# Assessment of Mixed Finds from the Easington to Ganstead Pipeline (EAG)


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The ceramic building material, fired clay and stone finds from the Network Archaeology excavations and other fieldwork in advance of the Easington to Ganstead pipeline were submitted to the authors for identification, recording and assessment. The material ranges in date from the prehistoric period (Bronze Age or later) to the late 16th century or later.

## Description

### Ceramic Building Material

72 fragments of ceramic building material were recorded. They include material of definite Roman date as well as later medieval or later material (Table 1).

*Table 1*

| Cname | Fragments | Objects | Weight (gm) |
|---|---|---|---|
| CBM | 9 | 9 | 3 |
| MTIL | 29 | 21 | 740 |
| PMTIL | 27 | 23 | 5386 |
| RTIL | 7 | 7 | 1260 |
| Grand Total | 72 | 60 | 7389 |

Key: CBM – undatable; MTIL – Medieval (or later); PMTIL – post-medieval or later; RTIL – Roman.


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http://www.avac.uklinux.net/potcat/pdfs/avac2008119.pdf

## Fabrics

The fabric of all of the CBM was examined by eye, with the occasional use of a stereomicroscope. Eight fabric groups were identified (Table 2).

*Table 2*

| Fabric No | Main inclusion types | Character of groundmass | Comments |
|---|---|---|---|
| CBM1 | Off-white mudstone pellets up to 15.0mm long<br>Rounded and subangular moulding sand <0.3mm | Poorly mixed with lenses of various colours | Jurassic in Lincolnshire. |
| CBM2 | Moderate subangular rock fragments (flint, red sandstone, white sandstone)<br>Rare rounded quartz with matt surface <0.3mm | Abundant subangular quartz <0.2mm | Boulder clay, probably Holderness (Beverley?) |
| CBM3 | Rare rounded red iron ore pellets < 4.0mm<br>Rare rounded and subangular quartz with mat surface < 0.3mm | Moderate burnt-out calcareous grains <0.2mm, Moderate muscovite | Probably local |
| CBM4 | No large inclusions<br>Rounded quartz, subangular quartz, white sst, red sst moulding sand | Abundant calcareous, micaceous silt < 0.1mm | Local? marine clay |
| CBM5 | No large inclusions | Micaceous, calcareous silty clay | Marine clay |
| CBM6 | No large inclusions | As CBM5 but light colour due to salt | Marine clay |
| CBM7 | Moderate spherical burnt-out calcareous inclusions | Micaceous, calcareous silty clay, coarser than CBM5 and CBM5 | Marine clay |
| CBM8 | Moderate rounded quartz <0.3mm<br>Rounded quartzose moulding sand, cf CBM1 | Poorly mixed. Rare off-white lenses. Very little silt visible | Probably Lincolnshire Jurassic |

The most surprising feature of the EAG fabrics is that two of them appear to be of Lincolnshire origin, having exactly the same range of inclusions and other traits as can be

seen in material from the Washingborough tilery, situated close to the Witham immediately to the east of Lincoln. It has recently been realised that tiles from this area were being traded but boat down the Witham to its mouth, near Boston, and have been noted at sites in the Lindsey Marshes. These examples, however, are the first to be identified north of the Humber. They are all the more surprising because of the existence locally of Roman tileries, for example at Beverley.

The remaining fabrics mostly have characteristics which indicate that they were made from estuarine or marine clays, such as those which occur to both the north and south of the Humber estuary. Visually identical fabrics were being produced at Beverley, and at Barton-upon-Humber and without chemical analysis it is not possible to positively attribute any brick to a specific centre. However, documentary sources suggest than in the late medieval period Beverley was far and away the largest producer of brick and tile in the Humber estuary region and earlier examples are likely to be Beverley products. Unfortunately it is impossible to date these bricks and tiles closely except by their archaeological context.

