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# A MIDDLE IRON AGE SETTLEMENT IN WHITECHAPEL: EXCAVATIONS ON STEPNEY WAY, WHITECHAPEL, LONDON E1

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## SUMMARY

*The redevelopment of Whitechapel Central, 85 Stepney Way, Whitechapel, was preceded by extensive archaeological investigations carried out during 2015–19. Fieldwork recovered residual flint work dating from the Mesolithic to the Late Bronze Age/ Early Iron Age, plus some features apparently of pre-Middle Iron Age date. The first securely dated occupation consisted of roughly one quarter of an oval shaped Middle Iron Age (*c.*400–200* BC*) enclosed settlement. Several phases of internal activity were represented by penannular gullies, pits, postholes, gullies and a probable well. The settlement was abandoned after about 200 years. Roman activity was primarily represented by a linear ditch with an 'ankle-breaker' type basal slot. The Iron Age discovery was unexpected as no prehistoric finds had been previously identified in the vicinity of the site and the closest known prehistoric settlement was located some 3km to the north-east at the Olympic Park in the Lower Lea valley. Radiocarbon dates that were obtained enhanced the dating information provided by the small pottery assemblage. The evidence for the settlement's layout, agriculture, economy and its regional significance within Greater London is considered.*

## INTRODUCTION

Archaeological investigations were carried out by Archaeology South-East (UCL Institute of Archaeology) at Whitechapel Central, Stepney Way, Whitechapel, in the London Borough of Tower Hamlets (NGR TQ 349 817), ahead of redevelopment of the site for housing (now known as 'The Silk District') by Mount Anvil (Fig 1). The site was located within a Tier 2 Archaeological Priority Area (APA) for Mile End, an area identified due to the potential for significant post-medieval remains attested in historical records (Historic England 2017, 71; London Borough of Tower Hamlets 2020). Between 2015 and 2017 several phases of evaluation work were undertaken, eventually leading to an excavation that ran continuously from January 2018 through to July 2019 (Fig 1). In total 13 areas were excavated, examining approximately 7300m$^2$ of stratified archaeological deposits and features.

This article presents the results for the two earliest archaeological periods of activity identified (Archaeology South-East 2020): prehistoric (period 1.1–1.4) and Roman (period 2). The medieval, post-medieval and modern periods (periods 3, 4 & 5 respectively) will be presented in an ASE monograph. The archive will be deposited with the Museum of London under the site code STY15. In the text that follows, contexts are shown in square brackets (*eg* [1]); registered finds are shown in angled brackets (*eg* RF<2>) and environmental samples are denoted by curly brackets (*eg* {3}). Related

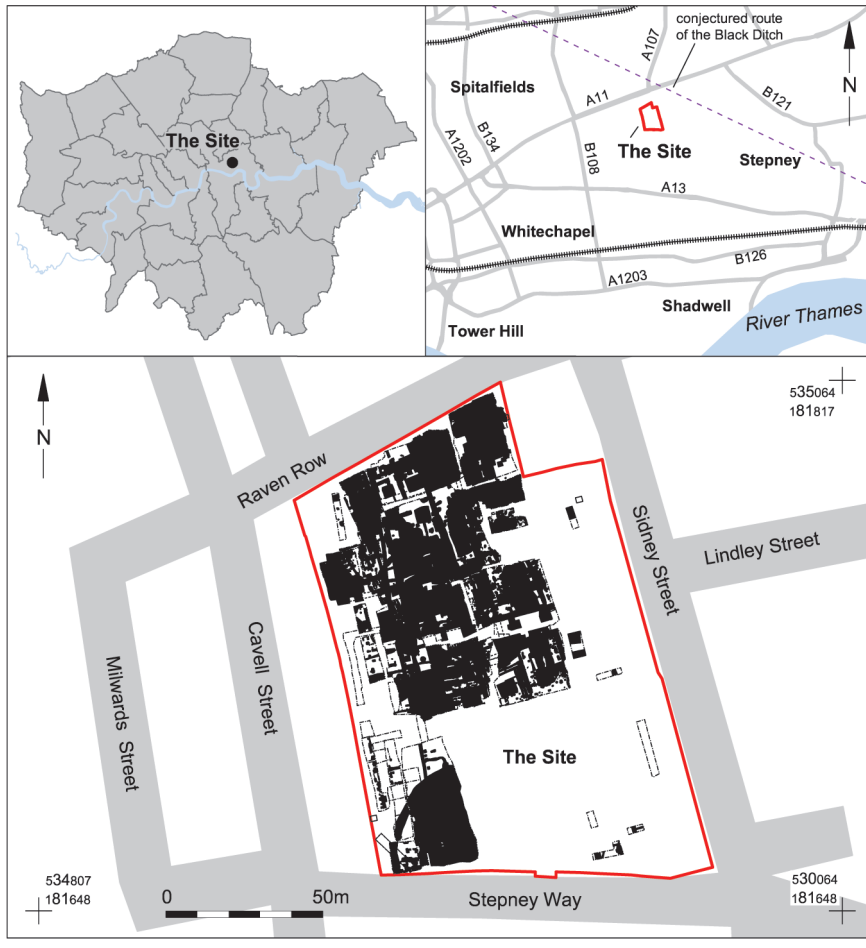



*Fig 1. Site location*

stratigraphic contexts or groups are denoted as (G4). Where interpretative land use terms have been used these comprise: building (B), open area (OA), enclosure (ENC), field system (FS), structure (S).

## SITE TOPOGRAPHY AND GEOLOGY

The site lies to the south-west of the Thames tributary known as the 'Black Ditch' or 'The Common Sewer' by the 18th century. During the medieval and post-medieval periods this natural watercourse was diverted into a series of man-made channels and latterly it became an open sewer. It flowed from Spitalfields, south-eastwards through Whitechapel and Stepney, before entering the Thames at Limehouse and was completely culverted over before 1851 (Baker 1998; Sankey 1993; Sankey 2011).

The underlying solid geology of the site is Eocene London Clay, overlain by the Pleistocene Taplow Gravel Formation at 9.58–10.11m OD (British Geological Survey 2022). Across most of the site the Taplow sands and gravels were sealed by brickearth (ranging between 0.15–0.40m thick across site at 9.67–10.50m OD), with the gravels observable in deep cut features, geoarchaeological trial pits, or in the north-eastern part of site (excavation area A, the central part of area F, and northernmost extent of excavation area H) where no brickearth was encountered because of

horizontal truncation (both modern and archaeological). The topography of the area gently slopes to the north-east towards the former course of the Black Ditch. It is possible that during the prehistoric period the site lay within the flood plain of this former watercourse. Post-Roman alluvial deposits, comprising redeposited brickearth, were observed across the site sealing the prehistoric, Roman and medieval activity: medieval flood deposits were observed between 9.72m and 10.29m OD, varying in thickness between 0.07–0.59m across site; the early post-medieval flood deposits were observed between 9.95m and 10.58m OD, varying in thickness between 0.04–0.69m.

## ARCHAEOLOGICAL SITE SEQUENCE

There were several challenges in trying to assign certain elements of the archaeological sequence to stratigraphic phases. Some features lacked artefactual dating evidence and their placement in the sequence is a matter of judgment. Despite an extensive sampling strategy, the finds assemblages recovered from the prehistoric features were small and many of the bulk samples contained some intrusive material derived from later activity (Archaeology South-East 2020, 80, 123), which raises doubts over the integrity of certain categories of material recovered, such as charred plant remains and charcoal fragments.

The south-western part of the site (where much of the prehistoric archaeology was identified) evidenced extensive truncation when compared to the other areas, and the construction of 19th-century terraced housing along Russell Street truncated earlier deposits and features. The majority of the Middle Iron Age settlement was situated underneath Russell Street, a road that was established in the 1800s. Russell Street first appeared on the Ordnance Survey map of 1873 and was absorbed into the wider site in the late 1960s. The line of Russell Street was maintained throughout the redevelopment of the site during the 20th century, meaning that while the archaeological sequence underneath it was horizontally truncated to a certain level, it was protected from the more extensive truncation caused by the construction of the industrial buildings to the east of the street.

### *Period 1.1: Prehistoric Activity Predating the Middle Iron Age Enclosure*

The earliest artefacts present on site were prehistoric worked flints, all residual finds retrieved from later contexts. The artefacts included a Mesolithic/Early Neolithic narrow microdenticulate (a flint bladelet with very fine serrations along one edge), an Early Neolithic (*c.*4000–3400 BC) leaf-shaped arrowhead (Fig 9), two scrapers, and knapping debris (Table 4). This assemblage reflects activity spanning from the Mesolithic to the Late Bronze Age/Early Iron Age (see below Le Hégarat), although no contemporary features could be securely identified.

The features assigned to this period stratigraphically predated the subsequent enclosure settlement (see below), but almost all were physically separate and contained no datable finds, so further phasing was impossible. Therefore, these features were all assigned to a single site-wide open area, Open Area 2 (OA2). Within OA2 there were two distinct arrangements of features: a right-angled ditch (S1) and an east–west curvilinear alignment of postholes (S2) (Fig 2).

Structure 1 (S1) was an almost right-angled L-shaped length of rectilinear ditch [6514] situated in the south-western portion of the site. It was immediately to the north of the enclosure settlement; stratigraphy establishing that it was in use prior to the construction of the enclosure. The S1 ditch ran east for 6.40m before turning to the south for 1.61m where it was then truncated by large, oval shaped pit [6499], also assigned to OA2. Structure 2 (S2) was an east–west, slightly curvilinear alignment of eight postholes with an overall length of 11.25m. The postholes varied between 0.45m and 0.65m in diameter, and were all situated underneath a levelling or 'occupation' layer (see below). The curvilinear nature and gradient of the curve of the alignment suggest either a fence line or building. If the potential full circumference of the posthole alignment is conjectured, an internal diameter of approximately 15m results, which seems slightly large for the various internal structures of a roundhouse, but may represent a fence, possibly surrounding


534910
181785
534980
181785
N
period 1.1
features from other periods
0
10m
OA1
S1
S2
534910
181661
534928
181701
N
S1
534928
181688
534939
181688
0
5m

a building (Cunliffe 2005, 270). In the northern part of the site, fragments of another six truncated features of uncertain function were identified.

