

# Assessment of Pottery and Kiln Furniture from the Royal Worcester Porcelain Factory, Worcester (RWP04/65)

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A collection of production waste recovered during an archaeological watching brief at the Royal Worcester Porcelain Factory, Worcester, was submitted to the authors for identification and assessment.

The material consisted of a group of pottery and kiln furniture from Dump A, a group from Dump B and a collection of unlocated pieces, which also includes a fragment of plaster of Paris (Table 1).

*Table 1*

Context	Data	CMR	CMW	ENGS	ENPO	PLASTER OF PARIS	WHITE	Grand Total
UNLOCATED	Sum of Nosh		33	1	118		1	154
	Sum of NoV		20	1	102		1	125
	Sum of Weight		14025	10	4702	142	62	18941
POT DUMP A	Sum of Nosh		12		28			40
	Sum of NoV		11		25			36
	Sum of Weight		2700		1334			4034
POT DUMP B	Sum of Nosh	7	5		3			15
	Sum of NoV	7	5		3			15
	Sum of Weight	76	2267		116			2459
Total Sherds		7	50	1	149	1	1	209
Total Vessels		7	36	1	130	1	1	176
Total Weight		76	18992	10	6152	142	62	25434

## Description

The finds were examined by eye and selected pieces were studied at x20 magnification. On this basis they were divided into five fabric groups.

### **Coal Measures Redware (CMR)**

Seven fragments of red earthenware were recovered. All had been roughly shaped into oval-sectioned strips. Examination of the fabric at x20 magnification indicates that the clay is probably a Coal Measures redware rather than locally-obtained red-firing earthenware clay. The most likely source for this clay is the Staffordshire potteries.

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### **Coal Measures Whiteware (CMW)**

Fifty sherds of a white-firing earthenware were recovered. All had been used to produce kiln furniture. The fabric was examined at x20 magnification and three groups were recognised. The first contains a quartz sand and abundant clay pellets, relict clay of similar colour and texture to the groundmass. The second contains an iron-rich quartz sand temper and the third contains larger iron-rich inclusions.

These three clays could be evidence for the use of clay from three different sources or batches or the addition of three different tempering materials to the same clay.

The kiln furniture consists of:

- A single spacer, consisting of an oval-sectioned straight string (similar to those in the CMR fabric)
- A single triangular-sectioned annular ring, 24mm deep
- Large cylindrical saggars, mostly covered with thick purple/brown ash glaze (called SAGGAR 1 in the catalogue)
- Smaller, plate-shaped saggars (called SAGGAR 2 in the catalogue, which also give a maximum diameter where reconstructable). One of these saggars has a circular hole pierced through the flange presumably to allow kiln gases to circulate.
- Bowl-shaped saggars (called SAGGAR 3)
- A single straight subrectangular strip with a raised ridge on one side (called SAGGAR 4)
- Lids, almost flat but with a low, conical shape

In general the saggars have a thicker brown ash glaze on the exterior and either a plain unglazed inner surface or, often, a brush-applied white deposit, possibly akin the bitstone used on Staffordshire saggars to separate the vessel from the sagger walls (Barker 1998). However, whereas in the Staffordshire case the material consists of crumbs of clay in this case it appears to have been either a clay slip or perhaps plaster of Paris.

### **Miscellaneous Stoneware (ENGS)**

A single sagger (of cylindrical form, SAGGAR 1) was classed as stoneware because of its firing temperature. The fabric contains an iron-rich quartz sand and probably is a higher-fired version of the CMW fabric group with iron-rich quartz sand temper.

### **Porcelain (ENPO)**

One hundred and forty-nine sherds of unglazed porcelain were catalogued (Table 2). Most of these come from Trench 1 with small quantities from the two dumps in Trench 17. The material consists partly of biscuit porcelain waste, some of it blistered, porcelain which might

be waste but might have been unglazed objects used on the site (e.g. electrical insulators and an electrical fitting) and items of kiln furniture. The latter include a single shallow, cylindrical dish, 13mm deep; two cylindrical rings and a series of triangular-sectioned annular rings. A single example has a lip. The internal diameter of the rings was measured and ranges from 34mm to 220mm (Fig 1).