## Roman

Seven fragments of Roman ceramic building material were recorded. They consist of two pieces of imbrex tile, three pieces of tegula and two pieces which could be bricks or tegula fragments. They come from three separate plots (Table 3) and are of two fabrics, CBM1 and CBM8. Both of these fabrics, it is suggested here, were produced in Lincolnshire, quite possibly in the Witham valley, and traded downriver and along the coast. Building material in more recent times was often used as saleable ballast and if this was the case in the Roman period it would imply that equally bulky goods were returning to Lincolnshire to take the place of the brick and tile. Roman tiles of these Lincolnshire fabrics are not found in the Brough on Humber area, which one would have expected if they were being carried overland and ferried across the Humber, nor are they found further up-river at York, which had its own thriving tileries, at least in the earlier part of the Roman period.

*Table 3*

| trench | Form | Fabric | Fragments | Objects | Weight (gm) |
|---|---|---|---|---|---|
| PL 35 | IMBREX | CBM1 | 2 | 2 | 197 |
| | TEG | CBM1, CBM8 | 3 | 3 | 599 |
| PL 36 TR 59 | TEG/BRICK | CBM8 | 1 | 1 | 42 |
| PL 104 TR 172 | TEG/BRICK | CBM1 | 1 | 1 | 422 |

## Medieval to post-medieval

Fifty-six fragments of medieval and later ceramic building material were recorded (Table 4). They come from fourteen separate locations but show no strong concentrations (being most common on Plots 25, 35 and 86 Trench 141).

Potentially, the earliest material consists of flat roof tiles, in fabrics 2 and 4, both of which have moulding sand which suggests a local origin, but whose textures suggest were utilising different clay resources, boulder clay and estuarine/marine clay. The earliest possible date for these tiles would be in the mid 12$^{th}$ century but they continued to be produced with little

difference in fabric, dimensions or suspension methods into the 16th or 17th centuries. None of the recorded fragments have either peg holes or nibs. However, the 17 fragments with measurable thicknesses do show a difference between the two fabric groups (Table 5) suggesting that they may have come from different sources.

Twenty-two fragments of brick were recorded. None show obvious signs of moulding sand or straw but all were made by hand. They could date to any period between the later medieval and the 19th centuries (or even later, given the survival of the traditional Barton-upon-Humber brickworks into the late 20th century). . Eight bricks had measurable thicknesses, ranging from 48 to 55mm. Bricks occurred in four fabrics (CBM2, CBM5, CBM6 and CBM7) but only those in the first two fabrics had measurable thicknesses, and these showed no different in mean thickness (52.5mm for CBM2 and 50.33 for CBM5).

*Table 4*

| trench | Form | subfabric | Fragments | Objects | Weight (gm) |
|---|---|---|---|---|---|
| PL 108 | BRICK | CBM5 | 1 | 1 | 63 |
| PL 110 TR 183 | BRICK | CBM5 | 1 | 1 | 17 |
| PL 111 TR 187 | PANT | CBM2 | 2 | 2 | 128 |
| PL 25 | BRICK | CBM5 | 2 | 2 | 91 |
| | | CBM7 | 2 | 1 | 73 |
| | FLAT | CBM4 | 2 | 2 | 28 |
| | FLAT/PANT | CBM4 | 2 | 2 | 37 |
| | PANT | CBM4 | 1 | 1 | 8 |
| PL 26 | BRICK | CBM5 | 1 | 1 | 27 |
| PL 3 | FLAT | CBM4 | 2 | 2 | 54 |
| | FLAT/PANT | CBM4 | 1 | 1 | 82 |
| | OBJECT | CBM4 | 1 | 1 | 98 |
| PL 31 | BRICK | CBM2 | 2 | 1 | 1348 |
| PL 31 TR30 | BRICK | CBM2 | 2 | 1 | 1876 |
| PL 35 | BRICK | CBM7 | 1 | 1 | 19 |
| | FLAT | CBM4 | 4 | 4 | 198 |
| | FLAT/PANT | CBM4 | 5 | 5 | 20 |
| | PANT | CBM3 | 2 | 2 | 20 |
| PL 47 | BRICK | CBM5 | 1 | 1 | 7 |
| PL 63 TR 111 | BRICK | CBM5 | 2 | 1 | 1144 |
| PL 86 TR 141 | BRICK | CBM5 | 4 | 4 | 451 |
| | | CBM6 | 1 | 1 | 47 |
| | | CBM7 | 2 | 2 | 67 |
| | FLAT | CBM2 | 2 | 2 | 127 |
| PL 88 TR 157 | FLAT | CBM2 | 9 | 1 | 91 |
| PL 88 TR 3 | FLAT/PANT | CBM4 | 1 | 1 | 5 |