### *Period 1.2–1.3: Middle Iron Age Enclosed Settlement (c.400–200 BC)*

#### *Period 1.2: Middle Iron Age Enclosed Settlement, First Phase*

Period 1.2 encompasses the establishment of the Middle Iron Age enclosed settlement in the south-west corner of the site (Fig 3). The enclosure, Open Area 3 (OA3), was defined by the north-western portion of a large roughly circular enclosure ditch (ENC1), with an estimated internal diameter of *c.*60m north to south by *c.*50m east to west. This enclosure ditch remained the boundary of the settlement until the eventual cessation of occupation. Open Areas 3 and 4 within the enclosure represent the establishment and evolution of the initial phase of settlement activity within period 1.2.

The curved enclosure ditch (ENC1) was exposed for some 42.49m, starting at the southern limit of excavation in a roughly north–south direction and gradually curving round to an east–west orientation. The upper fills of the enclosure ditch contained pottery dated to *c.*400–200 BC (see below Rayner). It was truncated at its eastern end and clearly continued beyond the limit of excavation to the south, probably defining the north-west 'quadrant' of the settlement. Assuming that the entire enclosure was originally broadly circular with a diameter of about 60m, it would have enclosed an area approaching 3000m$^2$. Within the boundary of the enclosure ditch an 'occupation' layer, which contained Middle Iron Age pottery, was observed (Fig 3); the occupation layer was probably an external build-up of domestic rubbish and trample as opposed to a land surface, and was observed at 10.32–10.67m OD varying in thickness between 0.02–0.29m. This deposit respected the edge of the enclosure ditch (but did not extend beyond it). However, due to the truncation within this area there was no observed stratigraphic relationship between the occupation layer and the enclosure ditch. This layer sealed some OA2 features and was truncated by some settlement features.

The first settlement-related features recognised within the enclosure (OA3), comprised two probable roundhouses: Building 1 (B1) and Building 2 (B2). B1 was in the very south of the site and consisted of the northern 'half' of the structure with the southern 'half' continuing beyond the limit of excavation to the south. This curvilinear gulley allows the extrapolation of an internal diameter of at least 11.64m for this building and it is reminiscent of the eaves drip or drainage gullies for Middle Iron Age roundhouses discovered at Little Waltham, Essex (Cunliffe 2005, 270), the Olympic Park in Stratford (Powell 2012, 45), and the earlier Iron Age examples (*c.*800–400 BC) at Hunt's Hill Farm in the London Borough of Havering (Howell *et al* 2011, 44–8). Two further structures, S3 and S7, were observed in the proximity of roundhouse B1, and may represent associated outbuildings or animal pens.

The second potential roundhouse, Building 2 (B2), was located approximately 7m to the north of B1. The surviving element of B2 was the southernmost arc of the surrounding penannular gully and may have contained an entranceway to the south. It is thought that roundhouses B1 and B2 were broadly contemporary, as fills of both (fill [6326] for B1 and fill [6328] for B2) contained Middle Iron Age pottery. Stratigraphically, both these features were dug through the occupation layer and in turn they were bisected by later features (periods 1.3, 1.4). Two further smaller, successive phases of structures within OA3 were broadly contemporary with the two roundhouses: Structure 4 (S4) and Structure 5 (S5). Both consisted of portions of much smaller penannular gullies, which could represent either outbuildings or animal pens. It is worth noting that S4, S5 and S7 were all in close proximity to the enclosure ditch (ENC1), were sealed by the occupation layer, and their fills contained no Middle Age pottery, but due to the truncation in this area, no stratigraphic relationships survived.

*Fig 2. (opposite) Plan of period 1.1 excavated features*


*Fig 3. Plan of period 1.2 excavated features*

In this interpretation they are included with the rest of the features that comprise the first phase of the enclosed settlement, but it is possible that some of them were part of the pre-enclosure settlement activity. Pottery recovered from this period included shouldered jars and saucepan pots (see below Rayner; Fig 7).

*Period 1.3: Middle Iron Age Settlement Redevelopment, Second Phase*

The penultimate phase of settlement activity (period 1.3), Open Area 5 (OA5), comprised various postholes including Structure 8 (S8), two linear gullies, and a possible unlined, circular well (Fig 4). Well [6391] was 1.69m

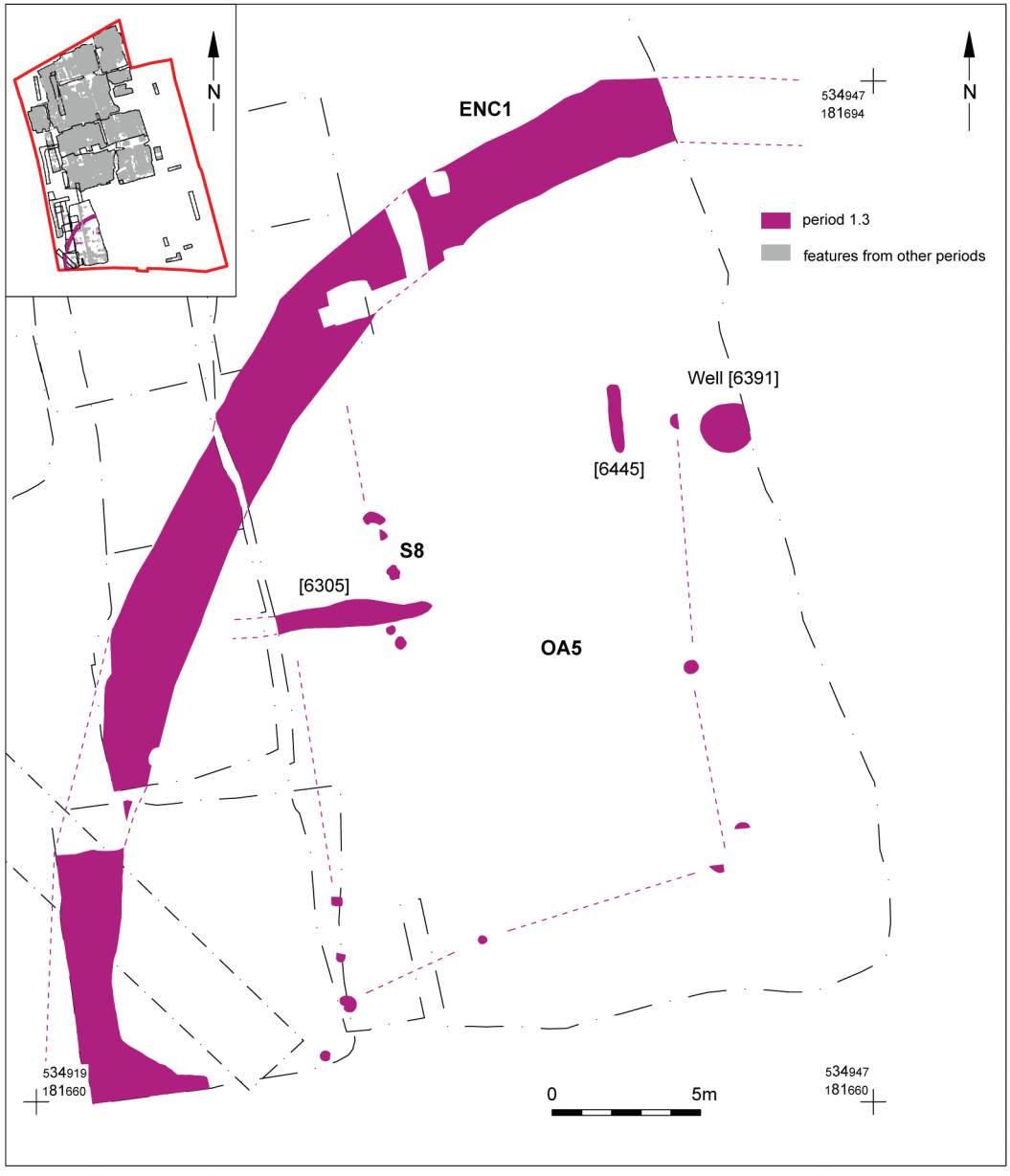



*Fig 4. Plan of period 1.3 excavated features*

north–south by 1.70m east–west and 2.89m deep, puncturing through to the underlying Taplow gravel. Minimal cultural material was recovered from the backfill of the well, apart from some tiny chips of prehistoric pottery from secondary fill [6401]. The bulk samples from the well, unlike the material recovered from the rest of the prehistoric settlement, were sufficiently moist/waterlogged to preserved uncharred organics. Small quantities of the shrub or small tree elder (*Sambucus nigra*), plus weeds such as common chickweed (*Stellaria media*) and goosefoot (*Chenopodium* sp) were recorded (see below). A single fragment of uncharred wood was recorded from the primary fill [6433] of the

well. In terms of archaeological sequence, well [6391] was situated within the boundary of roundhouse B2, which implies that it was dug after the roundhouse had ceased to function as a structure.

Fourteen postholes were identified as part of this phase including S8, a north–south line of five postholes (varying in diameter between 0.32m and 0.44m) clustered close together over a distance of 4.92m. The other nine postholes within OA5 were scattered around the area, intimating that there were several fence lines active during this phase. Samples from posthole [6407] were submitted for dating with calibrated date ranges of 415–380 cal BC (95% confidence) (UBA-44402), and 410–375 cal BC (95% confidence) (UBA-44403) (see below Allott; Table 5). This dating may indicate that the settlement went through a rapid period of redevelopment, with the buildings of period 1.2 only in use for a limited time.

Gullies [6305] and [6445] also indicate the presence of other spatial divisions within OA5, which might have been connected with the demarcation of different parts of this portion of the enclosure. The various internal boundary partitions evidenced during this phase and the absence of roundhouses may indicate that the north-west quadrant of the settlement was now no longer used for domestic occupation. It is possible that the various fence lines and gullies indicate the presence of animal pens, but the poorly preserved faunal assemblage within these contexts makes any further interpretation impossible.

