# The Rescue Excavations of some Medieval Redware Pottery Kilns at Stenhousemuir, Falkirk between 1954 and 1978

By DEREK W. HALL and the late DOREEN HUNTER

A WATCHING brief and limited excavations of the mid- to late 1950s and early 1960s on a medieval pottery production site near Falkirk is reported on. The large assemblage of redware pottery is described and discussed by vessel-form, and a link suggested between the kiln site and the Knights Hospitallers at Torphichen Preceptory based on the decorative style of the pottery. The excavated kilns are also discussed in the context of the Scottish medieval pottery industry.

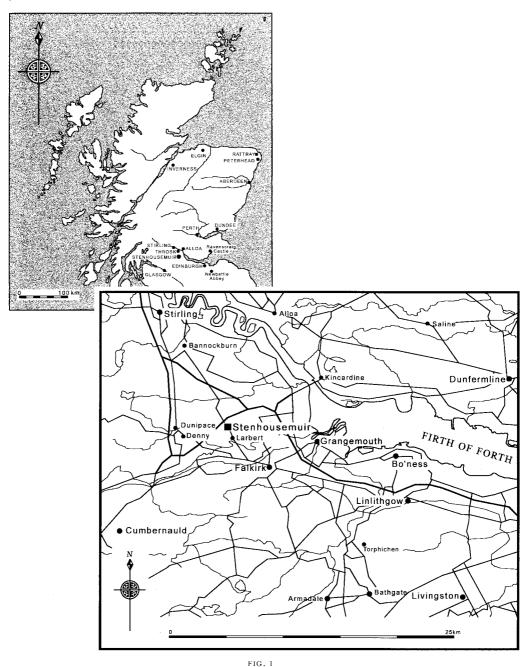
Sand quarrying by the Carron Iron Company in the mid-1950s revealed the remains of pottery kilns on a site in Stenhousemuir (Falkirk Council) which lay within the policies of the mansion of Stenhouse (NS 8804 8314; Fig. 1). The Carron Iron Company reported this find to the late Dorcen Hunter who was then the curator of the Dollar Park Museum, and she undertook rescue excavation which continued on separate occasions until 1962. In 1978, in advance of further development of part of the area for housing, some trial excavation was carried out by Marjorie Kenworthy. 2 Apart from abortive attempts in the late 1970s, no report has ever been produced on either the excavation or the important corpus of medieval pottery. SUAT Ltd were commissioned by Historic Scotland to catalogue the whole assemblage and produce the present report.

# SITE LOCATION (Figs. 2 and 3)

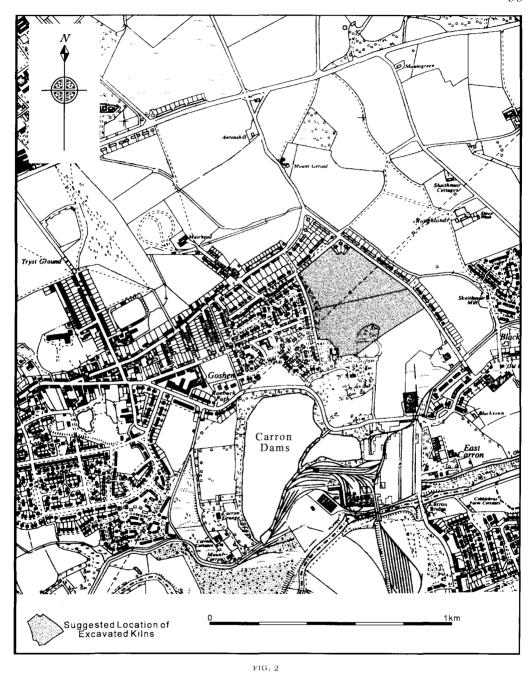
The Carron Iron Company's sand quarries were located due north of the mansion of Stenhouse, which was erected in 1622 by Sir William Bruce, second son of Sir Alexander Bruce of Airth. This fine house fell into disrepair and was finally demolished in the late 1960s prior to the building of the local authority housing estate which now occupies the site. An attempt has been made by the present author to pinpoint the kilns that were recorded by Doreen Hunter using compass bearings given in her site notes. As only one of her reference points, the

