A medieval pottery clamp kiln, possible workshop and settlement at Eshott, Northumberland

Piers Dixon and Amanda Crowdy

SUMMARY

Emergency excavation and fieldwork in advance of the North Sea Gas Pipeline through Northumberland revealed a mid- to late 12th-century pottery kiln, a possible workshop and settlement. Rural medieval pottery kilns in north-east England are rare. The kiln is a clamp-kiln and its products include both glazed and unglazed vessels. The distribution of the products is local, but they are paralleled by types found elsewhere in north-east England.

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THE EXCAVATIONS by Piers Dixon

INTRODUCTION

During the construction of the 1.05 m North Sea Gas pipeline through north Northumberland, a dense scatter of 12th to 14th-century pottery and fragments of fired clay were recovered from the ground surface after soil stripping at Eshott (NGR NZ 195 981 and Figs. 1 and 2). This proved to be part of an extensive scatter of pottery, which stretched right across the field from east to west. The scatter extended along a low east-west ridge to the south of the Longdyke Burn, which marks the northern boundary of the medieval township of Eshott. At the eastern end of the ridge, some 600m from the area with the burnt clay fragments, lies the moated manor of Eshott, which was fortified in the 14th century (NGR NZ 200 986; NCH VII, 327ff). It was suspected that a pottery kiln and village settlement had been discovered, and an emergency excavation was carried out by members of the British Gas Archaeological Survey on the strip due to be used for the burial of the pipeline.

DOCUMENTARY BACKGROUND

The township of Eshott lies in the south-east of Felton parish and was originally held from the barony of Mitford by the lord of Whalton, but came into the hands of the Mauduit family at the turn of the 13th century. An entry in the Brinkburn Cartulary, dated 1209 (Page 1893, 57-9), describes a carucate of land in Eshott, Bokenfield and Over Felton, including 6 acres to the west of the mansion and south of the warren (*vivaria*), land in a cultivated field called the Toftes, and a toft in Eshott measuring three and a half perches in breadth and in length as far as the ditch. This would suggest a toft 70 feet across if a perch of 20 feet was in use, as recorded in a charter concerning land at Evenwood which was also in the barony of Felton (*ibid.*, 24).

This description bears some comparison with the topography revealed in fieldwork. The warren presumably lay south of the Longdyke Burn to the west of the moated manor, the very area in which the site was found (see Fig 2). Although the location of the field called Toftes is not stipulated, its very appellation suggests that it was an area of cultivated land that had previously been settled, then cleared, perhaps, to make way for the warren referred to in the earlier part of the charter. Whilst this suggestion cannot be proven, it is notable that the toft in the 'village' of Eshott is described as defined by a ditch at the end, which did indeed prove to be the case. However, the breadth of the toft

could not be determined in the narrow strip excavated and it is by no means certain that the toft described lay anywhere near that which was excavated.

METHODOLOGY

A strip measuring about 25 m by 10 m was cleared of disturbed topsoil, mostly by bulldozer. The site was very wet from recently melted snow, despite being criss-crossed by modern drains, and was cut by an engineer's test-pit full of water. Outside the stripped area, some additional features were located using a proton-magnetometer, which picked up the presence of potsherds. Hoes were used to scrape the site and reveal the features, which, apart from the kiln features, were sampled to save time. Standard methods of recording were followed, with records of each context, a site-plan, sections of each feature sampled, and a colour photographic record. All pottery and fired clay were retained and charcoal for radiocarbon samples. No other artefacts were present.

STRATIGRAPHY

The site has been divided into three main phases: the kiln and its associated pits (Phase 1); the subsoil-cut features relating to the adjacent medieval settlement (Phase 2); and the post-occupation medieval plough-soil (Phase 3).

The settlement area, or toft, was defined by ditches about 30m apart at the north and south ends of the site (Fig. 2); these were parallel to one another on the same alignment as that of the low ridge that crosses the site from east to west. It was noted that many of the features on the site obeyed this axis and may therefore be considered to belong to the same period of occupation. The kiln and its associated pits lay at the south end of the toft. Immediately to the north was a group of intersecting gullies and some evidence for a building, whilst at the north end of the toft there were features indicative of another building, or possibly a workshop. There were no other archaeological features on the site apart from the ridge and furrow, which had truncated the subsoil-cut features and had removed any trace of a contemporary ground surface.

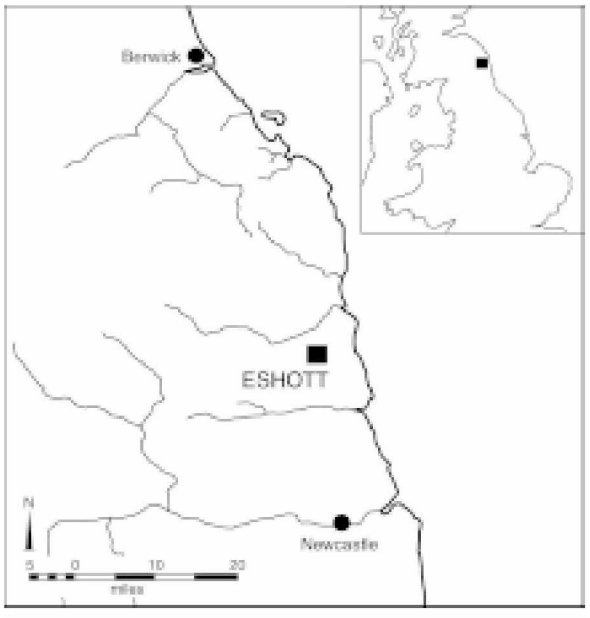

Fig. 1 Eshott: Location map.

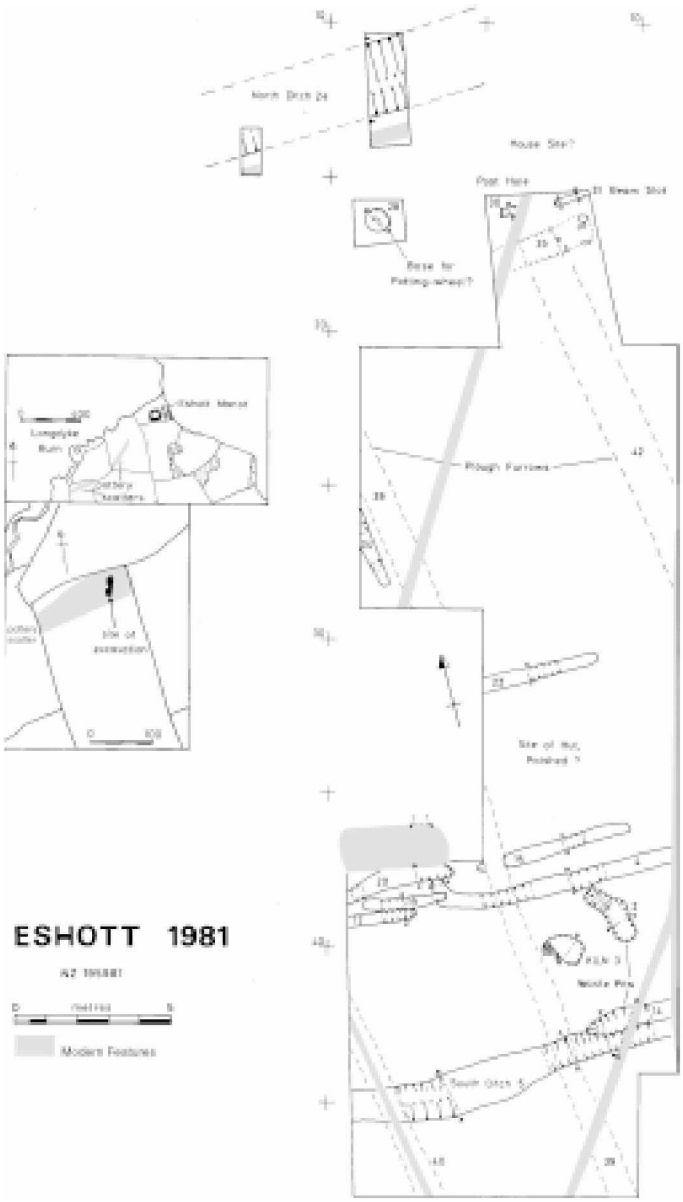

Fig. 2 Site plan and topographical map.

Phase 1, the kiln and kiln waste pits (Figs 2 and 3)

This phase (Fig. 3) comprised the kiln hearth [3] and two nearby waste pits [2] and [14]. Clay samples were taken from the kiln and waste pit [2] for firing experiments and X-

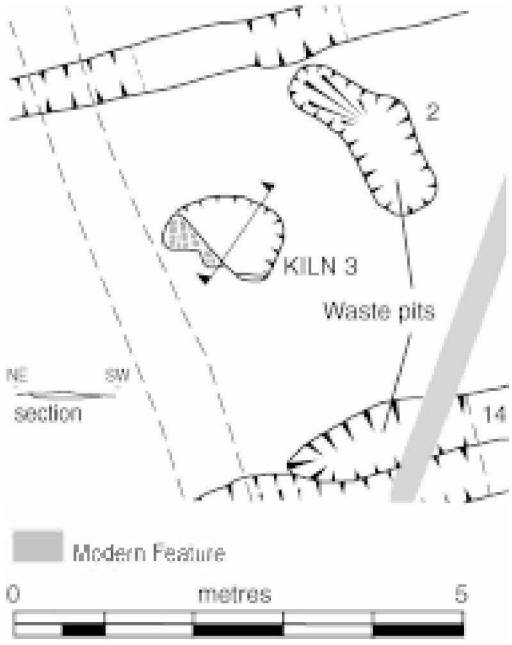

Fig. 3 Detail of site plan showing the kiln hearth [3] and waste-filled pits [2] and [14] with a section across kiln-hearth [3]. Note the concave cut of the SW side.

Ray Diffraction.

The kiln [3] was a shallow pit cut into the clay subsoil, less than 100mm in depth, with an upturned lip around the north and east arcs and a very slightly dished base. It was ovoid in plan and measured 1.20m by 0.85m; originally it may have been more elliptical, since it had been cut on its south-west side, probably by a plough furrow. An area of clay on this side appeared to be a truncated relic of the hearth-base (hached area on Fig. 3). If a stoke hole existed, no trace remained, but it is possible that an opening had once lain on the disturbed south-west side. The clay surface of the hearth had been burnt red and black by firing, but the pit was filled with a relatively 'clean' grey sand, including fragments of daub and charcoal, which suggests that the kiln had been cleared out after firing.

The two neighbouring pits had been filled with firing waste, but were probably dug to provide clay for the kiln structure. The pit to the east of the kiln was kidney- shaped on plan, 2.5 m in length, 0.70 m in breadth and up to 0.25 m in depth, with a U-shaped profile, and a base that sloped gently down from the north-east end. It was filled with daub (lumps of fired clay with grass impressions), wasters and charcoal in a varying matrix of brown or grey sandy-clay [10]. The pit to the south of the kiln was oblong in plan with a U-shaped profile up to 0.75 m in breadth and 0.3 m in depth, and it sloped down to the east from a butt-end on the west. The pit extended beyond the site at the east end, but at least 3 m of it was revealed. It was filled with grey sandy-clay containing some coal fragments and heat-reddened stones, but with a large concentration of charcoal, daub, and broken pottery at its shallow west end [14]. The pit was stratigraphically earlier than the south ditch of the toft [5], which cut into its south side, displacing some of the fill (Fig. 3). It was here that the only joins between sherds from different contexts were encountered, with sherds from two jugs spread between both the pit fills [7 and 8] and the infill of the toft ditch [6].

