

# Characterising post-medieval pottery production centres in Somerset

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*Post-medieval pottery made in Somerset is distinct from wares produced elsewhere in the south-west of England. Recent experimental work and scientific analysis, combined with study of finds from fieldwork, has led to a more complete understanding of the nature of pottery production in Somerset, how it is possible to use mineralogical and stylistic evidence to distinguish between the three major areas of earthenware production and how production changes over time.*

## Introduction

As John Allan (2000, 126) has remarked, the south-west of England provides particular rewards to the student of post-medieval pottery as it retained the distinctiveness of its regional production far longer than many other parts of the country, despite competition with imports and products of the major centres of Bristol and Staffordshire. Richard Coleman-Smith and Terry Pearson did much to define the distinctive style and products of the post-medieval Somerset potteries, not just of Donyatt, in their seminal report (Coleman-Smith and Pearson 1988) but the distinctions that Pearson drew elsewhere between different centres have proved elusive to many. This paper attempts to define some of those distinctions, principally with scientific evidence collated by the use of QEMSCAN (Quantitative Evaluation of Minerals by SCANNing electron microscopy), a technique which maps the mineralogy of the matrix and its inclusions with an automated scanning electron microscope using energy dispersive x-ray analysis (Andersen *et al* 2016a). It also seeks to draw out the more general characteristics of the industry.

There are, however, three caveats to this study. Firstly, dating is still highly dependent on the stratigraphic-sequences of the major urban centres of Bristol and Exeter. Secondly, evidence from production centres is still far from complete and both geographically and chronologically patchy (Fig 1).

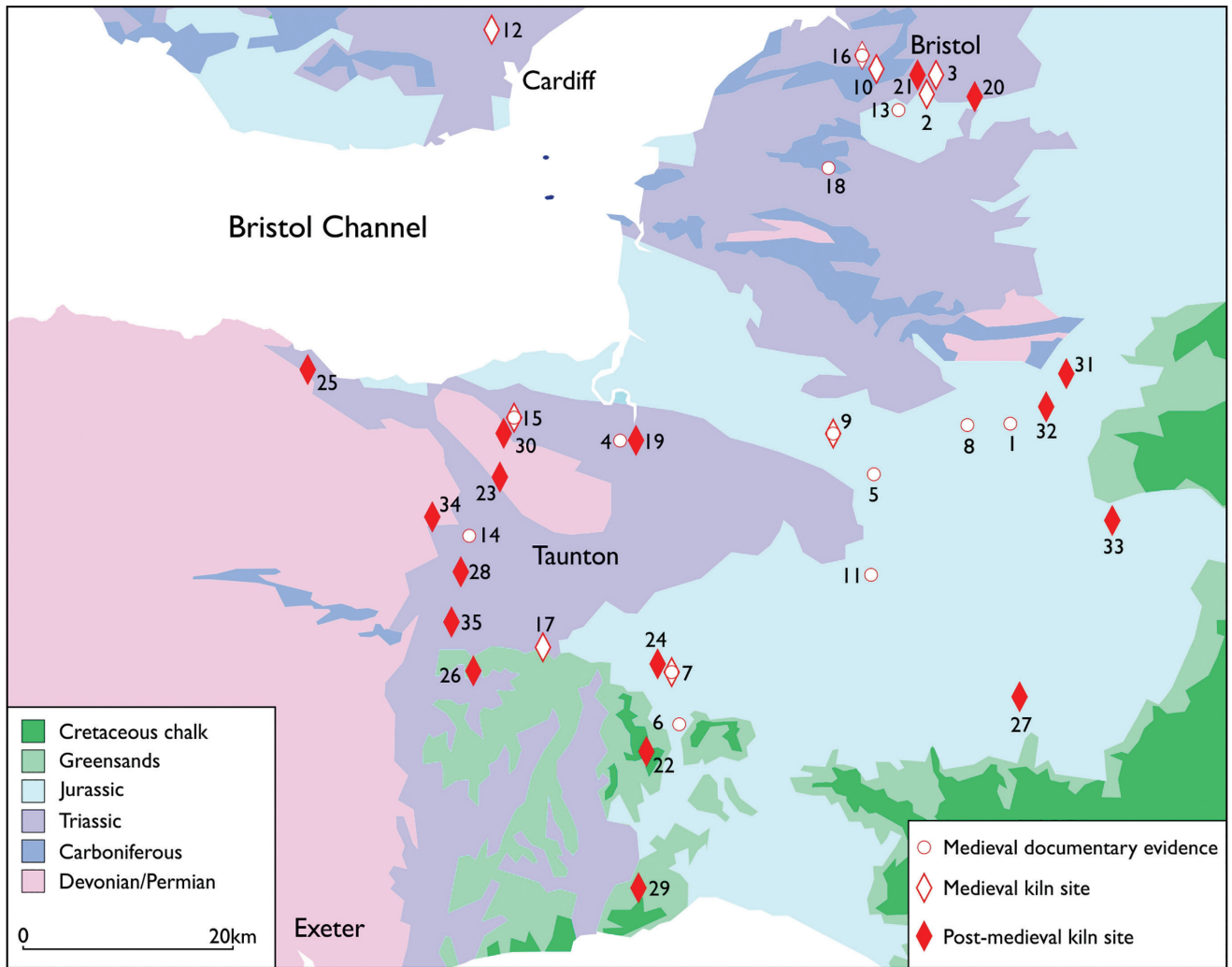
Thirdly, the production of the ‘Somerset-style’ of pottery is not limited to the boundaries of the historic county. Current (2017) fieldwork by Luke Moulard and Elisabeth Bletsloe shows evidence for similar 18th-century slip-decorated ware in a distinctive local sandy fabric being produced in the parish of Holnest (Dorset), between Sherborne and the Dorset Downs (Andersen *et al* 2016b, 289), while work by Penny Copland-Griffiths has demonstrated that a range of late 17th-/early 18th-century sgraffito wares and pottery with copper-speckled white slip were produced at Crockerton (Wiltshire), in addition to the plain wares previously published from the site (Algar and Saunders 2016). These Wiltshire sgraffito products are executed in such a highly distinctive style of decoration that it is likely that the Tulip Maidens dish (Fig 2), formerly attributed to Donyatt was made there (Coleman-Smith and Pearson 1988, 181–2, 8/36).

