

## **Assessment of the Fired Clay from Horkstow Road, South Ferriby, Lincolnshire (SFAG04)**

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A number of objects from archaeological excavations at Horkstow Road, South Ferriby, were submitted for identification on the assumption that they were fired clay. In the author's opinion, however, only 12 of these objects were of fired clay and the remainder were ceramic building material or stone. A number of the latter were of Red Chalk, a lower Cretaceous limestone which has a pink to red colour and can contain sparse rounded quartz grains, making it difficult to distinguish from fired clay without close examination.

### **Description**

#### **Fabric**

All the fragments were examined at x20 magnification using a stereo-microscope. Nine different fabric descriptions were given, but often these were based on very small fragments and it is likely that in fact there were considerably fewer fabric groups.

Three basic clay groundmass types were present. The most common of these contains abundant quartz and sparse muscovite silt, sometimes with fine organic voids. These fabrics were made using Humber estuary mud, and could therefore have been obtained locally.

A second group has a fine-textured groundmass with no inclusions visible at x20 magnification and often variations in colour, producing a variegated texture. These characteristics are typical of certain Jurassic clays, deposited in shallow water in sub-tropical conditions and exposed to the atmosphere for part of the year. The nearest exposure of such clays would be in the Upper Estuarine Beds which outcrop on the west side of the Vale of Ancholme. However, in one case this groundmass is found with numerous rounded chalk inclusions, and is clearly a boulder clay, presumably carried from its original outcrop at the south end of the Yorkshire Wolds (where the Chalk rests unconformably on Jurassic strata, including the Upper Estuarine Beds. If so, then a source closer to South Ferriby is possible.

Thirdly, one fired clay fragment contains numerous rounded quartz grains, whose appearance suggests a Triassic origin. This is typical of sandy boulder clay from sites in Barton-upon-Humber and Grimsby and therefore could also have been deposited close to the site.

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In addition to these natural inclusions, it is likely that material was added to the clay to aid its plasticity. This could consist of straw or other organic matter, and in one case appears to have been wood chips (or perhaps charcoal). In some cases, however, the organic content was clearly present in the parent clay, since the voids left by the organic inclusions are surrounded by brown stained haloes.

**Table 1**

subfabric	Weight	Nosh
AQ;SHELL;WOOD CHIPS?	15	1
CHALKY BOULDER CLAY;SHELL;INCLUSIONLESS MATRIX VARIEGATED (SLIGHT)	15	1
GSQ;R FE;INCLUSIONLESS GROUNDMASS	5	1
S SILT & MUSC;BROWN-STAINED ROOTLET VOIDS;R FE	77	3
S SILT & MUSC;ORGANICS (INC REEDS?)	12	2
SANDY BOULDER CLAY?	1	1
SILTY MICACEOUS;ORGANIC	7	1
VARIEGATED INCLUSIONLESS;ORGANICS	7	2
Grand Total	170	12

### Form

Four of the fragments are too small and featureless for their original form to be determined. Three are definitely from wattle and daub structures, since they have wattle impressions on one face, and a further two fragments are probably also from wattle and daub structures.

Three, however, appear to have been formed from estuarine mud that has been cut into blocks and then burnt. In one case, the fragment has a 'salt surface' caused by the localised formation of a light-coloured ceramic where clay minerals and finely-divided calcium carbonate react in the presence of brine. These fragments usually occur alongside salt-working debris and appear to have been used in filtration units (McAvoy 1994, 140. Fig 5). Documentary descriptions of the process indicate the use of turf and it is possible that the clay is present because of over-digging of turf blocks. The fabric of these pieces is consistent with a local origin but one would imagine that if salt extraction had been practiced at the site there would have been a much larger quantity of waste.

**Table 2**

Form	Weight	Nosh
-	28	4
DAUB	27	3
DAUB?	7	2
TURF	77	3

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Grand Total	170	12
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## Assessment

### **Stratigraphic association**

Fired clay can only be dated in two ways: the form of the object made from it and by its stratigraphic associations. At Horkstow Road, the fragments are so few and so small that it would be difficult to argue that any of them were in primary deposits. The three pieces which have been identified here as turfs associated with salt production come from an unusual context number (and are therefore now unstratified) and from the fill of Feature 215. If the identification is correct, then these fragments ought to date to the medieval period, since they have not been found in Roman or earlier contexts and appear to post-date the use of briquetage trays.

### **Retention**

The fragments from stratified contexts should be retained as part of the site archive.

### **Further study**

It would be possible to identify the source of the clays used by using thin section and chemical analysis but in most cases the fragments are too small for such analysis. The main reason for undertaking such analysis would be to provide a base line for comparison with other ceramics from the site, to distinguish those of local origin from those imported to the site.

## Bibliography

McAvoy, F. (1994) "Marine Salt Extraction: The Excavation of Salterns at Wainfleet St Mary, Lincolnshire." *Medieval Archaeology*, XXXVIII, 134-163.

*Appendix 1*

subfabric	Form	Nosh	NoV	Description	Part	Weight	Use	REFNO	Condition
S SILT & MUSC;ORGANICS (INC REEDS?)	DAUB	2	2		BS	12			
VARIEGATED INCLUSIONLESS;ORGANICS	DAUB?	2	2		BS	7			
AQ;SHELL;WOOD CHIPS?	DAUB	1	1	POSSIBLE WATTLE IMPR	BS	15			
S SILT & MUSC;BROWN-STAINED ROOTLET VOIDS;R FE	TURF	1	1	ONE FLAT FACE SALT SURFACED	BS	36			
S SILT & MUSC;BROWN-STAINED ROOTLET VOIDS;R FE	TURF	1	1	SALT SURFACE ON ONE FACE WHICH HAS SUBRECT RECESS	BS	24			
SANDY BOULDER CLAY?	-	1	1		BS	1			
				BODY SHERD OF LARGE UNFIRED/LOW FIRED VESSEL WITH HAEMATITE SLIP/OXIDATION					
INCLUSIONLESS CF OXFORD CLAY	SJ	1	1	ON INT	BS	31			
S SILT & MUSC;BROWN-STAINED ROOTLET VOIDS;R FE	TURF	1	1	ONE FLAT FACE;CUTTURF/SUBSOIL	BS	17			
SILTY MICACEOUS;ORGANIC	-	1	1		BS	7			
CHALKY BOULDER CLAY;SHELL;INCLUSIONLESS MATRIX VARIEGATED (SLIGHT)	-	1	1		BS	15			
GSQ;R FE;INCLUSIONLESS GROUNDMASS	-	1	1	ONE FLAT FACE	BS	5			

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