late 19th-century finds.

7.11.4 North of the culvert in the area of the earlier subterranean vaulted structure in Tower 3B, a number of internal wall foundations provided evidence that the vaulted structure was replaced by a more extensive sub-basement structure comprising north-south aligned walls [60]/[140]/[449] and southern east-west wall [448] (Plate 22). The walls could only be broadly dated as post-1800 as they were constructed from re-used bricks and artefactual evidence from various backfill deposits [167] / [453] / [454] / [455] / [456] / [457] also provided only a broad date. However, it seems likely that the structure was broadly contemporary with the culvert. The alignment of [448] was continued to the west of an internal wall in the Tower 3A area as [416] and although contemporary, this does not appear to have been a directly associated structure.

7.11.5 Further to the east, sub-rectangular pit [131], excavated against the north wall of the cellar appears to have been a broadly contemporary feature. Measuring 1.35m east to west by 0.80m north to south and 0.23m deep, this had near vertical sides and a flattish base, though its purpose was unclear. It was filled with a firm, light reddish brown to very dark greyish brown, sandy, clayey silt [130], which yielded a moderate assemblage of broadly dated, post-medieval finds, though the pottery recovered was dated 1760-1830.

7.11.6 South of the culvert, remnants of a narrow, east to west aligned wall [239] were found beneath the basement floor level in UPA4 at the eastern edge of the site. Only two courses of the wall survived which was constructed in English Bond from unfrogged red bricks bonded with a light greyish brown, clayey, lime mortar. The bricks were

broadly dated 1750-1900 and may have been re-used. The fill [222] of the construction cut [240] also only produced broadly dated post-medieval finds, along with Roman material. The function of the wall was unclear but it appears to have been associated with adjacent floor surface [251] to the north, formed of very heavily compacted, light greyish brown clayey silt, 100m thick and recorded at an upper surface elevation of 11.45m OD. Finds recovered from the excavated floor deposit included CBM dated 1750-1900 and glass of 18th- to 19th-century date.

7.11.7 The investigations beneath the cellar of 119 Bishopsgate revealed that the concrete floor, extant at the time of the initial investigations, overlay an earlier brick floor, which survived intermittently and was recorded as [64] in ATP3 (Plate 23), [92] in ATP6 (Plate 24) and [311] in UPA7, where it lay on a sandy silt bedding [312]. The floor was constructed from irregularly coursed, unbonded, red and yellow, unfrogged and shallow frogged bricks, laid flat in north-south and east-west alignments. The surface level of the floor varied between 11.93m OD to the east and 11.92m OD to the west. A further fragment of what was probably the same floor [574] was recorded in EX1 but at an upper level of 11.22m OD, having probably collapsed into the truncated, vaulted, sub-basement structure below. Bricks sampled from the floor gave different dates indicating it had largely been constructed from re-used materials. Floor fragment [574] was truncated by two large pits; [577] to the north and [573] to the south, which may have been associated with a slightly later phase of development here.

7.11.8 West of the 119 Bishopsgate basement was a circular, brick-built soakaway [632], constructed from yellow, shallow frogged bricks, bonded with clay. The feature had been heavily truncated by more recent disturbance but measured approximately 1m across. It was backfilled with friable, very dark greyish brown, sandy, silty clay [631] that contained mid to late 19th-century pottery and CTP. Earlier soakaway [641] was probably also backfilled at about this time with a firm, mid greyish brown, silty clay [642].

7.11.9 In UP10 beneath the Hackett building basement at the south of the site was a sub-rectangular pit [175], which had vertical sides and a flat base. It measured 1.31m east to west by 0.96m north to south and was 0.28m deep. It was filled with a friable, mid to dark greyish brown, clayey, sandy silt [174] that produced Roman pottery, 18th- to 19th-century CBM and pottery of 19th-century date. The backfilled feature was partly truncated to the north by a sub-circular pit [172], which measured up to 1.04m across and 0.50m deep, with steeply sloping sides and a flattish base. The friable, dark greyish brown, sandy silt fill [171] only contained Roman artefactual material and was sealed by layer of well compacted, dark grey, sandy silt [163] that also only contained Roman material. To the west, most of the earlier post-medieval features in

UPA6 were sealed by a variably compacted, dark greyish brown, silty, sandy clay [265]/[371] that produced broadly dated finds assemblages.

7.11.10 In UP17 and UP20 towards the south-east corner of the site, small, sub-circular feature [191] may have been associated with demolition and redevelopment in the Hackett building basement in the mid to late 19th century. It contained a mixed fill [190] that comprised a large amount of demolition rubble including chalk and concrete fragments.

7.12 Phase 11: - 19th-20th Century

7.12.1 Evidence for more recent exploitation of the site was recorded in a number of the phases of investigations and mostly related to structural features within the basement areas of the three properties in the eastern half of the site that were still extant at the time of the evaluation, underpinning and tower excavations (Figure 16). Many of the contexts recorded related to the floors of the various basement areas, which were mostly concrete, often underlain by various bedding deposits, which invariably contained mixed artefactual assemblages of Roman to late 19th-century date. A brick and concrete structure [288] that partly truncated the 19th-century culvert was also of much more recent date.

7.12.2 Much of the wall at the eastern end of the public house cellar was an early 20th-century replacement for an earlier structure and was built around the culvert that passed out into Bishopsgate The backfill [112] and [113] of the construction cut [114] of the wall, which was essentially a robber cut of the earlier structure, contained pottery of late 19th-century date, along with variously dated other finds. Additionally a shallow, north-south aligned cut [142] along an internal wall towards the north-west of the public house basement in UP9 appeared to be of recent origin, as did a brick and concrete structure [288], which truncated the 19th-century culvert in Tower 2.

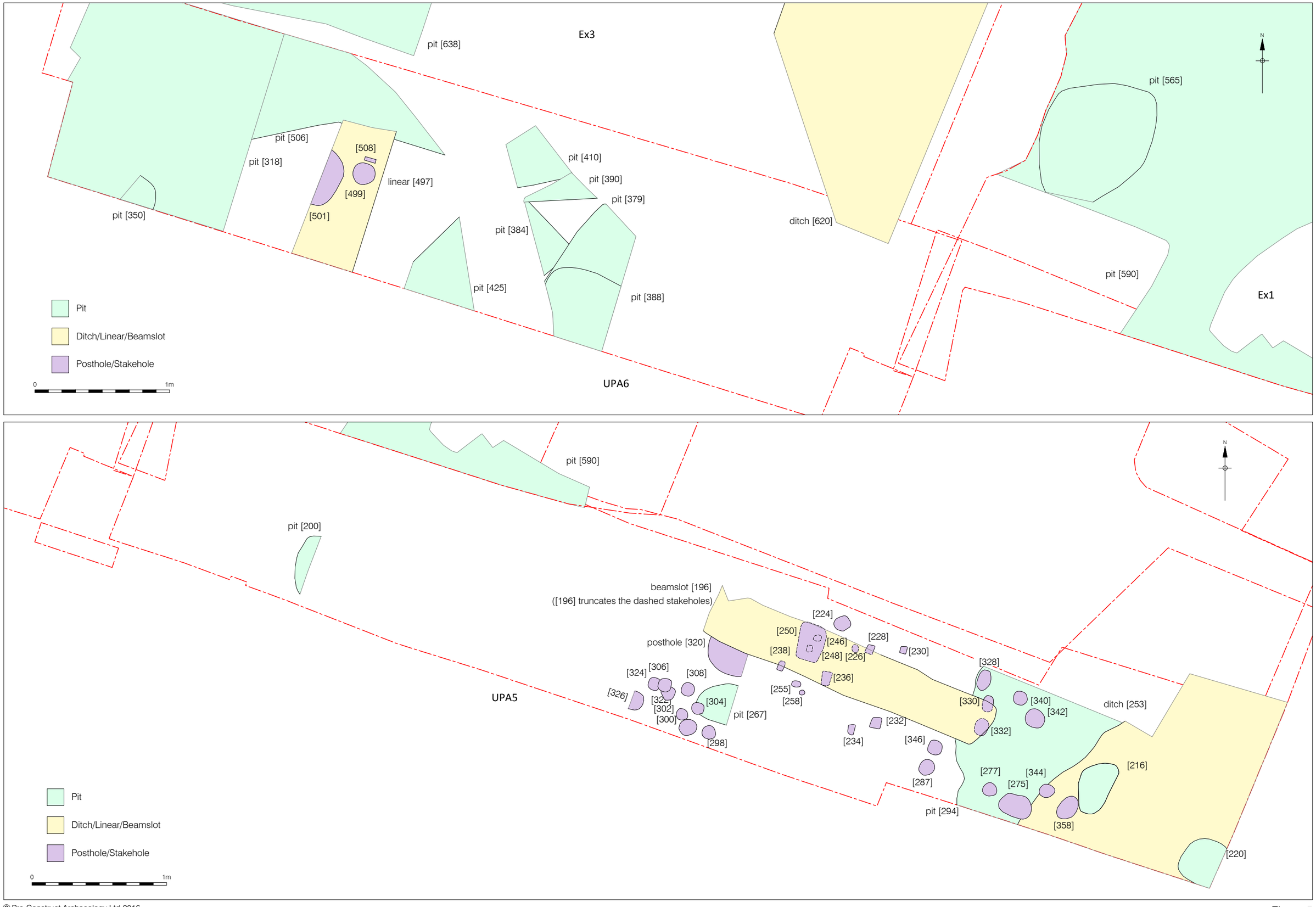
7.12.3 Late 19th- and early 20th-century development was evidenced by further structural developments not necessarily recorded archaeologically, including excavation for a sewage and drainage network beneath the western half of the former Hackett building, which had extensively truncated Roman deposits, including the lead coffin burial.

07/07/16 JS

Figure 3
Phase 2: Prehistoric
1:100 at A4

07/07/16 JS

Figure 4
Phase 3: Earlier Roman
1:100 at A3



07/07/16 JS

Figure 5
Phase 3: Detail of UPA5 & UPA6
1:25 at A3

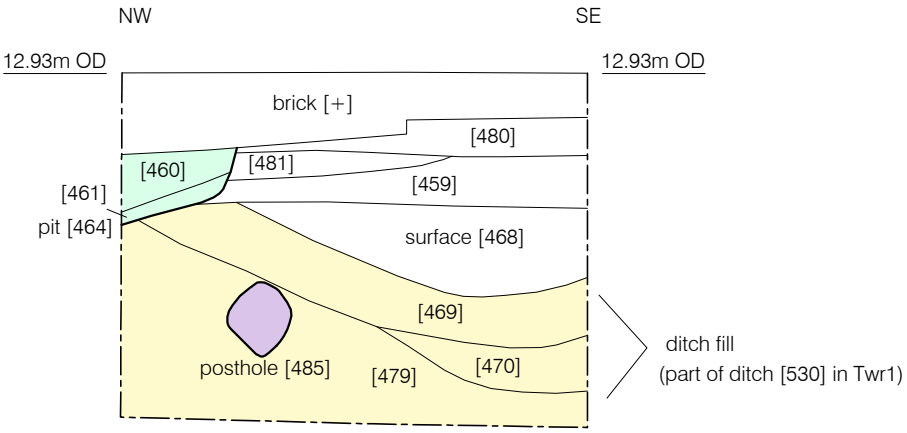


Figure 6.1

Section 38
UPA8
Southwest Facing

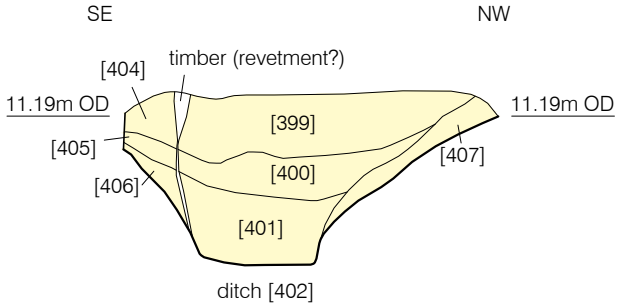


Figure 6.2

Section 33
Twr2
Northeast Facing

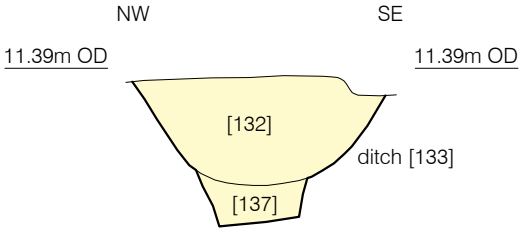
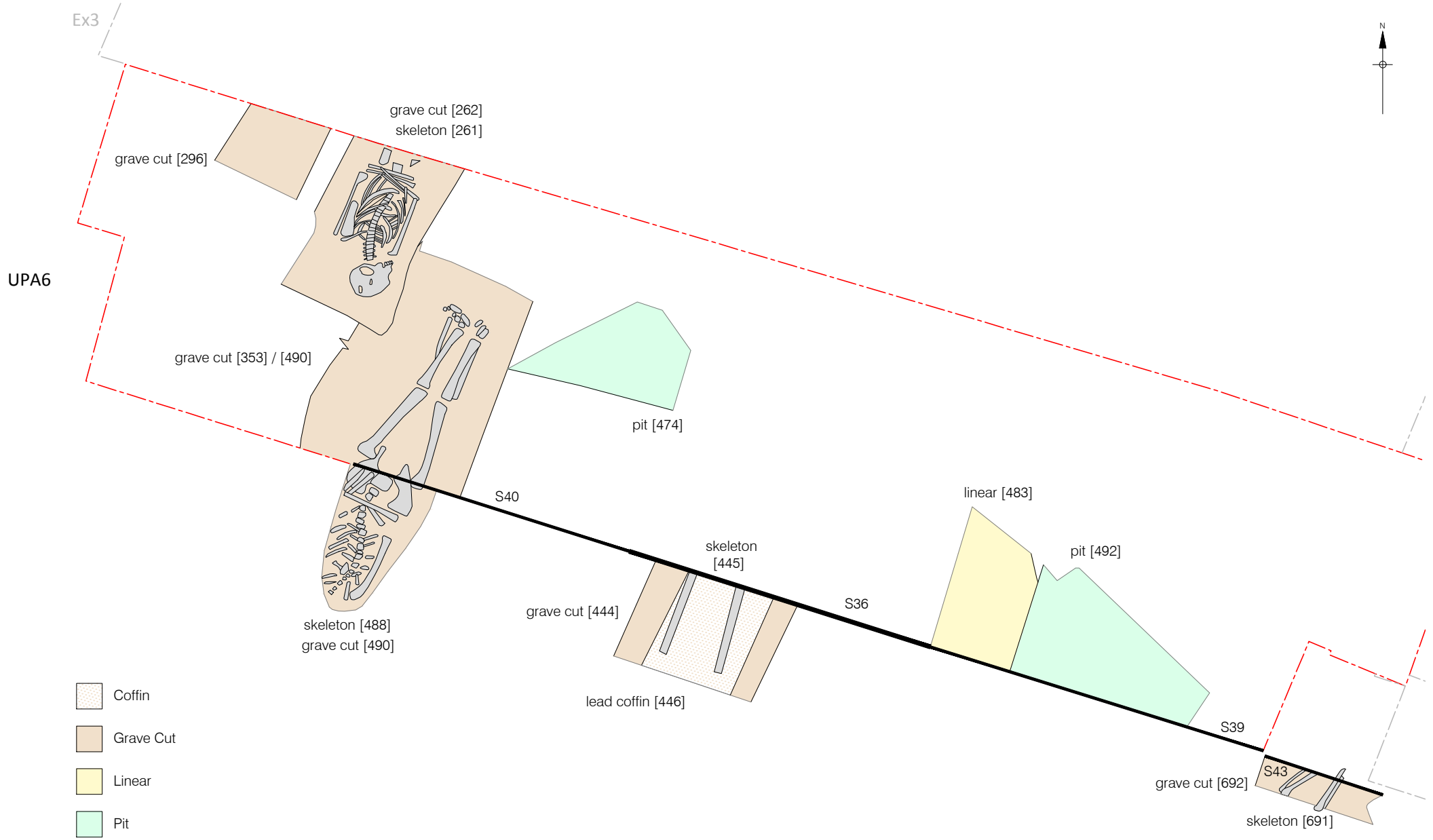


Figure 6.3

Section 25
UPA1
Southwest Facing

07/07/16 JS

Figure 6
Roadside Ditch Sections
1:25 at A4



07/07/16 JS

Figure 7
Phase 4: Later Roman
1:25 at A4

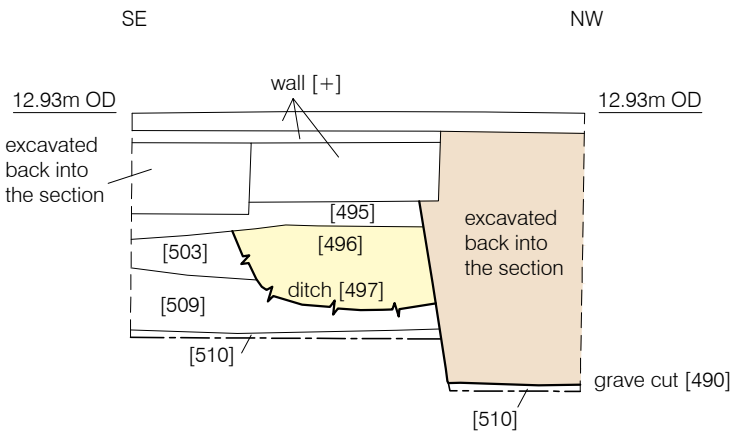


Figure 8.1

Section 40
UPA6
Northeast Facing

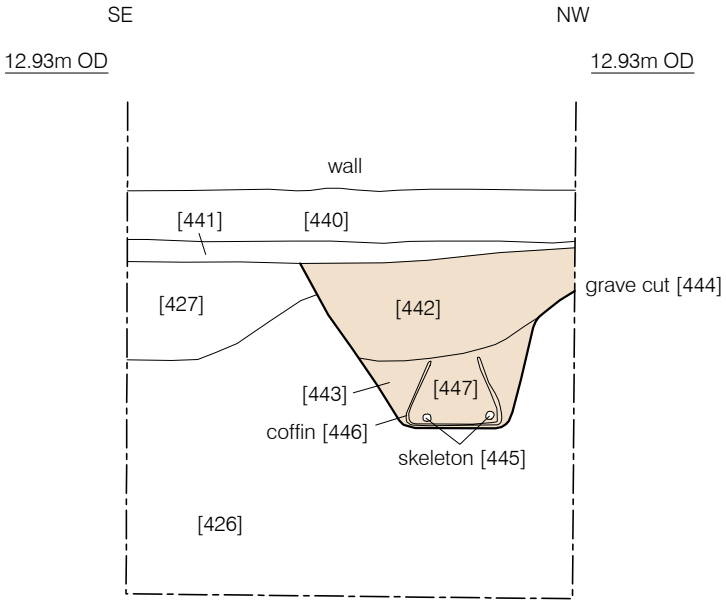


Figure 8.2

Section 36
UPA6
Northeast Facing

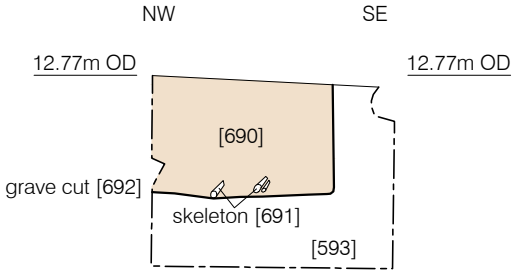


Figure 8.3

Section 43
UPA6
Southwest Facing

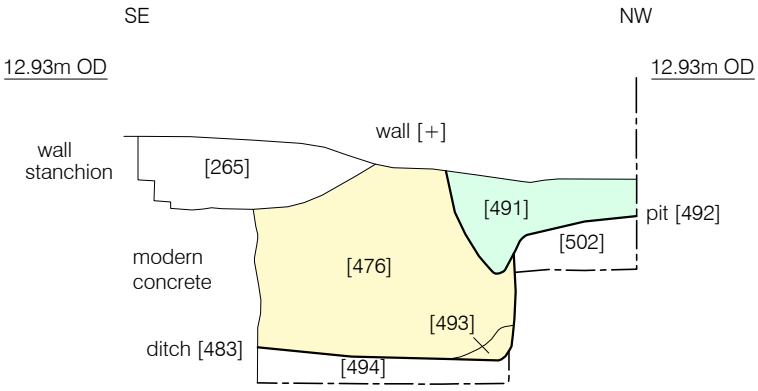


Figure 8.4

Section 39
UPA6
Northeast Facing

Coffin
Ditch
Grave Cut
Pit

0 1m

07/07/16 JS

Figure 8
Later Roman Sections
1:25 at A4

07/07/16 JS

Figure 9
Phase 5: Medieval
1:100 at A3

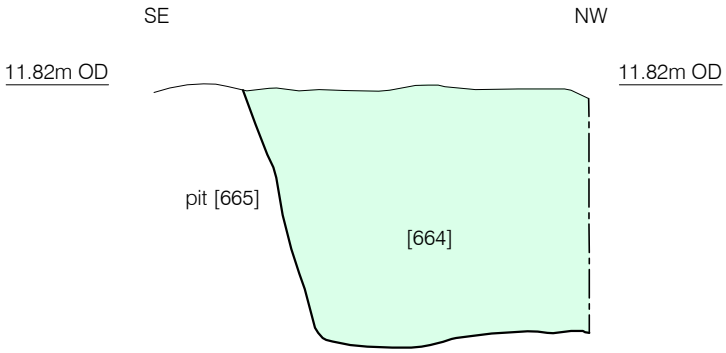


Figure 10.1

Section 42
Ex3
Northeast Facing

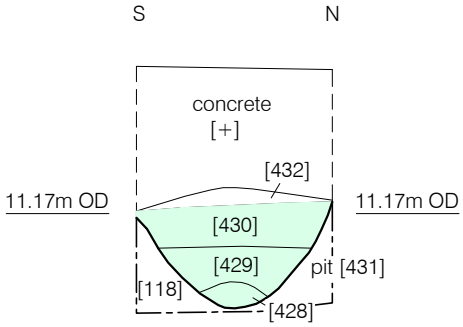


Figure 10.2

Section 34
Twr3A
East Facing

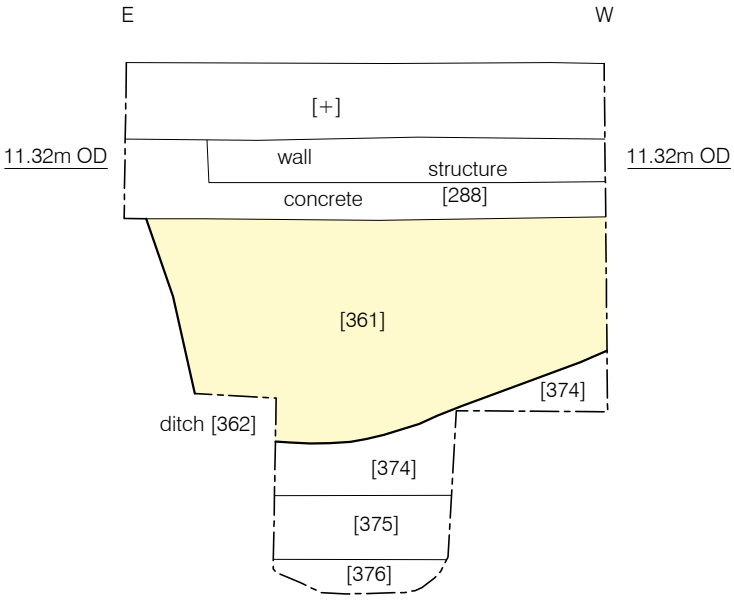


Figure 10.3

Section 32
Twr2
North Facing

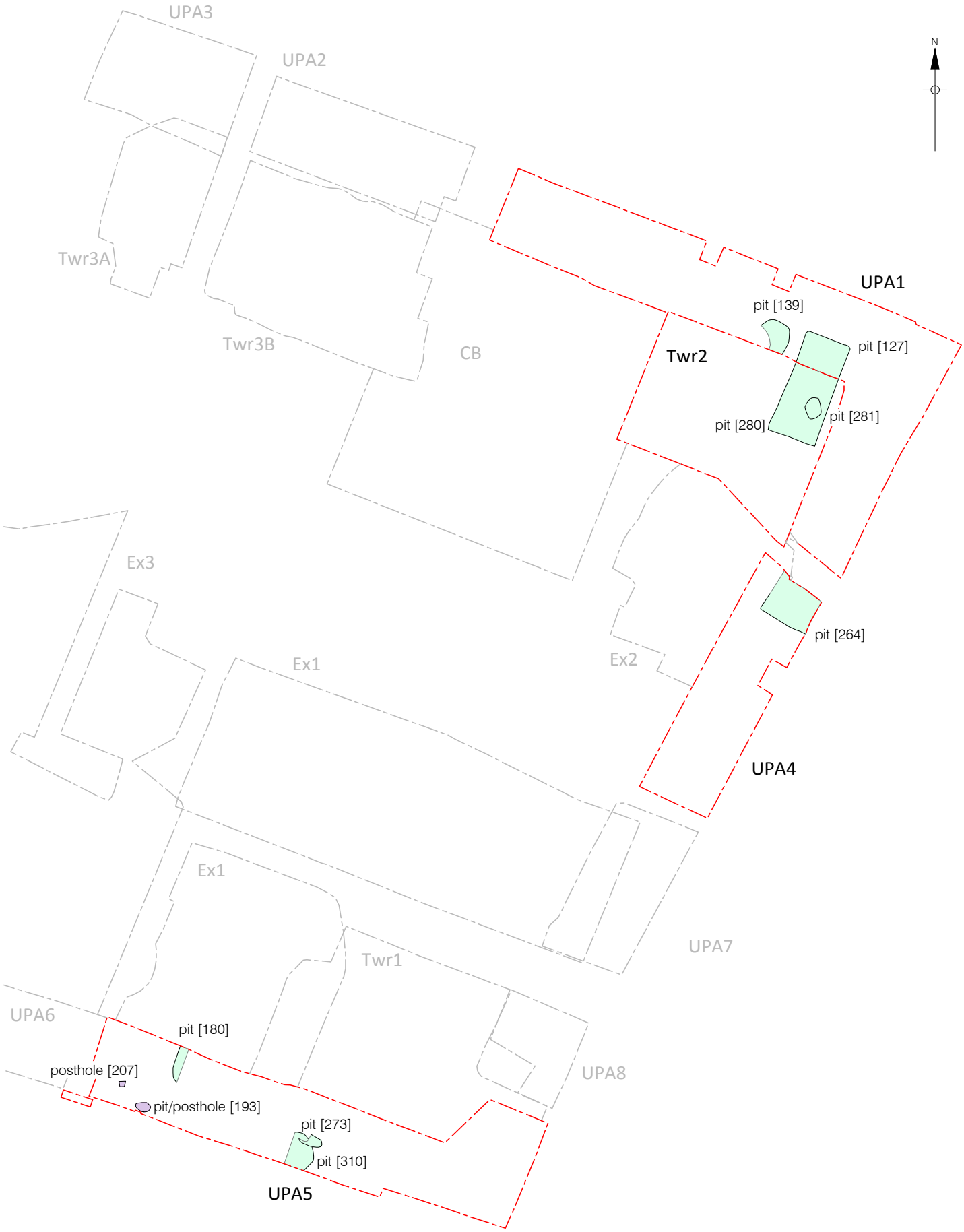
Ditch

Pit

0 1m

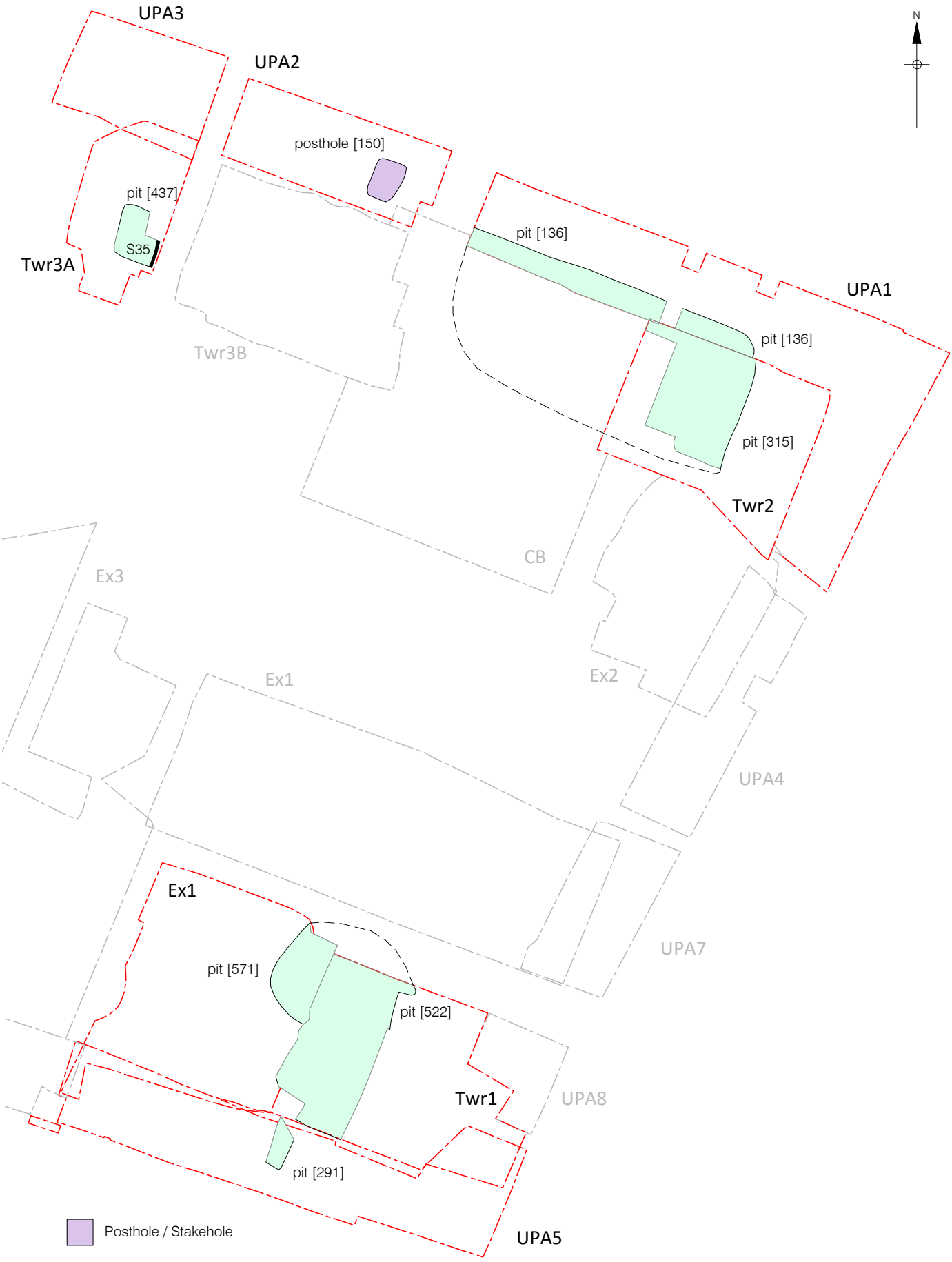
07/07/16 JS

Figure 10
Medieval Sections
1:25 at A4



07/07/16 JS

Figure 11
Phase 6: 15th-17th Century
1:100 at A4

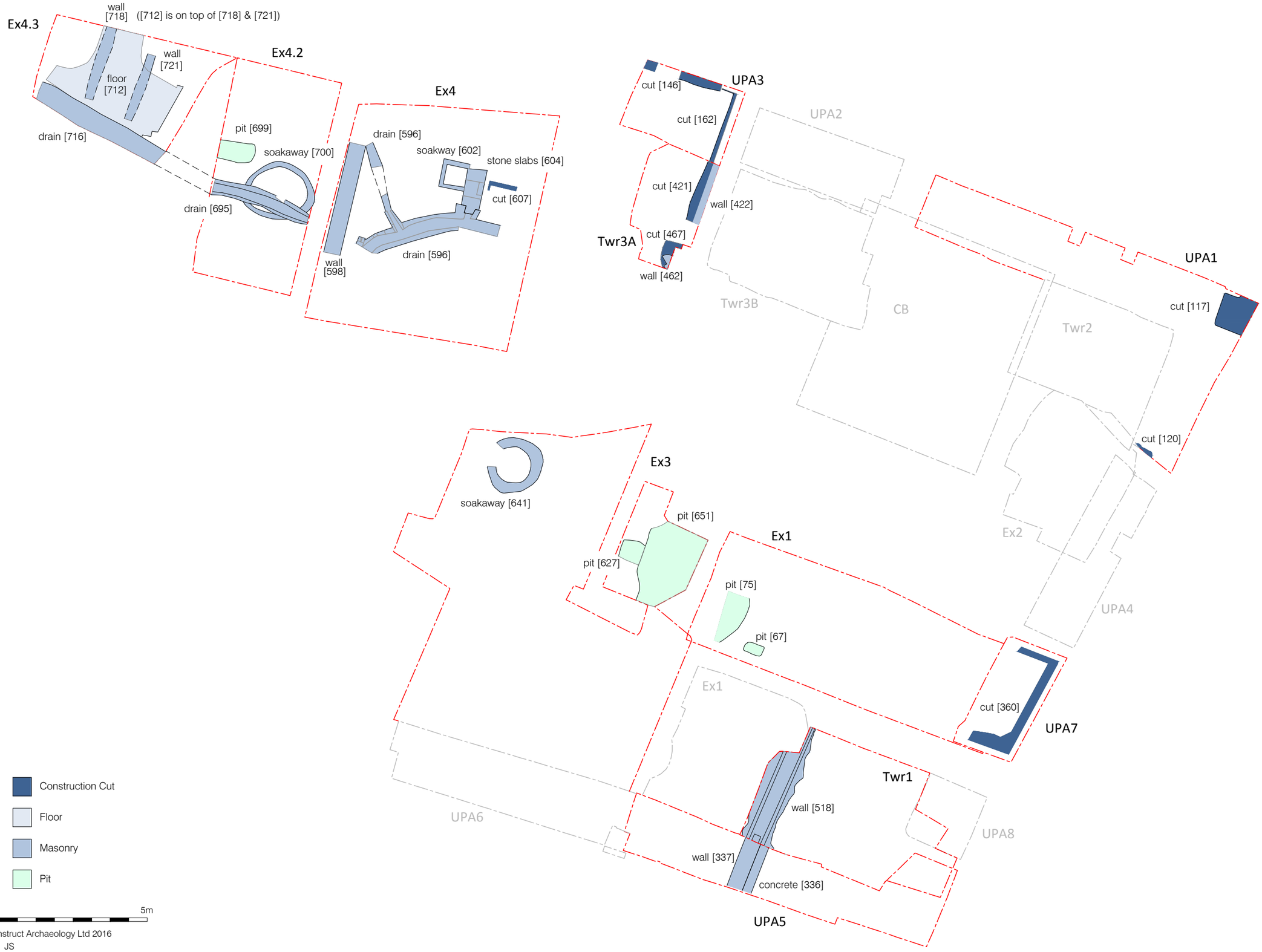


07/07/16 JS

Figure 12
Phase 7: 17th-18th Century
1:100 at A4

07/07/16 JS

Figure 13
Phase 8: 18th-19th Century
1:100 at A4

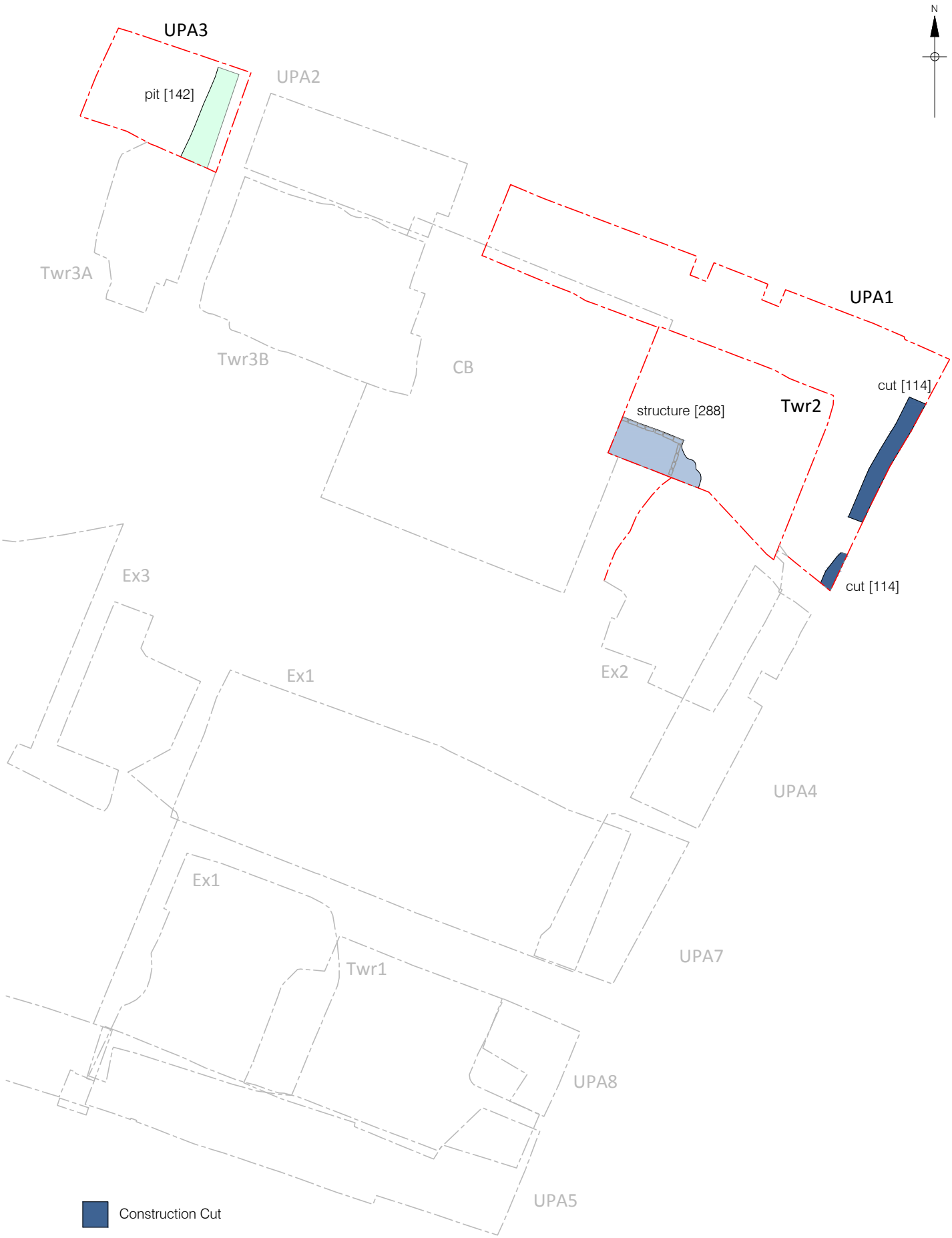


07/07/16 JS

Figure 14
Phase 9: Early-Mid 19th Century
1:100 at A3

07/07/16 JS

Figure 15
Phase 10: Mid-Late 19th Century
1:100 at A3



07/07/16 JS

Figure 16
Phase 11: 19th-20th Century
1:100 at A4

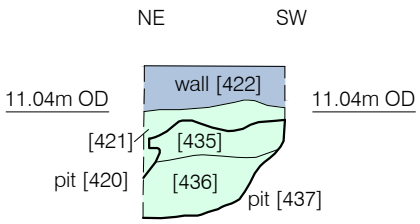


Figure 17.1

Section 35
Twr3A
Northwest Facing

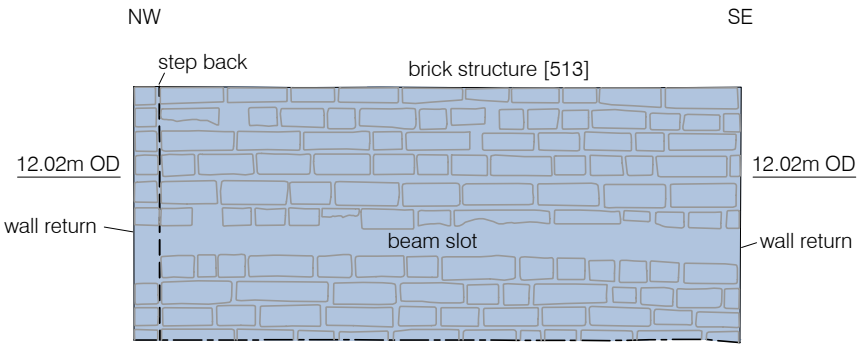


Figure 17.2

Section 41
Twr1
Southwest Facing

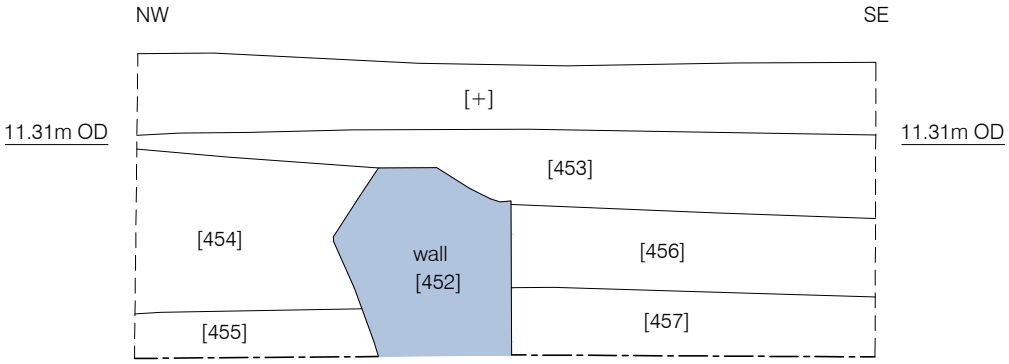


Figure 17.3

Section 37
Twr3B
Southwest Facing

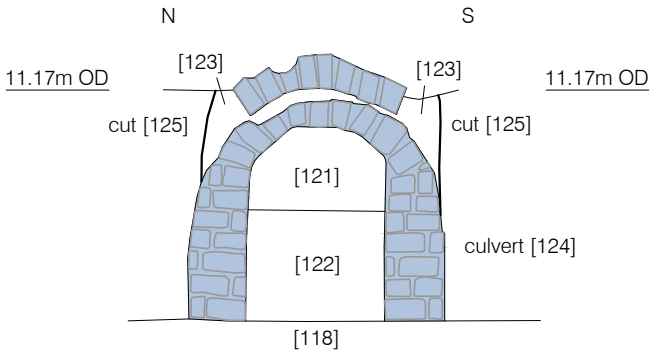


Figure 17.4

Section 24
UPA 1
West Facing

Masonry

Pit

0 1m

07/07/16 JS

Figure 17
Post-Medieval Sections
1:25 at A4

PLATES

Plate 1: Archaeological Investigation in UPA2, Looking East

Plate 2: Archaeological Investigation in Area EX3, Looking South-West

Plate 3: Archaeological Investigation in Area EX3, Looking North

Plate 4: Excavated Archaeological Features in Area EX3, Looking North (Scale: 2m & 1m)

Plate 5: Roman Ditch [133], South-Facing Section (Scale: 1m & 0.5m)

Plate 6: Roman Ditch [402], North-Facing Section (Scale: 1m)

Plate7: East Edge of Pit [590], North-Facing Section (Scale: 0.5m)

Plate 8: West Edge of Pit [620], North-Facing Section (Scale: 0.5m)

Plate 9: Skeleton [261], Looking South (Scale: 0.5m)

Plate 10: Skeleton [488], Looking West (Scale: 0.5m)

Plate 11: Skeleton [445] in Coffin [446], Looking South

Plate 12: Skeleton [691] in Grave Cut [692], Looking South (Scale: 0.2m)

Plate 13: Gravel Surface [468] in UPA8, Looking East (Scale: 0.5m)

Plate 14: North to South Alignment of Medieval Pits, Looking South (Scale: 2m & 1m)

Plate 15: Medieval Cess Pit [660], East-Facing Section (Scale: 1m)

Plate 16: Chute SBS2, Looking East (Scale: 1m)

Plate 17: SBS3 in Tower 1, Looking East (Scale: 1m)

Plate 18: East End of SBS4 in ATP6, Looking East (Scale: 1m)

Plate 19: SBS5, Looking North (Scale: 1m)

Plate 20: East Wall [452] of SBS5, Looking East (Scale: 1m)

Plate 21: Culvert [124], Looking East (Scale: 0.5m)

Plate 22: 19th-Century Walls [448] & [449], Looking North (Scale: 1m)

Plate 23: Brick Floor [64] in ATP3, Looking North (Scale: 1m)

Plate 24: Brick Floor [92] in ATP6, Looking South (Scale: 1m)

8 Original and Additional Research Objectives

8.1 Original Research Objectives

8.1.1 Method statements and WSIs prepared before the commencement of the different phases of archaeological investigations outlined a number of research objectives that might be addressed by the project (Bradley 2013; 2014; Mills 2014a; 2014b). These objectives are considered here, before additional questions raised by the fieldwork are discussed.