The QEMSCAN data derives from three programmes of sampling: work at Taunton Castle (funded by Somerset County Council), Churchills Farm, Hemyock (Devon) (funded by Historic England), and that of the Wells Pottery Study Group (funded primarily by the Maltwood Fund of the Somerset Archaeological and Natural History Society) (Andersen *et al* 2016a; 2016b; 2018; forthcoming). The post-medieval fabric types identified are summarised in Appendix 1.

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**Figure 1.** Map of evidence of pottery-making in and around Somerset. Evidence of medieval pottery production: 1 Batcombe, 2 Bristol Redcliff, 3 Bristol St Peter, 4 Bridgwater, 5 Butleigh, 6 Chard, 7 Donyatt, 8 Evercreech, 9 Glastonbury, 10 Ham Green, 11 Ilchester, 12 Llandaff, 13 Long Ashton, 14 Milverton, 15 Nether Stowey, 16 Pill, 17 Blackdown Hills, 18 Wrington

Evidence of post-medieval pottery production: 19\* Bridgwater, 20 Brislington, 21 Bristol, 22 Chard and Chardstock, 23\* Crowcombe, 24\* Donyatt, 25\* Dunster, 26\* Hemyock, 27 Holnest, 28\* Langford Budville, 29 Lyme Regis Hole Common, 30\* Nether and Over Stowey, 31\* Nunney and Trudoxhill, 32 Wanstrow, 33 Wincanton, 34 Wiveliscombe, 35\* Wrangway.

For full referencing see Andersen *et al* 2016b, 289. Sites from which waste has been sampled by QEMSCAN marked \*.  
Image: Authors



**Figure 2.** The Tulip Maidens dish, formerly ascribed to Donyatt, but more likely to have been made at Crockerton; provenance unknown. Diameter 490mm. Image: South West Heritage Trust (accession number 4-7)

## Characterising the different products

### Forms, technique and decoration

Evidence suggests that the general range of forms and decoration defined by Coleman-Smith and Pearson applies at the appropriate period across the three main areas of production in Somerset. In the early 16th century these comprise jars, jugs and cisterns, sparsely decorated with a white slip band and simple sgraffito decoration and lobed cups, sometimes with encrusted quartzite swags (Coleman-Smith and Pearson 1988, 80, fig 33). In the early 17th century we see simple sgraffito and wet-slip decoration on dishes, simple sgraffito on jugs and handled jars, including those with bucket handles, plain pans, chafing dishes, dripping trays, pipkins and black-glazed encrusted cups (Coleman-Smith and Pearson 1988, 86–7, figs 36 and 37). In the early 18th century there is more elaborate trailed, sgraffito and wet slip decoration on dishes, posset pots, meat roasters and handled jars, including those with bucket handles, and plain chafing dishes, and candlesticks (Coleman-Smith and Pearson 1988, 90, fig 38). In the early 19th century there are trailed slip dishes, sgraffito-decorated puzzle-jugs and other ornaments and a range of plain earthenwares for kitchen and larder (Coleman-Smith

and Pearson 1988 92, fig 39). There are variations in form and manufacturing technique but many of these distinctions need further refinement. Knife-trimming of bases, for example, was regularly done in south Somerset but not in east Somerset. The practice of enriching glazes over white slip with splashes of brass filings was, however, used in all three major production areas, as was the technique of sgraffito decoration, which was introduced in the mid 17th century and commonplace in the 18th century (Barton 1964, 204–5; Pearson *et al* 2014, 87).

### South Somerset wares

A wide range of data based on documentary and archaeological research has been published relating to production in the parish of Donyatt between 1350 and 1938 (Coleman-Smith and Pearson 1988; Coleman-Smith 2002). An outlier of the industry has been identified at Hole Common near Lyme Regis (Dorset) (Draper 1982) and there is scanty evidence of production extending into South Chard and Chard parishes (Andersen *et al* 2016b, 289). The best assemblages from consumer sites are from Taunton (published in microfiche) but material has also been recorded in Exeter and Bristol and to a lesser extent

