# The Humberware from Blue Bridge Lane and Fishergate House, York

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Excavations at Blue Bridge Lane (YBB) and Fishergate House (YFH), both in the Fishergate suburb to the south of York, revealed that in the later medieval period the domestic occupation which had occupied the sites in the 12<sup>th</sup> and 13<sup>th</sup> centuries ceased and in its place a pottery kiln was erected on the northern, Blue Bridge Lane, site and a cemetery was established on the southern, Fishergate House, site.

A large quantity of Humberware was recovered from YBB and a much smaller quantity from YFH. Following assessment and archive recording of the pottery from both sites the further study of the Humberware was identified as a major target for more detailed analysis.

The aims of this analysis were to answer a series of questions raised by the assessment.

What are the characteristics of the Humberware produced at YBB?

What vessel types were produced? and in what proportion?

Are there any distinctive rim, base or handle types?

Are there any distinctive types of decoration?

Do YBB wasters, or products, occur on the YFH site, and, if so, can they help correlate the later medieval activity on the two sites?

Is there any evidence for non-YBB Humberware being used at either site?

In order to investigate these issues, two studies were recommended, the first being the scientific characterisation of the YBB Humberware and comparison with other Humberware produced in York (Walmgate) and elsewhere (West Cowick, Holme upon Spalding Moor and unknown sites in East Yorkshire) and the second being a typological study of the YBB and YFH Humberware. This report describes the second, typological, study.

#### Methodology

As part of the archive record of the YBB and YFH pottery, all sherds of Humberware were separated into definite wasters and others, counted and weighed. This demonstrated that even in definite waste deposits, such as the backfill of the kiln itself, only a minority of the Humberware sherds showed signs of damage, mostly overfiring and warping. Further sherds showed atypical firing (complete oxidation as opposed to the reduced firing with oxidized surfaces of normal Humberware) but others were indistinguishable from those found in typical

domestic waste in York. Furthermore, sherds of vessels which were clearly not produced in York (such as Dutch Red Earthenware and Rhenish stonewares) were found in association with the definite waste, so it cannot automatically be assumed that all Humberware sherds found at YBB are products of the YBB kiln. On the other hand, there were very few assemblages of any size at YBB which produced sherds of Humberware with not a single waste sherd. Therefore, there is very little evidence for a pre-kiln use of Humberware on the site.

The Humberware sherds were then recorded in more detail. Featureless body sherds were ignored and the typological features of the remainder were recorded. The recorded features are listed in Table 1.

Field	Comments
record date	
sitecode	YBB or YFH
context	Context number
cname	НИМ
form	controlled word list
action	A unique identifier was assigned to each sherd selected for illustration, starting with H001
rim form	Rim forms were assigned codes, from R01 to R49.
rim eves	Percentage of rim present, ranging from 0 to 100
rim diameter	Diameter in mm
spout form	Only one form of spout was present, PULLED
rim/handle join	Percentage of rim/handle form present
r/h join type	controlled word list
handle form	controlled word list
handle width	Width (horizontal) in mm
handle thickness	Thickness (vertical) in mm
handle dec	controlled word list
body/handle join	percentage present
b/h join type	controlled word list
glaze	controlled word list covering the type (plain or copper-green), location (inside or out) and condition of glaze
slip	controlled word list
decoration type	
decoration placement	controlled word list
base form	Base forms with assigned codes from B1 to B8
knife trimming	YES/NO

base decoration	
base eves	Percentage of base present, from 0 to 100
base diameter	Diameter in mm
condition1	WASTE, WASTE? or blank (not waste)
use	Codes: SE = sooted exterior, SI = sooted interior, WDI = white deposit int etc.
condition2	ABRADED, VERY ABRADED or blank (not abraded)
stacking	Denotes presence of a central stacking scar on the base
description	Other comments, such as details of waste fault(s)

Where measurements of diameters are given the diameter was calculated using a radius chart and the accuracy depends on the amount of the rim which was present, as well as on the presence or absence of distortion. There are significantly fewer diameters with odd rather than even centimetres. For example, there are 19 bases with diameters of 200mm and 43 with diameters of 180mm but only 3 with diameters of 190mm. The limited accuracy of the diameter measurements should be borne in mind in the following discussion of vessel sizes and standardisation.

