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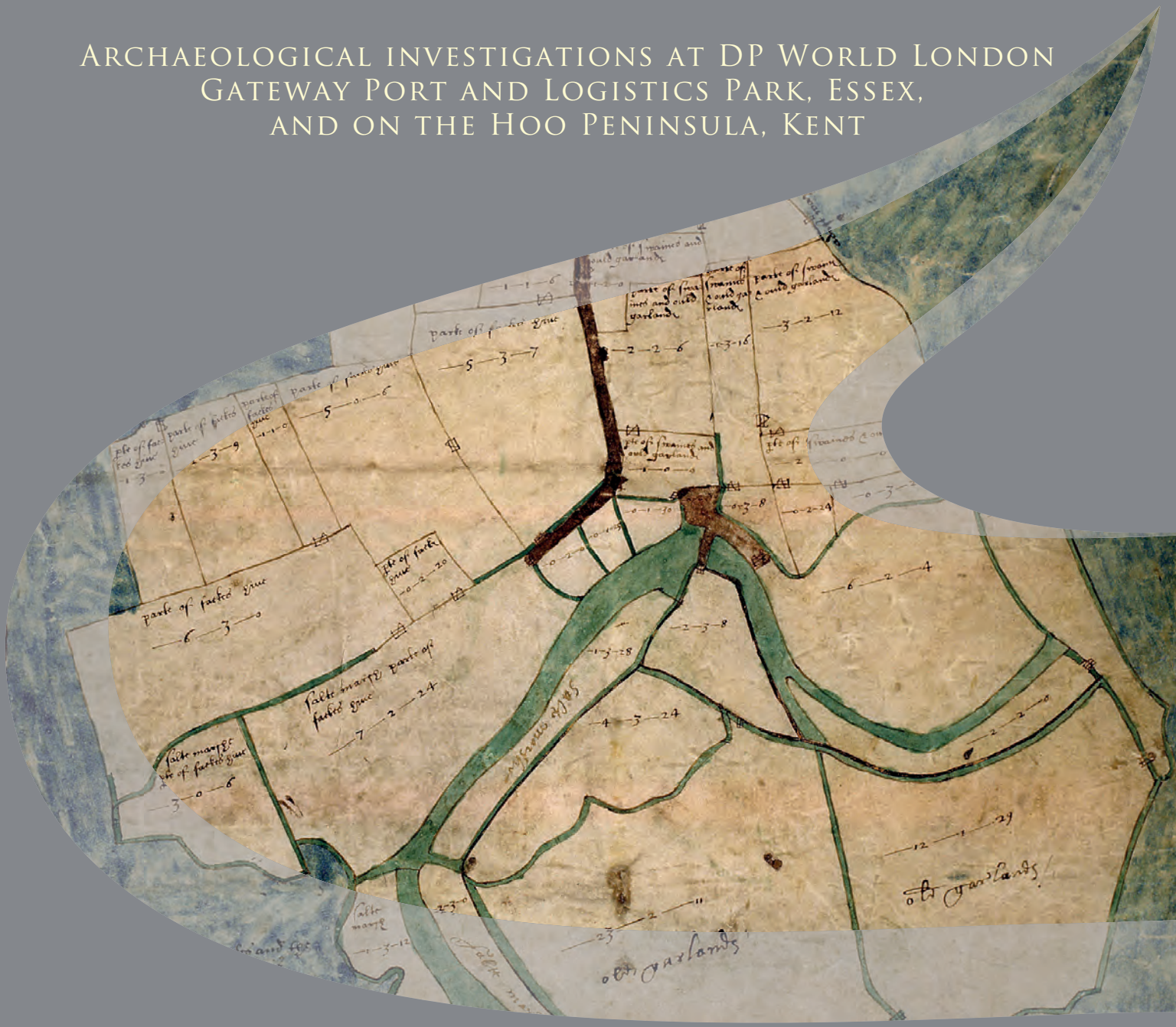
Archaeological investigations at DP World London Gateway Port and Logistics Park, Essex, and on the Hoo Peninsula, Kent



Specialist Report 1
Prehistoric Pottery
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Introduction