### *Period 1.4: Middle/ Late Iron Age Settlement Decline, Final Phase (c.200 BC–AD 50)*

This final phase of prehistoric activity comprised Open Area 6 (OA6) and consisted of a number of pits and postholes (Fig 5). Of particular note is an arrangement of three pits (G46): [6475]; [6325]; [6283] and its recut [6285]. These pits were situated on a north-west to south-east alignment, forming an evenly spaced line and were of comparable sizes. A fired clay brick was recovered from pit [6285] (see below Raemen; Fig 8), an object type normally associated with Late Iron Age settlement. Such objects are usually interpreted as kiln or hearth furniture, though their function is still poorly understood. Many of the features that were bulk sampled contained ferrous metalworking debris including vesicular, metallic or shiny amalgams and possible hammerscale spheroids (Archaeology South-East 2020, 122–3). However, other certainly intrusive material within these same deposits prevents confident attribution of these as evidence for Iron Age industrial activity. Material from pit [6283] was submitted for dating and provide calibrated date ranges of 175–40 cal BC (95% confidence) (UBA-44400) and 195 cal BC–cal AD 5 (95% confidence) (UBA-44401) (see below Allott; Table 5). Material from the recut of that pit [6285] returned calibrated dates ranges of 385–175 cal BC (95% confidence) (UBA-44396) and 490–195 cal BC (95% confidence) (UBA-44397) indicative that the recut incorporated older residual material. Material from pit [6428] returned two distinct dates: 390–200 cal BC (UBA-44398) (95% confidence), and 165 cal BC–cal AD 10 (UBA-44399) (95% confidence). This date range could be in keeping with a long period of decline and eventual disuse of the enclosure settlement, which extended into the later Iron Age (*c.*200 BC–AD 50).

While Iron Age period metal-working cannot be confidently ascertained, there is definite evidence for burning and other heat-related activities represented by fire cracked flint (see below Le Hégarat). The absence of roundhouses in this part of the enclosure during this phase is notable. Pit [6325] cutting B2 suggests that this north-western part of the enclosure is not being used as a setting for domestic dwellings by the final phase of the occupation.

### *Period 2: Roman Ditch (c.AD 50–400)*

The principal Roman feature was a large linear ditch, FS1 ([2528], [4727], [7715]) (Fig 6). It bisected the centre of site on a roughly east–west orientation and was observed in three separate excavation areas. The ditch was 44.72m in length with a maximum width of 2.21m and had a maximum depth of 1.22m. The V-shaped profile had sides that were inclined at *c.*70–80° at the top, changing to near vertical close to the base to create a linear slot. This type

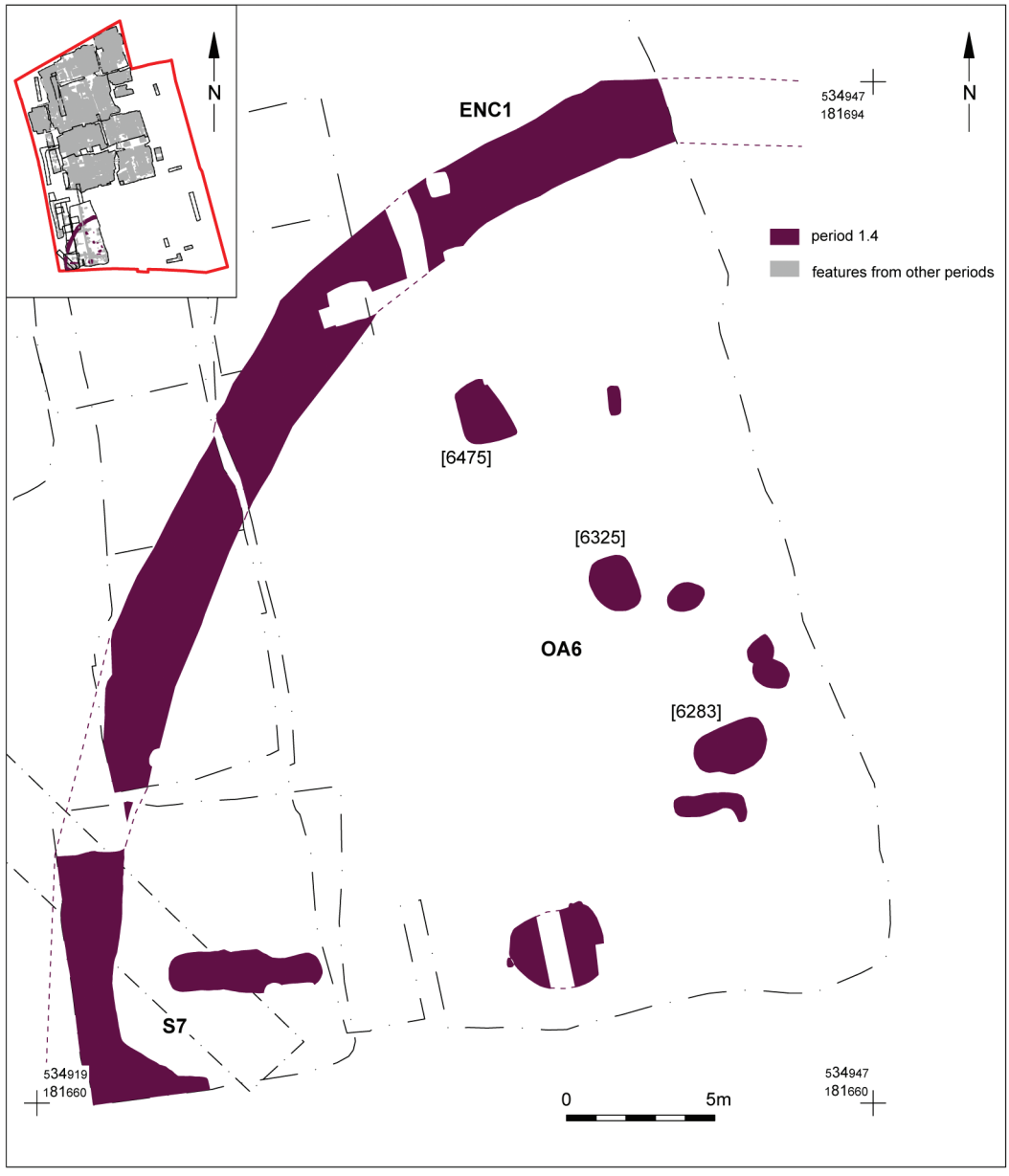
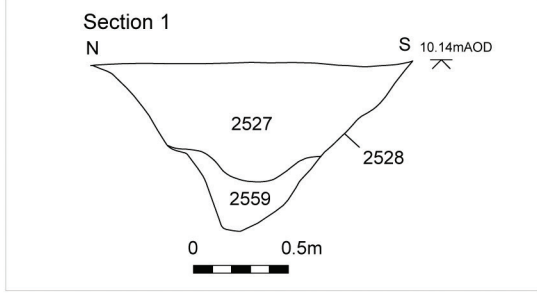



*Fig 5. Plan of period 1.4 excavated features*

of rectangular slot in the base of Roman ditches is often described as an 'ankle-breaker'. Traditionally these features have been associated with Roman military sites, but across London several fragments of 1st-century AD ditches with these unusual basal slots have been discovered, sometimes with no other obvious signs of a military presence. It has been suggested that some of these 'ankle-breaker' ditches and other V-shaped examples without the 'ankle-breaker' slots represent the partial remains of one or more short-lived Claudian period military encampments (Perring 2022, 51–9, 67–8). For instance, archaeological investigations along Aldgate on the eastern side of the


FS1 Roman ditch, looking east

FS1 Roman ditch, looking west

Working shot in Roman ditch

walled Roman city (1.5km to the west of the site) revealed a length of pre-Flavian, V-shaped ditch (maximum width 2.40m and depth 1.32m) with an 'ankle-breaker slot in its base, interpreted as a military feature dug close to and aligned roughly parallel to the projected line of the London to Colchester road (now the A11). Finds from the backfill of the ditch included a bone grip from the handle of a legionary sword (Chapman & Johnson 1973, 5–6, 12–13, 48). Another ditch found at Park Street in Southwark (Cowan 2003, 12–13; Perring 2011, 252) was not accompanied by other evidence of military activity. Interestingly, the Park Street ditch was located some 180m north-west of the Roman approach road to London Bridge (now Borough High Street), while the Whitechapel ditch was located *c.*140m south of the projected line of the London to Colchester Roman road (Fig 1) (MOLA 2011).

The basal fill [2529] of linear ditch FS1 comprised an orange-brown sandy clay, presumably representing silting up of the bottom of the ditch while it was open. The upper fills ([2528], [4726], [7714]) were a mid-greyish brown, orange mottled silty clay containing abraded Roman ceramic building material (CBM), along with some later intrusive medieval pottery (retrieved from a section of the ditch that was extensively truncated by modern disturbance). The Roman CBM consisted of 6 fragments from the eastern half of the ditch (in Area J1), and some fragmentary remains from the western half (in Area J2). The relative scarcity of finds is curious, and could be the result of the feature being open for a short period of time, although the basal silting fill indicates that it was open long enough for that process to occur. It may be best to consider the rural character of the landscape at the time, as minimal finds assemblages can be characteristic of ditches in that setting.

To the south of the linear ditch, three other fragmentary features of uncertain function were attributed to the Roman period. Of these, one feature, pit [7581] contained a single sherd of Roman pottery dated AD 250-400.