# The Products of the Blue Bridge Lane Kiln

# Vessel types

Wasters of six vessel types were present: cisterns, curfews, drinking jugs, jars, jugs, and pipkins. In addition there were a number of rims and bases which could not be assigned to a vessel type. This is because the same rim, handle and base forms were used on more than one vessel type.

A study of both the rim and base diameters indicates that there are overlapping ranges for the jugs (including bunghole cisterns) and unglazed drinking jugs. It is therefore difficult to distinguish with any certainty small jugs and large drinking jugs and there are too few examples of the cisterns to tell if they overlap in size with the larger jugs.

Table 00 shows the frequency of these forms within the definite waste sherds from YBB. It shows clearly that there are discrepancies between the different measures, of which the most obvious is the lack of measureable base sherds and that body/handle joins survive slightly better than rims and rim/handle joins. However, the data do show clearly that jugs were the most common form produced, followed as a poor second by drinking jugs with all other forms being present only as isolated examples.

Data	UNIE	CIST	CURFEW	DJ	JAR	JUG	JUG/DJ	PIPKIN	Grand Total
rim eves	61	0	0	75	35	466	10	0	586

rim/handle join	0	0	0	5	0	542	5	0	552
body/handle join	0	0	5	17	0	649	0	0	671
base eves	345	11	0	67	0	0	0	0	423

About three times as much pottery had no sign of wastage but presumably is mostly kiln waste. The range of vessel types found in this larger assemblage is extremely similar to that found in the waste, with the addition of a urinal, a small handled bowl or condiment dish and a possible dripping dish (Table 00). Here too there are discrepancies between the four measures, with a much higher base EVE total than for the other measures.

#### Table 3

Data	UNID	?	CIST	DJ	JUG/DJ	DJ?	JAR	URINAL	JUG	LARGE JUG; BICONICAL?	COND	Grand Total
rim eves	34	16	0	369	75	0	292	12	1029	0	6	1799
rim/handle join	0	51	0	547	0	0	0	0	1071	0	0	1669
body/handle join	0	0	0	268	0	70	0	0	966	60	0	1364
base eves	1991	0	12	508	0	0	100	0	10	0	10	2631

The frequency of drinking jugs varies between the two groups. In the definite waste group, 12% of rim EVEs and 16% of base EVES are from drinking jugs whilst the low frequency of drinking jug handles may indicate that a number of handles classed as jugs are actually from drinking jugs. For the sherds with no sign of wastage, the frequency of drinking jugs is 20% by rim EVEs, and 19% by base EVEs. Here, however, the ratio of jugs to drinking jugs is as high or higher for the rim/handle and body/handle join EVEs as it is for the rims and bases (33% and 20%). Four different measures therefore give a similar result: there are fewer drinking jug wasters than there are jug wasters. It is possible, however, that this is an artefact of the recording system, since a number of sherds were classed as waste if they had irregular firing or had burnt clay adhering to their glaze. The unglazed drinking jugs were intentionally oxidized, making it more difficult to spot waste sherds through firing, and of course they show no signs of faulty glaze. It is also possible that there was a greater wastage rate for the glazed jugs than for the unglazed drinking jugs and that a higher proportion of the unglazed vessels therefore left the site for sale. The data from Fishergate House hint that on a contemporary consumer site as much as half of the Humberware vessels discarded would have been unglazed drinking jugs.

## Vessel size and standardisation

The YBB waste includes 41 rims with measurable diameters. These range from 60 to 130 mm. Three were identified as coming from jars (120-130mm) whilst the remainder were classed as jugs, drinking jugs, or either. The remaining YBB Humberware included a further 86 jug/drinking jug rims. Even this combined dataset of 123 rim sherds is barely large enough to see whether there is any standardisation in rim diameter, especially given the inevitable bias towards whole number radii in the recording process.

rim diameter		DJ ,	IUG ,	JUG/DJ	Grand Total
	40	0	1	0	1
	50	3	0	0	3
	60	8	6	2	16
	70	10	3	2	15
	80	3	21	1	25
	85	1	0	0	1
	90	0	15	0	15
	100	0	26	0	26
	110	0	8	0	8
	115	0	1	0	1
	120	0	11	0	11
	130	0	1	0	1
Grand Total		25	93	5	123

Grouping together the measured diameters produces a bell-shaped curve (Fig 1) with a peak at 80-99mm and slight skewing towards the larger diameters. Those vessels with rim diameters less than 90mm are likely to have been drinking jugs and those with greater diameters were probably jugs.