8.1.2 **What is the nature of the archaeological remains surviving on site?**

Despite initial investigations suggesting that archaeological deposits had been largely removed from the site, subsequent work showed that there was significant survival of materials from a number of periods of activity on the site. There was limited evidence for prehistoric activity but the site was significantly exploited during the Roman period, firstly with the establishment of the roadside ditch to the east and contemporary domestic activity, and later on with the establishment of the cemetery. The site was not then re-occupied until about the time of the Norman Conquest and a number of cut features indicate activity during the 11th to 13th centuries. There was probably occupation throughout the medieval period though later deposits appear to have been extensively compromised with the construction of post-medieval basements. Early post-medieval evidence was also largely limited to a small number of cut features but there was also some structural development on the site at this time. Development during the post-medieval period was evidenced by a series of ground-raising and levelling deposits and a number of masonry structures, some of the latter associated with the structural integrity of the buildings still standing during the early phases of archaeological investigations and other masonry features below basement levels.

8.1.3 **What are the nature and depth of underlying natural deposits?**

London Clay was penetrated during geotechnical coring and piling but the earliest deposit generally exposed during the investigations, was Pleistocene Terrace Gravel, which was encountered sporadically during investigations beneath the former White Hart public house, at the north-east corner of the site, where the basement had been reduced to its lowest level. It was recorded at an upper elevation of 10.74m OD and was overlain by natural brickearth. Gravel was also exposed during machine excavation in UPA5 at the southern edge of the site and was recorded at an upper elevation of 10.53m in UP12. The brickearth was recorded in a number of areas of the site, where there had not been significant later truncation; it was in excess of 1m thick in some locations and beneath the former Hackett building at the south of the site, where the basement level was not so deep, was recorded at an upper elevation of 12.32m OD. Brickearth extending to some depth was recorded in the deeper basement to the north and there is some suggestion that the original surface of

natural deposits may have sloped upwards from north to south and that excavated basement levels may originally have partly reflected the natural topography rather than simply indicating deeper basements below the former public house than the Hackett building.

8.1.4 **What is the nature and date of the Roman occupation of the site?**

The earliest Roman feature on the site was probably the ditch that ran along the western side of the road that ran northwards from the City of London on the approximate alignment of the current Bishopsgate. The road had probably been established during the 1st century and structural development had probably taken place alongside by the 2nd century, as evidenced by a number of features suggesting timber structures located adjacent to the ditch. At a later date the western edge of the ditch was infilled and a metalled surface laid, possibly for road widening and later still an inhumation cemetery was established a short distance to the west, and including at least one apparent burial of a wealthy individual.

8.1.5 **Does any evidence for Saxon and medieval occupation survive on the site?**

There was negligible evidence for the survival deposits immediately post-dating the Roman occupation, neither were features, deposits nor artefacts of a clear Anglo-Saxon nature identified. However, the site appears to have been re-occupied at about the time of the Norman Conquest and was exploited throughout the medieval period and a bone pin recovered as an intrusive find is likely to be of Late Saxon date.

8.1.6 **What are the ground plan, phasing and function of the 17th and 18th century sub-basement?**

The sub-basement structures tentatively identified during the evaluation were subsequently found to have been largely constructed from re-cycled materials and consequently of a later date than originally thought. However, they are of interest and appear to represent some type of storage facilities beneath 119 and 121 Bishopsgate, probably having been constructed in the decades preceding the major redevelopment of the White Hart public house in 1829.

8.1.7 **What are the structures recorded during the evaluation of the site?**

In addition to the apparent sub-basement structures, additional masonry structures were identified below basement level in evaluation trenches to the south and were further exposed during subsequent investigations. Two 'chute-like' structures below the former Hackett building were found to roughly mirror one another and were probably fed from street level at the south of the building. It is unclear what material was stored in each of the structures, though given their relatively small size, the storage of bulk material such as coal, would appear unlikely. The function of the larger structure to the east is also unclear. This had no apparent means of external feeding and was presumably only accessed from within the basement area. No

apparent residues were observed, which may have given a clue to function, but the structure was probably used as some type of storage facility.

8.1.8 **What is the nature of the later 18th- and early 19th- century development of the site?**

Structural development of the White Hart public house and possibly other buildings had commenced at least as early as the 17th century and there were a number of phases of redevelopment in later centuries. This question has largely been answered by the historic building survey, which recorded all of the structural remains above basement floor level. However, the archaeological investigations did expose some evidence of structural development below the floor level, though survival was patchy because of subsequent truncation in a number of areas. Development preceding the 1829 redevelopment of the White Hart public house was evident at the north of the site, whilst the nature of at least one wall foundation below the former Hackett building has brought into question the suggested 18th-century development here in the historic building survey report.

8.1.9 **What has been the impact of the existing buildings' basement on the archaeological deposits?**

The basements of buildings extant at the time of the commencement of the archaeological investigations clearly had a widespread impact on archaeological deposits and it is likely that significant deposits of late medieval and early post-medieval date were lost across the entire site area. However, it was only in the area of the deep double basement beneath Alderman's House that all archaeological deposits had been destroyed. The basement beneath the White Hart public house was excavated to a considerable depth and probably removed significant archaeological deposits, however deep cut features of Roman and medieval date did survive in this area, along with some evidence of earlier post-medieval activity. The basement beneath the Hackett Building was not as deep as that beneath the public house and more extensive Roman deposits survived, significantly the burials in the late Roman inhumation cemetery. There was not a basement as such beneath the Holland Barrett building but extensive ground beams had removed large areas of upper archaeological deposits. However, between the ground beams there was significant survival of deposits not seen elsewhere on the site.

8.2 **Additional Research Questions**

8.2.1 In the light of the findings from the investigations it is clear that the archaeological evidence has fulfilled the original objectives. However, the investigations have produced additional information relating to various phases of site development. It has thus been necessary to formulate a set of Revised Research Objectives in light of the information retrieved.

8.2.2 **Why was the roadside ditch apparently infilled in the 2nd century AD?**

The apparent Roman roadside ditch exposed in a number of locations towards the eastern edge of the site consistently produced finds of 1st- to 2nd-century date from its infilling deposits, with no later material present. A number of Roman features also appear to have been cut into the backfilled ditch, suggesting the feature was infilled by the end of the 2nd century. Given that the Roman road continued to be utilised for a considerable period after the end of the Roman occupation, is there a possibility that there may have been a change in the form of the road, a possible shift in its location, or was the feature not a roadside ditch at all?

8.2.3 **What was the likely extent of the Roman cemetery?**

The extensive Northern Cemetery extending north from *Londinium* along Ermine Street is well documented and areas of burials have been found at a number of locations. The burials on the study site form a group within a much larger cemetery assemblage; however the group was likely to have been more extensive prior to significant truncation by the cellars beneath the White Hart public House and Alderman's House. The artefactual evidence suggests there may originally have been more interments in the vicinity and possibly also funerary monuments, suggesting further high status burials. It would therefore be interesting to attempt to define the extent of the group prior to this post-medieval truncation.

8.2.4 **Can the nature of medieval occupation be better understood, particularly in relation to former property boundaries and the likely street layout at this time?**

The medieval archaeology on the site was dominated by a series of apparent cess pits. The majority of these features were in two broad alignments; the first running from east to west and approximately parallel with the current line of Liverpool Street, and the second approximately perpendicular to this, with a few stray features east of the north to south alignment. The apparent alignments maybe indicative of the street/ property boundary layout in the local area during the medieval period; a factor rarely encountered on sites in the area and therefore important in elucidating the early development of the city. The finds from the features suggested they were backfilled at different times during the medieval period, indeed some only contained residual Roman material, and it is suggested the layout of properties may have persisted for some time. Although not shown as an important thoroughfare on early maps, it is possible that a forerunner of Liverpool Street may have had origins as early as the time of the Norman Conquest and that its approximate alignment has persisted ever since.

8.2.5 **Was there a continuity of activity from the medieval to early post-medieval period and what, if any, change was there in site function?**

There was almost certainly a continuity of occupation of the site from the late medieval into the early post-medieval period but much of the evidence for this broad phase of activity was probably lost when the basements for the various buildings on

the site were excavated, though the earliest of these may be considered to be of early post-medieval date. However, some evidence of late medieval and early post-medieval activity did survive; one or two of the cess pits may have been utilised into the latter part of the medieval period, suggesting the area was still open at this time and a complete 17th-century ceramic vessel, possibly placed as a deliberate foundation deposit below the former public house may be an indication of the change of site use from open yard to building development.

8.2.6 **What further information can be gleaned about the mass burial pit to the south of the site?**

A mass burial pit of 17th-century date was briefly exposed during archaeological monitoring of the pile probing and remains of a number of individuals disturbed by the probing were recovered before the remaining pit fill was consolidated. The burials interred are likely to have been victims of one of a number of plague outbreaks that blighted the city during the 17th century and it is likely that they were interred within the churchyard of the predecessor of the current St Botolph's Church. Is it possible to define which outbreak the burials were associated with and can we glean further information about the former extent of St Botolph's churchyard from documentary and cartographic evidence? A significant clue may lie in historic maps of the area; images up to Faithorne and Newcourt's map of 1658 appear to show the churchyard of St Botolph's Church extending further north than is currently the case (though the earlier church does appear to have been located slightly further to the south), with White Hart Court not yet extant. However, Wenceslas Hollar's map of 1666 does appear to show development in the White Hart Court area and this area had certainly been developed when Ogilby and Morgan produced their map in 1676. If indeed White Hart Court had been established by 1666, there is a suggestion that the burials beneath Alderman's Walk may date to an earlier epidemic than the Great Plague of 1665.

8.2.7 **How does the later development of the site as indicated by the archaeological record accord with the findings of the historic building recording carried out largely before the archaeological investigations?**

The survey of the historic buildings that formerly occupied the eastern side of the site revealed a complex, multi-phase sequence of development from the 17th to 20th centuries. Archaeological evidence for the earlier part of this sequence was quite sparse but development from the 18th century onwards was evident in the form of cut features and further structural remains, particularly the latter that survived below basement level and were not accessible at the time of the survey. Comparison of the types of features and the dating and nature of the archaeologically recorded structural remains should permit a fuller understanding of the later development of the site.

9 Importance of the Results, Further Work and Publication Proposal

9.1 Importance of the Results

9.1.1 The findings from the archaeological investigations are important at the local and regional level. Limited evidence of prehistoric activity is a welcome addition to the dataset concerning pre-Roman activity in the area but the evidence of occupation during the Roman period has added significantly to the dataset of known activity at this time in the local area and whilst the features recorded on the site are comparable with others nearby, suggesting a location in a marginal position at the edge of Roman *Londinium*, the cemetery evidence, particularly the lead coffin interment, is important in understanding the form and development of the Northern Cemetery.

9.1.2 There was negligible evidence for activity on the site in the immediate post-Roman era, indeed there was a general lack of evidence for occupation between the 4th and 10th centuries AD. There was evidence however, for re-occupation of the site either towards the end of the Anglo-Saxon period or at least in the early years following the Norman Conquest and the deep cess/rubbish pits associated with this phase suggest domestic occupation and therefore possibly the establishment of some type of early street layout adjacent to the former Roman road. These and other features suggest activity at least up to the 13th century.

9.1.3 There was very limited evidence for later medieval occupation of the site, largely as a result of the construction of the post-medieval basements, which probably removed extensive deposits of this and later dates. However, there was some evidence of occupation during the early post-medieval period, immediately preceding and possibly contemporary with early structural development on the site. Only a small number of features of this date were identified but they probably represent a continuity of occupation from the later medieval period. This continuity is of some importance in adding to the body of evidence concerning the development of this part of the City of London in the early modern period. Additionally, the identification of a 17th-century mass burial pit south of the site is an important addition to the dataset of known plague pits in the city.

9.1.4 Later post-medieval development of the site was largely concerned with phases of structural development, ground modification and possibly also quarrying. The structural development is important at the wider scale as it may be possible to equate this with historic cartographic evidence and therefore permit a fuller understanding of the post-medieval development of the local area. Within the site, the sub-basement features are of interest and may permit an increased understanding of activities within the buildings, particularly from the 18th to early 20th centuries.

9.1.5 Overall the archaeological evidence indicates various activities during the broad Roman period in a rather peripheral area of Roman *Londinium*, though importantly, further evidence for the Northern Cemetery has been identified. There was not significant re-occupation of the site until around the time of the Norman Conquest, and although evidence for later medieval and early post-medieval activity was restricted, there was probably more or less continuous activity during these periods. By the 17th century there was structural development on the site and various phases of redevelopment took place up until the relatively recent past The overall development of the site is thus of importance in adding to the known dataset concerning the development of the City of London.

9.2 Further Work

9.2.1 The findings from the site have produced evidence of a number of phases of human activity, some aspects of which require further research. The evidence for Roman activity was quite extensive and indicated a presence in this area for much of the period of Roman occupation, divided into broad, early and late phases. The development of the site during the Roman period should be considered with reference to evidence form contemporary sites nearby and within the wider landscape of Roman *Londinium*. The burial evidence is of particular importance and should form a significant element of research into the Roman history of the site.

9.2.2 There was little direct evidence of activity in the immediate post-Roman period and there was not significant re-occupation of the site until around the time of the Norman Conquest, when a number of cut features suggest waste disposal in what was probably an area of domestic habitation. This period of site development needs to be further considered, particularly in the context of site function and the early planned development of the local streetscape.

9.2.3 There was little evidence for activity on the site during the later medieval period but there was probably a continuity of occupation from the previous phase, much of this evidence being destroyed by subsequent basement construction. The basement construction probably also destroyed some evidence of early post-medieval activity though a few cut features of this date were identified and may have been contemporary with early structural development in parts of the site, which was certainly occupied in the early post-medieval period, there most likely having been a continuity of occupation from the early post-Conquest period. A discussion of this continuity and early development should be included in any publication of the site.

9.2.4 There was substantial evidence of continuity into the later post-medieval period when there were a number of phases of structural development, ground modification and possibly quarrying. The structural development is important both in terms of internal masonry features and their evidence for on-site activity, and the external arrangement

of buildings and their relationships with developments in the wider area. This evidence needs to be considered with reference to contemporary evidence from sites nearby and for the later periods, with reference to historic documentary and cartographic evidence.

Lithics

9.2.5 The small assemblage of prehistoric material (pottery and struck flint) from the site is a useful addition to the dataset of this material from the local area. However, as the material occurred largely residually it is of limited value in discussing the prehistoric development of the site and no further work is required on the assemblage, though it should be included in a discussion of the prehistoric background in any publication of the site.

Roman pottery

9.2.6 All of the pottery has been fully recorded and some stamps have been identified, however, the unidentified amphorae, and the decorated and stamped Terra Sigillata are recommended for further examination by specialists. The assemblage as a whole needs to be considered in a site wide context, as well as in its local and regional context by comparing it to other nearby assemblages. Key groups/features will need to be identified and discussed in more detail. It is also recommended to include a report in the publication.

Post Roman pottery

9.2.7 The post-Roman pottery has some significance at a local level and consists of pottery types frequently found in the London area. The pottery has the potential to date the contexts it was recovered from and the post-medieval groups are more than likely to infer upon activities associated with the study area. The medieval pottery has the potential to demonstrate what activities are associated with the site both pre-dating and contemporary with the hospital and the inn. The post-medieval pottery has the potential to demonstrate how ceramics were used in the White Hart Inn and later when it was jointly a coffee house. If the pottery, clay tobacco pipe and glass assemblages are looked at holistically, then the data from the different finds types will reveal more information on the material culture of the White Hart Inn. The assemblage from this excavation should be published and four illustrations and six photographs are required of the pottery to supplement the text.

Building materials

9.2.8 The large building material assemblage from the site is important as it provides extensive evidence for structural development of the site and the local area both during the Roman period and from the later medieval period to the relatively recent past. Some further work is required on the assemblage and a report on the material should be included in any publication of the site. Some of the more ornate items such

as combed and roller stamped box flue tiles, *tegula mammata, tin- glazed* and decorative stones, require photography and illustration at publication. The main potential at publication stage lies with the origin of the Roman stone some of it funerary in origin.

Glass

9.2.9 The post-medieval glass ware should be studied holistically alongside the pottery and clay tobacco pipes in order to give a better understanding of activities associated with the White Hart Inn. A publication report is required for the glass from this site. It is recommended that John Shepherd reports upon the Roman glass. Six items require illustrating and two vessels require photographing to complement the text.

Clay Tobacco pipe

9.2.10 The clay tobacco pipes are of some significance at a local level. The bowl types present fit within the typology for London. It is assumed that the assemblage is derived from the study area: the White Hart Inn, which was later jointly a coffee house. Clay tobacco pipes can form an important part of the material culture of drinking establishments and can be present in very large quantities at such locations and reflect the habits of the patrons. The main potential for the tobacco pipes is as a dating tool for the contexts in which they were found and to provide a sequence for them. The assemblage also has the potential to further demonstrate the material culture associated with drinking establishments. A small publication report is recommended for the clay tobacco pipes, supplemented by five bowl illustrations.

Roman small finds

9.2.11 The assemblage has been fully recorded, so aside from conservation & x-ray of indicated material no further identification is required. The exception to this is coffin [447]. As mentioned above lead coffins are relatively rare in London and it should be fully recorded and placed within its regional and national context. Also indicated coffin nails should be examined for uniformity of dimensions etc compared to those from other sites. A short report on the material should be included in any publication of the site.

Post Roman small finds

9.2.12 Metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. At Alderman's House, the finds include objects that testify to medieval activities on or near site, possibly including non-ferrous metalworking. A group of later finds, associated with households in the 18th and 19th centuries, is also of interest. For the purpose of publication, some metal objects will require further x-raying to aid full identification; these are all marked in the table below. The copper-alloy horse-harness pendants

should be cleaned by conservator to fully expose its decoration. Following x-ray and publication, iron nails and undiagnostic fragments may be discarded.

Animal bone

9.2.13 The moderate animal bone assemblage is of some value in terms of a number of factors concerning site activities in the Roman, medieval and post-medieval periods, most notably butchery, diet and economy. Whilst the animal bone information highlighted in the assessment should be included in any forthcoming publication, there is no requirement for further analysis of this data.

Fish and amphibian bones

9.2.14 The fish and frog bones should be mentioned in the publication of the site.

Human bone

9.2.15 There are some opportunities for further work on the Bishopsgate assemblage; in particular skeletons [261], [445] and [488] could be fully analysed. Analysis would involve the compilation of inventories for each individual, further demographic and pathological examination and the collection of metric and non-metric data. Despite a degree of truncation to [261] and [445] and the somewhat fragmentary character of [488] these 3 individuals are mostly complete and in a good or relatively good state of preservation. Due to the very limited amounts of bone that make up skeletons [313], [691] and [723] it is not recommended that these individuals are included in the full analysis. As the assemblage would only consist of 3 skeletons valid comparisons with other contemporaneous populations are very limited in scope. Targeted isotope work, on the teeth or long bones could be performed should this be considered useful within the archaeological context the remains were recovered from. No further analytical work needs to be performed on the disarticulated bone recovered from Bishopsgate. Material from [553] could be used to aid dating of the potential burial pit from which this bone originated.

Oyster shell

9.2.16 There are not enough complete specimens in any of the samples to provide a statistically significant sample set, so further analysis at the publication stage is not recommended.

Environmental samples

9.2.17 Overall the environmental potential of the samples is limited; the range of seed taxa represented is narrow, and amount of grain is small, as well as specimens being generally poorly preserved. Some information on the exploitation of resources for both diet and fuel could be derived from further analysis of both the molluscan remains and the wood charcoal however; therefore it is recommended that they be given to specialist for further analysis.

9.3 Publication Outline

9.3.1 Because of the significance of the findings from the site it is important that the results are disseminated to a wider public audience through formal publication. Given the location of the site and the nature of the evidence, the most suitable outlet would be an article in either *London Archaeologist* or more likely, *Transactions of the London and Middlesex Archaeological Society*. The article should include extensive reference to the exposed archaeological resource along with reference to comparable data from other sites in the region at all phases. The publication report should also consider surviving historical cartographic and documentary resources when discussing the later development of the site and should be structured approximately as follows:

- Introduction
- Archaeological and Historical Background
- The Site in Prehistory
- Roman Development of the Site
- Medieval Occupation of the Site
- Later Site Development
- Discussion and Conclusions
- Acknowledgements
- Bibliography

10 Contents of the Archive

THE WRITTEN RECORD	
MATERIAL	**QUANTITY**
Context Sheets	716
Environmental Sheets	8
Plans	319 sheets
Sections	34 sheets
Photographs	693 x digital images
THE ARTEFACTS	
MATERIAL	**QUANTITY**
Struck/Burnt Flint	1 box
Pottery	27 boxes
Ceramic Building Materials & Stone	10 crates & 4 boxes
Clay Tobacco Pipe	3 boxes
Small Finds	67 objects
Glass	5 boxes
Slag	1 box
Daub	2 bags
Mortar	3 bags
Slate	1 bag
Bone	16 boxes
Shell	2 boxes
Charcoal	2 bags
Human bone	8 boxes
Fishbone	1 box
Wall plaster	1 box
Bulk samples	8 samples

11 Acknowledgements

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APPENDIX 1: CONTEXT INDEX

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	1	Layer	TP1	*	*	*	Modern slab and bedding	Modern	11
BIH14	2	Layer	TP1	*	*	*	Made ground	Modern	11
BIH14	3	Layer	TP1	*	*	*	Demolition rubble	Modern	11
BIH14	4	Layer	TP1	*	*	*	Concrete	Modern	11
BIH14	5	Layer	BH3	*	*	*	Modern slab and bedding	Modern	11
BIH14	6	Layer	BH3	*	*	*	Made ground	Modern	11
BIH14	7	Layer	TP3	*	*	*	Concrete	Modern	11
BIH14	8	Layer	BH1	*	*	*	Asphalt and concrete	Modern	11
BIH14	9	Layer	BH3	*	*	*	Sandy clay layer	19th C	10
BIH14	10	Layer	BH1	*	*	*	Made ground	Modern	11
BIH14	11	Layer	BH1	*	*	*	Soft sand	Modern	11
BIH14	12	Layer	BH1	*	*	*	Made ground	Modern	11
BIH14	13	Layer	BH3	*	*	*	Quarry pit infill	Medieval	5
BIH14	14	Layer	BH3	*	*	*	Quarry pit infill	Medieval	5
BIH14	15	Layer	BH3	*	*	*	Brickearth	Natural	1
BIH14	16	Layer	BH3	*	*	*	Terrace Gravel	Natural	1
BIH14	17	Layer	BH3	*	*	*	Transitional clay	Natural	1
BIH14	18	Layer	BH3	*	*	*	London Clay	Natural	1
BIH14	19	Layer	BH2	*	*	*	Modern slab and bedding	Modern	11
BIH14	20	Layer	BH2	*	*	*	Made ground	Modern	11
BIH14	21	Layer	TP3a	*	*	*	Terrace Gravel	Natural	1
BIH14	22	Masonry	BH2	*	*	*	E-W foundation	19th C	10
BIH14	23	Layer	BH2	*	*	*	Made ground?	Modern	11
BIH14	24	Layer	BH2	*	*	*	Construction cut fill?	Early P-M	6
BIH14	25	Masonry	BH2	*	*	*	E-W foundation?	Early P-M	6

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	26	Layer	BH2	*	*	*	Brickearth	Natural	1
BIH14	27	Layer	BH2	*	*	*	Terrace Gravel	Natural	1
BIH14	28	Layer	BH2	*	*	*	Transitional clay	Natural	1
BIH14	29	Layer	BH2	*	*	*	London Clay	Natural	1
BIH14	30	Layer	BH1	*	*	*	Possible floor make-up	19th C	10
BIH14	31	Masonry	BH1	*	*	*	Sewer pipe	19th C	10
BIH14	32	Layer	BH1	*	*	*	Quarry pit infill	Medieval	5
BIH14	33	Layer	BH1	*	*	*	Brickearth	Natural	1
BIH14	34	Layer	BH1	*	*	*	Terrace Gravel	Natural	1
BIH14	35	Layer	BH1	*	*	*	Intermediate clay	Natural	1
BIH14	36	Layer	BH1	*	*	*	London Clay	Natural	1
BIH14	37	Layer	TP6	*	10	*	Concrete floor	Modern	11
BIH14	38	Layer	TP6	*	10	*	Demo rubble/made ground	19/20C	11
BIH14	39	Layer	TP6	*	10	*	Demo rubble/made ground	19/20C	11
BIH14	40	Layer	TP6	*	10	*	Redeposited brickearth	Medieval	5
BIH14	41	Layer	TP6	*	10	*	Natural brickearth	Natural	1
BIH14	42	Layer	TP5	*	11	*	Granite floor slab	19/20C	11
BIH14	43	Layer	TP5	*	11	*	Bedding for slab	19/20C	11
BIH14	44	Layer	TP5	*	11	*	Concrete slab	19/20C	11
BIH14	45	Layer	TP5	*	11	*	Demo rubble/made ground	19/20C	11
BIH14	46	Layer	TP5	*	11	*	Demo rubble/made ground	19/20C	11
BIH14	47	Layer	TP5	*	11	*	Made ground	18/19C	8
BIH14	48	Layer	TP5	*	11	*	Natural brickearth	Natural	1
BIH14	49	Layer	ATP2	49	12, 13, 14	*	Made ground	19/20C	11
BIH14	50	Layer	ATP2	*	12, 13, 14	*	Granite floor slab	19/20C	11

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	51	Layer	ATP2	*	12, 13, 14	*	Concrete slab	19/20C	11
BIH14	52	Layer	ATP2	*	12, 13, 14	*	Rubble/hardcore	19/20C	11
BIH14	53	Layer	ATP2	53	12, 13	*	Collapsed vault infill	E-M 19C	9
BIH14	54	Layer	ATP2	54	14	*	Vault const. cut backfill	18/19C	8
BIH14	55	Masonry	ATP2	55	12, 15	*	Vaulted structure	18/19C	8
BIH14	56	Layer	ATP1	*	16	*	Cellar floor deposits	19/20C	11
BIH14	57	Layer	ATP1	57	16	*	Mixed dumped deposit	18/19C	8
BIH14	58	Layer	ATP2	58	14, 15	*	Redeposited brickearth	18/19C	8
BIH14	59	Masonry	ATP2	*	15	*	Northern pub wall	17/18C	7
BIH14	60	Masonry	ATP2	*	13	*	Brick pillar	M-L 19C	10
BIH14	61	Layer	ATP2	61	14	*	Infill deposit	19/20C	11
BIH14	62	Layer	ATP1	62	16	*	Backfill/levelling	17/18C	7
BIH14	63	Layer	ATP3	*	21, 22, 23	*	Concrete floor	Modern	11
BIH14	64	Masonry	ATP3	64	21, 22, 23	*	Brick floor	M-L19C	10
BIH14	65	Layer	ATP3	65	21, 22, 23	*	Demo rubble/made ground	18/19C	8
BIH14	66	Fill	ATP3	*	*	*	Fill of [67]	E-M 19C	9
BIH14	67	Cut	ATP3	67	*	*	Small pit	E-M 19C	9
BIH14	68	Layer	TP7	*	17	*	Concrete floor	Modern	11
BIH14	69	Layer	TP7	*	17	*	Possible soil horizon	1st-2nd C	3
BIH14	70	Layer	TP7	*	17	*	Disturbed soil horizon	1st-2nd C	3
BIH14	71	Layer	TP7	*	17	*	Natural brickearth	Natural	1
BIH14	72	Layer	ATP5	*	19	*	Concrete floor	Modern	11
BIH14	73	Layer	ATP5	*	19	*	Demo rubble/made ground	M-L19C	10
BIH14	74	Fill	ATP3	75	21	*	Fill of [75]	E-M19C	9

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	75	Cut	ATP3	75	21	*	Large pit	E-M 19C	9
BIH14	76	Layer	ATP3	76	21, 22, 23	*	Composite gravel surface	18/19C	8
BIH14	77	Masonry	ATP5	Multi	*	*	Part of chute structure	18C	8
BIH14	78	Masonry	ATP5	Multi	*	*	Part of chute structure	18C	8
BIH14	79	Fill	ATP5	*	*	*	Infill of chute structure	E-M 19C	9
BIH14	80	Masonry	ATP5	80, Multi	*	*	Part of chute structure	18C	8
BIH14	81	Fill	ATP3	*	22	*	Fill of [82]	18C	8
BIH14	82	Cut	ATP3	82	22	*	Pit/posthole	18C	8
BIH14	83	Fill	ATP3	*	21, 22	*	Upper fill of [85]	18C	8
BIH14	84	Fill	ATP3	*	21, 22	*	Lower fill of [85]	18C	8
BIH14	85	Cut	ATP3	85	21, 22	*	Large E-W robber cut	18C	8
BIH14	86	Fill	ATP5	*	19	*	Infill of chute structure	E-M 19C	9
BIH14	87	Cut	ATP5	87	19	*	Shute const. cut	18C	8
BIH14	88	Masonry	ATP5	*	18	*	S. wall of building	18C	8
BIH14	89	Layer	ATP5	*	18	*	Gravelly layer below [88]	Medieval?	5
BIH14	90	Layer	ATP5	*	18	*	Disturbed brickearth	1st-2nd C?	3
BIH14	91	Layer	ATP5	*	18	*	Natural brickearth	Natural	1
BIH14	92	Masonry	ATP6	92	20	*	Brick floor	M-L 19C	10
BIH14	93	Layer	ATP6	*	20	*	Demo rubble/made ground	19/20C	11
BIH14	94	Layer	ATP3	94	22, 23	1	Midden deposit	1st-2nd C	3
BIH14	95	Layer	ATP6	*	20	*	Demo rubble/made ground	E-M 19C	9
BIH14	96	Layer	ATP3	*	22, 23	*	Rubbish deposit	1st-2nd C	3
BIH14	97	Layer	ATP3	97	22, 23	*	Burnt brickearth layer	1st-2nd C	3
BIH14	98	Masonry	ATP6	98	*	*	Masonry fragment	18C	8
BIH14	99	Masonry	ATP6	98	*	*	Masonry fragment	18C	8

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	100	Masonry	ATP6	98	*	*	Vaulted structure	18C	8
BIH14	101	Layer	ATP3	101	22, 23	*	Natural brickearth	Natural	1
BIH14	102	Fill	ATP6	*	*	*	Const. cut backfill	18C	8
BIH14	103	Cut	ATP6	*	*	*	Vault const. cut	18C	8
BIH14	104	Layer	ATP6	*	20	*	Natural brickearth	Natural	1
BIH14	105	Layer	TP9	*	*	*	Concrete slab	Modern	11
BIH14	106	Layer	TP9	*	*	*	Gravel bedding for [105]	Modern	11
BIH14	107	Layer	TP9	*	*	*	Demolition rubble below [106]	Modern	11
BIH14	108	Layer	TP9	*	*	*	Redeposited 'organic' material	Modern	11
BIH14	109	Layer	TP9	*	*	*	Dump of poured concrete	Modern	11
BIH14	110	Layer	TP9	*	*	*	Concrete slab	Modern	11
BIH14	111	Layer	UPA1/2	*	*	*	Dump/levelling	19/20C	11
BIH14	112	Fill	UP2/3/6/16	*	*	*	Upper fill of [114]	19/20C	11
BIH14	113	Fill	UP2/3/6/16	*	*	*	Lower fill of [114]	19/20C	11
BIH14	114	Cut	UP2/3/6/16	114	8	*	Const. cut for east wall	19/20C	11
BIH14	115	Fill	UP2	117	*	*	Fill of [117]	E-M 19C	9
BIH14	116	VOID							
BIH14	117	Cut	UP2	117	*	*	Const. cut for east wall	E-M 19C	9
BIH14	118	Layer	UPA1/2	*	*	*	Natural brickearth	Natural	1
BIH14	119	Fill	UP3	*	*	*	Fill of [120]	E-M 19C	9
BIH14	120	Cut	UP3	120	*	*	Const. cut for wall	E-M 19C	9
BIH14	121	Fill	UP3/ TWR2	*	24	*	Upper fill of [124]	19C	10
BIH14	122	Fill	UP3/ TWR2	*	24	*	Lower fill of [124]	19C	10
BIH14	123	Fill	UP3/ TWR2	*	24	*	Fill of [125]	19C	10
BIH14	124	Masonry	UP3/ TWR2	124	24	*	E-W brick culvert	19C	10
BIH14	125	Cut	UP3/ TWR2	125	24	*	Const. cut for [124]	19C	10

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	126	Fill	UP15	*	*	*	Fill of [127]	16C	6
BIH14	127	Cut	UP15	127	*	*	Sub-rectangular pit, same as [280]	16C	6
BIH14	128	Fill	UP8/14/TWR2	129	*	*	Fill of [129]	M-L 19C	10
BIH14	129	Cut	UP8/14/TWR2	129	*	*	Const. cut for [134]	M-L 19C	10
BIH14	130	Fill	UP4/14	131	*	*	Fill of [131]	19C	10
BIH14	131	Cut	UP4/14	131	*	*	Rectangular pit	19C	10
BIH14	132	Fill	UP8/15/TWR2	133	25	*	Upper fill of [133]	1st-2nd C	3
BIH14	133	Cut	UP8/15/TWR2	133	25	*	N-S Roman ditch	1st-2nd C	3
BIH14	134	Masonry	UP8/14/TWR2	134	*	*	N-S internal wall footing	19C	10
BIH14	135	Fill	UP1/4/8/13/14/ TWR2	136	*	*	Fill of [136]	17/18C	7
BIH14	136	Cut	UP1/4/8/13/14/ TWR2	136	*	*	Large, sub-rectangular pit	17/18C	7
BIH14	137	Fill	UP8/15/TWR2	*	25	*	Lower fill of [133]	1st-2nd C	3
BIH14	138	Fill	UP8	*	*	*	Fill of [139]	17C	6
BIH14	139	Cut	UP8	139	*	*	Small pit/posthole	17C	6
BIH14	140	Masonry	UP11	*	*	*	N-S internal wall	19C	10
BIH14	141	Fill	UP9	*	*	*	Fill of [142]	19/20C	11
BIH14	142	Cut	UP9	142	*	*	N-S shallow cut	19/20C	11
BIH14	143	Fill	UP7	144	*	*	Upper fill of [144]	19C	10
BIH14	144	Cut	UP7	144	*	*	N-S drain	19C	10
BIH14	145	Fill	UPA3	146	*	*	Fill of [146]	E-M 19C	9
BIH14	146	Cut	UPA3	146	*	*	Const. cut for north wall	E-M 19C	9
BIH14	147	Fill	UP9	148	*	*	Fill of [148]	18/19C	8
BIH14	148	Cut	UP9	148	*	*	Sub-circular pit	18/19C	8
BIH14	149	Fill	UP5	*	*	*	Fill of [150]	18C	7
BIH14	150	Cut	UP5	150	*	*	Large posthole	18C	7

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	151	Fill	UP7	*	*	*	Lower fill of [144]	19C	10
BIH14	152	Fill	UP7	*	*	*	Fill of [153]	Medieval	5
BIH14	153	Cut	UP7	153	*	*	Rectangular cesspit	Medieval	5
BIH14	154	Fill	UPA3	155	*	2	Fill of [155]	Medieval	5
BIH14	155	Cut	UPA3	155	*	*	Rectangular cesspit	Medieval	5
BIH14	156	Timber	UPA3	155	*	*	Lining of [155]	Medieval	5
BIH14	157	Fill	UPA3	*	*	*	Clay packing in [155]	Medieval	5
BIH14	158	Timber	UP7	*	26	*	Lining of [153]	Medieval	5
BIH14	159	Fill	UP7	*	26	*	Clay packing in [153]	Medieval	5
BIH14	160	Layer	UP7	153	*	*	Made ground	17/18C	7
BIH14	161	Fill	UP9	162	*	*	Fill of [162]	E-M 19C	9
BIH14	162	Cut	UP9	162	*	*	Const. cut for N-S wall	E-M 19C	9
BIH14	163	Layer	UP10	163	*	*	Demolition rubble	19C	10
BIH14	164	Masonry	UP10	164	*	*	N-S internal wall	18/19C	8
BIH14	165	Masonry	UP10	165	*	*	Base of [164]	18/19C	8
BIH14	166	Masonry	UP10	166	*	*	N-S internal wall	18/19C	8
BIH14	167	Fill	UP11	*	*	*	Demolition rubble	19C	10
BIH14	168	Masonry	UP11	168	*	*	W wall of brick vault	18C	8
BIH14	169	Masonry	UP11	169	*	*	N wall of brick vault	18C	8
BIH14	170	Masonry	UP11	170	*	*	E wall of brick vault	18C	8
BIH14	171	Fill	UP10	*	*	*	Fill of [172]	19C	10
BIH14	172	Cut	UP10	172	*	*	Sub-circular pit	19C	10
BIH14	173	Cut	UP10	173	*	*	Const. cut for [165]	18/19C	8
BIH14	174	Fill	UP10	*	*	*	Fill of [175]	19C	10
BIH14	175	Cut	UP10	175	*	*	Rectangular pit	19C	10
BIH14	176	Fill	UP17/20/12	177	*	*	Fill of [177]	18C	8

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	177	Cut	UP17/20/12	177	*	*	Const. cut for [178]	18C	8
BIH14	178	Masonry	UP17/20/12	178	*	*	Wall of rectangular structure	18C	8
BIH14	179	Fill	UP10	*	*	*	Fill of [180]	16C	6
BIH14	180	Cut	UP10	180	*	*	Sub-circular pit	16C	6
BIH14	181	Layer	UP17/20/12	*	*	*	Made ground	19/20C	11
BIH14	182	Masonry	UP21	182	*	*	N-S internal wall	E-M 19C	9
BIH14	183	Masonry	UP17/ 20/12	183	*	*	Lower courses of [178]	18C	8
BIH14	184	VOID							
BIH14	185	VOID							
BIH14	186	Layer	UP20/12	*	27	*	Layer below [181]	19C	10
BIH14	187	Layer	UP12	*	27	*	Layer cut by [294]	1st-2nd C	3
BIH14	188	Fill	UP20/12	294	27	*	Upper fill of [294]	1st-2nd C	3
BIH14	189	Fill	UP12	194	27	*	Fill of ditch [253]	1st-2nd C	3
BIH14	190	Fill	UP17/20	*	*	*	Fill of [191]	19C	10
BIH14	191	Cut	UP17/20	191	*	*	Demolition cut	19C	10
BIH14	192	Fill	UP10	*	*	*	Fill of [193]	16C	6
BIH14	193	Cut	UP10	193	*	*	Small, sub-circular pit	16C	6
BIH14	194	Cut	UP12	194	*	*	N-S ditch (same as [253])	1st-2nd C	3
BIH14	195	Fill	UP21/17/20	*	*	*	Upper fill of [196]	1st-2nd C	3
BIH14	196	Cut	UP21/17/20	196	*	*	Possible beamslot	1st-2nd C	3
BIH14	197	Layer	UP17	197	*	*	Small sandy dump	1st-2nd C	3
BIH14	198	Layer	UP17	198	*	*	Clayey sand layer	1st-2nd C	3
BIH14	199	Fill	UP10	*	*	*	Fill of [200]	1st-2nd C	3
BIH14	200	Cut	UP10	200	*	*	Small, sub-circular pit	1st-2nd C	3
BIH14	201	Layer	UP17	201	*	*	Remnant chalk surface	19C	10
BIH14	202	Layer	UPA4	202	*	*	Truncated layer	19C	10

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	203	Layer	UP17	203	*	*	Thin dumped deposit	19C	10
BIH14	204	Fill	UP21/17/20	*	*	*	Fill of [196]	1st-2nd C	3
BIH14	205	Fill	UP21/17/20	*	*	*	Fill of [196]	1st-2nd C	3
BIH14	206	Fill	UP10	*	*	*	Fill of [207]	16C	6
BIH14	207	Cut	UP10	207	*	*	Sub-rectangular posthole	16C	6
BIH14	208	Masonry	UP25	208	*	*	Brick & stone structure	18/19C	8
BIH14	209	Masonry	UP25	209	*	*	N-S internal wall	18/19C	8
BIH14	210	Layer	UP17	210	*	*	Sandy clay layer	1st-2nd C	3
BIH14	211	Layer	UP17	211	*	*	Small dumped deposit	1st-2nd C	3
BIH14	212	Fill	UP10	*	*	*	Fill of [213]	Medieval	5
BIH14	213	Cut	UP10	213	*	*	Sub-rectangular pit	Medieval	5
BIH14	214	Fill	UP12	214	*	*	Fill of [220]	1st-2nd C	3
BIH14	215	Fill	UP12	*	*	*	Fill of [216]	1st-2nd C	3
BIH14	216	Cut	UP12	216	*	*	Small oval pit	1st-2nd C	3
BIH14	217	Layer	UP17	217	*	*	Levelling for floor	1st-2nd C	3
BIH14	218	Layer	UPA4	218	*	*	Truncated layer	19C	10
BIH14	219	Layer	UPA4	219	*	*	Redeposited natural	19C	10
BIH14	220	Cut	UP12	220	27	*	Pit within ditch [253]	1st-2nd C	3
BIH14	221	Layer	UP10	221	*	*	Sandy layer over natural	1st-2nd C	3
BIH14	222	Fill	UPA4	222	*	*	Fill of [240]	19C	10
BIH14	223	Fill	UP17	*	*	*	Fill of [224]	1st-2nd C	3
BIH14	224	Cut	UP17	224	*	*	Oval stakehole	1st-2nd C	3
BIH14	225	Fill	UP17	*	*	*	Fill of [226]	1st-2nd C	3
BIH14	226	Cut	UP17	224	*	*	Oval stakehole	1st-2nd C	3
BIH14	227	Fill	UP17	*	*	*	Fill of [228]	1st-2nd C	3
BIH14	228	Cut	UP17	224	*	*	Circular stakehole	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	229	Fill	UP17	*	*	*	Fill of [230]	1st-2nd C	3
BIH14	230	Cut	UP17	224	*	*	Sub-rectangular stakehole	1st-2nd C	3
BIH14	231	Fill	UP17	*	*	*	Fill of [232]	1st-2nd C	3
BIH14	232	Cut	UP17	224	*	*	Oval stakehole	1st-2nd C	3
BIH14	233	Fill	UP17	*	*	*	Fill of [234]	1st-2nd C	3
BIH14	234	Cut	UP17	224	*	*	Sub-circular stakehole	1st-2nd C	3
BIH14	235	Fill	UP17	*	*	*	Fill of [236]	1st-2nd C	3
BIH14	236	Cut	UP17	224	*	*	Sub-rectangular stakehole	1st-2nd C	3
BIH14	237	Fill	UP17	*	*	*	Fill of [238]	1st-2nd C	3
BIH14	238	Cut	UP17	224	*	*	Sub-rectangular stakehole	1st-2nd C	3
BIH14	239	Masonry	UPA4	239	*	*	E-W wall in [240]	19C	10
BIH14	240	Cut	UPA4	*	*	*	Const. cut for [239]	19C	10
BIH14	241	Masonry	UP10	*	28	*	Chalk floor foundation	16C	6
BIH14	242	Cut	UP10	*	28	*	Const. cut for [241]	16C	6
BIH14	243	Layer	UP10	*	28	*	Layer cut by [242]	16C	6
BIH14	244	Layer	UP10	*	28	*	Contaminated layer	16C	6
BIH14	245	Fill	UP17	*	*	*	Fill of [246]	1st-2nd C	3
BIH14	246	Cut	UP17	224	*	*	Circular stakehole	1st-2nd C	3
BIH14	247	Fill	UP17	*	*	*	Fill of [248]	1st-2nd C	3
BIH14	248	Cut	UP17	224	*	*	Circular stakehole	1st-2nd C	3
BIH14	249	Fill	UP17	*	*	*	Fill of [250]	1st-2nd C	3
BIH14	250	Cut	UP17	224	*	*	Sub-rectangular posthole	1st-2nd C	3
BIH14	251	Layer	UPA4	251	*	*	Compact floor surface	19C	10
BIH14	252	Fill	UP12	253	27	*	Fill of [253]	1st-2nd C	3
BIH14	253	Cut	UP12	253	27	*	N-S Roman ditch	1st-2nd C	3
BIH14	254	Fill	UP17	*	*	*	Fill of [255]	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	255	Cut	UP17	224	*	*	Circular stakehole	1st-2nd C	3
BIH14	256	Layer	UPA4	256	*	*	Redeposited natural	19C	10
BIH14	257	Fill	UP17	*	*	*	Fill of [258]	1st-2nd C	3
BIH14	258	Cut	UP17	224	*	*	Circular stakehole	1st-2nd C	3
BIH14	259	Layer	UP21/17	259	*	*	Possible floor level	1st-2nd C	3
BIH14	260	Fill	UP19	*	*	*	Fill of grave [262]	3rd-4th C	4
BIH14	261	Skeleton	UP19	261	*	*	Skeleton in [262]	3rd-4th C	4
BIH14	262	Cut	UP19	262	*	*	N-S grave cut	3rd-4th C	4
BIH14	263	Fill	UPA4	*	*	*	Fill of [264]	16C	6
BIH14	264	Cut	UPA4	264	*	*	Square pit	16C	6
BIH14	265	Layer	UPA6	*	29, 30	*	Post-med overburden	19C	10
BIH14	266	Fill	UP21	*	*	*	Fill of [267]	1st-2nd C	3
BIH14	267	Cut	UP21	267	*	*	Sub-circular posthole	1st-2nd C	3
BIH14	268	Layer	UPA4	268	*	*	Mortar & brickearth	16C	6
BIH14	269	Layer	UPA4	269	*	*	Natural brickearth	Natural	1
BIH14	270	Layer	UP12	*	27	*	Redeposited brickearth	1st-2nd C	3
BIH14	271	Layer	UP21/17	*	*	*	Post-med layer	18C	7
BIH14	272	Fill	UP21	*	*	*	Fill of [273]	17C	6
BIH14	273	Cut	UP21	273	*	*	Oval pit	17C	6
BIH14	274	Fill	UP20	*	*	*	Fill of [275]	1st-2nd C	3
BIH14	275	Cut	UP20	275	*	*	Oval posthole	1st-2nd C	3
BIH14	276	Fill	UP20	*	*	*	Fill of [277]	1st-2nd C	3
BIH14	277	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	278	VOID							
BIH14	279	Fill	TWR2	*	*	*	Fill of [280]/[281]	16C	6
BIH14	280	Cut	TWR2	280	*	*	Rectangular pit, same as [127]	16C	6