*Table 5*

| TH | CBM2 | CBM4 |
|---|---|---|
| 11 | | 1 |
| 12 | | 1 |
| 13 | | 1 |
| 15 | | 3 |
| 16 | 9 | |

| | |
|---|---|
| 17 | 1 |
| 19 | 1 |

Five pantiles were recorded, in three fabrics (CBM2, CBM3 and CBM4). These tiles came from three localities (Table 6). Pantiles were introduced into the British Isles from the Low Countries in the later 16th century and continued to be produced into the 20th century.

*Table 6*

| trench | CBM2 | CBM3 | CBM4 |
|---|---|---|---|
| PL 111 TR 187 | 2 | | |
| PL 25 | | | 1 |
| PL 35 | | 2 | |

A single unidentified object was produced in a fabric used for medieval and later tiles, CBM4. It is difficult to describe and impossible to guess at its function or complete form. However, it appears to have a flat base with a sloping side at a 75 degree angle and an edge, possibly a circular piercing, 20mm from the base. It does not look like any known roof furniture and may have been a specialised item made by tilers for a specific task. In Lincoln, for example, there are a range of vessels made in tile fabrics, but apparently used for non structural purposes (Young and Vince 2005, TILE).

**Fired Clay**

A total of 536 fragments of fired clay were recovered, weighing in total 3408 gm. The material comes from a number of plots. Twenty-one of these collections consist of less than ten fragments but twelve produced larger collections, with the largest coming from Plot 35 (134 fragments, weighing 814 gm.

Fabrics

The fragments were each assigned to a fabric group, and a sample of each fabric was extracted to form a site fabric series. In total, eight fabrics were present (Table 7).

*Table 7*

| Fabric No | Main inclusion types | Character of groundmass | Comments |
|---|---|---|---|
| FC1 | Subangular quartz (mostly overgrown) up to 0.5mm<br>Subangular white flint up to 1.0mm<br>Organics up to 10mm long | Silty | Untempered estuarine clay? |
| FC2 | Rare rounded quartz up to 1.0mm<br>Rare sandstone up to 1.0mm | Variegated, with off-white lenses; fine subangular quartz sand. | Boulder clay? Possibly including Middle |

| | | | |
|---|---|---|---|
| | | | Jurassic clay from North York Moors |
| FC3 | Moderate rounded rock fragments (basic igneous rock; fine-grained sandstone; angular white flint) up to 4.0mm | Silty with muscovite and biotite up to 0.1mm | Boulder clay |
| FC4 | Moderate rounded quartz up to 1.0mm<br>Burnt-out organics up to 10.0mm | Silty | Probably similar to Fabric 1 |
| FC5 | Moderate rounded chalk fragments up to 4.0mm<br>Rounded quartz up to 1.0mm | Abundant subangular quartz up to 0.2mm across | Boulder clay<br>Calcareous version of Fab 3 |
| FC6 | Moderate angular and rounded rock fragments (including veined altered volcanics and coarse-grained igneous rocks)<br>Rounded dark brown clay pellets up to 4.0mm across | Abundant subangular quartz up to 0.2mm across | Boulder clay |
| FC7 | Moderate subangular quartz up to 1.0mm across<br>Burnt-out organics | Abundant subangular quartz up to 0.2mm across | |

## Featureless fragments

Most of the fragments have no sign of their original function and no original surfaces. In some cases the pattern of oxidation and the dark grey to black core indicates that the clay was highly organic when burnt and that the objects were fragmentary whilst burning. This argues for their being from daub structures or similar rather than hearths which might be expected to withstand burning without breaking. The dark cores are consistent with the burnt out organic inclusions present in many of the fragments.

However, it is likely that the fragments include material from a variety of sources, including those, described below, where the original function can be determined.

## Loomweights

Fragments of at least four loomweights were identified.