There is some correlation between rim diameter and rim form, suggesting that certain rims were only used on drinking jugs or jugs, For example R30 ranges from 100-120mm whereas R12 ranges from 60-100mm. However, R1 ranges from 60-120mm and was evidently used for both vessel forms.

Nine rim forms only ever occur on small diameter vessels (R6, R7, R14, R17, R32, R36, R37, R41, R44) whilst 27 rim forms only occur on wider diameter vessels (R08, R09, R10, R11, R13, R15, R19, R21, R22, R23, R25, R26, R27, R28, R29, R30, R31, R33, R34, R35, R38, R39, R40, R42, R43, R45, R46). The remainder occur on both sizes (R1, R3, R4, R5, R12, R16, R18 and R24).

Eighteen handles were found attached to measureable rims. Five were rod handles (i.e. approximately circular in cross-section) and these occurred on vessels with diameters ranging from 60-80mm. Thirteen were strap handles (i.e. appreciably wider than their thickness). These were found on vessels with diameters ranging from 100 to 120mm. The ratio of width to thickness on the measured handles shows that there is actually some variation in the aspect of handles classed as rods. Their aspect ratios range from 1.1 to 2.27. Fig 2 shows that there is actually some overlap between handles classed as rods and those classed as straps, both in absolute size and in their aspect. There is, however, a clear tendency for the rod handles to be less than 25mm wide with aspect ratios between 1 and 2 and for strap

handles to be wider than 30mm with aspect ratios ranging from 2 to 4. It is likely that these smaller rod handles are exclusively from drinking jugs and the strap handles exclusively from jugs (or cisterns) whilst the larger rod handles are probably also from jugs. Ellipse-sectioned handles with decoration have been classed as oval and tend to be larger than rod handles but with a narrower aspect than the strap handles of similar width. It is assumed that they came from jugs.



# Figure 1

Seven base forms were recognised at YBB, all of them represented by at least one waste example.

Form	Vessel type(s)	Base EVEs	diameter range
B1	Jug, Cistern, Jar	1673	80-260mm
B2	Drinking jug, jug	225	70-210mm
В3	Drinking jug	123	60-140mm
B4	Cistern or cauldron	14	120mm
B5	Drinking jug, jug	405	70-180mm
B6	Jug	21	180mm
B7	Jug, drinking jug	321	60-240mm

Base forms, therefore, mainly occur in a range of sizes and could be used for more than one vessel type. Based on base form, together with evidence for glaze and/or slip, Fig 1 shows the base diameters for all YBB Humberware bases, attributed to vessel types. It indicates that the smaller diameter bases come mainly from unglazed drinking jugs whereas larger ones probably come from jugs, jars and cisterns.



#### condition1 (All) base form (All) sitecode YBB01

# Figure 2

Thirty five examples of pulled spouts were found at YBB, including waste examples. Where the rim diameter could be measured it ranged from 80mm to 120mm. Most had some evidence for glaze or slip and occurred with a range of rim forms (R1, R2, R11, R16, R19, R20, R24, R30, R32, R38, R42 and R45).

Three bung or spigot holes were present, one of which was waste. One had a measurable base diameter, 120mm, indicating that these cisterns could be quite small whilst the other measureable diameter was 180mm. The scarcity of bung holes on the site suggests that only a small proportion of the YBB production could have been from these vessels.

Decoration was rare and seems to have been confined in the main to jugs. Twenty-one examples of neck sherds with cordons were recorded, several of which were waste. One hundred and thirty-eight sherds with horizontal grooves or lines on the body were recorded, again with numerous waste examples. All of these have been interpreted as coming from jugs. Thirty-three sherds with applied strips were recorded. One of these came from a jar or pipkin and thirteen from jugs. The remaining nineteen sherds could not be assigned to a

vessel type. Twelve sherds had stamped decoration. Only one example was stamped directly onto the body, the remainder being stamped onto applied strips (7 examples, 6 of which were waste) or blobs (4 examples, none definitely waste).