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	281	Cut	TWR2	281	*	*	Sub-circular pit	16C	6
BIH14	282	Fill	UP19	*	*	*	Upper fill of [285]	Medieval	5
BIH14	283	Fill	UP19	*	29, 30	3	Fill of [285]	Medieval	5
BIH14	284	Fill	UP19	*	29	*	Primary fill of [285]	Medieval	5
BIH14	285	Cut	UP19	285	29, 30	*	Sub-rectangular cesspit	Medieval	5
BIH14	286	Fill	UP20	*	*	*	Fill of [287]	1st-2nd C	3
BIH14	287	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	288	Masonry	TWR2	288	*	*	Brick structure	19/20C	11
BIH14	289	Fill	UP20	196	*	*	Fill of [196]	1st-2nd C	3
BIH14	290	Fill	UP21	*	*	*	Fill of [291]	18C	7
BIH14	291	Cut	UP21	291	*	*	Rectangular pit	18C	7
BIH14	292	Fill	UP20	*	27	*	Fill of [294]	1st-2nd C	3
BIH14	293	Fill	UP20	*	27	*	Primary fill of [294]	1st-2nd C	3
BIH14	294	Cut	UP20	294	27	*	Sub-rectangular pit	1st-2nd C	3
BIH14	295	Fill	UP19	*	*	*	Fill of grave [296]	3rd-4th C	4
BIH14	296	Cut	UP19	296	*	*	N-S grave cut	3rd-4th C	4
BIH14	297	Fill	UP21	*	*	*	Fill of [298]	1st-2nd C	3
BIH14	298	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3
BIH14	299	Fill	UP21	*	*	*	Fill of [300]	1st-2nd C	3
BIH14	300	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3
BIH14	301	Fill	UP21	*	*	*	Fill of [302]	1st-2nd C	3
BIH14	302	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3
BIH14	303	Fill	UP21	*	*	*	Fill of [304]	1st-2nd C	3
BIH14	304	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3
BIH14	305	Fill	UP21	*	*	*	Fill of [306]	1st-2nd C	3
BIH14	306	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	307	Fill	UP21	*	*	*	Fill of [308]	1st-2nd C	3
BIH14	308	Cut	UP21	298	*	*	Circular stakehole	1st-2nd C	3
BIH14	309	Fill	UP21	*	*	*	Fill of [310]	16C	6
BIH14	310	Cut	UP21	310	*	*	Sub-circular pit	16C	6
BIH14	311	Masonry	UPA7	311	*	*	Brick floor	19C	10
BIH14	312	Layer	UPA7	311	*	*	Bedding for [311]	19C	10
BIH14	313	Skeleton	UP19	*	*	*	Skeleton in grave [296]	3rd-4th C	4
BIH14	314	Fill	TWR2	*	*	*	Fill of [315]	18C	7
BIH14	315	Cut	TWR2	315	*	*	Rectangular pit	18C	7
BIH14	316	Fill	UP19	*	31	*	Upper fill of [318]	1st-2nd C	3
BIH14	317	Fill	UP19	*	30	*	Upper fill of [318]	1st-2nd C	3
BIH14	318	Cut	UP19	318	30, 31		Large pit/E-W ditch	1st-2nd C	3
BIH14	319	Fill	UP21	*	*	*	Fill of [320]	1st-2nd C	3
BIH14	320	Cut	UP21	320	*	*	Irregular posthole	1st-2nd C	3
BIH14	321	Fill	UP21	*	*	*	Fill of [322]	1st-2nd C	3
BIH14	322	Cut	UP21	322	*	*	Circular stakehole	1st-2nd C	3
BIH14	323	Fill	UP21	*	*	*	Fill of [324]	1st-2nd C	3
BIH14	324	Cut	UP21	322	*	*	Circular stakehole	1st-2nd C	3
BIH14	325	Fill	UP21	*	*	*	Fill of [326]	1st-2nd C	3
BIH14	326	Cut	UP21	322	*	*	Sub-circular stakehole	1st-2nd C	3
BIH14	327	Fill	UP20	*	*	*	Fill of [328]	1st-2nd C	3
BIH14	328	Cut	UP20	275	*	*	Oval stakehole	1st-2nd C	3
BIH14	329	Fill	UP20	*	*	*	Fill of [330]	1st-2nd C	3
BIH14	330	Cut	UP20	275	*	*	Oval stakehole	1st-2nd C	3
BIH14	331	Fill	UP20	*	*	*	Fill of [332]	1st-2nd C	3
BIH14	332	Cut	UP20	275	*	*	Oval stakehole	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	333	Layer	UPA7	*	*	*	Dump/made ground	19C	10
BIH14	334	Layer	UPA7	*	*	*	Dump/made ground	19C	10
BIH14	335	Layer	UPA7	*	*	*	Dump/made ground	19C	10
BIH14	336	Masonry	UP21	337	*	*	Concrete below [337]	E-M 19C	9
BIH14	337	Masonry	UP21	337	*	*	N-S internal wall	E-M 19C	9
BIH14	338	Cut	UP21	337	*	*	Const. cut for [337]	E-M 19C	9
BIH14	339	Fill	UP20	*	*	*	Fill of [340]	1st-2nd C	3
BIH14	340	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	341	Fill	UP20	*	*	*	Fill of [342]	1st-2nd C	3
BIH14	342	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	343	Fill	UP20	*	*	*	Fill of [344]	1st-2nd C	3
BIH14	344	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	345	Fill	UP20	*	*	*	Fill of [346]	1st-2nd C	3
BIH14	346	Cut	UP20	275	*	*	Circular stakehole	1st-2nd C	3
BIH14	347	Fill	UP19	*	*	*	Fill of [318]	1st-2nd C	3
BIH14	348	Fill	UP19	318	30, 31	*	Fill of [318]	1st-2nd C	3
BIH14	349	Fill	UP19	*	29	*	Fill of [350]	1st-2nd C	3
BIH14	350	Cut	UP19	350	29	*	Small, sub-circular pit	1st-2nd C	3
BIH14	351	Fill	UP19	*	29, 31	*	Fill of [353]	3rd-4th C	4
BIH14	352	Fill	UP19	*	29, 31	*	Fill of [353]	3rd-4th C	4
BIH14	353	Cut	UP19	353	29, 31	*	Grave cut, same as [490]	3rd-4th C	4
BIH14	354	Fill	UP19	*	31	*	Fill of [318]	1st-2nd C	3
BIH14	355	Fill	UP19	*	31	*	Primary fill of [318]	1st-2nd C	3
BIH14	356	Fill	UP19	*	31	*	Primary fill of [318]	1st-2nd C	3
BIH14	357	Fill	UP12	*	*	*	Fill of 358	1st-2nd C	3
BIH14	358	Cut	UP12	253	*	*	Circular stakehole	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	359	Fill	UPA7	*	*	*	Fill of const. cut [360]	E-M 19C	9
BIH14	360	Cut	UPA7	360	*	*	Const. cut for walls	E-M 19C	9
BIH14	361	Fill	TWR2	362	32	*	Upper fill of [362]	Medieval	5
BIH14	362	Cut	TWR2	362	32	*	NE-SW ditch	Medieval	5
BIH14	363	Fill	UPA7	*	*	*	Fill of [364]	18/19C	8
BIH14	364	Cut	UPA7	364	*	*	Small, irregular pit	18/19C	8
BIH14	365	Layer	UP19	365	29	*	Remnant Roman layer	1st-2nd C	3
BIH14	366	Layer	UP19	*	29	*	Pos. Roman surface	1st-2nd C	3
BIH14	367	Layer	UP19	367	29	*	Remnant Roman layer	1st-2nd C	3
BIH14	368	Layer	UP19	*	29	*	Redeposited brickearth	Prehistoric?	2
BIH14	369	Fill	UPA7	370	*	*	Fill of ditch [370]	1st-2nd C	3
BIH14	370	Cut	UPA7	370	*	*	N-S aligned ditch	1st-2nd C	3
BIH14	371	Layer	UP23	*	*	*	Made ground = [265]	19C	10
BIH14	372	Layer	UP23	372	*	*	Truncated Roman deposit	1st-2nd C	3
BIH14	373	Layer	TWR2	373	*	*	Truncated layer	16/17C	6
BIH14	374	Fill	TWR2	*	32	*	Fill of [362]	Medieval	5
BIH14	375	Fill	TWR2	*	32	*	Fill of [362]	Medieval	5
BIH14	376	Fill	TWR2	*	32	*	Primary fill of [362]	Medieval	5
BIH14	377	Layer	UP23	*	*	*	Roman subsoil	1st-2nd C	3
BIH14	378	Fill	UP23	*	*	*	Fill of [379]	1st-2nd C	3
BIH14	379	Cut	UP23	379	*	*	Sub-oval pit	1st-2nd C	3
BIH14	380	Layer	TWR2	380	*	*	Natural brickearth	Natural	1
BIH14	381	Layer	TWR2	381	*	*	Natural gravel	Natural	1
BIH14	382	Layer	UPA7	*	*	*	Natural brickearth	Natural	1
BIH14	383	Fill	UP23	*	*	*	Upper fill of [384]	1st-2nd C	3
BIH14	384	Cut	UP23	384	*	*	Sub-rectangular pit	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	385	Fill	TWR2	*	*	*	Fill of [386]	Medieval	5
BIH14	386	Cut	TWR2	386	*	*	Sub-oval stakehole	Medieval	5
BIH14	387	Fill	UP23	*	*	*	Fill of [388]	1st-2nd C	3
BIH14	388	Cut	UP23	388	*	*	Sub-circular pit	1st-2nd C	3
BIH14	389	Fill	UP23	*	*	*	Fill of [390]	1st-2nd C	3
BIH14	390	Cut	UP23	390	*	*	Sub-circular? pit	1st-2nd C	3
BIH14	391	Layer	UP23	391	*	*	Truncated Roman layer	1st-2nd C	3
BIH14	392	Layer	UP23	392	*	*	Roman subsoil	1st-2nd C	3
BIH14	393	Fill	TWR2	*	*	*	Fill of [394]	1st-2nd C	3
BIH14	394	Cut	TWR2	394	*	*	Sub-oval posthole	1st-2nd C	3
BIH14	395	Fill	TWR2	*	*	*	Fill of [396]	1st-2nd C	3
BIH14	396	Cut	TWR2	394	*	*	Sub-circular posthole	1st-2nd C	3
BIH14	397	Fill	TWR2	*	*	*	Fill of [398]	1st-2nd C	3
BIH14	398	Cut	TWR2	394	*	*	Sub-circular stakehole	1st-2nd C	3
BIH14	399	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	400	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	401	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	402	Cut	TWR2	402	33	*	N-S aligned ditch	1st-2nd C	3
BIH14	403	Masonry	UP25	403	*	*	Brick structure	18C	8
BIH14	404	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	405	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	406	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	407	Fill	TWR2	*	33	*	Fill of [402]	1st-2nd C	3
BIH14	408	Fill	UP23	*	*	*	Primary fill of [384]	1st-2nd C	3
BIH14	409	Fill	UP23	410	*	*	Fill of [410]	1st-2nd C	3
BIH14	410	Cut	UP23	410	*	*	Possible linear feature	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	411	Fill	UP23	415	*	*	Fill within [412]	E-M 19C	9
BIH14	412	Masonry	UP23	412	*	*	Brick structure	18C	8
BIH14	413	Layer	UP12	*	*	*	Redeposited brickearth	Prehistoric?	2
BIH14	414	Layer	UP12	*	*	*	Natural gravel	Natural	1
BIH14	415	Cut	UP23	415	*	*	Const. cut for [412]	18C	8
BIH14	416	Masonry	TWR3A	416	*	*	E-W aligned wall	19C	10
BIH14	417	Cut	TWR3A	417	*	*	Const. cut for [416]	19C	10
BIH14	418	Fill	TWR3A	*	*	*	Fill of [419]	18C	8
BIH14	419	Cut	TWR3A	419	*	*	Const. cut for [434]	18C	8
BIH14	420	Fill	TWR3A	421	*	*	Fill of [421]	E-M 19C	9
BIH14	421	Cut	TWR3A	421	*	*	Const. cut for [422]	E-M 19C	9
BIH14	422	Masonry	TWR3A	421	*	*	N-S internal wall	E-M 19C	9
BIH14	423	Fill	TWR3A	*	34	*	Upper fill of [431]	Medieval	5
BIH14	424	Fill	UP23	*	*	*	Fill of [425]	1st-2nd C	3
BIH14	425	Cut	UP23	425	*	*	Sub-rectangular pit	1st-2nd C	3
BIH14	426	Layer	UP23	*	*	*	Natural brickearth	Natural	1
BIH14	427	Layer	UP23	427	*	*	Redeposited brickearth	Prehistoric?	2
BIH14	428	Fill	TWR3A	*	34	*	Primary fill of [431]	Medieval	5
BIH14	429	Fill	TWR3A	*	34	*	Fill of [431]	Medieval	5
BIH14	430	Fill	TWR3A	*	34	*	Fill of [431]	Medieval	5
BIH14	431	Cut	TWR3A	431	34	*	Sub-oval pit	Medieval	5
BIH14	432	Fill	TWR3A	*	*	*	Fill within [434]	E-M 19C	9
BIH14	433	Fill	TWR3A	*	*	*	Fill within [434]	E-M 19C	9
BIH14	434	Masonry	TWR3A	434	*	*	Brick structure	18C	8
BIH14	435	Fill	TWR3A	437	35	*	Upper fill of [437]	17/18C	7
BIH14	436	Fill	TWR3A	*	35	*	Lower fill of [437]	17/18C	7

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	437	Cut	TWR3A	437	35	*	Sub-rectangular pit	17/18C	7
BIH14	438	Fill	TWR3A	*	*	*	Fill of [439]	18/19C	8
BIH14	439	Cut	TWR3A	439	*	*	Sub-oval pit	18/19C	8
BIH14	440	Layer	UP23	*	36	*	Made ground	17/18C	7
BIH14	441	Layer	UP23	*	36	*	Layer sealing Roman deposits	17C	6
BIH14	442	Fill	UP23	*	36	*	Upper fill of [444]	3rd-4th C	4
BIH14	443	Fill	UP23	*	36	*	Fill of [444]	3rd-4th C	4
BIH14	444	Cut	UP23	444	36	*	Grave cut	3rd-4th C	4
BIH14	445	Skeleton	UP23	444	36	*	Skeleton in coffin [446]	3rd-4th C	4
BIH14	446	Coffin	UP23	446	36	*	Lead Coffin in [444]	3rd-4th C	4
BIH14	447	Fill	UP23	*	36	4	Fill of coffin [446]	3rd-4th C	4
BIH14	448	Masonry	TWR3B	Tower 3B	*	*	E-W internal wall	19C	10
BIH14	449	Masonry	TWR3B	Tower 3B	*	*	N-S internal wall	19C	10
BIH14	450	Masonry	TWR3B	Tower 3B	*	*	Brick culvert	19C	10
BIH14	451	Masonry	TWR3B	Tower 3B	*	*	Brick cellar wall	18C	8
BIH14	452	Masonry	TWR3B	Tower 3B	*	*	Brick cellar wall	18C	8
BIH14	453	Layer	TWR3B	*	37	*	Made ground	19C	10
BIH14	454	Layer	TWR3B	*	37	*	Made ground	19C	10
BIH14	455	Layer	TWR3B	Tower 3B	37	*	Made ground	19C	10
BIH14	456	Layer	TWR3B	*	37	*	Made ground	19C	10
BIH14	457	Layer	TWR3B	Tower 3B	37	*	Made ground	19C	10
BIH14	458	Masonry	UPA8	458	*	*	Brick structure	18C	8

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	459	Layer	UPA8	459	38	*	Occupation layer?	3rd-4th C	4
BIH14	460	Fill	UPA8	*	38	*	Upper fill of [464]	Medieval	5
BIH14	461	Fill	UPA8	*	38	*	Lower fill of [464]	Medieval	5
BIH14	462	Masonry	TWR3A	462	*	*	Brick structure	19C	9
BIH14	463	VOID							
BIH14	464	Cut	UPA8	464	38	*	Sub-rectangular pit	Medieval	5
BIH14	465	Layer	TWR3A	465	*	*	Possible subsoil	17C	6
BIH14	466	Fill	TWR3A	*	*	*	Fill of const. cut [467]	19C	9
BIH14	467	Cut	TWR3A	467	*	*	Const. cut for [462]	19C	9
BIH14	468	Layer	UPA8	468	38	*	Gravel surface	3rd-4th C	4
BIH14	469	Fill	UPA8	*	38	*	Roman ditch fill	1st-2nd C	3
BIH14	470	Fill	UPA8	*	38	*	Roman ditch fill	1st-2nd C	3
BIH14	471	Fill	UP24	*	*	*	Fill of [472]	Medieval?	5
BIH14	472	Cut	UP24	472	*	*	Possible beam slot	Medieval?	5
BIH14	473	Fill	UP24	*	*	*	Fill of [474]	3rd-4th C	4
BIH14	474	Cut	UP24	474	*	*	Truncated feature	3rd-4th C	4
BIH14	475	Fill	UP25	*	*	*	Fill within [477]	E-M 19C	9
BIH14	476	Fill	UP25	*	39	*	Upper fill of [483]	3rd-4th C	4
BIH14	477	Masonry	UP25	477	*	*	Brick structure	18C	8
BIH14	478	Masonry	UP25	477	*	*	Brick floor assoc. [477]	18C	8
BIH14	479	Fill	UPA8	*	38	*	Roman ditch fill	1st-2nd C	3
BIH14	480	Layer	UPA8	*	38	*	Levelling deposit	3rd-4th C	4
BIH14	481	Layer	UPA8	*	38	*	Levelling deposit	3rd-4th C	4
BIH14	482	Cut	UP25	477	*	*	Const. cut for [477]	18C	8
BIH14	483	Cut	UP25	483	39	*	N-S aligned ditch	3rd-4th C	4
BIH14	484	Fill	UP25	*	*	*	Fill of [482]	18C	8

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	485	Cut	UPA8	485	38	*	Circular posthole	1st-2nd C	3
BIH14	486	Cut	UPA8	485	38	*	Circular posthole	1st-2nd C	3
BIH14	487	Cut	UPA8	485	38	*	Circular posthole	1st-2nd C	3
BIH14	488	Skeleton	UP24	488	*	*	Skeleton in cut [490]	3rd-4th C	4
BIH14	489	Fill	UP24	*	*	*	Fill of [490]	3rd-4th C	4
BIH14	490	Cut	UP24	490	40	*	N-S grave cut = [353]	3rd-4th C	4
BIH14	491	Fill	UP25	*	39	*	Fill of [492]	3rd-4th C	4
BIH14	492	Cut	UP25	492	39	*	Sub-circular pit	3rd-4th C	4
BIH14	493	Fill	UP25	*	39	*	Lower fill of [483]	3rd-4th C	4
BIH14	494	Layer	UP25	*	39	*	Natural brickearth	Natural	1
BIH14	495	Fill	UP24	495	40	*	Upper fill of [497]	1st-2nd C	3
BIH14	496	Fill	UP24	*	40	*	Lower fill of [497]	1st-2nd C	3
BIH14	497	Cut	UP24	497	40	*	N-S aligned ditch	1st-2nd C	3
BIH14	498	Fill	UP24	*	*	*	Fill of [499]	1st-2nd C	3
BIH14	499	Cut	UP24	499	*	*	Sub-circular posthole	1st-2nd C	3
BIH14	500	Fill	UP24	*	*	*	Fill of [501]	1st-2nd C	3
BIH14	501	Cut	UP24	501	*	*	Sub-circular posthole	1st-2nd C	3
BIH14	502	Layer	UP25	502	39	*	Redeposited brickearth	Prehistoric?	2
BIH14	503	Layer	UP24	503	40	*	Dumping layer	1st-2nd C	3
BIH14	504	Fill	UP24	*	*	*	Upper fill of [506]	1st-2nd C	3
BIH14	505	Fill	UP24	*	*	*	Lower fill of [506]	1st-2nd C	3
BIH14	506	Cut	UP24	506	*	*	Large pit = [318]	1st-2nd C	3
BIH14	507	Fill	UP24	*	*	*	Fill of [508]	1st-2nd C	3
BIH14	508	Cut	UP24	508	*	*	Rectangular posthole	1st-2nd C	3
BIH14	509	Layer	UP24	509	40	*	Roman subsoil	1st-2nd C	3
BIH14	510	Layer	UP24	*	40	*	Natural brickearth	Natural	1

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	511	Fill	UP24	*	*	*	Fill of [512]	Prehistoric?	2
BIH14	512	Cut	UP24	512	*	*	Sub-square pit	Prehistoric?	2
BIH14	513	Masonry	TWR1	513	41	*	Brick structure	18C	8
BIH14	514	Fill	TWR1	513	*	*	Fill within [513]	E-M 19C	9
BIH14	515	Fill	TWR1	*	*	*	Fill within [513]	E-M 19C	9
BIH14	516	Fill	TWR1	*	*	*	Fill of const. cut [517]	18C	8
BIH14	517	Cut	TWR1	513	*	*	Const. cut for [513]	18C	8
BIH14	518	Masonry	TWR1	518	*	*	N-S internal wall	E-M 19C	9
BIH14	519	Cut	TWR1	518	*	*	Const. cut for [518]	E-M 19C	9
BIH14	520	Fill	TWR1	522	*	*	Upper fill of [522]	17C	7
BIH14	521	Fill	TWR1	522	*	*	Lower fill of [522]	17C	7
BIH14	522	Cut	TWR1	522	*	*	Large, irregular pit	17C	7
BIH14	523	Masonry	TWR1	523	*	*	Brick structure	18C	8
BIH14	524	Fill	TWR1	*	*	*	Upper fill of [526]	18/19C	8
BIH14	525	Fill	TWR1	*	*	*	Lower fill of [526]	18/19C	8
BIH14	526	Cut	TWR1	526	*	*	Sub-circular pit	18/19C	8
BIH14	527	Fill	TWR1	*	*	*	Fill of [528]	18C	8
BIH14	528	Cut	TWR1	528	*	*	Const. cut for [523]	18C	8
BIH14	529	Fill	TWR1	*	*	*	Upper fill of [530]	1st-2nd C	3
BIH14	530	Cut	TWR1	530	*	*	N-S aligned ditch	1st-2nd C	3
BIH14	531	Fill	TWR1	*	*	*	Lower fill of [530]	1st-2nd C	3
BIH14	532	Fill	TWR1	*	*	*	Upper Fill of [541]	1st-2nd C	3
BIH14	533	Fill	TWR1	*	*	*	Fill of [541]	1st-2nd C	3
BIH14	534	Fill	TWR1	*	*	*	Fill of [541]	1st-2nd C	3
BIH14	535	Layer	TWR1	535	*	*	Redeposited brickearth	Prehistoric?	2
BIH14	536	Fill	TWR1	*	*	*	Fill of [537]	3rd-4th C	4

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	537	Cut	TWR1	*	*	*	Small pit	3rd-4th C	4
BIH14	538	Layer	TWR1	*	*	*	Natural brickearth	Natural	1
BIH14	539	Fill	TWR1	*	*	*	Fill of [541]	1st-2nd C	3
BIH14	540	Fill	TWR1	*	*	*	Fill of [541]	1st-2nd C	3
BIH14	541	Cut	TWR1	*	*	*	N-S aligned ditch	1st-2nd C	3
BIH14	542	Layer	PP1/PP2	*	*	*	Concrete slab	Modern	11
BIH14	543	Layer	PP1/PP2	*	*	*	Made ground, bedding for [542]	Modern	11
BIH14	544	Masonry	PP1/PP2	*	*	*	E-W brick wall footing	M-L 19C	10
BIH14	545	Cut	PP1/PP2	*	*	*	Const. cut for [544]	M-L 19C	10
BIH14	546	Layer	PP3	*	*	*	Alternating concrete/gravel layers	Modern	11
BIH14	547	Layer	PP3	*	*	*	Redeposited brickearth	1st-2nd C	3
BIH14	548	Layer	PP3	*	*	*	Natural sand and gravel	Natural	1
BIH14	549	Layer	PPN	*	*	*	Demo rubble/made ground	Modern	11
BIH14	550	Layer	PPN	*	*	*	Natural brickearth	Natural	1
BIH14	551	Masonry	PPN	*	*	*	N-S brick wall footing	M-L 19C	10
BIH14	552	Layer	PP3	*	*	*	Made ground	18/19C	8
BIH14	553	Fill	PP3	*	*	*	Fill of [554]	17C	6
BIH14	554	Cut	PP3	*	*	*	Mass-burial pit	17C	6
BIH14	555	Layer	PP3	*	*	*	Natural brickearth	Natural	1
BIH14	556	Layer	PPE	*	*	*	Demo rubble/made ground	Modern	11
BIH14	557	Layer	PPE	*	*	*	Demo rubble	Modern	11
BIH14	558	Fill	CB	CB	*	*	Fill of [559]	Medieval	5
BIH14	559	Cut	CB	CB	*	*	Cess Pit	Medieval	5
BIH14	560	Fill	CB	CB	*	*	Fill of [561]	Medieval	5
BIH14	561	Cut	CB	CB	*	*	Cess/Rubbish Pit	Medieval	5
BIH14	562	Fill	EX1	563	*	*	Fill of [563]	Medieval	5

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	563	Cut	EX1	563	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	564	Fill	EX1	*	*	*	Fill of [565]	1st-2nd C	3
BIH14	565	Cut	EX1	565	*	*	Small, shallow pit	1st-2nd C	3
BIH14	566	Fill	EX1	568	*	*	Fill of structure [568]	E-M 19C	9
BIH14	567	Fill	EX1	568	*	*	Fill of construction cut [569]	18C	8
BIH14	568	Masonry	EX1	568	*	*	Rectangular brick structure	18C	8
BIH14	569	Cut	EX1	568	*	*	Construction cut for [568]	18C	8
BIH14	570	Fill	EX1	571	*	*	Mixed fill of [571]	17C	7
BIH14	571	Cut	EX1	571	*	*	Large rubbish pit	17C	7
BIH14	572	Fill	EX1	573	*	*	Fill of [573]	M-L 19C	10
BIH14	573	Cut	EX1	573	*	*	Possible construction cut	M-L 19C	10
BIH14	574	Masonry	EX1	574	*	*	Brick floor surface	M-L 19C	10
BIH14	575	Cut	EX1	*	*	*	Construction cut for [574]	M-L 19C	10
BIH14	576	Fill	EX1	577	*	*	Fill of [577]	M-L 19C	10
BIH14	577	Cut	EX1	577	*	*	Sub-oval pit, not excavated	M-L 19C	10
BIH14	578	Masonry	EX1	578	*	*	Brick sub-basement feature	18C	8
BIH14	579	Cut	EX1	*	*	*	Construction cut for [578]	18C	8
BIH14	580	Fill	EX1	*	*	*	Fill of [581]	1st-2nd C	3
BIH14	581	Cut	EX1	581	*	*	Small, shallow pit	1st-2nd C	3
BIH14	582	Layer	EX1	582	*	*	Natural brickearth	Natural	1
BIH14	583	Fill	EX2	*	*	*	Fill of [584]	1st-2nd C	3
BIH14	584	Cut	EX2	584	*	*	N-S linear feature	1st-2nd C	3
BIH14	585	Layer	EX2	585	*	*	Natural brickearth	Natural	1
BIH14	586	Fill	EX1	*	*	*	Fill of [587]	18/19C	8
BIH14	587	Cut	EX1	587	*	*	Possible posthole	18/19C	8
BIH14	588	Fill	EX1	590	*	*	Upper fill of [590]	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	589	Fill	EX1	590	*	5	Primary fill of [590]	1st-2nd C	3
BIH14	590	Cut	EX1	590	*	*	Large, sub-oval pit	1st-2nd C	3
BIH14	591	Fill	EX1	592	*	*	Fill of [592]	Prehistoric?	2
BIH14	592	Cut	EX1	592	*	*	Sub-circular pit	Prehistoric?	2
BIH14	593	Layer	EX1	*	*	*	Natural brickearth	Natural	1
BIH14	594	Fill	Area 4	*	*	*	Fill of drain [596]	E-M 19C	9
BIH14	595	Fill	Area 4	*	*	*	Fill of construction cut [597]	E-M 19C	9
BIH14	596	Masonry	Area 4	MC	*	*	NE-SW brick drain	E-M 19C	9
BIH14	597	Cut	Area 4	MC	*	*	Construction cut for [596]	E-M 19C	9
BIH14	598	Masonry	Area 4	MC	*	*	N-S brick wall	E-M 19C	9
BIH14	599	Fill	Area 4	600	*	*	Fill of [600]	Medieval	5
BIH14	600	Cut	Area 4	600	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	601	Cut	Area 4	MC	*	*	Construction cut for [602]	E-M 19C	9
BIH14	602	Masonry	Area 4	MC	*	*	Square brick soakaway	E-M 19C	9
BIH14	603	Fill	Area 4	*	*	*	Fill of soakaway [602]	E-M 19C	9
BIH14	604	Masonry	Area 4	MC	*	*	Stone slabs over drain [596]	E-M 19C	9
BIH14	605	Fill	EX1	606	*	*	Fill of [606], same as [589]	1st-2nd C	3
BIH14	606	Cut	EX1	606	*	*	Large pit, same as [590]	1st-2nd C	3
BIH14	607	Cut	Area 4	MC	*	*	Construction cut for wall	E-M 19C	9
BIH14	608	Fill	Area 4	609	*	6	Fill of [609]	Medieval	5
BIH14	609	Cut	Area 4	609	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	610	Fill	Area 4	*	*	*	Fill of [611]	Medieval	5
BIH14	611	Cut	Area 4	611	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	612	Fill	Area 4	*	*	*	Fill of [613]	Medieval	5
BIH14	613	Cut	Area 4	613	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	614	Fill	EX1	*	*	*	Fill of [615]	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	615	Cut	EX1	590	*	*	Posthole in base of pit [590]	1st-2nd C	3
BIH14	616	Layer	Area 4	MC	*	*	Natural brickearth	Natural	1
BIH14	617	Fill	EX3	*	*	7	Upper fill of [620]	1st-2nd C	3
BIH14	618	Fill	EX3	*	*	*	Fill of [620]	1st-2nd C	3
BIH14	619	Fill	EX3	620	*	*	Fill of [620]	1st-2nd C	3
BIH14	620	Cut	EX3	620	*	*	Large pit, same as [590]	1st-2nd C	3
BIH14	621	Fill	EX3	*	*	*	Fill of structure [622]	E-M 19C	9
BIH14	622	Masonry	EX3	622	*	*	Sub-basement brick structure	18C	8
BIH14	623	Cut	EX3	623	*	*	Construction cut for [622]	18C	8
BIH14	624	Fill	EX3	*	*	*	Upper fill of [635]	Medieval	5
BIH14	625	Fill	EX3	627	*	*	Upper fill of [627]	E-M 19C	9
BIH14	626	Fill	EX3	627	*	*	Lower fill of [627]	E-M 19C	9
BIH14	627	Cut	EX3	627	*	*	Pit below basement floor	E-M 19C	9
BIH14	628	VOID							
BIH14	629	VOID							
BIH14	630	Fill	EX3	*	*	*	Fill of construction cut [623]	18C	8
BIH14	631	Fill	EX3	*	*	*	Fill of structure [632]	M-L 19C	10
BIH14	632	Masonry	EX3	632	*	*	Brick well/soakaway structure	M-L 19C	10
BIH14	633	Cut	EX3	633	*	*	Construction cut for [632]	M-L 19C	10
BIH14	634	Fill	EX3	635	*	*	Lower fill of [635]	Medieval	5
BIH14	635	Cut	EX3	635	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	636	Fill	EX3	*	*	*	Fill of [638]	1st-2nd C	3
BIH14	637	Fill	EX3	*	*	*	Lower fill of [638]	1st-2nd C	3
BIH14	638	Cut	EX3	638	*	*	Large, sub-circular pit	1st-2nd C	3
BIH14	639	Fill	EX3	*	*	*	Fill of construction cut [640]	E-M 19C	9
BIH14	640	Cut	EX3	640	*	*	Construction cut for [641]	E-M 19C	9

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	641	Masonry	EX3	641	*	*	Circular brick well/soakaway	E-M 19C	9
BIH14	642	Fill	EX3	*	*	*	Fill of structure [641]	M-L 19C	10
BIH14	643	Fill	EX3	*	*	*	Fill of [644]	Medieval	5
BIH14	644	Cut	EX3	644	*	*	Possible linear pit	Medieval	5
BIH14	645	Fill	EX3	638	*	*	Upper fill of [638]	1st-2nd C	3
BIH14	646	Fill	EX3	646	*	*	Fill of [661]	Medieval	5
BIH14	647	VOID							
BIH14	648	Fill	EX3	*	*	*	Upper fill of [651]	E-M 19C	9
BIH14	649	Fill	EX3	*	*	*	Fill of [651]	E-M 19C	9
BIH14	650	Fill	EX3	*	*	*	Lower fill of [651]	E-M 19C	9
BIH14	651	Cut	EX3	651	*	*	Vertical-sided pit	E-M 19C	9
BIH14	652	Fill	EX3	*	*	8	Fill of [653]	Medieval	5
BIH14	653	Cut	EX3	653	*	*	Rectangular cess pit	Medieval	5
BIH14	654	Fill	EX3	654	*	*	Layer sealing [648]	E-M 19C	9
BIH14	655	Fill	EX3	*	*	*	Fill of [620]	1st-2nd C	3
BIH14	656	Fill	EX3	*	*	*	Silting in edge of [620]	1st-2nd C	3
BIH14	657	Fill	EX3	*	*	*	Upper fill of [658]	Medieval	5
BIH14	658	Cut	EX3	658	*	*	Sub-rectangular cess pit	Medieval	5
BIH14	659	Fill	EX3	*	*	*	Upper fill of [660]	Medieval	5
BIH14	660	Cut	EX3	660	*	*	Square cess pit	Medieval	5
BIH14	661	Cut	EX3	661	*	*	Possible linear pit	Medieval	5
BIH14	662	Layer	EX3	662	*	*	Redeposited brickearth	Prehistoric?	2
BIH14	663	Fill	EX3	658	*	*	Lower fill of [658]	Medieval	5
BIH14	664	Fill	EX3	*	42	*	Fill of [665]	Medieval	5
BIH14	665	Cut	EX3	665	42	*	Sub-rectangular cess pit	Medieval	5
BIH14	666	Fill	EX3	*	*	*	Fill of [667]	1st-2nd C	3

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	667	Cut	EX3	667	*	*	Heavily truncated feature	1st-2nd C	3
BIH14	668	Fill	EX3	*	*	*	Fill of structure [669]	M-L 19C	10
BIH14	669	Masonry	EX3	669	*	*	Brick culvert/sewer	M-L 19C	10
BIH14	670	Cut	EX3	670	*	*	Construction cut for [669]	M-L 19C	10
BIH14	671	Fill	EX3	671	*	*	Fill of [675]	1st-2nd C	3
BIH14	672	Fill	EX3	*	*	*	Upper fill of [674]	1st-2nd C	3
BIH14	673	Fill	EX3	*	*	*	Primary fill of [674]	1st-2nd C	3
BIH14	674	Cut	EX3	674	*	*	Sub-circular pit, same as [680]	1st-2nd C	3
BIH14	675	Cut	EX3	675	*	*	Sub-circular pit	1st-2nd C	3
BIH14	676	Fill	EX3	*	*	*	Lower fill of [660]	Medieval	5
BIH14	677	Fill	EX3	*	*	*	Fill of [678]	1st-2nd C	3
BIH14	678	Cut	EX3	678	*	*	Sub-rectangular cess pit	1st-2nd C	3
BIH14	679	Fill	EX3	*	*	*	Fill of [680]	1st-2nd C	3
BIH14	680	Cut	EX3	680	*	*	Truncated pit, same as [674]	1st-2nd C	3
BIH14	681	Fill	EX3	*	*	*	Fill of [682]	1st-2nd C	3
BIH14	682	Cut	EX3	682	*	*	Heavily truncated feature	1st-2nd C	3
BIH14	683	Fill	EX3	*	*	*	Fill of [684]	1st-2nd C	3
BIH14	684	Cut	EX3	684	*	*	Sub-circular pit	1st-2nd C	3
BIH14	685	Fill	EX3	*	*	*	Fill of [686]	1st-2nd C	3
BIH14	686	Cut	EX3	686	*	*	N-S linear feature	1st-2nd C	3
BIH14	687	Fill	EX3	*	*	*	Basal fill of [688]	Medieval	5
BIH14	688	Cut	EX3	688	*	*	Sub-rectangular pit	Medieval	5
BIH14	689	Layer	Area 4	*	*	*	Layer below W wall of pub	17C	7
BIH14	690	Fill	EX1/3	*	43	*	Fill of grave cut [692]	3rd-4th C	4
BIH14	691	Skeleton	EX1/3	692	43	*	Skeleton in grave [692]	3rd-4th C	4
BIH14	692	Cut	EX1/3	692	43	*	Grave cut	3rd-4th C	4

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	693	Layer	Area 4.2	MC	*	*	Capping of well [700]	M-L 19C	10
BIH14	694	Fill	Area 4.2	*	*	*	Fill of gully [695]	E-M 19C	9
BIH14	695	Masonry	Area 4.2	695	*	*	E-W brick gully	E-M 19C	9
BIH14	696	Fill	Area 4.2	*	*	*	Fill of construction cut [697]	E-M 19C	9
BIH14	697	Cut	Area 4.2	697	*	*	Construction cut for [695]	E-M 19C	9
BIH14	698	Fill	Area 4.2	*	*	*	Fill of [699]	E-M 19C	9
BIH14	699	Cut	Area 4.2	699	*	*	Sub-rectangular pit	E-M 19C	9
BIH14	700	Masonry	Area 4.2	700	*	*	Sub-circular brick soakaway	E-M 19C	9
BIH14	701	Cut	Area 4.2	*	*	*	Construction cut for [700]	E-M 19C	9
BIH14	702	Fill	Area 4.2	703	*	*	Fill of [703]	Medieval	5
BIH14	703	Cut	Area 4.2	703	*	*	Possible cess pit	Medieval	5
BIH14	704	Fill	Area 4.2	705	*	*	Fill of [705]	Medieval	5
BIH14	705	Cut	Area 4.2	705	*	*	Oval pit	Medieval	5
BIH14	706	Fill	Area 4.2	707	*	*	Upper fill of [707]	1st-2nd C	3
BIH14	707	Cut	Area 4.2	707	*	*	Large, irregular pit	1st-2nd C	3
BIH14	708	Fill	Area 4.2	*	*	*	Fill of [709]	Medieval	5
BIH14	709	Cut	Area 4.2	709	*	*	Irregular pit	Medieval	5
BIH14	710	Fill	Area 4.2	*	*	*	Lower fill of [707]	1st-2nd C	3
BIH14	711	Layer	Area 4.3	711	*	*	Layer overlying masonry [712]	E-M 19C	9
BIH14	712	Masonry	Area 4.3	712	*	*	Possible cellar floor	E-M 19C	9
BIH14	713	Fill	Area 4.3	*	*	*	Fill of [714]	1st-2nd C	3
BIH14	714	Cut	Area 4.3	714	*	*	Possible quarry pit	1st-2nd C	3
BIH14	715	VOID							
BIH14	716	Masonry	Area 4.3	716	*	*	Brick gully, same as [695]	E-M 19C	9
BIH14	717	Fill	Area 4.3	*	*	*	Fill of soakaway [718]/[721]	E-M 19C	9
BIH14	718	Masonry	Area 4.3	718	*	*	West wall of soakaway	E-M 19C	9

Site Code	Cxt	Type	Area/Co-ords.	Plan	Section	Sample	Description	Date	Phase
BIH14	719	Fill	Area 4.3	*	*	*	Fill of construction cut [720]	E-M 19C	9
BIH14	720	Cut	Area 4.3	720	*	*	Construction cut for [718]/[721]	E-M 19C	9
BIH14	721	Masonry	Area 4.3	721	*	*	East wall of soakaway	E-M 19C	9
BIH14	722	Layer	Area 4.3	*	*	*	Mixed layer above soakaway	E-M 19C	9

APPENDIX 2: LITHIC ASSESSMENT

Barry Bishop

Introduction

Excavations at the above site resulted in the recovery of small assemblages of struck flint and unworked burnt flint (Table 1). This report describes the assemblages and assesses their archaeological significance and potential to contribute to the further understanding of the nature and chronology of activity at the site. All metrical descriptions follow the methodology established by Saville (1980).

Context	Flake	Core	Bifacially worked implement	Edge trimmed flake	Burnt stone (no. >15mm)	Burnt stone (total wt:g)
217					1	12
266				1		
266					1	4
361		1				
387					2	15
391					1	6
424					1	11
495					1	67
625			1			
655	1					

Table 1: Quantification of lithic material by context from Alderman's House

Burnt stone

Seven pieces of otherwise unworked burnt flint weighing a total of 115g were recovered from six separate contexts. It all consists of flint fragments that have been intensely heated to the extent that they had changed to a grey-white colour and become 'fire crazed'. The pieces were scattered in small quantities within a variety of features, all of Roman date. No specific concentrations indicative of *in-situ* burning are evidence and the pieces are most suggestive of 'background waste' arising from occasional hearth use at the site.

Struck flint

Four struck pieces were recovered, all residually deposited within Roman or later contexts. All are made from a good quality translucent black flint that contains opaque light grey cherty inclusions. Cortex varies from being thick to worn smooth and thermal flaws are common, suggesting that the raw materials were obtained from the local terrace gravels such as underlie the site. The condition of the pieces is either good or only slightly chipped, suggesting that they were recovered from close to where originally discarded.

The bifacially worked implement from context [625] comprises a large oval shaped thermal spall that has had a few flakes removed from the 'inner' face but has been extensively worked on the 'outer', cortical, surface with the removal of many broad and shallow flakes, similar to axe thing flakes, leaving just small remnants of a thin weathered cortex. Most of the perimeter on this face has been further worked, forming sturdy but sharp edges, and in some locations these exhibit considerable battering and rounding suggestive of heavy use. Across the inner face is a striking band of black and red crystalline inclusions, but it is largely unworked. The implement measures 119mm long by 78mm wide and is 23mm thick, and weighs 259g. In many respects it is comparable to Lower Palaeolithic ovate handaxes and this possibility should not be excluded. However, the lack of evidence for it having rolled within the gravels or for any surface staining or recortication, combined with it having been predominantly worked only on one face, does suggest it might in fact represent a more opportunistically produced chopping tool, which if so would be more characteristic of Neolithic or Bronze Age implements.

The core from context [361] weighs 134g and comprises a thermally (frost) fractured nodular fragment that has produced a few flakes and at least one blade from a single platform. The platform comprises a thermal scar and there is no evidence for any attempts to prepare or shape the core. It has few diagnostic features but the production of blades from an unmodified core would be perhaps most typical of Neolithic industries.

Context [366] produced a core modification flake that had been struck from the base of a rejuvenated blade core, removing part of its face and striking platform. It has fine, steep and slightly sinuous retouch along its left margin, suggestive of use as a scraping tool. It measures 30mm long by 37mm wide and is 14mm thick. As an implement it is not particularly diagnostic but the use of a flake struck from a blade core would suggest a Mesolithic or Early Neolithic date.

The only other struck pieces from the site was recovered from context [655] and consists of a small flake that has detached partly along a thermal fault but is otherwise well struck.

Discussion and Significance

The burnt flint indicates hearth use at the site but is otherwise undateable. The struck flint is a small assemblage none of whose pieces is closely dateable but, if of a broadly similar date, would be suggestive of Neolithic activity. It is possible that the bifacially worked tool is considerably older and not-dissimilar Palaeolithic handaxes have been found in the gravel terraces at other locations in this part of London. The presence within the assemblage of both a core and a retouched implement demonstrates both flintworking and tool use occurring, but the assemblage is too small to say much about the chronology or nature of the occupation(s).

Relatively little evidence of prehistoric occupation has been identified in the City, certainly if compared with Southwark across the river. Recent surveys have demonstrated that within the City, Roman and later

activity has destroyed prehistoric deposits in many areas, but also that the prehistoric activity was perhaps not as sparse as once believed (Holder & Jamieson 2004). In this light even small residual assemblage have significance in that they can contribute to a wider understanding of the nature and extent of activity.

Recommendations

This report is all that is required of the assemblage for the purposes of archiving and no further analytical work is warranted. It does, however, provide a welcome addition to evidence for prehistoric activity and can contribute to a broader understanding of landscape use on the north bank of this stretch of the Thames. Its details should therefore be noted in the local Historic Environment Record and a summary of this report included in any published accounts of the investigations.