## SPECIALIST REPORTS

### *Prehistoric and Roman Pottery*

*Louise Rayner*

*Introduction*

A small assemblage of prehistoric (250 sherds/1893g) and Roman pottery (22 sherds/984g) was recovered from 52 contexts, both hand-collected and from bulk samples. Of these, 25 contexts are phased to periods 1 (prehistoric) and 2 (Roman), and the remainder of the assemblage is residual, redeposited into later features (Table 1). The average sherd weight of the prehistoric material (just under 8g) reflects

*Table 1. Prehistoric and Roman pottery by site period, sherd count, weight and average sherd weight*

| | Prehistoric pottery | | | Roman pottery | | |
|---|---|---|---|---|---|---|
| | **Shd Ct** | **Wt** | **Av Shd Wt** | **Shd Ct** | **Wt** | **Av Shd Wt** |
| Period | | | | | | |
| Unstratified | | | | 1 | 13 | |
| 1 (prehistoric) | 233 | 1667 | | 1 | 9 | |
| 2 (Roman) | 5 | 34 | | 1 | 4 | |
| 3 (Medieval) | | | | 2 | 30 | |
| 4 (post-medieval) | 12 | 192 | | 17 | 928 | |
| **Total** | **250** | **1893** | **7.6** | **22** | **984** | **44.7** |

*Fig 6. (opposite) Plan of period 2 features (above); cross-section (Section 1) and photographs of Roman ditch FS1 (below) (1m photographic scale)*

the abraded condition of the pottery, and the fragmentary, redeposited nature of the assemblage is also apparent from the small context group sizes, with only four contexts that contain more than 20 sherds and 31 contexts with just one sherd.

With an average sherd weight of just under 45g, the Roman pottery is in better condition, due to its more robust nature and the presence of some larger, thick-walled sherds. These sherds were found in very small context assemblages, however, and only one context (out of 21) with Roman pottery was derived from a Roman feature, so the vast majority of this material was residual. Given the high level of residuality for the Roman pottery and that the assemblage comprised wares typical of Roman London, it does not merit further discussion.

Due to the condition of the prehistoric assemblage and the absence of diagnostic sherds, the dating of much of the material is uncertain and it is largely based on fabric type only, which can be difficult due to the presence of long-lived temper types, such as flint. The diagnostic prehistoric pottery is mainly Middle Iron Age in date. There are a few possibly earlier sherds, dating to the later Bronze Age, but the identification of these is uncertain.

*Methodology*

The assemblage was recorded following the minimum standards for pottery (Barclay *et al* 2016). The pottery was recorded by context on proforma sheets and quantified by sherd count and weight. The prehistoric pottery was recorded using the PCRG (2010) guidelines to define site-specific fabric codes. Pottery from bulk samples was recorded where sherds were large enough; otherwise fragments were scanned and a broad date range noted.

*Prehistoric Site-Specific Fabric Type Series*

FL1 Sparse to moderate, poorly sorted fine to coarse (2mm) sub-angular flint in soft, silty matrix with sparse quartz grains, sub-rounded; sandy feel

FL2 Hard, dense matrix, sparse to moderate fine to coarse, angular flint, moderately sorted; fine burnt organics. Not sandy. ?Later Bronze Age Type sherd [6072]

QUFL1 Hard fabric; rare, poorly sorted angular flint (up to 4mm, mostly 1–2mm; more visible on internal surface than fresh break); set in dense matrix (reduced, dark grey/black) with rare, sub-rounded quartz; rare burnt organics (elongated); some finer quartz visible in the matrix but only rare to sparse. Type sherd [6328]

QUFL2 Silty matrix, very fine to fine quartz; rare sub-angular flint, mostly 1.0mm up to 3.0mm; more visible on internal surface. Type sherd [6206]

QU1 Abundant, fine sand, well-sorted in reduced matrix (reddish brown to black margins); sparse burnt organics (elongated); micaceous surface. Type sherd [6442]

QU2 Hard fabric; moderate, moderately well-sorted, sub-rounded, medium to coarse sand set in silty matrix of finer silty sand. Rare burnt organics; micaceous surface

QU3 Soft, dense matrix with few inclusions visible; rare, poorly sorted, medium, sub-rounded quartz grains; rare elongated voids, ?organics; rare, unburnt flint, coarse, angular, naturally occurring; rough feel/texture. Type sherd [6364]

QU4 Hard, sandy fabric, moderate medium quartz grains, sub-rounded; sparse, ill-sorted flint fine to coarse; very sandy feel on exterior surfaces. Type sherd [6198]

QUSH1 Micaceous fabric; common, moderately sorted quartz grains (sub-angular, fine to coarse up to 1mm), reduced exterior, oxidised interior; sparse, elongated voids/shell (medium to coarse up to 3mm); rough texture/sandy feel

SH1 Hard, dense matrix, common elongated plate voids; very rare quartz

SHFL1 Dense matrix, vesicular fabric; large plate voids (shell) with ill-sorted, rare flint, fine to very coarse (up to 5mm); rare, medium-coarse quartz; rough surfaces. Type sherd [6072]

SHFL2 Soft, sparse, shell/calcs; rare flint, medium to coarse; burnt/heat affected. Type sherd [6206]

GLAUC1 Soft fabric, fine sandy matrix with moderate rounded and sub-rounded black glauconitic grains. Type sherd [6072]

ORG1 Hard, dense fabric; common vesicular elongated voids (organics), some burnt organics remain. Type sherd [6198]

*Fabric and Form*

The prehistoric pottery has been made using a diverse range of fabric tempers (Table 2). The most common types are flint-tempered wares (FL) (which comprise 36.4% by count and 25.2% by weight) and sandy wares (QU) (which comprise 42.4% by count and 45% by weight), with variations combining both of these. Other minor types include those with glauconite (GLAUC), organics (ORG) and shell (SH).

The assemblage is mainly attributable to the Middle Iron Age (*c.*400–200 BC), although sherds in the flint-tempered fabric (FL2) may be earlier, possibly Late Bronze Age in date given its lack of quartz. A thicker walled (FL1) body sherd in [6360] is also probably Middle/Late Bronze Age (*c.*1500–800 BC), in date, with coarse flint temper (4–5mm) and a possible patch of flint-gritting, are both features more typical of Bronze Age ceramics. These hints of the presence of Bronze Age pottery are very limited though, with few diagnostic features and none present in the material recovered from contemporary features.

Vessel forms identifiable amongst the prehistoric assemblage are very few and diagnostic examples are confined to a handful of rim sherds. These are simple rounded, everted or inturned rim types, probably derived from jars. Identifiable vessel profiles include low shouldered jars and plain saucepan pots.

The most complete portion of a vessel is represented by three joining sherds from [6328]. These comprise approximately 30% of the upper part of a jar with a short, upright rim and low rounded shoulder (Fig 7, P1). The exterior surface is smoothed and lightly burnished. The sherds evidence the use of wide, flat straps to construct the vessel, with a break running along one of these joins. The rim is also fairly uneven with finger-marks evident from its forming. There is burnt

*Table 2. Quantification of prehistoric pottery fabrics by sherd count and weight*

| Fabric type | Shd Ct | % by Shd Ct | Wt(g) | % Wt | Av Shd Wt(g) |
|---|---|---|---|---|---|
| FL | 31 | 12.4 | 81 | 4.3 | 2.6 |
| FL1 | 50 | 20 | 316 | 16.7 | 6.3 |
| FL2 | 10 | 4 | 79 | 4.2 | 7.9 |
| QU | 1 | 0.4 | 1 | 0.1 | 1.0 |
| QU1 | 36 | 14.4 | 388 | 20.5 | 10.8 |
| QU2 | 59 | 23.6 | 372 | 19.7 | 6.3 |
| QU3 | 5 | 2 | 62 | 3.3 | 12.4 |
| QU4 | 5 | 2 | 28 | 1.5 | 5.6 |
| QUFL1 | 14 | 5.6 | 304 | 16.1 | 21.7 |
| QUFL2 | 8 | 3.2 | 39 | 2.1 | 4.9 |
| QUSH1 | 2 | 0.8 | 20 | 1.1 | 10.0 |
| SH | 2 | 0.8 | 4 | 0.2 | 2.0 |
| SH1 | 9 | 3.6 | 61 | 3.2 | 6.8 |
| SHFL1 | 7 | 2.8 | 70 | 3.7 | 10.0 |
| SHFL2 | 4 | 1.6 | 24 | 1.3 | 6.0 |
| GLAUC1 | 3 | 1.2 | 8 | 0.4 | 2.7 |
| ORG1 | 4 | 1.6 | 36 | 1.9 | 9.0 |
| **Total** | **250** | **100** | **1893** | **100** | **7.6** |

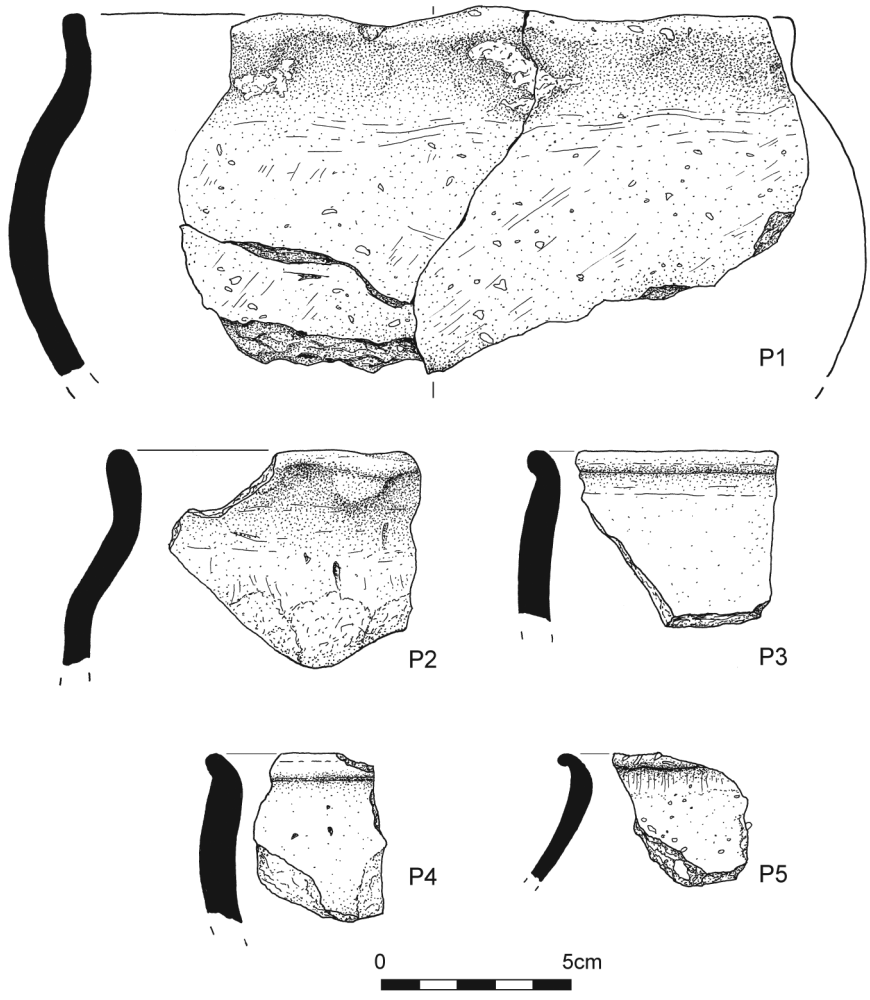



*Fig 7. Selected prehistoric pottery: P1 QUFL1 low shouldered jar with short rim [6328], B2, period 1.2; P2 QU1 rim/shoulder jar, [6274] occupation layer OA3, period 1.2; P3 [6360] QU1 plain Saucepan pot, beaded rim, S6, period 1.2; P4 [6442] QU1 plain Saucepan pot, beaded rim, OA4, period 1.2; P5 FL2 [5204] thin walled, necked jar with slight, overturned rim – ?later Bronze Age; residual, period 4.1*

carbonised residue on the external surface just under the rim, evidencing the use of the vessel for cooking.