Handle decoration is found on strap and oval handles. The oval handles have deep grooves or ridges, sometimes combined with stabbing. Of the six examples, two were waste. The strap handles also have grooved and stabbed decoration, usually in combination but including one with an applied roller-stamped strip (not waste). Sixteen of the thirty-eight strap handle fragments were waste.

Bases were mainly plain. Of the 3096 base EVEs recorded only 465 were from sherds with decoration.

A single example (not waste) had continuous thumbing around the base. Examples with widely spaced thumb impressions were equally scarce. Seven sherds had single, widely spaced thumbed impressions (none waste), two had groups of two thumb impressions (one waste) and one had groups of three thumbed impressions (not waste). The curfew fragment (waste) had thumbing at the shoulder (i.e. the base angle as thrown).



*Figure 3 Rim Diameters for Jugs and Drinking Jugs (top: by sherd count, bottom: by EVEs)* 

# Dating

The YBB Humberware is characterised by the production of jugs and drinking jugs with a few minor forms. Both the jugs and drinking jugs mainly have rounded rims, varying in the presence and degree of thickening inside and out. The jugs mainly have a copper-stained glaze, applied with a white slip, and the drinking jugs are unglazed and oxidized. Handles on the jugs are usually oval or strap, decorated with grooves and those on the drinking jugs are rods with no decoration. Decoration other than grooved lines is rare. Either considered together or separately, these characteristics are not particularly diagnostic although they place the production firmly within the Humberware tradition.

At West Cowick, there is documentary evidence for the production of pottery from 1320 into the 17<sup>th</sup> century although excavated kilns are of late 14<sup>th</sup> to 15<sup>th</sup> century date. Similarly, Humberware at Hull is first found in late 13<sup>th</sup>-century deposits, in small quantities, is more common in early 14<sup>th</sup>-century deposits and forms up to 40% of the pottery found in late 14<sup>th</sup> century assemblages (Watkins 1987). A similar picture is true for York (1978). A pit group from Blake Street, assigned a 1250-1350 date, produced a single piece of Humberware , 14<sup>th</sup>-century pit groups from Lendal, Skeldergate and Bishophill produced slightly higher, but still minor, quantities of Humberware (Holdsworth 1978, Section VI).

A feature of the late 13<sup>th</sup> to 14<sup>th</sup>-century pottery of York is the rounded squared rim and 'devolved collar' rim, both of which are typological progressions from the squared and collared rims found on York Gritty and splash-glazed wares in the 12<sup>th</sup> and early 13<sup>th</sup> centuries. A few of the YBB Humberware rims are of this form: R5, R11, R26, R27 and R47. They include one example from Fishergate House, from the backfill of a grave, but are otherwise from mid to late 14<sup>th</sup>-century deposits at YBB. None of these rim forms occurs on definite waste, and it is possible that they pre-date the YBB kiln.

Holdsworth publishes three 15<sup>th</sup>-century assemblages from York and these contain a higher percentage of Humberware. One from the Bedern includes two jugs with rolled-out, rounded rims, similar to waste examples from Blue Bridge Lane. The presence of salt-glazed Raeren stoneware confirms a late 15<sup>th</sup>-century or later date. Humberwares made up about half of this assemblage, the remainder being whitewares. A stone-lined pit group from Skeldergate, however, produced an assemblage almost completely consisting of Humberware, with two whiteware cisterns and sherds of two Cistercian ware type 4 cups. The illustrated Humberware sherds include jugs with sharper neck angles and flat topped rims, which seem typologically later than the YBB waste. Finally, Holdsworth publishes a pit group from Bishophill containing a large Humberware jug with a flat topped rim and a jar with a flat topped strongly everted rim. Both are types found at YBB and YFH but clearly later than the pottery kiln. The only contemporary associated sherd at Bishophill is of unglazed Saintonge ware.

Archaeomagnetic dating of the YBB kiln indicates two possible dates, one in the 1320s and the other in the late 14<sup>th</sup> century. The latter date is certainly the most likely on the basis of the similarity of the forms to those from the 15<sup>th</sup>-century Bedern pit.

Two pits at YBB produced assemblages of late 13<sup>th</sup> to early 14<sup>th</sup>-century character which contained Humberware (as opposed to five which did not). Only two vessels with typological features were present: a knife-trimmed jug base (base form B1) and sherds from a jug with copper-stained glaze decorated with applied, roller-stamped horizontal and vertical strips (Fig 00 No.00 [H4]). Both probably pre-date the kiln.

