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# Early Roman Pottery Production at Brampton, Cambridgeshire

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*Recent excavations by Oxford Archaeology East at Brampton, Cambridgeshire revealed eight well preserved early Roman pottery kilns, several of which retained in situ kiln furniture and the re-deposited remains of pottery wasters. It was evident that not all of the kilns were in use at the same time, but they were all used to produce a conservative range of fabrics and forms, primarily Sandy reduced (grey) ware lid-seated jars and lids, over a period broadly between 60–80AD. The design and furnishing of the kilns are unusual when compared to other published Cambridgeshire examples and may have been influenced by communities in Northamptonshire and the Upper Nene Valley. It is suggested, therefore, that these remains represent the work of at least one generation of indigenous craftspeople working in the decades following the Roman Conquest, perhaps with links to the nearby fort and settlement at Godmanchester and thereby technological advances from further afield.*

## Site Location (Fig. 1)

The kilns were discovered to the south of Brampton House on the southern outskirts of Brampton village, c 2.7km south-west of Huntingdon (TL 2082 6994). The solid geology in this area consists of Jurassic clays of the Oxford Clay Formation Mudstones overlain by superficial deposits of Quaternary River Terrace sands and gravels (British Geological Survey 1978). The site, situated 1.25km west of the River Great Ouse, lies at c. 10m OD and is relatively flat.

## Archaeological and Historical Background (Fig. 1)

Brampton and its environs have been used by humans for many thousands of years, as occasional finds of Palaeolithic worked flint and Neolithic axe heads, recorded in the Cambridgeshire Historic Environment Record (CHER), demonstrate. During the Iron Age, the wider area was extensively colonised, with settlement remains including ditches, pits, enclosures and field systems being identified to the south-west (Patten *et al.* 2010; CHER MCB20046). These appear to have been part of a broader landscape of Iron Age and Roman enclosures, field systems, settlements

and possible droveways, largely represented by crop-marks and more recently geophysical survey results, extending to the south and west of Brampton Park (e.g. CHERs 4475; 05765; MCB17492). Evaluation as part of the A14 road improvements to the west identified a series of enclosures and buildings, a possible corn dryer and an inhumation burial (Patten *et al.* 2010; MCB20033). Of particular interest is the recent discovery of an early Roman pottery kiln, located during a further phase of evaluation c. 1km west of the site, which was revealed but not fully excavated (Jones and Panes 2014; Fig. 13).

The Brampton site lies a short distance (c. 3km) to the west of the early Roman fort at Godmanchester, around which a walled town developed, where a number of pottery kilns are known to have been in production from at least the Antonine period (AD 138–180) (Evans 2003a, 59). The fort controlled the river crossing of Ermine Street and the junctions of two minor roads (Margary's Routes 22 and 24; Fig. 13) from Sandy and Cambridge (Green 1960; Lyons forthcoming).

Brampton House, set within Brampton Park, to the north of the site is thought to have originally been built in the 12th century; a much later version still survives today (Page *et al.* 1936, 12–13). It was first used by the British military in World War 1 to house German prisoners and again during the early years of World War 2 to shelter evacuated children. In 1942 the United States Army Air Corps First Bomb Wing Headquarters took occupancy, who were in turn replaced by the Royal Air Force Technical Training Command in 1945. In 1955 Brampton Park became RAF Brampton, which it remained as until the base was decommissioned in 2012. The site is presently being redeveloped for housing.

## The Evaluation and Excavation (Fig. 1)

An evaluation by trial trench undertaken in 2015 by Oxford Archaeology East (OA East; Stocks-Morgan 2015), as part of a wider programme of investigation, identified part of a poorly-dated early to middle Iron Age enclosure along with post-medieval

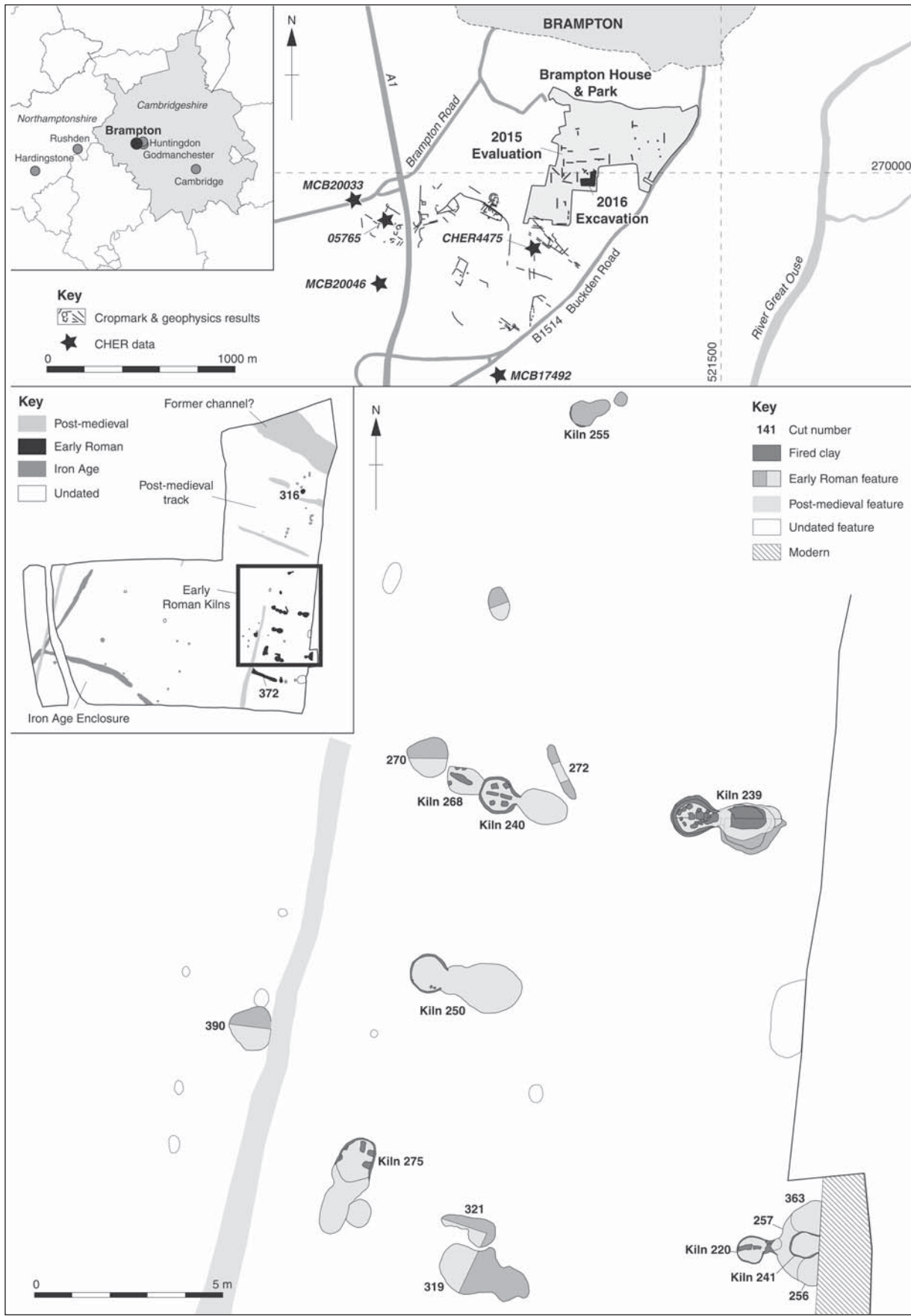


Figure 1. Site location with detail of early Roman kiln area.

features associated with Brampton Park. As a result of these discoveries an open area excavation (0.37ha) was commissioned and completed in 2016 (Nicholls 2016). The excavation not only further examined the features identified by the evaluation but also revealed eight previously unknown early Roman pottery kilns and a scatter of contemporary features. A full report describing the results of the excavation, including details of the Iron Age and post-medieval features, in addition to further descriptions of the kilns and associated finds (Nicholls 2016) is freely available to download from the OA Library. The site archive will be deposited with Cambridgeshire County Council Stores, under the site code BRARAF 16/ ECB 4681.

### The Pottery Kilns and their Products (Figs 1–5)

During the excavation the primary focus was the eight well-preserved Roman pottery kilns (Kilns 220, 239, 240, 241, 250, 255, 268 and 275). The main group of kilns was clustered in a small area (25m by 15m) partially demarcated by a ditch to the south (372), with an isolated kiln (255) some 10m to the north. No definitive evidence of related structures was identified. The kiln area clearly extended beyond the edge of excavation to the east: it is not known if any associated features survive beneath, or have been destroyed by, the modern RAF housing located there. In addition to the kilns, a number of nearby pits and other features, including a possible beamslot or gully (272), were identified that may have been related to the kilns. These include two large amorphous pits (319 and 321) found close to Kiln 275 that together produced a small collection of Iron Age to Roman pottery and a fragment of kiln furniture. Occasional pottery sherds or pieces of kiln furniture were also recovered from a handful of other pits (270, 390 and 316), while two pits (256 and 363) at the eastern edge of the excavation produced a moderately large group of pottery (nearly 2kg), much of which probably derived from Kilns 241 or 220. Although no kiln furniture was recovered from the boundary ditch to the south, this did contain fragments of lid-seated jar similar to those being produced within the kilns.

The kilns were of a simple ‘figure of eight’ or ‘dumb bell’ construction, with a small circular clay-lined firing chamber or oven and an associated stokehole. In general, the kilns were aligned east to west or south-east to north-west with the firing chamber to the west and flue leading to the stokehole to the east. The exception to this was Kiln 275, which was orientated approximately north to south with the firing chamber to the north. Within some of the firing chambers, pedestals of varying designs survived, occasionally *in situ*. Two of the kilns cut earlier examples, demonstrating that not all the kilns were in use at the same time. Indeed, they may have been in use singly or in pairs, with each kiln fired several times and repaired when necessary. Significant evidence of repair was seen in Kiln 239 which was re-lined at least once, while within Kiln 220 the pedestals over-

lay an earlier phase of use.

Ceramic assemblages contained within the kilns, which include wasters, suggest the kilns were primarily used to produce a limited range of utilitarian lid-seated jar forms, with associated lids, in three main fabrics: Sandy grey ware (SGW), Sandy oxidised ware (SOW) and Shelly wares (STW). Kiln furniture was also fabricated from three main fabrics, ranging from an orange red sand clay, some of which was burnt (Fabrics 1 and 2), to a grey sand clay matrix (Fabrics 3 and 4); all containing varying levels of flint, organic material, grog or other inclusions. The kilns are described spatially and – where appropriate – chronologically, together with details of their associated kiln furniture, superstructure and ceramic products; also summarised in a comparative table (Table 1). These descriptions are followed by an overview and description of the pottery vessel forms, fabrics and type series, and the kiln furniture fabrics and forms.

#### Kiln 241 (Fig. 2)

Kiln 241 was partially-exposed along the eastern edge of the excavation area: its full extent is not known as the stokehole lay beyond the limit of excavation. This kiln was one of the earliest in the group as it was cut by the large stokehole of Kiln 220 (see below). The surviving remains of the chamber (0.8m long by 0.7m wide and 0.1m deep) contained remnants of an orange-red fired clay lining and a single fill consisting of a dark blue grey sandy clay (248).

No kiln superstructure or pedestal fragments were recovered from this kiln, although two partial Fabric 1 kiln plates (one of which is burnt) were found. These measure between 10 and 12.5mm thick and one has a central perforation (22mm diameter). The more complete example is slightly curved, suggesting that it had become a little warped during the firing process.

Pottery totalling 50 sherds (883g; 1.55 Estimated Vessel Equivalent (EVE)) and representing a minimum of 15 individual vessels was recovered from fill 248. The assemblage is quite well preserved and has an average sherd weight of 18g. Sandy grey ware globular lid-seated jars with a single seating groove within the rim (type 4.4.1) were the main products (Fig. 6, Nos 1 and 2) of this kiln: all with a consistent rim diameter of 160mm. A small amount of Sandy oxidised lid-seated jars with double seating grooves within the rim were also found. A minor product of the kiln may have been the Shelly ware lid-seated jars – found only with single lid-seating grooves within the rim (Table 1).

#### Kiln 220 (Fig. 2)

Also located close to the eastern edge of the excavation area, the sub-circular firing chamber of Kiln 220 (0.8m long, 0.7m wide and 0.4m deep) was lined with a well-fired blue-grey clay (427). Within the chamber was a dark brown silty sand fill (249), associated with an initial period of use, from which no pottery was

Table 1. The kilns (with potentially earliest examples listed first), associated kiln furniture and ceramic products.

