Assessment of the Mortar from Blakeney, Norfolk (37793 CLY)

Alan Vince

Excavations at Blakeney, Norfolk, undertaken by Lindsey Archaeological Services PPL, revealed that the standing ruin situated near the mouth of the river Glaven, to the south of Blakeney spit, known from cartographic evidence from the late 16th century onwards, was preceded by settlement associated with Iron Age/Roman and medieval pottery. The standing structure was probably constructed in the late medieval or early post-medieval period (Structure 1, S1) and after a succession of flood deposits had been laid down its ruins were rebuilt (Structure 2, S2), incorporating some of the original structure. Structure 2 subsequently was abandoned, possibly after storm damage, and its ruins were left, being disturbed only by robbing of the structure, rabbit burrows and the development of topsoil. A provisional phasing of the site identified thirteen phases or horizons (A to M, Table 1).

The assessment of the pottery, clay tobacco pipes and ceramic building material suggests that S1 was constructed in the late medieval period (i.e. late 14th to 15th centuries) and that the flooding and subsequent rebuild, S2, took place in the late 16th to early 17th century.

Table 1

Phase	Description	Date
A	Topsoil	Late 17th/18th and later
B	Rabbit burrows/pit	No finds later than the late 16th century
C	slate/midden	Late 16th century or later
D	Collapse of S2	Late 17th century clay pipes, pottery mid/late 16th century or later
E	Use of S2, reuse of S1	Pottery ranges up to mid/late 16th century
F	Postholes below S2	Mid 14th century or later
G	Collapse of S1	Clay pipes later 17th century or late; Mid/late 16th century or later
H	Flood #3/gravel	Mid/late 16th century or later
I	Flood #2	No pottery
J	Flood #1	No pottery

The Alan Vince Archaeology Consultancy, 25 West Parade, Lincoln, LN1 1NW

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A copy of this report is archived online at
http://www.avac.uklinux/potcat/pdfs/avac2005097.pdf

K	S1 use	Pottery ranges from late medieval to late 15th century or later
L	Kiln/hearth	Pottery ranges from late medieval to late 15th century or later
M	Ditches and features	Different contexts range in date from the IA/Roman period and from the late 11th century or later through to the 16th century.
N	Lowest fills of ditch pre-dating S1	Contains a mixture of prehistoric? and late medieval finds

Quantity

Forty-one separate bags of mortar were collected from the excavations (Appendix 1). Some of these appear to be residue from sieving whilst others are recorded as samples collected from mortar deposits. The remainder are hand-collected fragments. The total weight of mortar collected is 9.883Kg. They range in size from 5gm to 1.372Kg with a mean weight of 241gm. The distribution of this material by Phase is given in Table 2. Given the fragmentary nature of some of the samples, it is not practical to provide a fragment count.

Table 2

Phase	Weight (gm)	Samples
A	797	5
C	394	2
D	517	3
E	2481	9
F	63	1
G	268	1
H	1195	2
K	1234	8
K/G	192	1
L	1166	6
M	1539	2
N	37	1
Grand Total	9883	41

Condition

The condition of these fragments varies considerably. Some are freshly-broken lumps whilst others are in effect mortar-coated pebbles.

Description

A sub-sample of the collection was examined at x20 magnification to establish the potential for finding variations in composition (either in the lime to sand to aggregate ratios or in the petrology of the various components). This established that most of the samples have a visually similar ratio of lime to sand and that this sand is composed of a well-sorted quartzose sand with red coating of the grains. There are, however, variations in both the nature and quantity of aggregate. Some samples, for example, contain abundant well-sorted coarse gravel-grade fragments of flint whilst others contain no aggregate and others contain large cobbles, of rounded, battered flint and erratic rocks.

Potential

A high proportion of the mortar fragments are recorded from deposits assigned to Phase M. This phase pre-dates the construction of S1 and therefore these fragments are either evidence for a previous mortared structure on, or near, the site or, perhaps more likely, are evidence that either the stratigraphic position of these deposits should be re-examined or that there is contamination of the pre-S1 deposits, perhaps due to animal burrowing. Should the stratigraphic position of these contexts be verified, then the composition of the mortars should be compared, testing the possibility of a difference in composition between pre-S1 and later mortars.

It should also be possible to test for the presence of a distinct change in composition in rubble derived from S2 as opposed to S1, although since much of the structure of S1 was re-used in S2 this will presumably mean that much of the S2-derived rubble is actually composed of S1 materials.

Variations in aggregate content may also be due to the different functions of the mortar fragments – mortar used to bond ashlar, brick or flint facing will contain little aggregate (apart, perhaps from flint flakes derived from knapping flintwork) whereas that used in the rubble core of the walls will have a high aggregate content. Since few of the mortar fragments come from structures, these variations probably have little potential information content.

Research Design

The fragments of mortar apparently stratified earlier than the construction of Structure 1 are of most interest and if a detailed analysis of their archaeological context can show that any are securely stratified then their fabric should be compared with that of the mortar from Structure 1. Otherwise, a semi-quantitative description of the mortar associated with Structures 1 and 2 should be made, and samples of sufficient size for future quantitative

retained. The remaining samples could be discarded, especially those stratified late in the sequence.

Only one sample was recovered from Phase N, consisting of two small fragments, one with a rough flat face but no plaster skim. Both are small enough to have been introduced through animal burrowing.

Two samples come from the upper fill of the ditch, Phase M (contexts 2002 and 2006, weighing in total 1.539Kg). These are larger samples than those from Phase N but x20 binocular microscope study suggests that these are actually degraded fragments of unworked limestone rather than mortar. They are likely to be derived from boulder clay and are probably of Jurassic and Lower Cretaceous age.

The first reliably stratified mortar fragments come from Phase L (six samples, from four different contexts, weighing in total 1.166Kg), suggesting that this phase is contemporary with the construction or use of S1 rather than preceding it.

Costing

It is estimated that a day's work would be required to select and describe at x20 magnification the mortar fabrics and to select samples for retention and disposal. At 2005-6 rates, this would cost £184 plus VAT.

Appendix 1. List of Mortar samples

Context	Phase	Weight
1300	A	113
1302	A	290
1303	A	196
1305	A	102
1318	G	268
1325	C	44
1325	C	350
1329	A	96
1330	H	767
1397	D	88
1397	D	407
1430	E	355
1439	E	1372
1542	D	22
1612	K	122
1650	E	7
1657	L	328
1736	K	251
1746	H	428
1811	K	21
1820	E	5
1825	L	69
1825	L	86
1834	K	92
1836	F	63
1859	E	168
1867	E	278
1867	E	90
1867	E	174
1868	E	32
1888	K	479
1888	K	39
1944	N	37
1949	K	123
1980	L	159
1981	L	218
1981	L	306
2002	M	715
2006	M	824
2009	K/G	192
2011	K	107