Of those deposits containing Humberware but without late 14<sup>th</sup>-century or later imported wares, which have therefore been tentatively dated to the mid 14<sup>th</sup> century, there were 2231 sherds in total, of which 1618 were Humberware, and 1218 of these showed signs of wastage. Associated pottery consists mainly of demonstrably residual wares together with a small quantity of possibly contemporary sherds (Table 5). Most of these are likely to be of late 12<sup>th</sup> to 13<sup>th</sup>-century date and none need be later than c.1350. Thus, they are consistent with the earlier of the two archaeomagnetic dates. The largest assemblages of Humberware in this group are the backfill of the terrace (F352), the backfills of pits 50 and 518 and the backfill of ditch 450. The backfill of the kiln itself, F58, included contaminated assemblages with asbestos and later medieval pottery (including Dutch Red Earthenware) but uncontaminated assemblages produced a collection of Humberware waste and probably residual 12<sup>th</sup> to 13<sup>th</sup>-century wares.

context group	BEVC	BRANDSB	GSS	MEDLO	CNYG	RED SANDY	STAX	YG	YORK	YSP	Grand Total
F049		1						1			2
F052								1	1		2
F057		2									2
F058		1			2			3	4	3	13
F186		2						6	2	1	11
F211		2						1			3
F223	3	6				1	5	37	9	10	71
F236		3				1		2	3		9
F240								3			3
F248		1									1
F259								1	2		3
F269	3	5			1			13	9	1	32
F325					2				1	4	7
F330		1									1
F333								2	1		3
F351	1				1			1	4	3	10
F352		15		1	1	1	2	13	11	9	53
F401	2		1		1			1		2	7
F431		1									1
F450		1								1	2
F451								1	8	1	10
F518		1			1	2		1	4		9
Grand Total	9	42	1	1	9	5	7	87	59	35	255

By contrast, in groups which contain late 14<sup>th</sup>-century or later imports there are only 476 sherds of Humberware, of which 160 are definite waste, together with 125 sherds of other potentially contemporary wares (i.e. excluding Roman and earlier medieval wares). Some of the potentially contemporary wares do occur in the later 13<sup>th</sup> or earlier 14<sup>th</sup> centuries (Brandsby, Coal Measure Whiteware, Dutch Red Earthenware and Siegburg stoneware) whilst others are definitely later than c.1350 (Langerwehe, Langerwehe/Raeren stoneware, Hambleton ware). In most cases, these associated wares date to the later 14<sup>th</sup> century or later but the sherds of Langewehe/Raeren stoneware are possibly saltglazed and of 15<sup>th</sup>-century date. These assemblages could be contemporary with the later archaeomagnetic date. The lower frequency of waste to other Humberware sherds and the higher quantity of other potentially contemporary sherds suggests that these assemblages post-date the use of the pottery kiln and therefore that the earlier archaeomagnetic date (c.1320-40) is probably the correct one.

context group	BRANDSBY	DUTR	HAMBL	ETON L	ANG L	ARA	LMEDX	SIEG	Grand	Total
F066	5	i		1	2					8
F078	1		1							2
F122	8	5 8	3						1	17
F162	27		2					3		32
F208	6	; ;	3		1					10
F215	17	. 2	1							21
F219	8	4	1	1	3	2	2			18
F220	5	5 2	2			6	6			13
F225			1							1
F242	1			1						2
F253					1					1
Grand Total	78	25	5	3	7	8	3 :	3 .	1	125

Table 6

# Other Humberware from Blue Bridge Lane

A visual comparison between samples of waste from Blue Bridge Lane and samples from Walmgate suggests that the same source of clay was used for both and that it is only through chemical analysis or typological study that the YBB ware may be distinguished from other York-made Humberware.

## Vessel types

The same range of vessel types and the same relative order of frequency are found in the YBB waste and non-waste assemblages. There is a higher frequency of unglazed drinking jug sherds in the non-waste assemblage, but this is almost certainly at least in part due to the difficulty in recognising waste fragments of an unglazed, oxidized form.