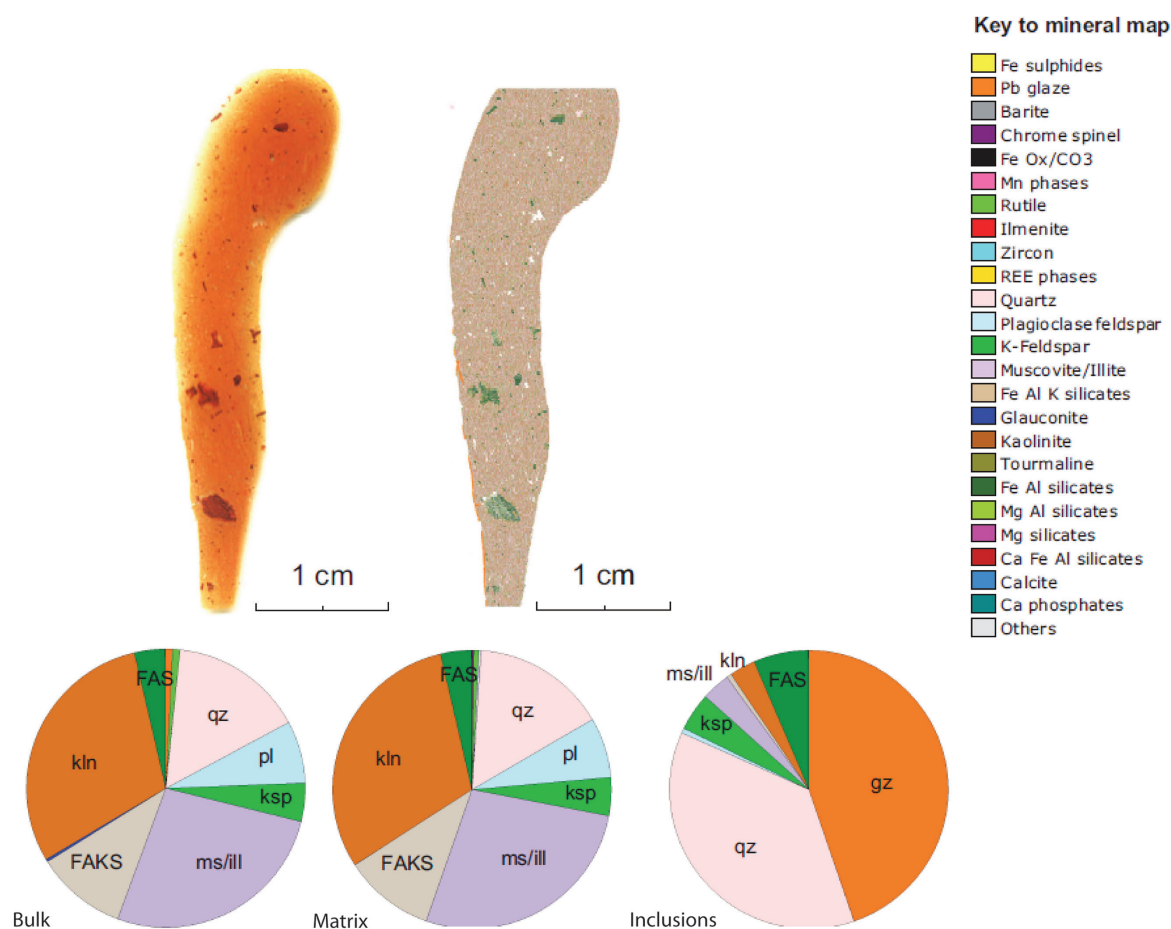


Figure 3. QEMSCAN analysis of sample CO5120021 from Donyatt site 13 (south Somerset), characteristic of mineralogical type D. Image: Andersen *et al* 2016b, 318–9





**Figure 4.** South Somerset wet slip-decorated dishes from Kennedy's Yard, Taunton. Diameter 396mm (r) and 310mm (l). Images: Authors (Nb. Example on left previously published as Pearson 1984, no. 1157)

in Virginia and Maryland (USA) (Pearson 1984; Allan 1984 132–5; Good 1987; Coleman-Smith *et al* 2005).

Two main fabric types have been identified. The earliest (mineralogical type B<sub>1</sub>; see Appendix 1) also belongs to the family of Upper Greensand-derived wares identified by John Allan, Mike Hughes and Roger Taylor (Andersen *et al* 2016b, 286, 316–7; John Allan, pers comm). The second type, which is most commonly used in the South Somerset potteries from about 1600 onwards, has been defined as mineralogical type D (see Appendix 1; Andersen *et al* 2016a, 110; 2016b, 286, 318–9). In appearance the body is often soft to medium fired, straw to orange in colour and has distinct soft iron-rich nodules <3mm. Mineralogically, the body typically consists of 99% matrix and only 1% inclusions and *c* 30% of the matrix is kaolinite (Fig 3). Plain lead glazes can be either oxidised brown or reduced green and sometimes, when over white slip, enriched with splashes of green from brass filings. The fit of the glaze over the white slip is often poor, resulting in flaking (Fig 8). There is a wide range of forms, both utilitarian and decorative, but it is the slip-decorated wares of the late 17th to early 19th century that have received most attention through collectors such as Dr Glaisher (Rackham 1935, 27). Peter Brears characterises the slip decoration as 1) sgraffito; 2) manipulating wet slip into a series of rings and loops and brushing on additional motifs; and 3) combing (Brears 1971, 48–9). Since Brears wrote, it is now clear that all three techniques were used in all three pottery centres in Somerset, but it is in their exuberant application of the wet slip technique that the South Somerset potters excelled (Fig 4).

#### West Somerset wares

The only published evidence of production waste in west Somerset is that from Nether Stowey and Wrangway, both dated to the 17th century (Coleman-Smith and Pearson 1970; Pearson *et al* 2014). There is documentary evidence of a potter working in neighbouring Over Stowey in 1591 (Baggs and Siraut 1992, 167; Dawson 2018). To this family of wares also belongs unpublished production waste from Crowcombe (16th century) and Langford Budville (17th/18th century). Dunster is a puzzle which will be referred to later. The end of production was probably early in the 19th century, due to the rise of the large-scale brick and tile manufactories of Bridgwater and Wellington.

In 1968 the 17th-century pottery produced at Nether Stowey was recognised by Terry Pearson as being similar to material found at St Nicholas's Almshouses, Bristol (Coleman-Smith and Pearson 1970; Barton 1964; Appendix 1, below). In 1978–9, a large assemblage of this ware was identified in the post-1581 backfill of St Clement's Dock in Bristol, and more recently late 16th-/early 17th-century material has been found at Cosmeston and Cardiff Castle in South Wales, and later 17th-/18th-century material at Penhow Castle, Gwent (Fig 5) (Good 1987; Dawson 2016; Forward this volume and pers comm).