A combined total of 810 sherds (10443g) of prehistoric pottery were recovered from the investigations at three of the project sites (Table 1). With the exception of five probable middle Iron Age body sherds (14g) from ditch 10030 at the LG Access Road site (not discussed further), all the material is of later Bronze Age to earlier Iron Age attribution and belongs to the Deverel-Rimbury and Post-Deverel-Rimbury ceramic traditions of the region. Most significant is the assemblage of non-funerary middle Bronze Age Deverel-Rimbury pottery, which constitutes the bulk of the material by both sherd count (76%) and weight (90%). The key assemblages derive from the Access Road (COARD12) and Rail Corridor (COMWR12) sites, which contain the majority of the diagnostic sherds and are given greater prominence in the descriptions and discussions of the prehistoric pottery which follows. In general, the pottery assemblage is in a stable condition, though sherd sizes are predominantly small, and many shows signs of moderate abrasion.

Methodology

All the pottery has been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (PCRG 2011). After a full inspection of the assemblage, fabric groups were devised on the basis of dominant inclusion types, their density and modal size. Sherds were counted, weighed (to the nearest whole gram) and assigned to a fabric group (sherds broken in excavation were counted as single entities). Sherd type was recorded along with evidence for surface treatment, decoration, and the presence of soot and/or residue. Rim and base forms were described using a codified system recorded in the catalogue and were assigned vessel numbers. Where possible, rim and base diameters were measured and surviving percentages noted. Sherds less than 4cm in diameter were classified as ‘small’ (642 in total); sherds measuring 4-8cm were classified as ‘medium’ (129 in total), and sherds over 8cm in diameter were classified as ‘large’ (39 in total). Crumbs – fragments weighing less than 1g – were not

counted but weighed by context and recorded on the datasheet (328g). The quantified data is presented on an Excel datasheet held in the site archive.

Fabrics

A total of 12 fabrics are identified in the assemblage, belonging to one of four principal fabrics groups defined by presence of flint, flint and grog, flint and sand, and sand and voids. Although there are clear trends in the frequency of different fabrics by period (discussed below), the general character of the wares is broadly similar across the project sites. Some variation is evident in the clay matrix, particularly in how micaceous some sherds are. However, there appears to be as much variation in the microscopic details of wares within site assemblages, as there are across wares from different site assemblages, and this probably reflects the fact that different sources of clay were being exploited. Without the application of thin-section analysis, the sources of these clays and tempering ingredients remain impossible to pinpoint. However, in each case, the raw materials required for the production of ceramics were potentially available within the local landscape of each site.

Flint group

F1: Common very coarse burnt flint (mainly 2-9mm in size). Clay matrix may contain sparse to moderate fine sand

F2: Common to abundant coarse burnt flint (2-5mm in size)

F3: Moderate to common coarse burnt flint (2-5mm in size). Clay matrix of some sherds is micaceous

F4: Common to abundant medium burnt flint (1-2mm in size)

F5: Moderate to common medium burnt flint (1-2mm in size)

F6: Sparse to moderate fine flint (mainly <1mm in size)

F: Small sherds with flint too abraded or too small to categorise further

Flint and grog group

FG1: Sparse to moderate medium and coarse burnt flint (1-3mm in size) and sparse to moderate fine to coarse grog (1-6mm in size). Grog can be buff to dark grey in colour with some larger fragments (>4mm in size) containing burnt flint. Clay matric of some sherd is micaceous

Flint and sand group

FQ1: Common medium and coarse burnt flint (mainly 1-4 mm in size) in a dense fine sandy clay matrix. In some sherds the matrix is micaceous

FQ2: Sparse to moderate medium burnt flint (1-2mm in size) in a dense fine sandy clay matrix

FQ3: Common fine burnt flint (mainly <1mm in size) in a dense fine sandy clay matrix

Sand and voids group

QV1: Sparse to moderate fine sand, often micaceous. Fabric is soft and often powdery in texture with moderate linear voids from burnt out organic matter (1-2mm in size). Some sherds could be fragments of fired clay

Middle Bronze Age Deverel-Rimbury pottery

The Middle Bronze Age assemblage comprises 606 sherds (9352g) with a mean sherd weight (MSW) of 15.4g. The pottery was recovered from all three project sites (Table 1.1), though the group from the Pipeline Diversion site (COLP15) consisted of just five sherds (68g) derived from two ditch contexts and a Roman tile-built feature. All the sherds here are abraded and some, if not all, are residual. By contrast the material from the other two sites largely derived from pits (98% by weight) and includes a series of partial vessels profiles and the bases of buried pots.