#### **Rim forms**

There are twice as many non-waste as waste rims from YBB and one would therefore expect to find some rim forms in the non-waste category which were not represented in the waste group, even if they had in fact been produced on site. However, where a large number of examples is present this may be more significant.

There are 31 rim forms at YBB which are not represented in the waste assemblage. However, only six of these are represented by more than 2 examples. In order of frequency these are: R2 and R10 (10 examples each), R19 (6 examples), R5, and R6 (4 examples) and R16 (3 examples). To judge by their rim diameters and the presence of glaze and/or slip, R2 and R19 occur on large glazed jugs, R5 and R16 are also glazed jugs but with smaller rim diameters. R10 comes from an everted rim jar and R6 occurs on unglazed drinking jugs. The R6 rim form can be thought of as a variant of R1 and it may simply be the small size of the collection which had led no waste examples to be found.

In contrast to the definite waste, the glaze on these vessels includes plain lead glaze applied with white slip. One of the jars has a possible thin brown slip.

These vessels include flat-topped jug rims and everted rimmed jars. These types are probably of later 15<sup>th</sup> and 16<sup>th</sup>-century date. However, the rounded rimmed unglazed drinking jug (R6) is probably earlier.

## Spouts, Handles and decoration

No spout or handle types not represented in the waste assemblage are present. Neither are there any handle decoration types which are not present in the waste. Three handles were attached to the non-waste rim types described above, all were strap handles. Waste examples of all the decoration types present at YBB were present and the base forms and diameter ranges of the waste and non-waste assemblages are comparable. Thus, if the rim forms identified above are indeed not kiln products the rest of the vessels must have the same range of spouts, handles decoration and bases as the remainder.

## Humberware from Fishergate House

No sherds from YFH show any sign of being waste, indicating that the Blue Bridge Lane potters were not able to dispose of their waste to the south of the lane.

Thirty five of the Humberware sherds from YFH had typological features. Ten could be identified as jugs, ten as drinking jugs, three as jars and the remainder were base sherds of unknown vessel form. This indicates a much higher frequency of drinking jugs than at Blue Bridge Lane.

Eleven rims were present, of which three were of types found amongst the YBB waste (two R12 and one R18) and the remainder either not found at YBB at all or found at the site but with no clear evidence for manufacture there. There is no example at all of rim form R1, the most common jug rim type amongst the YBB waste.

Fourteen base sherds were present and these include three of type B8, which does not occur at all at YBB whilst the others are all represented amongst the YBB waste.

Copper-stained glaze has a lower incidence at YFH but is present on 9% of rims (by Rim EVEs), and a similar proportion of base EVEs. Plain glaze is absent from rims at YFH and present on 4% of bases. The lower incidence of glaze in general is a reflection of the higher quantity of the unglazed drinking jugs whilst the ratio of copper-stained to plain glaze is probably a reflection of the inability to identify copper on some of the YBB wasters. Slip also has a lower incidence although it is found on 30% of the body handle joins (compared with 41% at YBB). Both the rim and base diameter ranges are well within those found at YBB.

Finally, a single decorated sherd was found, an applied, stamped blob.

Two of the rims are of types identified at YBB as probably not being made on site. They occur in the secondary fill of the ditch and in an overlying soil horizon and thus are potentially later than the cemetery.

To summarise, the YFH Humberware is of a similar type to that made at YBB (for example, copper-stained glazes applied with white slip) but includes some rim and base forms not found at YBB and it does not include any examples of rim forms R1, R2 and R4, some of the most common types at YBB. The high incidence of unglazed drinking jugs probably indicates a 14<sup>th</sup>-century rather than later date for the majority of the YFH Humberware and is reflected in lower frequencies of glaze and slip, both of which would have been restricted to jugs, jars and cisterns. A few sherds may be later than the YBB kiln but these occur in late deposits and probably do not have any significance for the dating of the cemetery.

code	description	vessel type	Type example	comment
R01	Slightly thickened on the inside, rounded with grooves externally. Bulbous profile	DJ, JUG	H47	Kiln product
R02	Flat-topped with external lip	JUG	H37	Not kiln product