Fig. 4 Kiln-hearth [3] and waste-filled pit [2] in the background.

Interpretation

The hearth is best interpreted as the remains of a clamp kiln (Musty 1974), in which the pots and fuel were fired together, as suggested by the intermixed fill of the waste pits. Clamp kilns of this type were excavated at Donyatt in Somerset (Coleman-Smith and Pearson 1988), and Potovens (Bartlett 1972, 13-18), Staxton and Potter Brampton in Yorkshire (Brewster 1958), with dates ranging from the 12th to the mid-17th century. With the damage to the south and west sides of the hearth, it is possible that an opening for a vent lay in this arc, but it does not appear likely that there were two opposing vents, as at Donyatt. The walls of the kiln were presumably built from clay dug from the waste-filled pits and may account for some of the fired clay detritus found in them. The grass-impressed clay fragments, or daub, may have formed a covering for the clamp in conjunction with turves, presumably to retain the heat that was generated by the charcoal, which was also found in the waste pits. However, the limited amount of waste material on the site, both daub and wasters, does not suggest that there were many firings (see below, Ceramic Technology).

The waste pits are of different forms, although both have similarities in their fills. The pit to the south [14] looks as if it was designed as a drain, with its sloping bottom, and would have had a necessary function in taking ground water away from the kiln during firing. The pit to the east [2] has a curious kidney shape that echoes that of the kiln-hearth and presumably the walls of the kiln. Its primary function in this position would be to provide clay for the kiln and only subsequently to take waste from the firing.

Phase 2, a possible pottery workshop and settlement

All the remaining subsoil-cut features on the site have been treated as one general phase. Although there is clear evidence for a recutting of the north toft ditch, it is not certain that this post-dates the settlement. Some support for this comes from the south toft boundary [5], which post-dates one of the kiln-waste pits, and may indicate a later enclosure of the toft by ditches. Only more extensive excavation could determine if the settlement features also display more than one phase.

OCCUPATION AREA AT THE SOUTH END OF THE TOFT (Fig. 2)

A series of shallow gullies, all but one on the same alignment occupied the area immediately north of the kiln features. The largest of these was a shallow ditch [4], 0.15 m in depth and 0.5 m in breadth, about 1.5 m north of the kiln, which was aligned on the main site axis, from east to west, and turned a right-angle to the north at its west end. Three other shallow ditches [17, 19 and 20] ran up to meet it from the west, two of which post-dated the kiln [19 and 20].

North-east of these gullies, two parallel gullies may mark the traces of a small building. The first of these lay about 1 m north of the right-angled gully [4], and was contained within it. The gully [15] measured 5 m in length and 0.5 m in breadth, with a maximum depth of 0.11 m. It was matched by a second gully [22], parallel to it, of similar size about 5 m to the north. They both obeyed the dominant east-west axis of the site.

Finally there was a single gully at right angles to the rest [34]. This lay to the north of the modern test-pit and hints at the presence of an additional structure to the west of the excavated strip.

Interpretation

The gullies may be indirect evidence for structural activity, serving as eaves-drip gullies for an east-west building constructed either with clay walls, or a timber frame set on ground sills. The two parallel gullies [15 and 22] define an area, measuring about 5 m square, which may have contained a building. The closeness of the building to the kiln might suggest a drying-shed, although at some risk of fire damage if not closely watched. The sequence of the gullies to the west suggests that there may have been more than one phase of building.

WORKSHOP/OCCUPATION AREA AT THE NORTH END OF THE TOFT (Fig. 2)

This part of the site, immediately south of the north ditch of the toft [24/43], was only partially examined. The following features were uncovered. A beam slot [31], 0.20 m wide and up to 0.12 m deep, lay about 4.5 m south of the ditch on the same axis. Unfortunately, only a metre of its length came within the area of the excavation, but about 1m west of its butt end was a post hole [30], which held a post about 0.15 m in diameter in a hole, 0.16 m deep and 0.25 m across, with a packing stone in its north side. To the west of this there was a round pit [28], 0.8 m in diameter and 0.16 m in depth, with a flat bottom, in the centre of which was a flat stone. The pit was filled with a grey clay, a few medium-sized stones and some broken pottery, and exuded an odour from the lens of grey clay at its base, suggestive of decayed vegetable matter. A broad shallow gully of unknown function [35], 1 m in breadth and 0.1 m in depth, and filled with a dark grey sandy clay, lay parallel to the beam-slot a short distance to the south of the building.

Interpretation

This area may have housed the pottery workshops. The beam-slot and post-hole indicate the wall of a timber-framed building, the full extent of which can only be guessed at. There is just room for a building between this wall and the edge of the ditch, especially in the primary phase when the ditch was narrower (see below).

The flat-bottomed pit was initially thought to be a latrine, but it is too shallow for that purpose and it is more likely that the flat stone was a pivot for a throwing-wheel, as suggested by Richard Coleman-Smith (pers. comm.). A third possibility is that it was a clay storage pit.

THE TOFT DITCHES (Fig. 2)

The ditch at the north end of the site [24] was a shallow recut of an earlier, narrower ditch [43], which had been truncated in the recutting. The earlier ditch measured 0.5 m in breadth as it survived, but, assuming a rough V-shape for its sides, must have been originally about 1 m across at subsoil level and 0.55 m in depth. The recut was shallower and broader, at 2.3 m in breadth and 0.35 m in depth. The ditch at the south end of the site [5]) was c. 0.75m in breadth and up to 0.35m in depth, being slightly deeper at the west end of the excavated area. This compares rather better with the primary cut of the north ditch than the secondary cut. It is therefore tentatively suggested that the recut ditch at the north end post-dates the original enclosure of the settlement.

Interpretation

If, as suggested by the form of the ditches, the recutting of the north ditch post-dated the layout of the toft, it may post-date the settlement altogether. However, it is not possible to say which of the structures within the toft are contemporaneous with each other or the kiln. However it was noted that there were no joins between any of the sherds in the kiln waste pits and the settlement features in the toft,

nor any wasters, which may suggest that the kiln was not fired while the settlement was occupied. If so, the suggested interpretation of the buildings as workshops and the flat-bottomed pit as either a clay-pit or a pivot for a throwing-wheel, may need to be reconsidered. On balance, the interpretation of the buildings as workshops is preferred. There cannot have been many firings, because of the limited quantity of waste, unless it was dumped further away. In any case, the settlement may have been abandoned soon afterwards, limiting the opportunities for spreading wasters across the site. Another possible explanation for the paucity of wasters is firing efficiency as suggested at Rattray in Aberdeenshire (Murray and Murray 1993).

Phase 3, post-occupation activity

MEDIEVAL PLOUGH-SOIL

Overlying and sealing the occupation remains and the kiln was an extensive spread of grey soil [27], containing much medieval pottery, but no significantly later material. This layer appears to be the base of a cultivation-ridge. It was spread between the furrows, which cut diagonally across the site from north to south, between 6m and 8m apart. The furrows [39, 40, and 42]) cut through several features, including the kiln-hearth.

Interpretation

It appears that the site was abandoned shortly after the kiln was fired and never reoccupied. The grey soil contained pottery, which at its latest was 14th-century in date (see below). The grey soil is probably formed as a result of the build-up of a plough ridge in a poorly draining clay soil, leaving the core of the ridge untouched by the plough, and less well aerated, once the ridge had become sufficiently high-backed.

Fieldwalking evidence

A further 1543 sherds of medieval pottery were collected from field-walking around the site, the extent of which is mapped on the topographical map (Fig. 2). To the east, the scatter ran north-east in the direction of the moated site and to the west, roughly west-south-west, parallel to the field-boundary and the axis of the toft boundaries. This suggests that the toft alignment is retained in the plough ridges that replaced it and latterly were used to define the line of the field-boundary at enclosure. The pottery recovered in this way was analysed and compared with that retrieved during the excavation (see Unstratified Material, below).

Scientific dating determinations

Three methods of scientific dating were used on the site. The thermoluminescence survey from the kiln-waste pit [2] gave a date of AD 1220±150 (DurTL 15-4AS). Charcoal from the other waste pit [14] produced a radiocarbon date of AD 1130 (820±70 bp, HAR-4463). The archaeomagnetic dating from the kiln-hearth [3] was mid to late 12th century (Hammo Yassi 1981). Since none of these dates are mutually exclusive, a date in the mid- to late 12th century would appear to be most appropriate.

GEOLOGY by Amanda Crowdy

The site of the Eshott kiln lies to the east of the Longdike burn, a post-glacial feature composed of glacial drainage channels and alluvium. The solid geology of this area is Millstone Grit and Coal Measures, there being a progressive rise in the sequence from the earliest Cementstone and Fell Sandstone groups in the north-west to the Coal Measures along the coastal belt (HMSO 1936).

Eshott lies on the Millstone Grit, a predominantly coarse-grained sediment, but the surrounding area bears little relation to its geological structure, as most of the topography is of glacial origin: alluvium and boulder clay. The boulder clay when fully developed is in two divisions, parted by sand and gravel. The upper clay, representing glacial detritus melted out *in situ*, is occasionally reddish, but often brownish and prismatic, generally free from all but small stones, and has been used in the locality for roofing and drainage tiles. The most extensive spread of sand and gravel lies in the general area around Felton, north of Eshott, where it appears to lie between the boulder clay levels, as interbedded deposits.

The resources needed for the production of pottery: clay, temper, water and fuel are all available locally, making it an economically viable operation. Lead ore for galena glazing is also found in several localities amongst the Lower Carboniferous rocks within the Rothbury area; strings of lead ore have also been found along the faults in the local Coal Measures.

THE POTTERY by Amanda Crowdy

Methodology

In all, 1016 sherds (6809 g) of pottery were recovered from the excavations. The fabric groupings were organised macroscopically and with the aid of thin section analysis. Recording was carried out on pottery analysis sheets, each context was recorded separately. Quantification was by sherd count, weight, to the nearest gram, and the minimum number of vessels, which were counted by using rim, base and handle sherds, and only in their absence, body sherds.

Joins were sought between all layers, and all the rims were drawn to show the range within the assemblage. Sherds recovered by field-walking were sorted by fabric, and form characteristics were also noted, but generally in less detail than the kiln material. All daub and wasters recovered from the site were also recorded separately and are discussed later in this paper.