<sup>&</sup>lt;sup>1</sup> D. Hunter, 'Stenhouse, near Carron Iron Works, Falkirk', *Discover. Excav. Scotland* 1954, 16; D. Hunter, 'Stenhousemuir', *Discover. Excav. Scotland* 1959, 33–4; D. Hunter, 'Stenhouse', *Discover. Excav. Scotland* 1960, 37–8; D. Hunter, 'Stenhouse Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discover. Excav. Scotland* 1961, 46; D. Hunter, 'Stenhouse Sand Quarry', *Discove* Excav. Scotland 1962, 45 6.

<sup>2</sup> M. Kenworthy, 'Stenhouse', Discover. Excav. Scotland 1978, 3.



Site location map.



Suggested location of the excavated kilns in 1964.

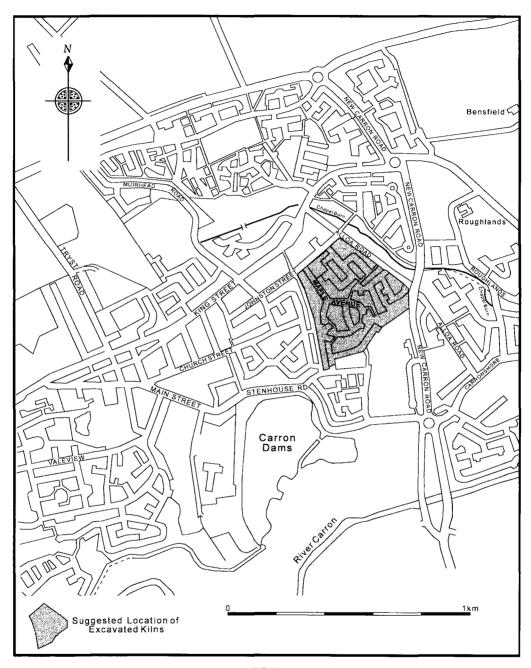


FIG. 3 Suggested location of the excavated kilns in 1999.

church spire, now survives at Stenhouse, a copy of the relevant 1950s OS sheet was used as a base map (NS8783SE). Following this exercise all the kilns except one, I, were located due north of the mansion of Stenhouse, within the location of the sand quarries. The bearings for kiln I appear to be erroneous and should be discounted.

## HISTORICAL BACKGROUND

## By DAVID PERRY

The placename 'Stenhouse' possibly refers to Arthur's O'on, a stone-built circular structure resembling a kiln, of uncertain origin but generally regarded as a Roman temple. This structure formerly stood to the South of the mansion of Stenhouse, but was removed by the landowner, Sir Michael Bruce, to build a dam for a nearby meal mill in 1743.3 Despite its destruction, it continued to be represented on plans of the second half of the 18th century. This building is mentioned as furnum Arthuri in a charter to Newbattle Abbey (Midlothian) in 1293,5 a reference which indicates that its origins were unknown and already ancient at that time.

Stenhouse itself belonged to the Morham family and was originally part of the barony of Dunipace (Falkirk). It should not be confused with Stenhouse, near Liberton, Midlothian, belonging to the Melvilles and inherited through a Melville heiress by the Lords Ross of Halkhead<sup>6</sup> or with Stenhouse in Lanarkshire. Sir Adam de Morham granted the mill of Stanhus to the Cistercian monks of Newbattle Abbey in the 13th century, a grant confirmed by his son, Thomas, lord of Morham. In addition, in 1293 William Gurlay granted to the monks of Newbattle 'one pond on his land for the work and use of their mill of *Stanhus*, which is situated beside Arthur's Oven, within the barony of Dunipace, together with half an acre of his land, if so much is lying between the old course of the water flowing from the said pond and the new waterlead from that pond to the said mill'. Gurlay's charter was witnessed by Sir Thomas de Morham. 8 Alexander II (1214-49) or Alexander III (1249–86) confirmed Thomas de Morham's grant in the 32nd year of his reign,9 and Pope Gregory X's confirmation to Newbattle Abbey in 1273 refers to 'the mill of Stanhus with water courses and all its entries and exits. 10 However, despite these