## Appendix One: List of form codes used

code	description	vessel type	Type example	comment
R03	Rounded. Internally and externally thickened	JUG	H48	Not kiln product
R04	Rounded. Thickened on the outer edge, beaded	JUG	H20	Kiln product
R05	Flat topped. Devolve collar rim.	JUG	H31	Not kiln product
R06	Rounded. Thickened inside and out.	JUG	H32	Possible kiln product
R07	Rounded. External bead	URINAL	H33	Kiln product
R08	Rounded. Thickened low down on outer edge. Variant of R1?	JUG	H34	Kiln product
R09	Rounded. As R1 but more pronounce bead	JUG	H35	Kiln product
R10	Everted	JAR	H36	Not kiln product
R11	Square club	JUG	H51	Not kiln product
R12	Rounded. Rolled out neck. Slightly thickened externally.	DJ, JUG	H52	Kiln product
R13	Rounded. Everted rim with groove	JAR	H53	Kiln product
R14	Rounded rim, thickened on outer edge, flared out	DJ	H54	Kiln product
R15	Rounded. Everted with external bead.	JAR	H55	Not kiln product
R16	Flat topped. External beading with grooves below.	JUG	H56	Not kiln product
R17	Rounded. Variant of R1	JUG	H57	Kiln product
R18	Rounded. Thickened internally and externally. No grooves.	JUG	H58	Kiln product
R19	Flat topped. Internally thickened, upright	JUG	H59	Not kiln product
R20	Flat topped. Everted.	JAR	H60	Not kiln product
R21	Flat topped. Internal thickening	JUG	H61	Kiln product
R22	Rounded. Everted with groove. More extreme variant of R13	JAR	H62	Not kiln product
R23	Rounded. Everted	JAR	H63	Kiln product
R24	Rounded. Vertical rim with sharp neck angle	JUG	H64	kiln product
R25	Rounded. Everted, slightly more everted than R23	JAR	H65	Possible kiln product
R26	Rounded, squared devolved collar	JUG	H66	Not kiln product
R27	Rounded, squared devolved collar, as R26 but with very sharp lower ridge	JUG	H67	Not kiln product
R28	Flat topped extremely everted	JAR	H68	Not kiln product
R29	Flat topped extremely everted	JAR	H69	Not kiln product
R30	Flat topped, thickened inside and out. Slight or no external bead	JUG	H38	Not kiln product

code	description	vessel type	Type example	comment
R31	Rounded	COND	H70	Possible kiln product
R32	Rounded. Inturned.	JUG	H71	Kiln product
R33	Flat topped. Rim top bevelled outwards	JUG	H72	Not kiln product
R34	Flat topped. Everted triangular	JAR	H73	Not kiln product
R35	Rolled out with applied, thumbed strip below rim	JUG	H26	Kiln product
R36	Flat topped. Thickened externally	DJ	H29	Not kiln product
R37	Rounded. Upright, thickened internally and externally	DJ	H74	Kiln product
R38	Flat topped. External grooves. thickened internally and externally	JUG	H75	Not kiln product
R39	Flat topped. Everted. Rounded below rim	JAR	H39	Not kiln product
R40	Flat topped. Upright. External bead	JAR	H76	Kiln product
R41	Rounded. Thickened internally	DJ	H77	Possible kiln product
R42	Flat topped. Bevelled outwards. External bead	JUG	H78	Not kiln product
R43	Rounded. Everted with lid seating	JAR	H79	Not kiln product
R44	Rounded. Cordon below rim	DJ	H80	Possible kiln product
R45	Flat topped. Slightly thickened inside and out	JUG	H50	Not kiln product
R46	Flat topped. Everted. Triangular section	JAR	H81	Not kiln product
R47	Rounded. Devolved collar. Possible lid seating	JUG	H115	Not kiln product
R48	Rounded. Upright. Applied, thumbed strip around outside of rim.	JUG	H116	Not kiln product
R49	Rounded. Everted	JAR	H117	Not kiln product
B1	Sagging, slightly obtuse angle	JUG, JAR	H82	
B2	Flat, right angled	JUG, DJ	H83	
B3	Flat, acute angle	JUG, DJ	H84	
B4	Flat, obtuse angled. Splayed	JAR	H87	
B5	flat, slightly acute, almost right angle	DJ	H85	
B6	Slightly sagging. Splayed. Strong acute angled	JUG	H86	
B7	Flat. Obtuse angled	JAR	H109	
B8	Flat. Slightly splayed	DJ, JUG	H118	

# Bibliography

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