The pottery was sorted into four fabrics. As each was recognised it was assigned a fabric number. The numeration system, therefore, has no significance beyond this. The inclusions were identified using the 'Key to Identification of Common Inclusions in Pottery' (Blake and Davey 1983). Inclusion size is as follows, very fine, 0.1 mm; fine, 0.1-0.25 mm; medium, 0.25-0.5 mm; coarse, 0.51-1.0 mm; very coarse, 1.0 mm. The method of describing the fabrics is based on that used in the Museum of London (Orton 1978). Colour is described by using the Munsell system (Munsell 1975), but this is no more than a general guide since it only refers to the colours which predominate in each fabric type. The fabrics are unglazed unless stated otherwise.

All fabrics have a similar matrix, despite enormous variation in the frequency of inclusions. After microscopic examination (x20) and thin-sectioning, the provenance of the clay source was taken to be boulder clay, indicated by the mixture of metamorphic and sedimentary rock, and the wide range of mineral and rock fragment sizes. Variation in the clay can be considerable, even from one deposit (pers. comm.: T Flintham, Engineering Dept, Leics. University) and caution was taken not to subdivide the pottery into meaningless topological classes. Indeed, the use of thin-sectioning and other scientific analyses on pottery assemblages on both sides of the border have showed a similar variability in the characteristics of the boulder clay used to make the pottery, *e.g.* West Whelpington, Northumberland (Evans and Jarrett 1987, 263-269 and fiche), Colstoun, East Lothian (Brooks 1980, 394-401), Eyemouth, Berwickshire (Crowdy 1986), and Kelso Abbey, Roxburghsire (Cox *et al.* 1984, 386-395).

THIN-SECTIONS

All the thin-sections were taken from the vessel rims (total 24). In addition to the inclusions mentioned above, the following minerals were noted in all sections: *Muscovite mica*, very fine - moderate; *plagioclase feldspar*, very fine - sparse. The presence of these types is a further indication that the clay source is boulder clay. The thin-section examination emphasised the wide range of quartz size and the varying concentration. The shape of the quartz shows variation, some is rounded, while others still retain their angular appearance - this is a characteristic of boulder clay; the angularity appears to be more common in the medium to coarse sizes. While it is probable that the quartz occurs naturally in the clay, the possibility of added filler in Fabric 2 (see below) is suggested, as at Colstoun (Brooks 1980, 366). Quartz is more frequent in the larger size in this fabric, suggesting that quartz sand had been added to temper the clay, originally low in quartz.

Eshott fabric descriptions

The assemblage was divided into three broad categories: 1, standard; 2, coarse; 3, fine.

FABRIC 1

Fabric 1 (757 sherds, 5420g, 75%), which is the standard fabric, is by far the most frequent fabric on the site. It is wheel thrown, 5-10mm thick, and has a fairly hard to hard texture with a rough feel and a finely irregular to irregular fracture. The inclusions are abundant sub-angular to sub-rounded, very fine to coarse *quartz*; with occasional very coarse fragments of *quartz*; moderate amounts of rounded, very fine to fine *red iron oxide*; sparse, very fine *mica*; and occasional fragments of very coarse *quartz sandstone* (3mm). There are white clay streaks evident on the pink surfaces (5YR 7/6 RY to 7.5YR 7/4) and occasional glaze spots. Although it is an oxidised fabric, its core ranges from a grey (5YR 5/1), with insufficient oxidation, to a reddish yellow (7.5YR 6/8).

Fabric 1 predominates in all forms by sherd count (Table 2). Two main forms have been identified, cooking pot or storage jars and jugs. The former had been divided into two sub-groups, clubbed rim forms and everted or flanged rim forms. Although most forms suggest a rounded profile to the body, some are straight-sided or at least approximately so, especially amongst the everted rim forms (*e.g.* Cat. nos. 1, 3, 7, 24). Fabric 1 has all but one of the full range of cooking pot or storage jar forms, as follows:

A A variant of the clubbed rim form with lid-seating. An upright box profile, and a sharp angle, giving the pot its rounded shape. Diameter 300mm. Cat. nos. 27, 31.

B Similar to type A, but with upper and lower cordon on the rim. Diameters 180mm and 280mm. Cat. nos. 28, 29.

C Crescent shaped variant of the clubbed rim form, but the rounded appearance and body angle are similar to type A. Diameter 280mm. Cat. nos. 30, 39, 40, 41, 43, 44.

D An umbrella group for a class of small cooking pot/storage jar with everted rims. Glaze spots on the rim. Only a small amount of the rim sections were found and little could be discerned as to their full shape and function. Diameters 100mm and 140mm. Cat. nos. 15, 16, 17, 18, 46, 47.

E An upright, flanged rim with characteristic thumbing gives this rim a thicker width in profile, which can be misleading when comparing its shape to type F. Diameter 200mm to 280mm. Cat. nos. 1, 2, 3.

F Everted flange with an indented profile produced by a groove. The body angle is less acute that the clubbed-rim forms. This is recorded under Laing's Scottish Medieval Cooking Pot form as number 18 (Laing 1973). Diameters 180mm to 280mm. Cat. nos. 7, 9, 10.

G Everted, lid-seated, crescent rim profile. Diameters 200mm to 240mm. Cat. nos. 8, 21.
H Simple, everted rim with lid seating. Diameter 200mm. Cat. nos. 11, 12, 13, 14.
J A small everted rim, round in profile with thin walls. Diameter 140mm. Cat. no. 20.
K A very coarse, upright flange. Diameter indeterminate. Cat. no. 23.
L Upright, simple flanged rim and straight side. Diameter 240mm. Cat. no. 24.
M Rounded, everted rim. Diameter 160mm. Cat. no. 51.
N Upright, lid-seated rim with clubbed shape. Similar to type B, but narrower. Diameter 100mm. Cat. no. 49.

Due to the accidents of survival, the only two cooking pot bases found in the assemblage of cooking pot or storage jars were both Fabric 1. Both are sagging bases with diameters of 160mm and 180mm respectively. Both show evidence of knife-trimming just above the basal angle, and one has been finished upside down on a wheel from the circular orientation of the drag marks (Cat. no. 4). One has internal glaze drips (Cat. no. 5), suggesting intentional glazing, while the other shows internal sooting (Cat. no. 4). These bases are suggestive of the rounded shape of body common to the cooking pots found in this region.

It was difficult to build up an informative typology of the jug forms, due to the lack of diagnostic sherds. Fabric 1 has the majority of the jug forms and there is a possible example of kiln furniture amongst the type E jug forms. Most of the handles recovered in the excavation are in Fabric 1 and include both strap and rod types. Handles appear to have been attached to the neck of the jug, although the absence of the rim of many of the rod handles makes this difficult to ascertain. Thumb pressing has been used to attach the handle to the body, upper and lower. Both types of handle show similar decorative techniques; characteristic are the grooves, starting with a rounded, thumb like impression at the end, forming long, vertical incised lines. There is far less complexity shown in the strap-handle type. A section of a small jug handle from the fill of one of the kiln-waste pits [2] is the only variant on the rod and strap handled jug types (not illustrated). Glaze is of a light green colour, indicative of the earlier Medieval Period. Decoration includes horizontal rouletting and incised lines, incised dots on a jug neck, a wheat-ear motif, which only appears on a sherd from unstratified material, and most unusually an impressed lion-like motif between two cordons (type D jug form, Cat. no. 64).

Jug forms:
A Jug rim with rod handles. Diameter 140mm. Cat. no. 62.
D Jug with unique impressed lion-motif between two cordons. No handle present. Diameter 140mm. Cat. no. 64.
E Jug rim. However, Cat. no. 68 is thick walled vessel, c.10mm, with no trace of any handle scar, and may have been a kiln stand. Diameters 80mm and 100mm. Cat. nos. 54, 68.
F Decorated with horizontal rouletting. Diameter 100mm. Cat. no. 70.
G Slightly interned rim with handle scar. Diameter 100mm. Cat. no. 66.
Strapped handles. Cat. nos. 57, 58, 63, 82.
Rod handles. Cat. nos. 56, 62, 79, 80, 81.

One type of jug base which was found in one of the waste pits [2] shows crude construction techniques and internal thumbing on the body angle of the base (Cat. no. 59). The other shows a finer finish and more efficient construction and is externally thumbed for decorative effect (Cat. no. 60).

FABRIC 2

Fabric 2 (157 sherds, 871g, 15%), which is coarser than Fabric 1, is also wheel thrown, measuring 5-8mm in thickness. It has a fairly hard to hard texture and a harsh to rough feel, with an irregular to hackly fracture. While moderate amounts of sub-rounded to sub-angular, very fine *quartz* are present; there is abundant coarse *quartz*, which, it is suggested, may be the result of the addition of a sand filler. Moderate amounts of rounded, fine to medium sized *red iron oxide* are also evident, and occasional very fine *mica*. The surfaces are an oxidised reddish yellow (5YR 6/6 YR), but there is insufficient carbonisation in the core which is grey (5YR 5/1).

Fabric 2 has a larger number of rounded as opposed to other cooking pot or storage jar forms, although one form (type O, Cat. no. 36), at least, has straight sides. Surface abrasion makes it impossible to determine if the pots were slipped. Fabric 2 has only one everted rim form; the majority is clubbed.
A Variant of the clubbed rim form with lid-seating. An upright box profile, and a sharp angle, giving the pot its rounded shape. Diameters 280mm to 300mm. Cat. nos. 26, 32, 34.
B Similar to type A, but with upper and lower cordon on the rim. Diameters 280mm to 320mm. Cat. nos. 25, 35.
C Crescent shaped variant of the clubbed rim form, but the rounded appearance and body angle are similar to type A. Diameters 160mm to 320mm. Cat. nos. 33, 38, 50.
H Simple everted rim with lid seating. Cat. no. 19 shows a thinner wall than Cat. no. 22. Diameters 160mm and 260mm.
O A clubbed rim form variant with straight sides. Diameter 260mm. Cat. no. 36.

Two jug forms in this fabric were recorded, and strapped and rod handles similar in style to those in Fabric 1, but the jug form assemblage is very small in quantity and range in Fabric 2. The jug forms comprise the following:
B Jug form with strap handles. Diameter 80mm. Cat. no. 63.

H Jug form with slightly everted rim, no handles evident. Diameter 120mm. Cat. no. 45.
Strapped handle. Cat. no. 82.
Rod handle. Cat. no. 62.

FABRIC 3

Fabric 3 (92 sherds, 454g, 9%) is a much finer fabric than the other two; it is 5-8mm thick, wheel thrown and has a fairly hard texture with a smooth feel and fracture. The inclusions are moderate to abundant amounts of sub-angular to sub-rounded, very fine to fine *quartz*; moderate amounts of medium *quartz*; occasional coarse fragments of *quartz*; moderate amounts of fine to medium *iron oxide*; and occasional very fine *mica*.

Fabric 3 is notable for its lack of coarse temper, and most of the forms are jugs. This suggests that the amount of temper in the clay may have been a factor in the selection of forms. Fabric 3 shows more diversity in the jug forms and finer technological detail; the forms are slipped and glazed and of a smoother fabric. Bearing in mind the concentration of Fabric 3 in Phases 2 (the site occupation) and 3 (post-occupation), it is feasible that this fabric is also later than the kiln material. In the sorting of the unstratified material, a high percentage of Fabric 3 was also noted.