One of these (Pl 104 Tr 170, context 10410) has a flat base and cylindrical body. Such weights have been found in Bronze Age contexts and are thought to date to the Bronze Age and early Iron Age. The weight is in Fabric 5.
Another example (Plot 25, context 25112) comes from a pyramidal weight with four flat sides, tapering towards the top which appears to have been rounded (in some weights the top is formed into two peaks with a trough between. This does not seem to have been the case in this instance). A single horizontal hole, 30mm in diameter is present. The weight is in Fabric 3
The other two examples (Plot 25, context 25138, Fabric 2, and Plot 140, context 12060, Fabric 1) are probably fragments of pyramidal weights.
Pyramidal weights occur in Iron Age and, perhaps, early Roman contexts.

### Salt-production waste

Four fragments were probably associated with salt production. One of these, from Plot 104 context 12005, is a pedestal, used in groups of four to support the containers in which the brine is heated (Morris 1994). These pedestals were subjected to heat and probably to splashing with brine and consequently are often found to have whitened surfaces, “salt surfacing”, formed when brine, clay minerals and calcium carbonate are heated together. It is made from a Fabric 2 clay with prominent fine-textured organic inclusions.

The others form a small group from Plot 47, context 4707. they are too fragmentary to identify the form but the presence of a thick salt surface indicates that they were probably associated with salt production. They are made from Fabric 2 clay.
It should be noted that some East Yorkshire clays are naturally calcareous and salt-rich marine/estuarine silts and therefore have a salt surface when fired. It is not therefore certain that the Plot 47 items were associated with salt working. They could, alternatively, be fragments of loom weight.

### Daub?

There are not clear-cut examples of daub but a few examples from Plots 3 and 35, contexts 3190 (Fabric 6) and 35505 (fabric 3), might be from wattle and daub structures since they have flat surfaces and have broken backs, with possible wattle impressions.

## Stone

### Unworked and unmodified

Six hundred and seventy-nine fragments of stone have no obvious signs of working or modification and are either present naturally in the site’s subsoil or were deliberately brought to the site but not altered by this use (Table 8). They are classified here as being of geological interest only (GEO in catalogue).

*Table 8*

| Trench | Fragments | Objects | Weight (gm) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| PL 003 | 3 | 3 | 660 |
| PL 025 | 11 | 11 | 6306 |
| PL 025 TR 9 | 1 | 1 | 5 |
| PL 026 | 48 | 48 | 4057 |
| PL 026 SQ 11 | 1 | 1 | 507 |
| PL 026 SQ 121 | 24 | 24 | 167 |
| PL 026 SQ 2 | 2 | 2 | 3 |
| PL 026 SQ 220 | 7 | 7 | 167 |
| PL 026 SQ 222 | 3 | 3 | 316 |
| PL 026 SQ 230 | 24 | 24 | 113 |
| PL 026 SQ 238 | 14 | 14 | 93 |
| PL 026 SQ 244 | 2 | 2 | 80 |
| PL 026 SQ 252 | 24 | 24 | 99 |
| PL 026 SQ 26 | 5 | 5 | 576 |
| PL 026 SQ 262 | 25 | 25 | 38 |
| PL 026 SQ 264 | 20 | 20 | 34 |
| PL 026 SQ 266 | 50 | 50 | 47 |
| PL 026 SQ 270 | 27 | 27 | 160 |
| PL 026 SQ 276 | 13 | 13 | 4 |
| PL 026 SQ 278 | 10 | 10 | 152 |
| PL 026 SQ 280 | 21 | 21 | 149 |
| PL 026 SQ 282 | 23 | 23 | 62 |
| PL 026 SQ 286 | 15 | 15 | 77 |
| PL 026 SQ 288 | 4 | 4 | 10 |
| PL 026 SQ 29 | 1 | 1 | 403 |
| PL 026 SQ 290 | 14 | 14 | 108 |
| PL 026 SQ 292 | 19 | 19 | 87 |
| PL 026 SQ 294 | 41 | 41 | 154 |
| PL 026 SQ 298 | 18 | 18 | 134 |
| PL 026 SQ 300 | 1 | 1 | 7 |
| PL 026 SQ 302 | 10 | 10 | 51 |
| PL 026 SQ 310 | 30 | 30 | 83 |
| PL 026 SQ 314 | 6 | 6 | 26 |
| PL 026 SQ 316 | 71 | 71 | 259 |
| PL 026 SQ 318 | 33 | 33 | 64 |
| PL 031 | 11 | 10 | 260 |
| PL 035 | 29 | 28 | 3486 |
| PL 035 TR 49 | 1 | 1 | 7 |
| PL 035 TR 9 | 1 | 1 | 410 |
| PL 036 TR 55 | 1 | 1 | 60 |
| PL 051 | 2 | 2 | 405 |
| PL 073 | 1 | 1 | 5 |
| PL 073 TR 121 | 3 | 3 | 23 |
| PL 088 | 4 | 4 | 413 |
| PL 088 TR 157 | 1 | 1 | 9 |
| PL 104 | 1 | 1 | 12 |
| PL 104 TR 170 | 1 | 1 | 6 |
| PL 108 | 2 | 2 | 35 |
| Grand Total | 679 | 677 | 20389 |