With the exception of two small sandy ware sherds in fabric QV1 (11g) – both of which may be fragments of fired clay – the pottery is exclusively tempered with crushed burnt flint, with 98% (by weight) belonging to coarse ware fabrics F1 and F2 (Table 1.2). These have common to abundant inclusions of flint (in some instances up to 11mm in size) that pierce the surface of the ceramic and create a rough, abrasive texture. Most are thick-walled sherds and, judging from the partial profiles that can be reconstructed, belong to large pots with walls measuring 12-19mm in thickness (measurements taken in the neck-zone, where possible). Sherds in other fabrics are rare, and whilst none may be classed as fine, those with crushed flint in the 1-2mm size range (fabrics F4 and F5) tend to have thinner walls, and probably belonged to smaller pots.

In total, six different vessel rims and five different bases are present in the assemblage. The rims are upright or in-turned and have round, flat-topped or slightly

expanded terminals typical of Deverel–Rimbury vessels. Three of these are plain rims (in fabrics F2, F4 and F5), but are too small to measure the mouth diameters of, or detail further with regards the form and size of the pots they belonged to. The other three are decorated on the rim-top with fingertip impressions and are more intact.

The first derives from pit 141 at the Rail Corridor site and comprises five refitting sherds (364g) in fabric F2. It belongs to a large, slightly barrel-shaped vessel with mouth diameter of *c* 32cm (*c* 12% of rim circumference intact), with a simple flat-topped rim with closely spaced fingertip impressions on the rim-top (Fig. 3, vessel 2). The vessel was found partially intact within the pit and was recovered alongside a further 33 sherds (539g) in the same fabric, most probably belonging to the vessel (a total of 38 sherds, 903g from pit 141).

The other two partially intact vessels were both recovered from pit 1004 at the Access Road site, which yielded a total of 125 sheds (5221g). Both vessels appear to have been heat-affected, with discoloured/slightly burnt surfaces. One consists of at least eight sherds (358g), with six refitting sherds (343g) belonging to a slightly barrel-shaped jar in fabric F1 with a fingertip impressed rim-top (Fig. 3, vessel 6). This pot is too fragmented to establish the rim-diameter but is clearly a large vessel with walls 13mm thick (measurement taken at the neck). The fingertipping on the rim-top is relatively deep and has pushed out the clay, creating a slight lip on the interior rim-edge.

The second vessel is more complete and is a more elaborately decorated pot (Fig. 3, vessel 7). It comprises at least 40 sherds (3396g; 11 sherds refitting (1330g)), again belonging to a large, slightly barrel-shaped jar in fabric F1 with walls up to 19mm thick (measurement taken at the neck). The vessel has a mouth diameter of *c* 36cm (*c* 34% of the circumference intact) and has a flat-topped rim, which is rounded on the exterior and interior in places as a consequence of the deep fingertip impressions on the top. The vessel has a slightly raised fingertip-decorated cordon, located broadly around the point of maximum girth, *c* 11cm below the rim. The pot is also adorned with a row of circular tool-impressed holes, *c* 7-9mm in dimeter, located beneath the rim on the exterior. These are spaced every 3-4cm apart, but do not penetrate all the way through the vessel wall. Instead, they are impressed to a depth of around 13mm, in some places causing a faint bulge in the vessel wall on the interior. Perforations in this zone are not uncommon on Deverel-Rimbury vessels, and those which fully penetrate the vessel wall may have had a functional role in suspension or the tying on of covers. Here, however, the holes appear to be decorative. This is slightly unusual, but has been

recorded elsewhere, notably at North Shoebury in south-east Essex (Brown 1995, 80-81, fig. 63, no. 43).

In total there are 24 decorated sherds (2154g) in the middle Bronze Age assemblage, deriving from a maximum of eight vessels, including the three described above (Table 1.3). They consist of fingertip decorated rims, partially perforated necks, fingertip-decorated cordons, a plain cordon and one fingertip-decorated sherd of uncertain vessel location. No other forms of decoration or surface treatment were noted, and there were no burnished finewares or fragments of globular vessels.

