Assessment of the Fired Clay from Kirkby La Thorpe, Sleaford, Lincolnshire (KILT07)

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A collection of fired clay, recovered during archaeological excavations on the site of a rural Iron Age to Romano-British settlement at the Clay Hill WTW Nitrates Reduction Scheme at Kirkby La Thorpe was submitted to the authors for identification and assessment. The excavations were undertaken by Gavin Glover for Lindsey Archaeological Services.

Description

One hundred and nine fragments of fired clay were collected. In total, they weight 2.271 Kg.

Fabric

The fragments were examined in the hand and five fabric groups were identified. An example of each group was then selected as a fabric series and these samples were examined at x20 magnification using a binocular microscope.

Fabric 1

Hard. Poorly mixed clay containing abundant inclusions of rounded quartz; rounded iron stone/ferruginous sandstone/iron pan; shell; limestone; flint. Different lenses of clay vary in colour and the presence/quantity of inclusions.

Fabric 1 with Limestone

Soft. As Fabric 1 but with prominent rounded and angular limestone inclusions.

Fabric 2

Soft. As Fabric 1 with abundant limestone and shell inclusions, probably also a calcareous groundmass.

Fabric 3

Soft. Sparse angular limestone inclusions and rounded quartz. The groundmass contains abundant well-sorted angular quartz and sparse muscovite.

Fabric 4

Soft. Light brown with moderate subangular quartz and limestone sand c.0.2mm across.

Fabrics 1 and 2 were probably made from a Quaternary boulder clay, since flint is not present in the local solid geology. Fabric 3 might be made from a fenland silt, although fine sands do occur in the Middle Jurassic of central Lincolnshire. The very calcareous nature of Fabric 2 is visually similar to that found in Quarrington-type Maxey-type ware (MAXQ).

Form and function

Most of the Fabric 1 and Fabric 1 with limestone, fragments come from roughly flat slabs of clay with varying thicknesses. The original surfaces have abundant straw impressions which are quite deeply impressed into the clay. This indicates that the clay was in a very plastic state when the slabs were produced. The fragments have been burnt after breakage and usually have a dark colour, perhaps indicating that the dried straw was still present. Examples come from contexts 3169, 3178, 3197 and 3636.

The fabric 2 fragments show signs of having a surface but are thicker than those in Fabric 1 and show no signs of straw impressions. Instead, they have a lighter-coloured zone at and below the surfaces. This “salt-surfacing” probably indicates that the objects were heated in the presence of brine.

The Fabric 3 fragments were mostly irregular lumps but some had curved surfaces and may have come from loom weights.

The fabric 4 fragment is featureless.

Assessment

Clay fragments similar to the Fabric 1 slabs are known from several sites in the Fenland. Where associated with datable finds, however, these other fragments have tended to be dated to the 11th/12th centuries and occur in areas where salt-production waste is present in earlier or later periods. Therefore, we have suggested that the process in which these slabs were used might also have been associated with salt extraction. However, the current pieces argue against this interpretation since they come from a site occupied at a period where standard briquettage is found on salt-extraction sites.

The fabric 2 fragments, however, also point to a connection with salt extraction, although the fragments are too large to have been parts of containers and, if associated with salt production, these fragments would have to have come from a hearth/oven.

The fabric 3 possible loom weight fragments are more normal finds for a site of this date, although they are too fragmentary to determine the form of the weight (at least three different shapes were used during the prehistoric and Roman periods). Perhaps the most remarkable feature of these pieces is their fabric, which suggests that the weights were imported to the site.

Further Work

Samples of the three common fabrics should be analysed using thin sections and chemical analysis to test the suggested source of the clays used and to test for raised sodium levels in Fabric 2.

At 2008/9 rates, a thin section and report would cost £26.00 plus VAT and an ICPS analysis plus report would cost £26.00 plus VAT. Ideally, this material would require four thin sections

and 18 ICPS analyses but only two of the Fabric 3 fragments is large enough to sample which reduces the number of ICPS analyses to 14.

Retention

Since at present we have no clear idea of the function of the Fabric 1 slabs, all the material should be retained for possible future analysis.