## Possibly Burnt Stone

Sixty fragments of stone were possibly burnt and fire-cracked. However, in each case the evidence was not overwhelming and a natural origin for the stone was equally possible,

perhaps through frost shattering, oxidation of a naturally reduced rock or concretion with iron or manganese (Table 9).

*Table 9*

| Trench | Fragments | Objects | Weight (gm) |
|---|---|---|---|
| PL 025 | 4 | 4 | 726 |
| PL 026 | 7 | 7 | 106 |
| PL 031 | 2 | 2 | 50 |
| PL 035 | 5 | 4 | 314 |
| PL 035 TR 9 | 1 | 1 | 211 |
| PL 051 | 10 | 8 | 245 |
| PL 063 | 1 | 1 | 12 |
| PL 073 | 1 | 1 | 124 |
| PL 088 | 16 | 1 | 1374 |
| PL 104 TR 170 | 4 | 4 | 63 |
| PL 108 | 9 | 9 | 160 |
| Grand Total | 60 | 42 | 3385 |

## Burnt Stone

Ninety-eight fragments of stone were most likely to have been burnt. Some of these had shattered and in these cases this might have been due to their being thrown into water or having water splashed on them. In those cases, the stone may be a by-product of either heating water by indirect heat (pot boilers) or the generation of steam for therapeutic or religious purposes ("prehistoric saunas"). In the remaining cases, where there is no cracking of the stone, the heating might have been due to the stone being used as a hearth base or surround. Interpretation depends on the size of the stone and, to some extent, its associations as well as with the quantity of stones found ("prehistoric saunas" required a large quantity of stones, which usually resulted in the build-up of mounds of burnt stones). .

*Table 10*

| Trench | Fragments | Objects | Weight (gm) |
|---|---|---|---|
| PL 003 | 18 | 18 | 1287 |
| PL 025 | 4 | 4 | 405 |
| PL 025 TR 9 | 1 | 1 | 72 |
| PL 026 | 5 | 5 | 1364 |
| PL 026 SQ 220 | 1 | 1 | 133 |
| PL 026 SQ 222 | 3 | 3 | 16 |
| PL 026 SQ 230 | 1 | 1 | 98 |
| PL 026 SQ 256 | 1 | 1 | 3 |
| PL 026 SQ 270 | 5 | 5 | 33 |
| PL 026 SQ 278 | 1 | 1 | 20 |
| PL 026 SQ 280 | 3 | 3 | 11 |
| PL 026 SQ 310 | 1 | 1 | 50 |
| PL 031 | 32 | 19 | 1632 |
| PL 035 | 15 | 15 | 4127 |
| PL 051 | 2 | 2 | 712 |
| PL 051 TR 86 | 1 | 1 | 227 |
| PL 088 | 1 | 1 | 176 |
| PL 108 | 3 | 3 | 50 |
| Grand Total | 98 | 85 | 10416 |

## Querns

Fragments of eight rotary querns were recovered. Most were of the standard form, adopted in the early Roman period and used from then into the medieval period, and one (made from basic igneous rock) was a beehive quern, a type with a number larger, dome-shaped upper stone.

Examination at x20 magnification suggests that five rock types were used. Two of these might have been found in the local boulder clays (basic igneous rock and coarse-grained metamorphic rock). However it is quite surprising that boulders of suitable size to produce both the upper and lower stones of a rotary quern would be present in the boulder clay since most of the erratic rocks seen in the sea cliff along the Holderness coast are too small for such a use. It is also quite surprising that basic igneous rock would have been used for this purpose since the grain size is so small that the working face would become polished and cease to grind the grain. However, in this particular instance there is no doubt at all that the object is part of a rotary quern.