Kiln	Shape	Fittings	Kiln furniture	Main kiln product	Count	Weight (g)	Secondary kiln product	Count	Weight (g)	Date	All pot count	All pot weight (g)	All pot weight (%)
241	Circular (incomplete)	-	Plate	SGW: lid-seated jar (4.4.1), also jar (4.13) and dish (6.21). SGW: lid-seated jar (4.4.1), also lid (8.1).	28	537	SOW: lid-seated jar (4.4.2), also jar (4.5) and lid (8.2).	12	207	AD 60-80 (stratigraphically earlier than Kiln 220)	50	883	1.88
268	Circular (incomplete)	3 integral pilasters	Prop	SGW: lid-seated jar (4.4.1), also lid (8.1).	16	226	-	16	226	AD 60 (stratigraphically earlier than Kiln 240); integral pilaster design suggest early in sequence)	16	226	0.48
275	Oval	4 integral pilasters and a rectangular pedestal (? <i>in situ</i> )	Plate	SGW: lid-seated jar (4.4.1: some with a high shoulder), also cordoned jar (5.3), dish (6.21), storage jar (4.14) and a cheese-press (type 9.1)	211	3542	SOW: lid-seated jar (4.4.1; some with a high shoulder), also cordoned jar (5.3).	39	989	AD 60 (integral pilaster design suggest early in sequence)	251	4556	9.71
220	Figure of 8	2 rectangular pedestals	Plates	SGW: lid-seated jars (4.4.1 & 4.4.2: some with a high shoulder), also jars (4.5, 4.13 and 5.3), lid (8.2) and strainer (9.2).	188	3602	SOW: lid-seated jars (4.4.1 & 4.4.2), also lid (8.1).	84	1145	AD 60-80	280	4946	10.55
239	Figure of 8	2 rectangular pedestals	Plates	SGW: lid-seated jars (4.4.2), lids (8.1 & 8.2), cordoned jar (5.3).	285	4897	SOW: lid-seated jars (4.4.1 & 4.4.2), also lid (8.1).	253	5123	AD 60-80	588	10783	23.00
240	Figure of 8	2 rectangular and 4 cylindrical pedestals	Plates	SOW: lid-seated jar (4.4.1), also jar (4.8).	238	4119	SGW: lid-seated jar (4.4.1; some with a high shoulder), also jar (4.5).	191	3689	AD 60-80 (?contemporary with Kiln 250)	430	7826	16.69
250	Figure of 8	At least x 3 cylindrical pedestals	Plates	SGW: lid-seated jar (4.4.1; several with a high shoulder), also cordoned jar (5.3), lid (8.1), storage jar (4.14) and cheese-press (type 9.1).	243	14583	SOW: lid-seated jar (4.4.1; some with a high shoulder), also cordoned jar (5.3) and cheese-press (9.1).	126	2492	AD 60-80 (?contemporary with Kiln 240)	376	17173	36.63
255	Figure of 8 (small)	-	-	STW: lid-seated jar (4.4.1).	45	495	-	45	495	AD 60	45	495	1.06
<b>Total</b>								<b>2036</b>	<b>46888</b>		<b>2036</b>	<b>46888</b>	<b>100.00</b>

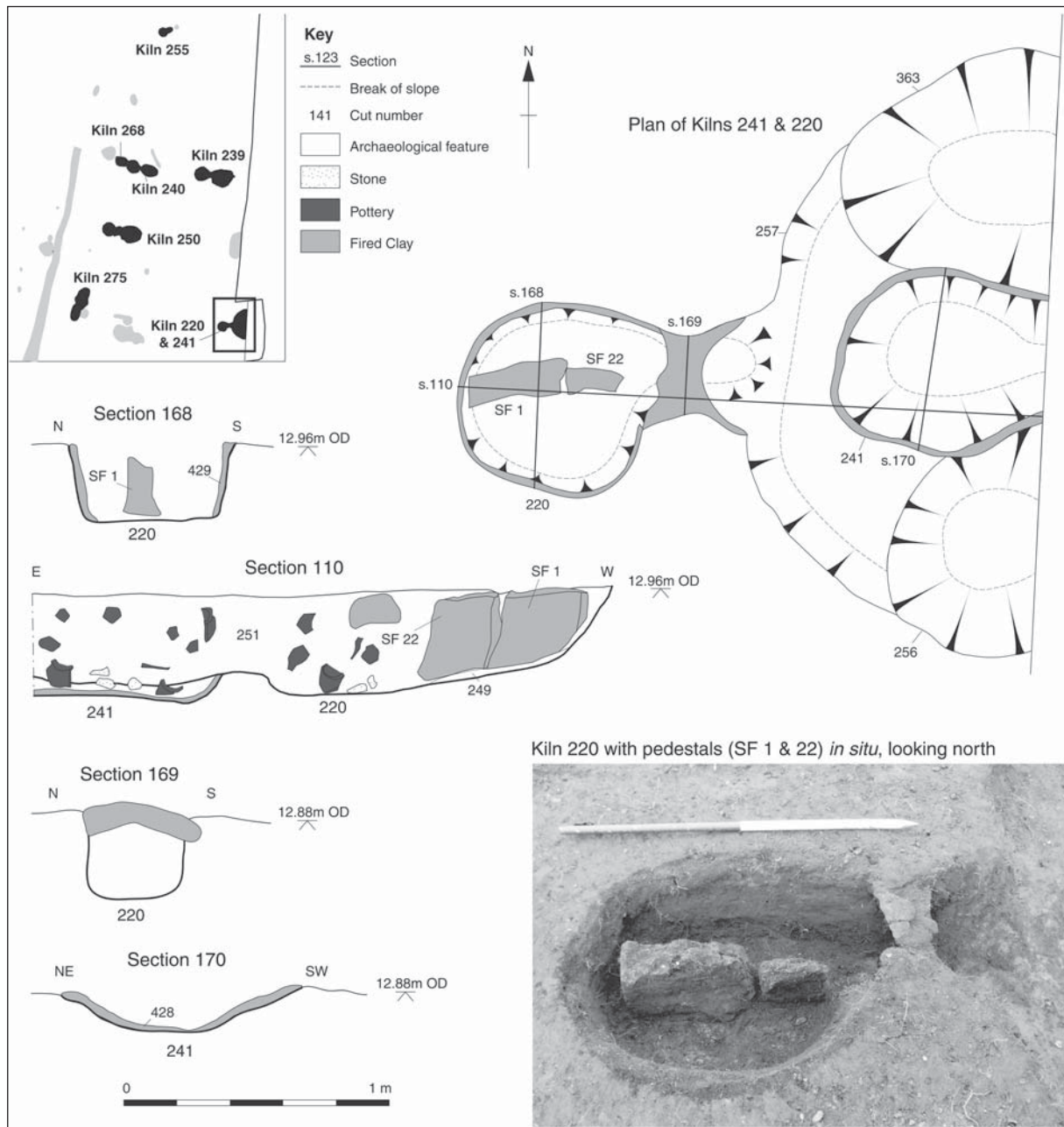


Figure 2. Kilns 241 and 220. See also Plate 1.

recovered. Directly above this fill were two fired clay rectangular pedestals (SFs 1 and 22), the largest of which was found at the western end of the chamber. The position of these rectangular pedestals – which are similar to those found in Kiln 240 (Fig. 4), although not as well shaped – above the primary fill indicates a second period of use for the kiln. Unusually in this kiln, the flue arch still remained *in situ*, constructed from orange-red fired clay (Plate 1). The stokehole (257) was also much larger than the chamber (0.7m long, 1.6m wide and 0.35m deep), although its full extent is unknown as it was cut by two pits to the south and north (256 and 363). The stokehole's single disuse fill (251), a dark brown clayey sand, contained the ma-

jority of the pottery and other finds from this kiln.

Collectively the kiln produced an assemblage of 76 fired clay pieces (16928g), much of which had survived in good condition with an average weight of 223g. The assemblage includes a small amount of the firing chamber wall (Fabric 1), but the majority comprises the two rectangular pedestals, produced in the same fabrics (Fabric 3; SFs 1 & 22). The larger of the pedestals is flared towards the bottom and top (SF 22: 317mm long, by 230mm wide by 106mm deep). Also found in the backfill of the kiln were the fragmentary remains of two cylindrical pedestals (Fabrics 3 and 4), along with the incomplete remains of five sub-rectangular kiln plates (between 10–12mm thick); at

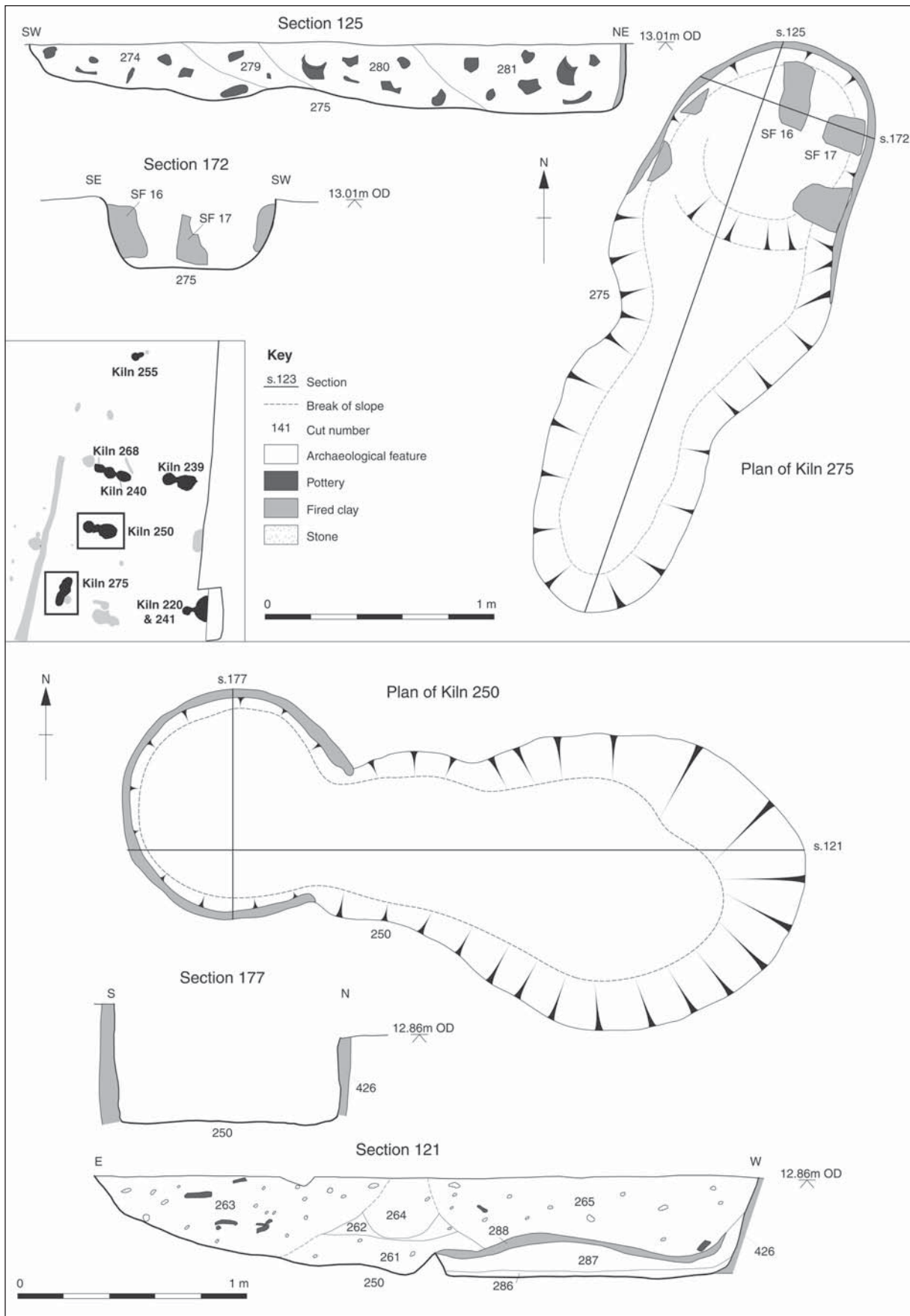


Figure 3. Kilns 275 and 250.

least three of which had central perforations (Fig. 11, SF 27).

A moderate pottery assemblage comprising a total of 280 sherds (4946g, 6.71 EVE) and representing a minimum of 60 individual vessels was recovered from fill 251. The pottery is quite well preserved and has an average sherd weight of 18g. Sandy grey ware globular lid-seated jars with both single and double seating grooves within the rim (types 4.4.1 and 4.4.2) were the main kiln products: their rim diameters vary from 120–200mm, with the majority measuring between 140 and 180mm (Fig. 6, Nos 3–8). A small amount of Sandy oxidised jars of the same type were also found (Fig. 6, Nos 9–10). As was found in the adjacent kiln, a minor product of this kiln may have been the Shelly ware lid-seated jars all with double lid-seating grooves within the rim (type 4.4.2) (Fig. 6, Nos 11–12).

### Kiln 275 (Fig. 3)

Kiln 275 lay c. 10m to the north-west of Kiln 220 and was notable for being the only kiln orientated roughly north to south. It was irregular in plan, with very little distinction between the chamber (1.38m long by 0.96m wide and 0.6m deep) to the north and the stokehole (1.3m by 0.7m wide and 0.5m deep). The chamber had a fired clay lining which was dark grey, mottled with orange brown patches. Adjoined to this lining were four sub-rectangular pilasters that had been applied to the inner surface of the chamber wall, and a single incomplete rectangular pedestal that was located centrally at the northern end of the chamber, possibly *in situ*. Four disuse fills (274, 279, 280 and 281) were present, all of which contained large quantities of pottery. The construction of this kiln is closest in design to that of Kiln 268, which also had integral pilasters. This might indicate that this kiln was also early in the sequence: possibly an experiment with north-south alignment which did not prove to be successful long-term.