The West Somerset ware fabrics have been defined as mineralogical type A (see Appendix 1) with the characteristics of being derived from the Triassic marls (Andersen *et al* 2016a, 109; 2016b, 286, 314–5, 320–3, 328–9). In appearance the body is usually





Figure 5. A West Somerset ware trailed slip-decorated dish from Penhow Castle, Gwent. Diameter 396mm. Image: Reproduced by courtesy of Newport Museum and Art Gallery

hard-fired with a granular break and characteristically flecked with abundant particles of quartz <0.5mm (Fig 6). These are larger (up to 1mm) and even more abundant in the coarser wares from Wrangway. Hence the proportion of matrix to inclusions is typically 99:1, but falls to 89:11 in the Wrangway material. By volume the matrix consists of 55–70% Iron-Aluminium-Potassium (Fe-Al-K) silicates with 10–20% quartz. Glazes vary from oxidised light brown speckled with darker brown particles though reduced rich green to black speckled with white. The range of forms and decoration is similar to that of south Somerset but the glaze is a much better ‘fit’ over slip.

John Allan raised the problem of distinguishing West Somerset wares from those of south Somerset when analysing the group of early 16th-century pottery from Cleeve Abbey and looked to Roger Taylor for detailed visual analysis and Michael Hughes and ICP-AES to provide an insight (Allan 1998, 46). Taylor came to the conclusion that the petrology showed that the majority of the red earthenware was highly similar to waste from Nether Stowey, while Hughes was able to draw a clear distinction between

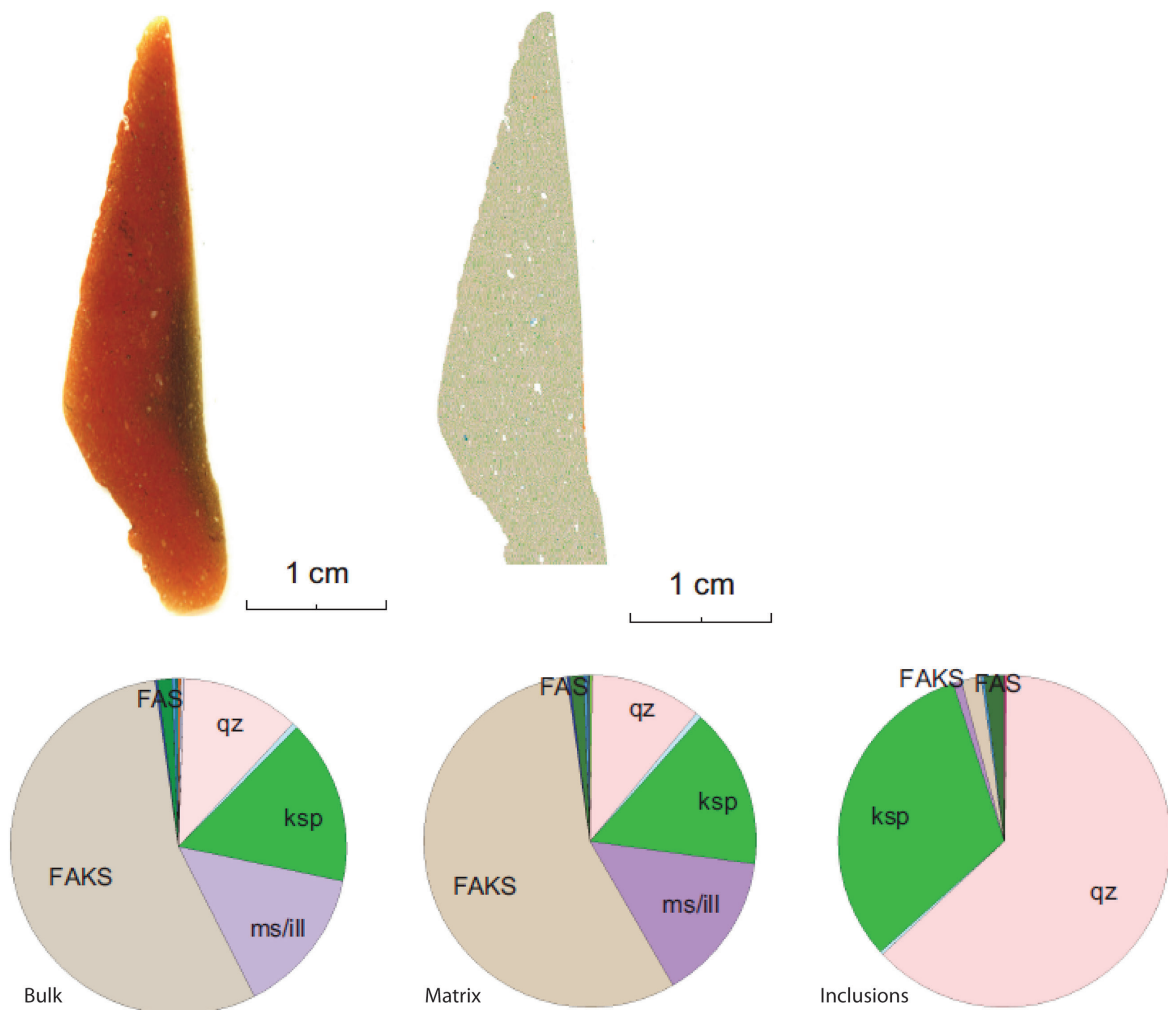


Figure 6. QEMSCAN analysis of sample CO5120022 from Nether Stowey (West Somerset) characteristic of mineralogical type A. For key see Fig 3. Image: Andersen *et al* 2016b.

the chemical signature of waste pottery from Nether Stowey, Donyatt and Barnstaple (Devon) (Taylor 1998, 59; Hughes 1998, 60–8). It should be added that parallel programmes of QEMSCAN, ICP and detailed visual petrological analysis have been completed and a comparative study will, thanks to funding by Historic England, be produced in the near future (Smart 2018).