<sup>&</sup>lt;sup>3</sup> The New Statistical Account of Scotland, viii: Dumbarton, Stirling, Clackmannan (Edinburgh and London, 1845); I. G. Brown, "Gothicism, ignorance and a bad taste": the destruction of Arthur's O'on', Antiquity, 48 (1974), 283–7; I. G. Brown and P. G. Vasey, 'Arthur's O'on again: newly-discovered drawings by John Adair, and their context', Proc. Soc. Antiq. Scotland, 119 (1989), 353-60.

context', 170c. Soc. Antiq. Scotland, 119 (1989), 353-60.

† Register House Plans, 1497, Plan of properties on the River Carron. No date or surveyor, but post 1755 [?c. 1800]. In two parts, A & B; B shows Stenhouse. Ibid., 1552, Plan of the grounds feu'd and leased by the Carron Company from Sir Michael Bruce of Stenhouse. Accurately surveyed and drawn by John Scott 1751.

† Registrum Sancte Marie de Newbotle (Edinburgh, Bannatyne Club, 1849).

† G. W. S. Barrow, Regesta Regum Scottorum, ii: The Acts of William I, King of Scots 1165-1214 (Edinburgh, 1890); W. Fraser, The Melvilles, Earls of Melville and the Leslies, Earls of Leven, 3 vols. (Edinburgh, 1890); National Archives of Scotland (NAS) GD 20/7/40 Title of the lands of Stenhouse, 6 June 1515.

† On cit in pote 5 nos. 106 and 217

<sup>&</sup>lt;sup>7</sup> Op. cit. in note 5, nos. 100, 216 and 217.

<sup>&</sup>lt;sup>8</sup> Ibid., no. 100.

<sup>&</sup>lt;sup>9</sup> Ibid., no. 218.

<sup>&</sup>lt;sup>10</sup> Ibid., no. 187.

royal and papal confirmations, the abbey seems to have been deprived of the mill of Stenhouse in a 'false assize' in 1325, by judgement of Sir Alexander Seton in favour of Reginald More, who had repossessed the watercourse before the assize and may have transferred it to someone else (there is a gap in the text); the monks were fined £10 for 'spuilzie of the water'. The basis of More's claim is not recorded. More is perhaps the same as the Reginald More who was administrator of the estates of the Knights Hospitallers in the early 14th century and a colleague of Seton in the fermes of the burgh of Berwick (Northumberland). 12

In 1322 a later Sir Thomas de Morham was life-rented in all the lands and tenements in the barony of Dunipace resigned by Thomas Randolph, Earl of Moray, as well as in his own lands and tenements in the baronies of Morham and Duncanlaw (East Lothian). On Morham's death the estates were to pass to Morham's son-in-law and daughter, Sir John Gifford and Euphemia. <sup>13</sup> Moray was presumably Morham's neighbour in the barony of Dunipace, although the exact nature of their feudal relationship is unclear.

In addition to the grant by the Morhams to Newbattle of the mill of Stenhouse, they may have granted land there to the Knights Hospitaller, or to the Knights Templar before their dissolution in 1312, when their lands were transferred to the Hospitallers. Land in Duncanlaw was described as Templar land, and the Hospitallers owned land in Morham and Stenhouse in the 16th century. They seem to have owned two parcels of land in Stenhouse in 1539: one leased to the Bruce laird (see below) of Airth (Falkirk) for 10 merks (£6 138 4d) yearly, the other with a rent of 6d from the laird of Dalderse. The Hospitallers' land in Stenhouse was not listed in 1564 among the possessions of the Order of St John granted as a heritable barony to James Sandilands, Lord St John, the last Preceptor of Torphichen, who became Lord Torphichen, and no later record seems to exist among the Torphichen records of Stenhouse as a former property of the Hospitallers.