A second jar, represented by a single rim/shoulder sherd (QU1) from [6274] has a low rounded shoulder and thickened, slightly everted rim (Fig 7, P2).

There are two sandy (QU1) sherds from plain vessels with slightly inturning profiles and bead rims from [6360] and [6442] (Fig 7, P3, P4). These are plain Saucepan pot types (*cf* Danebury Saucepan pot type PB; Cunliffe 1984, 293), which are usually considered more typical of assemblages found in Surrey and Sussex (Seager Thomas 2005; 2010) rather than the Thames Valley, though they are also present in the Olympic Park assemblage (Leivers 2012, 229–30).

Decoration is very rare, with only a single rim with finger impressed cabling on the upper edge from [6072] enclosure ditch (not illustrated).

The only diagnostic sherd that is possibly earlier in date was found residually in [5204] and is from a thin-walled, necked vessel with short, turned over rim (Fig 7, P5), possibly from a bipartite jar or bowl; this vessel is more likely to be Late Bronze Age in date.

*Dating and Distribution*

Individual fabric types are poorly dated and the regional chronology for London is largely dependent on sites further afield, particularly for the Middle Iron Age period. None of the radiocarbon dates for the site were directly obtained from pottery and though three of the contexts sampled for dating did contain pottery there is no obvious patterning or development in the fabric types present.

Overall, a date range of *c.*400–200 BC covers the majority of the assemblage and broadly fits with radiocarbon dates obtained for the site. The lack of decorated vessels and complete absence of grog-tempered wares typical of the Late Iron Age (*c.*200 BC–AD 43), suggests that the material recovered is unlikely to date much after *c.*150 BC or into the 1st century BC. This suggests that the activity on site had ceased by 150–100 BC or that any activities taking place by this time did not involve wide-scale pottery usage and deposition.

The stratified prehistoric assemblage was recovered from period 1.2–1.4 features (see Table 3). No pottery was recovered from the features assigned to period 1.1.

Although the main enclosure ditch produced the largest group of prehistoric pottery, its fragmentary nature is evident in the low average sherd weight. The wide range of fabric types present in this group may be due to the long-lived nature of this large, open feature or reflect the co-occurrence of these types, but the assemblage is of insufficient quantity and quality to explore these questions.

The other feature types which produced pottery are typical of Middle Iron Age settlements and commonly locations where pottery accumulated or was deposited. All of the pottery recovered here is fragmented and there are very few sherd links. This suggests that this material was largely deposited as domestic waste, possibly in middens or other locations before its final deposition. The only exceptions to this are the three larger conjoining sherds from [6328], which forms part of the ring-gully defining B2.

*Table 3. Prehistoric pottery by landuse*

| Landuse | Ct | Wt | Av Sh Wt |
|---|---|---|---|
| ENC1 | 95 | 541 | 5.7 |
| B1 | 8 | 46 | 5.8 |
| B2 | 4 | 214 | 53.5 |
| OA3 | 20 | 170 | 8.5 |
| S6 | 11 | 70 | 6.4 |
| S7 | 5 | 42 | 8.4 |
| OA4 | 5 | 31 | 6.2 |
| OA5 | 2 | 7 | 3.5 |
| OA6 | 83 | 546 | 6.6 |
| **Total** | **233** | **1667** | **7.2** |

The pattern of pottery distribution is paralleled at other contemporary sites such as at the Olympic Park, Stratford, which is the nearest site with comparable archaeology (enclosure ditch, round-houses and associated features) and associated Middle Iron Age pottery dated to 400–100 BC.

*Regional Context and Comparisons*

The ability to discuss the Whitechapel assemblage within the regional prehistoric ceramic sequence is severely hampered by its small size and the absence of diagnostic material/groups. Therefore, only a few broad observations are possible. The fabric and form types recorded in this assemblage are entirely in keeping with Middle Iron Age assemblages as currently understood from within the London region and the Thames Valley. The range and diversity of fabric types is typical and mirrors comparable assemblages from the Olympic Park site, located to the east (Leivers 2012), plus Stockley Park, Dawley (Rayner in prep), Terminal 5 (Leivers 2010) and Caesar's Camp, Heathrow (Grimes & Close-Brooks 1993), all located to the west of central London and situated on the gravel terraces, though these sites all produced larger assemblages. Comparison of assemblage composition on the basis of vessel form

is impossible due to the small number of identifiable sherds from Whitechapel, but all of the form types identified here can be paralleled within other London assemblages. Other contemporary assemblages more comparable in size were recovered from south of the river, from Coronation Buildings, Lambeth and Bermondsey Abbey, Southwark (Sidell *et al* 2002), and these both also lacked decorated elements (Rayner 2002, 41–3). The Olympic Park assemblage, which was dated on typological grounds to the 4th to 1st century BC supported by radiocarbon determinations, is also largely undecorated (Leivers 2012, 231).

*Conclusions*

The Whitechapel pottery assemblage is an important new addition to the prehistoric ceramic dataset of central London, where historically recognition and study of prehistoric pottery had been neglected. Over the last 20 years, this situation has been addressed and more sites and assemblages have now been recognised and published. The contribution of this assemblage, though constrained by its small size, generally poor condition and lack of feature sherds, emphasises the possibility and potential of locating further pre-Roman Iron Age settlement in central London locations.

## *Fired Clay Block*

*Elke Raemen*

A well-finished, rectangular-sectioned block (Fig 8, RF<334>) made of fired clay was recovered from pit recut [6285] (fill [6286]). Blocks such as this are generally found in Late Iron Age to early Roman secondary contexts (*eg* Howell *et al* 2011, 69; Major 2004, 173). They are likely to represent portable oven furniture, perhaps supports, although there are some similarities to Late Iron Age kiln bars too (Swan 1984, 55–6, pls 18, 20). Often these blocks are found associated with fired clay slabs (Howell *et al* 2011, 71). Both types are occasionally referred to as 'Belgic bricks' (*eg* Howell *et al* 2011, 71; Major 1998, 163), and they are likely to have had a similar function. Finds of these bricks are distributed across southern England, with examples known from a variety of East London sites such as Hunt's Hill Farm, Moor Hall Farm, Great Sunnings Farm and Manor Farm (Howell *et al* 2011, 69).

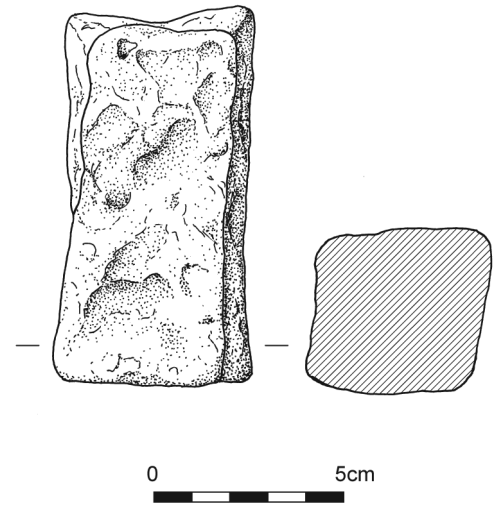



*Fig 8. Fired clay block RF<334> from [6286] G46 OA6 period 1.4; complete, rectangular block in a silty orange clay with sparse fine quartz and sparse calcareous inclusions to 3mm; well-finished sides; 98 x 48 x 47mm*

## *The Flints*

*Karine Le Hégarat*

*Introduction*

In total, 109 pieces of worked flint weighing 1667g, three flint hammerstones weighing 1176g and a quantity of unworked burnt flint fragments totalling 10,488g were recovered by hand excavation and from bulk soil sampling (Table 4).

The pieces were thinly spread across the site. No coherent groups were found and most of the assemblage predates the cut archaeological features. Nonetheless, it provides evidence for early prehistoric activities in the landscape. A diagnostic leaf-shaped arrowhead indicates an Early Neolithic presence, and a narrow microdenticulate indicates a Mesolithic or Early Neolithic presence. The remaining assemblage contains less chronologically distinctive types. Based on morphological and technological traits, it reflects activity ranging from the Mesolithic to the late prehistoric period.

