

Characterisation Studies of Humberware from Melton, East Yorkshire (OSA04 EX03)

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Archaeological investigations in advance of road improvements on the A64 at Melton, East Yorkshire, undertaken by On-Site Archaeology, revealed a sequence of human activity from the Bronze Age to the medieval period. One of the latest phases consists of a settlement occupied from the mid 12th century to the later 14th to early 16th century. In the latest phase of this settlement the pottery used was mainly of Humberware (Hayfield 1992). Several centres producing this ware are known, either from archaeological evidence for production, or from documentary sources. In addition, some Humberware vessels have fabrics which do not match any of the known production sites and these indicate the existence of further centres whose location is at present not known.

Since the mid 12th to early 14th century pottery seems to come from two main sources: one local and the other at Beverley, samples were taken of the Humberware vessels to see whether this pattern continued into the later medieval period. These samples were analysed using Inductively-Coupled Plasma Spectroscopy (ICP-AES). This analysis indicates that the Humberware from Melton has most chemical similarity with samples from Wawne and Barton-upon-Humber and therefore probably comes from a source to the east, continuing the pattern seen in the preceding period, despite the proximity of Melton to West Cowick, the best known Humberware source, both through documentary and archaeological sources.

Six samples were chosen. Three were from vessels with typologically early features – copper in the glaze, or rounded or triangular rims (V4885, V4887 and V4889) whilst three were from vessels with typologically late features; larger vessels with flat-topped rims (V4884, V4886 and V4888).

Methodology

Each sample was cut from the sherd and all surfaces were mechanically removed. The resulting lump was then ground to a fine powder. These powders were analysed at Royal Holloway College, London, under the supervision of Dr J N Walsh. A range of major elements was measured and expressed as percent oxides (App 1) and a range of minor and trace elements was measured and expressed as parts per million (App 2).

The silica content was not measured and was estimated by subtracting the total measured oxides. Because of the dilution effect of quartz sand, often added as temper to potting clay, the data were normalised to aluminium. The normalised data were then studied using the Factor Analysis package in WinSTAT, a add-in for Microsoft Excel (Fitch 2002).

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Internal variation

Factor analysis of the six Melton samples revealed four factors. The first two factor scores show no correlation with supposed date nor do they show any other patterning, but the third and fourth factor scores separate the early and late samples (Fig 1).

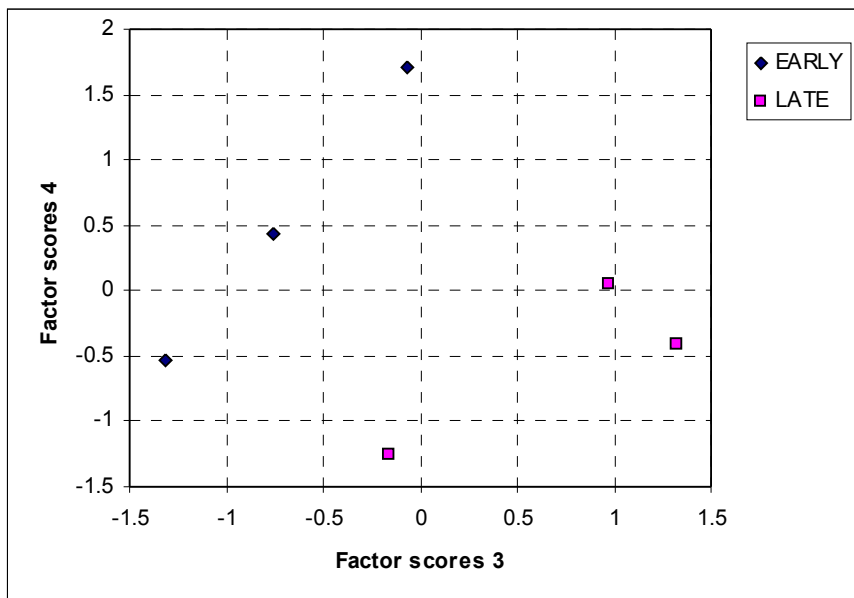


Figure 1

Examination of the data indicates that the earlier samples have higher Titanium, Cobalt, Iron, Magnesium, Manganese and Barium weightings whilst the later samples have higher weightings for rare earth elements. However, only Potassium actually has a separate range for the two groups, being higher in later samples.

There is therefore slight evidence that the Humberware from Melton comes from two separate sources, corresponding to the earlier and later typological groups.

Comparison with other Humberware samples

The Melton data were then compared with a series of samples from production sites and consumer sites in Yorkshire and north Lincolnshire (Table 1).

Table 1

locality	Sitecode	Comments	Total
Barton-upon-Humber	BH83	Samples from a consumer site. Hayfield reports wasters from a site a few miles from Barton.	3
Cowick	COWM	Sampled for C Cumberpatch by M J Hughes (Cumberpatch 2004)	1
Holme upon Spalding Moor	HFH2000	Early 16 th -century wasters	6
Wawne	osa02ex02	Samples from a consumer site. Three different fabrics represented (Vince 2004).	6

West Cowick	OSA07EV08	Early post-medieval production waste Sampled for C Cumberpatch by M J Hughes (Cumberpatch 2004)	6
	WCOW		1
	west cowick 63		2
	west cowick 63 k2	Kiln 2	1
	west cowick 63 l.8		2
	west cowick 63 l.9		2
Wetherby	WW/16A/03	Samples from the consumer site of Ingmanthorpe Manor, possibly York products (Vince and Young 2007). Samples from the consumer site of Ingmanthorpe Manor, possibly York products (Vince and Young 2007).	4
	WW/6/03		2
York	Coppergate	Consumer site Production waste from Blue Bridge Lane (Vince and Steane 2005)	1
	YBB01		9
Grand Total			52

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Appendix 1

TSNO	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO
V4884	21.33	6.80	2.57	1.23	0.45	3.60	0.90	0.18	0.079
V4885	18.76	5.71	2.27	1.13	0.42	3.04	0.81	0.20	0.048
V4886	18.37	4.90	2.00	0.43	0.35	3.12	0.72	0.10	0.027
V4887	21.12	6.27	2.76	1.03	0.51	3.55	0.90	0.13	0.070
V4888	17.83	6.33	2.54	1.30	0.48	3.10	0.78	0.40	0.117
V4889	19.64	5.53	2.12	1.08	0.43	3.20	0.84	0.28	0.045

Appendix 2

TSNO	Ba	Cr	Cu	Li	Ni	Sc	Sr	V	Y	Zr*	La	Ce	Nd	Sm	Eu	Dy	Yb	Pb	Zn	Co
V4884	575	130	29	117	65	18	124	135	25	57	46	88	47	7	2	4	2	149	97	19
V4885	420	132	32	120	64	18	112	137	25	56	48	97	48	8	2	3	2	2,179	90	20
V4886	427	128	30	110	48	18	97	135	28	69	45	87	46	7	2	4	2	620	91	15
V4887	514	125	29	94	56	18	117	128	27	110	45	78	46	7	2	4	2	149	99	19
V4888	531	112	29	91	57	16	108	117	24	52	41	73	42	6	2	4	2	3,242	91	19
V4889	491	121	31	125	60	17	123	128	22	54	46	87	46	7	2	3	2	555	87	19