Gifford must have succeeded to Morham's estates under the agreement of 1325, as David II (1329–71) confirmed a grant to John Douglas, son of James, Lord [of] Douglas, by Hugh Gifford of Yester of his baronies, including Morham, Duncanlaw and Herbertshire. 18 The identity of this John Douglas is unknown; if his description as son of James, Lord of Douglas is correct, then he must have been an otherwise unrecorded natural son of the 'Good Sir James', Robert I's companion-in-arms (died 1330), in addition to 'Archibald the Grim', afterwards 3rd Earl of Douglas. In 1388 this Archibald, 3rd Earl of Douglas, granted the barony of Herbertshire to his own natural son, William Douglas of Nithsdale, and in 1407, Archibald, 4th Earl of Douglas, granted it to William's son-in-law, Henry

<sup>&</sup>lt;sup>11</sup> Ibid., no. 190.

<sup>12</sup> I. B. Cowan, P. H. R. Mackay and A. Macquarric (cds.), The Knights of St John of Jerusalem in Scotland (Edinburgh, 1983); A. A. M. Duncan, Regesta Regum Scottorum, v: The Acts of Robert I, King of Scots 1306—1329 (Edinburgh, 1988).

<sup>&</sup>lt;sup>13</sup> Duncan, op. cit. in note 12, nos. 69 and 471 2.

<sup>&</sup>lt;sup>11</sup> Cowan et al., op. cit. in note 12, 14, 22, 95 and 212.

<sup>&</sup>lt;sup>15</sup> Ibid., 14, 22.

<sup>16</sup> J. M. Thomson et al. (eds.), Registrum Magni Signilli (Edinburgh, 1882–1914), IV, no. 1499.

<sup>&</sup>lt;sup>17</sup> NAS, GD 1/120, GD 119.

<sup>&</sup>lt;sup>18</sup> Thomson et al. (eds.), op. cit. in note 16, 1, App. 2, no. 1068.

Sinclair of Roslin (Midlothian), 2nd Earl of Orkney. <sup>19</sup> In 1482 Henry's grandson, the 2nd Lord Sinclair, renounced his interest in Roslin and Herbertshire in favour of his brother, Oliver. <sup>20</sup> Herbertshire seems to have been the successor to the barony of Dunipace as, by 1510, Stenhouse was part of the barony of Herbertshire, which belonged to Oliver Sinclair of Roslin. <sup>21</sup> Stenhouse itself, or half of it, was a tenandry of the Bruces of Airth from at least 1491, the other half being retained by the Sinclairs, <sup>22</sup> the Bruce holding was separate from their lease of the Hospitallers' land. Also forming a tenantry within the barony of Herbertshire was Quarrell, now Carronshire, <sup>23</sup> a place-name implying a quarry, though whether for sand, gravel or clay is unclear. <sup>24</sup>

In 1608 William Sinclair of Roslin resigned the barony of Herbertshire to Alexander Livingston, 1st Earl of Linlithgow; included in the grant was the superiority over the lands of Quarrell held by Lord Elphinstone and the lands of Stenhouse held by Sir John Bruce of Airth. 25 Linlithgow resigned the lands and barony of Herbertshire and other lands to Sir John Blackadder of Tulliallan in 1632, retaining only the superiority of Stenhouse and Quarrell.<sup>26</sup> In 1637 the lands of Slammananmuir, including half of the town and lands of Stenhouse with the manor-place, mills, fishings, feu-fermes, tenants etc. apprised from the 2nd Earl of Linlithgow in 1636 were granted to John, Lord Hay of Yester (East Lothian), who transferred them to James Livingstone, 1st Earl of Callendar (Stirling) in 1642, when they were united to the latter's lands and barony of Callendar, which he had previously acquired from his brother, the 2nd Earl of Linlithgow.<sup>27</sup> Thereafter Stenhouse continued to be a part of the barony of Callendar, whose owner was superior of the Bruces of Stenhouse.<sup>28</sup> The last Earl of Linlithgow and Callendar was forfeited after the 1715 Jacobite rebellion, his estates being acquired by the York Building Company in 1720, from whom they were purchased by William Forbes of London in 1783.29

From a local corruption (Stanners) of the place-name Stenhouse, <sup>30</sup> it is evident that the teinds of the lands of Quarrell and Stanners/Stenhouse, or part of them, had been granted to the Augustinian Abbey of Cambuskenneth (Stirling), which had been included in the temporal lordship of Cardross (Argyll and Bute) in 1604 and 1606 in favour of John Erskine, Earl of Mar. In 1621 Mar's successor resigned the teinds of the lands of Dunipace (Falkirk) and Larbert (Falkirk), including Quarrell and Stannor, to David Livingston of Dunipace.