The kiln produced an assemblage of 40 fired clay pieces (7216g), which although incomplete is not too fragmentary with an average weight of 180g. Only a couple of small pieces of the kiln wall were retained (Fabrics 1 and 4). The main component – the rectangular pedestal fragments – came from disuse fill 281 and was not therefore *in situ*. Also found were a minimum of seven incomplete kiln plate fragments which are of a type not present in any other of the Brampton kilns, as they are circular with no surviving perforations and distinctive rolled edges (Fig. 11, SF 31).

Combined, the four disuse deposits yielded a total of 251 pottery sherds (4556g, 6.02 EVE), representing a minimum of 52 vessels. The pottery is quite well preserved and has an average sherd weight of 18g. The main pottery type (probable product) is a Sandy grey ware globular jar with a single lid-seating groove, some of which have distinctive high shoulders (type 4.4.1) (Fig. 8, Nos 13–15). Other possible kiln products include a wide-mouthed cordoned jar (type 5.3), jar lids (type 8 and 6.21) and a cheese press

(type 9.1) (Fig. 8, Nos 16–19). Found in significantly smaller numbers are Sandy oxidised ware globular jars with single lid-seating grooves, several also with the distinctive high-shoulder and a wide-mouthed cordoned jar with burnished zig-zag decoration (type 5.3) (Fig. 8, No. 20). The similarity in form suggests the same potter was making the high-shouldered lid-seated jars in both SGW and SOW fabrics – with any differences occurring during the firing process. This is a very similar (almost identical) range of products to that found within Kiln 250 to the north, suggesting that once this kiln was abandoned it was used to dump the waste products from Kiln 250.

### Kiln 250 (Fig. 3)

Positioned c. 4m to the north-east of Kiln 275, Kiln 250 comprised a circular chamber (1.1m diameter) containing a well-preserved clay lining that had orange-red outer edges and a dark grey inner surface. A thin (0.03m) fill (286) associated with the use of the chamber was present, which comprised a dark blue grey silt with very frequent charcoal. Above this was a mid-orange yellow sandy clay disuse deposit (287; 0.15m thick), overlain by a mid-orange red fired clay deposit which represented the collapse of the kiln (288). The uppermost fill (265) was consistent with natural silting after the kiln's abandonment and contained a large amount of Roman pottery. A wide flue led to an oval stokehole (1.68m long by 1.16m wide and 0.78m deep), which contained a number of fills (261, 262, 263 and 264). The uppermost of these was a very dark grey clay silt (263) which yielded Roman pottery, fired clay and cylindrical pedestal fragments; perhaps representing the clear-out debris from another kiln. This kiln shares an almost identical alignment and was of similar design to Kiln 240 to the north, suggesting that they may have been contemporary.

A fragmentary assemblage consisting of 342 fired clay pieces (21151g), with an average weight of 62g, was recovered from the kiln. The bulk of this material (c. 29% by weight) is composed of the remains of the clay lining from the firing chamber (Fabric 1), in which the kiln builder's finger-tip impressions can still clearly be seen. In addition, two almost complete (SFs 25 and 26) and four partial Fabric 3 cylindrical pedestals were recovered, although none were found *in situ* or associated with use deposits. Also found was one Fabric 4 cylindrical pedestal (SF 29; Fig. 12), from disuse fill 287. These pedestals all have square bases and cylindrical shafts with an average diameter of 73mm. Fragments from Fabric 3 rectangular pedestals were also found in the stokehole. A minimum of 13 sub-rectangular unperforated kiln plates (ranging from 7 to 20mm thick) were also found in deposits associated with the kiln's disuse (SF 24, Fig. 11)

Kiln 250 produced a moderately large assemblage of 376 sherds (17173g; 6.93 EVE) that represents a minimum of 70 vessels. Only a single SGW dish/lid fragment (type 6.21) was recovered from the primary use fill (286), with the remainder retrieved from disuse deposits – especially from within stokehole 263.

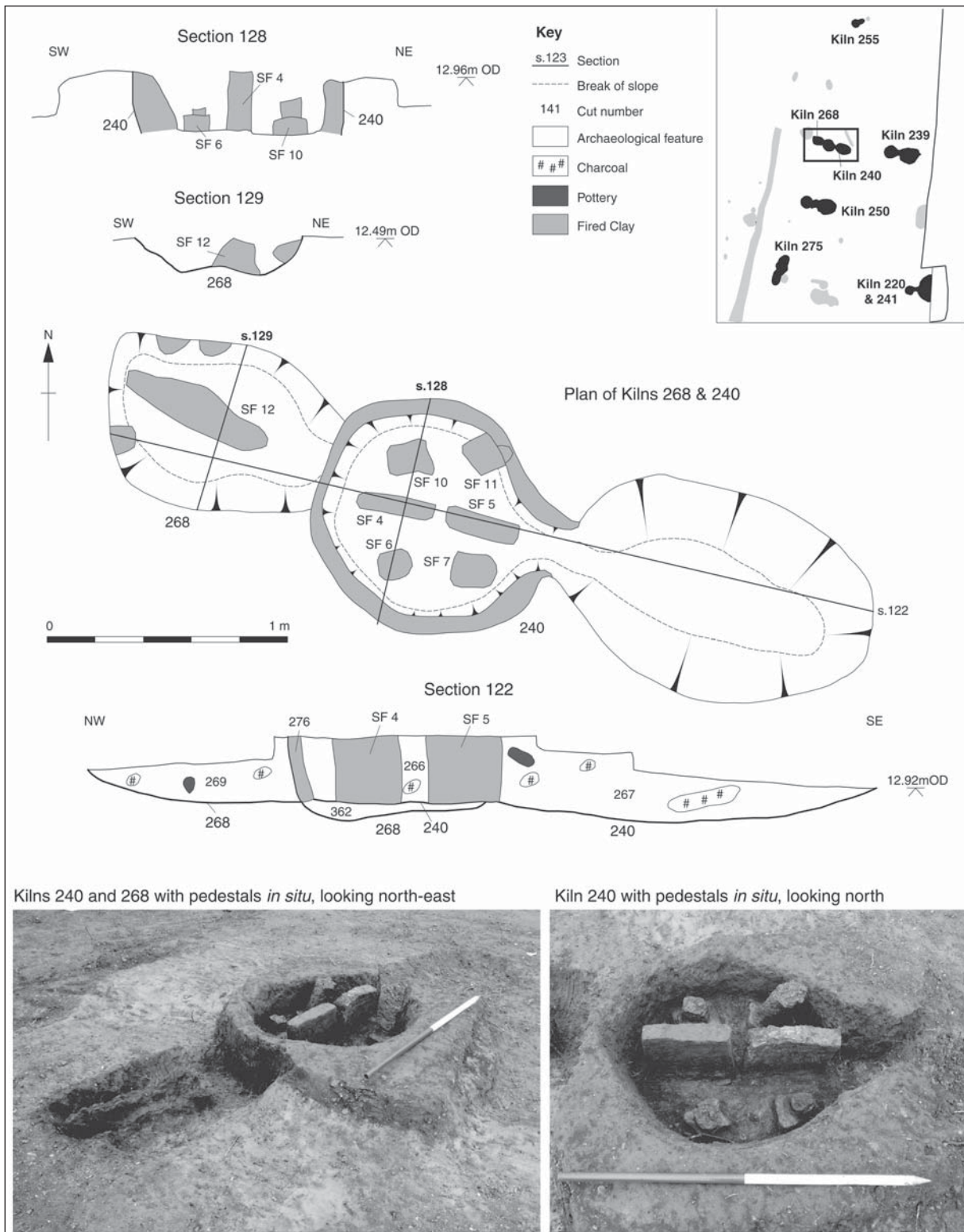


Figure 4. Kilns 268 and 240. See also Plate 1a and b.



The pottery has survived well and has a large average sherd weight of 46g. The main pottery type (probable product) recovered is a Sandy grey ware globular jar with either single or double lid-seating grooves, several examples having distinctive high shoulders (type 4.4.1 and 4.4.2) (Fig. 9, No. 21). Other possible kiln products include a wide-mouthed cordoned jar (type 5.3) and jar lids (type 8 and 6.21) (Fig. 9, No. 24). Found in significantly smaller numbers are Sandy oxidised ware globular jars with single lid-seating grooves, several also with the distinctive high-shoulder (Fig. 9, No. 23). As suggested for Kiln 275, the similarity in form suggests the same potter was making the high-shouldered lid-seated jars in both SGW and SOW fabrics. It is also worthy of note that two cheese press fragments (type 9.1) were recovered from within this kiln; one SGW example (287; Fig. 9, No. 22) and one SOW piece (263; Fig. 9, No. 25) – the variety of fabrics perhaps indicating they were a minor product of this kiln.

#### Kiln 268 (Fig. 4)

Kiln 268 was located c. 4.2m to the north of Kiln 255. Only the sub-circular firing chamber (1m long by 0.74m wide and 0.3m deep) survived, as the flue had been destroyed and the stokehole cut during the construction of Kiln 240. A small amount of poorly fired mid-grey red clay lining remained *in situ* on the western side of the chamber. Integral with this lining were three roughly-shaped pilasters which appeared to have been placed around the inner face of the chamber wall. An elongated central pedestal was also present, although it appears to have been very crudely made, and may have been the remains of toppled over and decayed rectangular pedestals. A single fill of mid-brown grey clay silt (269) overlay the pedestals, which was probably the same deposit as that which survived within the remains of the stokehole (362).

This kiln produced a small group of 46 fired clay pieces (3342g) that are fairly fragmentary with an average weight of 73g. The assemblage includes a small number of undiagnostic Fabric 1 structural fragments, also Fabric 4 firing chamber lip and wall pieces – the presence of two fabrics perhaps indicating that this kiln was patched or repaired during its lifetime. Fragments of a Fabric 3 cylindrical pedestal were found in addition to the decayed central pedestal. Worthy of note is a small cylindrical object with a diameter of 38mm and clear finger impressions from its maker, which may have been used as a prop or spacer to support the vessels during the firing process (Fig. 12, SF 32).

Only 16 pottery sherds, weighing 226g (0.31 EVE) and representing a minimum of five individual vessels, were recovered from the disuse fills of the oven and stokehole. The pottery is significantly abraded with an average sherd weight of only 14g. The main pottery type (probable product) recovered is a Sandy grey ware globular jar with a single lid-seating groove (type 4.4.1) and associated lids (type 8) (Fig. 9,

No. 26). A small number of Shelly ware jar/bowl fragments were also found.

#### Kiln 240 (Fig. 4)

Kiln 240 was situated immediately to the south-east of Kiln 268 and was one of the best-preserved examples found. The circular chamber (1m in diameter and 0.3m deep) had a fired clay lining that was 0.08m thick (276), orange red on its outer edges and a dark grey on the inner edges where it had been subjected to more heat. A total of six intact pedestals remained *in situ* within the chamber (Plate 1). Two centrally-placed linear rectangular pedestals, aligned north-west to south-east, were flanked by four cylindrical pedestals – one in each quadrant of the chamber. A single mid-brown grey clay silt disuse fill (266) overlay the pedestals and contained large quantities of pottery. A small flue to the west led into the sub-circular stokehole (1.3m long by 0.85m wide and 0.3m deep). This stokehole contained a single disuse fill which also produced a notable assemblage of pottery (267 = 266).

A large quantity of fired clay, comprising a total of 193 pieces (23863g), was recovered. Although the material was generally in good condition, it deteriorated upon excavation, with an average fragment weight of 124g. The assemblage includes numerous undiagnostic structural fragments, with smoothed surfaces (Fabric 1). The intact remains of the two rectangular pedestals (SFs 4 & 5), although visually very similar, are of differing dimensions and fabrics. Pedestal SF 4 (Fig. 12) measures 315mm long, by 205mm wide, by 60mm deep (Fabric 3) and SF 5 measures 300mm long, by 250mm wide and 55mm deep (Fabric 4). Also present are the four cylindrical pedestals that have squared ends (edges measuring between 130–133mm) and column-like shafts (ranging between 78–88mm in diameter). Three of the cylindrical pedestals were made using Fabric 4 (SFs 6, 7, 11), while one was formed in Fabric 3 (SF 10). The mix of pedestal fabrics and dimensions suggests that they may have been brought together from other kilns, which fits with their description as ‘portable’ kiln furniture. A single Fabric 1 kiln plate (18mm thick) with a possible central perforation was also found.