Bibliography

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APPENDIX 3: ROMAN POTTERY ASSESSMENT

Eniko Hudak

Introduction

Excavations at Alderman's House, 117, 119 & 121 Bishopsgate, and 34-37 Liverpool Street, London (BIH14) yielded an assemblage of Romano-British pottery totalling 2,402 sherds weighing 66.989kg (43.05 EVEs). The pottery was fully quantified and catalogued using the standard measures of sherd count, weight, and Estimated Vessel Equivalents (EVEs) by Katie Anderson and Eniko Hudak. The assemblage was recorded using standard Museum of London fabric codes (Symonds 2002) into an MS Access database.

Assemblage composition

The assemblage comprised small to large sherds, with a relatively high mean weight of 28.9g, which is probably due to the high number of large Dressel 20 amphora sherds in the assemblage. Sherds varied from being fairly 'fresh' to heavily abraded, and only a few sherds were noted with internal limescale or signs of sooting/burning.

The pottery was recovered from 148 individually numbered contexts and some unstratified (Table 2). Individual context assemblages were mainly small (1-30 sherds), with only 17 medium sized (31-100 sherds) and four large (100+ sherds) assemblages.

There is a wide range of fabrics represented in the assemblage (Table 3), both Romano-British and imported, dating mainly to the early Roman period (1st-2nd century AD). Only a few sherds have an earliest production date later than AD 150. Overall the assemblage is dominated by coarse wares (75.85% by sherd count, 55.39% by weight). The most common fabrics are the products of the Highgate Wood kilns (HWC, 23.46% of total assemblage by sherd count, 9.46% by weight), of the Verulamium region potteries (VRW, VRG, VCWS, 18.97%; 16.06%) and of the Alice Holt potteries (AHSU, 5.87%; 4.34%), but Early Roman Sandy wares (ERSA, ERSB, ERMS, ERSS), Black-Burnished Wares (BB1, BB2, BBS), and North Kent Shell-tempered Wares (NKSH) are also present in considerable quantities. Small amounts of some typical Late Roman fabrics, such as Oxfordshire wares (OXWW, OXWC, OXRC, and OXPA) and Mayen ware also occur.

Fine wares comprise 16.40% of the total site assemblage by sherd count and only 9.27% by weight. They are mainly South and Central Gaulish Samian (7.65%; 4.17% of total) including numerous decorated Dr37 bowls and three stamped bases from contexts [171], [589] and [679]. The non-Sigillata fine wares are dominated by London Mica Dusted wares (LOMI, 2.61%; 2.18% of total) and Fine Micaceous Wares (FMIC, 2.52%; 1.10%). Other early fine wares include a few sherds of London Ware and London Stamped Ware, London Eggshell and Marbled Wares, and Colchester Colour-Coated, as well as imported Central Gaulish fine wares. Later fine wares include fragments of Nene Valley Colour Coated and Oxfordshire Colour Coated vessels, but again, in small quantities.

Amphorae account for more than a third of the total site assemblage by weight (35.34%), but only 7.75% by sherd count. The most common type is the Baetican Dressel 20, but some Gaulish and possible North African fabrics were also present. There was a large BAET body sherd with handle fragment from [617] with a partial post-firing graffito on the exterior reading MI (or ME).

The most common forms in the assemblage by EVEs (Chart 1) are jars, especially round-bodied necked jars with decorated shoulders and figure-7 rims (2D, 2E) and bead rim jars (2A). They are followed by flagons, which is probably due to the four complete VRW collared and ring-necked flagon rims (1A, 1B) present in the assemblage. Lids (9A) are present in a similar proportion, and are followed by folded/hooked rim and reeded-rim bowls (4F, 4A). Amphorae are clearly under represented by their rim EVEs, but mortaria are indeed not well represented in this assemblage. Of interest is a small vessel from context [252], which, although incomplete, could be a feeding bottle or tettina (9F).

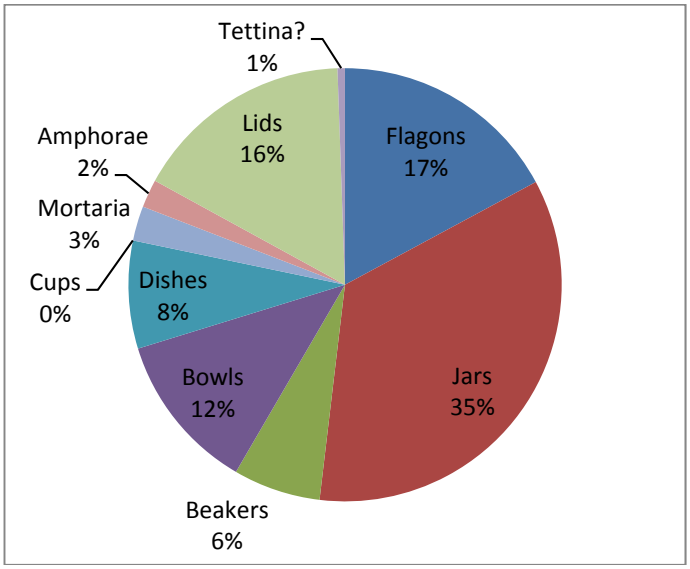

Chart 1 – Proportion of form types by EVEs

The proportions of HWC and AHSU, with HWC being more dominant, the appearance of BB1 and BB2, and the higher percentage of LOMI within fine wares compares well to Roman Ceramic Phases 3 (AD 100-120) and 4 (AD 120-140) of City assemblages (Davies *et al.* 1994, 199-213). This is further reinforced by the percentage of 2D and 2E jars, and the high proportion of lids and 4F and 4A bowls. However, there is a high degree of residuality in the assemblage, even in Phase 4 (Late Roman), where there is only a small amount of late Roman pottery present (see below).

Contextual analysis

Pottery was recovered from contexts in Phases 3-11 (Early Roman – 19th-20th century), with only 31 sherds being unstratified/unphased.

Phase 3 – Early Roman

Contexts: [69], [70], [94], [96], [132], [188], [189], [195], [205], [210], [211], [214], [217], [252], [266], [274], [276], [289], [292], [293], [316], [317], [369], [378], [387], [389], [391], [399], [408], [409], [424], [469], [470], [495], [496], [503], [504], [505], [529], [588], [589], [605], [617], [618], [619], [636], [655], [666], [671], [672], [673], [677], [679], [683], [685], [706]

Contexts in Phase 3 yielded the largest amount of Roman pottery totalling at 1,489 sherds weighing 42.463kg (26.67 EVEs). The large majority of the sherds can be dated to the 1st and 2nd centuries AD, with only one intrusive sherd of an Oxfordshire White Colour-Coated ring-necked flagon in context [617] dated to AD 200-250 (Young 1977, 120).

Overall the Phase 3 assemblage is also dominated by coarse wares, with HWC (AD 70-160) and VRW (AD 50-200) being the most common fabrics, and jars and bowls being the most commonly occurring forms by EVEs. Non-sigillata fine wares were mainly LOMI (AD 70-120) and FMIC (AD 50-120) in forms of poppyhead beakers (3F) and plain-rim dishes (5J). There are three legible stamps in this assemblage: context [617] yielded a VRW hooked-flange *mortarium* rim sherd with a partial spout and a [FECIT] counterstamp; context [589] a Samian ware base with the stamp of Carantus I dated to the Flavian period; and context [679] a Samian ware cup base with the stamp of Primus II dated to AD 40-80. The BAET amphora sherd with the graffito was also found in [617].

The four largest context assemblages from the site all come from Phase 3, [589], [605], [619], and [655], and are very similar in composition to the overall phase assemblage as well as the site assemblage. They are also dominated by coarse wares, especially HWC, VRW, and in [619] AHSU is also present in considerable quantities. Non-sigillata fine wares were mainly LOMI in [605] and FMIC in [589], [605], and [655].

Phase 4 – Late Roman

Contexts: [260], [295], [442], [443], [447], [459], [468], [473], [476], [488], [489], [491], [493], [690]

Phase 4 contexts contained a much smaller assemblage, 167 sherds weighing 2.703kg (3.89 EVEs). Similarly to Phase 3, the assemblage is dominated by HWC and VRW, and fine wares are mainly South and Central Gaulish Samian, with some LOMI and FMIC present, suggesting a high degree of residuality. The most common forms by EVEs were bowls and jars, and flagons have a high equivalent due to the complete VRW flagon rim from context [443]. There is a stamped VRW *mortarium* rim from context [476], with the stamp of Bruccius dated to AD 80-110/120. Late Roman fabrics include very small amounts of AHFA (AD 250-400) and OXRC (AD 270-400) from contexts [295], [476], and [489].

Grave and coffin fills [260], [295], [442], [443], [447], and [489] yielded almost two thirds of the phase assemblage by sherd count, but as it has been already mentioned above, the material is almost exclusively residual early Roman pottery, with only two sherds of late Roman AHFA present.

Phase 5 – Medieval

Contexts: [89], [152], [154], [212], [282], [283], [361], [429], [430], [460], [461], [471], [558], [560], [562], [599], [608], [610], [612], [624], [634], [643], [646], [652], [657], [659], [663], [664], [676], [687], [702], [704], [708]

Phase 5 contexts yielded 468 sherds weighing 16.145kg, 8.94 EVEs. All the pottery is residual, and is again mainly of 1st- and 2nd-century date. The most commonly occurring coarse ware fabrics are HWC, VRW, AHSU, and, unlike the other phases, North Kent Shell tempered ware (AD 50-150). Fine wares are again Terra Sigillata, LOMI, and FMIC. There is a single partial stamp in this assemblage on a Gillam 238 type *mortarium,* in a VRW-like fabric, which could be of Devalus dated to AD 60-90. There is a greater variety of late Roman fabrics present, yet in very small quantities. There is a single sherd of Mayen ware (AD 200-400), an Oxfordshire White Ware *mortarium* (AD 180-400), and Oxfordshire Parchment, and White and Red Colour-Coated wares (AD 240/270-400).

Phases 6-11 – 15th-17th century to 19th-20th century

Very small assemblages were recovered from contexts in Phases 6, 7, 8, 9, 10, and 11, for overall quantification per phase see Table 1 below. The Roman pottery in these contexts is again residual, and is dated to the 1st and 2nd centuries AD, with only a few sherds of later fabrics (AHFA, OXPA). There was a stamped Samian ware base sherd with the stamp of Nicephor I dated to AD 100-130 in context [171], Phase 10.

Phase	SC	W(g)	EVE
6	15	461	0.43
7	11	1000	0.13
8	44	796	0.61
9	31	864	0.46
10	35	709	0.46
11	7	178	0.28

Table 1 – Quantification of Roman pottery from Phases 6-11

Recommendations

All of the pottery has been fully recorded and some stamps have been identified, however, the unidentified amphorae, and the decorated and stamped Terra Sigillata are recommended for further examination by specialists. The assemblage as a whole needs to be considered in a site wide context, as well as in its local and regional context by comparing it to other nearby assemblages. Key groups/features will need to be identified and discussed in more detail. It is also recommended to include a report in the publication.

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Context	Size	SD	Notes	Context	Size	SD	Notes
0	S	-		443	S	70-100	
39	S	70-160		447	S	70-100	
49	S	50-250		457	S	70-120	single
53	S	50-120		459	S	70-120	
57	S	150-400		460	M	70-120	
62	S	70-120		461	S	70-160	single
65	S	70-120		468	S	70-160	
69	S	70-120	single	469	S	50-200	
70	S	70-150		470	S	70-160	
73	S	50-100		471	S	50-150	
74	S	70-150		473	S	70-120	AHFA
76	S	70-150		476	S	80-120	OXRC
79	S	50-150	single	488	S	90-160	single
89	S	60-90	single	489	M	70-120	
93	S	50-120	single	491	S	50-150	
94	M	70-100		493	S	70-120	
96	M	70-150		495	S	70-160	
98	S	70-150		496	S	50-200	single
102	S	70-150		503	S	70-160	
115	S	150-400	single	504	S	50-120	single
128	S	120-400		505	S	70-120	
132	S	50-100		514	S	90-160	
135	S	50-400	single	527	S	70-160	single
147	S	50-200	single	529	S	70-160	single
152	S	70-120		553	S	70-100	OXPA
154	S	240-400	some resid.	558	S	70-120	
171	S	70-150	OXRC	560	S	50-200	
174	S	70-120		562	S	70-160	single
176	S	70-120		567	S	100-160	
181	S	50-120		573	S	50-400	
188	S	70-100		588	M	90-120	
189	M	70-120		589	L	90-120	
192	S	70-160	single	595	S	50-160	

195	S	70-100		599	S	90-120	
205	S	50-120		605	L	90-120	
210	S	50-200		608	S	70-160	MAYEN
211	S	70-160		610	S	50-300	
212	S	70-160	single	612	S	270-400	
214	S	50-160		617	M	50-200	
217	S	50-150		618	S	70-120	
222	S	50-120	single	619	L	70-120	
252	M	70-100		624	M	120-160	
260	M	70-120		631	S	70-160	
265	S	70-160		634	M	70-120	
266	S	50-400		636	M	100-120	
272	S	50-200		643	S	90-120	
274	S	70-160		646	M	90-120	
276	S	50-250	single	648	S	70-160	
278	S	70-160		649	S	90-120	
282	S	50-200	single	650	S	70-160	
283	S	70-120	OXPA	651	S	70-160	
289	S	70-160		652	M	120-160	
292	S	100-150		655	L	100-120	
293	S	120-160	some resid.	657	S	50-200	single
295	S	120-160		659	S	120-130	
311	S	70-160		663	M	70-100	
316	S	70-120		664	S	70-120	
317	S	120-150		666	S	50-200	single
361	S	70-120		671	S	100-120	
363	S	70-160	single	672	S	100-120	
369	S	70-160		673	S	70-100	
378	S	70-150		676	S	90-160	
387	S	50-200	Prehist.	677	S	50-100	
389	S	70-160		679	M	140-200	some resid.
391	S	50-120		683	M	70-100	
399	S	50-200		685	S	70-160	
408	S	70-160		687	S	100-120	
409	S	50-120		690	S	120-160	some resid.
418	S	240-400		698	S	50-200	
424	S	70-120		702	S	120-200	
429	S	50-100	single	704	S	120-200	
430	S	50-100	single	706	S	120-250	some intr.
436	S	70-160	single	708	S	50-250	
438	S	50-250	single	776	S	240-400	

442	S	120-250	

Table 2 – Context spotdates

Fabric	SC	W(g)	EVEs
AHFA	5	99	0.23
AHSU	133	2803	1.98
AHSU?	2	85	0.22
AMPH	32	2456	
AMPH?	9	468	
BAET	101	18410	0.27
BB1	10	227	0.6
BB2	45	1041	1.04
BBS	4	49	
BHWS	2	16	
BRAMD	1	4	
BRAMD?	1	12	
BUFF	23	209	0.19
CAMP?	1	19	
CC	3	73	
CCGW	9	60	
CCGW?	5	101	0.06
CGBL	1	1	
CGOF	4	28	
CGWH	3	53	
COLCC	6	24	0.04
COLWW	2	209	
EIFL	1	18	0.06
ERMS	1	21	
ERSA	1	15	
ERSA/B	8	210	0.45
ERSB	104	2465	1.99
ERSS	3	25	
FINE	1	1	
FLINT	1	1	
FMIC	58	729	1.09
FMIC?	6	133	0.2
GAUL	30	1705	0.16
GAUL?	3	176	0.17
GROG	17	350	0.11
HOO	8	75	
HWB	23	637	0.93
HWC	539	6297	10.32

HWC?	10	123	0.11
IMPT	1	57	0.09
KOLN	5	16	
LOEG	3	24	
LOMA	4	28	
LOMI	60	1448	2.01
LOMI?	4	31	
LONW	3	33	
LONW-STD	1	13	
LOXI	24	840	1.3
MARB	2	16	0.09
MAYEN	1	12	
MICA	12	318	0.52
MISC	7	388	
NAFR?	2	289	0.16
NFSE	2	20	
NFSE?	3	29	
NKFW	9	68	0.14
NKSH	51	2742	0.13
NVCC	4	77	0.24
NVCC?	2	6	
NVWW	1	163	0.08
OXID	42	640	0.19
OXPA	2	25	
OXRC	5	105	0.11
OXRC?	2	11	
OXWC	3	151	0.39
OXWW	1	20	
RS	5	112	
SAM	33	492	0.37
SAMBL	1	25	0.05
SAMCG	35	355	0.84
SAMLEG	1	11	0.08
SAMLEZ	22	545	0.48
SAMLG	18	483	0.8
SAMMV	2	29	0.04
SAMMV2	4	22	0.03
SAMSG	60	819	1.11
SAND	163	3516	2.51
SANDM	22	616	0.99
SHEL	15	410	0.1

SLOW?	1	7	
VCWS	2	7	
VCWS?	1	53	0.26
VRG	16	302	0.14
VRG?	5	96	
VRMA	1	68	0.13
VRW	402	9685	8.64
VRW?	9	475	0.19
WS	4	23	0.03
WW	4	1408	0.15
TOTAL	2298	66557	42.61

Table 3 – Quantification by fabric

APPENDIX 4: POST-ROMAN POTTERY ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the site (ten boxes). The Post-Roman pottery dates from the medieval and post-medieval periods. Only one sherd shows evidence for lamination and none of the sherds show evidence of abrasion, so the assemblage was probably deposited fairly rapidly after breakage. Residual material is found as 7.4% by sherd count and two sherds are intrusive. The state of fragmentation of the assemblage is mainly as sherd material, although most of the vessel forms could be identified, while a number of vessels have complete profiles and two items are intact or nearly so. The pottery was quantified by sherd count (SC) and estimated number of vessels (ENV's), besides weight. Pottery was recovered from 58 contexts. Only small sized group of pottery (fewer than 30 sherds) are recorded.

In total there are 308 sherds, 241 ENV, 26.691kg, of which 26 sherds/25 ENV/3.288kg are unstratified. The assemblage was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in an ACCESS database, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology (2014). The pottery is discussed by types and its distribution.

The Pottery Types and Their Forms

The pottery occurs as medieval and post-medieval dated wares and chronologically the pottery can be quantified as follows:

Medieval: 119 sherds, 80 ENV, 9.268kg

Post-medieval: 189 sherds, 161 ENV, 17.423kg

Medieval

The medieval pottery types present and the forms recorded in those wares are shown in Table 1.

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Late Saxon (Vince and Jenner 1991)						
Late Saxon shelly ware	LSS	900–1050	1	1	9	-
Early medieval (Vince and Jenner 1991)						
Early medieval sandy ware with calcareous inclusions	EMCALC	1000–1150	3	2	33	Cooking pot/jar
Early medieval grog-tempered ware	EMGR	1050–1150	3	3	85	-
Early medieval Surrey iron-rich sandy ware	EMIS	1050–1150	1	1	8	

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Early medieval sandy ware	EMS	970–1100	10	6	302	: medium rounded
Early medieval shell-tempered ware	EMSH	1050–1150	23	11	6694	Cooking pot/jar: large/tall rounded
Early medieval sand- and shell-tempered ware	EMSS	1000–1150	20	13	647	Cooking pot/jar: large/tall rounded
Early Surrey ware	ESUR	1050–1150	10	5	407	Cooking pot/jar: rounded
London-area greyware	LOGR	1050–1170	2	1	177	-
Medieval whiteware crucible fabric	MWCR	1150–1500	1	1	11	Crucible
Stamford-type ware	STAM	1050–1150	1	1	4	?pitcher
Ipswich/Thetford-type ware	THET	900–1100	1	1	14	Cooking pot/jar: medium rounded
London area glazed wares (Pearce *et al*. 1985)						
Coarse London-type ware	LCOAR	1080–1200	9	5	310	Cooking pot/jar: medium rounded
Late London-type ware	LLON	1400–1500	1	1	27	-
London-type ware	LOND	1080–1350	4	4	23	Jug: rounded
London-type ware baluster jug	LOND BAL	1180–1350	2	2	58	-
London-type ware with Rouen-style decoration	LOND ROU	1180–1270	2	2	122	Jug: large rounded
Miscellaneous						
Miscellaneous unsourced medieval pottery	MISC	900–1500	5	3	71	-
Surrey whitewares (Pearce and Vince 1988)						
Coarse Surrey-Hampshire border ware	CBW	1270-1500	4	3	36	Jug
Cheam whiteware	CHEA	1350–1500	3	3	24	Cooking pot/jar:
Kingston-type ware	KING	1240–1400	7	6	112	Cooking pot/jar:
Wheel-thrown coarse wares (Blackmore and Pearce 2011)						
South Hertfordshire-type greyware	SHER	1170–1350	6	6	90	Cooking pot/jar: medium rounded

Table 1. BIH14 medieval pottery types and their quantification by sherd count (SC), estimated number of vessels and weight (g) and the forms present in each ware.

The earliest post-Roman pottery represented in the assemblage is a non-diagnostic sherd of residual Late Saxon shelly ware (LSS) found in context [652]. The only form recognisable amongst the hand-made medieval wares is cooking pots or jars, recorded in EMS, EMSH, EMSS, ESUR and THET. The assemblage is notable for containing a number of large or tall rounded jars, particularly notable as an EMSH example (context [657]). Four jar rims are also recorded in wheel-thrown coarse London-type ware (LCOAR). Of note is an externally sooted body sherd of a LOGR vessel decorated with an applied thumbed vertical strip and bands of combed horizontal and wavy lines (context [154]). A sherd of a probable pitcher occurs in yellow-glazed Stamford-type ware (context [657]).

The late 12th-early 14th-century pottery largely consists of jugs and these are well represented in London-type ware with baluster shapes (LOND BAL) noted in context [708] and a large rounded example decorated in the Rouen style and noted in context [436]. Cooking pots or jars are supplied mostly during this period in south Hertfordshire-type greyware (contexts [53] and [708) and as a single example found

also in context [708]). The only industrial vessel recorded is a body sherd of a medieval whiteware crucible fabric (MWCR) with an internal glassy surface (context [436]).

A small quantity of late medieval pottery types are recorded, particularly as Surrey whitewares: Coarse Surrey-Hampshire border ware (CBW) and Cheam ware (CHEA). A jug sherd is noted in CBW (context [314) and the rim of a CHEA jar occurs (context [52]). A body sherd of 15th century Late London ware (LLON) was residual in context [553].

Post-medieval

The post-medieval pottery types their forms are recorded in Table 2.

Amongst the late 16th-17th-century pottery is of note a BORDY bowl with a concave profile (context [432]). Amongst the Frechen stoneware rounded jugs is a sherd from a large vessel with a medallion featuring the Amsterdam coat of arms, splashed with cobalt (context [167]), while another bartmannen is intact, except for its missing handle and has a grotesque face on the neck and an oval medallion featuring a crowned column and rampant lion supporters (context [689]). The base of a tin-glaze charger (TGW A) has a complete depiction of the 'birds on rocks' design, dated *c.* 1630–50 and the Wanli panels found on the rim and wall of the vessel is missing (context [573]).

In situ 18th-century pottery is rare amongst the assemblage (seven sherds) and consists of mostly stonewares which include the base of an ENGS tankard and a LONS bottle or jar (both found in context [128]), while the base of SWSG saucer was found in context [145]. An unstratified Westerwald stoneware flat-rimmed chamber pot (WEST CHP2), dated *c*. 1740–80 has applied alternating medallions of either a simple flower or a lion.

Pottery dating to the late 18th and particularly the 19th century makes up the larger proportion of the assemblage. Amongst the stonewares are a notable number of bottles in LONS, ENGS and ENGS BRST and includes an intact ginger beer bottle stamped with the mark of J. Bourne of the Codnor Park and Denby Potteries, Derbyshire (ENGS: context [514]) and the complete profile of a ENGS BRST Brunswick blacking bottle (context [143]). An unusual find is the base of a LONS bird feeder or fountain, indicating that poultry was kept on the premises (context [514]). The complete profile of a medium rounded bowl with a band of engine turned decoration made in BBASG was part of a tea service and an unusual find (context [711]).

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Surrey-Hampshire border wares (Pearce 1992; Pearce 1999)						
Surrey-Hampshire border whiteware with green glaze	BORDG	1550–1700	3	3	11	Bowl: medium rounded
Surrey-Hampshire border whiteware with olive glaze	BORDO	1550–1700	2	2	110	Chamber pot (type 2)
Surrey-Hampshire border whiteware with clear	BORDY	1550–1700	1	1	138	Bowl: small

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
(yellow) glaze						concave
Surrey-Hampshire border redware	RBOR	1550–1900	3	3	62	Jar, paint pot
London area coarse red earthenwares (Nenk and Hughes 1999**)**						
London-area post-medieval redware	PMR	1580–1900	26	21	1859	Bowl: flared, chimney pot, dish: flared, flower pot, jar: rounded,
London-area early post-medieval redware	PMRE	1480–1600	3	3	55	Cauldron or pipkin
London area tin-glazed wares (Orton 1988)						
English tin-glazed ware	TGW	1570–1846	1	1	4	-
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style A)	TGW A	1570–1650	2	2	663	Charger
London tin-glazed ware with plain pale blue glaze	TGW BLUE	1630–1846	2	2	40	Ointment pot
London tin-glazed ware with plain white glaze (Orton style C)	TGW C	1630–1846	1	1	5	Jar: cylindrical
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D)	TGW D	1630–1680	1	1	30	Albarello
London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680–1800	5	5	56	Bowl, medium rounded, dish; rounded, plate
Essex fine red earthenwares (Nenk and Hughes 1999)						
Metropolitan slipware	METS	1630–1700	1	1	294	Dish: rounded
Essex-type post-medieval black-glazed redware	PMBL	1580–1700	1	1	10	-
Essex-type post-medieval fine redware	PMFR	1580–1700	4	4	217	Chamber pot, jar round
Essex-type post-medieval fine redware with brown glaze	PMFRB	1580–1700	1	1	271	Tyg
Industrial finewares (Lewis 1992: Hildyard 2005)						
Bone china	BONE	1794–1900	1	1	4	Tea cup
Bone china with under-glaze blue transfer-printed decoration	BONE TR	1807–1900	1	1	17	Saucer
Creamware	CREA	1740–1830	23	21	306	Bowl: medium rounded; straight-sided, dish: rounded, plate: dessert; dinner
Pearlware	PEAR	1770–1840	3	2	259	Bowl: medium rounded, plate: tea; dinner
Pearlware with under-glaze blue-painted decoration	PEAR BW	1770–1820	3	2	156	Plate: dinner
Pearlware with under-glaze polychrome-painted decoration in 'earth' colours	PEAR ERTH	1790–1820	1	1	4	Tea cup
Pearlware with under-glaze painted decoration	PEAR PNTD	1770–1840	1	1	20	Plate: tea
Pearlware with slip decoration	PEAR SLIP	1775–1840	1	1	40	Chamber pot
Pearlware with transfer-printed decoration	PEAR TR	1770–1840	7	6	1165	Chamber pot, mug: cylindrical, plate: oval, saucer
Pearlware with under-glaze blue transfer-printed stipple and line decoration	PEAR TR2	1807–1840	2	1	15	Bowl: flared
Pearlware with under-glaze transfer-printed and over-glaze painted decoration	PEAR TR6	1810–1840	2	1	79	Mug: cylindrical
Refined white earthenware	REFW	1805–1900	9	9	99	Jar: cylindrical, jug; small rounded, saucer, tankard
Refined white earthenware with under-glaze polychrome-painted decoration in 'chrome' colours	REFW CHROM	1830–1900	1	1	4	Plate

Pottery type	Code	Date range	SC	ENV	Wt (g)	Forms
Refined white earthenware with sponged or spattered decoration	REFW SPON	1805–1900	5	1	32	Jug small rounded
Refined whiteware with under-glaze transfer-printed decoration	TPW	1780–1900	10	9	77	Bowl; rounded, ?jug, tea cup
Refined whiteware with under-glaze transfer-printed 'flow blue' decoration	TPW FLOW	1830–1900	4	2	371	Mug: flared
Refined whiteware with under-glaze brown or black transfer-printed decoration	TPW3	1810–1900	1	1	25	Jar: small cylindrical,
Refined whiteware with under-glaze colour transfer-printed decoration (green, mulberry, grey etc)	TPW4	1825–1900	4	3	182	Plate: dessert, large, tankard
Imported wares (Hurst *et al.* 1986)						
Chinese blue and white porcelain	CHPO BW	1590–1900	4	3	50	Bowl, plate: dinner, saucer
Chinese Imari porcelain	CHPO IMARI	1680–1900	2	2	14	Bowl: medium rounded
Frechen stoneware	FREC	1550–1700	11	11	1503	Jug: bartmannen,; rounded
Westerwald stoneware	WEST	1590–1900	1	1	8	Bottle: seltzer
Westerwald stoneware chamber pot with flat rim	WEST CHP2	1740–1760	1	1	871	
Miscellaneous						
Miscellaneous unsourced medieval/post-medieval pottery	MISC	1480–1500	2	2	54	-
Miscellaneous post-medieval redwares	MISC PMRED	1480–1900	2	2	308	Bowl: flared, chimney pot
Non-local						
Sunderland-type coarseware with mottled glaze	SUND MOT	1775–1850	2	1	94	Dish, rounded
English porcelain (Coysh and Coysh 1992; Hildyard 2005)						
English porcelain with under-glaze blue transfer-printed decoration	ENPO UTR	1760–1900	1	1	6	-
English stonewares (Oswald *et al*. 1982)						
Glazed black basalt ware	BBASG	1770–1880	1	1	105	Bowl: medium rounded
Derbyshire stoneware	DERBS	1700–1900	1	1	7	-
English brown salt-glazed stoneware	ENGS	1700–1900	4	4	595	Bottle; blacking; ginger beer, tankard
English stoneware with Bristol glaze	ENGS BRST	1830–1900	6	4	984	Bottle: Brunswick blacking; shouldered
London stoneware	LONS	1670–1926	15	12	6155	Bird feeder/fountain, bottle: cylindrical; upright, bottle or jar
White salt-glazed stoneware	SWSG	1720–1780	3	2	19	Bowl, small rounded, saucer

Table 2. BIH14: post-medieval pottery types and their quantification by sherd count (SC), estimated

The Industrial finewares (CREA, PEAR and REFW) provide mostly table and tea wares, besides the occasional chamber pot. Of note is a PEAR TR large oval plate with a late 18th-early 19th-century Chinoiserie landscape and border design (context [514]). An unusual large TPW FLOW flared mug with a pedestal base has a Chinoiserie design (context [514]). There are also a small number of items that can be considered as nursery wares and includes a PEAR TR 6 plate with a green-transfer printed design featuring a boy and a girl in a landscape featuring a castle and part of an ode (context [711]). Two small tea plates made in PEAR and PEAR PNTD were both recovered from context [603] and may be other nursery wares.

The imported wares consist of a small quantity of Chinese porcelain tea wares and include an Imari style (CHPO IMARI) bowl rim with a perforation, indicating that it was mended with wire after being broken (context [603]), besides a sherd of a Westerwald stoneware seltzer bottle (context [65]).

Distribution

Post-Roman Pottery was recovered from Phases 3 and 5-11. Table 2 shows the contexts containing pottery, the area/trench and phase they occur in, the size/number of sherds, ENV and weight, the earliest and latest date of the most recent pottery type (Context ED/LD), the pottery types present and a considered (spot) date for the group. A summary of the phases the pottery occurred in is presented.

Context	Phase	Area	Size	SC	ENV	Wt (g)	Context ED	Context LD	Pottery code	Context considered date
6	11	BH3	S	4	4	38	1780	1900	CBW, ENPO UTR, MISC, TPW	19th century
13	5	BH3	S	1	1	8	1240	1400	KING	1240–1400
49	11	ATP2	S	5	5	74	1780	1900	LONS, PMR, RBOR, TGW H, TPW	19th century
53	9	ATP2	S	14	12	380	1870	1840	CHEA, CHPO BW,CHPO IMARI, CREA, PEAR BW, PMR, SHER, TGW H	1800–1830
57	8	ATP1	S	4	4	28	1580	1700	EMCALC, FREC, LOND, PMFR	1580–1700
65	8	ATP3	S	5	5	79	1760	1830	CREA, PMR, TGW C,TGW D, WEST	1760–1830
73	10	ATP5	S	14	13	597	1830	1900	CREA, ENGS, ENGS BRST, PEAR TR, PMR, RBOR, REFW	1830–1900
74	9	ATP3	S	4	3	25	1805	1900	CHPO BW, CREA, REFW	1805–1830
95	9	ATP6	S	12	11	569	1807	1840	BORDG, CREA, FREC, PEAR TR2, PMBL, PMR, RBOR, TGW A	19th century
102	8	ATP6	S	1	1	8	1580	1900	PMR	1580–1900
111	11	UPA1/2	S	1	1	20	1740	1830	CREA	1740–1830
112	11	UP2/3/6/16	S	2	2	29	1830	1900	FREC, REFW CHROM	Late 19th – early 20th century
121	10	UP3/ TWR2	S	1	1	12	1740	1830	CREA	1740–1830
126	6	UP15	S	2	2	34	1480	1600	PMRE	1480–1600
128	10	UP8/14/TWR2	S	5	4	249	1700	1900	ENGS, LONS, PMR	1700–1800
130	10	UP4/14	S	2	2	10	1740	1830	CREA, LONS	1740–1830
143	10	UP7	S	2	1	181	1830	1900	ENGS BRST	1830–1900
145	9	UPA3	S	2	1	13	1720	1780	SWSG	1720–1780
151	10	UP7	S	1	1	4	1794	1900	BONE	Late 19th – 20th century
154	5	UPA3	S	25	15	789	1080	1200	EMS, EMSH, EMSS, LCOAR, LOGR, MISC, THET	1080–1150
167	10	UP11	S	2	2	133	1580	1900	FREC, PMR	1580–1700
174	10	UP10	S	2	2	25	1805	1900	CREA, REFW	1805–1900
222	10	UPA4	S	1	1	5	1550	1700	BORDO	1550–1700
283	5	UP19	S	2	1	28	1000	1150	EMCALC	1000–1150

Context	Phase	Area	Size	SC	ENV	Wt (g)	Context ED	Context LD	Pottery code	Context considered date
314	7	TWR2	S	5	4	31	1670	1926	CBW, FREC, LONS	1670–1926
348	3	UP19	S	1	1	13	1805	1900	REFW	1805–1900
359	9	UPA7	S	3	3	77	1790	1820	CREA, MISC PMRED, PEAR ERTH	1790–1820
432	9	TWR3A	S	1	1	138	1550	1700	BORDY	1550–1700
436	7	TWR3A	S	4	4	144	1180	1270	ESUR, LOND ROU, MWCR, SHER	1180–1270
455	10	TWR3B	S	2	2	32	1780	1900	CREA, TPW	Mid 19th century
475	9	UP25	S	1	1	32	1780	1900	TPW	Mid 19th century
514	9	TWR1	S	11	8	8039	1830	1900	ENGS, ENGS BRST, LONS, PEAR, PEAR TR	1830–1900
520	7	TWR1	S	1	1	19	1550	1700	FREC	1550–1700
521	7	TWR1	S	1	1	48	1580	1700	PMFR	1580–1700
527	8	TWR1	S	1	1	18	1550	1700	FREC	1550–1700
553	6	PP3	S	8	8	399	1580	1900	EMSS, ESUR, LLON, LOND, PMFRB, PMR, PMRE, SHER	1580–1700
562	5	EX1	S	7	2	341	1050	1150	ESUR	1050–1150
569	8	EX1	S	2	2	22	1000	1100	EMS, EMSS	1000–1100
570	7	EX1	S	3	2	127	1580	1900	CHEA, PMR	1580–1900
573	10	EX1	S	1	1	625	1612	1650	TGW A	1630–1650
594	9	Area 4	S	13	8	150	1825	1900	LONS, REFW, REFW SPON, TGW BLUE, TPW, TPW4	1825–1900
599	5	Area 4	S	4	4	163	1080	1200	EMGR, EMSH, LCOAR, MISC	1080–1150
603	9	Area 4	S	4	4	46	1770	1840	CHPO IMARI, PEAR, PEAR PNTD, REFW	Mid 19th century
608	5	Area 4		3	2	5	1050	1150	EMSH, ESUR	1050–1150
621	9	EX3	S	8	7	191	1775	1850	CREA, ENGS, SUND MOT, SWSG, TGW H	1800–1830
631	10	EX3	S	7	4	172	1825	1900	LONS, TPW, TPW3, TPW4	1840–1865
648	9	EX3	S	5	5	91	1580	1900	BORDG, FREC, MISC, PMR	1580–1700
652	5	EX3	S	21	12	581	1080	1350	EMGR, EMSH, EMSS, LCOAR, LOND, LSS	Late 12th century
657	5	EX3	S	18	7	6493	1050	1150	EMS, EMSH, EMSS, STAM	1050–1100
664	5	EX3	S	3	3	231	1050	1150	EMGR, EMSS	1050–1150
689	7	Area 4	S	1	1	806	1550	1700	FREC	17th century
693	10	Area 4.2	S	1	1	5	1780	1900	TPW	1780–1900
694	9	Area 4.2	S	3	3	35	1830	1900	CHEA, DERBS, REFW	1830–1900
696	9	Area 4.2	S	1	1	17	1580	1900	PMR	1580–1900
698	9	Area 4.2	S	7	4	205	1580	1900	BORDG, PMR, TGW	1580–1900
704	5	Area 4.2	S	4	4	33	1240	1400	KING, LOND, LOND BAL	1240–1350
708	5	Area 4.2	S	9	8	211	1240	1400	KING, LOND BAL, LOND ROU, SHER	1240–1270
711	9	Area 4.3	S	7	4	555	1830	1900	BBASG	1830–1900

Table 2. BIH14: Distribution of pottery types showing individual contexts containing pottery, what trench and phase the context occurs in, the number of sherds (SC), ENV and weight (Wt g), the date range of the latest pottery type (Context ED/LD), the pottery types present and a suggested deposition (spot) date.

Phase 3: Earlier Roman

One sherd/1 ENV/13g

The base of a refined whiteware tankard was found in fill [348] of the large pit [318] and must be considered as an intrusive find.

Phase 5: Medieval

80 sherds/56 ENV/8.767kg

Pottery in this phase mostly dated to the early medieval period and was recovered from some seven different features. The earliest of these date to the late 11th century. The sub-rectangular cess pit [658] produced in its upper fill [657] a group of pottery (eighteen sherds) dated *c*. 1050-1100 and included sherds of cooking pots or jars in early medieval sandy ware (EMS), *c*. 970-1100 and early medieval sand and shell tempered ware (EMSS), dated *c*. 1000-1150. Of note is a tall jar made in early medieval shell-tempered ware (EMSH), dated 1050-1150, with a simple rim and convex base and possibly shows signs of being sooted or heated. A sherd of clear-glazed Stamford-type ware (STAM), dated *c.* 1050-1150 may have been derived from a pitcher.

Another sub-rectangular cesspit [655] produced in its fill [654] a small group of pottery (three sherds) dated *c*. 1050-1150 and noted as the base of an early medieval grog-tempered ware vessel (EMGR) and two sherds of EMSS, which included the rim of a tall rounded jar. The latter's rim type is simple and thickened and suggests a late 11th-century date to the deposit.

Two features contain pottery dated *c.* 1080-1150 as they contain sherds of wheel-thrown coarse London-type ware (LCOAR), dated *c.* 1080-1200 as the latest pottery type. The sub-rectangular cess pit [600] produced in its fill [599] four sherds of pottery which included EMGR and rounded jars in EMSH, with an applied thumbed strip and LCOAR. The rectangular cess-pit [155] contained in its fill [154] twenty sherds of pottery which consists of sherds of medium sized rounded cooking pots or jars in LCOAR and the non-local Ipswich Thetford type ware (THET) and large jars in EMSH. Of note is a sooted sherd of local greyware (LOGR), decorated with an applied thumbed strip and combed horizontal and wavy lines.

A rectangular cess pit [563] produced in its fill [562] seven sherds of pottery and all occur as early Surrey ware (ESUR), dated *c.* 1050-1150 and in the form of two rounded cooking pots both surviving as bases, although one additionally has an associated squared rim and the shoulder is scored with horizontal lines.

Truncating feature [665], the sub-rectangular cess pit [653] produced in its fill [652] a late 12th-century dated group of pottery (fourteen sherds). The fill contained mostly pottery types which had finished production around *c.* 1150: EMGR, EMSH and EMSS. These wares occurred as mostly medium and tall rounded cooking pots or jars. The latest pottery types present are recorded as the London-type wares and include a LCOAR small rounded jar covered in a white deposit and a sherd of a London type ware (LOND) jug sherd with a vertical applied red strip and white-slip and green glaze. The latter dates the context, (although it is possible this is an intrusive sherd) and may be decorated in the North French style, dated *c*. 1180-1270 or the highly decorated style, dated *c*. 1240-1350.

Three features in this phase produced pottery dated to the 13th or 14th centuries. The irregular pit [709] produced nine sherds of pottery in its fill [708] indicating a *c*. 1240-1270 deposition date. Cooking pots or

jar sherds occur in south Hertfordshire-type greyware (SHER), dated *c*. 1170-1350 and Kingston-type ware (KING), dated *c*. 1240-1400. The jugs are provided by the London-type ware and include the base of a baluster jug (LOND BAL), dated *c*. 1140-1350 and a rounded jug sherd decorated in the Rouen-style (LOND ROU). The decoration was crudely done and consists of a white slip coating incorporating a circle of white slip dots. The oval-shaped pit [705] produced in its fill [704] a group of four sherds of pottery indicating a deposition date of *c*. 1240-1350 and included London-type ware jugs as a baluster base(LOND BAL) and another sherd with a white slip coating, a red slip line and a green-glaze. The latest pottery type is two sherds of Kingston-type ware. The quarry pit fill [13] contained only a sherd of Kingston-type ware, dated *c*. 1240-1400.

Phase 6: 15th-17th Century

Nine sherds/9 ENV/416g

Only two features produced pottery during this period. Firstly, a single sherd of a London-area early post-medieval redware (PMRE) cauldron, dated *c*. 1480-1600 was recorded in fill [126] of pit [127]. The mass burial pit [554] contained in its fill [553] mostly residual medieval pottery, although the latest pottery types are a sherd of a flower pot in London-area post-medieval redware (PMR) and the base of a tyg in Essex-type post-medieval fine redware with brown glaze (PMFRB), indicating a deposition date of *c.* 1580-1700, although the flower pot sherd probably dates to the 19th century.

Phase 7: 17th-18th Century

Fifteen sherds/13 ENV/1.175kg

Pottery from this phase was found in six different deposits. The lower fill [436] of pit [437] only produced medieval pottery, although of note was the sherd of the MWCR crucible.

The intact Frechen stoneware (FREC) bartmannen jug, dating to the 17th century was recovered from layer [689] below the west wall of the inn. Other sherds of stoneware jugs from Frechen and London (LONS) were noted in fill [314] of the rectangular pit [315] and the LONS sherd dates from *c*. 1670. The large pit [522] produced single sherds of pottery in its two fills: the lower fill [521] contained the rim of an Essex-type post-medieval fine redware (PMFR) jar dated *c*. 1580-1700, while the upper fill produced a *c*. 1550-1700 dated sherd of Frechen stoneware. The large rubbish pit [571] contained single sherds of medieval Cheam ware and London-area post-medieval redware (PMR), dated *c.* 1580-1900 as a base fragment with a footring, possibly derived from a syrup collecting jar.

Phase 8: 18th-19th Century

Thirteen sherds/13 ENV/155g

In this phase five deposits produced pottery and much of it was residual. Sherds of early medieval pottery were only recovered from the fill of the construction cut [569] for the masonry feature [568]. Stratigraphically above the latter, fill [527] of the construction cut [528] only produced a sherd of a Frechen stoneware rounded jug. The dump layer [57] was dated *c*. 1580-1700 by the occurrence of Frechen stoneware and PMFR together. The demolition or made ground layer [65] contained a wide range of fragmentary post-medieval pottery types: PMR, plain white tin-glazed ware (TGW C) as a cylindrical jar and a mid 17th-century TGW D albarello. The latest pottery types form the deposit are a sherd of a WEST seltzer bottle and a basal sherd of a creamware dinner plate, dated *c.* 1740-1830, which dated the deposit. A later construction cut back fill [102] produced only a broadly *c.* 1580-1900 dated sherd of PMR

Phase 9: Early-Mid 19th Century

Ninety-six sherds/76 ENV/10.563kg

The largest quantity of pottery was assigned to this phase and found in sixteen contexts.

The infill [53] of the collapsed vault mostly contained industrial finewares, found as creamware plates and a medium rounded bowl, while a pearl ware plate has a blue, rococo scalloped shell-edge rim, dated *c*. 1780-1810. Sherds of Chinese porcelain also occur as two bowls, one each in blue and white and the Imari style. A flared bowl occurs in PMR and a plate in TGW H with sgraffito decoration is noted. A deposition date of *c*. 1800-30 seems appropriate for this context.

The large pit [75] produced in its fill [74] three sherds of pottery consisting of two plates, one made in creamware with a scalloped rim and the other in CHPO BW with a late 18th-early 19th-century dated Nanking butterfly design. A sherd of refined whiteware indicated with the other pottery a deposition date of *c*. 1805-30.

The demolition rubble or made ground layer [95] mostly contained residual pottery, such as BORDG, FREC, PMBL, a PMR Deptford/Woolwich jar and tin-glazed ware (TGW A), although the latest pottery types date to the 19th century as a flared bowl in pearlware with under-glaze blue transfer-printed stipple and line decoration (PEAR TR2) with a variant Willow pattern and perhaps a cream ware bowl rim.