The only other feature sherds in the assemblages were base fragments, belonging to five different vessels. Four of these have simple flat foots, but one is slightly pinched or squashed out around the circumference. Three of the bases are represented by single sherds and are too small to establish the diameters. The other two bases were from truncated vessels buried upright in pits 113 and 106 at the Rail Corridor site. Superficially, the deposits resemble typical middle Bronze Age urned cremations in fabric F2, with the cuts dug to receive the vessels. However, no bone was recovered from the fills. The pot from 106 is a thick-walled vessel with a base dimeter of 15cm (69 sherds, 1549g), and survives to a height of 12cm when refitted. The vessel from pit 113 is very friable and has largely disintegrated (233 sherds). Photographs taken during excavation suggest the pot had a base diameter of *c* 17cm.

Late Bronze Age and late Bronze Age-Early Iron Age Post-Deverel-Rimbury pottery

Small groups of late Bronze Age and late Bronze Age-early Iron Age pottery were recovered from the Access Road and Pipeline Diversion sites (Table 1.1). Combined, these include 190 sherds weighing 1077g. The pottery was very fragmented, as reflected by the low MSW of 5.7g and the fact that 85% of sherds measured less than 4cm in size. Many of the sherds were also abraded, with 31 (268g) being unstratified or recovered from topsoil or subsoil horizons, and a further 14 (142g) being residual in later features. The remaining pottery derived from a combination of pits and postholes (115 sherds, 490g), ditches (29 sherds, 174g) and a tree-throw hole (1 sherd, 3g). None of the individual assemblages was large, with only six pits/postholes yielding more than ten sherds apiece, and no one context containing more than 142g of pottery. The size of the assemblages and the condition of the pottery therefore limits the inferences that can

be drawn, although a sufficient number of rims, bases and other feature sherds were recovered to assist in dating and to recognise affinities with the region's Post-Deverel-Rimbury (PDR) ceramic tradition (Barrett 1980; Brudenell 2012). Moreover, efforts have been made to try to distinguish between material that may be purely late Bronze Age in origin (*c* 1150-800 BC), and that which is late Bronze Age-early Iron Age in date (*c* 1150-350 BC).

The fabrics of the PDR assemblage are subtly different to those from the middle Bronze Age. The inclusion of crushed burnt flint remains ubiquitous, but the grade and density of flint tends to be smaller or lower in PDR groups, with vessel walls thinner (mostly 5-8mm in thickness). Sherds with a combination and flint and sand (FQ fabrics) also appear and are slightly more prominent in groups dated late Bronze Age-early Iron Age (Figs 1 and 2) – a pattern noted elsewhere in eastern England (Brudenell 2012). Combined, wares at the coarse end of the flint-tempered spectrum are the most prolific, with sherds in fabric F2 and FQ1 accounting for 42% and 16% of the pottery (by weight) respectively. By group, flint fabrics (F and F1-6) account for 58% of the assemblage by weight, flint and sand (FQ103) 26%, and flint and grog (FG1) 13%. Sherds in fabrics Q1 account for the remainder of the pottery.

The assemblage includes ten different vessel rims and three flat base fragments from different pots. A range of rim forms are represented, with flat-topped, rounded and externally expanded varieties present. Forms more diagnostic of the PDR tradition include an in-turned or 'hooked' rim, a tapered rim and an internally bevelled rim. All the rims are plain, and only one is sufficiently intact to measure the mouth diameter. The only partial vessel belongs to a convex walled coarse-ware jar with a rounded rim in fabric FG1. This derived from pit 2017 at the Access Road site and is a vessel form characteristic of late Bronze Age Plainware PDR groups.