Coarse-grained metamorphic rock is much better-suited to quern manufacture although it is even less likely that a stone or stones suitable for quern making would have been available in the local boulder clay. Here, there is a possibility that the quern is an import. Hyllestad, on the western Norwegian coast, to the north of Bergen, was a major producer of quern stones from the beginning of the 8$^{th}$ century into the medieval period (Carelli and Kretsen 1997). The Hyllestad querns are petrologically distinctive in thin section and this example should be thin-sectioned for comparison with the Norwegian material. Other Scandinavian sources either operated on a local scale or are much later in date and unlikely to have been exporting querns to the British Isles (Grenne et al. 2008).

One stone was made from a medium-grained Carboniferous rock, either a particularly fine Millstone Grit or a Coal Measures sandstone. In either case, the quern is likely to have been made somewhere along the Pennines.

Fragments of three querns made from Mayen lava were recorded. Most were small, amorphous pieces, identified by the distinctive vesicular lava from which they were made. Mayen lava querns were exported from the Niedermendig area of central Germany from the Roman period into the medieval period.

A final example of a Spilsby Sandstone quern was recorded. This rock outcrops along the western scarp of the Lincolnshire Wolds, from Market Rasen southwards to the Witham. Spilsby Sandstone querns were produced in large quantities from the pre-Roman Iron Age into the Roman period but not, apparently, any later.

*Table 11*

| Rock type | Trench | Fragments | Objects | Weight (gm) |
|---|---|---|---|---|
| BASIC IGNEOUS | PL 088 TR 3 | 1 | 1 | 3400 |
| COARSE GRAINED METAMORPHIC | PL 025 | 1 | 1 | 2400 |
| FINE CARBONIFEROUS SANDSTONE | PL 035 | 1 | 1 | 442 |
| MAYEN LAVA | PL 035 | 5 | 3 | 2317 |

| | | | | |
|---|---|---|---|---|
| | PL 073 | 3 | 1 | 32 |
| SPILSBY SANDSTONE | PL 035 | 1 | 1 | 6600 |
| Grand Total | | 12 | 8 | 15191 |

### Column

A single fragment of a cylindrical column, 95mm in diameter, made from Millstone Grit, was recovered from Plot 35 Trench 53. The object is broken (and is at least 55mm long) but has one flat end, more roughly finished than the cylindrical sides.
It is most likely that this object is architectural but exactly how it was used is unclear. Similarly, it could be of Roman date or any period from the medieval or later.

### Roofing Tile

A single small sliver of metamorphic grey slate from Plot 88 is most likely to be of post-medieval or later date and to come from a roofing slate. However, it is a small, featureless fragment and might conceivably be an erratic fragment of unworked slate (although slate is not a noted element in the erratics found in Yorkshire boulder clays).

### Hammerstone

A roughly ovoid boulder of basic igneous rock from Plot 25 shows signs of impact at opposed ends.

### Pivot Stone?

A boulder of basic igneous rock from Plot 25 has a pecked upper surface with a cylindrical hole, 30mm in diameter and 52mm deep. It may have been used to support a door or window or might possibly have been part of a piece of equipment such as a potters' wheel.

### Whetstone

A micaceous sandstone whetstone was recovered from Plot 3. It is complete and measures 258mm long, 41mm wide and between 14 and 45 mm thick. It has a suspension hole with an hour-glass profile, being 16mm in diameter at the surfaces narrowing to 6mm in diameter in the centre.

## Assessment

### Further Work

The ceramic building material includes five fragments of Roman date, each of which is likely to be of Lincolnshire origin. The lack of similar tiles further west suggests that they were not transported overland but around the coast, implying that there was an equivalent material, perhaps agricultural produce, which was shipped back to the Witham valley. This is remarkable and the identification of the fabrics involved, CBM1 and CBM8, should be confirmed through analysis of the clays (Task 1).
An example of each of the other CBM fabrics should be thin-sectioned and a chemical analysis obtained in order to document the collection (Tasks 2 and 3).