*Table 4. Summary of the flint assemblage by category and phase*

| Category | Period 1.1 | Periods 1.2/1.3/1.4 | Period 2 *etc** | Total |
|---|---|---|---|---|
| Flake | 1 | 8 | 39 | 48 |
| Blade | | | 4 | 4 |
| Bladelet | | 1 | 3 | 4 |
| Blade-like flake | | | 4 | 4 |
| Core face / edge rejuvenation flake | | | 1 | 1 |
| Irregular waste | | | 4 | 4 |
| Chip | | | 29 | 29 |
| Multiplatform flake core | | | 1 | 1 |
| Fragmentary core | | | 1 | 1 |
| End scraper | | | 1 | 1 |
| End-and-side scraper | | | 1 | 1 |
| Microdenticulate | | | 1 | 1 |
| Leaf arrowhead | | | 1 | 1 |
| Retouched flake | | | 6 | 6 |
| Retouched bladelet | | | 1 | 1 |
| Misc. retouched piece | | | 2 | 2 |
| Hammerstone | | | 3 | 3 |
| **Total** | **1** | **9** | **102** | **112** |
| Burnt unworked flint fragments – Wt (g) | - | 7030 | 3458 | 10488 |

* NB This column includes flint from later periods, natural and unstratified contexts

*Methodology*

The pieces of worked flint were quantified by count and weight. They were individually examined and classified using a standard set of codes and morphological descriptions (Butler 2005; Ford 1987; Inizan *et al* 1999; Piel-Desruisseaux 2016). Basic technological details as well as further information regarding the condition of the artefacts (evidence of burning or breakage, degree of cortication and degree of edge damage) were recorded. Dating was attempted where possible. The fragments of hand-collected burnt unworked flint were quantified and scanned for worked pieces.

*Raw Material*

The flint selected to knap varies from light to dark grey and light to mid-brown with a stained, very thin (<1mm) or thin (1–2mm) outer surface. The raw material is likely to be derived from locally available terrace gravels. A few pieces display light orange/rusty colour patina that could be caused by the presence of iron in the soil. A flake from the fill [8331] of late medieval posthole [8332] is made using a dark grey flint with an orange band below a dark olive-green cortex – a characteristic of Bullhead-bed flint that occurs at the base of the Thanet Formation (Shepherd 1972, 114). A microdenticulate from the fill [7271] of early post-medieval ditch [7272] displays a similar dark olive-green cortex but without the orange band. The presence of Bullhead-bed flint indicate that better quality material was also sourced.

*Condition*

The condition of the flints varies. Most pieces exhibit moderate (65 pieces) or heavy (18 pieces) signs of weathering clearly suggesting that the flints endured post-depositional disturbance. A few slightly less damaged flints (29 pieces) were also recorded. A total of 43 pieces are broken.

*The Assemblage*

The pieces of struck flint were thinly distributed across the entire site; and except for the fill [2048] of an early post-medieval pit [2049] that produced five flakes and the primary fill [6/010] of an early post-medieval ditch [6/009] that contained 18 chips (less than 10mm$^2$), no individual contexts contained more than three pieces each. It seems that most pieces represent residual material incorporated into the fills of later features (Table 4). In contrast, the Middle Iron Age (period 1.2) enclosure ditch G24, ENC1, contained 5320g of unworked burnt flint fragments, indicating that at least some of the burnt flints could be contemporary with the features they came from. The burnt fragments recovered from the enclosure are mostly heavily calcined, and they are likely to represent domestic waste from heating related activities.

The assemblage is dominated by unmodified pieces of débitage (n=94); and, whilst flakes predominate, blade, bladelets and blade-like flakes are also present. A blade from [4860] and a bladelet from the secondary fill [6401] of Middle Iron Age (period 1.2) well [6391] are clearly the product of a blade-orientated technology and indicate a Mesolithic or Early Neolithic date. The remaining blade components could be slightly later. Activities during the Mesolithic/Early Neolithic is also confirmed by the presence of a microdenticulate made on a bladelet. The tool from fill [7271] of an early post-medieval ditch [7272] displays worn serrations along the left edge, and some possible gloss was noted on the ventral face. A retouched bladelet from early post-medieval flood/levelling deposit [7002] with direct retouch on the left side is also likely to be Mesolithic or Early Neolithic in date.

Fill [4668] of late medieval posthole [4669] produced a diagnostic leaf arrowhead (Fig 9, RF<475>). Leaf arrowheads are generally found in Early Neolithic contexts, although they have also been recovered from Middle Neolithic contexts. The fragmented arrowhead weighs 5g; it measures 37mm+ in length, 25mm in width, and it is only 3.5mm thick. It is similar to Green's type 2B(1) (Green 1980, 70 fig 27). The arrowhead is bifacially retouched. Both faces display a combination of sporadic invasive removals and removals confined to marginal trimming. The artefact is entirely patinated. The orange-brown patina might be caused by the presence of iron in the soil. The raw material could have been selected because of the presence of a fossil in the flint.

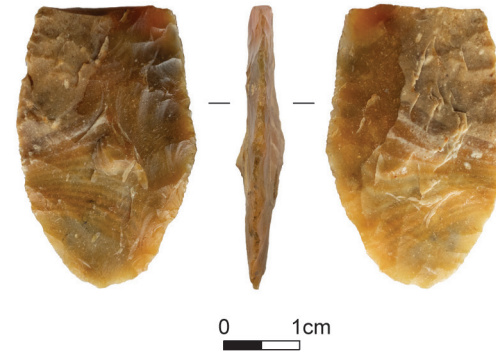



*Fig 9. Leaf arrowhead (RF<475>) from fill [4668] of late medieval posthole [4669]*

The remaining modified pieces consist of two scrapers, six minimally retouched flakes and two miscellaneous retouched pieces. Scrapers are difficult to date, but both scrapers – the end-and-side scraper from the primary fill [7334] of early post-medieval pit [7331] and the end scraper from an early post-medieval levelling layer [3168] – are finely made, and they are likely to predate the Middle Bronze Age (*c.*1500–1150 BC). The remaining retouched pieces cannot be closely dated.

Most of the flakes are irregular. Where present, butts are mostly plain, cortical, and unprepared; however, a few pieces display platform trimming. Overall, most flakes seem to be the result of an informal approach to flake production; and this strategy is more associated with a late prehistoric date (Late

Neolithic to Late Bronze Age/Early Iron Age or later). Nonetheless a few flakes are products of a more careful reduction, and they could be earlier.

Only two cores were recovered from the site; a core fragment from fill [10106] of an early post-medieval pit [10107] could predate the Middle Bronze Age, and a multi-platform flake core weighing 122g from fill [3330] of post-medieval quarry pit [3335] may be later. Amongst the three hammerstones, the example from post-medieval flood/levelling deposit [6184] (297g) may represent a re-used core. In addition, a rather crude core/face edge rejuvenation flake from early post-medieval flood/levelling deposit [4002] provides further evidence for flint knapping activity. The remaining two hammerstones (703g & 176g) came from fill [1201] of post-medieval destruction debris [1461], and these may not be prehistoric.

*Discussion*

The flint assemblage is small, thinly distributed and chronologically mixed. Nonetheless, it provides evidence for a prehistoric presence prior to the Middle Iron Age occupation. Some pieces may be contemporary with the Iron Age occupation of the site. The flintwork may not reflect the true extent of activity occurring during prehistory, due to the high level of historic and modern disturbance, including extensive post-medieval development, resulting in the potential loss of flints.

The earliest pieces consist of a micro-denticulate made on a bladelet, a retouched bladelet and at least a blade and a bladelet. These indicate a Mesolithic or Early Neolithic date. However, with the absence of diagnostic Mesolithic pieces, such as microliths, microburins or bladelet cores, it is possible that the blade components belong to the Early Neolithic which is represented by the presence of a leaf arrowhead (RF<475>).

The site is located close to the Thames and one of its tributaries – latterly known as the Black Ditch (Baker 1998). At the start of the Holocene, a combination of rising sea levels and rising temperatures would have created an ecologically rich marshland environment along the flood plains of these rivers, providing excellent opportunities for hunting, fishing and foraging (Sidell *et al* 2002, 7–11). The higher and dryer gravel hillocks within these flood plains may have been initially used on an intermittent or seasonal basis as camp sites by extended family units, then over time these preferred sites could have become permanent agrarian and pastoral settlements. The few pieces of flintwork recovered from the site indicate early usage of the area during the early prehistoric period, although this may have been only low-key and periodic. Microdenticulates have been associated with cutting of silica-rich plants, and arrowheads with hunting activities.

Evidence for Mesolithic and Early Neolithic activity in the immediate vicinity of the site is confined to isolated flints; however, excavations on the Olympic Park site, *c.*3km to the north-east, revealed the presence, alongside the edge of a channel, of some form of timber structure together with a flint axe and some pottery, all possibly dating to the Early Neolithic (Powell 2012, 28). At Yabsley Street, Blackwall, on the Isle of Dogs, *c.*7.5km to the south-east of the site, a crouched inhumation was found associated with a fragment of Early Neolithic pottery and several pieces of worked flint including a knife (Coles *et al* 2008). Further east, work at Woolwich Manor Way produced a flint scatter associated with Early Neolithic pottery and emmer spikelets (Stafford 2012, 56–7).

The assemblage suggests that activity continued at the site during the late prehistoric period. A few carefully worked flakes are likely to predate the Middle Bronze Age; however, the majority are crudely manufactured and the results from unskilled casual knapping suggesting a later (Middle Bronze Age to Iron Age) prehistoric date. Recent studies have demonstrated that the use of flint carried on through the Iron Age (Young & Humphrey 1999; Humphrey 2003; 2004; 2007). Although some pieces could therefore be contemporary with the Middle Iron Age occupation of the site, this seems unlikely to account for the bulk of the assemblage as the Middle Iron Age features in fact produced only very small quantities of flints (10 pieces), and a large proportion of the artefacts was found residual in later contexts (Table 4). In contrast, the burnt

unworked flint fragments from the enclosure ditch (ENC1) are likely to be contemporary with Middle Iron Age enclosure. The use of unworked flints for heating related purposes could relate to domestic, industrial, or ritual activities. In this instance, they are likely to represent domestic usage.

## *Radiocarbon Dating*

*Lucy Allott*

### *Introduction and Methods*

Sixteen samples were submitted to the $^{14}$Chrono Centre, Queen's University Belfast, for radiocarbon analysis, of which results relating to the Middle Iron Age settlement (eight samples) and possible Iron Age features (four samples) form the focus of this report (Table 5).