Decoration is restricted to five sherds (88g) derived from three vessels. Two of these vessels are coarse wares in fabrics F2 with neck cordons, one of which is cabled, whilst the other has fingertip impressions. The latter is located on the exterior neck angle, with the neck itself being everted, similar to a late Bronze Age vessel illustrated from Mucking (Brudenell 2016, 190, fig. 3.30, no 39). The rim has traces of carbonised residue on the exterior and is one of only four sherds (17g) with such in the assemblage. The remaining decorated vessel is represented by an abraded burnished body sherd in fabric FQ1 with combing on the exterior. This form of decoration is quite distinctive and is restricted to late Bronze Age and earliest Iron Age assemblages in south-east

Essex and parts of northern and eastern Kent (Brudenell 2012, 245-246). Overall, a total of 11 sherds (64g) are burnished and a further eight (89g) have smoothed surfaces. These treatments are associated with wares at the finer end of the fabrics spectrum, notably sherds in fabrics F6, FQ2 and FQ3.

Discussion

The middle Bronze age assemblage is typical of Deverel-Rimbury ceramics in south Essex and parts of northern Kent dating *c* 1600-1150 BC and fits comfortably within Ellison's Lower Thames Valley group (Ellison 1980). In south Essex, the pottery can be paralleled at several sites, including Mucking (Brown 2016), Bata Fields, East Tilbury (Percival 2016), and slightly further afield at Clements Park, Southend-on-Sea (Leivers 2013) and North Shoebury (Brown 1995). These excavations have all yielded non-funerary assemblages of the middle Bronze Age pottery dominated by coarse flint-tempered bucket and barrel-shaped vessels, often displaying fingertip decorated rims and cordons akin to those described above.

The four key groups of pottery from this project derived from pit 1004 at the Access Road site, and pits 106, 113 and 141 at the Rail Corridor site (Table 1.4). Combined, they account for 92% of the middle Bronze Age pottery by sherd count (or 93% by weight), include seven of the 11 different rims and bases recovered, and contain all but two of the decorated sherds. The deposits in pit 106 and 113 are from single vessels, although a stray rim in pit 106 may be from a different pot. The groups from pits 141 and 1004 are slightly more mixed, but are dominated by specific vessels, with multiple refitting sherds identified. Interestingly, the two pots from pit 1004 are both burnt. Given that such vessels are commonly incorporated in the funerary process, and often accompany cremation burials, it is tempting to suggest that they might have been retrieved from a pyre or pyres, especially as cremated bone was found from the pit. However, the bone could not be positively identified as human, and the pots were found alongside other broken fired clay artefacts, the debris was more likely to have been generated from non-funerary related activities.

The late Bronze Age and late Bronze Age-early Iron Age assemblages from the project are small and contain few diagnostic feature sherds. In broad terms they all belong to the Post-Deverel-Rimbury ceramics tradition, with the range of fabrics recorded being entirely characteristic of the period and region (Barrett 1980; Brudenell

2012). The few decorated sherds recovered can be paralleled locally in assemblages from Mucking (Barrett and Bond 1988; Brudenell 2016), although in general, the wares are common to many sites across eastern and southern England. Whilst the character of the material suggests that most of the pottery is late Bronze Age in date – belonging to the Plainware phase of the PDR tradition – the presence of transitional or early Iron Age ceramics is hinted at by the frequency of flint and sand fabrics in some groups. Unfortunately, it is difficult to be more precise about the date ranges, but in each case, the small size of the groups suggests relatively limited, and possibly short-term occupation in these periods.

Catalogue of illustrated pottery

Middle Bronze Age pottery

Fig. 3, vessel 6. Vessel/urn with fingertip impressed rim-top. Fabric F2. COMWR12, context 142, pit 141

Fig. 3, vessel 2. Vessel/urn with fingertip impressed rim-top. Fabric F1. COARD12, context 1003, pit 1004

Fig. 3, vessel 3. Vessel/urn with fingertip impressed rim-top and cordon, and a row of circle impressions below the rim exterior. Fabric F1. COARD12, context 1003, pit 1004

References

Barrett, J, 1980 The pottery of the later Bronze Age in lowland England, *Proc Prehist Soc* **46**, 297-319

Barrett, J, and Bond, D, 1988 The pottery, in *Excavations at the North Ring, Mucking, Essex: a late Bronze Age enclosure* (D Bond), East Anglian Archaeology **43**, Chelmsford, 25-37

Brudenell, M, 2012 Pots, practice and society: an investigation of pattern and variability in the Post-Deverel Rimbury ceramic tradition of East Anglia, unpubl thesis, University of York