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    J. Balfour Paul (ed.), The Scots Peerage (Edinburgh, 1904-14), III, 163 and VI, 570.
    Ibid., VII, 570.
    Thomson et al. (eds.), op. cit. in note 16, II (Edinburgh, 1882-1914), no. 3444.
    J. Stuart et al. (eds.), Exchequer Rolls of Scotland, XI, 409; M. Livingstone et al. (eds.), Registrum Secreti Sigilli Regium Scotlorum (Edinburgh, 1878-1908), I, no. 2274.
    Third Statistical Lecount of Scotland, 18 (Glasgow, 1966), 392.
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<sup>&</sup>lt;sup>24</sup> Thomson et al. (eds.), op. cit. in note 16, 11, no. 3444.

<sup>&</sup>lt;sup>25</sup> Thomson et al. (eds.), op. cit. in note 16, vt, no 2192.

 $<sup>^{26}</sup>$  Ibid., viii, no 2048.

 $<sup>^{27}</sup>$  Ibid., 1x, nos. 779 and 1114; Balfour Paul, op. cit. in note 19, 11, 360.

<sup>&</sup>lt;sup>28</sup> The New Statistical Account of Scotland, VIII, 356: Dumbarton, Stirling, Clackmannan (Edinburgh and London, 1845).

<sup>&</sup>lt;sup>29</sup> Balfour Paul (ed.), op. cit. in note 19, v, 450.

<sup>30</sup> Brown, op. cit. in note 3, 287.

The mansion of Stenhouse was built in 1622 by Sir William Bruce, second son of Sir Alexander Bruce of Airth, and his descendants, the baronets of Stenhouse, continued as owners into this century. Latterly the mansion was owned by the Carron Company, housing some of its workers.<sup>31</sup>

No references to a pottery industry were found in the course of the research into Stenhouse, although the industry there probably dates to the 15th and 16th centuries, when the Sinclairs of Roslin were the landowners. In view of the similarity of a facemask sherd at Ravenscraig Castle (Fife) to Stenhouse material, it may be no coincidence that in 1470 William Sinclair, 3rd Earl of Orkney (in the kingdom of Norway) and 1st Earl of Caithness (in the kingdom of Scotland) resigned his Orkney estates to James III, receiving in return the castle of Ravenscraig and lands around it in Fife. 32

### ARCHAEOLOGICAL WATCHING BRIEF AND EXCAVATIONS

By the late DOREEN HUNTER (based on typewritten text held by National Monuments Record of Scotland)

INTRODUCTION

By DEREK W. HALL (Fig. 4)

Eight of the cleven kilns and one hearth which Doreen Hunter and her team recorded during quarrying operations were designated A (1954), B, C, D, E, F (1959), G (1961) and I (1962); the remaining three are only referred to in passing. Kilns B and G are only recorded in the photographic archive: there are no plans. It is not clear why letters H and I are missing from the series. The record which follows was clearly made in very difficult conditions, and it was not possible to illustrate all the kilns. Nevertheless, Stenhouse is one of only two redware production sites known in Scotland, and the account reproduced here includes extensive and detailed descriptions of the kilns.

1954

Kiln A (Figs. 5 and 6) During 1954, members of the Field Group of the Falkirk Archaeological and Natural History Society carried out first salvage during pipelaying, and later excavation, on a medieval kiln site. A kiln, drying hearth and fireplace were discovered, in addition to pits and scattered deposits of waste material, and minor unexplained features. Another kiln and drying hearth were probably broken up by the pipe trench; from the latter were recovered three jars, the only complete specimens found during the excavation (Fig. 44, nos. 529, 530, and Fig. 46, no. 561). No trace of a building was found, and it is highly probable that the site extends much further.