Pottery comprising a total of 430 sherds (7826g; 6.18 EVE) and representing a minimum of 50 individual vessels was recovered from the disuse oven (266) and stokehole (267) fills. The pottery is quite well preserved and has an average sherd weight of 18g. The main pottery type (probable product) recovered is a Sandy oxidised ware globular lid-seated jar with a single lid-seating groove (type 4.4.1) (Fig. 9, No. 27) – some of the jars differ from other kiln assemblages as the rim is bi-fid (type 4.8). Found in slightly fewer numbers are Sandy grey ware globular lid-seated jars (type 4.4), some with distinctive high shoulders (Fig. 9, Nos 28–29). These variations in form may suggest new styles (subtle changes) were being introduced into the Brampton potters’ repertoire, possibly indicating a slightly later date of production than those

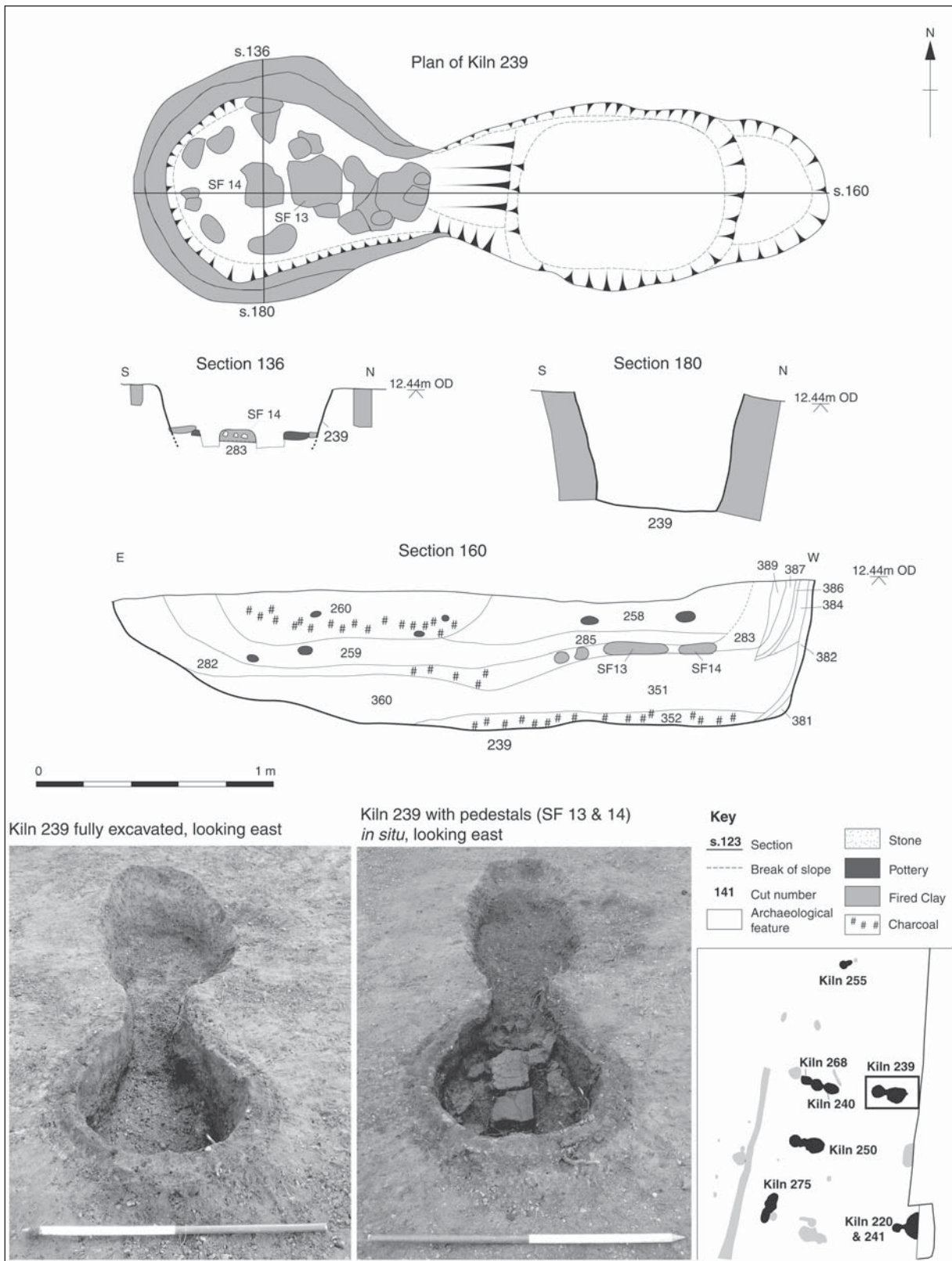


Figure 5. Kiln 239. See also Plate 1c.

found within some of the other kilns.

#### *Kiln 239 (Fig. 5)*

Located just under 3m to the east of Kilns 268 and 240 was Kiln 239, which appears to have had more than one phase of use. The firing chamber (1.16m long by 1.04m wide and 0.6m deep) lay at the western end, with the flue joined to an oval stokehole to the east (1.6m long by 1.02m wide and 0.56m deep). Within the firing chamber remnants of an original clay lining survived *in situ* (381 and 382), which measured between 0.02m and 0.23m thick. The main lining (382) was a mixed mid-orange red and very dark brown fired clay that lined the entire chamber to a depth of 0.56m. Within the base of the firing chamber was a 0.10m thick very dark blue grey silty clay fill (352) with frequent charcoal inclusions. This spread across the entire chamber and partially into the stokehole: it represents the earliest phase of use of this kiln. The kiln was subsequently relined with a layer of re-deposited natural gravel (351 = 360; 0.26m thick) that extended over its full length and which contained fragments of fired clay from the first phase of use. Spread over the gravel was a light green grey clay (384; 0.2m thick and 0.29m deep), directly above which was a lens of clay silt with frequent charcoal inclusions (386); and a 0.05m-thick mid-orange yellow clay sand lay above this (387). The lining associated with the final phase of use (389) was clearly successful as it had been well fired and was mid orange red on the outer edges and dark grey on the inner chamber wall.

Two rectangular pedestals were uncovered in the centre of the chamber (Plate 1). Although *in situ* they had toppled over and lay on their sides, their flanged edges indicated that they would have originally stood upright (SFs 13 and 14). Above the pedestals was a 0.12m thick disuse fill (283 = 282), overlain by a mid-brown sandy silt which contained large quantities of fired clay (285 = 259; 0.15m thick). This probably represents the final collapse or demolition of the kiln. The final fill was a 0.19m thick dark brown grey silty clay (258 = 260): this also produced pottery and indicates that the disused kiln was used for the disposal of waste products from another nearby active kiln.

A moderately large group (433 pieces, 17694g) of fired clay was recovered from this kiln, although the material is fragmentary with an average weight of 41g. The assemblage includes the upper part of the firing chamber wall (lip), along with flue fragments (Fabric 1) and the largely intact remains of the two rectangular pedestals (SFs 13 and 14) (Fabric 3). Other small rectangular (Fabrics 1, 3 and 4) and cylindrical (Fabric 3) pedestal fragments were found within the kiln in contexts that were related to disuse and demolition (258, 282, 260, 285). In addition, the incomplete remains of 15 undiagnostic flat plates with single perforations were recorded (Fabric 1) (between 8.5 and 16mm thick), along with an unusual perforated circular example (SF 28). Two additional Fabric 3 kiln

plates were also found (17.5mm thick). The clay plates were recovered from both use (282, 283, 352, 360) and disuse (258, 260) deposits.

Pottery comprising a total of 588 sherds (10783g; 10.44 EVE) that represents a minimum of 120 individual vessels was recovered from the primary (352), secondary (282, 283) and tertiary (259, 285) phases of use, as well as from disuse and demolition deposits (258, 260). The pottery is quite well preserved and has an average sherd weight of 18g. Sandy grey ware globular lid-seated jars with double seating grooves within the rim (type 4.4.2), and associated lids, were the main products of this kiln: their rim diameters vary from 120–180mm, with the average being 140mm (Fig. 10, Nos 30–36). A similar amount (in fact a larger weight) of Sandy oxidised ware jars was recovered, with both single and double lid-seating grooves (types 4.4.1 and 4.4.2) and associated lids being present, which were also the product of this kiln (Fig. 10, Nos 37–41). Found in much smaller quantities – but notably recovered from the primary context – are Shelly ware jars with double lid-seating grooves in the rim (type 4.4.2).

#### *Kiln 255 (Fig. 1)*

Kiln 255 was the most northerly of the kilns and also the least well preserved. Little evidence for any clay lining survived within the sub-circular firing chamber (0.7m long by 0.6m wide and 0.1m deep) or flue, which along with the stokehole (0.46m long by 0.4m wide and 0.08m deep) were very shallow. This kiln contained a single dark brown grey clay sand disuse fill (254), which yielded a small collection of Roman pottery. The only fired clay recovered was a single fragment of Fabric 1 (burnt) fired clay kiln superstructure (lip) weighing 367g. It is of interest as it shows the kiln wall was constructed using a series of thick coils. A similar method of construction was seen at Postwick, Norfolk (Lyons 2003, 51, fig. 29). A small collection of pottery, comprising just 45 sherds weighing 495g (1.26 EVE) that represents a minimum of two vessels, was recovered: the pottery is extremely abraded with an average sherd weight of only 11g. One possible kiln product was recorded – a globular lid-seated jar with a single seating groove (type 4.4.1) (Fig. 10, No. 42) – found in both Sandy grey ware and Shelly fabrics.

### Overview of the Kiln Assemblages

#### *The pottery (Figs 6–10)*

A total of 2036 pottery sherds, weighing 46888g (39.4 EVE), of early Roman coarse ware pottery was recovered from the eight kilns, with significant assemblages found in five of them (Kilns 220, 239, 240, 250 and 275). The pottery has survived in good condition and has an average sherd weight of 23g.

Much of this material appears to be the discarded

products of these kilns, as many pieces are wasters with cracked and bubbled surfaces (e.g. Fig. 6, No. 6 and Fig. 7; Fig. 10, No. 36 and (Plate 1). The surviving pottery indicates that all eight kilns were used to make a limited range of lid-seated jars and associated lids (Figs 6, 8, 9 and 10).

The fabrics used are local clays mixed (or tempered) with additional sand and common fine flint – fired to either oxidised or reduced finishes depending on either their position in the kiln or reflecting progressive firings. This fabric is typical for the locality and period of manufacture as similar fabrics have been previously recorded (Evans 2011, class R, 230). Subtle differences between each kiln load may suggest not only slightly different dates of manufacture, but also the hand of different potters.

The Roman pottery was analysed following the guidelines of the Study Group for Roman Pottery (Barclay *et al.* 2016) and Historic England (2015). The total assemblage was studied and a full catalogue was prepared (Lyons 2016). The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types present. Vessel forms (jar, bowl) were recorded and vessel types cross-referenced and compared to other examples. The sherds were counted and weighed to the nearest whole gramme (g) and recorded by context. Decoration, residues and abrasion were also noted.

#### *The Fabrics and Forms*

Only three fabrics associated with kiln products were recorded, indicating a conservative tradition of pottery production (Table 2).

The most common fabric found is a Sandy grey ware (66.5% by weight), with varying amounts of additional sand and fine flint fragments added as additional mixing agents or temper. The Sandy oxidised ware found as a secondary ware (29%) is visually identical to the SGWs but was fired in an oxygen-rich kiln. These two fabrics are, therefore, petrologically identical *i.e.* the same fabrics exposed to different firing conditions, possibly caused by being placed in different parts of the kiln or (more likely) represent-

ing different loads. A third probable kiln product are the Shelly wares, made using clay with fossilised shell as a natural component, which were found in significantly smaller numbers (>3%) and possibly only associated with Kilns 239 and 255. This is of note as it has been consistently recorded within the region that wheel-made Sandy grey wares gradually replaced Shelly wares within the normal ceramic repertoire (Evans 2011, 230) so it appears that the Brampton potters were early adopters of this fashion.

The majority of the pottery retrieved from the kilns is medium (type 4), also wide-mouthed (type 5) jar sherds which could not be assigned to a specific type due to the absence of a diagnostic profile (Table 3). Where a vessel type could be identified it was established that a limited range of jars and dishes had been produced, the majority of which are lid-seated jars (type 4.4); unusually the lids to use in conjunction with these jars were also being made contemporaneously. Careful measurement shows that although the jars have a range of rim diameters between 60 and 280mm, the 140–180mm sizes are the most prolific, and while a smaller number of lids were made with diameters ranging between 140 and 200mm, the 160–180mm sizes are the most common. This demonstrates that both the jars and lids were made in a variety of complementary sizes, whereby a jar could be used with a lid of slightly smaller diameter. It is of interest that in some cases two lid-seating grooves were made within the rim of the jar which allowed for shrinkage or variation of both the pots and their lids during the firing process. It is worthy of note that although Shelly ware lid-seated jars were found and identified as minor kiln products, no lids were found in this fabric.