Brudenell, M, 2016 Late Bronze Age pottery, in Evans *et al.* 2016, 158-188

Brown, N, 2016 Pottery, in Evans *et al.* 2016, 105-109

Brown, N, 1995 Later Bronze Age and early to middle Iron Age pottery, in Excavations at North Shoebury: settlement and economy in south-east Essex 1500 BC-AD 1500 (J J Wymer and N R Brown), East Anglian Archaeology **75**, Chelmsford, 77-88

Ellison, A, 1980 Settlements and regional exchange: a case study, in *Settlement and society in the British later Bronze Age* (eds J Barrett and R Bradley), BAR Brit Ser **83**, Oxford, 127-140

Evans, C, Appleby, G, and Lucy, S, with Appleby, J, and Brudenell, M, 2016 *Lives in land: Mucking excavations by Margaret and Tom Jones, 1965-1978. Prehistory, context and summary*, Oxbow Books, Oxford

Leivers, M, 2013 Prehistoric pottery, in Bronze Age and Anglo-Saxon occupation at Clements Park, Southend-on-Sea (G Chaafey, G Wakeham, M Leivers and P Bradley), *Essex Archaeol Hist* **4**, 45-46

Percival, S, 2016 Prehistoric pottery, in Neolithic, Bronze Age and modern activity at Bata Fields, East Tilbury, Essex (L Bush), unpublished report, Oxford Archaeology East, https://library.thehumanjourney.net/3240/

PCRG, 2011 *The study of later prehistoric pottery: general policies and guidelines for analysis and publication*, 3 edn, Occasional Paper 1 and 2, Prehistoric Ceramic Research Group

Prehistoric Pottery Tables

TABLE 1.1: QUANTIFICATION OF PREHISTORIC POTTERY BY SITE AND PERIOD

Site	Project Code	MBA (no./wt)	LBA (no./wt)	LBA-EIA (no./wt)	MIA (no./wt)	Total no./wt sherds
LG Access Road	COARD12	244/5512g	118/527g	10/75g	5//14	377/6128g
Pipeline Diversion	COLP15	5/68g	16/90g	46/385g	-	67/543g
LG Rail Corridor: Broadhope Loop	COMWR12	357/3772g	-	-	-	357/3772g
Total	-	606/9352g	134/617g	56/460g	5/14g	801/10443g

MBA (Middle Bronze Age), *c* 1600-1150 BC). LBA (Late Bronze Age), *c* 1150-800 BC. LBA-EIA (Late Bronze Age-Early Iron Age), *c* 800-350 BC. MIA (Middle Iron Age), *c* 350-100 BC

TABLE 1.2: QUANTIFICATION OF MIDDLE BRONZE AGE POTTERY BY FABRIC

Fabric type	Fabric Group	No. sherds	Weight (g)	% of fabric (by Wt)	MNV
F1	Flint	218	5279	56.4	4
F2	Flint	369	3895	41.6	5
F3	Flint	11	97	1.0	0
F4	Flint	5	62	0.7	1
F5	Flint	1	8	0.1	1
QV1	Sand and voids	2	11	0.1	0
Total	-	606	9352	99.9	11

MNV= minimum number of vessels calculated as the total number of different rims and bases identified (six rims, five bases)

TABLE 1.3: QUANTIFICATION OF MIDDLE BRONZE AGE DECORATION

Decoration	No sherds	Weight (g)	No. vessels
Fingertip dec. rim-top	6	320	2
Fingertip dec. rim-top, partially perorated neck and fingertip dec. cordon	13	1625	1
Plain cordon	1	17	1
Fingertip dec. cordon	3	189	3
Fingertip dec. sherd	1	3	1
Total	24	2154	8

TABLE 1.4: MAJOR MIDDLE BRONZE AGE POTTERY DEPOSITS

Feature	Site	No. sherds	Weight (g)	MSW	No. of different vessel rims	No. different vessel bases
Pit 1004	COARD12	216	5221	24.2	2	1
Pit 141	COMWR12	38	903	23.8	1	-
Pit 113	COMWR12	233	991	4.3	-	1
Pit 106	COMWR12	71	1572	22.1	1	1
Total	-	558	8687	-	4	3

MSW = Mean sherd weight (weight / no. sherds)