### East Somerset wares

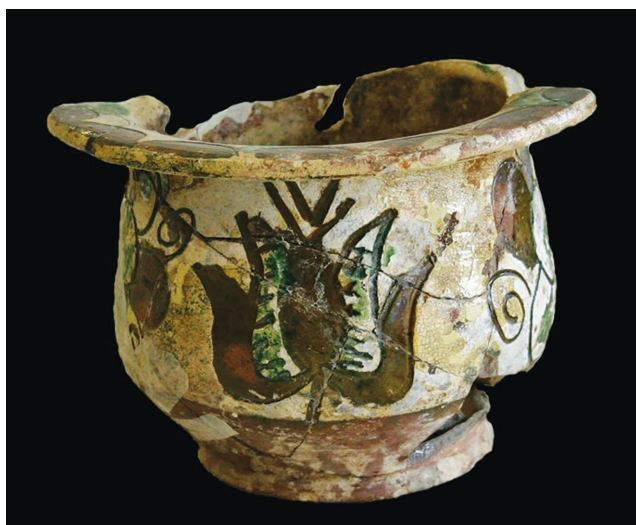
The term East Somerset ware was first used for material from waste pits at Wanstrow identified by D Stanley (Ellison and Pearson 1981, 215). Since then further waste dating from about 1650–1800 has been recovered from Nunney Catch, Trudoxhill,

Nunney village and through the fieldwork of the Wanstrow Pottery Research Group on several sites in Wanstrow village and across the parish (Vranch 1988; Jefferson 2016, 28–9). The Group has also identified documentary references to potters dating from 1570–1851 and noted the Rev Skinner’s comment on his visit in 1826 to there being one surviving pottery where there once had been 11 (Jefferson 2016, 29–30). This timing corresponds with the disappearance of East Somerset wares from Bristol from the late 18th century onward. Major assemblages have been identified in Bristol, at St Clement’s Dock (Good 1987), in recent work on Barton’s finds from St Nicholas’s Almshouses (Barton 1964; Appendix 1, below) and at Redcliff Hill (Dawson and Ponsford 2016–17; this volume), where East Somerset ware seems to have displaced West Somerset wares by the early 18th century (Fig 7). Further assemblages have been confirmed at Glastonbury Abbey (16th century; Allan *et al* 2015, 267, 269) and in Wells (*c* 1800; Dawson *et al* forthcoming) (Fig 8). One vessel has been noted from Cosmeston (Forward, this volume).

The fabric has been identified as mineralogical type B<sub>1</sub> (see Appendix 1; Andersen *et al* 2016a, 109; 2016b, 324–57). It is hard fired, often with a grey core, clean sandy appearance, often laminar in structure and with occasional irregular fragments of quartz and ferruginous particles <2mm. Analysis shows that the matrix typically comprises 90–95% by volume, with 5–10% inclusions (Fig 9), mainly quartz (70–80%). Glazes are hard, usually dark olive green, speckled with black and occasionally displaying patches of oxidised brown. In the few cases where sgraffito decoration has been found on wasters, it displays a preference for combining lines with scraped areas, a technique deployed with greater exuberance at Crockerton.



**Figure 7.** Mid 18th-century East Somerset chamber pot from Redcliff Hill, Bristol (Dawson and Ponsford 2017–17, no. 176). Image: Reproduced by courtesy of Bristol City Museum and Art Gallery



**Figure 8.** Late 18th-/early 19th-century sgraffito wares from pit 4/5, Wells Museum Garden. Diameter 200mm (r) and 185mm (l). Image: Reproduced by courtesy of Wells and Mendip Museum