While fine wares (such as beakers) are totally absent from the range of vessels being produced, a small number of specialist cheese presses were found within the kiln assemblages (Fig. 8, No. 19; Fig. 9, Nos 22 and 25). In addition, no imports (amphora or samian) or specialist wares (mortaria) other than the cheese presses were found. It is also of interest that no use residues or wear marks were recorded. This clearly demonstrates that the assemblage does indeed

**Table 2.** *The pottery recovered from kilns (possible kiln products shaded).*

Fabric	Abbreviation	Forms	Sherd Count	Weight (g)	EVE	Weight (%)
Sandy grey ware	SGW	4, 4.4, 4.5, 4.13, 4.14, 5, 5.3, 6.18, 6.21, 8, 9	1179	31189	25.35	66.52
Sandy oxidised ware	SOW	4.4, 4.5, 5, 5.3, 6.3, 8, 9	729	13947	12.32	29.75
Shelly wares	STW	4.4	108	1397	1.68	2.98
Oxidised ware with grog inclusions	OW(GROG)	4.4	10	154	0.05	0.32
Reduced wares with organic inclusions	GW(ORG)	-	5	102	0.00	0.22
Sandy coarse ware (residual Iron Age)	SCW	4.5	2	61	0.00	0.09
Oxidised ware with organic inclusions	OW(ORG)	-	3	38	0.00	0.08
<b>Total</b>			<b>2036</b>	<b>46888</b>	<b>39.40</b>	<b>100.00</b>

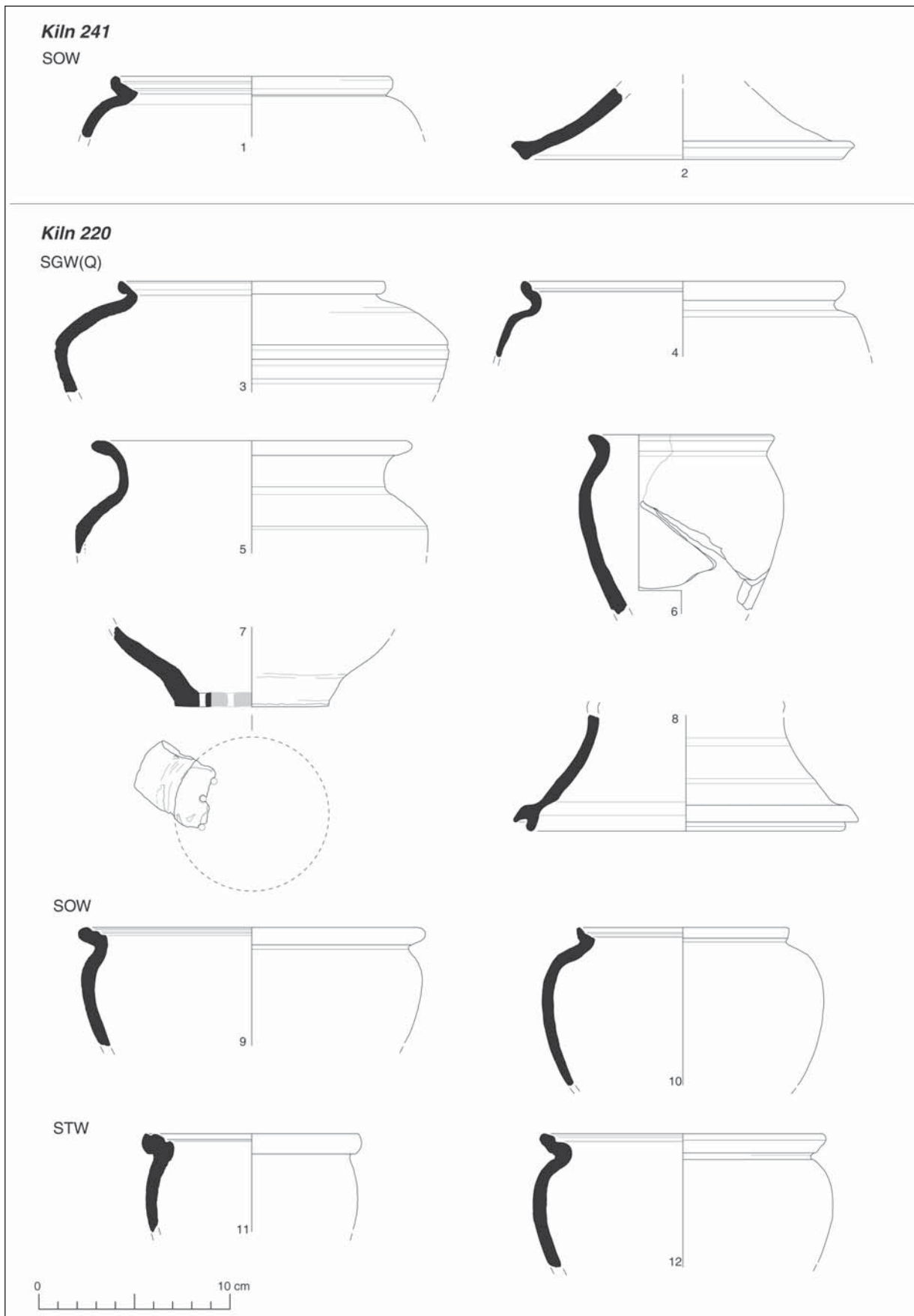


Figure 6. Romano-British pottery from Kilns 241 and 220.

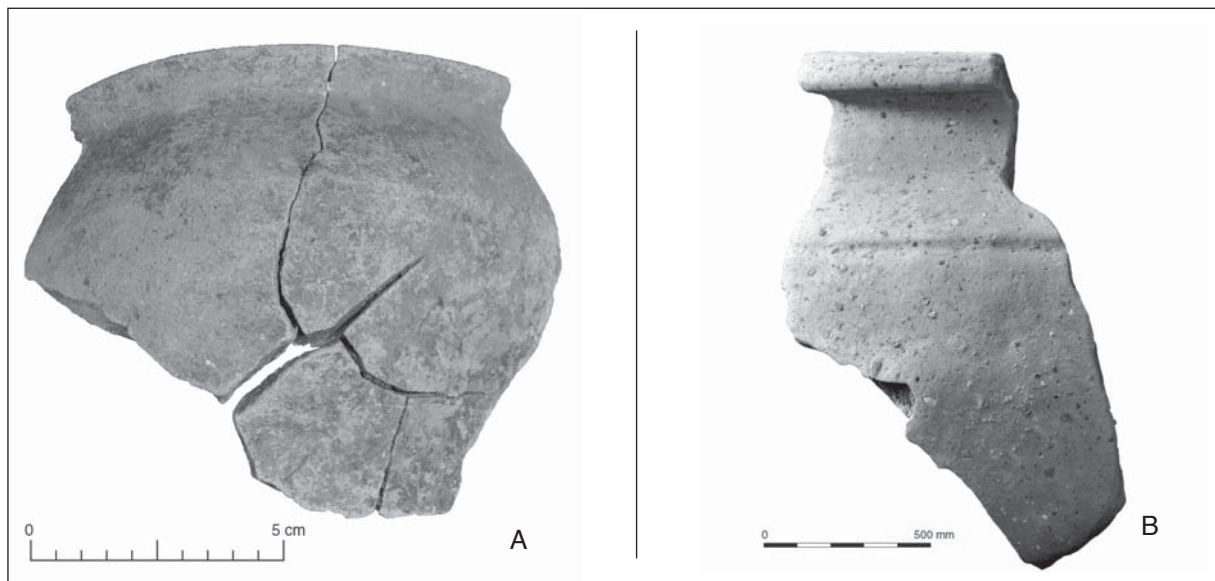


Figure 7. A, detail of waster from Kiln 220 (251); B, detail of bubbled waster from Kiln 239 (260). See also Plate 1d.

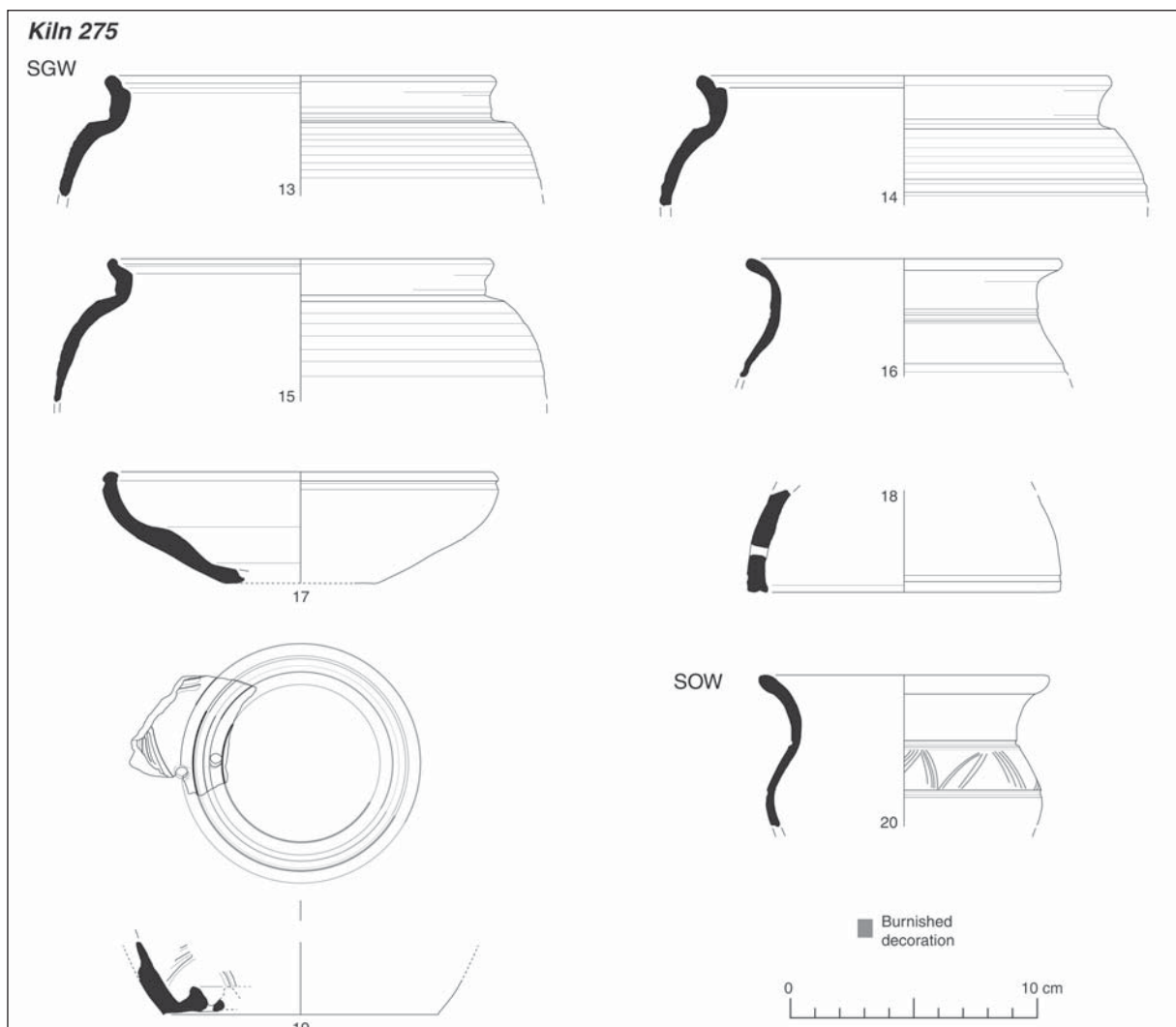


Figure 8. Romano-British pottery from Kiln 275.

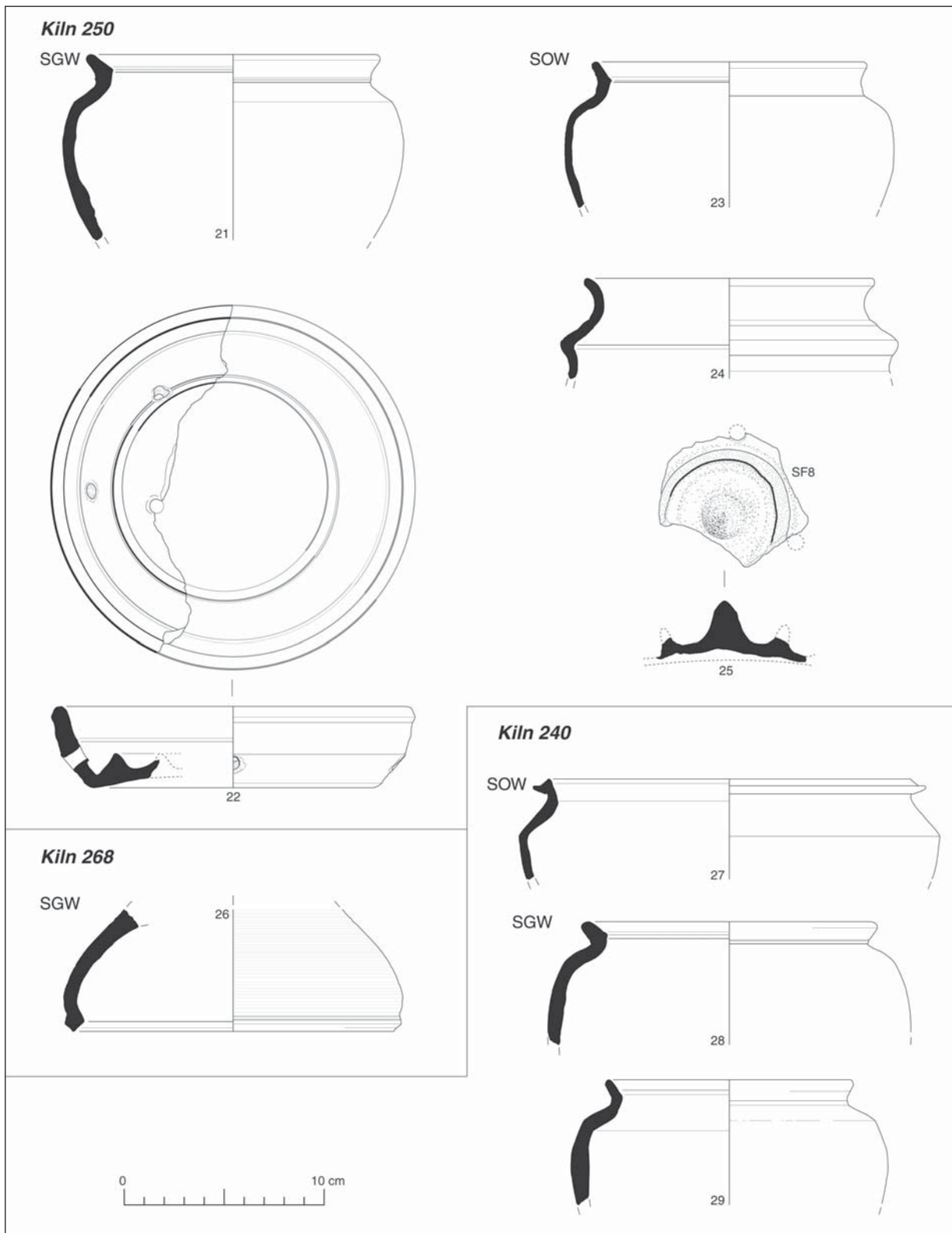


Figure 9. Romano-British pottery from Kilns 250, 268 and 240.

consist of production waste rather than re-deposited settlement material.