Only one club-rimmed and two everted forms were present amongst the cooking pot or storage jars in Fabric 3, but this includes one well-finished, everted form with pastry-style thumbed decoration to the rim. Three cooking pot or storage jars forms are represented here as follows:

C Crescent shaped variant of the clubbed rim form, but the rounded appearance and body angle are similar to type A. Diameters 200m to 280mm. Cat. nos. 37, 42.

D Cooking pot/storage jar with everted rim. Diameter 100mm. Cat. no. 48.

E An upright, flanged rim with characteristic thumbing gives this rim a thicker width in profile. Diameter 240mm. Cat. no. 6.

Most of the Fabric 3 forms are jugs, but they include one thick-walled vessel, which may have been a kiln stand (type E below). One of the jug bases with external decorative thumbing shows Scarborough ware type 1 affinities, including glazing technique, which would support a later date (Cat. no. 61). One jug form with a pinched spout in this fabric was found in the overlying medieval plough-soil [27]. The jug forms are as follows:

C. Jug with a pinched spout. Diameter 120mm. Cat. no. 67.

E. This sherd is from a thick walled vessel, *c.*10mm, with no trace of any handle scar, and may have been a kiln stand rather than a jug. Diameter 100mm. Cat. no. 65.

F. Simple upright rim. Diameter 100mm. Cat. no. 69.
Sherd decorated with horizontal rouletting. Cat. no. 74.
Flat base, thumbed externally. Cat. no. 61.
Simple, straight base. Not illustrated.

NEWCASTLE BUFF WHITE WARE (NBW)

This creamy fabric was identified as Newcastle Buff White Ware (Ellison 1981, 102-7), dating to the 13th and 14th centuries. The 10 sherds of Buff White ware (64g, 1%), likely to be from Newcastle upon Tyne (pers. comm. S. Mills), are dated to the 13th to 14th centuries. The impressed decoration is unique (Cat. nos. 76 and 77), but the fabric is very similar to Newcastle Buff White ware, and no other regional fabric could be paralleled with it. It was only found in Phase 3 within the medieval plough-soil [27] so it may have arrived on the site after its abandonment.

Table 1 Total Pottery in all Contexts by Sherd Count, Weight and Minimum Number of Vessels.

Fabric	Count	%	Weight	%	MNV	%
1	757	75	5420	80	81	64
2	157	15	871	13	23	18
3	92	9	454	6	21	17
NBW	10	1	64	1	1	1
Totals	1016		6809		126	

Table 2 Relationship between Fabric and Form (CP = Cooking Pot).

Form	Fabric 1	Fabric 2	Fabric 3	Total
Club-rimmed CP	13	6	1	20
Everted CPs	26	4	2	32
Other CPs	12	5	0	17
CP Totals	51 (74%)	15 (22%)	3 (4%)	69
Jug rims	7	2	4	13
Other Jugs	6	4	2	12
Handles	11	2	0	13
Bases	3	0	4	7
Jug Totals	27 (60%)	8 (18%)	10 (22%)	45
Unidentified	3	0	8	11
Grand Totals	81	23	21	12

Table 3 Decorated Sherds (CP/SJ = Cooking Pot/Storage Jar).

Fabric	Form	Decoration	Count	Phase	Cat. no.
NBW	Jug	Impressed motif	7	3	76,77
1	CP/SJ type E	Thumbed rim	3	1	1,2,3
3	CP/SJ type E	Thumbed rim	1	2	6
1	Jug type D	Impressed motif	1	1	64
1	Jug	Thumbed base, external	1	2	60
3	Jug	Thumbed base, external	1	3	61
1	Jug	Incised lines, horizontal	1	1	78
1	Jug type F	Horizontal rouletting	5	2, 3, US	70,71,73, 74,75
1	Jug	Wheat ear	1	US	72
1	Jug	Incised dots on jug neck	1	3	Not illustrated

Parallels

The kiln products are typically everted or flanged rim cooking pots and storage jars of rounded form, and glazed jugs. Only one clubbed rim form was recovered from the kiln phase (Cat. no. 39, Fabric 1, Type C). However, the frequency of the clubbed rims elsewhere on the site (Phases 2, 3 and U/S) suggests that they were probably contemporary with the everted forms produced here. Indeed jars with both everted and clubbed rims were contemporary products of the Dog Bank kiln in Newcastle-upon-Tyne, which also dates to the second half of the 12th century (Bown 1989). There are also strong similarities in the everted-rim cooking pots with these forms from West Whelpington and Shillmoor (Jarrett and Edwards 1963 and 1970), although their fabrics are dissimilar.

The club rimmed cooking pot/storage jar is widespread in the north of England and southern Scotland and has long been a recognised form in this area. The ubiquity of this form has not led to an accurate picture of its dating or regional distribution. Until the Eshott and Dog Bank kiln excavations, the only sealed and dated context was at Knaresborough (Waterman 1953) which was dated to the 12th to 13th centuries (a 12th-century occupation layer sealed by a 13th-century layer). Many of the early reports have paid scant attention to the fabric description and a rather limited 'coarse gritty ware' label was applied. The Carlisle report (Jope and Hodges 1953) was one of the earliest reports to correlate the information on the clubbed rim form; the form was divided into three types showing the range of variation, while a cursory attempt was made to plot their regional distribution. The club rimmed form is undeniably widespread, but it does however show notable variation in fabric; it seems likely that the club rimmed form is a widespread 12th to 13th-century phenomenon with local potters copying the form and technological details in their local clays.

Two of the jug forms (type A, Fabric 1, and type B, Fabric 2) compare with regional types known at West Whelpington and Finchale Priory and are dated to the 12th to 13th centuries (Jarrett and Edwards 1961, 1963, 1970). The light green glazing, indicative of this period, is common on the jug forms. The Scarborough type glaze and base (Fabric 3, Cat. no. 61) differs from the rest of the assemblage in having a dark green glaze, but this sherd comes from the medieval plough-soil (Phase 3) and might not be a kiln product. The possible use of local clays to make this copy may still place it in the 13th century, as early Scarborough-type Ware dates as late as AD 1225 (Farmer 1979).

Rim thumbing appears as a regional characteristic at Colstoun, West Whelpington and Shillmoor (Brooks 1980, Jarrett and Edwards 1963 and 1970). The most common form of jug decoration, horizontal rouletting, also shows strong regional affinities, for example, at Finchale Priory, Shillmoor and West Whelpington (Jarrett and Edwards 1961, 1963 and 1970), as do the thumbed bases on the jugs, as at Eyemouth, Colstoun and West Whelpington (Crowdy 1986, Brooks 1980, Jarrett and Edwards 1970). The wheat-ear decoration is also seen regionally at Colstoun and West Whelpington (Brooks *ibid.*, Jarrett and Edwards 1970). However, the impressed lion-like motif between two cordons (type D jug form, Cat. no. 64) has not been paralleled, as yet, elsewhere in the region, nor has the impressed motif on the Newcastle Buff Ware.

Ceramic technology

The availability of oxygen within a clamp kiln would have been uneven and the high ratio of blackened cores in the assemblage suggests insufficient carbonisation of the organic material, indicative of a clamp kiln (A Woods, pers. comm.). Firing experiments were undertaken with clay samples from the site, and although the evidence was inconclusive, the firing range was likely to be between 450° and 900° C.

Fabrics 1 and 2 are coarse sand-tempered wares, designed for domestic use. A number of techniques are common to both. A high proportion of the rims show the use of a wet slip, or more probably, a wet slurry of clay and water, applied before firing. During re-firing experiments, sherds of pottery were re-fired at 800° C and body sherds showed traces of a white slip, which is common to all forms in Fabric 1 and 2. The clubbed rim forms are all slipped with the exception of two, which are of Fabric 2, but it is possible that these may have undergone post-depositional erosion. Similar white slips were applied to the Red Wares from Perth in the 13th and 14th centuries (D. Hall, pers. comm.). However, it should be noted that pink and red slips were occasionally visible (*e.g.* Cat. nos. 5, 7 and 16).

Clamp kilns have not always been thought likely to fire glazed pots, but experimental firing at Leicester University has disproved this opinion, showing that temperatures below 900° C and open firing may be considered as a feasible medium for glazing (A Woods, Experimental Kiln Firing Group, Leics. Univ.).

Fabrics 1 and 2 have coarser fabrics well equipped to withstand thermal shock, either in cooking or during clamp firing. A rounded pot with a sagging base, which is characteristic of the Eshott assemblage, complements the use of coarser fabrics, affording maximum resistance to thermal shock. This suggests that the type and degree of temper were related to the size, form and function of the vessel. The cooking pots and storage jars like other pots would have suffered from shrinkage during drying and firing, and the addition of a filler should help to control this, by opening up the body of the vessel, increasing porosity and reducing the effects of thermal shock. The walls of the cooking pot/storage jars, which are relatively thin (less than 10 mm), would also have reduced the likelihood of thermal shock.

Two of the forms with everted rims (Cat. nos. 6 and 24)

show the glaze running down the interior from the rim. It has been suggested that this would have been as a result of glaze application by dripping at West Whelpington, and, while not resulting in complete coverage, would often result in it running down to the base (Evans and Jarrett 1987, fiche). The galena 'pitting' observed here, has been attributed to the application of galena by dusting Hodges (1976), but this may be due to the glaze suffering from shrinkage and pitting during firing (Evans and Jarrett 1987, fiche). It is also feasible that some of the pots were splashed as a result of being stacked under glaze-covered vessels during firing (*e.g.* type D everted rims, Cat. nos. 16 and 18).

Wasters

A waster is here defined as a sherd that is either grossly mis-shapen, fired on the break, or has blown. The latter have large cavities as a result of badly wedged clay, or the generation of steam in the body (Hodges 1976, 41). Two hundred and forty seven sherds were found in one of the kiln waste pits [2] from a jug, which most likely blew in firing. It is obviously important that wasters are noted and furthermore that they are found in all fabric types. Apart from the fill of the waste pit, the other wasters were found in the mixed layers. However, most wasters belonged to Fabric 1, one to Fabric 2 and none in Fabric 3. This casts doubt on Fabric 3 originating from this kiln.

Table 4 Presence of Wasters.

Fabric	Phase	Count	Form	Description
1	1	1	CP/SJ type E	Body sherd glazed over break
1	1	247	Jug	Blown body sherd/glaze vitrified
1	3	1	CP/SJ	Base, glaze over edge
2	3	1	CP/SJ	Unclassified body sherd
1	3	1	Jug type C	Spawl, Cat. no. 67

Kiln Furniture by Piers Dixon

Although examples of kiln furniture were not identified initially, it is possible that some of the jug rim forms (see type E below) are in fact kiln stands, for example, Catalogue nos. 65 and 68 (Fig. 9). Both of these vessels have thick-walled sides (*c.*10 mm) and have everted angles that would be likely to lead to spillage in a storage vessel, but could, however, provide a stable base. A similar process of the initial identification of kiln stands as rim forms was observed by Derek Hall (pers. comm.) in his secondary analysis of the pottery assemblages from the kiln-sites at Colstoun and Stenhouse in Stirlingshire (Brooks 1980, Laing and Robertson 1973).