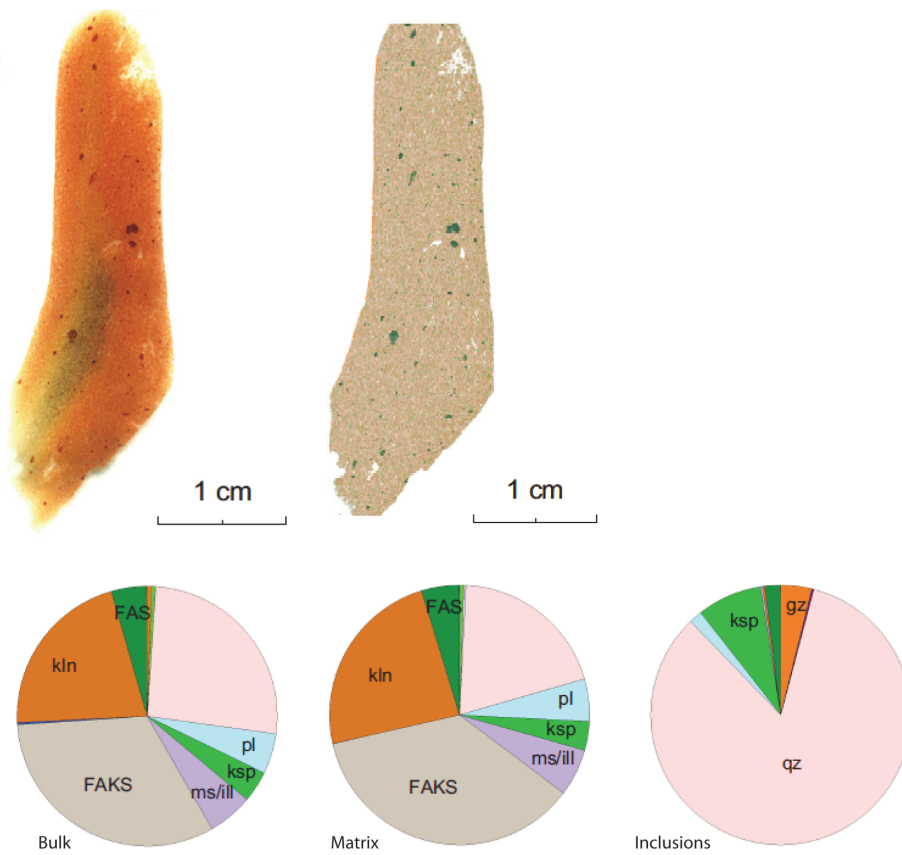


Figure 9. QEMSCAN analysis of sample CO5120018 from Wanstrow (east Somerset), characteristic of mineralogical type B1. For key see Fig 3. Image: Andersen *et al* 2016b, 326–7

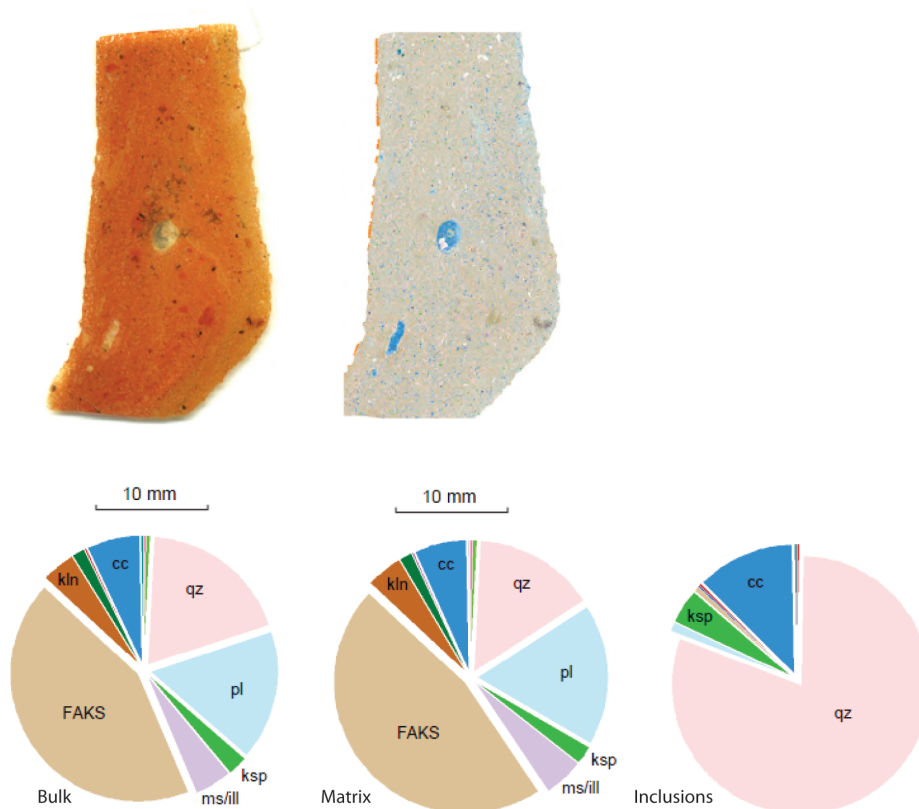


Figure 10. QEMSCAN analysis of sample C03150024 from Chandos Glass Cone, Bridgwater, characteristic of mineralogical type C. For key see Fig 3. Image: Andersen *et al* forthcoming a



### Other wares

There are other production centres, including a source in north Somerset that has yet to be identified, and Bristol, from the late 18th and into the 19th century (Kent 2004; Mason 2017, 108–13). There are also many other post-medieval potteries to be located within the three areas described in this paper, not least possible successors to the medieval potteries identified by Jean le Patourel (1968) (Fig 1). Finally, there is the 19th-century pottery constructed literally within and around the Chandos Glass Cone in Bridgwater (originally built for a short lived venture in glass-making between 1725–35), which was linked with brick, tile and pottery making from 1827–1939 (Boore and Pearson 2010, 131–2). By 1849 it was associated with John Browne and thereafter with the Somerset Trading Company (see below).

The fabric, characterised as the distinctive mineralogical type C (Fig 10) (See Appendix 1; Andersen *et al* forthcoming), is generally well-fired and in appearance very clean. The proportion of matrix to inclusions by volume is between 99% to 1% and 93% to 7%. There are often small voids where flecks of lime have burnt out, although occasionally larger pieces have been incorporated in the body where they often cause spalling as they hydrate. The glazes are very hard and glossy and range from rich brown mottled with iron (appearing honey-coloured over slip) to dark green with iron speckling.