Conventional radiocarbon ages (Stuiver & Polach 1977) are presented in Table 5 and are quoted in accordance with the international standard known as the Trondheim convention (Stuiver & Kra 1986). Calibrated date ranges have been calculated using the program OxCal v4.4.4 (Bronk Ramsey 2021), and the IntCal20 data set for terrestrial samples from the northern hemisphere (Reimer *et al* 2020) and presented in Table 5. Date ranges given in the table and text are those for 95% confidence and are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years. Ranges have been calculated using the maximum intercept method (Stuiver & Reimer 1986),

Radiocarbon measurements were obtained on charcoal from a pit/posthole [6407] in OA5 and three features relating to pit groups within the stratigraphically later OA6, which relates to the final phase of the enclosure.

*Table 5. Summary of radiocarbon dates*

| Lab Code | Sample reference, material and context | Radiocarbon age (BP) | Calibrated range (95% confidence) |
|---|---|---|---|
| | ***OA5 Postholes, gullies, and a well possibly denoting the repurposing of this area*** | | |
| | ***'Phase' STY15 G36*** | | |
| UBA-44402 | [ASE_DS 771] (6406) {132} Pit/posthole [6407], G36 Charcoal *Fraxinus excelsior* roundwood (medium size) | 2335±28 | 415–380 cal BC |
| UBA-44403 | [ASE_DS_772] (6406) {132} Pit/posthole [6407], G36 Charcoal *Prunus* sp | 2325±29 | 410–375 cal BC |
| | ***OA6 Group of large pits indicating final phase of enclosure settlement*** | | |
| | ***'Phase' STY15 G46*** | | |
| UBA-44396 | [ASE_DS 765] (6286) {121} Pit [6285], G46 Charcoal *Prunus* sp | 2216±24 | 385–175 cal BC |
| UBA-44397 | [ASE_DS 766] (6286) {121} Pit [6285], G46 Charcoal Maloideae | 2227±24 | 490–195 cal BC |
| UBA-44400 | [ASE_DS 769] (6289) {122} Pit [6283], G46 Charcoal Maloideae | 2094±24 | 175–40 cal BC |
| UBA-44401 | [ASE_DS 770] (6289) {122} Pit [6283], G46 Charcoal cf *Corylus/Alnus* sp | 2090±29 | 195 cal BC–cal AD 5 |
| | ***'Phase' STY15 G30*** | | |
| UBA-44398 | [ASE_DS 767] (6425) {139} Pit [6428], G30 Charcoal cf *Corylus/Alnus* sp | 2246±23 | 390–200 cal BC |
| UBA-44399 | [ASE_DS 768] (6425) {139} Pit [6428], G30 Charcoal cf Maloideae | 2070±24 | 165 cal BC–cal AD 10 |

*Results*

For each of the features, two samples were submitted for dating and have been subjected to chi-square test for consistency (Ward & Wilson 1978). In most instances, the later/younger of the two measurements provides the best estimate for the context.

*OA5* – Measurements on *Fraxinus excelsior* (ash) roundwood charcoal (UBA-44402) and *Prunus* sp charcoal (UBA-44403) from [6406], <132> in pit [6407], are statistically consistent at the 5% level (T'=0.1; v=1; T'(5%)=3.8; Ward & Wilson 1978) and could be of the same actual age. The youngest of these, 410–375 cal BC (95% confidence) (UBA-44403), provides the best estimate for the infilling of the deposit.

*OA6* – Measurements on Maloideae charcoal (UBA-44400) and cf *Corylus/Alnus* sp (hazel/alder) charcoal (UBA-44401) from [6289] <122> in pit [6283] are statistically consistent at the 5% level (T'=0.0; v=1; T'(5%)=3.8; Ward & Wilson 1978). They may have been deposited at the same time although the cf *Corylus/Alnus* sp charcoal with a calibrated range of 195 cal BC–cal AD 5 (95% confidence) (UBA-44401) provides the best estimate for this event. Measurements on cf *Prunus* sp charcoal (UBA-44396) and Maloideae charcoal (UBA-44397),[1] from [6286] <121> in pit [6285] are statistically consistent at the 5% level (T'=0.1; v=1; T'(5%)=3.8; Ward & Wilson 1978). This suggests the samples could be of a similar age and might relate to the same deposition event. Pit [6285] is a recut of pit [6283] and although stratigraphically higher and therefore later, dates returned are earlier than those from the underlying pit. Dating clearly reveals consistency within the deposited material; however it is likely that the older material in the upper pit is residual within this context reworked from elsewhere. By contrast, the radiocarbon determinations on cf *Corylus/Alnus* sp charcoal (UBA-44398) and cf Maloideae charcoal (UBA-44399) from [6425] <139> in pit [6428] are statistically inconsistent at the 5% significance level (T=28.0; v=1; T'(5%)= 3.8; Ward & Wilson 1978) and these charcoal fragments are clearly of different ages. The youngest date range of 165 cal BC–cal AD 10 (95% confidence) (UBA-44399) on cf Maloideae charcoal provides the best estimate for the infilling of this feature and compares well with results from pit [6283]. The older, presumably residual, cf *Corylus/Alnus* sp charcoal is of comparable age to residual material in pit [6285] and these remains most likely relate to the earlier dated activities at the site.

## DISCUSSION

### *Whitechapel Central: Evidence for Agriculture, Diet and Environment*

Evidence for the economic basis of the Middle Iron Age settlement at Whitechapel was fairly limited, with evidence for animal husbandry particularly restricted due to the poor preservation of animal bones, and therefore there is considerable reliance on the structural evidence for livestock management, various possible stock pens were identified (S1, S3, S7). Cattle were represented within the faunal assemblage by partially identifiable large teeth and medium rib fragments. (Archaeology South-East 2020, 17). Middle Iron Age settlements and their surrounding landscapes at Heathrow in west London (Framework Archaeology 2010, 233) and Stansted in Essex (Framework Archaeology 2008, 91) are postulated to have supported large numbers of domestic animals including herds of cattle and sheep. The number of possible animal pens across the temporal sequence of the Whitechapel site, combined with the faunal evidence, implies that pastoralism was a component of the Middle Iron Age agricultural economy, but it is difficult to quantify the scale.

The evidence for plant use and arable production during the Middle Iron Age at Whitechapel was also limited (Archaeology South-East 2020, 174–5), despite extensive environmental sampling. Many flots contained low percentages of uncharred botanical remains, and the range of native taxa present in the Iron Age samples was relatively restricted, but fruit producing trees and shrubs (elder, bramble/raspberry), ruderals (particularly sun spurge), and plants indicative of wetter ground (such as sedges) recurred within the samples. Exotic species such as fig (*Ficus carica*) were recorded along with small quantities of weeds such as

elder (*Sambucus nigra*), common chickweed (*Stellaria media*) and goosefoot (*Chenopodium* sp). The charred plant assemblages comprised cereal caryopses, occasional legumes, and infrequent wild seeds of weeds and grasses. Many of the charred plant remains were poorly preserved although cereals including wheat, barley and possibly rye were present, while legumes including pea and broad bean and smaller wild types such as vetches or wild/sweet peas were also present (*ibid*, 17). While there is some evidence for mixed farming at Whitechapel, it is quite possible there was a reliance on pastoralism.

At other Middle Iron Age sites in the region, the evidence for plant husbandry including cereal crops is also varied (Framework Archaeology 2010, 260; Van der Veen 1992). At Heathrow, the Thorpe Lane Nurseries site produced no Middle Iron Age carbonised crop remains, querns or other evidence of cultivation, a situation that is not unusual for Middle Iron Age sites that evolved within relict Bronze Age field systems on the West London Gravels (Framework Archaeology 2010, 259). In comparison, at the Olympic Park site in Stratford the major component of the plant assemblage consisted of charred cereal remains: barley, emmer and spelt wheat were identified (Powell 2012, 316). This Middle Iron Age assemblage was characteristic of general processing waste, with the small number of weed seeds present mainly being derived from the larger seeded species.

Two fish bones were recovered from environmental samples: a single Gadidae (Cod family) caudal vertebra was recovered from primary pit fill [6427] (OA6) and an indeterminate fish cranial fragment was recovered from occupation layer [6274] (OA3) (Archaeology South-East 2020, 17). Pit fill [6427] was sealed by two other fills, the uppermost one being dated by pottery to *c.*400–200 BC. There are several things to consider here. Firstly, this suggests that fish were perhaps part of the diet of the settlement. Secondly, Gadidae is a marine fish, not a freshwater one. The modern Thames, as far west as the Thames Barrier, contains marine (or salt water) fish. Therefore, it is a reasonable assumption that cod could have been found further upstream during the Middle Iron Age. This may indicate that the inhabitants of the Middle Iron Age settlement at Whitechapel Central were fishing in the Thames estuary.

The well within the Middle Iron Age settlement would have provided fresh water for the settlement and perhaps for livestock during period 1.3. Prior to the construction of the well, and with no evidence for other wells or water holes within the prehistoric landscape, it is uncertain what water source the inhabitants of the settlement would have used. The proximity of the 'Black Ditch' watercourse to the settlement means that it could have been utilised as a source of fresh water.

### *Settlement Morphology and Activity*

Before considering the settlement morphology and characterising the structure and building types at Whitechapel it is necessary to define certain terms. At Stansted (Framework Archaeology 2008), Heathrow (*ibid* 2010), Stratford (Powell 2012), and Uphall Camp, Ilford (Telfer 2004) roundhouses are defined as domestic structures, probably housing a familial group. However, it is possible that a range of agricultural, craft and industrial activities were also carried out inside these dwellings. Pope (2006) has illustrated that precisely defining domestic activity can be problematic. An agricultural structure connected with arable farming may be a four-poster structure, often interpreted as a grain silo. Conversely, an agricultural structure for pastoral activity could be a fence line, or a penannular ditch indicating an animal pen or enclosure. Industrial activity may be evidenced by a workshop/shed, a penannular ditch with evidence for metalworking, or a series of pits containing industrial debris.