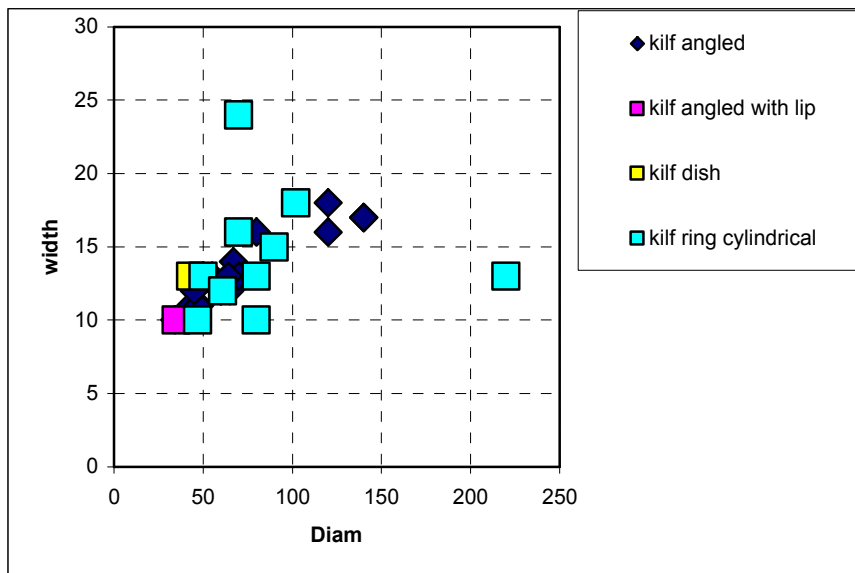


Figure 1

Table 2

Form	TRENCH 1	POT DUMP A	POT DUMP B	Grand Total
?	1			1
BOT	1	1		2
BOWL	4			4
BOWL?	3			3
CUP	3	3		6
CUP?	4			4
DISH	4	4		8
ELECTRICAL FURNITURE		1		1
INSULATOR	3	1		4
KILF	37	8	1	46
LID	1		2	3
PLATE	53	10		63
VASE	1			1
VASE/JAR	1			1
VASE?	2			2
Grand Total	118	28	3	149

The biscuit porcelain from Trench 1 includes three marked pieces, an oval dish and two plates. The stamps consist of a crown and the word "WORCESTER". In addition, a glazed miniature cup from Trench 17, Dump A, has a green transfer-printed mark, "ROYAL WORCESTER, ENGLAND .22". The date range of these stamps has not been researched but from their appearance are probably of 20<sup>th</sup>-century date.

### **Refined White Earthenware (WHITE)**

A single fragment of an electrical fitting is made from a refined white earthenware and has a clear colourless glaze. It is probably not a product of the factory.

## **Assessment**

### **Dating**

The assemblage from Tr 17 Dump A includes an electrical insulator and a fragment of marked (transfer-printed) porcelain both of which are probably 20<sup>th</sup> century. As such, it is doubtful whether much could be learned from the study of this material which could add to that already known about the factory's working procedures and products.

The assemblage from Tr 17 Dump B consists solely of kiln furniture. On the one hand, most of the types present also occur in Dump A but on the other these are probably types which were in use from the mid 19<sup>th</sup> century onwards, whilst there is little to distinguish some of the saggars from those used in mid 18<sup>th</sup> century Stoke. Without further evidence, it would be unwise to give a precise date to Dump B and a mid 19<sup>th</sup> to 20<sup>th</sup>-century date range should be given.

There are no types in the Trench 1 material which need be earlier than the mid 19<sup>th</sup> century and some which are probably 20<sup>th</sup> century.

### **Potential**

The Tr 1 material includes no datable types which do not occur in one or other of the two groups and given that it is unknown whether the material comes from a single locality or is a mixture it has a very limited potential for further study.

The material from Tr 17 Dump A is clearly recent in date and but its study may well reveal details of manufacturing processes not obtainable from items present in museum collections

The material from Tr 17 Dump B could be earlier than that from Dump A and this too might reveal details of manufacturing processes although in the absence of porcelain wasters which might be dated through study of pattern books it is unlikely that a close date will ever be achieved for Dump B.

## **Recommendations**

An example of each pottery or kiln furniture form has been selected, to form a type series. This type series should be retained and ideally photographed to accompany this report.

Examples of the various kiln furniture fabrics should also be retained for potential characterisation. Such studies would require at least six separate samples of each type and where these could not be obtained by sampling the type series, other samples should be retained.

The remaining material from dumps A and B should also be retained in its entirety since they form archaeological assemblages whose composition might have archaeological potential.

The retention policy for the Trench 1 material will depend on whether or not it too came from a single deposit.