Daub

The presence of daub strongly suggests that this was used in the construction of the kiln. A total of 299 g of separate daub fragments was recovered from the site, while fired clay deposits were also found in the kiln waste pits (Phase 1, contexts [2] and [14]).

Table 5 Presence of Daub.

Phase	Context	Weight (g)	Count
1	waste pit	22	1
1	kiln	9	1
2	south end	109	9
2	north end	6	1
3		43	7
US		110	
Total		299	

Unstratified Material

Limited analysis was undertaken on the unstratified material. The total amount was weighed and counted, while no further fabric division appeared necessary. The rims were separated into the three main divisions of club rimmed forms (types A, B, C) and any others were collectively grouped together. As in the stratified material there was a noticeably better finish on the club-rimmed form: the type A forms were few in number but more developed in form than the stratified examples. Overall, 57% of the cooking-pot/storage jar forms, by sherd count, were club-rimmed forms in the unstratified material compared to 43% in the stratified. The handles were also counted to see if the ratio between strapped and rod were noticeably different but it again showed the high frequency of rod handles. Some pinched spouts were also noted.

Table 6 Quantification for Unstratified Material.

	Fabric					
Form	1	2	3	Total	Weight (kg)	%
Club-rimmed CPs	126	10	-	136	2030	
Other CP/SJ	98	7	-	105	997	
Total	224	17	-	241	3027	23%
Strap	8		1	9	1119	
Rod	32	2	1	35	155	
Total	40	2	2	44	1274	10%
Body Sherds	1256	71	25	1352	8369	65%
Daub				110		1%
Total	1520	90	27	1637	12760	

CATALOGUE OF ILLUSTRATED POTTERY

The pottery is catalogued by form. The catalogue number is followed by the fabric type, the form type, further information, context and phase number.

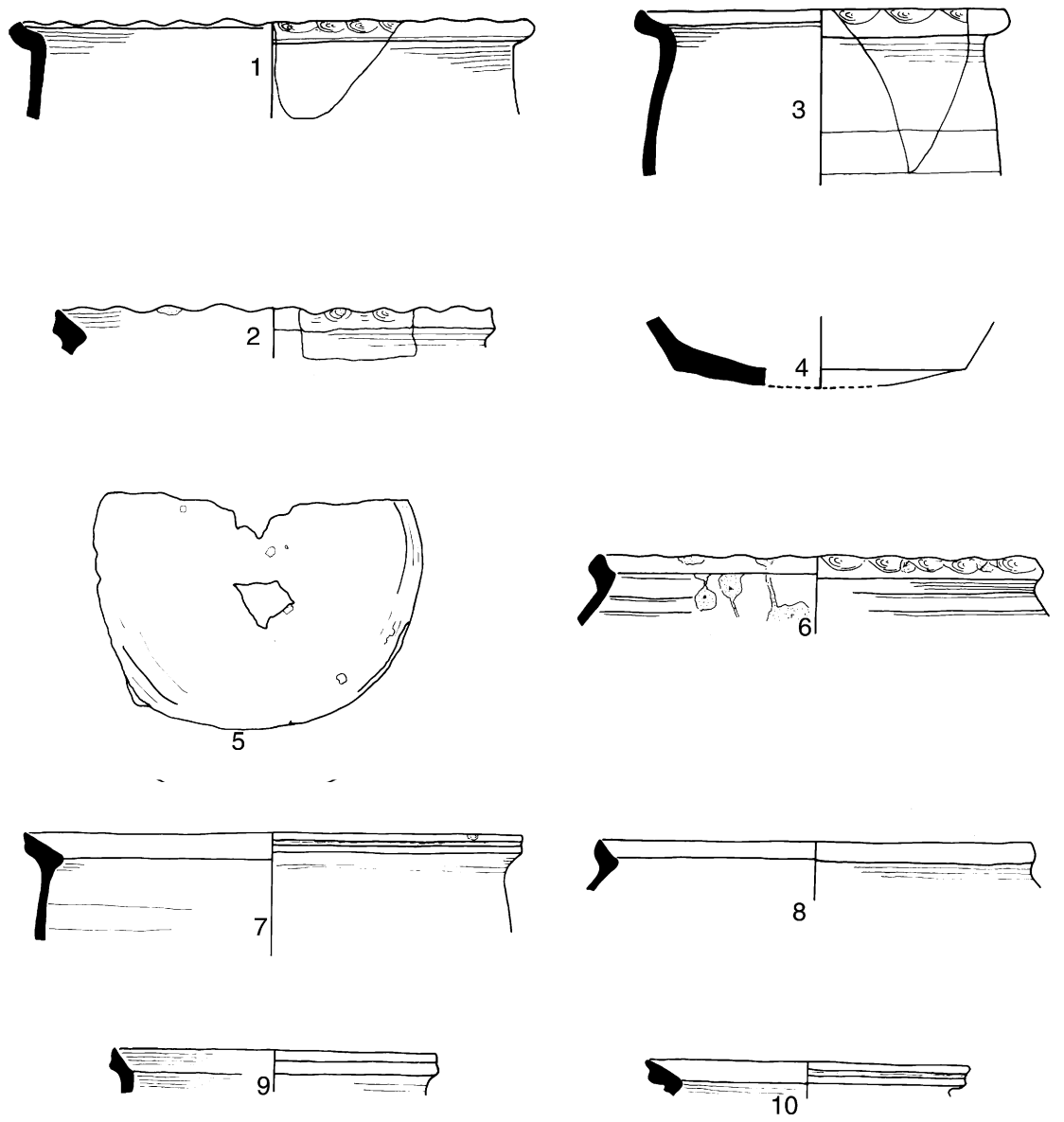

Fig. 5 Cooking Pot/Storage Jars with Everted or Flanged Rims and Sagging Bases.

1. Fabric 1, type E. Soot deposit on interior. Uniform wheel marks present on top surface of rim, thumbing marks most probably made when clay still wet, slip traces. Kiln waste, Context [10], Phase 1.
2. Fabric 1, type E. Two glaze spots on the rim. Wheel throwing marks shown on top surface, thumbing similar to no. 1. Kiln waste, Context [10], Phase 1.
3. Fabric 1, type E. Wet slip probably applied during final stages of pot construction and thumbing made when rim still wet. Wheel throwing marks on interior and exterior. Two rows of stronger lines noted as decoration. Kiln waste, Context [10], Phase 1.
4. Fabric 1, sagging base. Calcium deposit interior and evidence of smoothing. Base shows broadly circular orientation of grits, drag marks and voids up to 12mm as body has been revolved. At base body angle, evidence of surface trimming. Glaze drips on base. Kiln waste, Context [10], Phase 1.
5. Fabric 1, sagging base. Grit drag marks and voids. Red slip traces on base. Glaze drips on interior and exterior. Kiln waste, Context [10], Phase 1.
6. Fabric 3, type E. Wet slip applied, smooth finish, glaze drips running down interior. Wheel throwing marks visible on both interior and exterior. Ditch fill, Context [6], Phase 2.
7. Fabric 1, type F. Quite badly eroded. Trace of red slip on rim. Grass voids. Large quartz inclusion, 6mm width in rim. Kiln waste, Context [8], Phase 1.
8. Fabric 1, type G. Badly eroded. Context [29], Phase 2.
9. Fabric 1, type F. Slipped interior. Kiln waste, Context [10], Phase 1.
10. Fabric 1, type F. Kiln waste, Context [8], Phase 1.

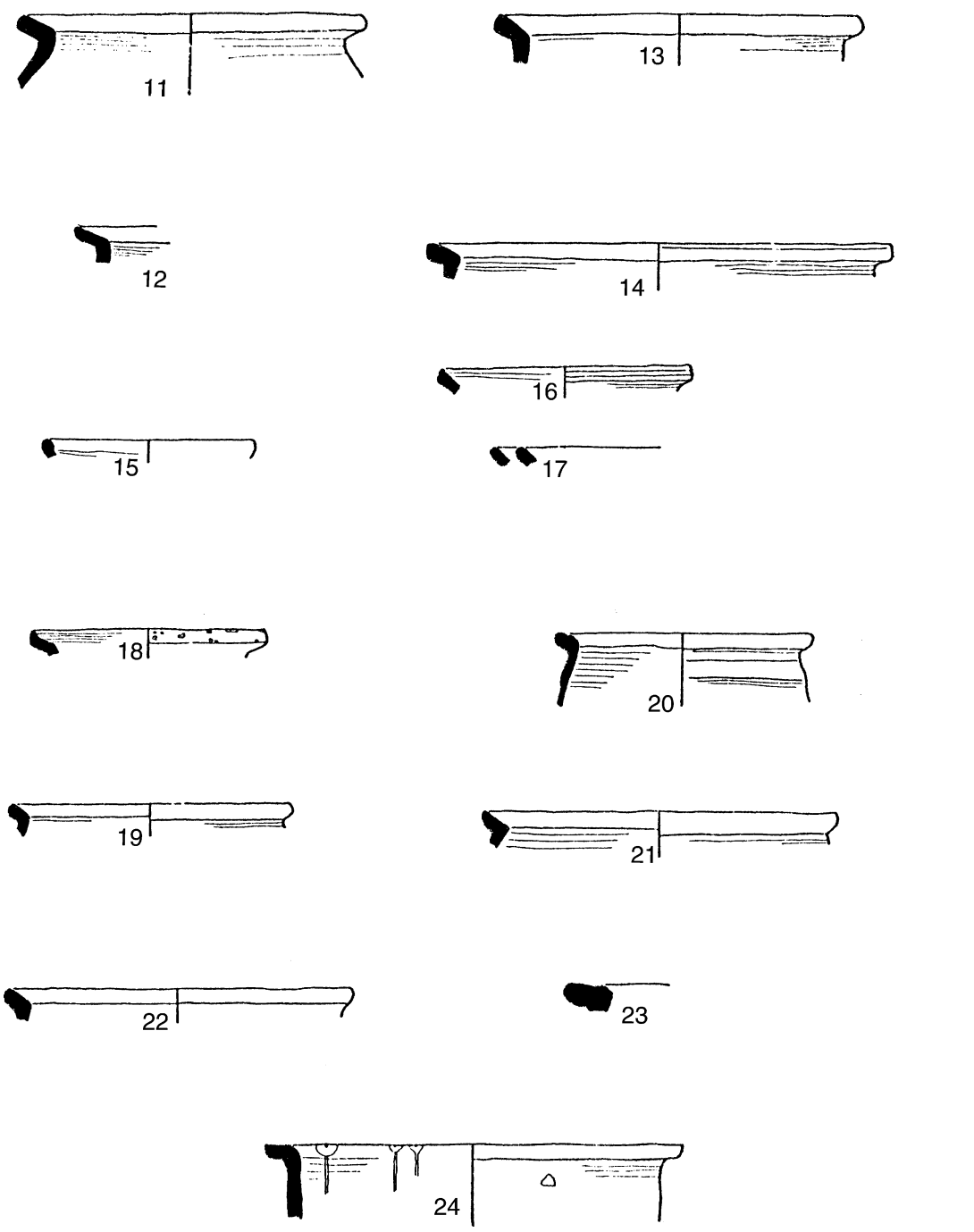

Fig. 6 Cooking Pots/Storage Jars with Everted Rims.