At Stansted (Framework Archaeology 2008, 80–6), Stratford (Powell 2012, 47–78), and Uphall Camp (Telfer 2004) the roundhouses observed contained minimal evidence for structural posts and were only defined by penannular gullies. The roundhouse architecture would have combined mass walls with a timber framework to support the roof, without the need for posts in deep postholes to anchor it (Framework Archaeology 2008, 89). At Whitechapel there were multiple penannular ditches observed,

of which two have been identified as probable roundhouses (B1, B2). As with the roundhouses observed elsewhere, the ones at Whitechapel lacked internal postholes.

Middle Iron Age arable activity is often evidenced by the presence of four-post structures that have been interpreted as grain silos or by grain storage pits. Four-post structures were observed at Uphall camp (Telfer 2004, 373), Stansted (Framework Archaeology 2008, 89) and possibly Stratford, but were absent at Heathrow. Heathrow was also lacking in evidence for below ground grain storage, most probably due to unsuitable ground conditions and geology (*ibid* 2010, 260). Multiple potential fence lines were observed within the Middle Iron Age settlement area at Whitechapel (OA5, S8, etc), but none of the postholes sit in the alignment of a four-post structure. Multiple pits were identified, particularly in OA4 and OA6, but the environmental evidence does not support interpretation of these as crop storage pits.

Identifying other activities taking place within the enclosure is difficult. The fired clay block (RF <334>) from OA6 suggests the possible presence of an oven or hearth (Fig 8). Aside from an amorphous copper-alloy lump (RF<343>) from occupation layer [6274] (OA3) (Archaeology South-East 2020, 17), no other metal objects were recovered.

However, it is possible to broadly characterise the usage of space within the Middle Iron Age settlement over time. OA2 (period 1.1) constituted agricultural (S1) and possibly domestic activity (S2) (Fig 2); OA3 (period 1.2) comprised the establishment of the enclosure settlement that contained domestic (B1, B2) and possibly pastoral activity (S3–S7) (Fig 3). OA4 (period 1.2 continued) consisted of domestic (B2) and agricultural or industrial (the various pits) activity. OA5 (period 1.3) probably consisted primarily of pastoral activity represented by livestock pens (Fig 4), while OA6 (period 1.4), the last phase of activity within the Middle Iron Age settlement (and possibly continuing into the Later Iron Age), consisted primarily of agricultural activity. The usage of space within the enclosed settlement clearly changed and evolved during the Middle Iron Age, although the precise nature of that evolution in terms of agricultural or industrial activity is hard to determine. Pope (2006) has asserted that the establishment of a precise function within a space presumed to be a single type (a 'domestic' roundhouse) can be complicated. The follow-through of this logic then, is that the establishment of any type of activity within the strict constructs of 'domestic', 'agricultural' or 'industrial' must be equally complex.

### *Middle Iron Age Settlement in Greater London*

While it is universally accepted that there is considerable evidence of Iron Age activity and settlement within the lower Thames valley, there is a perception that there is a 'dearth of evidence in Greater London' for Iron Age occupation close to the site of the Roman city of Londinium (Hingley 2018, 9–24; Perring 2022, 35–43), despite the potential of the Thames as a navigable routeway and the fertility of its environs. It now seems evident from the volume of prehistoric archaeology found at Whitechapel and various other sites across Greater London that this view needs to be re-examined. Middle and Late Iron Age settlement has been observed across Greater London at sites including: a defended settlement or oppidum at Woolwich Arsenal (Oxford Archaeology 2014; 2015); the large enclosed settlement at Uphall Camp (Telfer 2004); the enclosed settlement at Stratford (Powell 2012); the finds at Bermondsey Abbey (Sidell *et al* 2002, 40); Iron Age pits at Coronation Buildings on South Lambeth Road (*ibid*, 42); intercutting Iron Age ditches at Glenthorne Road, Hammersmith (Archaeology South-East 2015); and the enclosed settlement or oppidum recently found at Barn Elms, Barnes (Nesbitt 2022, 102) (Fig 10). This list is not exhaustive, but there is now evidence for multiple sites, which were larger than individual farmsteads and may have fulfilled other functions connected with trade and industry, as well as a plethora of background activity such as individual pits, field systems, and individual stray finds, including some well-known high-status examples recovered from the Thames, such as the Middle Iron Age shield found at Battersea in the 1850s (Stead 1985). In


*Fig 10. Location of Middle Iron Age settlements*

addition, there are over 400 objects (coins, pottery, brooches and other metal artefacts) recorded by the Portable Antiquities Scheme for the Iron Age from Greater London (PAS 2022).

### *Iron Age Whitechapel in Context*

Five of the Iron Age settlements identified within Greater London were enclosed (Woolwich, Uphall Camp, Stratford, Whitechapel, and Barn Elms) and are located within a 22km stretch along the River Thames. A common theme amongst these settlements is their proximity to water sources, not surprising given the need for fresh water. Proceeding east to west: the Woolwich site was located close to the Thames; Uphall Camp lies within close proximity of the River Roding; the Stratford site lay within the Lee valley; Whitechapel was near the Black Ditch; and Barn Elms lay on the south bank of the Thames. The settlement at Heathrow was also just over 1km from the river Colne (Framework Archaeology 2010, 263).

Roundhouses denoting domestic activity were observed at Woolwich (Oxford Archaeology 2014, 4), Uphall Camp (Telfer 2004, 373), Stratford (Powell 2021, 46–8), Whitechapel, Barnes (Cunrow *pers comm*), and as far west as Heathrow, within the Greater London area (Framework Archaeology 2010, 239–41). Although the economy of most Middle Iron Age settlements is assumed to be based on mixed farming, the surviving evidence for these practices varies greatly. Evidence of agricultural activity and processing was observed at Uphall Camp (mainly arable and more limited evidence for pastoral; Telfer 2004, 373, 388), Stratford (mixed pastoral and arable; Powell 2012, 64), Whitechapel (limited evidence for mixed), and Heathrow (largely pastoral with more limited evidence for arable; Framework Archaeology 2010, 259). Industrial activity was observed at Uphall Camp comprising possible workshops and evidence for metal working (Telfer 2004, 371). Evidence of metalworking and weaving was also found at Barn Elms (Nesbitt 2022, 102); evidence for weaving was found at Stratford, but metalworking was absent. At Heathrow, the lack of evidence for Middle Iron Age metalwork demonstrates its scarcity (Framework Archaeology 2010, 222). At Whitechapel there were tantalising hints of industrial activity, although this could not be confirmed due to the possibility of contamination.

The settlement encircled with large defensive ditches at Uphall Camp is the largest known Middle Iron Age site of its kind in the region (Telfer 2004, 355). The excavations uncovered evidence for domestic activity, agricultural activity of both pastoral and arable types, plus craft or industrial activity, with a range of structures reflecting diverse functions. Nine circular buildings ranging in size from 7.20m to 15m in diameter were identified. The largest such building was interpreted as a possible barn, owing to its association with large quantities of charred grain. Two penannular enclosures were investigated, six four-post structures were interpreted as granaries, and at least four rectangular, sleeper-beam and post structures believed to be sheds or working areas (*ibid*, 373). While the smaller Middle Iron Age Greater London settlements have produced evidence for some of these agrarian and craft or industrial activities, the impression is that these smaller communities primarily focused on agriculture. This trend perhaps suggests a settlement model in which the smaller enclosed farmsteads were probably occupied by extended family groups which were largely self-sufficient, but relied on larger settlements for specialised crafts and perhaps for centralised food storage or redistribution. Certainly, the scale of metalworking activity taking place at Uphall Camp seems greater than at the other sites in the region identified so far. Full understanding of the position of the other large enclosure settlements within this settlement model, such as at Woolwich and Barn Elms, will only be possible once the post-excavation analysis of these sites is complete and their chronology established.

### *The Roman Landscape*

The Roman evidence consisted of a substantial east–west ditch dated AD 50–400. This appears to be aligned parallel with the projected line of the London to Colchester Roman road (now the A11, Fig

1), some 135m to the north of the site. The presence of an 'ankle-breaker' type slot in the base of this ditch and its close similarity to a pre-Flavian example found nearby at Aldgate, which is interpreted as a military feature (Chapman & Johnson 1973, 5–6, 12–13; see above), is noteworthy, although at Whitechapel there is no other evidence for military or settlement activity. Therefore, it is possible that this ditch served as a rural land boundary or drainage feature.

### *Conclusions*

Combining the conjectured Whitechapel enclosure circumference with the projected circumferences for B1 and B2 indicates that another two or three roundhouses of comparable size could have fitted within the settlement boundary. That could mean that the settlement may have contained four or five roundhouses, although that would have left minimal space for other structures. Essentially, this could represent the settlement of an extended family group, much like the one at Stratford.

When the evidence of Middle Iron Age settlement from Whitechapel is combined with the material from Barnes, Hammersmith, Ilford, Stratford, Southwark and Woolwich, a reconsideration of the nature of Middle Iron Age settlement within Greater London needs to be entertained. There was a variety of large and small enclosed settlements within this period across London. There have been various surveys of later prehistoric settlement in Greater London (including: Cotton 2018; Cotton & Merriman 1991; Cotton in Cohen & Wragg 2017, 21–30; Holder & Jamieson 2003; Wait & Cotton 2000) which have been of great importance in furthering our understanding of settlement distribution, but the new volume of data necessitates a reappraisal of the evidence.

It is also worth reiterating that in the flood plain areas to the east of the Roman city, archaeologists may not have been digging deep enough, a point Merriman (1992) made three decades ago. It should be remembered that the Middle Iron Age settlement at Whitechapel (as well as a great deal of the medieval archaeology) was located under redeposited natural deposits, interpreted as medieval alluvium (Baker 1998; see above), and it is possible that other archaeological sites have been missed in east London owing to the similarity of redeposited brickearth to its natural counterpart. It was only through the large-scale excavation at Whitechapel that it was possible to understand the scale and sequence of the redeposited natural deposits. Alongside the need for an updated synthesis of Middle Iron Age sites in London, it may be necessary to re-examine how the archaeological potential for East London is appraised.

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## NOTES

[1] Maloideae is a botanical subfamily of shrubs and small trees, including apples and Roseaceae.

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