Three sherds of pottery were recorded in fill [359] of the construction cut [360] and this consisted of a flared bowl made in a miscellaneous post-medieval redware, a creamware recessed plate base and the most dateable item is a teacup made in pearlware with under-glaze polychrome-painted decoration in 'earth' colours (PEAR ERTH), dated *c*. 1790-1820.

The *c*. 1550-1700 dated Surrey-Hampshire border whiteware yellow-glazed (BORDY) small carinated bowl was the only item recorded in fill [432] within the masonry brick structure [434]. Another masonry

brick structure [477] contained in its fill [475] the rim of a large uncertain form made in refined whiteware with under-glaze transfer-printed decoration (TPW) and with the Asiatic Pheasant design, dated *c*. 1830-1910. Another brick structure [513] contained in its fill [514] eight vessels, often with complete profiles and included a pearl ware medium rounded bowl and three transfer-printed pearl ware (PEAR TR) vessels. Firstly, there is a cylindrical mug with a European landscape design featuring two couples, the women with Empire line dresses, dancing around a garlanded pole; secondly there is the large oval plate with an early Chinoiserie garden design and thirdly a saucer with a Chinoiserie floral design. The other items are in stoneware and include the intact ENGS ginger beer bottle with a stamp for J, Bourne and his Codnor Park and Denby, Derbyshire potteries, which he owned during the period *c.* 1833-61. There are also recorded sherds of an ENGS shouldered bottle and the base of the LONS bird feeder/fountain.

The Sub-basement brick structure [622] contained in its fill [621] eight sherds of pottery, which included a bowl and dinner plate in creamware and a rounded dish made in Sunderland-type coarseware with mottled glaze (SUND MOT), besides a sherd of a 19th-century blacking bottle. A deposition date of *c*. 1800-30 is suggested by the pottery.

The drain [596] contained in its fill [594] thirteen sherds of pottery which consisted of mostly of refined white earthenware (REFW), including the rims of a bowl or dish and a small rounded jug with blue sponge decoration (REFW SPON). The transfer-printed (TPW) items include the rim of a bowl and a tankard with a large rose design in violet (TPW 4), dated *c*. 1825-1900. A large fragment of a Palin blue tin-glaze ointment pot may be of an early 19th-century date.

Pottery dated to the mid 19th century was recorded in fill [603] of the soakaway [602] and included two pearl ware tea plates with moulded floral motifs on the rim: one was plain (PEAR) and the other has painted decoration (PEAR PNTD). The base of a refined white earthenware cylindrical jar used for selling a product and the Chinese Imari porcelain medium rounded bowl with a perforation, used to mend this broken vessel, were also found in this feature.

Layer [711] overlay the possible masonry cellar floor and this contained three vessels: as the glazed black basalt ware bowl, a pearlware with under-glaze transfer-printed and over-glaze painted decoration (PEAR TR4) cylindrical mug featuring a boy and a girl in a landscape featuring a castle and a large flared mug with a flow blue Chinoiserie design (TPW FLOW). The pottery dates the layer to *c*. 1830-1900.

Phase 10: Mid-Late 19th Century

Forty-one sherds/35 ENV/2.050kg

Pottery was recovered from fourteen deposits dated to this phase.

The demolition rubble/made ground layer [73] was dated by a sherd English stoneware with Bristol glaze. Other 19th-century pottery in this deposit consisted of creamware and PEAR TR plates, refined whiteware,

including a saucer and a paint pot in Surrey-Hampshire border redware. The construction cut [129] produced in its fill [128] mostly stonewares: an ENGS tankard and sherds of LONS which included a bottle or jar. The drain cut [144] contained in its lower fill [151] a late 19th to 20th century bone china tea cup with gilded decoration and in its upper fill [143] a Brunswick blacking bottle made in ENGS BRST and dated to after *c*. 1830.

A small quantity of pottery (seven sherds) was found in the backfill [631] of the masonry soakaway [632] and this mostly consisted of transfer printed wares (TPW): a plate with the mid 19th-century dated Wild Rose design, a cylindrical jar with a black (TPW3) 'cracked ice' design and a dessert plate with a green (TPW4) with a European landscape design. Also present were fragments of a LONS upright jar with a stamp '159 Bla...' and written in two wavy lines the maker's stamp 'FULHAM STONE[POTTERY]/GLAZED INSIDE' and dated 1840s-*c*. 1865.

Phase 11: 19th 20th Century

Twelve sherds/12 ENV/161g

Pottery was only recovered from four deposits dated to this period. A single creamware plate, dated *c.* 1740-1830 was only fund in layer [111]. Two other layers are dated broadly to the 19th century by the occurrence of -printed refined whiteware (TPW): contexts [6] and [49]. Of the two sherds of pottery found in fill [112] of the construction cut [114] for an east-west wall, the latest is a plate rim made in refined white earthenware with under-glaze 'chrome' colour decoration (REFW CHROM) has a band and line decoration dated to the late 19th and early 20th century.

Significance of the collection

The pottery has significance at a local level. The stratified assemblage reflects activity on the site from the 11th century onwards. The pottery is in keeping with the ceramic profile for the London area. The assemblage reflects fairly intensive activity dated to the early medieval period, while small quantities of later medieval pottery relate to the use of the site as the hospital of St Mary of Bethlem, founded as a priory by Simon Fitz Mary in 1246, which subsequently became the White Hart Inn during the late medieval period. This establishment continued in use until relatively recently and much of the post-medieval pottery, although domestic in nature, would fit the criteria for material excavated from a post-medieval drinking establishment (see Pearce 2000), particularly as alcohol drinking forms are well represented, such as bartmannen jugs, mugs and tankards. Comparable assemblages of post-Roman pottery have been excavated nearby in the Spitalfields area (Harward *et al.* 2015; Jarrett 2014).

Medieval

The medieval pottery types recovered from the excavation are as types expected for the London area. The early medieval pottery is of interest for demonstrating extra-mural activity outside of the City wall and is of interest for the large storage jars made in early medieval shell-tempered wares (EMSH). A small quantify of medieval pottery relates to activity associated with the hospital of St Mary of Bethlem and the later White Hart Inn.

Post-medieval

The post-medieval pottery assemblage is entirely associated with activities associated with the White Hart Inn. Although there are no large groups of pottery recorded, which could statistically prove that the ceramics are associated with a drinking establishment, certainly there are elements of the assemblage that infer the study area was located on the site of an inn. The 17th-century pottery groups are dominated by drinking forms, particularly as jugs, including Frechen bartmannen, a feature of ale houses, taverns and inns at this time. The 19th-century pottery demonstrates the wide range of activities associated with an inn at this time, and includes a diverse range of table wares used for fine dining, as well as the presence of alcohol consumption forms noted as mugs and tankards and stoneware alcohol storage items. The presence of stoneware bottles for ginger beer and spa water also reflect the range of drinks present and the fashion for these 'beverages'. The presence of the stoneware bird feeder/fountain also indicates that chickens, etc. were kept and probably to the rear of the property and infers that the establishment provided its own eggs and poultry. However, in 1819, the study area was described as a "tavern and coffee-house together with the poulterer's shop and liquor shop and tap" as well as "extensive premises at the back" (Garwood 2014). Therefore there is documentary evidence to support the presence of the bird feeder and the tea wares, which would have been part of the repertoire of a high status drinking establishment such as an inn (Pearce 2000).

Potential

The pottery has the potential to date the features in which it was found and to provide a sequence for them. Some of the pottery merits illustration. The pottery also helps to demonstrate what activities were happening on the site.

Medieval

The medieval pottery has the potential to demonstrate what activities are associated with the site both pre-dating and contemporary with the hospital and the inn.

Post-medieval

The post-medieval pottery has the potential to demonstrate how ceramics were used in the White Hart Inn and later when it was jointly a coffee house. If the pottery, clay tobacco pipe and glass assemblages are looked at holistically, then the data from the different finds types will reveal more information on the material culture of the White Hart Inn.

Recommendations for further work

The assemblage from this excavation should be published and four illustrations and six photographs are required of the pottery to supplement the text.

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APPENDIX 5: CERAMIC & STONE BUILDING MATERIAL ASSESSMENT

Kevin Hayward and Amparo Valcarcel

Introduction and Aims

Seven crates of stone and brick were retained from the excavations at Alderman's House, 117, 119 & 121 Bishopsgate and 34-37 Liverpool Street, London EC2 (BIH14). This moderate sized assemblage (974 examples 197.19kg) was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman building materials as well as any evidence for later medieval or post-medieval occupation.
- Identify the fabric of any of the unworked and worked stone in order to determine what the material was made of and from where it was coming from.
- Reference should also be made to the access catalogues for the building material (BIH14.mdb)
- Make recommendations for further study.

Methodology

The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10) and compared with Pre-Construct Archaeology's stone and ceramic building material reference collection. The appropriate Museum of London building material fabric code is then allocated to each item.

Ceramic Building Material 840 examples 141.60kg

More than 60% of the assemblage consists of Roman ceramic building material, with much smaller quantities of medieval (7%) and post medieval (30%) fabrics.

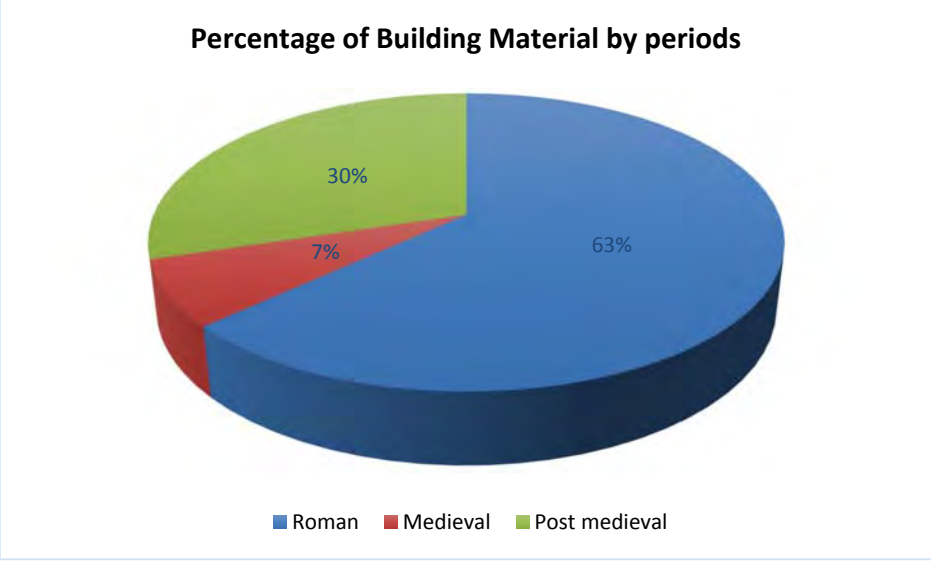

Fig. 1: Building Material percentage by periods excluding stone, daub, mortar and wall plaster.

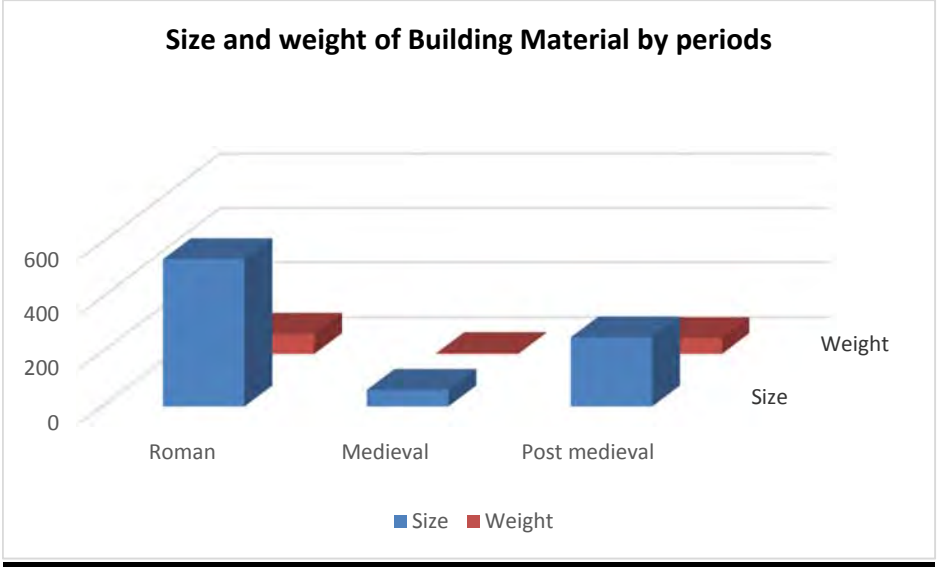

Fig. 2: Size and weight (kg) of Building Material by periods excluding stone, daub, mortar and wall plaster.

Roman 540 examples 74.46kg

Condition

Most of the building material is in a fragmentary condition which would suggest that it may have been reused. Furthermore, Roman tile and brick appear in many medieval and post-medieval contexts. Ceramic building materials from Roman contexts are [189] [195] [205] [211] [215] [217] [252] [293] [295] [317] [347] [348] [378] [383] [387] [399] [408] [424] [442] [447] [469] [470] [476] [489] [491] [495] [496] [503] [505] [509] [588] [589] [618] [619] [636] [655] [666] [671] [673] [679] [683] [687] and [706].

The condition is generally good. The forms shown by a substantial proportion of *imbrex* (13%) but less *tegulae* (12%) (see below). Many of the *tegulae* have a definable flange profile. There is an exceptionally high proportion of flat tile (50%) and brick (23%).

High-status bath-house materials (e.g. *box flue tile*; *tegulae mammata*; *tesserae*) in small quantities (1%), especially combed box flue tile [152] [160] [436] [476] [655] [664] and [704]. Some (3.51%) of these 2815 group materials are burnt, indicating use in a thermal building.

Fabric review

The usual groups of Roman tile and brick fabrics for London are represented (Figure 3). As expected the common first century to early second-century red sandy group 2815 dominates (81% by weight) with small quantities of other early fabric groups: Eccles fabric group (11% by weight) and Radlett fabric group

(8% by weight). Later Roman calcareous fabrics are poorly represented (0.09%) suggesting limited late Roman activity or basement truncation due to later post-medieval cellar development

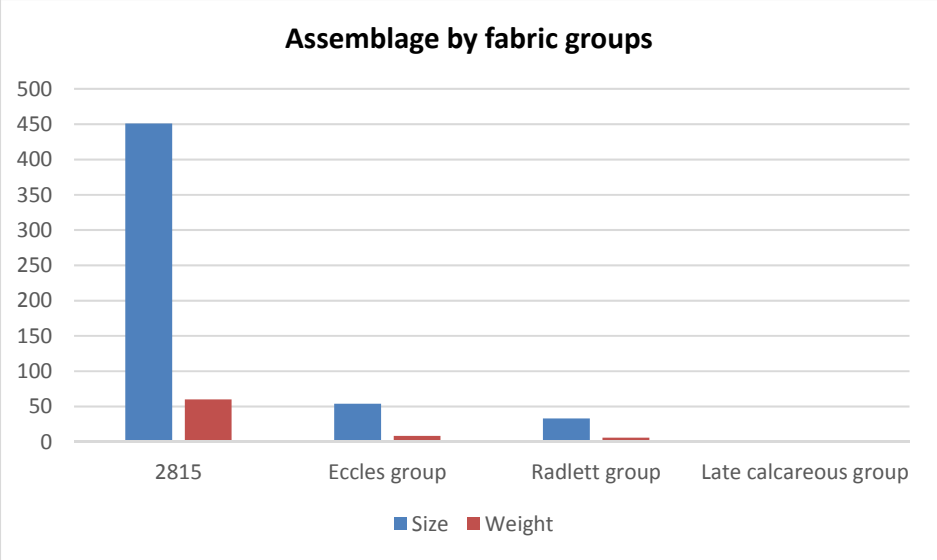

Fig. 3: Size and weight by Roman fabrics groups

Early London Sandy Fabric Group 2815 (AD 50-160) 451 examples 59.9kg

2459a; 3006, 2452

By far the most common fabric both here is the early (AD 50-160) 2815 red group using local brickearth. These have a coarse moulding sand. There are a few contexts [589] [619] [655] [683] [706] with large groups of sandy fabrics.

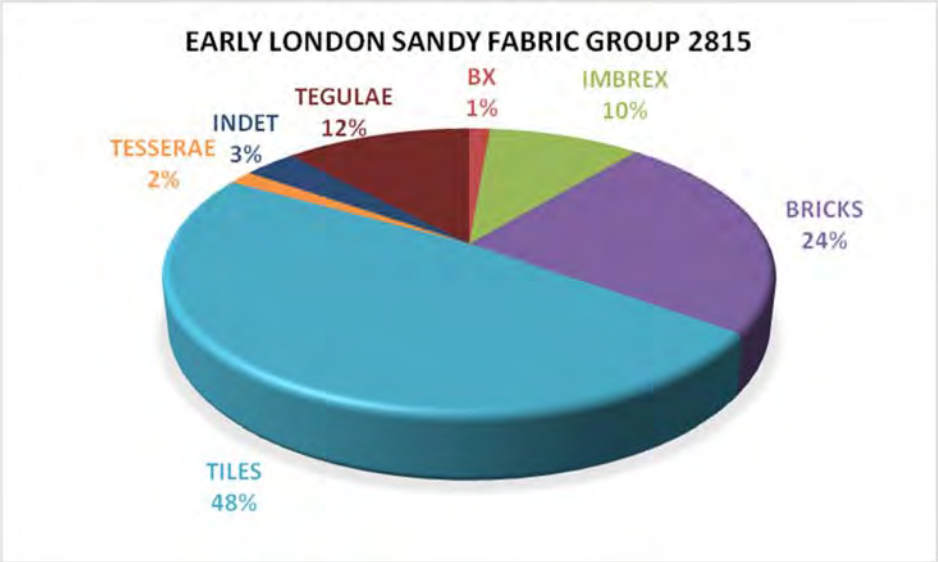

Fig. 4: Form percentage by group sandy 2815

Eccles fabric group (AD50-80) Fine cream-yellow-pink sandy fabric with occasional rose quartz.
54 examples, 8.47kg
2454; 3022
Eccles fabric is the second group most common group. These come from many contexts. This white sandy fabric is the earliest tile fabric from Roman Britain, therefore its existence attests to the presence of very early Roman activity in the area.

Radlett group (AD 50-120) 33 examples, 5.97kg.
3023 Black and red iron oxide clay pellets
Examples from the early Radlett fabric group were recovered from a number of contexts.

Late Roman calcareous group (AD140-350) 2 examples, 0.98g
2453
Just two fragments made of the late calcareous group [652] [679].

Forms

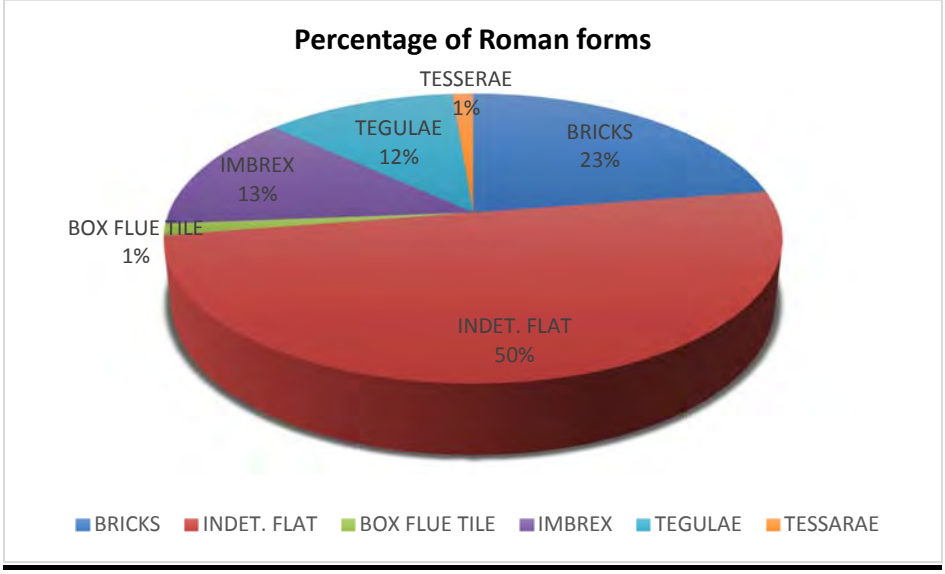

Fig. 5: Graphic that shows Roman forms

Brick 122 examples 27.91kg

Only contexts [589] [655] [652] and [706] have large quantities of incomplete Roman bricks in three fabrics 3006, 2459a and 2452, but they are numerous throughout the site mainly in post Roman contexts. The fact that many do not appear to be fresh would suggest they represent dumped material from a

Roman structure, possibly some distance from the site. Many of the shallower thickness bricks are likely to derive from the smaller *bessalis* and *pedalis* types.

***Tegula Mammmata* Bricks**

Just one *Tegula mammata* brick was recovered. This came from [706] and is made of fabric 2454.

Tegulae 64 examples 12.30kg

The flanged roofing tiles are mainly made of the London sandy fabric 2549a, 3006 and 2452. Other *tegulae* are represented by fabric 3023 [154] [617] and [655]; and Eccles fabric [570] [624] [634] and [655]. Contexts with a large size of *tegula* are [655] with 5 examples, and [659] and [664] both with 4 examples. All are in a fragmentary condition.

FABRIC	SIZE	KG	FLANGES PROFILE	CUTAWAY
2454	1	0.203	FP2	
2454	1	0.221	FP2	Cutaway E
2454	1	0.302		Cutaway B
2452	1	0.352	FP1	Cutaway B
2452	3	0.544	FP1	
2452	1	0.198	FP2	Cutaway B
2452	7	0.949	FP2	
2452	1	0.584	FP3	
2452	1	0.109	FP32	
2452	1	0.416	FP6	
2459a	1	0.747	FP1	Cutaway B
2459a	7	1.490	FP1	
2459a	3	0.560	FP2	
2459a	1	0.175		Cutaway B
3006	2	0.576	FP2	
3023	1	0.093	FP2	

Table 1: Summary of *tegula* fabrics, flange profiles and cutaways

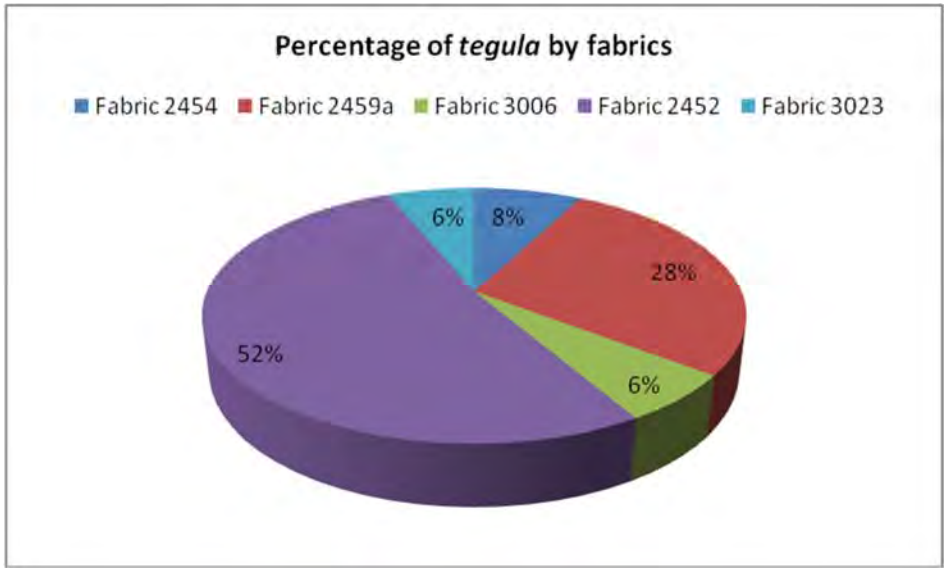

Fig. 6: Graphic with percentage of *tegula* by fabrics

Imbrex 71 examples 11.9kg

Imbrex recovered are made of all the fabrics, though 2452 is the most representative with 30%; followed by 2454 (29%), 2459a (27%), 3023 (10%) and 3006 (4%).

Imbrex were recovered from numerous Roman and post-Roman contexts. The context with most numbers of *imbrex* is [655] with 14 examples, [634] with 7 examples and [619] with 5 examples.

Flat Undiagnostic Tile 270 examples 22.41kg

Horizontal elements in the form of small fragments of tile are extremely numerous (52%) and are made of London sandy fabrics 2459a, 3006 and 2452; early Roman Eccles fabric 2454 and 3022; and Radlett fabric 3023. These flat tiles are numerous in post Roman and Roman contexts throughout the site. The contexts with a large size of flat tiles are [652] with 29 examples, [683] with 15 examples and [654] with 14 examples.

The common Roman London sandy fabrics 2452 (40%), 2459a (36%) and 3006 (6%) account for a vast majority of the assemblage

Box flue tile 7 examples, 0.801kg

Seven fragments of box flue tile are from contexts [152] [160] [436] [476] [655] [664] and [704] with just one piece from each context. Five are made of sandy fabric 2452, and just one is made of 2459a and Radlett fabric 3023. All of them are in a fragmentary condition. Two fragments are combed with parallel

lines [160] [664]. The fragment form [655] is roller stamped, and it is very similar to dies 44 (Betts *et al.* 1994).

Tesserae 7 examples, 0.173kg.

A small assemblage of *tesserae* came from contexts [260] [664] [702] [704] and [706]. All of them are made of London sandy fabrics 2452 with 5 examples; 2459a and 3066 with just one example each. Four *tesserae* preserve opus *caementicium/signinum*.

Medieval 64 example 3.80g

Small quantities of medieval roofing tile defined by fabric type, form, glaze and the presence of coarse moulding sand attest to some medieval activity in the area. Furthermore, many of the tiles can be assigned an earlier medieval (12th to 13th century) date on the basis of fabric and form, indicating derivation from the demolition of building(s) of this date.

Peg Tile

2271; thin sandy and iron oxide rich with coarse moulding sand (1180-1450) 50 examples, 3.29kg

2586; Iron oxide fabrics (1180-1500); 14 examples, 0.98kg; *2587* 5 examples, 0.21kg

Overlapping, flat rectangular peg tiles attached to roofing by two nails (as represented by two nail holes) form numerically the most common medieval roofing form. A small range of fabrics (3) have been identified suggesting derivation from more many different buildings. Many are thin, have coarse-moulding sand, splash glazed or have a fabric that is typical of medieval roofing tile as fabric 2587. A large proportion are made out of fabric 2271 (73%) from [126] [145] [278] [430] [453] [457] [570] [621] [649] [698] and [704]. One fragment from context [621] is reused with mortar dating to the 18th century. Two splash glazed fragments are from context [126] and [704].

Less common, is fabric 2586 (20%) present in contexts [202] [361] [521] [704] and [708], and fabric 2587 (7%) from context [704].

Floor Tile

Westminster Floor Tile *2199,* 1 example 137g; *2320* 2 examples 208g

2199 (1225-1275) One glazed floor tile was recovered from context [+], with a yellow Fleur de lis, similar to W96 (Die W97, Betts, 2002).

Two plain yellow and green glazed floor tiles were recovered from context [+].

Early Post-medieval, 95 examples, 36.10kg

3033 16 examples, 7.19kg*; 3046* (1450-1700) 79 examples, 28.90kg.

Two different sandy red brick fabrics were identified; the fine sandy 3033 and the very sandy red 3046, associated with structures (Fig. 7). All were manufactured using local London brick clay between 1450 and 1700. Early post-medieval brick structures were recovered probably associated to White Hart Public House.

Some of these bricks are reused using Victorian mortar types, Roman and Portland cement.

Post-medieval 140 examples 28.14kg

2276 (1480-1900) 105 examples, 10.14kg

Rectangular shaped roofing tiles with two nail holes at one end made from the London sandy fabric 2276 are by far the most common fabric from the site, attesting to extensive later post-medieval red roofing tile development in this area. Peg tiles are numerous throughout the site. Fourteen fragments are earlier as they are splash glazed [111] [145] [149] [279].

A 12mm thick brick shaped to a rough circle was recovered from fill [57], made of 2276 fabric. This may have been use as stopper, though one of the sides is burnt, and may have been use for an unknown function.

2279 Pan tile (1630-1850) 7 examples, 1.72kg

Curved, nibbed roofing tile which came into force only during the mid 17th century was recovered from contexts [113] [167] [438] and [596].

Flemish Silty floor tiles (1600-1800) 16 examples, 6.85kg

3063 13 examples, 2.95kg; *2850* 1 examples, 42.19kg

There are four unglazed and one brown glazed Flemish floor tiles, and one tin-glazed [+] with geometric pattern with elaborate floral decoration in three colours (Die 28, Betts *et al*. 2010), which indicates that they came from buildings post-dating 1550.

Fabric 3063 is present in contexts [128] [163] [279] [520] [521] [570]; and fabric 2850 came from contexts [596] and [698].

Local London floor tiles *3064W* (1550-1650), 2 examples, 79g

Two examples of tin-glazed were recovered from context [+]. One of them has a blue and purple medallion border, dated 1571-1620, probably made at the Aldgate pothouse. (Dies 43-44, Betts *et al.* 2010). The other one has blue flowers in a diamond border, dated 1618-50, probably made at the Pickleherring pothouse. (Die 135, Betts *et al.* 2010).

Context	Feature	Fabric	Form	Mortar
124	Brick culvert	3032	Unfrogged, narrow	T2
134	Internal wall footing	3035	Whole, unfrogged	T1
166	Internal wall	3046	Unfrogged	No mortar
168	Wall of brick vault	3046	Unfrogged	T6
169	Wall of brick vault	3046	Wide, unfrogged	T6
178	Wall of rectangular structure	3032	Whole, narrow	T4
182	Internal wall	2452	Reused early roman fabric	No mortar
208	Brick & stone structure	3035	Unfrogged	No mortar
239	Wall	3032	Unfrogged	No mortar
311	Brick floor	3032;3035	Unfrogged	T4
403	Brick structure	3046	Reused, unfrogged	No mortar
412	Brick structure	3032	Unfrogged, narrow	T2
416	Aligned wall	3035	Frogged	T2
434	Brick structure	3046	Abraded	No mortar
448	internal wall	3046	Whole, unfrogged	No mortar
449	internal wall	3034	Frogged	T1
450	Brick culvert	3032	Unfrogged	No mortar
452	Brick cellar wall	3046	Reused, wide	No mortar
458	Brick structure	3032	Unfrogged	T4
462	Brick structure	3032	Narrow	T2
477	Brick structure	3107;3046	Moulded Reigate stone; unfrogged	No mortar
478	Brick floor	3046	Unfrogged	No mortar
513	Brick structure	3032	Unfrogged	T4
523	Brick structure	3046	Unfrogged	No mortar
578	Brick sub-basement feature	3046	Reused, unfrogged	T6
596	Brick drain	2279;2850	Post med unglazed pan tiles; post med Flemish silty paver	T4
602	Square brick soakaway	3032	Unfrogged and narrow	T2
632	Brick well/soakaway structure	3035	Frogged	No mortar
641	Circular brick well/soakaway	3032R	Unfrogged	T2
695	Brick gully	3032	Unfrogged and narrow	T1
700	Sub-circular brick soakaway	3032	Unfrogged	T2
712	Possible cellar floor	3046;3032nr3033;3032	Post med red sandy brick; whole	T5

			intermediate great fire brick; reused post great fire unfrogged brick	
718	West wall of soakaway	3046	Whole post med sandy red brick, unfrogged	No mortar
721	East wall of soakaway	3032	Whole unfrogged post great fire brick	No mortar

Table 2: Summary of fabric bricks associated to structures.

Intermediate Great Fire

Maroon *3032nr3033* (1664-1725), 5 examples, 4.45kg

Five examples of a late 17th to early 18th-century intermediate brick 3032nr3033 combining facets of both early post-medieval reds and post Great Fire purples were recovered from [475] [514] [621] and [712]

Post Great Fire Fabrics 16 examples, 13.88kg

3032R (1666-1900) Post Great Fire purple clinker rich fabric 12 examples, 16.03 kg. [251] [514] [641] [698] [712] [721] [776]
3034 Local post-Fire red brick. 3 examples, 1.10 kg [251] [359]
3035 Yellow large machine made Medway bricks 6 examples, 4.83 kg. [113] [145] [335] [632] [698] [776]

A moderate amount of purple post Great Fire bricks, local post Great Fire red brick, yellow late 18th century-mid 20th-century estuarine bricks were recovered from the site. The largest proportion of bricks are narrow and unfrogged. Some have sharp arises suggesting possible machine manufacture. Some of these bricks are using Victorian mortar types such as Roman and Portland cement. The presence of these bricks shows a phase of redevelopment at the end of 19th century and probably earlier.

The Daub *3102* 38 examples 1.6kg
Unworked slightly abraded daub attesting to the presence of timber framed wattle and daub construction in the vicinity were identified in small lumps from [174] [212] [217] [260] [317] [352] [361] [471] [489] [529] [608] [618] [636] [666] [683] [690] [698] [702] [704] and [706].

Mortar; Cement

Mortar/Concrete Type	Description	Use at BIH14
T1	Portland mortar. A form of hard cement. (1830-1950)	Associated with internal walls [134] [449], brick gully [695] and [776]
T2	Roman mortar. Hydraulic cement or lime, made from burning lumps of marl found in	Associated with a circular brick well/soakaways [641][700], used to

	London. (1800-1950)	bond brick fabric 3032R [602][776]
T3	White and yellowish hard lime mortar (1800-1900)	Recovered from fill [359] of construction, fill [621] of sub-basement brick structure and fill [698] of sub-rectangular pit. Associated with fabrics 2271, 2276, 2279, 3046;2850
T4	Hard grey clinker/charcoal mortar (1750-1900)	Recovered from fill [513] within brick structure, used on post-medieval peg tiles and bricks; associated with a brick drain structure [596] attached to post-medieval pan tiles and Flemish paver
T5	White soft mortar (18th century)	Recovered from fill [149] of a large posthole; from a dump/made ground [334]; fill [514] within brick structure and fill [621] of a sub-basement brick structure. It is associated with a possible cellar floor [712] using fabric bricks 3032nr3033 and 3032.
T6	White lime mortar (Early post-medieval)	Recovered from different fills [263] [520] [521] [570] of rubbish pits; attached to post-medieval red sandy bricks from a brick sub-basement feature[578]
T7	Opus signinum Pink hard Roman cement with inclusions of red Roman brick and tile. Opus caementicium White or light grey hard Roman cement with inclusions of gravels.	Both mortars are difficult to distinguish between them, because they are attached to fragments. Recovered from [260] [282] [442] [589] [617] [619] [569] [663] [664] [683] [702].

Stone 40 examples, 30.94kg

Eleven rock-types were identified from the assemblage; their geological character, form and use are summarised below.

3105 Kentish Ragstone-*Hard dark grey calcareous sandstone (Kent Ragstone); Lower Cretaceous (Lower Greensand) Maidstone area, North Downs,* 10 examples, 13.69kg

Examples of dumped ragstone rubble, part worked and moulded blocks were recorded from fills [283] [605] [612] [625] [652] [663] and [976], it is possible that they represent Roman and medieval structures.

3106 Hassock stone-*Glaucontic sandstone (Hassock stone) - Hythe Beds. Lower Cretaceous (Lower Greensand) Maidstone area, North Downs.* 2 examples, 0.667kg

Two examples of Hassock stone rubble were recovered from medieval rectangular cess pit fill [283].

3107 Reigate stone-*Fine grained low-density glauconitic limestone, – Upper Greensand, Lower Cretaceous Reigate-Mertsham Surrey.* 2 examples, 5.828kg

Two pieces of Reigate moulded stone building was recovered from [477] and [976]. This is a common building stone for medieval is therefore ubiquitous everywhere. One example has a Tudor type rose carved. This form of exquisite carving is typical of late medieval to early post-medieval embellishment (e.g. Hayward 2008).

3108 Yorkstone/**Brownstone** -*Banded green micaceous sandstone, Elland Flags, Namurian, Yorkshire* 4 examples, 0.728kg

A whetstone of York stone were recovered in the fill of 19th-century pit [174]. A late Roman Brownstone roofing slab associated to medieval fills [361] [664] [704] has been found. Stone rather than ceramic building material (peg tile; pan tile) appears to be the material of choice for roofing material in the late Roman period.

3114 White Carrara marble?-*White fine crystalline marble, Various sources (Mediterranean),* 6 examples, 6.446kg

Five examples used as paving were recorded from Victorian fills [334] and [621]. There were three moulded white marble pavers. These were in common use in 19th century, but may also be Roman in date. One paving from Roman fill [655] were recovered, this may have a funerary origin.

3116-Chalk *Fine powdery white foraminiferal limestone, Chalk Upper Chalk (Upper Cretaceous) Thames Valley,* 1 example, 11g

One small example of chalk rubble was recovered from fill [776].

3118 Tufa- *coarse textured light cream calcite precipitation deposit, Holocene, Medway or Thames Valley* 1 example, 0.171kg.

Part of a water worn block of Tufa from the medieval rectangular cess pit fill [652] may either be medieval or Roman in date. Throughout London these materials are associated with 11th-12th-century monastic and defensive projects, although the possibility remains that this is part of Roman vaulting.

3120 5 examples, 0.878kg

Bargate. *Fine hard calcareous greensand with flecks of shell and ooids – Lower Greensand (Lower Cretaceous) Godalming Surrey*, 1 example, 0.849kg

Bargate stone, a shelly ragstone material possibly of Roman funerary origin, has been identified from the medieval pit fill [283]. This fragment possible came from the late Roman inhumation cemetery.

Kimmerigde oil shale- *burnt mudstone Upper Jurassic, Dorset,* 4 examples, 29g

Burnt oil shale fragments would have been used as fuel. These were recovered from the 18th-19th-century pit fill [524]

3122 Calcareous septarian-*Concretionary calcareous nodule within London Clay (Tertiary) London Basin,* 2 examples, 0.816kg

Small blocks of a yellow calcareous clay deposit with calcite veins or watermarks turn up in medieval cess pit fills [283] [652]. This is probably of Roman date.

3123 Neidermendig lavastone - *Hard, coarse, dark-grey vesicular basalt lava - with white (leucite) and black inclusions. Tertiary-Andernach Region, NW Germany*. 3 examples 0.457kg

The small assemblage of lava stone is in a fragmentary condition. German lavastone quern from contexts [413] [615] and [652], were the most common quernstone material for Roman London.

3126 Purbeck marble– *hard pale grey shelly limestone Upper Jurassic (Purbeckian) Isle of Purbeck Dorset*. 4 examples, 1.57kg

Two paving slabs were recovered from 19th-century fills [333] and [624]. Two examples of rubble and moulded blocks were recorded from medieval fills [624] [659]. Moulded Purbeck marble has been used in churches, cathedrals and monastery as embellishment as columns and slab panels and flooring. These fragments suggest the possible existence of medieval building nearby, two possible candidates being St Botolph or St Mary's Spital. However, some of these materials may derive from Roman funerary structures.