The kiln was built in a pit. A low wall of unmortared stones had apparently supported a domed renewable roof of clay and twigs. The floor (which was highest

Op. cit. in note 23, 393.
 Balfour Paul, op. cit. in note 19, 11, 333.



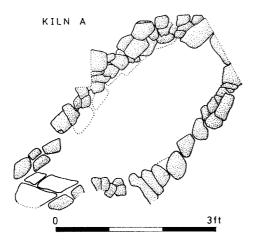
FIG. 4
Excavation in progress! Photo: Doreen Hunter, RCAHMS.

in the centre of the kiln, and was laminated in a way that suggested patching or renewal) had been laid after the walls. There was a stokehole at the west end and a flue opposite; the whole forms an irregular rectangle measuring c. 2 m by c. 0.9 m, with a stokehole measuring c. 0.6 m by 0.4 m. There was a small, heavily burnt pit in front of the stokehole, and another (unexcavated) beyond the flue. Some evidence was found of a floor between fire and pottery, supported presumably on stones (or bricks) that were not set into the kiln floor. This kiln is not the oldest on the site, as sherds were found in the making of the floor. It is probable for various reasons that there was a group of small kilns working on the site, not necessarily all synchronous. The finds, almost all wasters, were considerable.<sup>33</sup>

# 1959-1962

During the summer of 1959 a sandpit was extended over the greater part of the field where the 1954 excavations had taken place. Several pits of pottery were found, and the topsoil and topsand were said to have produced a great quantity of pottery. Subsequent partial excavation of a pit and surface collecting, however, produced no substantial pieces, with only one or two pieces showing slight variations from forms already known from the site. In addition to the pottery, the

<sup>&</sup>lt;sup>33</sup> Hunter, 1954, op. cit. in note 1.



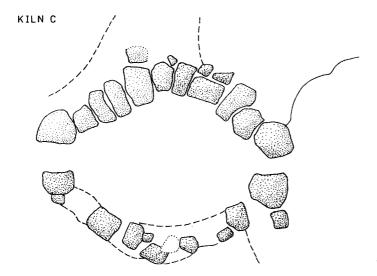


FIG. 5 Excavated plans of kilns A and C

machines turned up one stony patch, and, from the descriptions given, it is likely that the area then quarried included at least one kiln and one hearth.

In mid-August an attempt was made to excavate two structures. One was in the face of the quarry, and had partially been cut away. A curved setting of small boulders, one course high, lay approximately one foot (c. o.3 m) below the surface of the sand, topsoil having been removed. It bounded the remains of a floor of baked clay, with some burnt material over it. On the other side of this, a similar setting of smaller stones (with a few stones of a second course) curved towards the first, but did not meet it; there was no trace of a built stokehole or flue. A setting of four boulders diverged from this line, possibly in a wider curve, but was not pursued. Destruction of this structure took place before further work was done. In



RFIG. 6
Kiln A fully excavated.
Doreen Hunter, RCAHMS.

the light of the structure of kiln C, however, it is possible that the remains represented an original, smaller kiln partially incorporated in a larger one subjected to damage at plough depth; but the absence of a higher floor is against this.

Kiln C (Figs. 5 and 7) Kiln C lay further north under a temporary lorry-road which had been levelled and consolidated; the depth below present surface, 0.2 m, is not significant. The kiln was, just like the first, a pointed oval just over 1.8 m long made of single boulders. At the southern end there was a well-made stokehole c. 0.3 m wide, with, at the northern end, a fluehole, and at the NW. side a possible small subsidiary flue. Outside the stokehole there was a pit containing clay, baked clay pieces, sherds and burnt material with some earth in the upper part. The western and southern edges of the pit were not excavated, but probing indicated a line making an oval extending south-west, oblique to the kiln. The mass that filled the