The most interesting fired clay objects found are the loom weights and the clay associated with salt production. It would be possible through analysis of the clay to establish whether the salt production waste is likely to be of local origin, and therefore evidence for nearby salt production in the later prehistoric or early Roman periods, or brought to the site, and therefore possible evidence for the transport of salt (and accidental transport of ceramics associated with its production) (Task 4).

A study of the archaeological context of the fired clay, both identifiable artefacts and featureless fragments, might allow differences in fabric use through time to be determined and would, in any case, be useful to compare with the underlying drift geology and soil classification, to see whether there is any evidence for local movement of clay (Task 5).

The fired clay fabrics should be documented by thin section and chemical analysis of the fabric series (Tasks 6 and 7).

Two of the loomweights and two objects associated with salt production should be drawn and photographed (Task 8).

The archaeological context of the burnt stone, possible burnt stone and worked stones should be determined to see if it can aid interpretation and dating of the finds (and, conversely, aid interpretation of the archaeological contexts) (Task 9).

The stone artefacts include eight which would repay illustration and photography (Task 10; Table 12). In addition, three of these should be thin-sectioned (Task 11). These consist of the coarse metamorphic quern; the column fragment and the beehive quern.

*Table 12*

| Action | REFNO | Context | Trench | Subfabric | Form |
|---|---|---|---|---|---|
| PHOTO; DR | 1102 | 3091 | PL 003 | MICACEOUS SANDSTONE | WHETSTONE |
| PHOTO; DR | | 25138 | PL 025 | BASIC IGNEOUS | PIVOT STONE? |
| TS; DR; PHOTO | 288 | 25138 | PL 025 | COARSE GRAINED METAMORPHIC | ROTARY QUERN |
| PHOTO; DR | | 35496 | PL 035 | SPILSBY SANDSTONE | ROTARY QUERN |
| PHOTO; DR | | 35183 | PL 035 | FINE CARBONIFEROUS SANDSTONE | ROTARY QUERN |
| PHOTO; DR | | 35194 | PL 035 | MAYEN LAVA | ROTARY QUERN |
| PHOTO; DR; TS | | 3508 | PL 035 TR 53 | MILLSTONE GRIT | COLUMN SEGMENT |
| PHOTO; DR; TS | 30 | 8839 | PL 088 TR 3 | BASIC IGNEOUS | BEEHIVE QUERN |

**Costing**

*Table 13*

| Task | Description | Number and Unit Cost | Cost |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Task 1 | Analysis of Roman tile using TS and ICPS | 7 @ £52.00 plus VAT | £364.00 plus VAT |
| Task 2 | Thin section analysis of other CBM fabrics | 6 @ £26.00 plus VAT | £156.00 plus VAT |
| Task 3 | Chemical analysis of other CBM fabrics | 6 @ £26.00 plus VAT | £156.00 plus VAT |
| Task 4 | Thin section and chemical analysis of salt production waste | 4 @ £52.00 plus VAT | £208.00 plus VAT |
| Task 5 | Contextual study of fired clay | 4 hours at £26.00 plus VAT per hour | £104.00 plus VAT |
| Task 6 | Thin section analysis of fired clays | 5 @ £26.00 plus VAT | £130.00 plus VAT |
| Task 7 | Chemical analysis of fired clays | 5 @ £26.00 plus VAT | £130.00 plus VAT |
| Task 8 | Illustration and photography of selected fired clay objects | 4 @ £20.00 plus VAT plus 2 @26.00 plus VAT | £132.00 plus VAT |
| Task 9 | Contextual study of used and worked stone | 4 @ £26.00 plus VAT | £102.00 plus VAT |
| Task 10 | Illustration and photography of selected stone artefacts | 8 @ £20.00 plus VAT and 4@ £26.00 plus VAT | £264.00 plus VAT |
| Task 11 | Thin section analysis of selected stone artefacts | 3 @ £26.00 plus VAT | £78.00 plus VAT |
| Total | | | £1824.00 plus VAT |
| VAT | | | £319.20 |
| Grand total | | | £2143.20 |

## Retention

All of the fired clay and ceramic building material should be retained for future re-examination. None requires any special storage conditions.

The unworked and unmodified stone should be discarded. The remaining stone should be retained. No special storage conditions are required.

## Bibliography

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