Distribution

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
0	2452;2195; 2330;2276;2279; 3064W	Early Roman sandy bricks medieval tin-glazed; post med unglazed peg and pan tiles; Glazed Flemish Floor Tile – silt fabric	12	55	1900	1480	1900	1630-1900	No mortar
57	2276	Thick peg tile shaped to a rough circle, stopper?	1	1480	1900	1480	1900	1480-1900	No mortar
111	2276	Post-medieval glazed and unglazed peg tiles	7	1480	1900	1480	1900	1480-1900	No mortar
112	3046;2276	Post-med sandy red bricks; post-med unglazed peg tiles	4	1450	1900	1480	1900	1480-1900	No mortar
113	3046;2279;3035	Post-med sandy red bricks; post-med unglazed pan tiles; post great fire brick	3	1450	1940	1770	1940	1770-1940	No mortar
115	3033	Reused post-med sandy red bricks	3	1450	1700	1450	1700	1450-1700	No mortar
124	3032	Post great fire narrow brick	1	1666	1900	1666	1900	1780-1900	1800-1950
126	2271	Post-med splash glazed peg tile	1	1180	1800	1180	1450	1180-1450	No mortar
128	3046;2276;3063	Post-med sandy red brick; post-med unglazed peg tile; post-med Flemish silty paver	7	1450	1900	1480	1900	1480-1900	No mortar
130	3046;2276	Post-med sandy red bricks; post-med unglazed peg tiles	4	1450	1900	1480	1900	1480-1900	No mortar
132	2452	Early Roman sandy brick	1	55	160	55	160	55-160+	No mortar
134	3035	Whole post great fire brick	1	1770	1940	1770	1940	1770-1940	1830-1950

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
135	3046;2276	Post-med sandy red bricks; post-med unglazed peg tiles	6	1450	1900	1480	1900	1480-1900	No mortar
144	3120?	Grey sandstone?	4	1700	1900	1700	1900	1700-1900	No mortar
145	3046;2271;2276; 3035	Abraded post-med sandy red bricks; post-med glazed and unglazed peg tiles; post great fire brick	15	1450	1940	1770	1940	1770-1940	No mortar
149	3033;3046;2276	Post-med sandy red bricks; post-med glazed peg tile	5	1450	1900	1480	1900	1480-1900	No mortar
151	2276	Post-med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
152	2454;2452	Early Roman Eccles tile and sandy box flue tile, bricks and tiles	6	50	160	55	160	55-160+	No mortar
154	2459a;2452;3023/ 3060a	Early Roman Radlett *tegula*; early Roman sandy *tegula*, bricks and tiles;	11	50	160	55	160	55-160	No mortar
160	2452	Early Roman sandy combed box flue tile	1	55	160	55	160	55-160	No mortar
163	3063	Post-med Flemish silty paver	5	1450	1800	1450	1800	1450-1800	No mortar
166	3046	Post-med sandy red fabric	2	1450	1700	1450	1700	1450-1700	No mortar
167	2279	Post-med unglazed pan tile	1	1630	1850	1630	1850	1630-1850	No mortar
168	3046	Post-med sandy red bricks	3	1450	1700	1450	1700	1450-1700	1450-1700
169	3046	Post-med sandy red wide bricks	2	1450	1700	1450	1700	1450-1600	1450-1700
171	2452	Early Roman sandy reused tile	1	55	160	55	160	55-160	No mortar
174	3102;2459a;3108	Abraded daub; early Roman sandy tiles; post-med Yorkstone	10	1500BC	1900	1700	1900	1700-1900	No mortar
178	3032	Whole Post great fire brick	1	1770	1900	1770	1900	1770-1900	1750-1900
181	2452	Early Roman sandy *imbrex*	2	55	160	55	160	55-160	No mortar
182	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
189	2459a;2452	Early Roman sandy tile, bricks and *tegulae*	6	50	160	55	160	55-160	No mortar
192	3046;2276	Post-med sandy red brick; post-med unglazed peg tiles	3	1450	1900	1480	1900	1480-1900	No mortar
195	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
201	3101PM	Concrete floor	1	1800	1900	1800	1900	1800-1900	1800-1900
202	2586;2276	Post-med unglazed peg tiles	3	1180	1900	1480	1900	1480-1900	No mortar
205	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
208	3035	Post great fire brick	1	1770	1940	1770	1940	1770-1940	No mortar
211	3022	Early Roman Eccles tile	1	50	80	50	80	50-80	No mortar
212	3102;2459a;2452	Abraded daub; early Roman tile and *tegula*	3	1500BC	160	55	160	55-160	No mortar
215	2459a;2452	Early Roman sandy *imbrex*, tiles and *tegulae*	5	50	160	55	160	55-160	No mortar
217	3102;3023	Abraded daub; early Roman Radlett *imbrex*	2	1500BC	120	50	120	50-120	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
239	3032	Post great fire brick	2	1666	1900	1666	1900	1780-1900	1750-1900
251	2452;3046;3034;3032	Early Roman sandy *imbrex*; Post-med sandy red bricks; post great fire frogged and unfrogged bricks	6	55	1900	1750	1900	1750-1900	No mortar
252	2452	Early Roman sandy *tegula*	1	55	160	55	160	55-160	No mortar
260	3102;2459a;3006	Abraded daub; early Roman sandy *tessera* and tiles;	5	1500BC	160	50	160	50-160	50-400
263	3033;3046	Post med sandy red reused bricks	8	1500BC	1700	1450	1700	1450-1700	1750-1900
265	2452	Early Roman sandy *imbrex*	1	55	160	55	160	55-160	No mortar
271	3033;2276	Abraded post-med sandy red bricks	4	1450	1900	1480	1900	1480-1900	No mortar
278	2271;3046;2276	Abraded post-med sandy red bricks; post-medieval unglazed peg tiles	9	1180	1900	1480	1900	1480-1900	No mortar
279	2276;3063	Post-med glazed and unglazed peg tiles; post-med Flemish silty fabric	6	1480	1900	1480	1900	1480-1900	No mortar
282	3023;2459a;2452	Early Roman Radlett tile; early Roman sandy *tegula*, bricks and tiles	8	50	160	55	160	55-160	50-400
283	2459a;2452;3105;3122;3120	Early Roman sandy bricks; Kentish ragstone (aslar and rub.); septarian stone (rub.); moulded Bairgate stone funerary furniture?	8	50	1666	200	400	200-400	No mortar
290	3046;2276	Abraded Post med sandy red bricks; post-med unglazed peg tiles	10	1450	1900	1480	1900	1480-1900	No mortar
293	2459a;2452	Early Roman sandy brick and tiles	4	50	160	55	160	55-160	No mortar
295	3006;2452	Early Roman sandy *imbrex*, brick and tiles	4	50	160	55	160	55-160	No mortar
309	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
311	3032;3035	Post great fire frogged bricks	2	1666	1940	1770	1940	1850-1940	1750-1900
314	3046;2276	Post-med sandy red bricks; post-med unglazed peg tiles	14	1450	1900	1480	1900	1480-1900	No mortar
317	3102;3022;3006;2452	Abraded daub; early Roman Eccles *imbrex*; early Roman sandy bricks and *tegula*	7	1500BC	160	55	160	55-160	No mortar
333	3112	Purbeck marble paver	1	60	1900	1480	1900	1480-1900	No mortar
334	3046;3114PM	Reused Post-med sandy red bricks; white Carrara marble paver	4	1450	1900	1800	1900	1800-1900	No mortar
335	2271;3046;3035	Unglazed medieval post-medieval peg tiles; unfrogged Post-med sandy red bricks; post great frogged fire brick	5	1180	1940	1770	1940	1770-1940	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
347	2454;3006;2452	Early Roman Eccles bricks and tiles; early Roman sandy *tegula* and tiles	7	50	160	55	160	55-160	No mortar
348	2454; 2459a;2452;3101 PM	Early Roman Eccles *imbrex*; early Roman sandy bricks and tiles;concrete	8	50	160	55	160	55-160	1800-1950 (intrusive)
352	3102	Abraded daub	2	1500BC	1666	1500BC	1666	50-1666	No mortar
359	2459a;2452;3046; 2276;3034	Early Roman sandy *tegula* and tile; Post-med sandy red bricks post-med unglazed peg tiles; post great fire unfrogged brick	10	50	1940	1666	1900	1666-1900	1800-1900
361	3102;2815;2459a; 2271;2586	Abraded daub; early Roman sandy tiles; medieval and post-medieval peg tiles; Brownstone roofing	18	1500BC	1800	1180	1800	1180-1800	No mortar
363	2452;3046;2276;3112	Early Roman sandy brick; Post-med sandy red brick; post-med unglazed peg tiles; purbeck marble paver	4	55	1900	1480	1900	1480-1900	No mortar
378	2454;2452	Early Roman Eccles tiles; early Roman sandy brick	3	50	160	55	160	55-160	No mortar
383	3006	Early Roman sandy tile	1	50	160	50	160	50-160	NO mortar
387	3023	Early Roman Radlett fabric	1	50	120	50	120	50-120	NO mortar
399	3006	Early Roman sandy brick	1	50	160	50	160	50-160	No mortar
403	3046	Reused post-med sandy red brick	1	1450	1700	1450	1700	1450-1700	No mortar
408	2459a	Early Roman sandy tile	1	50	160	50	160	50-160	No mortar
412	3032	Whole post great fire unfrogged narrow bricks	2	1666	1900	1666	1900	1780-1900	1800-1950
413	3123	Niedermendig lava stone (quern)	1	1500BC	1100	1500BC	1100	1500BC-1100	No mortar
416	3035	Whole post great fire frogged brick	1	1770	1940	1770	1940	1770-1940	1800-1950
420	3035	Whole post great fire frogged brick	1	1770	1940	1770	1940	1770-1940	1800-1950
424	2454;2815;2459a	Early Roman Eccles brick; early Roman sandy tile	3	50	160	50	160	50-160	No mortar
430	2459a;2452;2271	Early Roman sandy *imbrex*, brick and tile; medieval peg tile	6	50	1800	1180	1800	1180-1450	No mortar
432	3046	Abraded post-med sandy red bricks	4	1450	1700	1450	1700	1450-1700	No mortar
434	3046	Post great fire sandy red fabric	5	1450	1700	1450	1700	1450-1700	1450-1700
435	3046;2276	Abraded post-med sandy red bricks; post-med unglazed peg tile	6	1450	1900	1480	1900	1480-1900	NO mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
436	3023;2815;2452;3046	Early Roman Radlett box flue tile; early Roman sandy tile; abraded post-med sandy red bricks	5	50	1700	1450	1700	1450-1700	No mortar
438	2279	Post -med unglazed pan tile	1	1630	1900	1630	1900	1630-1900	No mortar
442	2459a;3006;2452	Early sandy Roman *tegula*, tile and bricks	4	50	160	55	160	55-160	50-400
447	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
448	3046	Whole post-med sandy red bricks	1	1450	1700	1450	1700	1450-1600	No mortar
449	3034	Post great fire frogged brick	1	1666	1900	1666	1900	1750-1900	1830-1900
450	3032	Whole post great fire unfrogged brick	1	1666	1900	1666	1900	1780-1900	No mortar
452	3046	Reused wide post-med sandy brick	1	1450	1700	1450	1700	1450-1600+	No mortar
453	2271;2276	Medieval and post-medieval peg tiles	2	1180	1900	1480	1900	1480-1900	No mortar
456	2276	Post-med unglazed peg tiles	4	1480	1900	1480	1900	1480-1900	No mortar
457	2271;3046;2276	Medieval and post-medieval unglazed peg tiles; abraded post-med sandy red bricks	3	1180	1900	1480	1900	1480-1900	No mortar
458	3032	Post great fire brick	1	1666	1900	1666	1900	1666-1900	1750-1900
460	3023;2459a;2452	Early Roman Radlett *imbrex*; early Roman sandy *tegula*e	3	50	160	55	160	55-160	NO mortar
462	3032	Post great fire narrow brick	1	1666	1900	1666	1900	1780-1900	1800-1900
465	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
469	3023	Early Roman Radlett tile	1	50	120	50	120	50-120	No mortar
470	2454;2459a	Early Roman Eccles brick; early Roman sandy tile	2	50	160	50	160	50-160	No mortar
471	3102;2459a	Abraded daub; early Roman *tegula*	2	1500BC	160	50	160	50-160	No mortar
475	2452; 3033;3032nr3033; 3101PM	Early Roman sandy brick; Post med sandy red brick; intermediate post great fire brick; concrete floor	4	55	1900	1800	1900	1800-1900	1800-1900
476	2459a;3006;2452	Early Roman sandy box flue tile; *tegula*e, tiles and bricks	12	50	160	55	160	55-160	No mortar
477	3107;3046	Moulded Reigate stone; post med sandy red fabric	1	1080	1700	1450	1700	1450-1600	No mortar
478	3046	Post-med sandy red fabric	1	1450	1700	1450	1700	1450-1700	No mortar
489	3102; 2454;3023; 2815; 2459a;3006;2452	Abraded daub; Early Roman Eccles *imbrex*; early Roman Radlett brick; early Roman sandy *tegula*, bricks and tiles	15	1500BC	160	55	160	55-160	No mortar
491	2452	Early Roman sandy brick	1	55	160	55	160	55-160	No mortar
495	2452	Early Roman sandy tile	1	55	160	55	160	55-160	No mortar
496	2459a	Early Roman sandy tile	1	50	160	50	160	50-160	No mortar
503	2459a;2452	Early Roman sandy *imbrex*	2	50	160	55	160	55-160	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
		and tile							
505	2459a;3006	Early Roman sandy *tegula* and tile	2	50	160	50	160	50-160	No mortar
509	2452	Early Roman sandy tiles	2	55	160	55	160	55-160	No mortar
513	3032	Whole post great fire brick	1	1666	1900	1666	1900	1666-1900	1750-1900
514	3046;2276;3032nr 3033;3032;3101PM	Reused post-med sandy red bricks; post-med unglazed peg tiles; intermediate post great fire bricks; post great fire bricks	24	1450	1900	1666	1900	1666-1900	1750-1900
520	3046;2276;3063	Reused post-med sandy red bricks; post-med unglazed peg tiles; post-med Flemish silty paver	13	1450	1900	1480	1900	1480-1900	1750-1900
521	2586; 3046; 3063;	Post-med sandy red brick Medieval and post-medieval peg tiles; post-med Flemish silty paver	5	1180	1800	1450	1700	1450-1700	1750-1900?
523	3046	Post med sandy red brick	3	1450	1700	1450	1700	1450-1700	No mortar
524	3120	Kimmeridge oil shale stone	4	1600	1900	1600	1900	1600-1900	No mortar
529	3102	Abraded and burnt daub	1	1500BC	1666	1500BC	1666	1500BC-1666	No mortar
562	2459a	Early Roman sandy *imbrex*	1	50	160	50	160	50-160	No mortar
570	2454;3023;2459a; 2271;3046;3063;2276	Early Roman Eccles *tegula*; early Roman Radlett brick; early Roman sandy bricks; medieval and post-medieval unglazed peg tiles; post-med sandy red bricks; post-med Flemish silty paver	14	50	1900	1480	1900	1480-1900	1600-1800
578	3046	Reused post-med sandy red brick	2	1450	1700	1450	1700	1450-1700	1450-1700
588	2815;2459a;2452	Early Roman sandy *tegula* and bricks	4	50	250	50	250	55-250	No mortar
589	2454;2815; 2459a;2452;	Early Roman Eccles and sandy bricks, tiles and *imbrex*	29	50	250	55	250	55-250	50-400
595	2459a;2452;2276	Early Roman sandy *tegula* and tiles; post-med unglazed peg tiles	7	50	1900	1480	1900	1480-1900	No mortar
596	2279;2850;3032	Post-med unglazed pan tiles; post-med Flemish silty paver; post great fire brick	4	1450	1850	1666	1900	1666-1900	1800-1900
599	3023	Early Roman Radlett tile	1	50	120	50	120	50-120	No mortar
602	3032	Post great fire unfrogged brick	1	1666	1900	1666	1900	1780-1900	1800-1950
605	3023;2459a;2452; 3015;	Early Roman Radlett and sandy bricks, *imbrex* and *tegula*e; Kentish ragstone paver	15	50	1666	55	1666	55-1666	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
608	3102;2454;2815;2452	Abraded daub; early Roman Eccles and sandy bricks, tiles and *imbrex*	8	1500BC	160	55	160	55-160	50-400
610	2452	Early Roman sandy brick	1	55	160	55	160	55-160	No mortar
612	2452;3105	Early Roman sandy brick and tile; Kentish ragstone (rub.)	4	50	1666	55	1666	55-1666	No mortar
615	3123	Niedermendig lava stone	1	50	1100	50	1110	50-400	No mortar
617	3023;2459a;2452;3101R	Early Roman Radlett and sandy fabrics; opus caementicium	6	50	160	55	160	55-160	50-400
618	3102;2459a;3006	Burnt clay (possibly kiln furniture?); early Roman sandy fabric	3	1500BC	160	50	160	50-160	No mortar
619	2454;2459a;2452;3100R;	Early Roman Eccles brick; early Roman sandy *imbrex*, bricks and tiles; wall plaster	28	50	400	55	400	55-400	50-400
621	3046;2271;2276;3114;3032nr3033	Post-med sandy wide red bricks; medieval and post-med unglazed peg tiles; white Carrara marble paver; intermediate great fire brick	32	1450	1900	1664	1900	1664-1900	1750-1900
624	2454;2459a;2452;3112	Early Roman Eccles and sandy fabrics; moulded Purbeck marble	9	50	1900	60	1900	1080-1450	No mortar
625	3105	Kenstish ragstone (rub.)	1	50	1666	50	1666	50-1666	No mortar
632	3035	Whole frogged post great fire brick	1	1666	1900	1666	1900	1750-1900	No mortar
634	3023;2454;2459a;2452;	Early Roman Radlett, Eclles and sandy fabric	18	50	160	55	160	55-160	No mortar
636	3102;3023;2454;2452;2459a;	Abraded daub; early Roman Radlett, Eccles and sandy fabrics	12	1500BC	160	55	160	55-160	No mortar
641	3032R	Unfrogged post great fire brick	1	1666	1900	1666	1900	1666-1900	1800-1950
643	2452	Early Roman sandy *tegula*	1	55	160	55	160	55-160	No mortar
646	3023;2815;2459a;2452;3100r	Early Roman Radlett and sandy fabrics; red painted wall plaster	6	50	250	55	250	55-250	50-400
649	2271;	Medieval and post-medieval peg tile	1	1180	1850	1180	1850	1180-1450	No mortar
650	2452;3046;2271;2276	Early Roman sandy tiles; Post-med sandy red brick; medieval and post-medieval unglazed peg tiles	7	55	1900	1480	1900	1480-1900	1480-1900
652	2454; 3023;2815;3006; 2459a;2452;2453; 3105;3122;3118;3123	Early Roman sandy Eccles, Radlett and sandy fabrics; late Roman calcareous tile, Kentish ragstone(rub.); septarian nodule; tufa; Nedermendig lava stone	44	50	1100	55	400	140-400	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
655	2454; 3023;2459a;3006; 2452;3114R	Early Roman Eccles, Radlett and sandy fabrics; white Carrara marble paver	32	50	400	55	400	55-400	No mortar
657	2454;2452	Early Roman Eccles and sandy fabric	2	50	160	55	160	55-160	No mortar
659	3106;3023;2459a; 3006;3112;	Hassock stone (rub.); early Roman Radlett and sandy fabrics; Purbeck marble (rub.)	24	50	1666	55	400	55-400	50-400
663	3006; 2452;3105	Early Roman sandy tile and bricks; Kentish ragstone (rub.)	4	50	1666	55	1666	55-1666	50-400
664	3023;2454;2815;2 459a;2452;3108	Early Roman Radlett, Eccles and sandy fabrics; Brownstone roofing	26	50	400	200	400	200-400	50-400
666	3102;3022;3100R	Abraded daub; early Roman Eccles tile; red painted wall plaster	3	1500BC	400	50	400	50-400	No mortar
671	2452	Early Roman sandy brick and tile	2	55	160	55	160	55-160	No mortar
673	3022; 2454;2459a;2452	Early Roman Eccles and sandy tiles	9	50	160	55	160	55-160	No mortar
676	2452	Early Roman sandy tiles	2	55	160	55	160	55-160	No mortar
679	3023;2454;2815;2 459a;3006;2452;2 453	Early Roman Radlett, Eccles and sandy fabrics; late Roman calcareous tile	18	50	300	140	300	140-300	No mortar
683	3102;3023; 2454; 2459a; 2452;3100R;	Abraded daub; early Roman Eccles, Radlett and sandy fabrics; Roman wall plaster	29	1500BC	400	55	400	55-400	50-400
687	2459a	Early Roman sandy brick	1	50	160	50	160	50-160	No mortar
690	3102	Abraded daub	1	1500BC	1666	1500BC	1666	1500BC-1666	No mortar
695	3032	Post great fire narrow and unfrogged brick	1	1666	1900	1666	1900	1780-1900	1830-1900
698	3102;2454;3006;2 452;2271;3046; 2276;2850;3035;	Abraded daub; early Roman Eccles and sandy fabrics; post med sandy red fabrics; medieval and post-medieval unglazed peg tiles; post-med Flemish paver; post great fire unfrogged brick	15	1500BC	1940	1770	1940	1770-1940	1800-1900
700	3032	Post great fire unfrogged brick	1	1666	1900	1666	1900	1666-1900	1800-1950
702	3102;2459a;3006; 2452;	Abraded daub; early Roman sandy *tessera*, *tegula*, bricks and tiles	20	1500BC	160	55	160	55-160	50-400
704	3102;2815;2459a; 2452;3108;2587; 2271;2586	Abraded daub; early Roman sandy *tessera*, *tegula*, box flue tile, bricks and tiles; Brownstone slab; medieval and post-medieval peg tiles	58	1500BC	1850	1180	1850	1180-1850	No mortar

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
706	3102;2454;3023/2815;2459a; 2452;	Abraded daub; early Roman Eccles, Radlett and sandy fabrics	23	1500BC	160	55	160	55-160	No mortar
708	2452;2271;2586	Early Roman sandy brick; medieval peg tiles	5	55	1800	1180	1800	1180-1450	No mortar
712	3046;3032nr3033; 3032	Post med red sandy brick; whole intermediate great fire brick; reused post great fire unfrogged brick	3	1450	1900	1666	1900	1666-1900	1750-1900
718	3046	Whole post-med sandy red brick	1	1450	1700	1450	1700	1450-1700	No mortar
721	3032	Whole unffroged post great fire brick	1	1666	1900	1666	1900	1780-1900	No mortar
773	2850	Post-medieval Flemish floor brick	1	1450	1800	1450	1800	1450-1800	1800-1950
776	3105;3116;2276; 3063; 3032R;3035;3101 PM;	Kentish ragstone and chalk (rub.); post med glazed peg tile; post-med Flemish floor tile; post great fire bricks	7	50	1940	1770	1940	1770-1940	1830-1950
976	3107;3105	Ornamental Reigate stone; moulded Kentish ragstone	3	50	1666	50	1666	50-1666	No mortar

Recommendations/Potential

An assessment of the building materials (stone; ceramic building material; wall plaster, daub) from Alderman's House, 117, 119 & 121 Bishopsgate and 34-37 Liverpool Street, London EC2 shows that Roman ceramic building material consists of 60% of the assemblage. By fabric there is a sizeable group (59.9kg) of early Roman sandy group 2815 which conforms 84% to the Roman assemblage. Roman occupation was associated with domestic activity, structural development and waste deposition to the Roman road (Ermine Street), one of the major roads out from London. Calcareous fabric is less representative, though some late Roman stones (Brownstone and Bargate) indicate a late Roman occupation, possible associated to the late Roman cemetery (3rd to 4th century AD). A group of white marbles, Purbeck marbles and Bargate stones may also relate to Roman funerary activity just outside of the city wall. These may represent destruction debris from a nearby stone building, possible similar to Funerary structure 2 found in 201 Bishopsgate (Swift 2002).

The small size of *tesserae* and box flue tiles is an indication that the site lies some way away a prestigious heated building and merely represents dumping activity The fragment form [655] is roller stamped (dies 44) (Betts *et al.* 1997).

By comparison the medieval component is very small (7%), and is limited to standard peg tile and stones (Reigate, Purbeck stone) suggesting a very limited scale of activity. Ornamental stone indicates a high status building in the area, possible from St Botolph's church or St Mary Spital.

Roman and medieval structures were heavily disturbed by later buildings activity, especially by post-medieval cellar structures from the White Hart public house.

A small group of silty Flemish tiles are typical of early post-medieval activity, as are the red brick fabrics include red early post-medieval 3033 and 3046. Possible some early post-medieval structures and bricks came from the White Hart Inn, dated to the 17th century, but replaced a much earlier structure, whilst the Hackett building had early to mid 18th-century origins. There is very little post Great Fire brick, although it is clear that the earlier post-medieval red bricks had been reused in 18th- and 19th-century buildings.

The form and fabric of the dumped post-medieval roofing tile, floor tile, brick and stone is typical of the 19th century with only occasional 17th- and 18th-century fabric activity. The brick fabrics include 3032, 3034 and 3035. Some Carrara marble fragments are Victorian ornamental pieces. Material recovered shows the post-medieval development in this area of London until the 20th century.

The daub is well represented is this small assemblage, and may come from Roman to medieval contexts, although some prehistoric pottery was recovered.

Some of the more ornate items such as combed and roller stamped box flue tiles, *tegula mammata, tin-glazed* and decorative stones, require photography and illustration at publication. The main potential at publication stage lies with the origin of the Roman stone some of it funerary in origin.

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APPENDIX 6: PAINTED WALL PLASTER ASSESSMENT

Berni Sudds

Four fragments of painted wall plaster were recovered, all of Roman date. The first, from [619], is plain white (natural), comprised of a single lime, sand and gravel base coat (arriccio) and a thin lime top coat (intonaco). The second fragment, from [666], has two lime base coats containing varying amounts of crushed tile with a little sand and a thin lime intonaco with traces of red paint. The third piece, from [646], is comprised of two overlying schemes, indicating the building the plaster derived from underwent at least one phase of renovation. The lower scheme is comprised of two lime, sand and gravel base coats and a lime intonaco. The little of the surface that can be seen would appear to indicate a red ground. The later scheme has just one lime, sand and gravel base coat and a lime intonaco, again painted red (*buon fresco*). Not enough of the back of the plaster survives on any of these fragments to determine anything about the nature of the buildings they derived from.

The final and most elaborate fragment, from [655], is also from a red ground scheme but is overpainted with a green border delineated with a thin white line. The latter has two lime, sand and gravel base coats and a fine lime intonaco. The back of the plaster has chevron impressions from keyed daub, suggesting the source building was of clay and timber construction.

Coloured ground schemes, particularly those of red and black, are more typical of the late 1st or 2nd century in London, as in the rest of Britain and the western provinces (Davey & Ling 1982, 33). The red fragment with the green panel border derives from a two-dimensional panel scheme. These are typically comprised of red fields framed with green and/or yellow borders with black intervals between. This combination is particularly common during the Flavian and Trajanic period (Davey & Ling 1982, 33). White ground schemes occur throughout the Roman period, co-existing with the more elaborately coloured schemes during the early years, but became more commonplace from the end of the second century (Davey & Ling 1982, 30-31).

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APPENDIX 7: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of glass was recovered from the site (five boxes). The glass dates to the Roman, late medieval-early post-medieval and particularly the post-medieval periods. Most of the fragments show no or little evidence of abrasion wear and were probably deposited fairly rapidly after breakage. Some of the glass fragments have natural weathering evidence resulting from burial conditions. The glass assemblage is in a very fragmentary state except for two intact items or nearly so items; otherwise most of the forms could be readily identified. The glass was quantified by the number of fragments, minimum number of vessels (MNV's) and weight and was recovered from 54 contexts and individual deposits produced small (fewer than 30 fragments) groups.

All of the glass (292 fragments, 125 MNV, 9.220kg, of which seven fragments, 6 MNV, 865g was unstratified) were listed in a database format, by type, colour and form. The assemblage is discussed by period, vessel shapes and distribution.

The breakdown of the quantification of the glass by period is:

Roman: nine fragments, 9 MNV, 57g

Medieval/post-medieval: one fragment, 1 MNV, 4g

Post-medieval: 282 fragments, 115 MNV, 9.157kg

Roman

The forms

Bottle/flask: one fragment, 1 MNV, 2g

Bowl, small rounded: one fragment, 1 MNV, 2g

Vessel glass: seven fragments, 7 MNV, 53g

Bottle or flask

The rim of a bottle or flask is recorded in pale natron soda glass. The rim (28mm in diameter) has an everted rounded string finish and a conical neck with tooling marks and was recovered from deposit [94], Phase 3.

Bowl, small rounded

The rim of a free-blown small rounded bowl (75mm in diameter) occurs in green-tinted soda glass. The rim has been rolled twice, firstly to form a hollow cavity, and then the neck was rolled again to make a short, narrow, hollow straight-sided collared rim enclosing the first 'rim'. The item was found in context [176], Phase 8 and is therefore residual.

Vessel glass

The Roman vessel glass occurs as mostly wall fragments made in various shades of blue green soda natron glass. Of note is the occurrence of a possible moil (waste from glass blowing), found in context [211], Phase 3 and a splayed base (70mm in diameter) with a flaring wall (context [605], Phase 3). Of interest is a dark blue fragment of glass with white and yellow *millefiori* decoration and this may represent an Italian import (context [189], Phase 3).

Medieval/post-medieval

Vessel glass**:** one fragment, 1 MNV, 4g

A single fragment of vessel glass made green-tinted natural glass is in a heavily weathered state with a crystalline core and indicates that it is medieval or early post-medieval in date. The item was found in context [263], Phase 6.

Post-medieval

The forms

Beaker, cylindrical, thick cut trails: 1 fragment, 1 MNV, 12g

Bottle or Phial: 2 fragments, 1 MNV, 8g

Bottle, cylindrical: 4 fragments, 3 MNV, 201g

Bottle, Hamilton-type: 3 fragments, 2 MNV, 283g

Bottle, square-section: 2 fragments, 1 MNV, 19g

Bottle, wide mouthed: 2 fragments, 2 MNV, 1205g

?Bowl: 1 fragment, 1 MNV, 2g

Case bottle: 3 fragments, 1 MNV, 80g

Closed form: 1 fragment, 1 MNV, 4g

English wine bottle: 38 fragments, 28 MNV, 995g

English wine bottle, cylindrical: 120 fragments, 17 MNV, 1,420kg

English wine bottle, cylindrical, early: 17 fragments, 10 MNV, 2,519kg

English wine bottle, cylindrical, late: 24 fragments, 7 MNV, 1.466kg

English wine bottle, mallet: 6 fragments, 1 MNV, 334g

English wine bottle: onion: 6 fragments, 1 MNV, 152g

French wine bottle: 1 fragment, 1 MNV, 12g

Stopper: 2 fragments, 2 MNV, 26g

?Tumbler : 1 fragment, 1 MNV, 20g

Unknown: 1 fragment, 1 MNV, 1g,

Vessel: 15 fragments, 14 MNV, 75g

Window pane: 29 fragments, 15 MNV, 171g

Wine glass: 3 fragments, 3 MNV, 154g

Alcohol consumption forms

Beaker, cylindrical, thick cut trails

The base of an optically-blown beaker, decorated with thin cut trails and made in clear high-lime low alkali soda glass is dated *c*. 1575-1650 (Willmott 2002, 40, fig. 148-9), was found in context [570], Phase 7.

?Tumbler

The rim of a probable tumbler is recorded in clear soda glass and it is decorated on the flaring wall of the vessel with etched large numbers '...[1]99'. It is quite possible that the numbers refers to the address of the 'White Hart Tavern & Family Hotel' which was located at Nos. 198 and 199 Bishopsgate with this street numbering in the early 19th century (Garwood 2015). The probable tumbler was recovered from context [121], Phase 10.

Wine glasses

Three wine glasses are recorded. The earliest example dates to the early 18th century and consists of the base of a funnel bowl attached to a pedestal stem with a double rounded knop and it was made in clear lead glass (context [111], Phase 11). The second wine glass survives as a funnel bowl attached to an inverted baluster stem, both of which are wrythen decorated and part of the foot survives. The vessel was made in clear lead glass, dates to the late 18th century and was also found in context [111]. The third wine glass survives only as the foot (60mm in diameter) with a merese at the base of the stem and this was made in clear soda glass and it is dated to the 19th century (unstratified).

Alcohol storage

Case bottle

The wall and shoulder of an optically-blown case bottle made in olive green natural glass with weathered surfaces is recorded and dated from *c*. 1550 onwards and this item was found in context [95], Phase 9.

English wine bottles

English wine bottle (generic fragments)

A notable quantity (see above) of wine bottle fragments could only be assigned to a generic category and consisted of mostly wall and base sherds made in mostly natural glass and mainly in olive green glass. These sherds were mostly dated only from *c*. 1640 onwards and found in Phases 7-11 deposits (see Table 1).

English cylindrical wine bottles, early type

This free-blown form was mostly defined by their cylindrical wall and a splayed base. The form dates from *c*. 1740 onwards and was made in mostly olive green natural glass and was found in Phases 9-11 dated contexts (see Table 1).

English cylindrical wine bottles, late type

This moulded form was mostly indicated by straight-sided walls and right-angled bases and were made in mainly high-lime low-alkali (HLLA) olive and dark olive green glass. A few rims occur with string finishes dated to the early 19th century. The form, dated *c*. 1810 onwards, was mostly found in Phase 9 and 10 dated deposits (see Table 1).

English mallet-type wine bottle

This free-blown form is dated to the early 18th century and survives in natural olive green glass as a vessel with a conical neck, rounded shoulder and a base with a rounded kick. It was recovered from context [621], Phase 9.

English onion-type wine bottle

The free-blown form is dated to the late 17th-early 18th century. A single example is recorded (context [111], Phase 11) and was made in natural green glass and survives with a *c*. 1680-1690 dated rim finish (Dumbrell 1983, 38) consisting of an everted rim and a wide disc like cordon, attached to a short conical neck, while a rounded wall and base with a rounded kick are also present.

French wine bottle

A single, moulded French wine bottle was identified by its string finished rim, which is simple with a squared cordon and dated *c.* 1850 (Dumbrell 1983, 39), while the neck is cigar shaped. The wine bottle was made in green tinted HLLA glass and was found in context [128], Phase 10.

Drink storage

Cylindrical bottle

One example of an aquamarine soda cylindrical bottle is recorded. It is mould made with an applied packer-type rim finish with an internal ledge formed by the top of the cylindrical neck, while a wall fragment with a flat base also survives. The item is dated to the mid 19th century and was found in context [181], Phase 11.

Hamilton-type/torpedo shaped bottles

There are two examples of this type of bottle, usually associated with the storage of carbonated water or other soft drinks: both items are mould made and date from *c*. 1814 onwards. The first survives as a rounded/pointed base and has embossed on one side '...WEBB/..[MANUF]ACTURER/... SODAWATER' and on the other side ...MAJESTY/...INGTON/...LONDON' and was made in olive tinted HLLA glass (context [648], Phase 9). The second example is made in aquamarine soda glass and has a pointed base while the wall has evidence for embossed decoration consisting of a bird or eagle with spread wings. This item is dated to the mid 19th century and was found in context [181], Phase 11.

Liquid storage

Cylindrical bottle

The most complete example is mould made in clear soda glass and survives intact from the neck to base (diameter 42mm) and is dated to the mid 19th century and was unstratified. A single wall fragment made in pale brownish yellow HLLA glass is broadly dated to the post-medieval period and was found in context [121], Phase 10.

Square-section bottles

A single moulded square-sectioned bottle is recorded and made in clear HLLA/soda glass. The vessel survives as slightly concave wall fragments, one of which has embossed decoration of polygonal and rounded shapes. One fragment of the vessel was found in context [363], Phase 3 and it is intrusive, while another sherd was recovered from context [634], Phase 5.

Wide mouthed bottles

Two very similar free-blown wide mouth bottles are recorded and one is intact and the other is nearly so. The bottles have an applied rounded string rim finish, slightly flaring cylindrical neck, a rounded shoulder, straight sided wall (except that one example has a slightly splayed base) and a conical kicked base. These items are dated to the 18th-19th century and were used as containers for a wide range of products and both items were found in context [66], Phase 9.

Pharmaceutical

A single fragment of a phial or bottle is recorded in aquamarine HLLA/soda glass and survives as a poorly applied and finished, everted 'prescription' type rim with a maximum diameter of 42mm and an

asymmetrical deep conical neck. The item is dated to the 17th-18th centuries and was found in context [655], Phase 3.

Covers

Stoppers

Two intact, or nearly, so moulded stoppers are recorded. The first stopper, made in green-tinted HLLA glass, has a flat top (25mm in diameter) and a bevelled edge, around which is embossed 'LEA & PERRINS' in serif lettering. Lea and Perrins began bottling their Worcester sauce in 1837 and it is popular to this day, although the stopper may date to the mid 19th century. This item was found in context [711], Phase 9. The second stopper was made in clear soda glass and it is broadly dated to the 19th century and has a rounded top (22mm in diameter) and a damaged spike and it was found in context [251], Phase 10.

Display

A closed form

A small fragment of glass may come from a closed display item, possibly a vase. The item consists of opaque white to which has been applied as a horizontal band of blue glass and another fragment of white glass with decoration consisting of finely moulded leaves and berries. The item dates to the late 19th-20th century and was found in context [49], Phase 11.

Vessel glass

A small quantity (see above) of fragmentary material could only be assigned to a vessel glass category. This material occurs as mostly clear soda glass, besides olive green natural glass and various coloured HLLA glass. A small quantity of this material may belong to pharmaceutical phials, including a large sized example in clear HLLA/soda glass (context [706]) and a thin walled clear soda glass fragment (context [128], Phase 12). A fragment of a possible case bottle is noted as a flat wall fragment with rounded corners and made in amber HLLA/soda glass (context [130], Phase 10). A tube or a neck (18mm in diameter) is noted in aquamarine tinted soda and it has internal specks of a black deposit. It is possible that his vessel, found in context [589], Phase 9, is part of a distillation apparatus. A fragment of a free-blown clear soda glass vessel is noted for having a vertical thin trail (context [589], Phase 9).

Table ware

Possible bowl

The base of a possible small bowl with a footring (50mm in diameter) occurs in clear ?lead glass and was broadly dated to the post-medieval period (context [309], Phase 6).

Window glass

A small quantity of window glass is recorded (see above) and occurs in mostly clear soda glass, with smaller amounts of HLLA material recorded. A fragment of natural glass is heavily weathered and may be of a medieval or early post-medieval date (context [290], Phase 9). Much of the window glass is otherwise broadly dated and mostly could not be assigned to a manufacturing technique. However, a small quantity of cylinder glass was found in contexts [588] (Phase 3) and [594] (Phase 9), while plate made window glass, dating mostly to the 19th and 20th century was recovered from context [621], Phase 9.

Distribution

The distribution of the glass is shown in Table 1. For each context containing glass, then the phase, number of fragments, weight, the forms and a spot date is shown. The glass assemblage was recovered from Phases 3 and 5-11 and a summary of the material for each phase is presented.

Context	Area/Trench	Phase	No. of frags.	MNV	Wt (g)	Forms	Spot date
45	TP5	11	3	2	498	English wine bottle, including cylindrical, early type	1740–1900
49	ATP2	11	1	1	4	Closed form	Late 19th century
65	ATP3	8	1	1	2	English wine bottle	1640–1900
66	ATP3	9	4	4	1872	Bottle, wide mouthed, English wine bottle, including cylindrical, early type	Late 18th century
73	ATP5	10	3	2	312	English wine bottle, including cylindrical, early type	1740-1900
74	ATP3	9	4	2	36	English wine bottle	1740-1900
76	ATP3	8	1	1	1	Vessel	Post-medieval
92	ATP6	10	1	1	8	English wine bottle: cylindrical	1740–1900
94	ATP3	3	1	1	2	Bottle/flask	50–400 AD
95	ATP6	9	4	2	153	Case bottle, English wine bottle: cylindrical	1740–1900
96	ATP3	3	1	1	20	Vessel	50–400 AD
111	UPA1/2	11	11	6	402	English wine bottle, including an	Early 19th century

Context	Area/Trench	Phase	No. of frags.	MNV	Wt (g)	Forms	Spot date
						onion-type, vessel glass, wine glasses	
113	UP2/3/6/16	11	1	1	251	English wine bottle: cylindrical, early	1740–1900
115	UP2	9	1	1	186	English wine bottle: cylindrical, late	Early 19th century
119	UP3	9	13	3	87	English wine bottle, including a cylindrical, type	1740–1900
121	UP3/ TWR2	10	21	10	402	Bottle, cylindrical, English wine bottle, including cylindrical and late types, ?Tumbler, vessel, window pane	19th century
128	UP8/14/TWR2	10	94	9	1124	English wine bottle, including cylindrical type, French wine bottle, vessel, window pane	Mid 19th century
130	UP4/14	10	12	5	117	English wine bottle, vessel	1640–1740
143	UP7	10	7	1	32	Window pane	?19th century
151	UP7	10	1	1	4	Window pane	?19th century
176	UP17/20/12	8	1	1	2	Bowl, small rounded	50–400 AD
181	UP17/20/12	11	5	4	123	Bottle, cylindrical and Hamilton types, vessel	Mid 19th century onwards
189	UP12	3	1	1	6	Vessel (blue, yellow and white millefiori)	50–300 AD
211	UP17	3	1	1	3	Vessel	50–400 AD
222	UPA4	10	1	1	6	English wine bottle	1640–1900
251	UPA4	10	2	2	16	English wine bottle, stopper	19th century
263	UPA4	6	1	1	4	Vessel	Medieval-early post-medieval
265	UPA6	10	1	1	3	Vessel	50–400 AD
290	UP21	7	1	1	7	Window pane	Medieval-early post-medieval
309	UP21	6	1	1	2	Bowl?	Post-medieval
314	TWR2	7	3	3	68	English wine bottle, including cylindrical type	1740+
335	UPA7	10	1	1	26	English wine bottle	1640–1900
359	UPA7	9	4	2	166	English wine bottle: cylindrical	End of 18th century
363	UPA7	8	2	1	109	English wine bottle: cylindrical, early	1740+
435	TWR3A	7	1	1	1	Window pane	Post-medieval
514	TWR1	9	5	3	452	English wine bottle, cylindrical type, including a late example, window pane	1810 onwards
570	EX1	7	1	1	12	Beaker, cylindrical, thin cut trails	1575–1650
588	EX1	3	1	1	9	Window pane	Post-medieval
589	EX1	3	3	3	4	Vessel	Post-medieval

Context	Area/Trench	Phase	No. of frags.	MNV	Wt (g)	Forms	Spot date
594	Area 4	9	12	5	189	English wine bottle: cylindrical, including early type, vessel	19th-20th century
603	Area 4	9	24	8	837	English wine bottle: cylindrical, including early and late types	19th century
605	EX1	3	3	3	21	Vessel	50–400 AD
621	EX3	9	9	4	384	English wine bottle, including mallet type, window pane	19th-20th century
634	EX3	5	1	1	4	Bottle, square-section	1810 onwards
636	EX3	3	2	2	30	Bottle, square-section, vessel	1810 onwards
648	EX3	9	2	1	270	Bottle, Hamilton type	1814 onwards
655	EX3	3	2	1	8	Bottle or phial	17th-18th century
687	EX3	5	1	1	5	Vessel	19th century
693	Area 4.2	10	1	1	1	Vessel	Post-medieval
694	Area 4.2	9	1	1	7	Unknown form	19th century
698	Area 4.2	9	3	3	17	English wine bottle	18th-19th century
706	Area 4.2	3	2	2	2	Vessel, window pane	Post-medieval
711	Area 4.3	9	1	1	18	Stopper	Late 19th - 20th century

Table 1. BIH14: Distribution of the glass

Phase 3

A total of sixteen fragments/14 MNV/99g of glass were recovered from this phase and found in nine contexts. Roman vessel glass was solely found in contexts [96], [211] and [605], while the fragment of a bottle or flask occurred in deposit [94] and the fragment of blue, white and yellow millefiori vessel glass was noted in context [189].

Fragments of broadly dated post-medieval vessel or window glass were solely recovered from or found together in contexts [588], [589] and [706]. A fragment of a 17th-18th-century bottle or phial occurred in context [655], while a square sectioned bottle fragment dated from *c.* 1810 occurred in context [636] with a fragment of vessel glass.

Phase 5

Two deposits produced glass in this phase as a total of two fragments, 2 MNV, 9g. The glass essentially dates to the 19th century and consists of a square-section bottle (context [634]) and vessel glass shards (context [687]).

Phase 6

This phase produced a small quantity of glass: two fragments, 2 MNV, 6g. This material consists of a fragment of heavily weathered vessel glass and dated to the medieval-early post-medieval (context [263]) and the foot ring of a probable bowl made in probable lead glass and dated broadly to the post-medieval period (context [309]).

Phase 7

Six fragments of glass (6 MNV, 88g) were recovered from four contexts in this phase. A sherd of medieval-early post-medieval dated window glass was recovered from context [209], while the same form dated to the post-medieval period occurred in context [435]. The cylindrical beaker with thin cut trail decoration, dated *c*. 1575-1650 was solely found in context [507]. Only fragments of English wine bottles were found in context [314], including an example of an early cylindrical type dated *c*. 1740 onwards.

Phase 8

Three deposits in this phase produced glassware and this was recorded as a total of four sherds, 3 MNV, 112g. A broadly dated post-medieval vessel fragment solely occurred in context [76], while a post *c.* 1640 English wine bottle fragment was recovered from context [76] and a *c*. 1740 onwards early cylindrical English wine bottle was found in context [363]

Phase 9

A larger quantity of glass (92 fragments, 37 MNV, 4.222kg) was found in this phase compared to previous phases and this was found in twelve contexts. Context [66] was dated to the late 18th century according to an early type of English cylindrical wine bottle and the two wide mouthed bottles. Fragments of cylindrical English wine bottles dated contexts [74], [94] which also contained part of a case bottle, [119] and [359]. A late type of cylindrical, English wine bottle with an early 19th-century string rim finish dated context [115]. Wine bottle fragments, including those with 19th-century applied rim types, occurred only in contexts [603] and [621]. Context [648] was dated by the occurrence of a Hamilton-type bottle, dated from *c.* 1814. Nineteenth- or 20th-century dated window pane fragments only occurred in context [694] and were also found in deposit [594] together with wine bottle fragments. The stopper embossed with the name of Lea and Perrins, dated from *c*. 1837, was solely found in context [711].

Phase 10

Another large quantity of glass was recovered from this phase (145 fragments, 35 MNV, 2.051kg) and this was found in twelve contexts. Fragments of wine bottles dating from *c*. 1640 onwards were only

recovered from contexts [130], [222] and [335], while cylindrical wine bottles dated from *c*. 1740 were the main dateable items in contexts [73] and [92]. Context [121] produced 19th-century dated wine bottles, besides the tumbler with '...99...' etched on to it and a cylindrical bottle. A mid 19th century group of glass was noted in context [128] and this largely consisted of wine bottle fragments including a French example with a string rim finish dated *c*. 1850. Window pane fragments probably dating to the 19th-century were solely recovered from contexts [143] and [151]. The 19th-century dated stopper occurred in context [251].

Phase 11

A smaller quantity (20 fragments, 13 MNV, 1.246kg) of glass was recovered from Phase 11 compared to previously and this was found in five different deposits.

Fragments of early English cylindrical wine bottle, dated from *c*. 1740 only occurred in contexts [45] and [113]. Wine bottles dated to the early 19th century were present in context [111] and were found with the base of a wine glass. A mid 19th-century group was found in context [181] and included another Hamilton-type bottle. The opaque white and blue glass possible vase fragment, dated to the late 19th-early 20th century, was solely found in context [49].

Significance of the assemblage

The glass has significance at a local level. Amongst the Roman glass are a possible moil from glass working and a fragment of blue, white and yellow millefiori glass, the latter possibly being an Italian import. The types and forms are those expected in London for the post-medieval period and almost certainly relates to the presence of the White Hart Inn on the study area, which was established in the late medieval period. The *c*. 1575-1650 dated cylindrical beaker with thick cut trails and the three later wine glasses, besides the numerous fragments of wine bottles, Hamilton bottles almost certainly relate to activity at the inn. Other glass containers, such as the wide mouth and cylindrical bottles, besides the Lea and Perrins Worcester sauce bottle stopper also add to an understanding of the material culture associated with the White Hart Inn. A small number of glass tubes may also relate to distilling and perhaps the making of spirits for serving at the inn. The glass ware should be studied holistically alongside the pottery and clay tobacco pipes in order to give a better understanding of activities associated with the White Hart Inn. Comparable glass assemblages are published from sites nearby in Spitalfields (Harward *et al.* 2015; Shepherd 2014).

Potential of the assemblage

The potential of the glass is to date the features it occurs in. A number of vessels require illustration or photographing. The glass also has the potential to better understand activities with the White Hart Inn.

Recommendations for further work

A publication report is required for the glass from this site. It is recommended that John Shepherd reports upon the Roman glass. Six items require illustrating and two vessels require photographing to compliment the text.

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APPENDIX 8: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of tobacco pipes was recovered from the site (2.5 boxes). Most fragments are in a good condition and only eleven bowls are residual indicating that most of the material was deposited soon after breakage. Many of the bowls are in a damaged condition. Clay tobacco pipes were found in 40 contexts, in mostly small sized (under 30 fragments) groups, except for one medium sized group (30-100 fragments).

All of the clay tobacco pipes (204 fragments, of which six are unstratified) were entered in to a database format file and classified using Atkinson and Oswald's (1969) typology (AO) and 18th-century examples follow Oswald's (1975) typology and have been prefixed OS. The pipes are further coded by decoration and quantified by fragment count. The degree of milling on 17th-century examples has been noted and recorded in quarters, as well as their quality of finish. The tobacco pipes have been discussed by their types and distribution.

The Clay Tobacco Pipe Types

The clay tobacco pipe assemblage from the site comprises 55 bowls, 139 stems and ten nibs (mouthpieces). The pipe bowls range in date between *c*. 1610 and 1820. All of the bowls show evidence of use.

1610-1640

AO6: one spurred rounded profile of a good finish and a damaged rim. Context [111].

AO7: one narrow heeled bowl with a bulbous profile, average finish, full rim milling. Context [57].

1640-1660

AO9: two spurred bowls with a rounded profile, average and good quality finish and three-quarters and full filling of the rim. Unstratified, UP10, context [111].

AO10: one heeled bowl with a rounded profile, average quality of finish, full rim milling. The underside of the heel has an incuse line at a slight diagonal to the stem. Context [167].

1660-1680

AO13: three heeled bowls with a rounded profile, of a good (two examples) and average finish. All of the bowls are milled, although two bowls have damaged rims (context [111]), one of which may have had full rim milling, whilst the complete bowl has three quarters milling of the rim and the heel has been trimmed just to below the level of the stem (context [176]).

AO15: three spurred rounded profiled bowls of mostly an average finish, except for one of a good quality and two of the bowls have full milling of the rim, whilst the third bowl has a damaged rim, although it shows evidence for milling. Unstratified, contexts [53] and [95].

AO18: five heeled bowls with angled, straight-sided profiles of average or good quality and either half or three quarter milling of the rim. Contexts [53], [95] and [648] as single examples and context [111]: two examples.

1680-1710

AO20: one tall angled bowl with a rounded profile of an average quality and a damaged rim, although the bowl was probably fully milled. Context [20].