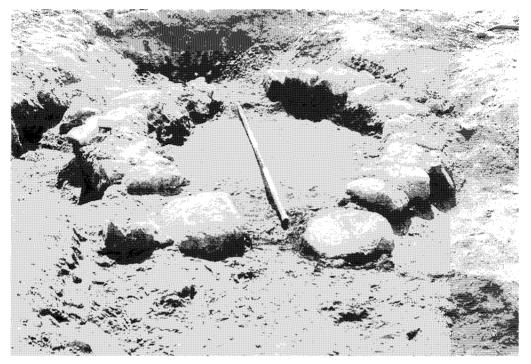


FIG. 7 Kiln C fully excavated. *Doreen Hunter, RCAHMS.* 

pit continued behind the stones of the kiln half-way along its western edge; here it contained stones ('fist to head' size) and formed a kind of backing for the wall. No similar packing was found on the E. side. The pit could not be excavated in the time available, although enough was removed to clear the stokehole.

The main flue was at the northern end. It was slightly narrower than the stokehole, and lacked a floor slab; the clay floor sloped downwards towards that of the kiln, and the sides were rounded into the floor, unlike those of the stokehole which were squared off. When found it was full of black carbonised matter. There were stones at the inner end which may have been laid there to close it. There were pits outside both the flue and the stokehole of this kiln. The curve of the W. edge of the pit outside the flue appears on the plan; the E. edge was not located. This pit was not excavated; it certainly contained a high proportion of clay (which had been rammed hard by the passing of vehicles above) and before drying-out was a rich black and red, the red predominating towards the centre. This extended a short distance outside the E. side of the kiln, just beyond the gap which may represent a subsidiary flue.

The kiln floor was of baked clay, approximately level and unpatched; in this, and in its fewer signs of use, it differed from Kiln A. The walls stood to one level course above it. On the W. side the wall was of large boulders with clay filling and (probably) an inner clay lining; however this contained sherds and was not easily distinguished from the clay of the central filling, though the latter was softer, less

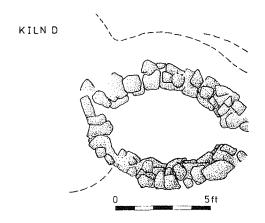
coloured and contained a quantity of stones. On the E. side the stones were smaller, and a larger proportion of the wall was made up of clay packing. The 'subsidiary' flue may therefore be questioned, though it was a stoneless gap larger than any other; there was no construction here. The walls on both sides showed considerable traces of burning and stone-flaking, especially near the flue.

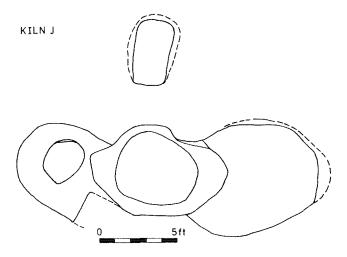
The deposit within the kiln was an almost earthless mass of glutinous clay, containing (especially at its base) a quantity of sherds and (especially in the northern half) lumps and streaks of baked daub. In the north-western quarter of the kiln the relative position of daub and pottery suggested the collapse of the roof on to the kiln contents, but this was not apparent elsewhere. At no point was there any trace of a pot-floor, or supports for a floor.

Excavation was, unfortunately, abandoned at this point, there being no time to excavate the pits. A few days later children broke up the kiln floor, and it was seen that the floor did not lie directly on sand. Under a deposit of earth (not clay) probably laid to level the ground for the upper floor, there was a deposit which included baked daub, sherds, two complete pots and much black ashy material, over a hard ashy floor. At one end enough of this deposit remained in situ to describe the section: 1) black deposit on white ashy floor; 2) red daub, both in lumps and as a thick streak projecting from one side; 3) grey soft friable earth, with few sherds. The floor was markedly concave, and, although hard, had not been laid, and only at the NW. corner did the kiln wall come low enough to touch it, although the clay packing of the E. wall lay only a few inches higher. The whole resembled a hearth rather than a kiln. There was a lower 'stokehole' at the southern end, but it was more roughly formed than that of the upper floor, and lacked a stone sill. At the northern end there was a steep, much blackened slope upwards to the main flue passage; it is unfortunate that the junction could not be excavated. Outside the stokehole to the North, at a lower level than the lower floor and just above the bottom of the pit, there were traces of a floor bounded by stones (not boulders) on two sides, but this also could not be pursued. It did not reach the W. edge of the pit.