11. Fabric 1, type H. Wheel throwing marks on interior and exterior. Probably wet slip. Kiln waste, Context [10], Phase 1.
12. Fabric 1, type H. Badly eroded. Kiln waste, Context [8], Phase 1.
13. Fabric 1, type H. Badly eroded. Unidentifiable deposit under rim. Context [29], Phase 2.
14. Fabric 1, type H. Slip applied, well finished. One glaze spot. Context [25], Phase 2.
15. Fabric 1, type D. Badly eroded. Ditch fill, Context [25], Phase 2.
16. Fabric 1, type D. Light red slip evident on exterior. One glaze spot. Kiln waste, Context [10], Phase 1.
17. Fabric 1, type D. Badly eroded. Kiln waste, Context [10], Phase 1.
18. Fabric 1, type D. Wheel marks evident. Traces of slip. Glaze spots. Kiln waste, Context [10], Phase 1.
19. Fabric 2, type H. Slip well covered. Sooting on rim. Ditch fill, Context [6], Phase 2.
20. Fabric 1, type J. Wet slip applied, wheel throwing marks well defined. Context [13], Phase 2.
21. Fabric 1, type G. Wet slip. Context [29], Phase 2.
22. Fabric 2, type H. Badly eroded. Context [18], Phase 2.
23. Fabric 1, type K. Kiln waste, Context [10], Phase 1.
24. Fabric 1, type L. Glaze and slip on interior. Wheel throwing marks apparent on interior and exterior. Rim eroded. Quartzite inclusion 10 mm width exterior. Kiln waste, Context[[10], Phase 1.

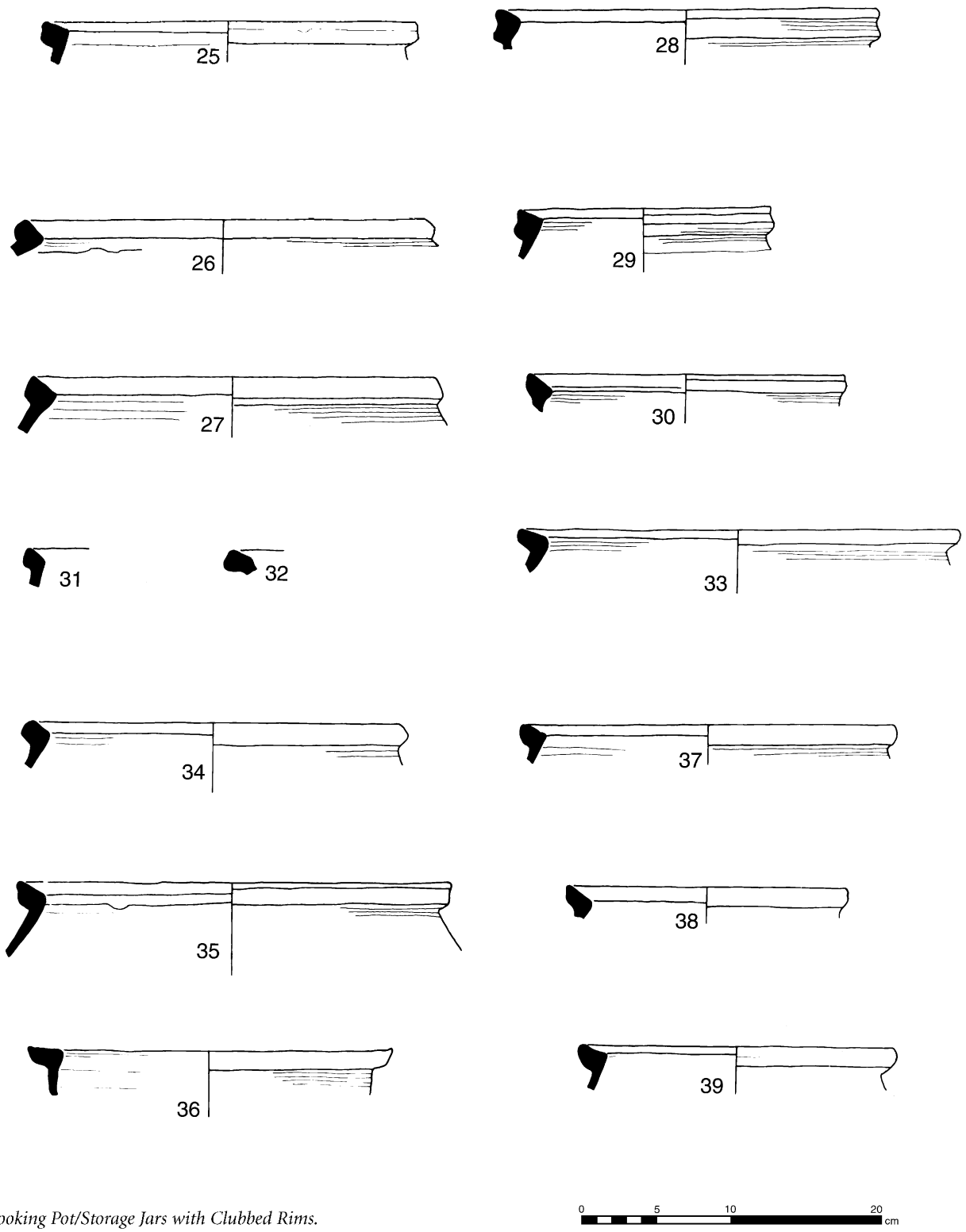

Fig. 7 Cooking Pot/Storage Jars with Clubbed Rims.

25. Fabric 2, type B. Badly eroded. Ditch fill, Context [25], Phase 2.
26. Fabric 2, type A. Slip finish and glaze spots on rim. Context [29], Phase 2.
27. Fabric 1, type A. Badly eroded. Unstratified.
28. Fabric 1, type B. Slip finish. Unstratified.
29. Fabric 1, type C. Slip, well finished. Unstratified.
30. Fabric 1, type C. Slip finish. Ditch fill, Context [25], Phase 2.
31. Fabric 1, type A. Slip finish. Context [29], Phase 2.
32. Fabric 2, type A. Badly eroded. Medieval plough-soil, Context [27], Phase 3.
33. Fabric 2, type C. Eroded. Unstratified.
34. Fabric 2, type A. Hard fired. Medieval plough-soil, Context [27], Phase 3.
35. Fabric 2, type B. Eroded. Void 16mm width. Context [18], Phase 2.
36. Fabric 2, type O. Concretion under rim. Slip on rim and interior. Medieval plough-soil, Context [27], Phase 3.
37. Fabric 3, type C. Slip finish. Medieval plough-soil, Context [27], Phase 3.
38. Fabric 2, type C. Badly eroded. Ditch fill, Context [6], Phase 2.
39. Fabric 1, type C. Slip, well finished. Kiln waste, Context [8], Phase 1.

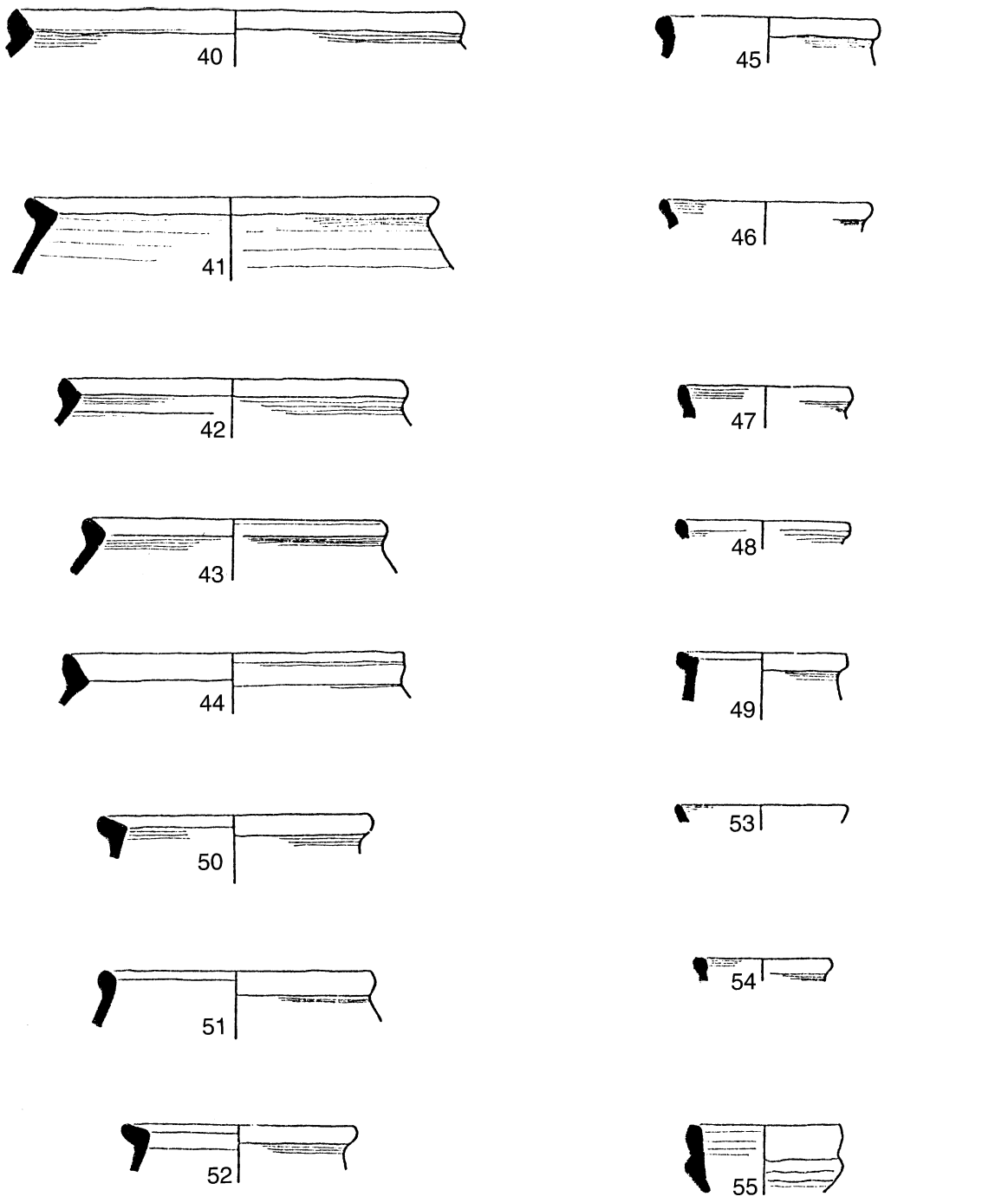

Fig. 8 Cooking Pot/Storage Jars with Clubbed and Other Rim Forms, and Jug Forms.