AO21: one heeled angled bowl with a rounded front and straight back profile with no milling of the rim and a good finish and initialled on the heel W B. Context [111], registered finds no <47>. A number of contemporaneous London clay tobacco pipe makers could have made this bowl (Oswald 1975, 132).

AO22: two heeled, straight-sided bowls with no milling and a good quality of finish. One of the bowls is a more slender variant. Context [711].

1700-1740

OS10: six upright heeled bowls with a rounded front and straight back profile and the majority are of an average finish. One bowl (context [111] is not marked on the heel while the other five examples are either initialled or have makers' marks:

* *: one bowl with crowns above flowers on each side of the heel. Context [65], registered find number <31>.

? ?: uncertain marks on each side of the heel and on each side of the heel there appears to be a rusty outline (possibly glue) of a heart on its side on the left side of the bowl and a bird or possibly Celtic cross on the right side. Context [65], registered find number <32>.

I D: one bowl, context [412], registered find number <52>. Possibly made by John Davies 2, 1670-1713 or John Davies 3, 1708-1716, both working in the Moorgate area (Woollard 2006, 33).

?T D: one bowl, context [57], registered find number <45>.

T W: one bowl, context [57], registered find number <46>. Possibly made by Thomas Wood, Clerkenwell, 1706-41, Thomas Warner, 1715 or Thomas Waldron, Saint Giles without Cripplegate, 1731 (Oswald 1975, 149; Hammond 2004, 22).

1730-1780

OS12: two upright heeled bowls with a rounded front, straight back and thin stem and both are initialled:

R C: one bowl, context [594], registered find number <54>. Possibly made by Richard Cole (2), Whitecross St, Islington: 1742-1800 (Oswald 1975, 134).

T W: one bowl, unstratified, registered find number <55>. Possibly made by Thomas Waldron, Saint Giles without Cripplegate, 1731, Thomas Wall,1732, Thomas Wright, 1732, Thomas Ward (? 2), Shoreditch, 1763 (died), Thomas Wood, Whitecross St, Islington, 1763-*c*. 1800 (Oswald 1975, 149; Hammond 2004, 22).

1770-1845

AO27: two upright, square heeled bowls with a rounded front and straight back and all are initialled on their heels:

W ? : one bowl with the spur mostly missing and decorated with leaf borders. Context [151], registered find number <49>.

I D: one bowl, context [115], registered find number <48>. Uncertain pipe maker for the date of the bowl.

1820-1860

AO28: three upright, spurred bowls with a rounded front and straight back and all of the bowls are initialled on the spur:

A C: one bowl with leaf borders, context [631], registered find number <57>. Possibly made by Alfred Carter, St Luke's, Old Street (Woollard 2006, 31).

C S: one bowl with crude leaf borders, context [143], registered find number <51>. Possibly made by Charles Sanders, St Giles Cripplegate Without, 1861 (Woollard 2006, 26).

1840-1880

AO28S: one short bowl with broad rounded spur and leaf and grass borders, initialled J J. Context [466], registered find number <53>. Possibly made by Joseph Izod, Hoxton, 1862-92 (Oswald 1975, 139).

AO29: eleven upright, heeled bowls with a rounded front, straight back and sloping rim and all were recovered from context [73]. Two of the bowls have their spur missing (registered find numbers <41> and <42>) and like the other examples in this context have acorn and oak leaf borders otherwise it is possible that all of the bowls were made one maker:

SC: nine bowls with poorly moulded initials (registered find numbers <33>, <32> as a variant with a broader front border, <33>, <34>, <35>, <36>, <37>, <38> and <40>). Probably made by Samuel Clark, Bishopsgate, 1848, or possibly Spencer Chick, Goswell Rd, 1856-76 (Oswald 1975, 146).

Unassigned bowl fragments

A total of eleven bowl fragments are recorded which could not be confidently assigned to a type. However, there are three bowls fragments that are of note. A late 18th-century bowl fragment is so dated by the style of an incuse circular stamp found on the back containing the name 'Wood' and leafy scrolls (context [54], registered find number <56>). The probable maker of this bowl was Thomas Wood, Whitecross St, Islington, 1763-*c.* 1800 (Oswald 1975, 149). A 19th-century bowl fragment is dated so by the occurrence of a leaf and grass border on the front of the bowl (context [151], registered find number <50>). A fragmentary late 19th-century bowl is moulded in the shape of a probable historical figure and while the front and base of the bowl is missing, the back of the bowl shows a male head with two rows of hair curls and a laurel wreath (context [73], registered find number <44>. The bowl may be a depiction of Napoleon Bonaparte or one of his name sake successors.

Distribution

The tobacco pipes are found in Phases 5, 7-11 and their distribution is shown in Table 1.

Context	Area	Phase	No. of fragments	Context ED	Context LD	Bowl part, types (and makers)	Context considered date
49	ATP2	11	7	1580	1740	X 1 nib, x6 stems	1580-1740
53	ATP2	9	6	1730	1910	X1 AO15, X1AO18 (both residual), x 7 stems	18th-19th century
57	ATP1	8	7	1700	1740	X 2 bowl fragments, x 1 nib, x1 stem, x1 AO7 (residual) X2 OS10 (?T D: <46>, T W: <45>)	1700-1740
65	ATP3	8	24	1700	1740	X2 OS 10 (* *: <31> and <32>), x2 stems	1700-1740
66	ATP3	9	2	1580	1910	X 1 nib, x1 stem	18th-19th century
73	ATP5	10	25	1840	1880	X1 bowl fragment, historical figure (<44>), x1 AO28 (S C: <43>), x11 AO29 (x2 with the spur missing: <41> <42>), (x8 SC: <33>, <34>, <35>, <36>, <37>, <38>, <39>, and <40>), x2 nibs, x10 stems	1840-1860
74	ATP3	9	2	1580	1740	X2 stems	1580-1740
76	ATP3	8	10	1680	1710	X1 bowl fragment, x1 AO20, x8 stems	1680-1710
79	ATP5	9	2	1580	1910	X2 stems	1730-1910
95	ATP6	9	2	1680	1710	x1 AO15, x1 AO18	*C*. 1680

Context	Area	Phase	No. of fragments	Context ED	Context LD	Bowl part, types (and makers)	Context considered date
111	UPA1/2	11	12	1700	1740	X1 bowl fragment,, x1 AO6, X1 AO9, X2 AO13, X2 AO18, X1 AO21 (W B: <47>), x1 OS10, x3 stems	1700–1740
112	UP2/3/6/16	11	1	1580	1740	X1 stem	1580–1740
115	UP2	9	6	1770	1845	X1 AO27 (I D: <48>), x 5 stems	1770–1845
119	UP3	9	3	1730	1910	X3 stems	1730–1910
121	UP3/ TWR2	10	2	1580	1740	x 2 stems	1580–1740
128	UP8/14/TWR2	10	30	1730	1910	X1 bowl fragment, x2 nibs, x27 stems	1730–1910
130	UP4/14	10	4	1580	1740	X4 stems	1580–1740
135	UP1/4/8/13/14/ TWR2	7	3	1580	1740	X3 stems	1580–1740
143	UP7	10	1	1820	1860	X1 AO28 (C S: <51>)	1820–1860
145	UPA3	9	1	1730	1910	X1 stem	1730–1910
151	UP7	10	8	1770	1845	X1 bowl fragment: <50>, x1 AO27 (?W ?: <49>), x1 nib, x5 stems	1800–1845
152	UP7	5	1	1580	1910	X1 nib	1580–1740
167	UP11	10	1	1640	1660	X1 AO10	1640–1660
176	UP17/20/12	8	1	1660	1680	X1 AO13	1660–1680
314	TWR2	7	1	1700	1740	X1 OS10 (I D: <52>)	1700–1740
335	UPA7	10	6	1730	1910	X6 stems	1730–1910
359	UPA7	9	5	1730	1910	X5 stems	1730–1910
363	UPA7	8	1	1730	1910	X1 stem	1730–1910
420	TWR3A	9	1	1730	1910	X1 stem	1730–1910
466	TWR3A	9	2	1840	1860	X1 AO28 (J J: <53>), X1 stem	1840–1860
514	TWR1	9	2	1730	1910	X2 stems	1730–1910
520	TWR1	7	2	1580	1910	X2 stems	1580–1740
524	TWR1	8	13	1700	1910	X2 bowl fragments (stamped 'Wood': <56>), x2 stems	Late 18th century
594	Area 4	9	1	1730	1780	X1 OS12 (R C: <54>)	1730–1780
603	Area 4	9	2	1730	1910	X1nib, x1 stem	1730–1910
621	EX3	9	5	1730	1910	X 5 stems	1730–1910
631	EX3	10	1	1820	1860	X1 AO28 (A C: <57>)	1820–1860
648	EX3	9	1	1660	1680	X1 AO18	1660–1680
698	Area 4.2	9	1	1730	1910	X1 stem	1730–1910
711	Area 4.3	9	2	1680	1710	X2 AO22	1680-1710

Table 1. BIH14. Distribution of the tobacco pipes showing, the area, phase, the number of fragments, the date of the latest clay tobacco pipe bowl or part (Context ED and LD), the range of bowl types the maker's initials and registered finds nos. and a deposition spot date (context considered date) for each context.

Phase 5

A single nib, dated *c.* 1580-1740 was found in fill [152] of the rectangular cesspit [153].

Phase 7

Six fragments of clay tobacco pipe were recovered from this phase. Stems, dated *c.* 1580-1740 were only found in fill [135] of pit [136] and fill [520] of the large, irregular pit [522]. An OS10 bowl, initialled I D (<52>) dated *c.* 1700-40 was the only clay tobacco pipe found in fill [314] of the rectangular pit [315].

Phase 8

Features in this phase produced 48 fragments of clay tobacco pipe. A single AO13 bowl dated 1660-1680 was found in fill [176] of the construction cut [177] for the rectangular masonry structure [178]. The most dateable item recovered from layer [76] was a 1680-1710 dated AO22 bowl. Two deposits produced OS10 bowls dated 1700-1740. The first, layer [65] produced one bowl with crowned flowers on each side of the heel (<31>) and another with uncertain symbols and possible missing glued decoration on the bowl (<32>). Layer [57] produced two OS10 bowls, one initialled ?T D (<46>) and the other marked T W (<45>), besides a residual *c.* 1610-1640 dated AO7 bowl. The sub-circular pit [526] contained in its fill [524] a bowl fragment (<56>) dated to the late 18th century with the name 'Woods' stamped on it and this was the most dateable clay tobacco pipe fragment in the feature.

Phase 9

From this phase were recovered 46 fragments of clay tobacco pipe. The earliest pipes in this phase occurred in layer [95] and consisted of single 1660-1680 dated AO15 and AO18 bowls, the latter being a taller variant dated *c.* 1680. A regular sized AO18 bowl was also solely found in fill [648] of pit [651]. Fill [594] of the drain [596] produced an OS12 bowl dated *c.* 1730-80 and initialled R C (<54>) as the latest item. An AO27 bowl, dated 1770-1845 and initialled I D (<48>) was the most dateable find found in fill [115] of the construction cut [117] for a masonry wall. The latest bowl found in this phase was an AO28S type, initialled J J (<53>: fill [466] of construction cut [467] for the brick structure [462]). All other occurrences of clay tobacco pipes in this phase were found as broadly dated bowl, stem or nib fragments, present in contexts [53], [66], [74], [79], [145], [359], [520], [603] and [621].

Phase 10

The earliest bowl found in this phase was a 1640-1660 dated AO10 bowl, solely found in the demolition rubble [167]. An AO27 bowl with 19th-century leaf borders and initialled ?W W was recovered with another bowl fragment with a leaf border from fill [155] of the north south drain and these items indicated a *c.* 1800-1845 deposition date. Singular examples of AO28 bowls, dated 1820-1840 and initialled C S (<51>) and A C (<57>) were respectively found in fill [143] of the drain [144] and fill [631] of the brick well/soakaway structure [632]. Layer [73] produced the largest quantity of bowls as a single AO28 (<43>) and nine AO29 bowls, dated 1840-1880, all of which were initialled S C (<33>, <34>, <35>, <36>, <37>, <38>, <39>, <40>, <41> and <42>) where the heel survived. Additionally, part of another bowl is moulded in the shape of a historical figure (<44>). Found together, the AO28 and AO29 bowls indicate a deposition date of *c.* 1840-1860. Broadly dated stems were only found in deposits [121], [128], [130] and [335]. In total 78 fragments of clay tobacco pipes were found in Phase 10

Phase 11

This phase produced 20 fragments of clay tobacco pipes, although they all appear to be residual. A diverse range of bowl types were found in layer [111] which included single examples of 17th-century AO6, AO9, AO13, AO18 and a AO21 bowl initialled W B (<47>). The latest bowl was an OS10 type dated 1700-1740. Stems were only found in contexts [49] and [112].

Significance of the assemblage

The clay tobacco pipes are of some significance at a local level. The bowl types present fit within the typology for London. It is assumed that the assemblage is derived from the study area: the White Hart Inn, which was later jointly a coffee house. Clay tobacco pipes can form an important part of the material culture of drinking establishments and can be present in very large quantities at such locations and reflect the habits of the patrons (Pearce 2000; Jarrett 2013). Additionally, the fact that all of the marked *c.* 1840-60 dated bowls recovered from layer [73] were made by one local pipe maker with the initials S C may imply that this individual had a contract with the victualler of the White Hart to supply him with clay tobacco pipes. Many of the marks on the pipes can also be related to local pipe makers working in Bishopsgate, Hoxton and Islington. There is no evidence for clay tobacco pipe production at the site. Clay tobacco pipe assemblages have been recovered from other local excavations, particularly in Spitalfields (Harward *et al.* 2015; Jarrett 2014).

Potential

The main potential for the tobacco pipes is as a dating tool for the contexts in which they were found and to provide a sequence for them. A number of clay tobacco pipe bowls merit illustration. The assemblage also has the potential to further demonstrate the material culture associated with drinking establishments.

Recommendations for further work

A small publication report is recommended for the clay tobacco pipes, supplemented by five bowl illustrations.

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APPENDIX 9: ROMAN METAL AND SMALL FINDS ASSESSMENT

Chris Faine

Introduction/Methodology

Sixty-seven objects that can be termed 'small finds' were recovered from the excavation (including coins). Forty-five objects were of Post-Roman date and are the subject of a separate assessment (see Gaimster Appendix 10). Roman objects were recovered from pits, graves, layers and linear features. Finds were recorded using standard catalogues (Crummy 1983; Manning 1985), and entered on Microsoft Excel spreadsheet. Coins were catalogued using criteria set out by English Heritage (Brickstock 2004), with identifications (where possible) being made using *Roman Imperial Coinage* and *Late Roman Bronze Coinage.* Aside from cleaning no conservation was carried out, although each object was assessed for potential to be x-rayed or for further conservation/illustrations (see Tables 2 & 3). Objects are considered by phase then functional category (after Crummy 1983, see Table 1).

The Assemblage

Phase 3

A single item of dress was recovered from Phase 3 contexts in the form of a plain bone hairpin (SF 25). The rounded end of a copper alloy spoon probe (*cyathiscomele*) was also recovered from Phase 3 (SF 23), along with a possible portion of another (SF 6). While many were medical instruments they were also commonly used for toilet purposes such as make up application or removal (Milne 1970). Both this and SF 25 are commonly occurring Roman types not being more closely dateable, although the pin type appear to go out of use slightly earlier (Crummy, 1983). The remainder of Phase 3 finds consisted of iron fittings & nails. Contexts [289] & [649] contained heavily corroded portions of iron bar of indeterminate function. Four contexts ([94], [276], [316] & [317]), contained nails. The majority were of commonly occurring Roman types, with 2 displaying concave hollow heads possibly being furniture studs and single hobnail (Manning 1985). Assemblages of more than 5 nails were recovered from contexts [94] (n: 12) & [276] (n: 6). Six contexts also contained iron working slag.

Phase 4

With the exception of a single nail from context [491] finds from Phase 4 consist of nails associated with burials, most likely coffin nails. A total of 15 were recovered, all of commonly occurring Roman types similar to those from Phase 3 (Manning 1985). Three burials contained nails with flattened heads indicative of being hammered into place. As mentioned above the majority of nails are of uniform type (Manning types 1 & 1a), and it is assumed that none were specially made for the purpose of coffin construction. However, it would be useful during full analysis to compare types and sizes with other sites

in London (Swift 2003, Thomas *et al.* 1997), as differing sizes have been noted as indicating coffins were made by the same maker (Ridgeway *et al.* 2013). Burial [444] also contained a truncated lead coffin. The remaining elements were 1.12m in length and consisted of a single sheet folded to make the body with a single sheet lid (see Figures 1 & 2). This was decorated with zigzag single reel cording forming a series of bays inlaid with pectern shells. There is evidence of solder and residue in the bottom of the coffin. Almost exclusively used to line stone or wooden outer caskets, over 300 lead coffins have been found in Britain to date (Taylor 1993), with over 50% in Tollers' study (1977) being recovered from cemeteries associated with walled urban centres. One in three is a child's grave (as is the case here). Methods of construction and decoration vary, with some motifs such as scallop shells being quite common, with some being confined to a single site (Ibid). Interestingly relatively few have been recovered from Roman London. Four to date have been recovered from the western cemetery with one decorated (Hall 1996). A single (albeit highly decorated) example was recovered from the Southern cemetery (Ibid). The northern and eastern cemeteries yield the largest number of lead coffins, with an example with scallop shell decoration being recovered from the Minories (Ibid). A similar example within a stone sarcophagus was recovered from Spitalfields (Thomas 1999). It must be noted the picture is far from complete, as the area around the city has been the subject of extensive Victorian and earlier development with only a small number of burials unearthed being recorded.

Phase 5

Few small finds were recovered from Phase 5, consisting of globe headed bone pin of later Roman type (SF 5), 2 nail shanks and a portion of iron "t-clamp" (SF 66). A residual and badly worn coin (SF 14) was also recovered in the form of a copper alloy *dupondius*, most likely of Domitian (AD 69-96, Rome mint), given the obverse portrait. Three other illegible Roman issues were also recovered (SF 3, 24 & 69).

Phase 6

A further residual coin (SF 19) was recovered from Phase 6 context [639] in the form of a 4th-century bronze of Constans dating to AD 348-350.

Discussions & Recommendations

As one would expect given the nature of land use in the area during the Roman period the assemblage can be broadly split into 2 categories. The Early Roman sample is indicative of domestic activity, with the Late Roman largely consisting of coffin nails and other burial related objects. The assemblage has been fully recorded, so aside from conservation & x-ray of indicated material no further identification is required. The exception to this is coffin [447]. As mentioned above lead coffins are relatively rare in London and it should be fully recorded and placed within its regional and national context. Also indicated coffin nails should be examined for uniformity of dimensions etc compared to those from other sites. Slag should be examined by a specialist.

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Category Number	**Description**
1	Objects of personal adornment or dress
2	Toilet, surgical or pharmaceutical instruments
3	Objects used in the manufacture or working of textiles
4	Household utensils and furniture
5	Objects used for recreational purposes
6	Objects employed in weighing and measuring
7	Objects used for or associated with written communications
8	Objects associated with transport
9	Buildings and services
10	Tools
11	Fasteners and Fittings
12	Objects associated with agriculture, horticulture and animal husbandry
13	Military equipment
14	Objects associated with religious beliefs and practices
15	Objects and waste material associated with metalworking
16	Objects and waste material associated with horn and bone working
17	Objects and waste material associated with pottery working
18	Objects of unknown function

Table 1: Crummy's (1983) functional categories for the analysis of small finds.

Context	Phase	SF No.	Type	Material	Date	Notes	X ray?	Conserve?
94	3	0	Nail	Fe	Roman	x12 nails x1 hobnail manning type 10 x 2 type 8 3 type 1		
276	3	0	Nail	Fe	Roman	x5 nails. Heavily corroded 4 manning type 1 plus x1 type 8 (possible upholstery stud)		
289	3	0	??	Fe	Roman	Fragment of round section bar, with possible central fitting. Heavily corroded	Y	Y
316	3	0	Bolt	Fe		Bolt fragment. Heavily corroded		
317	3	0	Bolt	Fe	Roman	Round section bolt.		
469	3	0	??	Fe		Fragment of round section bar. Heavily corroded		
589	3	6	?	Cua	Roman	Fragment of square section shank. Possibly spoon or spoon probe handle.		
671	3	23	Probe	Cua	AD 60-400	Fragment of spoon probe		
683	3	25	Pin	Bone	AD 60-300	Crummy type 1 pin		
260	4	0	Nail	Fe	Roman	x5 nails from grave (262), Square section with hammered oval head. 2 clenched. Manning 1a	Y	Y
295	4	0	Nail	Fe	Roman	x3 nails from grave (296), Square section with hammered circular head. Manning 1a	Y	Y
488	4	0	Nail	Fe	Roman	x3 nails from grave (490), Square section with hammered circular head. Manning 1a	Y	Y
489	4	0	??	Fe	Roman	x3 poss nails from grave (490). Heavily concreted	Y	Y
447	4	0	Nail	Fe	Roman	x1 nail from grave (446).Square section Manning 1		
491	4	0	Nail	Fe	Roman	x1 nail. Square section with round head. Manning 1		
154	5	0	T-clamp	Fe	Roman	Junction portion of possible T Clamp	Y	Y
283	5	0	Nail	Fe		Square section nail shank		
562	5	5	Pin	Bone	AD 200-400	Crummy type 3 globe headed pin		
608	5	0	Nail	Fe		Square section nail shank		
652	5	0	??	Cua		Unid fragments		
286	?	0	Nail	Fe		x1 nail. Heavily corroded		

Table 2: Small finds catalogue

SF No	Phase	Context	Date	Mint	Obv	Rev	Notes
3	5	283	Roman		Illegible	Illegible	
14	5	634	69-96 AD	Rome	TR P-	ALVS-	Domitian
24	5	676	Roman		Illegible	Illegible	
69	5	608	Roman		Illegible	Illegible	
19	6	639	348-350 AD		DN CONSTA-NS PF AVG	FELTEMPREPARATIO "Galley 1"	Poss Trier RIC 213 LRBC 40-43

Table 3: Coin catalogue

Plate 1: Coffin lid [447]

Plate 2: Coffin lid showing decoration

APPENDIX 10: POST ROMAN METAL AND SMALL FINDS ASSESSMENT

Märit Gaimster

Around 45 post-Roman individual metal and small finds were retrieved from the excavations; they are listed in the table below. Finds were recovered from all post-Roman phases, with the exception of Phase 7 (17th-18th centuries); in addition, three post-medieval base-metal coins are unstratified and two objects appear to be intrusive in Roman contexts.

Phase 5: medieval

A handful of objects were recovered from Phase 5 contexts. Of particular interest is a complete copper-alloy horse-harness pendant (SF 15). This form of horse-harness pendant, used in particular in rows suspended from the breast-band, is known from at least the 12th century (Griffiths 1986; 1995). The pendants came in many different designs, like crosses, quatrefoils or simple round or rectangular shapes. They were particularly popular in the 13th or 14th centuries when they often show shields and other heraldic devices, relayed with the aid of enamelling, silvering or gilding. This particular horse-harness pendant is in the shape of an elongated trefoil, decorated with a simple saltire cross. Another significant find is a pin beater of bone (SF 26). This object came from a Roman context, but presents a characteristic textile tool of the Middle and Late Anglo-Saxon periods. Double-ended and slightly cigar-shaped, this form of pin beater is associated with the upright warp-weighted loom that continued in use into the 10th and 11th centuries (Leahy 2003, 72-4; Walton Rogers 2009, 296). On this loom, the textile was produced from the bottom upwards, with the double-ended pin beater used to pick out threads or strum across the warp to even out the tension before the weft was beaten in place with a weaving batten. Other finds from this phase include a group of indeterminate and fragmented pieces of copper alloy (SF 16-21); the pieces were retrieved from the same context as the horse-harness pendant, and may be non-ferrous metalworking waste. At least one ceramic crucible for melting copper alloys was retrieved from Phase 5 (SF 22: see Jarrett, Appendix 4).

Phase 6: 15th-17th centuries

Only an iron nail was retrieved from this phase

Phase 8: 18th-19th centuries

Phase 8 produced a short length of reeded lead window came (SF 59), along with two fine lead strips, possibly window came waste (SF 60). There were also two iron nails and a few pieces of slag.

Phase 9: early to mid-19th century

The largest assemblage of finds came from Phase 9 contexts. Besides a handful of iron nails, this included several household objects in the form of cutlery handles and bone brushes. A flat and straight knife handle of bone has remnants of the iron blade (SF 64); it has parallels in other cutlery handles from the 19th century, where bone and ivory were increasingly replaced with celluloid and other man-made materials after 1850 (Moore 2005, 28-30). An earlier handle is represented by a pistol-shaped example of ivory (SF 30). This would have been an old object in its context, as this was a style that was going out of fashion by the 1770s (Moore 2005, 24). A small bone brush has remnants of a leaf-shaped handle and may have been a clothes brush (SF 13), while another small rectangular brush may have been for clothes or for bathing (SF 65; cf. Harward *et al.* 2015, fig. 192 <S16>). A small domino piece, simply carved from bone, is intrusive in a Roman context and may belong to this group also (SF 4). A penny of Victoria is heavily corroded but the style of the bust on the obverse suggests this is a 'bun-head' issue from the period 1860-1895 (SF 8). This would suggest the coin is intrusive here, or that the context is later than previously thought. Two possible halfpennies are too worn and corroded to identify (SF 28-29); a further three base-metal coins, one a penny of Victoria 1867, are unstratified (SF 7, 11 and 27). An assemblage of cut lengths of copper-alloy wire may represent some small industry on or near the site (SF 10 and 58); there were also two irregular lumps of possible iron slag.

Phase 10: mid- to late 19th century

A small group of finds from Phase 10 contexts consists of heavily corroded iron objects. They include fittings and straps and fragments of a small tine or vessel. A curved piece may be the remnants of a loop handle from scissors (SF 61). An almost complete S-hook would have been used to suspend meat or other provisions in the kitchen or scullery (SF 62).

Significance of the finds and recommendations for further work

Metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. At Alderman's House, the finds include objects that testify to medieval activities on or near site, possibly including non-ferrous metalworking. A group of later finds, associated with households in the 18th and 19th centuries, is also of interest. For the purpose of publication, some metal objects will require further x-raying to aid full identification; these are all marked in the table below. The copper-alloy horse-harness pendants should be cleaned by conservator to fully expose its decoration. The metal slag should be seen by a specialist. Following x-ray and publication, iron nails and undiagnostic fragments may be discarded.

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Phase 5: medieval

context	sf	description	pot date	recommendations
282		iron ?nail; angled and heavily corroded	n/a	x-ray
652	15	copper-alloy horse-harness pendant; elongated with transverse copper-alloy rivet in situ; trefoil-shape finial decorated with simple incised saltire cross; L 57mm	n/a	clean for full decoration
	16	copper-alloy ?objects; three indeterminate pieces; 7 x 20mm	late 12th century	x-ray
	17	copper-alloy ?object; indeterminate piece; 5 x 10mm	late 12th century	x-ray
	18	copper-alloy ?boss; curved hollow piece; W 10mm	late 12th century	x-ray
	20	copper-alloy ?object; indeterminate piece; 10 x 12mm	late 12th century	x-ray
	21	copper-alloy ?boss; curved hollow piece; W 7mm	late 12th century	x-ray

Phase 6: 15th – 17th centuries

context	sf	description	pot date	recommendations
126		iron nail; L 50mm; head diam. 13mm	1480-1600	discard

Phase 8: 18th – 19th centuries

context	sf	description	pot date	recommendations
81	59	lead window came; reeded; fragment only; L 70mm	n/a	
84	60	lead strip' two short pieces; W 5mm; ?window came waste	n/a	
176		lump of slag	n/a	
418		slag; three thin pieces	n/a	
524		iron nails; two incomplete	n/a	discard

Phase 9: early to mid-19th century

context	sf	description	pot date	recommendations
		iron nail; incomplete	1790-1820	discard
514	58	copper-alloy wire; nine curled-up lengths; L 95–250mm; gauge 1.15mm	1830-1900	
	64	bone tang-hafted cutlery handle; straight with flat-oval section and straight finial; remnants of iron knife blade present; W 15mm; L 75mm	1830-1900	x-ray
		iron nails; four incomplete	1830-1900	discard
		slag; two irregular lumps	1830-1900	
594	8	copper-alloy penny of Victoria; bun-head issue 1860–	1825-1900	

		1895		
	10	copper-alloy wire; cut length; L 40mm; gauge 1,7mm	1825-1900	
603	13	bone brush; rectangular 16 x 57mm brush head and part of spatula- or leaf-shaped handle; L125mm+	mid-19th century	
	65	bone brush head; complete rectangular with rounded corners; W 20mm; L 89mm	mid-19th century	
711	28	copper-alloy ?halfpenny; seemingly blank disc	1830-1900	x-ray
	29	copper-alloy ?halfpenny; seemingly blank disc	1830-1900	x-ray
	30	ivory pistol-shaped cutlery handle for tanged implement; complete; L 80mm	1830-1900	x-ray

Phase 10: mid- to late 19th century

context	sf	description	pot date	recommendations
121	61	iron fitting; curved fragment only; W 10mm; L 55mm+; ?loop from scissors	1740-1830	x-ray
128		iron strap; three pieces; W 25–30mm	1700-1800	x-ray
143		iron ?tin/vessel; several ?moulded fragments	1830-1900	x-ray
167		iron fitting; rectangular-section tapering body; W 25mm; L 185mm	1580-1700	x-ray
335	62	iron S-hook; near-complete; L 200mm	n/a	x-ray

Unstratified and intrusive objects

context	sf	description	pot date	recommendations
0	7	copper-alloy penny of Victoria 1867		
0	11	copper-alloy ?penny; seemingly blank disc		x-ray
0	27	copper-alloy ?halfpenny; heavily corroded		x-ray
255	4	bone domino piece with simple drilled 2/3 pits; 15 x 28mm; intrusive in Roman context	n/a	
619	26	bone pin beater; cigar-shaped and incomplete; heavily polished from use; L 85mm+; Anglo-Saxon object intrusive in Roman context	n/a	

APPENDIX 11: ANIMAL BONE ASSESSMENT

Karen Deighton

Introduction

A total of 500 identifiable animal bone fragments were collected by hand from four areas of excavation and a watching brief on the site of 117, 119 and 121 Bishopsgate. The archaeological sequence for the site has eleven phases from the prehistoric to the 20th century.

Method

The material was firstly sorted into recordable and non-recordable fragments and bones with fresh breaks were reassembled. Identification was aided by Schmid (1972); Prummel (1987) was consulted for neonates of the major domesticates, Lawrence and Brown (1974) for small mammals and Cohen and Serjeantson (1996) for birds. Sheep/goat distinction follows Boesneck (1969).

The following were recorded for each element: context, anatomical element, taxa, proximal fusion, distal fusion, side, burning, butchery, pathology and erosion. Ribs and vertebra were recorded as horse, pig, dog, sheep size or cattle size but not included in quantification as their multiple numbers introduce bias. Recording of fusion follows Silver (1969). Cattle and pig teeth were aged after Grant (1982) and sheep teeth after Payne (1973). Recognition and recording of butchery is after Binford (1981). Recording of sexing data for pig canines follows von den Driesch (1976). Pathology is described after Baker and Bothwell (1980). Measurements were taken after von den Driesch .The material was recorded onto an access database.

The bone assemblage

Preservation

Surface condition was good with little erosion and fragmentation was moderate and consistent with butchery. Canid gnawing was low being seen on 5% assemblage. Rodent gnawing was noted on three bones all from phase 10 where rat bones were also observed. Only three examples of burning were noted.

Taxa/Phase	2	3	4	5	6	7	8	9	10	11
Cattle		79	7	81	7	6		2	9	
Cattle size		20	2	11	2	2		1	5	1
Sheep/goat		21	7	18	6	9	2	6	9	2
Sheep			1		1					
Sheep size		9	1	8		6		2	6	
Pig		45	1	24	3			3	7	1
Horse	1	2	2	4		4	1	1	2	
Dog				3						
Cat				7					1	
Red Deer				1						

Deer SP		1								
Rabbit		2						1		
Rat sp									2	
Chicken		18		5					4	1
Goose		3		1				1	1	
Unidentified Fish				3						
Grand Total	**1**	**200**	**21**	**166**	**19**	**27**	**3**	**17**	**46**	**5**

Table 1: taxa by phase

The bone was spread thinly across ten phases with concentrations of material in Phases 3 and 5 (which are discussed below). The general decline in size of assemblages over time from the medieval period onwards reflects the changing use of the site as the area grows from semi-rural to urban. Phases 6, 8, 9 and 11 are not discussed due to their small size.

Phase 3 Earlier Roman

The largest assemblage derives from this phase. The nature of the assemblage seems to reflect the domestic activity alongside the Roman road suggested elsewhere in the report particularly waste dumping. This is particularly well illustrated in the small concentrations of bone which are seen in two pits which lie to the west of possible evidence for structural development; these appear to be kitchen waste.

The assemblage is dominated by cattle and cattle sized elements (not unusual for this period, also seen at Lloyds Register site (Rielly 2006)) followed by pig then sheep/goat. The majority of cattle and sheep/goat are adults for pig there is parity between adults and juveniles. No pattern of body parts was noted. Deer is represented by an antler fragment. The presence of rabbit is probably intrusive as the site remained semi-rural until the 17th century. The largest numbers of chicken are seen in this phase, including definite evidence for the presence of male (spur) and female birds (medullary bone), which could hint at backyard egg production. Goose is also seen in this phase. Evidence for butchery is largely consistent with chopping and bones are often split transversely which could indicate marrow extraction.

Phase 4 Later Roman Inhumation cemetery

Taxa/grave	**265**	**296**	**444**	**490**	**692**
Cattle				3	3
Cattle size		1			
Sheep/goat		1	2	1	1
Sheep size				1	
Pig		1			
Horse	1				
Grand Total	**1**	**3**	**2**	**5**	**4**

Table 2: Taxa found in grave fills

The small amount of bone from Phase four is consistent with the presence of an inhumation cemetery at this time; however it is worth noting that the majority of bone was from grave fills and could possibly have ritual significance.

Phase 5 Medieval

The second largest assemblage is dominated by cattle, which is not unusual for the period for example it is seen at Baltic House (Rielly 2002) followed by roughly equal proportions of sheep/goat and pig. It has the only occurrences of dog for the site; horse and chicken (including medullary bone) were also present. The majority of the major domesticates were adults, although neonatal cattle (only example from site) was recovered from cesspit [665].

The collection is largely consistent with domestic activity, e.g. three small concentrations of bone were seen in three cesspits and no concentration of body parts was noted. However there is also possible evidence for craft working/industry/trades. Sawn red deer antler was recovered from cesspit [658]. Pit [652] was dominated by sawn horn cores which indicate horn working. This evidence of small scale industry is consistent with other known areas of horn working located within or near the city walls (Yeomans 2007), for example that possibly seen at Baltic House. Finally a partial cat skeleton was seen from a cesspit although no evidence of butchery was noted, the utilisation of its fur should not be ruled out.

Period 10 Mid-late 19th century

The small assemblage was dominated by roughly equal numbers of ovicaprids and cattle closely followed by pig. The level of butchery encountered is consistent with kitchen waste which could possibly be associated with the public house present at the time

Potential and significance

The potential for further work on Phases 2, 4 and 6-11 is severely limited by the paucity of material. Although the assemblages from Phases 3 and 5 are larger, the value of further work would still be compromised by the moderate amount of data available. For example the collection of metrical and aging data has been affected by the nature of butchery and an investigation of butchery would be hampered by the limited amount of bone material.

Again the significance of the assemblage is adversely affected by size and it has value at site and local level only. The assemblages from Phases 3 and 5 contribute a little to the understanding of the site though providing evidence for domestic activity and in the case of Phase 5 suggest craft activity (horn working). At the local level they will add data to the corpus of existing work for the city of London.

Conclusion

Analysis has shown a moderately sized assemblage comprising largely of domestics and suggests both domestic and industrial activity. Furthermore work demonstrates the value of the assemblage to be compromised by a wide temporal dispersal resulting in a sparse amount of bone per phase. A report should be included in the final report, along with data from the evaluation but no further work is needed.

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APPENDIX 12: FISH AND AMPHIBIAN BONE ASSESSMENT

Philip L. Armitage

Fish bones

The fish bones (Tables 1-3) recovered from the pits are recognised as discarded kitchen/table food refuse. Apart from an isolated cyprinid (possibly roach *Rutilus rutilus*) from (608) <6>, all of the fish represented are marine species; with a notable predominance of cod present in the samples from pits [155] and [653]. The presence of cranial bones in both of these pits indicate the cod were supplied whole from a local (southern North Sea) fishery rather than as processed/preserved (beheaded/salted/dried) fish from more distant water fisheries (Iceland & Newfoundland waters) as discussed by Orton *et al.* (2014, 517-518 & 525).

Amphibian bones

Amphibian bones were present in all four submitted samples (Tables 1 & 4); with a notably high concentration (83 out of the total 95 = 87.4%) recovered from [283] <sample 3> fill of cess pit [285]. By comparison with modern comparative specimens (author's collections) and with reference to the work of Bailon (1999) all the amphibian bones from the cess pit deposits are recognised as the remains of common frogs. Many of these were likely to have been halfgrown and juvenile, together with a few adults. If the cess pits had been water filled after disuse these features could have served as temporary habitats for the frogs. Alternatively, the cess pits acted as pit fall traps "capturing" unwary animals. Although an aquatic habitat is required during the breeding season, frogs spend much of their lives on land often far away from water, providing there is some damp shelter available (LaňKa & Vit 1985, 74). As discussed by O'Connor (2000, 17) perhaps the best – and simplest – explanation as to why frogs were often attracted to urban sites in large numbers was that the plethora of household refuse deposits/middens provided the ideal environment for the proliferation of flies, in turn providing a bountiful food source for "lots of frogs". In the case of the Bishopsgate site, the presence of cess would have been the ideal material for breeding flies, which in turn attracted many frogs.

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Table 1: Overall Summary: Numbers of identified specimens (NISP)
H = hand collected; S = sieved

	Context	154	283	608	652	652
	Fill	155	285	609	653	653
	Method of recovery	S	S	S	S	H
	sample number	<2>	<3>	<6>	<8>	
Fish:						
Gadus morhua	cod	9			30	2
Gadidae	codfish - medium sized	4				
Gadidae	codfish - small sized				1	
Clupea harengus	herring	3	2			
Scomber scombrus	mackerel		2			
Raja clavata	thornback ray (or roker)			1	3	
Elasmobranch	rays & sharks	2			3	
Cyprinid	carp family			1		
	Subtotals	18	4	2	37	2
Amphibian:						
Rana temporaria	common frog	4	83	6	2	
	Overall totals	22	87	8	39	2

Table 2: Identified fish bones from sieved residues

ABG = articulating/associated bone group

Context	Sample	Fill	Taxa	Element(s)	NISP	Notes
154	<2>	155	cod	precaudal vertebra	2	from a fish cf. size of modern specimen TL = 109 cm
			cod	precaudal vertebra	7	slightly smaller fish than previous
			Gadidae (codfishes) - medium sized	vertebra	3	
			Gadidae (codfishes) - medium sized	vertebra	1	
			herring	vertebra	3	
			Elasmobranch (rays & sharks)	vertebra	2	
			unidentified	spines	17+	
			unidentified	vertebra	4	
283	<3>	285	mackerel	vertebra	2	
			herring	vertebra	2	
608	<6>	609	thornback ray (or roker)	dermal denticle	1	very small specimen
			Cyprinid (carp family)	pharyngeal teeth/bone	1	fragment; possibly roach *Rutilus rutilus*
652	<8>	653	cod	basioccipital	1	

	cod	precaudal vertebra	8	ABG fish cf.size modern specimen TL = 109 cm
	cod	precaudal vertebra	7	ABG medium-sized fish
	cod	precaudal vertebra	14	ABGs other medium-sized fish
	Gadidae (codfishes) - small sized	caudal vertebra	1	
	thornback ray (or roker)	dermal denticle	3	
	Elasmobranch (rays & sharks)	vertebra	3	

Table 3: Identified hand-collected fish bones

Context	Fill	Taxa	Element(s)	NISP	Notes
652	653	cod	parasphenoid	1	slightly smaller than modern specimen of TL =
		cod	ceratohyale	1	slightly smaller than modern specimen of TL =

Table 4: Summary of the anatomical distributions of the bones of common frog from sieved residues.

Context	154	283	608	652	
sample	<2>	<3>	<6>	<8>	
Fill	155	285	609	653	Totals
cranium		1			1
angulare		2			2
vertebra	1	8			9
sacrum		1			1
scapula		1			1
humerus	1	12		2	15
radio-ulna		7	1		8
urostyle	1	5			6
ilium		6	1		7
femur		7	1		8
tibio-fibula		19	3		22
tarsals	1	14			15
Totals	4	83	6	2	95

APPENDIX 13: HUMAN BONE ASSESSMENT

James Young Langthorne

Introduction

The following report details the results of an assessment of the articulated and disarticulated human remains from the archaeological investigation at 117-121 Bishopsgate. Six articulated individuals, [261], [313], [445], [488], [691] and [723], were recovered from 5 grave cuts and a variety of disarticulated human bone was found within 3 pit fills, [62], [316] and [317], 2 grave fills, [295] and [489], a made ground deposit, [65], and a ditch fill, [132]. Additionally a possible mass burial pit [554] was encountered during the watching brief that contained more than 650 pieces of disarticulated bone within its fill [553]. Catalogues of both the articulated and disarticulated human bone can be found at the end of the report.

Articulated Bone

Methodology

The skeletal remains from the inhumation burials were analysed to assess the condition of the remains and where possible the age and sex of the individual. Additionally any gross pathology present was recorded to site and morphological changes described.

The condition and completeness of a skeleton affects the amount of data that can be recorded. The condition of the bone was recorded according to the stages of surface preservation suggested by McKinley (2004) and the completeness of the skeleton was based on a complete skeleton consisting of:

Skull	20%
Torso	40%
Arms	20%
Legs	20%

Age was assessed using the stages of epiphyseal fusion, dental development and eruption, dental attrition (Brothwell 1981), changes within the pubic symphysis (Brooks & Suchey, 1990) and the auricular surface (Lovejoy 1985). All individuals where ageing data could be collected were placed into one of the following age ranges:

Infant	≤1 year
Infant	1-5 years
Juvenile	6-12 years
Adolescent	12-20 years
Young Adult	20-35 years

Middle Adult	35-50 years
Old Adult	50+ years
Adult	>20 years
?	Undetermined

Sexually dimorphic traits in the pelvis and skull were used to ascertain the sex of the individual. Each individual was placed into one of the following categories; male, female (positive identification), male?, female? (favourable comparison to a sex but not conclusive), indeterminate (inconclusive mixture of male and female traits), unknown (lacking elements that define sex or not possible).

Pathological conditions were diagnosed based on the standards and classifications defined by Roberts and Connell (2004), Roberts and Manchester (1995), Auferderheide and Rodríguez-Martín (1998), and Walker (2012).

Completeness and preservation

Skeletal completeness ranged from 3% to 85% present and half had more than 50% of the elements present, as can be seen in Figure 1:

Completeness	Number of skeletons	Percentage
<25%	3	50%
<50%	0	0%
<75%	2	33.33%
>75%	1	16.67%

Table 1: Skeletal completeness

The incompleteness of skeletons [313], [691] and [723] is due to the majority of those individual's skeletons being truncated by later works on site including a wall foundation and a large cess pit. All of the skeletons were relatively well preserved ranging from [261] being in a good condition to a good-moderate condition in the case of all of the other individuals.

Demography

The largest age group amongst the burials were adults (66.67%), though it was only possible to define a specific age range in the case of middle adult [488]. A single juvenile, [445] and a single adolescent, [261] were also found within the assemblage.

Age	Number of skeletons	Percentage
Juvenile	1	16.67
Adolescent	1	16.67

Middle adult	1	16.67
Adult (unspecified)	3	50
Total	6	100

Table 2: Age distribution

It was only possible to sex 2 of the skeletons, [261] and [488], both of which were possible males. Due to the low number of skeletons within the assemblage it was not possible to draw any conclusions regarding the age or sex of the cemetery population.

Pathology

The only pathology observed on any of the skeletons during the assessment was a case of spina bifida occulta on the sacrum of individual [445]. Spina bifida is a congenital disease that results in defects within the neural arches of the vertebrae and, as in this case, the sacrum. Spina bifida occulta, although not common within populations, is considered to be the most frequent type of this condition.

Dental Pathology

The only dental pathology recorded within the assemblage were caries recorded on several teeth of mid adult male [488]. Caries occurs due to oral bacteria in plaque fermenting sugars from an individual's diet which result in demineralisation of the structure of the tooth, creating a void.

As with the demography of the assemblage due to the small number of articulated individuals found during the archaeological investigations no particular trends in relation to any form of pathology were identified within the cemetery population.

Disarticulated Bone

Disarticulated human bone was recovered from 8 contexts that comprised a minimum of 1 individual per context respectively with the exception of [553], the fill of a possible mass burial pit, which contained at least 10 individuals. The bone that originated from contexts [62], [65], [132], [316] and [317] was presumed to be residual in character whereas [553] came from the aforementioned burial pit fill and [295] and [489] were found within the grave fills that also contained skeletons [313]/[723] and [488] respectively and therefore may be misplaced parts of one or more of those individuals

Identification of whether an element came from an adult or a juvenile was possible in a large number of bones from the disarticulated assemblage though it proved only possible to sex a very few fragments of pelvis and skull from burial pit fill [553] and none from the other contexts.