Where vessels could be assigned to type it can be seen by all methods of quantification (sherd count, weight and EVE) that plain lid-seated jars (type 4.4) are the most abundant. Where decoration is present it is generally constrained to horizontal grooves on the neck and shoulders. Within this broad type, variations of form were noted which are discussed further within each of the kiln assemblages (see above and Figs 6, 8, 9 and 10). It has been observed that early Roman lid-seated jars are a relatively common vessel type in the eastern region of Britain, particularly in Essex, Cambridgeshire and Northamptonshire, where the form is known to have had its origins in the late Iron Age (Going 1987, type G5, 22, fig. 7). Examples in both shelly and sandy grey ware fabrics have also been found in 1st- and 2nd-century contexts in Cambridgeshire (Hancocks *et al.* 1998, fig 29.C14.12, fig. 43. R52.1–2) and pertinently at nearby Godmanchester (Evans 2003a, 46 & 50, fig. 25, nos 10 and 11). Concave lids with a pulley rim are thought to have been developed in association with the Verulamium industry (used in conjunction with reed-rim bowls) but were in common usage in London by the Hadrianic period (AD 117 to 138), examples are also known to have been produced at Godmanchester in the early 2nd century (Evans 2003a, Kiln 1, 46 & 51, fig. 25, no 16). Early Roman examples contemporary with the Brampton material have also been published from Cambridge (Pullinger *et al.* 1999, plate LXXVI, 448). Ceramic lids are, at Brampton and indeed elsewhere, usually less common than lid-seated jars and it is likely their use was supplemented by other vessel coverings – possibly wooden alternatives – from which their form may have developed.

A small number of other vessel types including wide mouthed cordoned jars (type 5.3) are present which, like the lid-seated jars discussed above, are a Romanised version of an Iron Age form (Thompson 1984, 150–153). Globular jars with rolled (type 4.5) or everted (type 4.13) rims were also found in small

numbers. As mentioned above, although decoration is rare, two of the wide mouthed jars have burnished motifs within the shoulder cordon (Fig. 8, No. 20; Fig 10, No. 40), similar to published examples from the early Roman Godmanchester (Hancocks 2003, 6 & 12) and Cambridge assemblages (Pullinger *et al.* 1999, plate LXXV, 434).

Generally, the limited range of vessels produced, with no surface treatment (such as slipping or burnishing) and rare examples of decoration, emphasises the utilitarian character of the pottery made at Brampton; a characteristic also noted at Godmanchester (Hancocks 2003, 153).

#### *Type Series*

The type series is based on one originally designed by Jude Plouviez (Plouviez undated) and adapted by the author in this case to reflect local typologies.

- 4: medium mouthed jars and storage jars, miscellaneous or indeterminate.
- 4.4: jar with short angular neck, lid-seated (Perrin 1996, 387; Perrin 1999, 55; Evans 2003a, 10 & 11
- 4.4.1: jar with short angular neck, with a single lid-seating groove in rim
- 4.4.2: jar with short angular neck, with a double lid-seating groove in rim
- 4.5: medium-mouthed jar, short neck, rolled and generally undercut rim and globular body (Perrin 1999, 36).
- 4.8: medium-mouthed jar, everted rim that is hollowed or with projection underneath (bifid), globular body (Perrin 1996, 592; 583; Perrin 1999, 53)
- 4.13: medium-mouthed jar, rounded body and simple everted rim (Perrin 1999, 47–48)
- 4.14: large storage vessels with rolled rims
- 5: wide mouthed jars, miscellaneous or indeterminate
- 5.3: rounded jar with a reverse 'S' profile and a cordon on the neck – sometimes carinated (Perrin 1999, 46; Hancocks 2003, 6 & 12)
- 6: bowls, miscellaneous or indeterminate
- 6.18: dish, straight-sided, flat-based, thickened everted 'tri-

**Table 3.** *The vessel forms, quantified by type.*

Form	Type	Sherd Count	Weight (g)	EVE	Weight (%)
Medium mouthed jars	4	1442	23254	0.19	49.59
	4.13	10	448	1.30	0.96
	4.14	1	38	0.06	0.08
	4.4	465	9156	28.61	19.53
	4.5	13	167	0.74	0.36
Wide mouthed jars	5	22	11343	0.92	24.19
	5.3	26	1078	2.30	2.30
Dishes	6.18	1	14	0.07	0.03
	6.21	18	314	1.50	0.67
	6.3	1	6	0.05	0.01
Lids	8	31	793	3.23	1.69
Cheese press	9	3	230	0.44	0.49
Not assigned to type	-	2	15	0.00	0.03
<b>Total</b>		<b>2036</b>	<b>46888</b>	<b>3940</b>	<b>100.00</b>



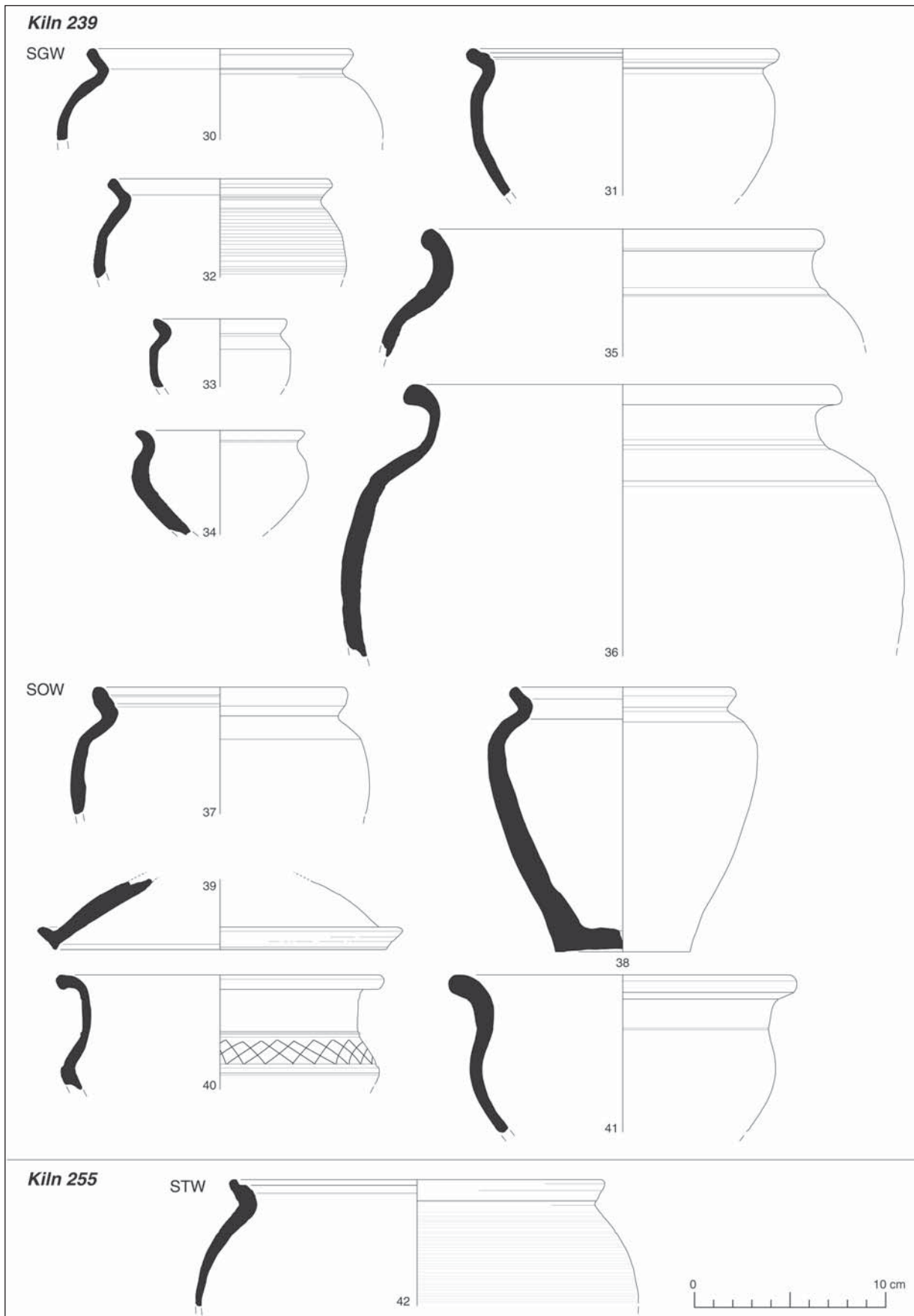


Figure 10. Romano-British pottery from Kilns 239 and 255.

- angular' rim (Perrin 1996, 417; 426; 449; 453; 455. Perrin 1999, 253–254)
- 6.19: Dish, straight sides which may be upright or angled, plain rim or may have external groove just below the rim (Perrin 1996, 402; 403; 415; Perrin 1999, 231–234)
- 6.21: Open dish internal angle, incurving rim, flat or foot ring base (Perrin 1996, 28, 29, 30)
- 8.1: Lid – standard type to fit cooking/storage pot, can have terminal grip (Perrin 1996, 57; 58; 59; Evans 2003a, 16)
- 9.1: Cheese press (Perrin 1996, 393)
- 9.2: Strainer, with pre-firing holes in vessel base

### The Kiln Furniture (Figs 11–12)

A total of 1136 fragments, weighing 92709g, of fired clay kiln superstructure and portable kiln furniture was recovered from the eight kilns examined. This material ranges from complete pedestals to superstructure fragments. Generally, the material survived in good condition and has an average fragment weight of 82g.

#### Methodology

The fired clay was counted and weighed, by form and fabric type and any complete dimensions measured (mm). Levels of abrasion, any evidence of re-use or burning were also recorded (Historic England 2015).

#### The Fabrics and Forms

Three distinct fabrics were recorded (see below, with Fabric 2 being a burnt version of Fabric 1) of which Fabric 3 was the most abundant (Table 4):

Fabric 1: An orange red sand clay matrix, poorly mixed, with common angular flint (2m–20mm), also common organic material (dung) burnt out during the firing process, often leaving impressions. Occasional large grog fragments. Both fired and burnt examples found.

Fabric 2: Burnt Fabric 1 – initially thought to be a separate fabric, but after analysis it was incorporated into Fabric 1.

Fabric 3: A grey sandy clay matrix, quite well mixed with

common fine flint and large flint pieces (some of which is burnt). Contains organic material (?dung or straw) burnt out during the firing process. Smoothed surfaces.

Fabric 4: A pale grey sandy clay matrix, quite well mixed with common fine flint and large flint pieces (some of which is burnt). Chalk and or limestone fragments also common. Contains organic material (?dung or straw) burnt out during the firing process. Smoothed surfaces.

No single fabric was used exclusively for any one purpose, although as a general rule Fabric 1 was mostly used to construct the kilns and Fabrics 3 and 4 to furnish them.

### Charred Plant Remains from the Kilns

Rachel Fosberry and Denise Druce

Samples taken from a mixture of use and disuse fills within seven of the pottery kilns produced only low quantities of poorly-preserved charred plant remains (Fosberry 2016, 82–88). In general, the samples all contained very similar assemblages that are mainly composed of occasional grains of barley (*Hordeum vulgare*) and hulled wheat grains (*Triticum spelta*) mixed with weed seeds, sparse remains of chaff and small volumes of charcoal. Weed seeds present within the samples include species that can be found growing in a variety of habitats, but the major components are grasses (*Poaceae*) and weeds that are likely to either have been harvested with cereal crops or as hay. A charred tuber of false-oat grass (*Arrhenatherum elatius* ssp. *bulbosus*) was found in fill 265 in Kiln 250: these form just below the soil surface and carbonised examples may represent the burning of turf (Stevens 2007, 284). Turves could have been used in the construction of the pottery kilns to form the mound over both the chamber area and the flue.

### Fuel

Processing and analysis of the flots from the tertiary

Table 4. The kiln furniture fabrics, quantified by form.