40. Fabric 1, type C. Slip. Well finished. Ditch fill, Context [6], Phase 2.
41. Fabric 1, type C. Context [29], Phase 2.
42. Fabric 3, type C. Slip. Well finished. Unstratified.
43. Fabric 1, type C. Slip. Well finished. Medieval plough-soil, Context [27], Phase 3.
44. Fabric 1, type C. Badly eroded. Unstratified.
45. Fabric 2, Jug Type H. Context [38], Phase 2.
46. Fabric 1, Cooking pot/Storage jar type D. Exterior slip. Ditch fill, Context [6], Phase 2.
47. Fabric 1, Cooking pot/Storage jar type D. Slip. Ditch fill, Context [25], Phase 2.
48. Fabric 3, Cooking pot/Storage jar type D. Slip over exterior and interior. Medieval plough-soil, Context [27], Phase 3.
49. Fabric 1, Clubbed rim, Cooking pot/Storage jar type N. Medieval plough-soil, Context [27], Phase 3.
50. Fabric 2, Clubbed rim, Cooking pot/Storage jar type C. Medieval plough-soil, Context [27], Phase 3.
51. Fabric 1, Cooking pot/Storage jar with everted rim type M. Eroded. Ditch fill, Context [6], Phase 2.
52. Fabric 1, Clubbed rim, Cooking pot/Storage jar type C. Waster. Medieval plough-soil, Context [27], Phase 3.
53. Fabric 1, Cooking pot/Storage jar type D. Eroded. Ditch fill, Context [6], Phase 2.
54. Fabric 1, Jug type E. Slip. Well fired. Ditch fill, Context [6], Phase 2.
55. Fabric 3, Unclassified. Badly eroded. Dark green glaze. Medieval plough-soil, Context [27], Phase 3.

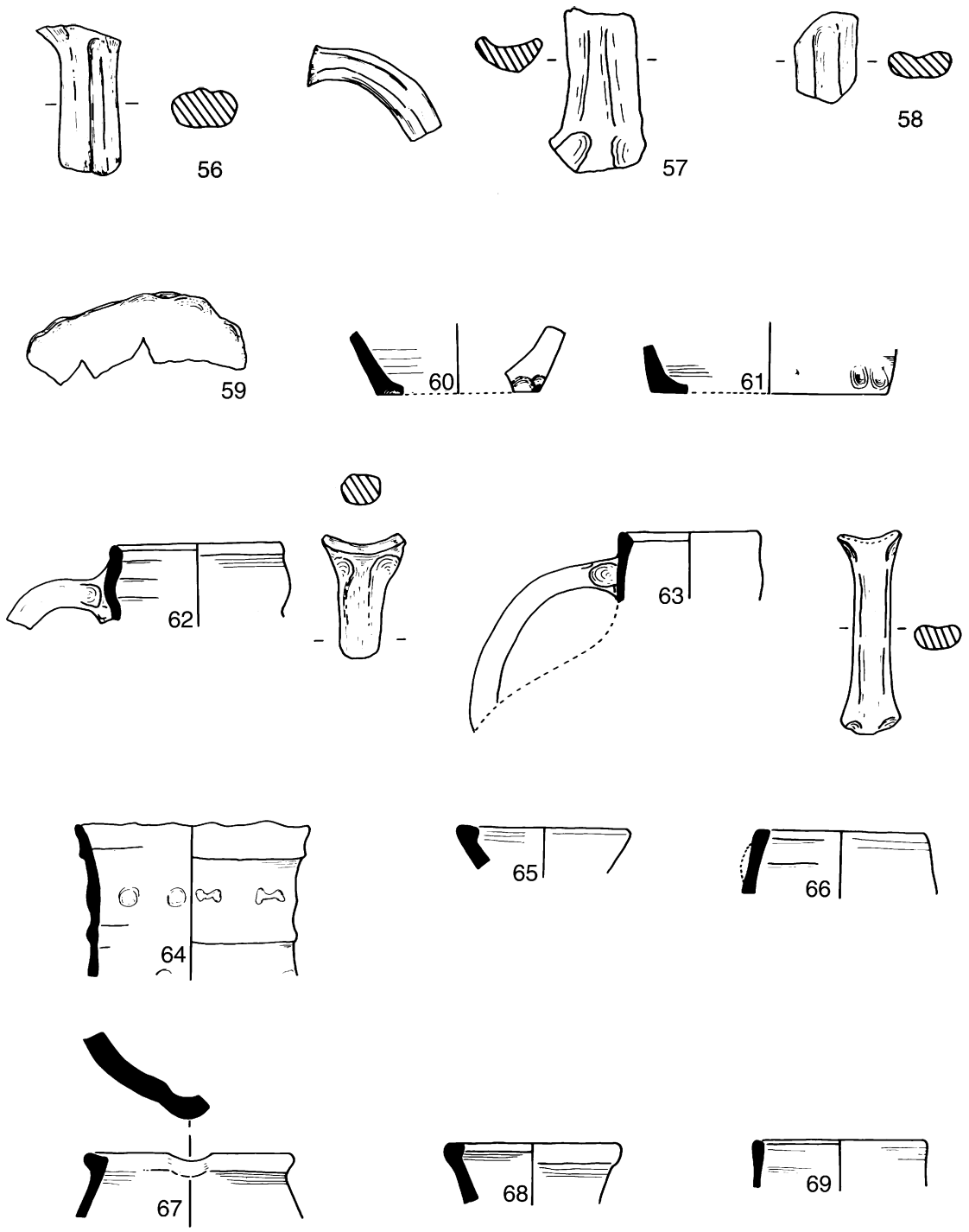

Fig. 9 Jug Forms: Handles, Bases and Rims.

56. Fabric 1, Rod. Green glaze. Wet slip. Medieval plough-soil, Context [27], Phase 3.
57. Fabric 1, Strap. Slip and thumbed at lower end. Kiln waste, Context [10], Phase 1.
58. Fabric 1, Strap. Light green glaze. Slip. Disturbed topsoil, Context [1].
59. Fabric 1, flat base type 1. Base body angle thumbed. Slipped interior. Base very rough and eroded. Kiln waste, Context [10], Phase 1.
60. Fabric 1, flat base type 2. Thumbed on base and body angle. Context [13], Phase 2.
61. Fabric 3, flat base type 2. Slip and traces of dark green glaze. Thumbed on body at base. Medieval plough-soil, Context [27], Phase 3.
62. Fabric 1, type A with rod handle. Slip. Glazed on handle. Thumbed at join. Ditch fill, Context [6], Phase 2.
63. Fabric 2, type B with strap handle. Badly eroded. Thumbed at join. Context [29], Phase 2.
64. Fabric 1, type D. Decoration between two cordons. Kiln waste, Context [8], Phase 1.
65. Fabric 3, type E. Possible kiln furniture. Eroded. Medieval plough-soil, Context [27], Phase 3.
66. Fabric 1, type G. Trace of glaze. Thumbed section. Kiln waste, Context [10], Phase 1.
67. Fabric 3, type C. Pinched spout. Splashed green glaze on exterior. Wet slip on interior and exterior. Medieval plough-soil, Context [27], Phase 3.
68. Fabric 1, type E. Possible kiln furniture. Eroded. Context [29], Phase 2.
69. Fabric 3, type F. Context [35], Phase 2.

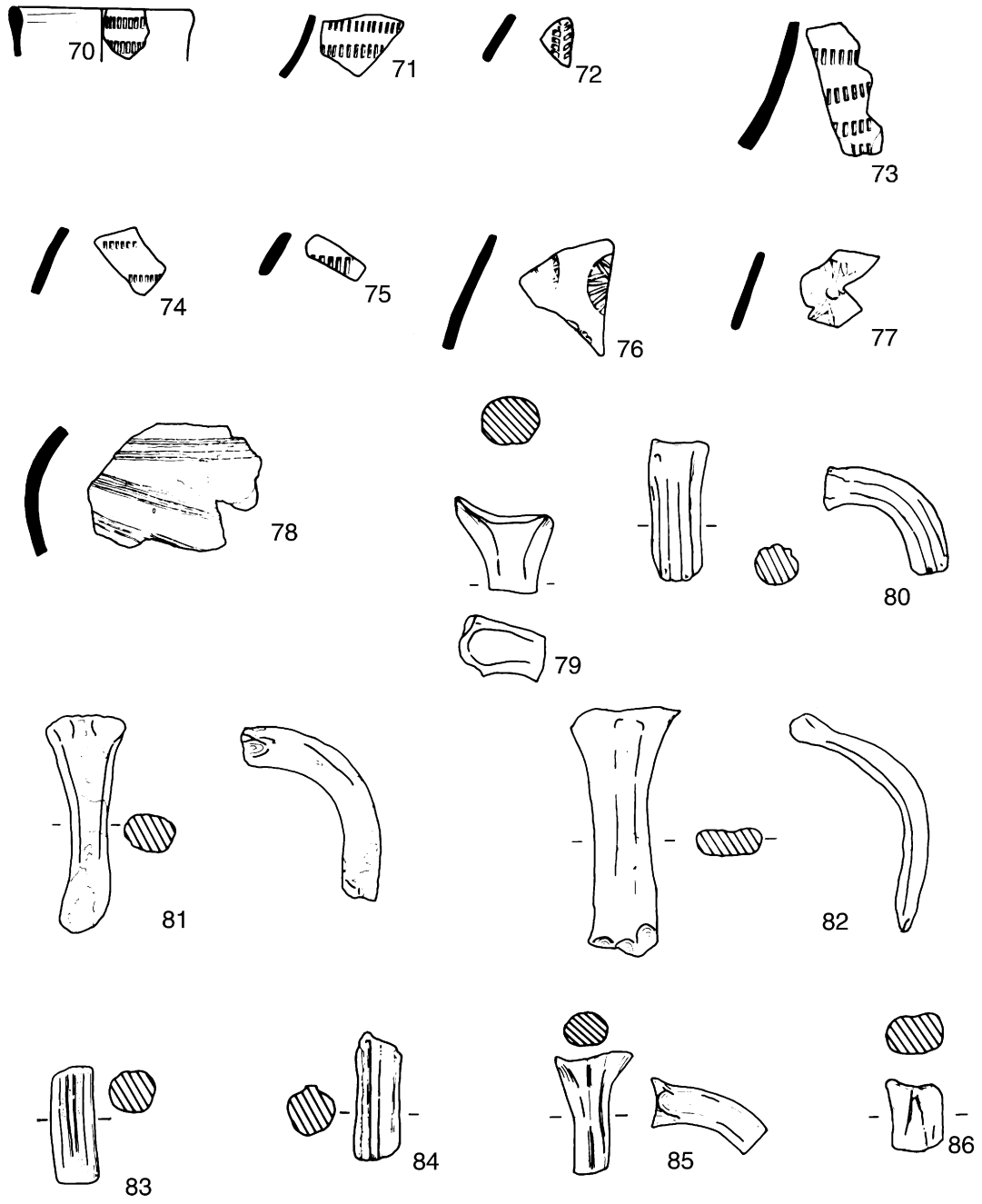

Fig. 10 Jug Forms: Decoration and Handles.