Some small pathologies, including Schmorl's nodes and osteophytic activity on rib heads and vertebrae as well as caries, ante-mortem tooth loss and periodontal disease were also found on a number of bones recovered from [553].

Recommendations for further work

There are some opportunities for further work on the Bishopsgate assemblage; in particular skeletons [261], [445] and [488] could be fully analysed. Analysis would involve the compilation of inventories for each individual, further demographic and pathological examination and the collection of metric and non-metric data. Despite a degree of truncation to [261] and [445] and the somewhat fragmentary character of [488] these 3 individuals are mostly complete and in a good or relatively good state of preservation. Due to the very limited amounts of bone that make up skeletons [313], [691] and [723] it is not recommended that these individuals are included in the full analysis. As the assemblage would only consist of 3 skeletons valid comparisons with other contemporaneous populations are very limited in scope.

Targeted isotope work, on the teeth or long bones could be performed should this be considered useful within the archaeological context the remains were recovered from.

No further analytical work needs to be performed on the disarticulated bone recovered from Bishopsgate. Material from [553] could be used to aid dating of the potential burial pit from which this bone originated.

Articulated bone catalogue

Context No.	Completeness	Preservation	Age	Sex	Pathology	Other Comments
261	70%	Good	Adolescent (*c.* 18 years)	Male?	None visible.	Truncated below the pelvis
313	8%	Good-Moderate	Adult	Unknown	None visible.	[313] found in the same context as [723]. Only feet and fibulae extant. Also animal bone found in this context (cow and pig elements)
445	75%	Good-	Juvenile	Unknown	Sacrum:	Some

		Moderate	(*c.* 12 years)		spina bifida occulta	dentition, fragments of mandible but little evidence of skull
488	85%	Good-Moderate	Mid Adult	Male?	Caries	High degree of fragmentation in parts
691	7%	Good-Moderate	Adult?	Unknown	None visible.	Only partial left and right tibiae and fibulae extant.
723	3%	Good-Moderate	Adult?	Unknown	None visible.	[723] found in the same context as [313]. Only foot bones extant. Also animal bone found in this context (cow and pig elements).

Disarticulated bone catalogue

Context no.	Skeletal Element	No. of fragments	Condition	MNI for each context	Sex	Age	Comments/Pathology
62	Humerus (mid-distal shaft)	1	Good-Moderate	1	Unknown	Adult?	-
65	Clavicle (midshaft left)	1	Moderate	1	Unknown	?	-
132	Skull (parietal fragment)	1	Good-Moderate	1	Unknown	Adult?	-
295	Foot (Left navicular)	1	Good-Moderate	1	Unknown	?	-
295	Foot (left medial cuneiform)	1	Good-Moderate	1	Unknown	?	-
295	Foot (Right intermediate cuneiform)	1	Good-Moderate	1	Unknown	?	-
295	Foot (left cuboid)	1	Good-Moderate	1	Unknown	?	-
316	Foot (Left MT3 x 1)	2	Good	1	Unknown	?	-
317	Foot (Right MT1)	1	Good-Moderate	1	Unknown	?	-
489	Humerus (left distal shaft and epicondyles)	1	Moderate	1	Unknown	Adult?	-
489	Pelvis (acetabulum fragment)	1	Good-Moderate	1	Unknown	Adult?	-
489	Sacrum (fragment)	1	Moderate	1	Unknown	?	-

553	Clavicle (right sternal articularion-midshaft)	1	Good-Moderate	10	Unknown	Adult?	-
553	Clavicle (right)	1	Good	10	Unknown	Young Adult?	-
553	Clavicle (shaft fragments)	2	Moderate	10	Unknown	?	-
553	Dentition (mandibular PM1 x1 and mandibular PM2 x1)	2	Very good	10	Unknown	Adult	-
553	Femur (distal condyle fragments)	5	Moderate-Poor	10	Unknown	?	-
553	Femur (distal condyle fragments)	13	Good-Moderate	10	Unknown	Adult	-
553	Femur (distal partial condyles and distal-mid shaft)	1	Good	10	Unknown	Adult?	-
553	Femur (distal-midshaft)	3	Moderate	10	Unknown	Adult?	-
553	Femur (left distal condyles and shaft)	1	Good	10	Unknown	Adult	Robust individual?
553	Femur (left proximal head)	1	Good-Moderate	10	Unknown	Adult	-

553	Femur (left proximal-mid shaft)	1	Moderate-Poor	10	Unknown	Adult?	-
553	Femur (partial shafts)	10	Good-Moderate	10	Unknown	1x juvenile fragment 3x adult?	-
553	Femur (partial shafts)	3	Good-Moderate	10	Unknown	Adult?	-
553	Femur (proximal heads x 3)	3	Moderate	10	Unknown	Adult?	-
553	Femur (right distal shaft and condyles)	1	Good-Moderate	10	Unknown	Adult?	-
553	Femur (right proximal shaft)	1	Moderate-Poor	10	Unknown	?	-
553	Femur (shaft fragment)	1	Good-Moderate	10	Unknown	Juvenile	-
553	Femur (shaft fragments)	6	Moderate	10	Unknown	1x juvenile? 1x adult?	-
553	Femur (shaft fragments)	10	Moderate	10	Unknown	Adult?	-
553	Femur (shaft fragments)	4	Moderate	10	Unknown	?	-
553	Femur (shaft fragments)	4	Moderate	10	Unknown	Adult?	-
553	Femur (shafts)	5	Good-Moderate	10	Unknown	1x juvenile 2x adult?	-
553	Femur (shafts)	4	Moderate	10	Unknown	?	-
553	Fibula (distal end and shaft)	1	Good-Moderate	10	Unknown	Adolescent-Young Adult	-

553	Fibula (distal end)	2	Moderate-Poor	10	Unknown	?	-
553	Fibula (partial shaft)	1	Moderate-Poor	10	Unknown	Adult?	-
553	Fibula (proximal head and shaft)	1	Moderate	10	Unknown	Adult?	-
553	Fibula (shaft fragments)	5	Moderate	10	Unknown	?	-
553	Fibula (shaft fragments)	4	Moderate-Poor	10	Unknown	?	-
553	Fibula (shaft fragments)	3	Moderate	10	Unknown	?	-
553	Foot (calcaneus fragment)	1	Moderate-Poor	10	Unknown	?	-
553	Foot (left and right MT4)	2	Good-Moderate	10	Unknown	?	-
553	Foot (left and right MT5s)	4	Good-Moderate	10	Unknown	Adult?	-
553	Foot (left MT3)	2	Good-Moderate	10	Unknown	?	-
553	Foot (metatarsal fragment)	1	Good	10	Unknown	?	-
553	Foot (proximal phalanx)	1	Good	10	Unknown	Juvenile?	-
553	Foot (right calcaneus x 1)	1	Moderate	10	Unknown	Adult?	-
553	Foot (right calcaneus x 3 and left calcaneus x 3)	6	Moderate-Poor	10	Unknown	Adult? x 2 and Juvenile-adolescent? x 1	-

553	Foot (right MT1s)	2	Good	10	Unknown	Adult?	-
553	Foot (Right talus x 3 and left talus x 1)	4	Good-Moderate	10	Unknown	Adult? x 2 and Juvenile-adolescent? x 1	-
553	Foot (unsided metatarsal 3 or 4)	1	Moderate	10	Unknown	Juvenile	-
553	Hand (left and right MC2)	2	Good	10	Unknown	Adult?	-
553	Hand (metacarpal fragment)	1	Good	10	Unknown	?	-
553	Hand (proximal phalanx)	1	Good	10	Unknown	?	-
553	Hand (right MC3)	1	Good	10	Unknown	Adult?	-
553	Hand (right MC5)	1	Good	10	Unknown	?	-
553	Humerus (distal epicondyles and distal shaft)	1	Good-Moderate	10	Unknown	Adult?	-
553	Humerus (distal shaft)	1	Good-Moderate	10	Unknown	?	-
553	Humerus (distal shafts)	2	Moderate	10	Unknown	?	-
553	Humerus (left distal shaft and epicondyles)	1	Good-Moderate	10	Unknown	Adult?	-

553	Humerus (left proximal head and shaft)	1	Good-Moderate	10	Unknown	Adult	-
553	Humerus (partial shafts)	6	Moderate	10	Unknown	?	-
553	Humerus (proximal head)	7	Good-Moderate	10	Unknown	Adult?	-
553	Humerus (shaft fragment)	1	Moderate	10	Unknown	Juvenile	-
553	Humerus (shaft fragments)	2	Moderate-Poor	10	Unknown	?	-
553	Humerus (shaft fragments)	3	Moderate	10	Unknown	?	-
553	Humerus (shaft fragments)	2	Good-Moderate	10	Unknown	?	-
553	Humerus (shaft)	1	Moderate	10	Unknown	Adult	-
553	Hyoid (fragment)	1	Good	10	Unknown	?	-
553	Long bone (shaft fragments)	7	Moderate-Poor	10	Unknown	?	-
553	Long bone (shaft fragments)	5	Moderate-Poor	10	Unknown	?	-
553	Long bone (shaft fragments)	3	Poor	10	Unknown	?	-
553	Long bone (shaft fragments)	118	Moderate-Poor	10	Unknown	?	-
553	Mandible	7	Good	10	Unknown	Adult	Calculus, gum recession, ante-mortem tooth loss.

							Caries?
553	Patella (fragments)	3	Moderate	10	Unknown	?	-
553	Pelvis (fragments)	17	Good-Moderate	10	Unknown	?	-
553	Pelvis (ilium fragment)	1	Good-Moderate	10	Unknown	Juvenile	-
553	Pelvis (left fragments x 5)	5	Good-Moderate	10	Male? x 2	Mid Adult? x 3	-
553	Pelvis (right fragments x 2)	2	Good	10	Male? x 1	Young-Mid Adult x 2	-
553	Radius (distal end and complete shaft 1x left and 1 x right)	2	Good-Moderate	10	Unknown	?	-
553	Radius (partial fragment)	1	Good-Moderate	10	Unknown	?	-
553	Radius (proximal head)	1	Good	10	Unknown	?	-
553	Radius (right proximal heads and shafts)	2	Moderate	10	Unknown	Adult?	-
553	Radius (shaft fragments)	2	Moderate-Poor	10	Unknown	?	-
553	Radius (shaft fragments)	3	Moderate-Poor	10	Unknown	?	-
553	Rib (shaft fragment)	1	Moderate-Poor	10	Unknown	?	-

553	Rib (shaft fragment)	1	Poor	10	Unknown	?	-
553	Ribs (left x 4)	4	Good-Moderate	10	Unknown	?	Osteophytic lipping and pitting on 1 x rib head.
553	Ribs (rib head fragment)	1	Poor	10	Unknown	?	-
553	Ribs (right x 3)	3	Good-Moderate	10	Unknown	?	Slight osteophytic lipping on 1 x rib head.
553	Ribs (shaft fragments)	18	Moderate	10	Unknown	?	-
553	Sacrum (fragments)	12	Moderate	10	Unknown	Adult?	Severe osteophytic lipping on 1 x S1 articular facet fragment.
553	Sacrum (S1)	1	Good	10	Unknown	Juvenile	-
553	Scapula (left fragments)	2	Good	10	Unknown	Juvenile	-
553	Scapula (fragments)	6	Moderate-Poor	10	Unknown	?	-
553	Scapula (left fragments)	2	Good-Moderate	10	Unknown	?	-
553	Scapula (right fragments)	3	Good-Moderate	10	Unknown	Adult?	-
553	Skull (frontal fragments)	3	Good	10	Unknown	?	-
553	Skull (frontal fragments)	5	Good-Moderate	10	Unknown	?	-

553	Skull (left temporal x 1 and right temporal x 1)	2	Good-Moderate	10	Male? x 1 and ? x 1	Adult x 1 and juvenile-adolescent x 1	-
553	Skull (left temporal)	1	Good	10	Male?	Adult	-
553	Skull (left zygomatic x 2 and right zygomatic x 1)	3	Good	10	Unknown	Adult?	-
553	Skull (mandible fragment)	1	Good	10	Unknown	Adult?	-
553	Skull (maxilla fragment)	1	Moderate	10	Unknown	?	-
553	Skull (maxilla fragments)	3	Good-Moderate	10	Unknown	Adult	Caries? Gum recession, calculus, periodontal disease.
553	Skull (occipital fragments)	9	Good	10	Unknown	Adult	-
553	Skull (occipital fragments)	9	Moderate	10	Unknown	?	-
553	Skull (parietal fragments)	40	Good	10	Unknown	Adult?	Copper staining on 1 x fragment of parietal.
553	Skull (parietal fragments)	38	Good-Moderate	10	Unknown	Adult?	-
553	Skull (parietal fragments)	3	Good-Moderate	10	Unknown	Juvenile	-
553	Skull (temporal fragments)	2	Moderate	10	Unknown	?	-

553	Skull (temporal fragments)	7	Moderate-Poor	10	Unknown	?	-
553	Tibia (distal end fragments)	4	Moderate	10	Unknown	Adult?	-
553	Tibia (Left distal end and complete shaft)	1	Good-Moderate	10	Unknown	Adult	-
553	Tibia (Left distal end and shafts)	2	Moderate	10	Unknown	Adult?	-
553	Tibia (partial shafts)	4	Moderate	10	Unknown	?	-
553	Tibia (proximal head fragment)	1	Moderate-Poor	10	Unknown	Adult?	-
553	Tibia (proximal head fragments)	7	Good-Moderate	10	Unknown	Adult?	-
553	Tibia (proximal shaft fragments)	5	Moderate-Poor	10	Unknown	?	-
553	Tibia (Right distal end and complete shaft)	1	Good-Moderate	10	Unknown	Adult?	-
553	Tibia (right distal end)	1	Moderate	10	Unknown	Adult?	-
553	Tibia (Right proximal condyles and complete shaft)	1	Good-Moderate	10	Unknown	Adult	-
553	Tibia (right proximal-mid shaft)	1	Moderate	10	Unknown	Adult	-
553	Tibia (shaft fragments)	5	Moderate	10	Unknown	Adult?	-

553	Tibia (shaft fragments)	5	Moderate	10	Unknown	Adult	Robust individual x 1
553	Tibia (shaft fragments)	2	Moderate	10	Unknown	?	-
553	Ulna (distal shaft)	1	Good	10	Unknown	?	-
553	Ulna (left proximal head and shaft)	1	Moderate	10	Unknown	Adult?	-
553	Ulna (left)	1	Good	10	Unknown	Adult	-
553	Ulna (proximal head)	1	Moderate	10	Unknown	?	-
553	Ulna (right distal end and distal shaft)	1	Good	10	Unknown	?	-
553	Ulna (Right proximal head and partial shaft)	1	Good	10	Unknown	Adult?	-
553	Ulna (right proximal head and proximal-mid shafts)	2	Good-Moderate	10	Unknown	Adult	-
553	Ulna (right proximal head and shaft)	1	Moderate	10	Unknown	Adult?	-
553	Ulna (shaft fragment)	1	Good	10	Unknown	?	-
553	Ulna (shaft fragment)	1	Moderate	10	Unknown	?	-
553	Ulna (shaft fragments)	3	Moderate-Poor	10	Unknown	?	-

553	Unidentifiable fragment	61	Poor	10	Unknown	?	-
553	Vertebrae (C2 fragment)	1	Good-Moderate	10	Unknown	Adult?	-
553	Vertebrae (cervical bodies x 4)	3	Moderate	10	Unknown	Adult?	-
553	Vertebrae (lumbar x 5)	5	Good-Moderate	10	Unknown	Adult	Osteophytic lipping around superior and inferior body margins of all vertebrae and Schmorl's nodes and pitting on inferior body surface of 1 x vertebra.
553	Vertebrae (neural arch fragments)	7	Moderate-Poor	10	Unknown	?	-
553	Vertebrae (neural arch fragments)	2	Moderate	10	Unknown	?	-
553	Vertebrae (neural arch fragments)	8	Moderate	10	Unknown	Adult	Osteophytic lipping, pitting and expansion on 3 x articular facets
553	Vertebrae (thoracic bodies)	11	Good-Moderate	10	Unknown	Adult?	Schmorl's nodes osteophytic lipping on inferior body margins and pitting and osteophytic lipping on demi and costal facets
553	Vertebrae (thoracic bodies)	1	Good-Moderate	10	Unknown	Juvenile	-

553	Vertebrae (thoracic vertebrae)	2	Good	10	Unknown	Adult	Schmorl's nodes on superior and inferior surface of 1 x vertebra and osteophytic lipping on superior and inferior body margins. The other vertebra exhibited osteophytic lipping, pitting and trace of eburnation on right superior articular facet.

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APPENDIX 14: OYSTER SHELL ASSESSMENT

Kate Turner

Introduction

An assemblage of 37 complete oyster shells and around 320 fragments was recovered from six sampled contexts dated to the Roman and medieval periods. Shells from contexts [283], 652], [664] and [702] were all collected from possible medieval cess pits, [589] from a Roman pit and [94] from a Roman midden deposit.

The aim at this stage of the assessment is to determine the degree of fragmentation and preservation of the oyster shell assemblage, and to quantify the number of shells and record any diagnostic features that may aid in establishing provenance and other key factors.

Methodology

The oyster shells from Bishopsgate were extracted from bulk samples by wet sieving and recorded using the standard procedure, outlined in Winder (2011). Whole and fragmented specimens were also handpicked from contexts [664] and [702] during the excavation process.

There were no statistically significant (containing over 100 left and right valves) deposits suitable for detailed analysis within these contexts, so recording was carried out on the samples with the highest proportion of complete shells, or fragments of a size suitable for measurement (this being defined as any specimen whereupon the umbo/ligament scar is present, alongside the internal adductor muscle scar and at least two thirds of the original shell, as per Winder 2011).

The first stage of recording oyster shell involves identifying which individuals are left valve and which are right valve, in order to determine the minimum number of individuals in the assemblage (MNI). Any measurable specimens are then placed on a plain white piece of paper, and the maximum widths and lengths recorded for each valve. Graph paper was used to extrapolate the size of any incomplete specimens (indicated by '>'). Descriptive characteristics such as the preservation of each shell, evidence of infestation and any signs of notches and cuts were also recorded. These observations are recorded in Table 2.

Results

The results of the assessment are presented in Table 1; generally preservation of the Oyster shells within these samples was relatively poor, with high levels of fragmentation. Samples <1>, <5>, and the hand-picked residue from context [702] were the only to contain complete individuals, with sample <1> yielding the highest concentration of viable specimens. Observations were recorded from whole shells from all 3 contexts, with the data shown in Tables 2 to 4.

The dominant species throughout the assemblage was *Ostrea edulis* L., the Common European Flat Oyster, which is a species native to the British Isles. A total of 28 left and right valves and around 181

fragments were identified, which equates to an MNI (minimum number of individuals) of 15 for the Roman period. As previously mentioned this is not a large enough assemblage to be statistically significant, so only the standard recording method was undertaken for these specimens.

The sizes of shell in sample <1> ranged from 60-96mm in width, and 75-104mm in length, with 6 individuals exhibiting substantially thickened valves, suggesting a greater age. There was very little evidence of substantial interior or posterior surface wear or flaking, and only one specimen exhibiting the chalky surface deposits that may be used to indicate rapid changes in salinity (Winder 2011, 18)

The majority of the measurable assemblage exhibited macroscopic characteristics that may serve as indicators of provenance, as well as providing information on climate and the marine environment during the period of growth; for example trace evidence of foreign organisms, most commonly *Polydora ciliate* was found on several individuals, alongside shallow boreholes which may indicate predation by a gastropod mollusc such as *Ocenebra erinacea* L., or sting-winkle (Winder, 2011). Evidence of cut marks and notches, occurring throughout the specimens in this sample, could also be used to indicate the methods used during harvesting and processing of these specimens.

Sample <5>, also from the Roman phase of occupation, contained a total of eight left and right valves, with an MNI of 5; shell width was between 55 and 105mm. As with the specimens from sample <1>, the left valves were generally thicker, indicating age, with the right valves being thinner and of a much smaller size. A single instance of *Polydora ciliate* was identified but in general the rest of the material in this sample was unremarkable. One of the right valve fragments does, however, show evidence of tool marks (Figure 1); a large and regular shaped perforation has been made in the top centre of the shell; this is not unheard of in Roman assemblages, though the purpose of such holes has only been speculated at.

The single, hand-picked individual from context [702] was poorly preserved and prone to fragmentation, with substantial evidence for colonisation by *Polydora ciliata* on its anterior surface.

Of the fragments from contexts [664] and [283] the majority were poorly preserved and chalky, with the surface features mostly indistinguishable. Whilst these can be identified as belonging to the *Ostrea* genus no further analysis is possible.

Fragments of other marine shells were also identified in samples <1> and <8>, though these were too small to be of diagnostic value. One partially complete specimen of *Buccinum undatum L.* (common whelk) was however identified in sample <1>.

Conclusions and Recommendations for Further Work

The majority of oyster shells found at the site date to the Roman period. By further analysis of the qualitative and quantitative data obtained from these samples it may be possible to determine aspects of group diet and resource use during this period, as well as to infer changes in climate and the marine environment. However, there are not enough complete specimens in any of the samples to

provide a statistically significant sample set, so further analysis at the publication stage is not recommended.

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Table 1: Quantification of Oyster Shell from Bishopsgate

Context number	Sample number	Provisional phasing	Dating and Notes	Oyster (LV)	Oyster (RV)	Fragments	Total Number of Left and Right Valves	MNI
94	1	3	Roman	15	13	181	28	15
283	3	5	Medieval	0	0	7	0	n/a
652	8	5	Medieval	0	0	6	0	n/a
589	5	3	Roman	5	3	112	8	5
664		5	Medieval	0	0	10	0	n/a
702		5	Medieval	0	1	0	1	1
TOTALS				**15**	**14**	**204**	**29**	**16**

Table 2: Detailed Analysis of Oyster Shell from Context [94]

KEY CONTEXT 94, SAMPLE 1																											
	Quantitative Data						**Parasitic Infestations**								**Qualitative Observations**												
	Oyster Left valve	**Oyster Right valve**	**Maximum width**	**Maximum length**	**Oyster (UMLV)**	**Oyster (UMRV)**	***Polydora ciliata***	***Polydora hoplura***	***Cliona celata***	**Calcareous tubes**	**Barnacles**	**Bryozoa**	**Bore holes**	**Sand tubes**	**Thin**	**Thick**	**Heavy**	**Chambered**	**Chalky deposit**	**Worn**	**Flakey**	**Colour stain**	**Oysters attached**	**Irregular shape**	**Notches and cuts**	**Ligament**
		1	>82	>105											1										1	
		1	>84	>99											1										1	
	1		96	105			1		1							1	1									
	1		64	90												1					1			1	1	
	1		>90	>101																						
	1		69	91									1			1									1	
	1		>87	104									1			1								1	1	
	1		>73	>87			1																		1	
	1		>75	>89									1												1	
	1		>75	>100			1												1						1	
	1		>82	>98																					1	
		1	>71	86			1						1			1										
		1	79	96																				1	1	
		1	70	82																					1	
		1	67	86																						
		1	78	85																						
		1	60	79											1										1	
	1		>90	>101												1	1									
	1		>73	>90			1						1												1	

	1		>78	>89											1											
	1		>95	>105																						
	1		81	>79																					1	
	1		89	96																				1		
		1	>74	>92																						
		1	>70	>86																						
		1	>75	85															1							
		1	>68	74																						
		1	65	82																						
TOTALS	15	13					5	0	1	0	0	0	5	0	4	6	2	0	2	0	1	0	0	4	14	0

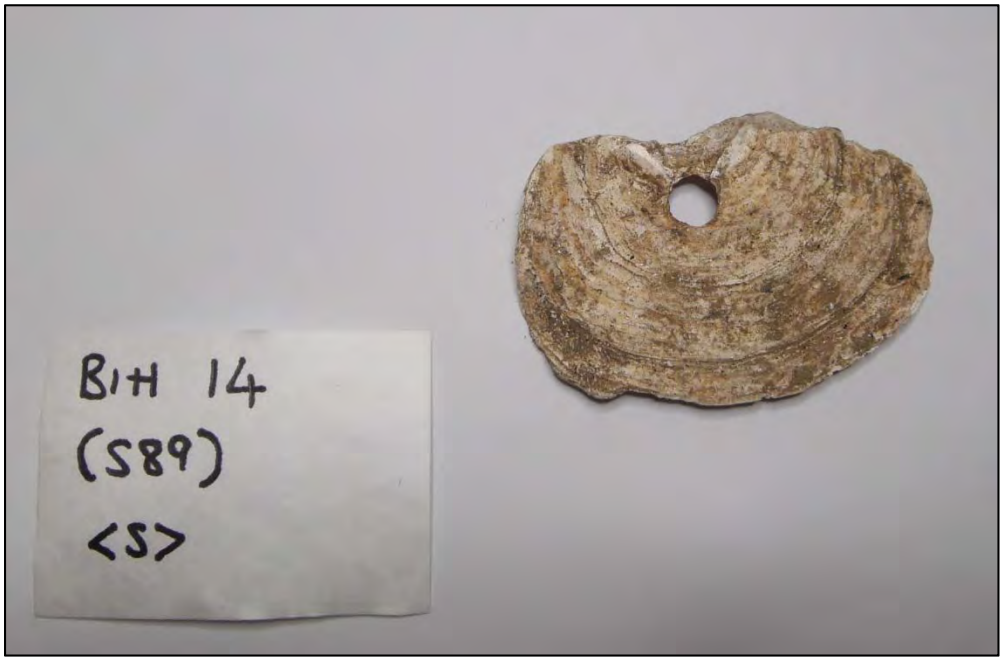
Table 3: Detailed Analysis of Hand-Picked Oyster Shell from Context [702]

KEY CONTEXT 702																												
	Quantitative Data						**Parasitic Infestations**								**Qualitative Observations**													
	Oyster Left valve	**Oyster Right valve**	**Maximum width**	**Maximum length**	**Oyster (UMLV)**	**Oyster (UMRV)**	***Polydora ciliata***	***Polydora hoplura***	***Cliona celata***	**Calcareous tubes**	**Barnacles**	**Bryozoa**	**Bore holes**	**Sand tubes**	**Thin**	**Thick**	**Heavy**	**Chambered**	**Chalky deposit**	**Worn**	**Flakey**	**Colour1stain**	**Oysters attached**	**Irregular shape**	**Notches and cuts**	**Ligament**
		1	>81	>90			1								1				1		1	1				
TOTALS		1					1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0

Table 4: Detailed Analysis of Oyster Shell from Context [589]

KEY CONTEXT 589, SAMPLE 5																										
	Quantitative Data						**Parasitic Infestations**								**Qualitative Observations**											
	Oyster Left valve	**Oyster Right valve**	**Maximum width**	**Maximum length**	**Oyster (UMLV)**	**Oyster (UMRV)**	***Polydora ciliata***	***Polydora hoplura***	***Cliona celata***	**Calcareous tubes**	**Barnacles**	**Bryozoa**	**Bore holes**	**Sand tubes**	**Thin**	**Thick**	**Heavy**	**Chambered**	**Chalky deposit**	**Worn**	**Flakey**	**Colour1stain**	**Oysters attached**	**Irregular shape**	**Notches and cuts**	**Ligament**
	1		79	95			1									1	1									
	1		86	105												1	1									
	1		>78	95												1	1									
	1		73	78												1	1									
	1		55	>73															1							
		1	>57	>70											1											
		1	>61	>65											1											
		1	>61	>67											1										1	
TOTALS	5	3					1	0	0	0	0	0	0	0	3	4	4	0	1	0	0	0	0	0	1	0

Figure 1: Example of oyster shell with man-made perforation found in context (589)



APPENDIX 15: ENVIRONMENTAL ASSESSMENT

Kate Turner

Introduction

This report summarises the findings of the rapid assessment of 8 bulk samples taken from 5 pits, a midden deposit, the fill of a lead coffin and the fill of a semi-complete Samian ware pot (Table 1), at the site of Alderman's House; 117, 119 and 121 Bishopsgate. The aim of this preliminary assessment is to determine the environmental potential of these deposits, and to make recommendations regarding any further analysis that needs to be undertaken.

Methodology

Eight bulk samples between 2 and 30 litres in volume were processed using the flotation method. Material was collected using a 300µm mesh, for the light fraction and a 1mm mesh for the heavy residue. The residues were then dried and sieved at 1 and 2mm. The >2mm fractions were sorted to recover any artefacts or residual organic remains, which were subsequently bagged and labelled for further analysis, whilst the fine fraction (<1mm) was discarded as it was deemed to contain no useful material. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates the category of material is fairly frequent (11-30 items), '3' indicates occurrence is frequent (31-100 items) and '4' indicates an abundance of the material type (>100 items), and then entered into the environmental database.

The single bucket containing the coffin fill was processed by wet sieving, rather than tank flotation, due to the nature of the deposit. The sample was gently washed between 10, 5 and 2mm metal sieves and the clean residue then dried and sorted, as described above.

The results for this stage of the assessment are presented in Table 2.

After drying the floated fraction was then scanned using a low-power binocular microscope to identify any environmental remains, such as seeds, charred grains, molluscs, small animal bone and charcoal. Abundance was recorded as above. The results of this assessment are presented in Table 3.

Any artefacts were then passed onto the finds department for further identification.

Results and Discussion

Residues

The heavy residues of seven out of the eight samples assessed were relatively poor in artefacts and environmental material; though all contained charcoal. Abundance varies across the sample set and, with the exception of sample <7> all samples had fragments of a suitable size to enable species

identification to be carried out. As this may provide information regarding species exploitation for fuel during these periods it is recommended that they be sent to a specialist for further analysis.

Samples <1>, <2>, <3>, <5>, <6> and <8> have occasional to frequent quantities of large animal bone, though these are all highly fragmented; the majority of complete specimens belong to small to medium sized mammals, and possibly amphibians. Fish bone is also present in all samples with the exception of <4> and <7>. In addition, sample <4>, the fill of the lead coffin, contained small amounts of human bone and teeth, alongside a large concentration of lead, likely to be part of the coffin matrix.

Samples <1>, <2>, <3>, <5> and <8> contained varying levels of marine shell, the main species represented being *Ostrea Edulis* (common oyster). The highest concentration was extracted from sample <1>, the majority of these being large complete specimens in a good state of preservation that, if analysed, could be used to provide information on diet, trade and resource exploitation (see Appendix 14 above). This residue also contained a single partially intact specimen of *Buccinum Undatum* (common whelk). Samples <2>, <3> and <8> contained mollusc remains at lower frequencies, samples <3> and <5> featuring only small fragments, the species of which cannot be identified due to the poor preservation of the material.

The only other environmental evidence present in these residues was a single seed of *Triticum* (wheat) found in sample <8>.

Brick and tile fragments were extracted from all samples with the exception of <7>, and <4>. Likewise pottery was present small quantities in most of the residues (again with the exception of sample <4>), the highest concentration being in sample <1>. This sample also contained fairly frequent occurrences of copper and iron. Small pieces of copper and/or iron were identified in samples <2>, <3>, <6> and <8> as well. This material, along with the pottery has been passed onto the finds department for further identification.

Flots

All of the samples produced flot residues, with the exception of sample <4>, ranging in volume from 0.1 to 65ml. Wood charcoal was identified throughout the assemblage, though to a lesser degree in samples <1> and <3>. Samples <2>, <5> and <8> contained some larger fragments which, as previously mentioned, may be of diagnostic value if studied further.

Animal bone was identified in samples <5> and <8>, with over 30 small fragments of material in the latter, though these are likely to be too fragmented to be identifiable. The material in sample <5> is largely complete, and may belong to small mammals such as mice or shrews. Low concentrations of bone fragments were also found in samples <3> and <6> (Table 3).

Samples <2>, <5>, <6>, and <8> contain tiny fragments of marine and terrestrial shell, which are too small to identify. A single intact specimen of *Discus Rotundatus* was identified in sample <5>.

Fragments of insect remains were extracted from four of the six flots (<2>,<3>,<6> & <8>) which may be indicative of a shift to more waterlogged conditions, though with the exception of sample <8> these

remains are patchy and poorly preserved. Fish bone was also extracted from these samples, but is similarly poorly preserved.

Particles of coal, <3mm in length were also present in some samples (Table 2), and as initial analysis of these contexts suggests a date in the medieval period could be indicative of on-site industry, though at they are not associated with any similar material in the heavy residue this is unlikely. These four samples likewise contained tiny fragments of ceramic building material or pottery, which are again very small and highly fragmented. The single occurrence of slag from these residues was found in sample <2>.

The residues from samples <2>, <3>, <5>, <6> & <8> all contained seeds (Table 4), or any other environmental remains. Flowering plant taxa dominate the majority of samples; of the common tree species only *Betula Pendula* and *Betula Pubencus* (Birch) are represented, with single seeds found in samples <2> and <8>, however this material is badly preserved and in these low concentrations is likely to constitute wind-blown contamination.

Material in sample <3> was predominantly that of *Rubus Fruticosus* (European Blackberry). Low concentrations (<10 specimens) of this species were also found in all of the remaining samples, which may indicate a local presence of this plant during certain periods.

A variety of other weed species were represented throughout the residues in low concentrations, possibly representing a local background signal. Sample <3> for example contained single seeds of *Chenopodium* (Goosefoot) and *Hyoscyamus Niger* (Henbane), and <6> had individual specimens of *Brassica* (Mustard) and *Drosera* (Sundew), along with a small amount of *Spirea* (Meadwosweet) seeds. Sample <8> contains the most diverse range of taxa, with fairly frequent occurrences of *Persicaria Amphibia* (Amphibious Bistort), alongside *Rumex* (Dock/Sorrel)*, Carex* (Sedge)*, Chenopodium, Papaver* (Poppy) *Salvia Officinalis* (Common Sage) and *Silene* (Campion).

Sambucus Nigra (Common Elder) was the main species present in this assemblage; the highest concentration of seeds being in <2> and <8>, the majority of which were whole and well preserved. A single charred specimen was found in sample <8>. Charred material was also found in samples <5> and <6>, though the level of burning and fragmentation rules out the possibility of accurate identification for most of these. It was however possible to identify specimens of *Galium spp.* (bedstraw) and *Carduus spp.* (plume less thistle) in sample <5>.

Charred grain was also identified in sample <5>, along with samples <2> and <8>. Preliminary analysis suggests the presence of Oat (*Avena Sativa*), Wheat (*Triticum*) and Barley (*Hordeum Vulgare*), though a number of the grains were too charred and distorted to identify, suggesting that they may have been subjected to prolonged burning at high temperatures. Occasional small fragments of what has been speculatively identified as unburned culm and awn from cereal crops were also identified in some samples (<2>, <3> and <8>), which may indicate that the processing of these materials was undertaken on-site.

Pond weed, cautiously established as being *Elodea Canadensis* (Canadian Pondweed), was found in sample <2>. As this species is a non-native plant, introduced the British Isles during the 1800s

(Simpson 1984) it is likely to be a modern intrusion, occurring whilst the sample was *in situ* or after collection and during storage. Snail eggs were also found in sample <5>, suggesting the possibility of modern contamination.

Recommendations for Further Work

Overall the environmental potential of these samples is limited; the range of seed taxa represented is narrow, and amount of grain is small, as well as specimens being generally poorly preserved. Some information on the exploitation of resources for both diet and fuel could be derived from further analysis of both the marine shell and the wood charcoal however; therefore it is recommended that they be given to specialist for further analysis.

Bibliography

Simpson, D.A., 1984. A short history of the introduction and spread of Elodea Michx in the British Isles. *Watsonia* 15(1), 1-9.

Table 1: Context information for environmental samples, BIH14

Site Code	Context	Sample	Description	Date	Phase	Additional Information
BIH14	94	1	Midden deposit	1st-2nd C	3	Firm very dark greyish brown silt. High concentration of oyster shells.
BIH14	154	2	Fill of [155] (rectangular cesspit)	Medieval	5	Soft clay & brickearth with occasional flecks of charcoal, bone and CBM. Not well sorted.
BIH14	283	3	Fill of [285] (sub-rectangular cesspit)	Medieval	5	Soft mid brown grey clayey silty sand. Occasional pot and charcoal flecks. Moderate to frequent worked stone and CBM.
BIH14	447	4	Fill of lead coffin [446]	3rd-4th C	4	Loose mild reddish/yellow brown silt, backfill of coffin (446), associated human remains (445).
BIH14	589	5	Primary fill of [590] (large sub-oval pit)	1st-2nd C	3	Dark greenish grey silty clay with frequent organic inclusions, pot, bone, marine shell and CBM.
BIH14	608	6	Fill of [609] (sub-rectangular cesspit)	Medieval	5	Dark greyish brown silty clay with charcoal flecks (frequent) and shell flecks (frequent) Small amounts of pottery and CBM possibly roman, deposit not fully excavated. Sample taken for possible organic remains.
BIH14	617	7	Upper fill of [620] (large pit)	1st-2nd C	3	1 nearly complete samian ware with fill, dark greyish (?) sandy silt with frequent flecks of charcoal. Occasional flecks of shell and small pebbles. Sample taken as is nearly complete samian pot so fill may contain botanical remains.
BIH14	652	8	Fill of [653] (rectangular cesspit)	Medieval	5	Friable mixture of greenish grey, light grey, mid brown and mid orange silty clay with high levels of organic remains. Frequent occurrences of decomposed wood frags and charcoal frags. Occasional oyster shell fragments. Samples taken to ascertain type and level of organic and non organic material present.

Table 2: Assessment of residues, BIH14

			Residue									
Sample number	**Context number**	**Volume (litres)**	**Charcoal (<2mm)**	**Charcoal (2-4mm)**	**Charcoal (>4mm)**	**Seeds/grain**	**Shells**	**Bone (Human)**	**Bone (Animal)**	**Bone (Fish)**	**Building material**	**Artefacts**
1	94	16		2	2		Marine (4)		2	1		Pot (3) Iron (2) Copper (2) Glass (1)
2	154	26	2				Marine (2)		2	2	Brick (1)	Pot (2) Iron (1)
3	283	21	1				Marine (1)		1	1	Brick (1)	Pot (1) Iron (1)
4	447	9		1	1			2				Lead (4)
5	589	30		3	3		Marine (3)		1	1	CBM (1) Painted plaster (1)	Bone fragments (3) Pot (3) Copper (1) Hammer-scale (1) Slag (1) Glass (1)
6	608	19	1	1					2	1	Brick (1)	Pot (1) Iron (1) Copper (1) Glass (1)
7	617	2		1	1							Pot (1)
8	652	25	1			1	Marine (1) Land (1)		2	2	Brick (1)	Pot (2) Copper (1)

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Table 3: Assessment of flots, BIH14

Sample number	Context number	Volume (litres)	Flot							
			Vol (ml)	Charcoal 1 - 2mm	Charcoal <1mm	Seeds (uncharred)	Seeds (charred)	Grains	Mollusca	Other
1	94	16	0.1	0	1	0	0	0	0	Coal (1 frag)
2	154	26	65	2	4	4	0	2	3	Coal (1 frag) Slag (1 frag) Animal bone (1) Fish bone (2) Pond weed (2) Insect frags (1) Ceramic (1)
3	283	21	17	0	1	3	0	0	0	Fish bone (2) Animal bone frags (3) Insect remains (1) Ceramic frags (1)
5	589	30	20	3	4	2	1	1	1 (land) 4 (frags)	Animal bone (1) Snail eggs (1)
6	608	19	6	0	4	3	2	0	1 (frags)	Ceramic (2) coal (3) fish bone (2) insect remains (1) Animal bone (1)
7	617	2	1	0	4	0	0	0	0	NO FINDS
8	652	25	21	2	4	4	1	1	2 (frags)	Coal (2 frags) Insect remains (3) Bone fragments (3 disc 3) Fish bones (3) Animal bone (2) Ceramic (1 frag) Egg/mollusc shell (3)

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

Table 4: Assessment of seeds, grains and plant remains, BIH14

Sample Number	2	3	5	6	8
Uncharred seeds					
Betula pendula					1
Betula pubescens	1				1
Aphanes arvensis					1
Alisma spp.			7		
Brassica spp.			4	1	
Carex spp.					1
Chenopodium	3	1			1
Drosera spp.				1	
Fumaria spp.	1				
Fragaria spp.			2		
Hyoscyamus niger		1			
Papaver spp.					1
Persicaria amphibia					15
Persicaria spp.			1		
Rubus fruticosus	2	31		8	5
Rumex spp.	1				
Salvia officinalis					1
Sambucus nigra	205	3		48	175
Silene spp.					1
Sinapis alba	1		1		
Spiraea spp.				2	
Charred Seeds					
Brassica spp.					
Carduus spp.			1		
Galium spp.			1		
Ranunculus spp.	1				
Sambucus nigra					
Too charred to ID				16	
Charred Grain					
Avena Sativa	5				
Hordeum Vulgare L.	1				
Triticum sp.	9				1
Too charred to ID	6		4		5
Other	Seed casing (1) Awn fragments (1)	Culm (1)			Culm fragments '2'

APPENDIX 16: OASIS FORM

OASIS ID: preconst1-234703

Project details

Project name	Alderman's House, 117, 119 and 121 Bishopsgate and 34 - 37 Liverpool Street, London EC2
Short description of the project	Various phases of archaeological work were carried out between January 2014 and October 2015. Although prehistoric artefactual material and possible prehistoric soil horizons were recorded, the earliest, clearly in situ archaeological deposits dated to the early Roman period (1st - 2nd century AD) and were associated with domestic activity, structural development and waste deposition to the west of a major Roman road, the western ditch of which was also extensively exposed. A later Roman phase (3rd to 4th century AD) saw further activity including an area of the site used for inhumation burials as part of the far more extensive North Cemetery, which lay just outside the Roman city of Londinium. There was no significant activity on the site during the immediate post-Roman period or during the early medieval period, but it was re-occupied at about the time of the Norman Conquest, with a number of cess and rubbish pits, along with other features suggesting domestic activity nearby at this time. The site continued to be exploited throughout the medieval period and into the early post-medieval period, when there was significant structural development, at least in the eastern half of the site. Further structural development continued throughout the post-medieval period with the buildings at the east of the site at least, undergoing a number of phases of redevelopment. The site was fully developed by the second half of the 19th century with the eastern buildings still standing when the archaeological investigations commenced, dating to this and/or earlier periods. Redevelopment of the western half of the site continued until a much later date, buildings still standing here during the earlier phases of archaeological investigations, dating to the later 20th century.
Project dates	Start: 13-01-2014 End: 06-10-2015
Previous/future work	Yes / Yes
Any associated project reference codes	preconst1-170024 - OASIS form ID
Any associated project reference codes	preconst1-188957 - OASIS form ID
Any associated project reference codes	BIH14 - Sitecode
Type of project	Recording project
Site status	Conservation Area
Current Land use	Industry and Commerce 2 - Offices
Monument type	DITCH Roman
Monument type	PIT Roman
Monument type	POSTHOLE Roman
Monument type	BURIAL Roman
Monument type	BEAMSLOT Roman

Monument type	PIT Medieval
Monument type	PIT Post Medieval
Monument type	WALL Post Medieval
Monument type	FLOOR Post Medieval
Significant Finds	POTTERY Late Prehistoric
Significant Finds	LITHIC IMPLEMENT Late Prehistoric
Significant Finds	POTTERY Roman
Significant Finds	BUILDING MATERIAL Roman
Significant Finds	GLASS Roman
Significant Finds	HUMAN REMAINS Roman
Significant Finds	POTTERY Medieval
Significant Finds	BUILDING MATERIAL Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	BUILDING MATERIAL Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	HUMAN REMAINS Post Medieval
Investigation type	''Part Excavation'',''Watching Brief''
Prompt	Direction from Local Planning Authority - PPS

Project location

Country	England
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON ALDERMAN'S HOUSE, 117, 119 and 121 BISHOPSGATE AND 34 – 37 LIVERPOOL STREET, LONDON EC2
Postcode	EC2
Study area	900 Square metres
Site coordinates	TQ 33192 81506 51.516255563459 -0.08020999296 51 30 58 N 000 04 48 W Point
Height OD / Depth	Min: 11.41m Max: 12.32m

Project creators

Name of Organisation	Mills Whipp
Project brief originator	Kathryn Stubbs
Project design originator	Tim Bradley
Project director/manager	Tim Bradley
Project supervisor	Peter Boyer
Type of sponsor/funding	Developer

body	
Name of sponsor/funding body	Amsprop Bishopsgate Ltd.

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Industrial","Metal","Worked bone","Worked stone/lithics"
Digital Archive recipient	LAARC
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Industrial","Metal","Stratigraphic","Worked bone","Worked stone/lithics"
Digital Media available	"Database","Images raster / digital photography","Spreadsheets","Text"
Paper Archive recipient	LAARC
Paper Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Industrial","Metal","Stratigraphic","Worked bone","Worked stone/lithics"
Paper Media available	"Context sheet","Diary","Drawing","Manuscript","Photograph","Plan","Section","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	AN ASSESSMENT OF ARCHAEOLOGICAL INVESTIGATIONS AT ALDERMAN'S HOUSE, 117, 119 and 121 BISHOPSGATE AND 34 - 37 LIVERPOOL STREET, LONDON EC2
Author(s)/Editor(s)	Boyer, P.
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