## **Bibliography**

Barker, D. (1998) "Bits and Bobs - the development of kiln furniture in the 18th-century Staffordshire Pottery Industry." *English Ceramic Circle Transactions* , 16(pt 3 ), 318-41

## Appendix 1

Action	class	Trench	Context	Cname	Subfabric	Form	Description
	POTTERY	1		ENPO	BISCUIT	?	
PHOTO	POTTERY	1		ENPO	BISCUIT	BOWL	
	POTTERY	1		ENPO	BISCUIT	CUP	
	POTTERY	1		ENPO	BISCUIT	CUP?	
PHOTO 5	POTTERY	1		WHITE		ELECTICAL FITTING	
PHOTO 3	POTTERY	1		ENPO		INSULATOR	
	POTTERY	1		ENPO		INSULATOR	
PHOTO 4	POTTERY	1		ENPO		INSULATOR	
PHOTO	POTTERY	1		ENPO		LID	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO		PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	
	POTTERY	1		ENPO	BISCUIT	PLATE	

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	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO	BISCUIT	PLATE	
	POTTERY	1	ENPO		PLATE	
	POTTERY	1	CMW		SAGGER 1	
	POTTERY	1	ENPO	BISCUIT	VASE?	
PHOTO	POTTERY	1	ENPO	BISCUIT	CUP	43 DIA BASE
PHOTO	POTTERY	1	ENPO	BISCUIT	BOWL	44 DIA BASE
	POTTERY	1	CMW		SAGGER 2	45 DEEP
	POTTERY	1	CMW		SAGGER 2	52 DEEP
PHOTO	POTTERY	1	ENPO	BISCUIT	VASE/JAR	54 DIA BASE
	POTTERY	1	CMW		SAGGER 2	55 DEEP
	POTTERY	1	ENPO	BISCUIT	CUP?	55 DIA BASE
PHOTO	POTTERY	1	ENPO	BISCUIT	CUP?	55 DIA BASE
	POTTERY	1	ENPO	BISCUIT	CUP?	57 DIA BASE
	PLASTER OF PARIS	1	PLASTER OF PARIS		LUMP	CIRCULAR LUMP
	POTTERY	1	ENPO	BISCUIT	PLATE	CROWN STAMPED ON BASE
PHOTO	POTTERY	1	CMW		SAGGER 2	DEEP PLATE; DRAINAGE HOLE

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PHOTO 10	POTTERY	1	ENPO		KILF ANGLED	RING; ANGLED; 10 WIDE
PHOTO	POTTERY	1	ENPO	BISCUIT	DISH	FLUTED EDGE
	POTTERY	1	CMW		SAGGER 2	FRAGS FROM BASE
PHOTO 13	POTTERY	1	ENPO	BISCUIT	BOWL	LARGE
	POTTERY	1	ENPO	BISCUIT	BOWL	LARGE
PHOTO 12	POTTERY	1	ENPO	BISCUIT	VASE	LARGE; NOT ENOUGH RIM FOR DIA
PHOTO	POTTERY	1	ENPO	BISCUIT	BOT	MOULDED
PHOTO	POTTERY	1	ENPO		BOWL?	MOULDED DEC
PHOTO	POTTERY	1	ENPO	BISCUIT	DISH	MOULDED FOLIAGE DEC AS RIM
	POTTERY	1	ENPO	BISCUIT	CUP	MOULDED HANDLE
	POTTERY	1	CMW		SAGGER LID	NOT ENOUGH FOR DIA
	POTTERY	1	ENPO	BISCUIT	DISH	OVAL WITH STAMP ON BASE
	POTTERY	1	CMW		SAGGER 2	PLATE
PHOTO	POTTERY	1	CMW		SAGGER 2	PLATE; 43 DEEP
	POTTERY	1	CMW		SAGGER 2	PLATE; 57 DEEP
	POTTERY	1	CMW		SAGGER 2	PLATE; BASE DIA 115
	POTTERY	1	CMW		SAGGER 2	PLATE; BASE DIA 115
PHOTO	POTTERY	1	CMW		SAGGER 2	PLATE; BASE DIA 120
	POTTERY	1	CMW		SAGGER 2	PLATE; BASE DIA 145
	POTTERY	1	CMW		SAGGER 2	PLATE; BASE DIA 80
	POTTERY	1	ENPO		KILF ANGLED	RING; ANGLED; 11 WIDE



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	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 11 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 11 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 11 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 12 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 12 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 12 WIDE
PHOTO 9	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 12 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 13 WIDE
PHOTO 7	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 14 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 16 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 16 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 17 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 17 WIDE
	POTTERY	1	ENPO	KILF ANGLED	RING; ANGLED; 18 WIDE

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PHOTO 11	POTTERY	1	ENPO		KILF ANGLED WITH LIP	RING; ANGLED WITH LIP; 10 WIDE
PHOTO 8	POTTERY	1	ENPO		KILF RING CYLINDRICAL	RING; CYLINDRICAL; 12 WIDE
PHOTO 6	POTTERY	1	ENPO		KILF RING CYLINDRICAL	RING; CYLINDRICAL; 18 WIDE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
PHOTO	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE
PHOTO	POTTERY	1	ENPO		PLATE	SMOOTH PLATE
PHOTO	POTTERY	1	ENPO	BISCUIT	PLATE	SMOOTH PLATE