Fabric	Form	Fragment Count	Weight (g)	Weight (%)
Fabric 1 (burnt and unburnt)		882	27425	29.58
	Kiln plate	337	9629	
	Pedestal	21	1992	
	Superstructure	403	14602	
	Undiagnostic	121	1202	
Fabric 3		152	40460	43.64
	Kiln plate	18	975	
	Kiln prop	1	97	
	Pedestal	119	38182	
	Superstructure	1	1054	
	Undiagnostic	13	152	
Fabric 4		102	24824	26.78
	Pedestal	95	23039	
	Superstructure	7	1785	
<b>Total</b>		<b>1136</b>	<b>92709</b>	<b>100.00</b>

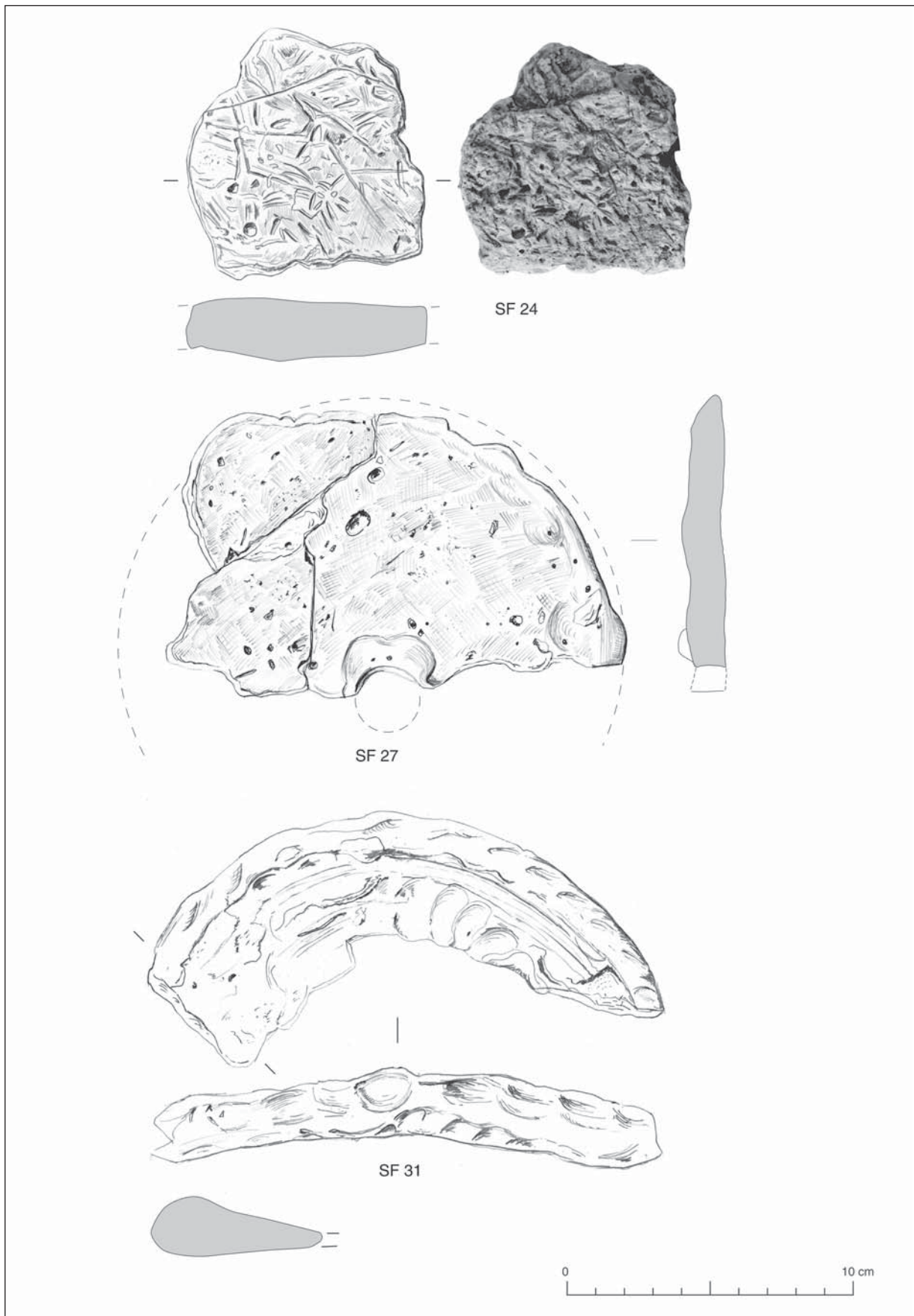
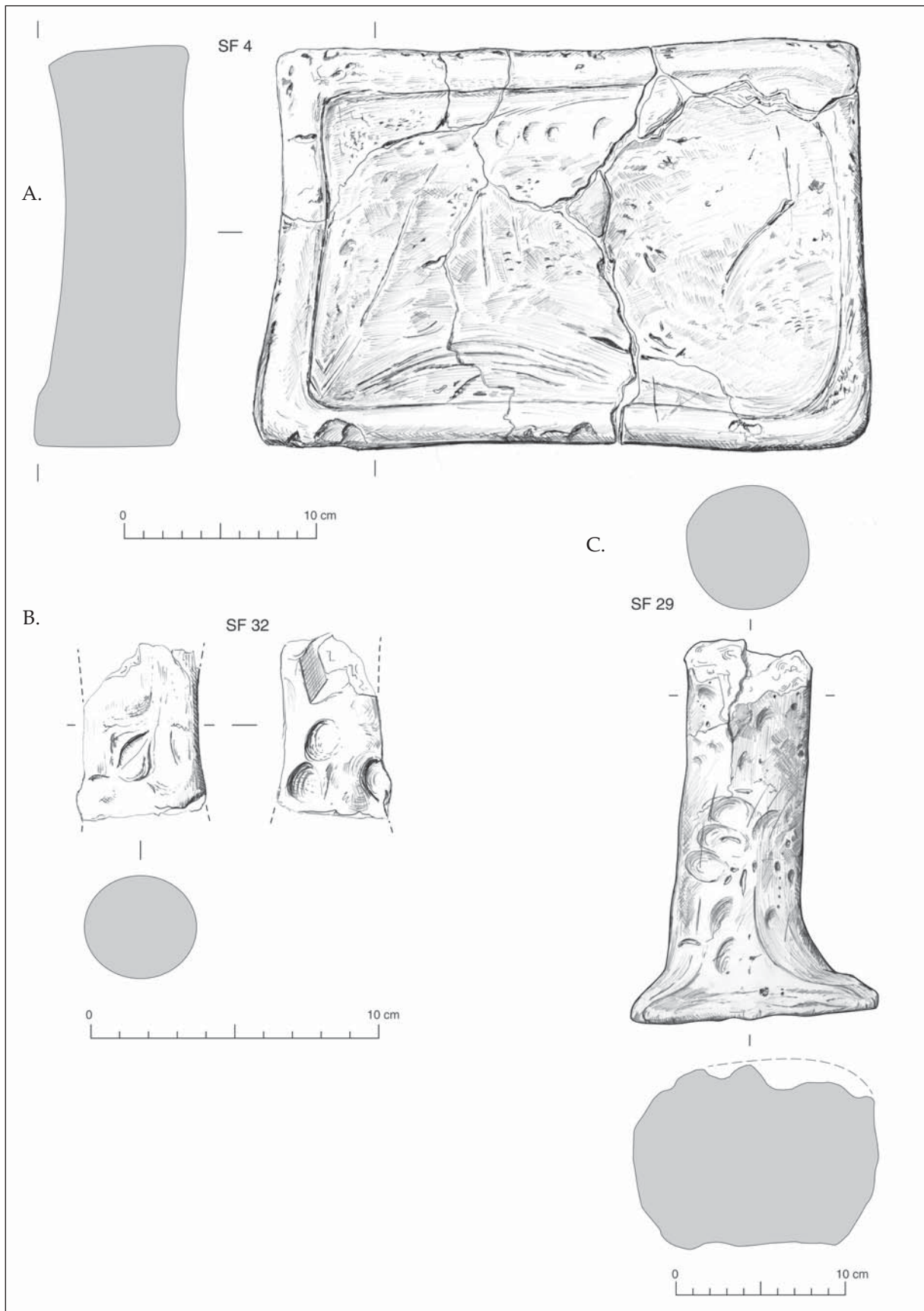


Figure 11. Kiln plates from Kilns 220, 250 and 275.



**Figure 12.** A, Rectangular pedestal from Kiln 240 (SF 4); B, Kiln prop from Kiln 268 (SF 32); C, Cylindrical pedestal from Kiln 250 (SF 29).

fill (258 and 260) of Kiln 239 identified small quantities of identifiable charcoal, from which it was possible to provide some data on the type of wood being used at the site (Druce 2016, 90–91). Assuming that the charcoal represents fuelwood (rather than discarded midden or bonfire material), it appears that a range of woody taxa was being used. The presence of dogwood (*Cornus* sp.), hawthorn-type (Maloideae), blackthorn-type (*Prunus* sp.), and field maple (*Acer campestre*), together with oak (*Quercus* sp.), suggests that the wood of both woodland trees and shrubs was being sourced. The lack of obvious heartwood, combined with a dominance of small roundwood/twigs, indicates the predominant use of branch/brush wood as fuel, although presumably pottery firing would have required a long, sustained, high, heat, generated from hard woods, such as oak.

## Discussion

*“Knowledge and understanding of the centres where the pottery was produced are fundamental to the study of Roman pottery”* (Perrin 2011, 41).

The discovery of Roman pottery kilns in a settlement subsequently called Brampton (by the Saxons) may not be a coincidence as at least two other settlements with this name are associated with Roman kilns: in both Norfolk and Cumbria (Swan 1984, 87). Although normally ‘Bram’ is thought to be a derivation of the word ‘Brom’, meaning gorse or broom – it has been speculated that in these cases it may refer to the visible signs of burning left behind by a significant numbers of kilns (Green 1977, 94).

### *The Kilns in Context*

Based on current evidence, it seems that the kiln site at Brampton was not directly associated with any known settlement. An Iron Age enclosure lay within the excavation area and extensive Iron Age and Roman sites have been identified to the west and south-west (Fig. 1). These are probably too far away to have been directly related to the kilns, but their presence clearly demonstrates the extent of contemporary settlement in the area. This arrangement is not unusual, as other Roman kiln sites in Cambridgeshire are known to have favoured relatively isolated positions – most probably to provide space to work while avoiding the risk of fire to the wider settlement (Anderson & Woolhouse 2016, 22). Evans *et al.* (2008, 128) also suggest that the remote locations chosen may have been due to the character of the potters themselves and their place in society, particularly if they were itinerant and not fully integrated into the local community.

Although seemingly isolated, the kilns would have been located in a place convenient for the exploitation of the necessary resources. Swan (1984, 3) notes: “the basic requirements for pottery production are the availability of suitable clay, tempering mate-

rial, water and fuel”. These materials were abundant on, or in the vicinity of, the site at Brampton where the natural geology comprises Oxford Clay; indeed, some of the larger pits identified in the vicinity of the kilns may have been used for clay extraction. The River Great Ouse (a well-used routeway in the Roman period) flows just 1.2km east of the site (Fig. 1), and it is likely that there were tributaries of this located within or close to the site. A possible former channel, recut numerous times during the post-medieval period, was identified a short distance to the north of the kilns (Fig. 1); alternatively, ponds may have formed, especially in the areas where clay extraction was taking place. The limited environmental evidence from the site indicates that potentially easily available woodland resources (perhaps dominated by branch/brush wood) were being used as fuel rather than specifically selected woodland trees. Analysis of plant remains recovered from some of the kilns suggests that kindling or tinder may have been provided by cereal straw, while there was limited evidence that turves may have been used in the kilns’ superstructure. Samples from kiln contexts at the Hutchison Site at Addenbrookes Hospital (Roberts 2008, 49) produced spelt and emmer chaff, which has been interpreted as the use of wheat straw as fuel.

No evidence for buildings associated with the kilns has survived as these were probably of insubstantial construction, although gully 272 could possibly be interpreted as a wind break, or perhaps a drain (Bates & Lyons 2003, 68). Although it is not thought the Brampton pottery was made for trade or export, the area was well served with Roman infrastructure (Fig. 13). Most important to note is the contemporary early Roman fort at Godmanchester (*Durovigutum*) to the east, positioned to guard Ermine Street and the River Great Ouse crossing (Jones 2003; Lyons forthcoming).

### *Chronology, Construction and Technology*

Analysis has shown that the eight pottery kilns were not all in use at the same time, as not only do several of the kilns intercut each other, but different orientations and designs are present, along with evidence of repairs and reuse. The kilns were not suitable for scientific dating, such as archaeomagnetic study, as their relatively low firing temperature (estimated to be 800 °C) meant their linings had become cracked and unstable over time. Moreover, as it is clear the kilns and their products are early Roman in date other scientific dating techniques (even used in conjunction) are not at present sufficiently sensitive to help refine this dating (Historic England 2015, 9). Provisional dating was established therefore, by comparison of the pottery and kilns to well-dated published examples, which suggests an approximate date range for use of the kilns of between AD 60–80.

Although the Brampton kilns differed a little in design, it can be said the majority were a figure of eight shape in plan with a circular clay-lined firing chamber and a single stokehole – a template which

is seen in many of the early kilns so far excavated in Cambridgeshire. Several elements of the design of these kilns are particularly interesting. The two kilns with integral pilasters and linear pedestals (268 and 275) may be paralleled to other early Roman kilns seen in the region such as kiln F.1117 found at the Hutchinson Site, Addenbrooke's (Evans *et al.* 2008, 60; fig 2.25) but are known to be a short-lived early Roman form (Swan 1984, 86) and may therefore represent early experimentation by potters new to this technology.