### Characterising production

#### The ‘country pottery’

The typical picture of the works producing red earthenwares is of a small-scale, family-owned, pottery, permanently-sited and consisting of workshops around a single kiln, with a workforce of about half a dozen people, not necessarily permanently employed. The pottery would have been one of several similar concerns scattered across an area of countryside with raw materials close to hand. This view is evoked by what is known from both documentary and archaeological evidence of the potteries of the Donyatt area and from the area of east Somerset in and near Wanstow, and from similar sources outside the county at Crockerton (Wiltshire), Holnest (Dorset) and Hemyock (Devon) (Morley 1988; Jefferson 2016, 28–30) (Fig 11). It is also the kind of scene recorded by Fishley Holland in his autobiography at Fremington (Devon) and in the surviving film of Crossroads Pottery at Verwood (Dorset) (Fishley Holland 1958; Holman and Copland-Griffiths 2002). Despite the simplicity of the technologies employed, distribution networks were clearly sophisticated. Use of the sea and waterways to supply Bristol and south Wales, where documentary evidence shows pottery piggy-backing on the shipment of other more substantial cargoes, is perhaps to be expected, but there was also a highly developed network of carriers across the south-west to



Figure 11. Postcard of the Horton Cross Pottery from the Anning collection. Image: Reproduced by courtesy of South West Heritage Trust

serve the woollen and other inland trades (Forward, this volume; Hussey 2000, 111). It should, however, be noted that this kind of pottery production was not necessarily confined to the countryside.

### The proprietary pottery

Potteries established as a business, as opposed to a way of life (if that is an appropriate way of making the distinction), started to appear in the 17th century. They were established on the initiative of people who were usually not potters themselves. There is more than a suspicion that this kind of organisation is to be found in certain examples of the ‘country’ pottery. The Delftware makers of Brislington and later Wincanton are good examples. The pottery at Wincanton was established in the 1730s by Nathaniel Ireson adjoining his house (where it survives remarkably intact, including much of a standing kiln) (Dawson and Kent 2008). Ireson was a local designer/builder of note who, presumably, having recognised good white firing clay next to his property, felt impelled to try the enterprise employing a skilled workforce from Bristol (Cole 2006, 236–7). Perhaps this kind of organisation is to be expected in fine earthenware production – Bristol is the regional example of extraordinary expansion and diversification in the 18th and 19th centuries (Jackson and Price 1982; Mason 2017, 108–11). An example of a red earthenware pottery of this kind is that established in 1759 by Henry Fownes Luttrell, for no apparent reason other than to adorn his estate at Dunster (Dawson and Kent 2007). The kiln has been conserved by Exmoor National Park Authority and is probably the earliest surviving standing pottery structure of its type in the country (Fig 12). Fownes Luttrell hired John and Ruth Mogg to move down from Bristol to build and operate the pottery. The products are entirely domestic wares and seem to have a very local distribution. The accounts in the Luttrell archive show that the enterprise failed to be profitable in the first four years of its operation, yet it survived in use until the 1840s. So far no explanation has been found for the difference between the fabric identified here (type B<sub>1</sub>) and the normal local fabrics of West Somerset (type A) (See Appendix 1; Andersen *et al* forthcoming a).

### The industrial pottery

In the 19th century the country potteries were faced with three major challenges. Firstly, the rise in the number of red earthenware potteries in Bristol effectively closed that lucrative market (Mason 2017, 108–111). Secondly, the development of the Bristol stoneware industry after 1835, when William Powell invented his new very distinctive ‘Bristol’ glaze ‘guaranteed to resist acid’, added further pressure by flooding the market for containers. The influence of this new ware can even be seen in the products that

presented the third challenge – the industrialised brick and tile manufacturers. These were located at Bridgwater (particularly John Browne/Somerset Trading Co. at Northgate, Colthurst Symonds at Castle Field and Sealy/Major at Colley Lane) and at Wellington, using the latest technology, including kiln design. For example, the works of William Thomas and Co. at Poole, near Wellington, was an extensive manufactory with three early Hoffmann kilns of 1866, 1873 and by 1878. It is clear from fieldwork carried out by Tony Ward in the 1970s before the site was cleared that there were specific buildings devoted to the making of pottery enclosing a dedicated pair of West Country-style bottle-kilns (Brian Murless, pers comm; Murless 2000, 19; Somerset Industrial Archaeology Society (SIAS) archive drawings). It is presumed that with the proliferation of building ceramics produced, there was a demand for chimney pots and hence throwers. A wide range of domestic pottery was also made, particularly for food storage and preparation, and wares for small-holdings and horticulture, such as bird-feeders, insect and snail guards, rhubarb pots, sea kale pots and hyacinth pots, as well as the normal range of flower pots and saucers (Fig 13). A small number of art wares, particularly ‘painting pots’, *ie* vessels which the customer adorned as they saw fit in the comfort of their own home, were



**Figure 12.** The pottery kiln at Dunster built in 1759 by John and Ruth Mogg of Bristol for Henry Fownes Luttrell, an example of a proprietary pottery. Image: David Dawson



THE SOMERSET TRADING COMPANY, LTD., BRIDGWATER.




 <p>No. 335.</p>	<b>BUSSES.</b>					
	Size.					
	8 × 8½	9½ × 10	11 × 12	13 × 14	15 × 16	17 × 17½
	4/6	6/9	10/-	13/3	18 -	30 -
	per dozen.					
	<b>BUSSES WITH COVERS.</b>					
	4/9	7/-	10/6	13/9	18/9	31/-
	per dozen.					
 <p>No. 336.</p>	<b>CHEESE PANS.</b>					
	Size.					
	12½ × 6½	14 × 7½	15 × 9	17 × 10	18 × 11	
	12/6	19/-	27/-	38/-	53 -	
	per dozen.					
	<b>CREAM PANS.</b>					
	 <p>No. 337.</p>					
	Size 8½ × 7 10 × 8 13 × 10					
	Per doz. 2/6 4/- 7/9					

Figure 13. Extract from Somerset Trading Co. Ltd. catalogue 1938

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Figure 14. 19th-century jars from the Chandos Glass Cone. Note the two-tone exterior in imitation of Bristol stoneware. Image: Reproduced by courtesy of the Admiral Blake Museum, Bridgwater

also made. From the surviving published catalogues of these large manufactories and from pottery waste it is clear that the forms adopted were not necessarily those of the local traditional potteries. Bottles and jars in particular were based on products of the Bristol stoneware industry, even imitating the bicolour treatment of the exterior (Thomas 1891; Boore and Pearson 2010, 135–7, 148–9) (Fig 14). By the 1930s production was limited to horticultural wares (flower pots and seed pans).