70. Fabric 1, Jug type F. Slip and rectangular rouletted decoration. Light green glaze on decoration. Medieval plough-soil, Context [27], Phase 3.
71. Fabric 1, Jug (body). Slip. Rectangular rouletting. Medieval plough-soil, Context [27], Phase 3.
72. Fabric 1, Jug (body). Wheatear decoration. Light green decoration externally. Unstratified.
73. Fabric 1, Jug (body). Rectangular rouletting. Medieval plough-soil, Context [27], Phase 3.
74. Fabric 3, Jug (body). Rectangular rouletting. Light green glaze. Unstratified.
75. Fabric 1, Jug (body). Rectangular rouletting. Light orange glaze. Eroded. Context [35], Phase 2.
76. Newcastle Buff White ware, Jug (body). Interior slip. Well glazed. Medieval plough-soil, Context [27], Phase 3.
77. Newcastle Buff White ware, Jug (body). Probably same vessel as no. 76. Wet slip. Thumb prints present. Medieval plough-soil, Context [27], Phase 3.
78. Fabric 1, Jug (body). Slip, light reddish brown, visible on exterior and traces of it on interior. Internal olive green glaze, and incised horizontal decoration. Kiln waste, Context [10], Phase 1.
79. Fabric 1, Rod. Slip and dark olive green glaze. Medieval plough-soil, Context [27], Phase 3.
80. Fabric 1, Rod. Slip, light olive green glaze. Well defined ribs. Context [29], Phase 2.
81. Fabric 1, Rod. Slip and light green glaze but vitrified. Kiln waste, Context [10], Phase 1.
82. Fabric 2, Strap. Very badly eroded, burnt, light olive green patches of glaze, vitrified. Context [38], Phase 2.
83. Fabric 1, Rod. Slipped, light olive green glaze patches. Medieval plough-soil, Context [27], Phase 3.
84. Fabric unknown, Rod. Ribbed, dark olive green glaze. Unstratified.
85. Fabric 1, Rod. Slip. Light olive green glaze. Medieval plough-soil, Context [27], Phase 3.
86. Fabric 1, Rod. Light green glaze patches. Eroded. Kiln waste, Context [8], Phase 1.

CONCLUSIONS

The Eshott site is the first example of a medieval pottery kiln to be found in a rural context in the north-east of England and is therefore sufficient to demand attention. The site appears to demonstrate a local production of pottery, the form and fabric of which both show similarity to the regional types of the 12th to 13th centuries, although this one appears to belong firmly to the mid-to-late 12th century. The kiln-hearth bears comparison with the kiln-hearths at Donyatt in Somerset, which were clamp-fired, except that no opening for a vent was apparent here. The use of a clamp firing to produce glazed vessels is rare and indicates the technical possibilities of such a method. The Eshott pottery may be one of many small rural kilns that have yet to be discovered, which met local needs.

The other features on the site suggest this may be a pottery workshop. These include the adjacent waste-filled pits, one of which may have served as a drain [14] and the other as a source of clay for the kiln [2], the nearby building, which may have been a drying shed, and the flat-bottomed pit [28], which was either a clay storage pit, or a base for a throwing-wheel. These meet some of Moorhouse's requirements for a pottery workshop (Moorhouse 1981, 100-5), although a note of caution should be registered because of the limited extent of the excavation.

The nearby moated manor of Eshott, the alignment of the settlement boundaries, the documentation and the dating of the site suggest the lay-out of a planned village to serve the new Anglo-Norman masters of Eshott, but one that was just as readily removed. The pottery and kiln is one example of the spread of new technologies both rural and industrial that followed in the wake of the Norman aristocracy. Whilst, the date of the desertion makes this a rare example of an early medieval abandonment. The Brinkburn charter hints at hunting as the possible reason for its desertion, the settlement having been displaced to make room for a park or warren to serve the hunting interests of the lords of the manor.

The abandonment of the site and its use for agriculture since the 13th to 14th centuries has caused considerable disruption to the site, imposing a lot of difficulties in its interpretation. The pottery, in consequence, shows quite considerable fragmentation, making reconstruction difficult. With no complete profile recovered, forms are sometimes difficult to reconstruct; not helped by the post-depositional erosion of the surfaces of many of the sherds. Thus the present appearance of the pots may be misleading as suggested by the firing experiments which revealed traces of a white slip. This suggests that the intention was to produce a white coloured product, not unlike the ubiquitous East Coast White Gritty Wares of Scotland, and similar, it would seem, to the white-slipped Red Wares at Perth (Derek Hall, pers. comm.).

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BIBLIOGRAPHY

Bartlett, K. S. 1972, 'Excavations at Potovens, near Wakefield 1968' *Post-medieval Archaeol* ***5*** (1971), 1-34.

Blake, H. and Davey, P. 1983, *Guidelines for the Processing and Publication of Medieval Pottery from Excavations.*

Bown, L. 1985, 'The Pottery' in D. M. O'Sullivan, "An Excavation in Holy Island Village 1977" *Archaeol Aeliana 5th Series* **XIII**, 47-80.

Bown, L. 1989, 'The Pottery' in O'Brien C., et al. *The Origins of Newcastle Quayside, Excavations at Queen Street and Dog Bank* (Soc. of Antiq Newcastle-upon-Tyne Monogr **3**, 41-77.

Brewster, T.C.M. 1958, 'Staxton ware - an interim report', *Yorkshire Archaeol J* **39**, 445-6.

Brooks, C. 1980, 'Medieval pottery from the kiln site at Colstoun, E Lothian', *Proc Soc Antiq Scot* **110** (1978-80), 365-403.

Colman-Smith, R. and Pearson, T. 1988, *Excavations in the Donyatt Potteries,* Chichester

Cox, E., Haggarty, G. and Hurst, J. G. 1984, 'Ceramic Material' in Tabraham, C. "Excavations at Kelso Abbey" *Proc Soc Antiq Scot* **114**, 381-398.

Crowdy, A. 1986, 'The Pottery' in Dixon, P. *Excavations in the Fishing Town of Eyemouth*, Borders Burghs Archaeology Project Monograph Series No. **1**, Borders Architects Group, Edinburgh, 38-55.

Crowdy, A. forthcoming, 'The Pottery' in Dixon, P. J. 'Excavations at the Deserted Medieval Village of Alnhamsheles, Northumberland, 1979-1983' forthcoming.

Ellison, M. 1981, 'The Pottery' in Harbottle, B and Ellison, M. "An excavation in the Castle Ditch, Newcastle, 1974-76", *Archaeol Aeliana 5th Series* **IX**, 95-164.

Evans, D. H. & Jarrett, M. G. 1987, 'The Deserted Village of West Whelpington, Northumberland' *Archaeol Aeliana 5th Series,* **XV**, 263-269 and fiche.

Farmer, P. 1979, *An Introduction to Scarborough Ware and a Re-assessment of Knight Jugs*, Hove.

Hammo Yassi N. 1981, *Archaeomagnetic dating of Eshott Site - Alnwick*, unpublished report, Dept. of Geophysics and Planetary Physics, University of Newcastle-upon-Tyne.

HMSO 1936, *The Geology of the Country around Rothbury, Amble and Ashington*. Geological Survey of Great Britain, HMSO.

Hodges, H. 1976, *Artefacts: and Introduction to Early Materials and Technology*, London.

Jarrett, M. G. and Edwards, B. J. N. 1961, 'Medieval and other Pottery from Finchale Priory, Co. Durham', *Archaeol Aeliana 4th Series,* **XXXIX**, 229-78.

Jarrett, M. G. and Edwards, B. J. N. 1963, 'Medieval pottery in the Possession of the Society of Antiquaries of Newcastle upon Tyne' *Archaeol Aeliana 4th Series* **XXXXI**, 85-106.

Jarrett, M. G. and Edwards, B. J. N. 1970, 'Medieval and other pottery from West Whelpington', *Archaeol Aeliana 4th Series* **XXXXVIII**, 258-272.

Jope, E. M. and Hodges, H. W.M. 1955, 'Medieval pottery from Castle Street' in Hogg, R. 'Excavations in Carlisle, 1953' *Trans Cumberland Westmorland Antiq Archaeol Soc* **55**, 79-107.

Laing, L. R. 1973, 'The Origins of the Scottish medieval pottery industry' *Archaeol J* **130**, 183-216.

Laing, L. R and Robertson, W N. 1973, 'Notes on Scottish medieval pottery' *Proc Soc Antiq Scot* **102**, 1969-70 146-54.

Moorhouse, S. A. 1981, 'The medieval pottery industry and its markets' in Crossley, D. W. (ed) *Medieval Industry*, CBA Research Report **40**, London.

Munsell, 1975, *Munsell Soil Color Charts*, 1975 Edition, Maryland.

Murray, H. K. and Murray, J. C. 1993, 'Rattray, Aberdeenshire. A Scottish deserted burgh' in *Medieval Archaeol* **37**, 109-219.

Musty, J. 1974, 'Medieval pottery kilns' in Evison, V. I., Hodges, H. & Hurst, J. G. (eds). *Medieval Pottery from Excavations: Studies Presented to Gerald Clough Dunning*, London, 41-66.

NCH 1893-1940, *A History of Northumberland*, Northumberland County History Committee 15 Volumes. Newcastle-upon-Tyne.

Orton, C. R. 1978, *Museum of London Pottery Archiver User's Handbook*, London.

Page, W. 1893, *The Cartulary of Brinkburn Priory*, Surtees Society Vol. **XC.**

Waterman, D. 1953, 'A group of twelfth-century pottery and other finds from Knaresborough Castle' *Antiq J,* **33**, 211-3.

Piers Dixon, Leithen Mill Lodge, Leithen Crescent, Innerleithen, Peeblesshire EH44 6JL
Amanda Crowdy, 46 Hutton Road, Ash Vale, Surrey GU12 5HA

Résumé

Les fouilles de sauvetage et les sondages organisés en aval de la construction du pipeline North Sea Gas à travers le Northumberland ont mis à jour un four de potier, daté entre le milieu et la fin du 12 ème siècle, un éventuel atelier ainsi que des habitations. Les fours de potiers en milieu rural sont rares dans le nord-est de l'Angleterre. Le four est du type à ciel ouvert et les productions incluent de la vaisselle vernie et non-vernie. La distribution du matériel est locale, mais ces produits sont proches de types trouvés ailleurs dans le nord-est de l'Angleterre.

Zusammenfassung

Rettungsgrabungen und Ausgrabungen vor dem Bau der Nordsee Gas Pipeline durch Northumberland brachten einen Töpferofen, möglicherweise eine Werkstatt und eine Siedlung aus dem mittleren bis späten 12. Jahrhundert zutage. Ländliche mittelalterliche Töpferöfen sind selten im Nordosten von England. Dieser Ofen ist ein "clamp-kiln", in dem sowohl glasierte wie unglasierte Gefäße gebrannt wurden. Die Verbreitung der Produkte beschränkt sich auf die nähere Umgebung, obwohl ähnliche Typen auch anderswo im Nordosten Englands gefunden