While three of the more complete kilns had no surviving internal features (Kilns 241, 250, 255), the remainder (Kilns 220, 239, 240) had one (or two) linear central rectangular pedestals flanked by a cylindrical pedestal in each quarter of the kiln (Kiln 240 being the best preserved example). Although linear pedestals are seen elsewhere in early Roman kiln design in Cambridgeshire, they were usually twinned or parallel to each other (*e.g.* Addenbrooke's: Evans *et al.* 2008, 59–60 and fig. 2.25, F.63; Greenhouse Farm: Gibson and Lucas 2002, 99, Group 2, fig. 4). Swan defines the cylindrical pedestals as 'Dumb-bell type': "a square, rectangular or circular column, expanded at both ends" – at the time of Swan's publication most known examples were closely associated with the Upper Nene Valley, particularly the pottery production centred at Rushden located 26km to the west of Brampton (Swan 1984, 59). Another possible parallel could be a kiln at Martin's Lane, Hardingstone, in Northamptonshire, located 46km to the west of Brampton (Fig. 13). Here, seven kilns also producing mid-1st century lid-seated vessels were excavated in 1965 (Jackson 1966, 8–9): "Kiln 2 ... On one side two clay pillars had been built and burnt *in situ*. These were 5in (130mm) square and about 1ft 1in (330mm) high ... lying in the kiln, but not *in situ*, was a clay pedestal with a stem 4in by 5in (100mm x 130mm) mushrooming out to an 8in (200mm) square at the top".

None of the Brampton kilns had permanent floors and intriguingly no kiln bars were found, which are a common component of other early kilns in Cambridgeshire (Lyons 2008), including other Ouse Valley examples found close-by at the Brampton A14 site (Jones and Panes 2014) and at Diddington (Cra'ster *et al.* 1965), while kiln bars but no kilns were also found at Little Paxton (Hancocks 2011, 244). However, what was found at Brampton is a relatively large number of flat circular and sub-rectangular kiln plates (some with a central perforation), many with cereal impressions where they had been lain on chaff to dry (Fig. 11, SF 24). Clay plates have been found on the other Cambridgeshire kiln sites, most noteworthy are those recently found at a flagon production centre at Duxford (Anderson and Woolhouse 2016) and at Addenbrookes (Evans *et al.* 2008, 83, fig. 2.36), although these are of a quite different design with distinctive indented ends (Anderson and Woolhouse 2016, 15, fig. 7). Recorded kiln plates of the type found at Brampton are generally rare in Cambridgeshire, although they were found at Swavesey (Lyons 2008), but both cir-

cular and sub-rectangular plate forms are well documented around Milton Keynes (Williams 1994, 363) c. 48km to the south-west of Brampton. Parallels for early Roman kilns not using kiln bar technology in the region are scarce, so it is significant that recent experimental firing by Hines (2012) has shown that perforated plates can function as a kiln floor, without the additional support of kiln bars, when resting between the pedestal(s) and the wall ledge.

The dearth of kiln bars, combined with the unusually large and varied number of pedestals and clay plates, indicates that the Brampton potters developed a system of firing pottery whereby numerous pedestals (both rectangular and cylindrical) were used to support a temporary floor constructed from kiln plates. This technology was influenced by practices seen in Northamptonshire and the Upper Nene Valley (Swan 1984, 68, fig. VIII), although no exact parallels for either kiln typology have been found as yet. The distribution map of other early Roman pottery kilns in and around Cambridgeshire (Fig. 13) shows that they appear to broadly cluster around the larger settlements of Cambridge (*Duroliponte*), Godmanchester (*Durovigutum*), Water Newton (*Durobrivae*) near Peterborough and Sandy, in Bedfordshire. It is suggested therefore, that the design of the Brampton kilns may have been influenced by activity associated with the fort and early settlement at Godmanchester, which in turn may have been influenced by its connections to the west (Lyons forthcoming) which resulted in kiln design distinct from other more central Cambridgeshire pottery production sites, while still producing pottery typical of the region.

Looking at the kiln typology in more detail it is suggested that the kilns with integral pilasters and those of possibly cruder construction (Kilns 255, 268 and 275) represent the earliest phase of pottery production, while the more circular chambered, well-fired, central pedestalled versions (Kilns 220, 239, 240, 250) represent the next generation of kiln use. Even within this suggested model, elements of re-use – such as the re-lined Kiln 239 – may hint at a more complex timeline. Moreover, the ceramic assemblages excavated from within the kilns support this interpretation, as although a conservative range of reduced and oxidised sand-tempered lid-seated jars and associated lids were the main product of these kilns throughout their existence, subtle changes in the designs of these vessels indicate different potters at work possibly over more than one generation. Where the earlier kilns produced lid-seated jars with distinctive high-shoulders, this design changed over time as the jars became more globular in the later kilns. The hand of more than one potter may also be reflected in the choice to provide single or double lid-seating grooves within the vessel rims, with double grooved lid-seated rims generally being more common in the later (or 2nd generation) kilns.

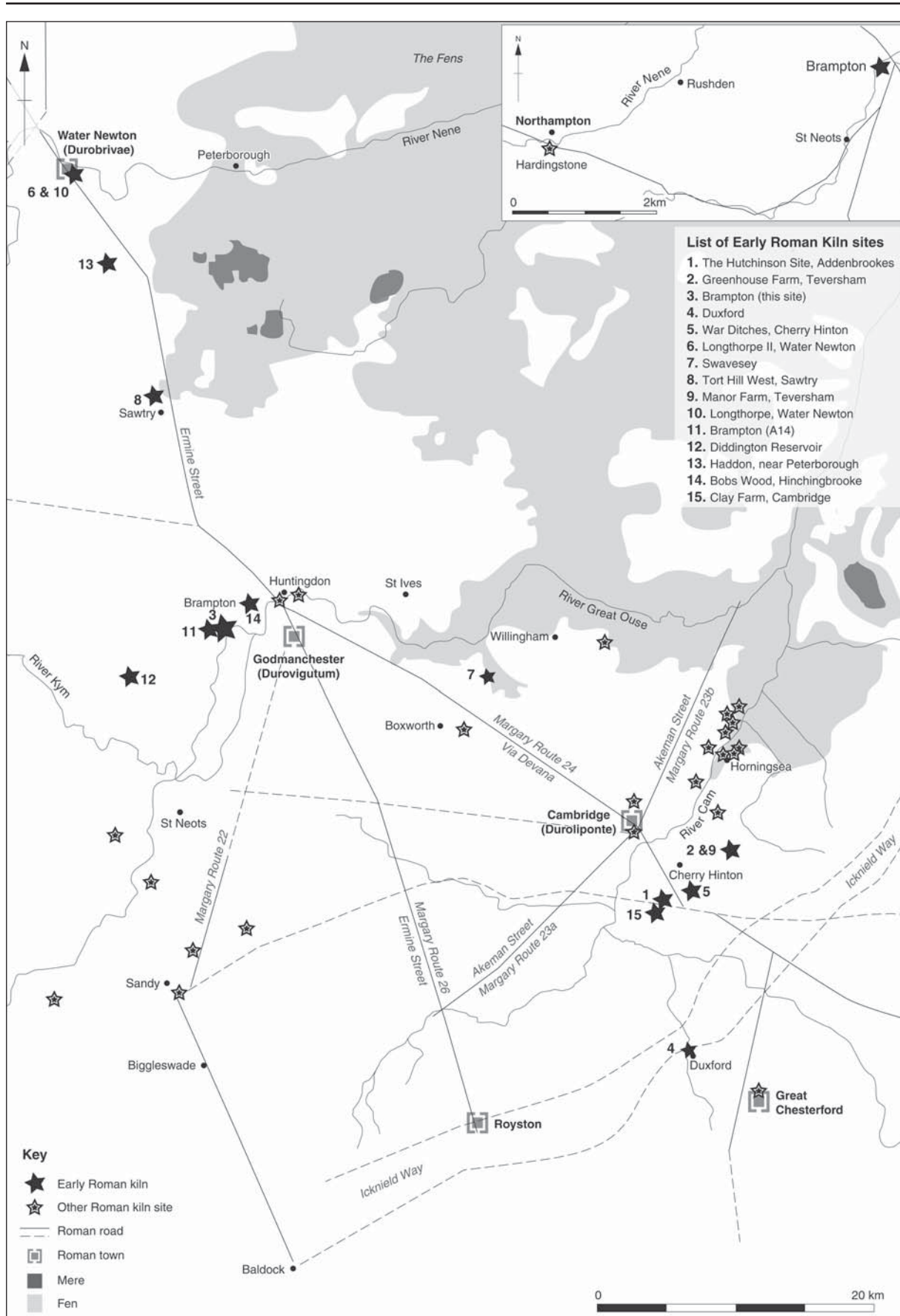


Figure 13. The Brampton kilns in relation to other kiln sites mentioned in the text.

### Who Were the Brampton Potters?

It is interesting to consider how the Brampton pottery kilns were worked and by whom. The small number of kilns, located in an apparently isolated position and producing utilitarian coarse ware lid-seated jars, jar lids, and with a potential specialism in cheese press production, may be compatible with the model of a 'potter-farmer' who slotted potting tasks into their seasonal agricultural programme (Evans *et al.* 2008, 127–133; Gibson and Lucas 2002, 109–114). This potter (or potters) may indeed have been making cheese as part of their farming regime, while the presence of spelt cereal impression on the clay kiln plates (Fig. 11, SF 24) also indicates crops were being grown and processed nearby. Environmental samples from the kilns indicate the presence of both arable and pasture crops, which along with small amounts of animal bone, further demonstrates that pottery production was being undertaken within a broader agricultural landscape.

It is perhaps worth speculating how such pottery skills became widespread in early Roman rural Cambridgeshire. Evans *et al.* argue that itinerant specialists were not necessary to transfer pottery skills in the relatively dense settlement areas of central Cambridgeshire in the late Iron Age and early Roman periods, as local knowledge could have spread through regular social interchange, such as marriage, the exchange of skilled labour (serfs or slaves), or the presence of the military (Evans *et al.* 2008, 131; Jones 2011, 283). The occurrence of cheese presses may be relevant to this discussion as they have been associated with early Roman (AD 50s) military production such as that identified at Longthorpe Fort, near Peterborough (32 km to the north of Brampton; Fig. 13) (Cool 2006, 96). This raises the question of whether the Brampton potters had military connections as the contemporary fort at Godmanchester was only 3km away. Could these kilns and their products represent

the work of a retired soldier potter and his descendants?

Whatever their origins, it appears that there is fairly convincing evidence for more than one generation of potters at Brampton – either resident nearby or visiting regularly. An argument in favour of resident local potters is the level of conformity within the ceramic products, as itinerant potters would surely have been exposed to a wider range of influences. Small individual workshops of the type found at Brampton often fell from use at the end of the 1st century when larger pottery industries such as those at Godmanchester, Horningsea and the Nene Valley became established (Tyers 1996, 173–175).

### Conclusions

The kilns at Brampton are one of the largest and best-preserved groups of pottery kilns known in Cambridgeshire and add to a growing, but still limited (Gibson and Lucas 2002, 95), corpus of kiln sites dating to the post-Conquest 1st century in the area (Table 5). Given the extensive investigations currently underway as part of the A14 improvements scheme and on the outskirts of Cambridge in particular, it is highly likely that more kilns will come to light that will further enhance this dataset. The Brampton kilns are undoubtedly of regional importance and make a significant contribution towards developing an understanding of the adoption of wheel-made kiln fired pottery in rural early Roman communities. It is particularly interesting that the potters seem to have been adopting technologies seen in the Upper Nene Valley and Northamptonshire, perhaps suggesting links with those communities possibly forged at the nearby fort and settlement of Godmanchester.

**Table 5.** Summary of firmly dated early Roman kilns so far excavated in Cambridgeshire (does not include all disassociated or unstratified early Roman kiln furniture found in the region).

Site Name	Site Summary	Date	Reference
The Hutchison Site, Addenbrookes, Cambridge	Eleven kilns	AD 50–80	Webley and Anderson 2008, 63–75
Greenhouse Farm, Teversham	Eleven kilns	AD 45–68	Gibson and Lucas 2002
Brampton	Eight kilns	AD 60–80	This report
Duxford	Six kilns	AD 50–80	Anderson and Woolhouse 2016
War Ditches, Cherry Hinton	Six kilns	AD 55–90	Evans 1990; Evans <i>et al.</i> 2008, 102–106; Lyons 2012
Longthorpe II, Water Newton	Three kilns	AD 50–60	Dannell and Wild 1987
Swavesey	Two kilns	AD 40–60	Willis <i>et al.</i> 2008, 53–76
Tort Hill West, Sawtry	Two kilns	Flavian	Hancocks <i>et al.</i> 1998
Manor Farm, Teversham	A single kiln	Flavian	White 1982
Longthorpe, Water Newton	A single kiln	AD 45–60	Perrin 1999, 44–5
Brampton (A14)	A single kiln	AD 60–80	Jones & Panes 2014
Diddington Reservoir	A disturbed kiln	1st century AD	Cra'ster <i>et al.</i> 1965
Haddon, near Peterborough	A single kiln	Flavian	Evans 2003, 75–81
Bobs Wood, Hinchingsbrooke	A single kiln	Flavian–Trajanic	Lyons in prep
Clay Farm, Cambridge	A single kiln	Early Roman	Poole in prep



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