A similar progression over the 19th century from local brickyards to large manufactories producing

pottery as well as building materials and ornamental terracotta, and of the subsequent decline since 1950 is recorded at Weston-super-Mare, where the Royal Pottery finally went into liquidation in 1961 (Poole 1987).

### The end of the tradition

The later stages of the development of red earthenwares more properly belong to small scale enterprise that became what we now recognise as the studio pottery tradition, starting perhaps with the remarkable work of Sir Edmund Elton at Clevedon in the 1880s. He took the West Country tradition of slip decoration to new heights, influencing production in the more traditional manufactories (Fishley Holland 1958, 63–8). Maybe the single most telling archaeological feature of this development is the increasing use, and today almost sole use, of commercially supplied clays, particularly those derived from the Etruria marls.

### Conclusion

Although there is much work still to be done, including publication of material such as that from Quantock Gate at Crowcombe, the use of modern techniques of analysis is helping confirm and refine the pattern of production that Terry Pearson in particular postulated. The comparative study arising from the Hemyock project will be the next stage (Smart 2018). Two factors without which this study would not have been possible have a bearing on the current debate on the nature and future of archaeological archives. The first is the paramount importance of returning sampled sherds to the museum collection from whence they came. Analyses are meaningless without recourse to repeated visual examination for comparison with



more recent finds by anyone wishing to interrogate the evidence. The second is that (no matter how long term access to excavation archives is to be resolved) simple and free access to the reference collection of type sherds is vitally important if we are to attain any reliability and consistency in reporting on pottery.

## Acknowledgements

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## Appendix 1. Table of mineralogical types from Somerset

### Type A

The clay composition of the matrix is dominated by Fe-Al-K silicates with some muscovite/illite. This type has no or little kaolinite. Inclusions are predominantly quartz and K-feldspar. Plagioclase feldspar and calcite are absent from both inclusions and matrix. Glauconite is locally significant.

Type A appears to be consistent with post-medieval West Somerset wares from Crowcombe, Langford Budville, Nether Stowey and Wrangway (Dawson pers obsv; Coleman-Smith and Pearson 1970; Pearson 2014).

### Type B

The clay composition of the matrix is a mixture of Fe-Al-K silicates and kaolinite (between 1:1 and 2:1) with significant (although less) muscovite/illite. The matrix has significant Fe-Al silicates and plagioclase

feldspar. Two subtypes are defined by differences in the inclusions:

### Type B<sub>1</sub>

Inclusions of quartz and K-feldspar. Glauconite is locally significant but calcite is absent.

This subtype includes late medieval production at Donyatt Site 4, which has some characteristics of Upper Greensand-derived materials, and the two post-medieval samples from production waste from near Wanstrow (Coleman-Smith and Pearson 1988; Vranich 1988)

### Type B<sub>2</sub>

Inclusions of quartz and calcite with minor K-feldspar. No post-medieval samples.

### Type C

The matrix clay composition of type C is closely similar to type B except the content of kaolinite appears to be slightly less. Inclusions are 60–70% calcite with the remainder being quartz and minor alkali feldspar.

This group includes post-medieval production from Chandos Glass Cone, Bridgwater (Boore and Pearson 2010).

### Type D

The clay composition of the matrix is predominantly kaolinite and muscovite/illite with only minor Fe-Al-K silicates. Quartz is below 20% and plagioclase dominates over alkali feldspar. The inclusion population is much more diverse than in all other types. Around 70% is quartz but the remaining 30% include alkali feldspar, muscovite/illite, kaolinite, and Fe-Al silicates

The group includes production at Donyatt Site 13 (Coleman-Smith 2002).

*Note: in the mineral groups used in the QEMSCAN analysis, calcite also includes limestone, ankerite and dolomite.*

## Appendix 2. Correlation between Somerset types and published pottery from St Nicholas's Almshouses, Bristol

Barton's account of the post-medieval pottery from the excavations of a medieval bastion at St Nicholas's Almshouses serve as an important benchmark for consideration of the chronology of patterns of trade in regional pottery. He argues that the group was sealed during the construction of the almshouses between 1652 and 1656 (Barton 1964, 193–211). The correlations are made on the basis of visual examination. The numbers refer to Barton's catalogue of illustrations.

Type viii dishes with sgraffito decoration: nos 46–58; probably all west Somerset – certainly 46, 47, 49, 54, 55; 57 confirmed

Type x painted and trailed slip: nos 64–73; probably all east Somerset: certainly nos 64–7; 69–72 confirmed

Type xi brown-glazed coarse ware, ungritted: nos 78–94; west Somerset – 82 and 83; east Somerset: nos 78, 92–4.

### Appendix 3. Reference collections

A so-far incomplete type series of sherds that have been sampled by QEMSCAN and ICP is held in the museum collections at the Somerset Heritage Centre, Taunton. Groups of pottery waste can be consulted under the following accession numbers: 55/1992 Crowcombe, 71.A.13 Donyatt, 42/1989 and 68/2000 Dunster, 71.A.13 Nether Stowey, 15/1995 Trudoxhill, 91/1995 Wrangway. Samples/finds from Chandos Glass Cone, Bridgwater, are held at the Admiral Blake Museum, Bridgwater: accession number 1990.154.

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