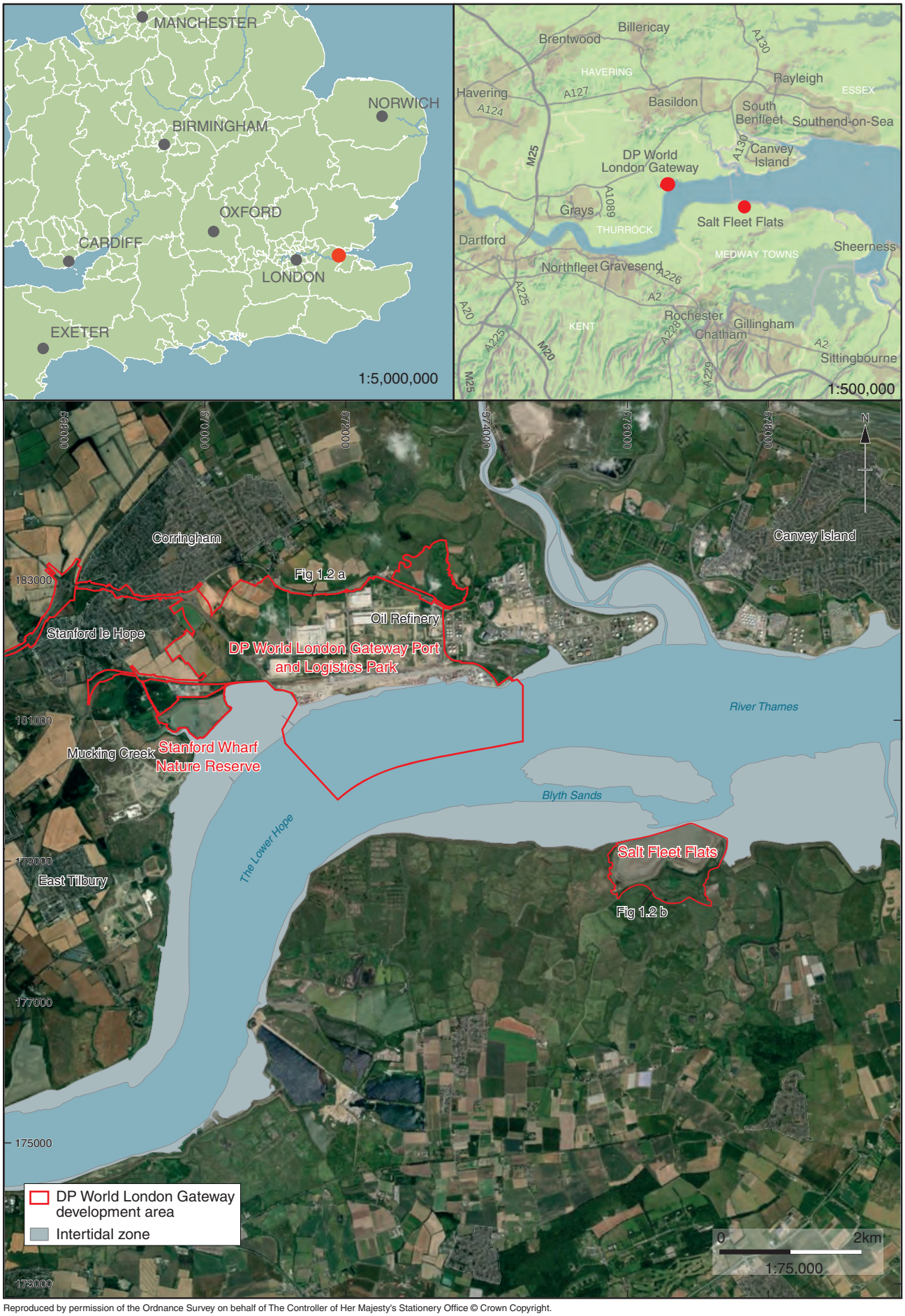

FIG. 1: RELATIVE FREQUENCY OF FABRICS BY WEIGHT (G) AND PERIOD

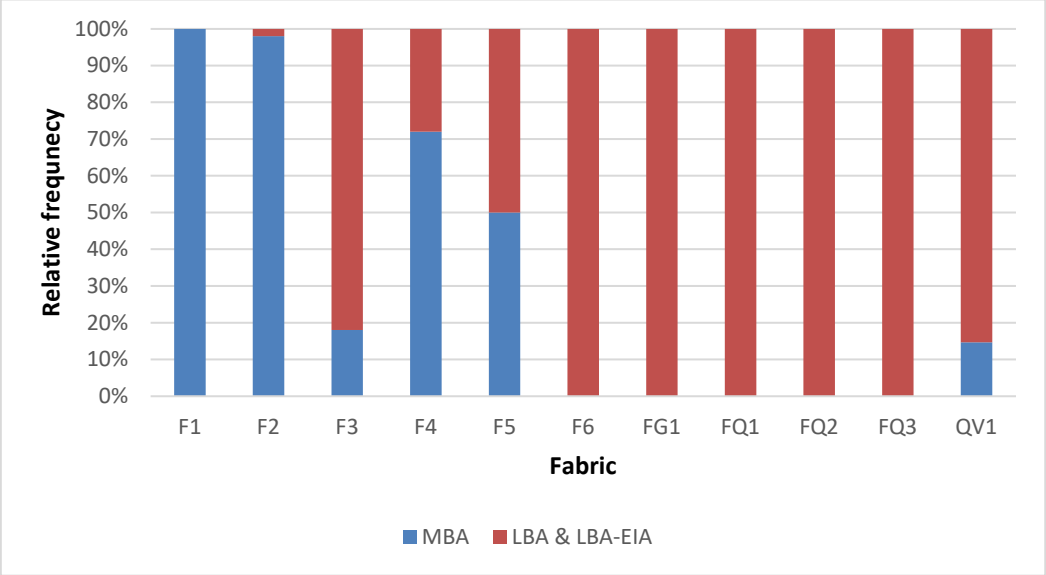

FIG. 2: RELATIVE FREQUENCY OF LATE BRONZE AGE AND LATE BRONZE AGE-EARLY IRON AGE FABRICS BY WEIGHT (G)

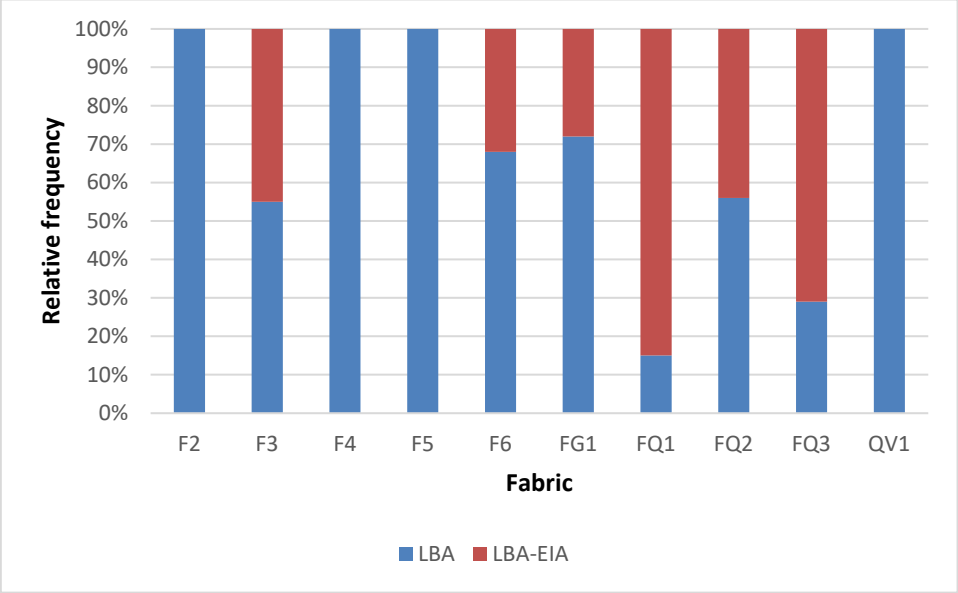

Figure 3: Selected middle Bronze Age pottery.
1: middle Bronze Age rim with fingertip impressions from pit 141, Rail Corridor;
2: middle Bronze Age rim with fingertip impressions and
3: middle Bronze Age decorated jar, both from pit 1004, Access Road

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