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PHOTO	POTTERY	1		CMW		SAGGER 2	SMOOTH PLATE; 57 DEEP
	POTTERY	1		CMW		SAGGER 2	SMOOTH PLATE; 57 DEEP
	POTTERY	1		CMW		SAGGER 2	SMOOTH PLATE; 60 DEEP
	POTTERY	1		ENPO	BISCUIT	PLATE	SMOOTH PLATE; TOO SMALL FOR DIA
PHOTO 2	POTTERY	1		CMW		spacer	SPACER
	POTTERY	1		ENPO	BISCUIT	PLATE	STAMP WITH 'WORCESTER' AND CROWN ON BA
	POTTERY	1		ENPO	BISCUIT	DISH	TOO SMALL FOR DIA
	POTTERY	1		ENPO		PLATE	TOO SMALL FOR DIA
	POTTERY	1		ENPO	BISCUIT	PLATE	TOO SMALL FOR DIA
PHOTO 1	POTTERY	1		ENGS	IRON RICH SAND	SAGGER 1	TOO SMALL FOR DIA
PHOTO	POTTERY	1		CMW		SAGGER 4	TOO SMALL FOR DIA 50 WIDE
PHOTO	POTTERY	1		ENPO		PLATE	WAVY RIM; BAND OF GREEN INDUST SLIP BELO
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	BOT	
PHOTO	POTTERY	17	POT DUMP A	ENPO		CUP	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	DISH	
PHOTO	POTTERY	17	POT DUMP A	ENPO	BISCUIT	DISH	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	DISH	
PHOTO	POTTERY	17	POT DUMP A	ENPO		ELECTICAL FITTING	
	POTTERY	17	POT DUMP B	ENPO	PART BISCUIT/PART GLAZED	LID	

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PHOTO	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	ENPO	BISCUIT	PLATE	
	POTTERY	17	POT DUMP A	CMW		SAGGER 1	
	POTTERY	17	POT DUMP A	CMW		SAGGER 1	
	POTTERY	17	POT DUMP A	CMW		SAGGER 1	
	POTTERY	17	POT DUMP A	CMW		SAGGER 1	
	POTTERY	17	POT DUMP A	CMW	IRON RICH PELLETS	SAGGER 1	
	POTTERY	17	POT DUMP A	CMW	IRON RICH PELLETS	SAGGER 1	
PHOTO	POTTERY	17	POT DUMP B	CMW	IRON RICH PELLETS	SAGGER 1	98 DEEP
PHOTO	POTTERY	17	POT DUMP B	CMW	IRON RICH PELLETS	SAGGER 2	BOWL; 50 DEEP
PHOTO	POTTERY	17	POT DUMP A	ENPO	BISCUIT	DISH	COMPLETE
PHOTO	POTTERY	17	POT DUMP A	ENPO		INSULATOR	DOUBLE CUP
PHOTO	POTTERY	17	POT DUMP A	ENPO		CUP	MINIATURE: 'ROYAL WORCESTER, ENGLAND.,2

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	POTTERY	17	POT DUMP A	CMW	IRON RICH PELLETS	SAGGER 1	NOT ENOUGH FOR BASE DIA
	POTTERY	17	POT DUMP B	ENPO	PART BISCUIT/PART GLAZED	LID	NOT ENOUGH FOR RIM DIA
PHOTO	POTTERY	17	POT DUMP B	CMW		SAGGER LID	NOT ENOUGH FOR RIM DIA
	POTTERY	17	POT DUMP B	CMW		SAGGER 2	PLATE; 38 DEEP
PHOTO	POTTERY	17	POT DUMP A	ENPO		KILF DISH	DISH; 13 DEEP
PHOTO	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 10 DEEP
	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 10 DEEP
	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 13 DEEP
PHOTO	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 13 DEEP
PHOTO	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 13 DEEP
	POTTERY	17	POT DUMP B	ENPO		KILF RING CYLINDRICAL	RING; 15 DEEP
	POTTERY	17	POT DUMP A	ENPO		KILF RING CYLINDRICAL	RING; 16 DEEP
PHOTO	POTTERY	17	POT DUMP B	CMW	IRON RICH PELLETS	KILF RING CYLINDRICAL	RING; 24 DEEP
PHOTO	POTTERY	17	POT DUMP B	CMR		spacer	SPACERS; 9-10 WIDE
PHOTO	POTTERY	17	POT DUMP A	CMW		SAGGER 1	TOP OF ENORMOUS SAGGER; NOT ENOUGH RI