Appendix 1

Action	Context	class	Cname	Subfabric	Description	Form	Part	Nosh	No
FAB1	3169	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 10-20 THICK	SLAB	BS	5	5
	3169	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 10-12 THICK	SLAB	BS	5	5
	3169	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; FRAGS ONLY	SLAB	BS	8	8
	3178	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 13-20 THICK WITH THICK EDGE	SLAB	EDGE	1	1
	3178	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 9-14 THICK	SLAB	BS	4	4
	3178	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 11 THICK	SLAB	EDGE	1	1
	3178	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 11 THICK	SLAB	EDGE?	1	1
	3178	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 18 THICK	SLAB	BS	1	1
	3178	FCLAY	FCLAY	FAB1 WITH CHALK	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 10-18 THICK	SLAB	BS	8	8
	3178	FCLAY	FCLAY	FAB1 WITH CHALK	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 8-10 THICK	SLAB	BS	1	1
	3178	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 10-15 THICK	SLAB	BS	4	4
	3178	FCLAY	FCLAY	FAB1 WITH CHALK	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 8-22 THICK	SLAB	BS	1	1
	3178	FCLAY	FCLAY	FAB1 WITH CHALK	TWO IRREGULAR SURFACES WITH SOME GRASS MARKINGS 10-18 THICK	SLAB	BS	2	2
	3178	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE	SLAB	BS	7	7
	3178	FCLAY	FCLAY	FAB1	POSSIBLE IRREGULAR SURFACES	SLAB?	BS	5	5
	3178	FCLAY	FCLAY	FAB1	IRREGULAR SURFACES TWISTED ROUND	FCLAY	BS	2	2
	3178	FCLAY	FCLAY	FAB1	ONE POSSIBLE SURFACE	SLAB?	BS	1	1
FAB4	3178	FCLAY	FCLAY	FAB4		FCLAY	BS	1	1
	3178	FCLAY	FCLAY	FAB1 WITH CHALK	TWO GRASS MARKED SURFACES 5-12 THICK WITH THIN EDGE	SLAB	EDGE	1	1
	3191	FCLAY	FCLAY	FAB3		FCLAY	BS	5	5
	3197	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 10-14 THICK	SLAB	BS	1	1

Action	Context	class	Cname	Subfabric	Description	Form	Part	Nosh	Nc
	3197	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; FRAG ONLY	SLAB	BS	1	1
FAB2	3197	FCLAY	FCLAY	FAB2	EVIDENCE FOR SALT LEACHING	FCLAY	BS	3	3
	3197	FCLAY	FCLAY	FAB3	CURVED SURFACE	LOOMWEIGHT?	BS	1	1
	3295	FCLAY	FCLAY	FAB1	ONE POSSIBLE SURFACE	SLAB?	BS	1	1
	3295	FCLAY	FCLAY	FAB3		FCLAY	BS	1	1
FAB3	3443	FCLAY	FCLAY	FAB3		FCLAY	BS	1	1
	3443	STONE	LAVA			QUERN?	BS	1	1
	3636	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; ONE IRREGULAR SURFACE 12-18 THICK	SLAB	BS	1	1
	3655	FCLAY	FCLAY	FAB1	ONE POSSIBLE SURFACE	SLAB?	BS	1	1
	3710	FCLAY	FCLAY	FAB1	ONE POSSIBLE SURFACE	SLAB?	BS	1	1
	3719	FCLAY	FCLAY	FAB1		FCLAY	BS	1	1
	3722	FCLAY	FCLAY	FAB2	ONE DEFINITE SURFACE AND ANOTHER POSSIBLE ONE AT RT ANGLES	BRICK?	BS	2	1
	3722	FCLAY	FCLAY	FAB2	SURFACE	BRICK?	BS	2	1
	3722	FCLAY	FCLAY	FAB2	SALT LEACHING	FCLAY	BS	2	1
	3722	FCLAY	FCLAY	FAB3	IRREGULAR CURVED SURFACE	FCLAY	BS	1	1
	3178 FROM ENVIRO	FCLAY	FCLAY	FAB1	TWO GRASS MARKED SURFACES 12-14 THICK	SALT	BS	1	1
	3178 FROM ENVIRO	FCLAY	FCLAY	FAB1	ONE GRASS MARKED SURFACE; FRAGS ONLY	SLAB	BS	4	4
	3178 FROM ENVIRO	FCLAY	FCLAY	FAB1	FRAGS	FCLAY	BS	19	19
	3178 FROM ENVIRO	FCLAY	FCLAY	FAB1		FCLAY	BS	1	1