The upper and lower floors of the kiln were 0.2 m apart at the N. end, where both survived, and the boulder sides varied from 0.2 m to 0.3 m above the lower floor. The two complete pots were found mouth downwards in the north-eastern and south-western corners; they and the sherds show considerable signs of 'overfiring'.

It is possible that the upper floor was a 'pottery floor', and that the lower took the fire; it is also possible that the curve of burnt daub seen in section extending from the E. side is the remains of a first-stage pottery floor. The former is improbable for several reasons: there was stone flaking and other evidence of heat on the boulders above the upper floor, and blackening in the upper stokehole; and the upper floor was not appreciably interrupted in front of or over the flue. It would also have been difficult to rake out fuel and ash from the lower compartment when the upper was in position (although conversely it must be admitted that there was burnt material in the lower compartment, but not on the upper floor). It would also be difficult to account for the debris, and the whole pots, in the lower part. The second suggestion is attractive, but the streak was only seen at one point, and it is





Excavated plans of kilns D and J.

difficult to understand the construction of such a kiln, the fire space being too small and low. It is more likely that the lower stage represents the remains of a drying hearth rather than a kiln (the clay streak, which is not daub from a dome, being either a part of its construction or a part of the kiln furniture from a later stage, but not *in situ*). No similar example was found and fully excavated.

 $Kiln\ D$  (Figs. 8 and 9) This kiln appeared as a tumble of stones on the sand, after the removal of topsoil; there was slight pre-excavation damage to the north-western side and southern flue; and it is possible that a structure similar to that at the N. end may have been destroyed, but there was no direct evidence (such as the presence of dislodged boulders) for this.

There was about 11 cm of loose sand and disturbed clayey soil above the kiln and the northern pit. The kiln had been built hard up against the sand on the

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FIG. 9
Kiln D fully excavated. Doreen Hunter, RCAHMS.

W. side of the pit into which it was set, but on the E. side there was a packing of earth and sherds, narrowing downwards. The kiln was a pointed oval c. 2.07 m long internally with a gap at each end closed by a sill stone, and to the North (and probably at the time of use at the S. end) by an 'arch' of two stones. The bottom and second course of the walls were built of large, smooth boulders, carefully laid and set in clay; those on the West being set with particular care. The upper part was of smaller stones, also clay-mortared; this in places (especially to the North-East) became a packing of clay and stones, with sherds also embedded in the clay. On the E. side the wall was unstable, and showed signs of collapse when the filling between it and the rest of the pit was removed. There was a line of stones immediately within it on the kiln floor, at first thought to be the wall itself which was possibly inserted to support it. The stones at the S. end of the kiln, and especially those immediately east of the flue, were cracked and very much fire reddened — the upper stones much more than the lower. At the N. end there was little structural damage, though there was reddening and flaking for a short distance from the flue. The floor was uneven, and showed signs of patching; it rose towards the centre and both thinned and fell towards the ends of the kiln, though curved up at the edge to join the kiln walls. Under the floor the sand was reddened, and in places bleached, though quite clean, but there was no lower or earlier floor, though at the south end the patching was so extensive (and at one point 6 to 8 cm

above the main floor) as to give that appearance. The clay of the floor contained a few small sherds.

Within the kiln the upper part of the fill was earthy, containing both sherds and clay, and disturbed by roots. The fill contained, and indeed was largely composed of, large and small stones, some much burnt; there would have been sufficient for at least five courses of kiln walling. The lowest layer of this filling (20 to 30 cm above the floor) was clean, dry and very much reddened; here also roots had penetrated and reduced many sherds to a mass of flakes. There was also a quantity of baked daub, including one large piece of (presumably) the kiln roof, found at the centre of the W. side, tilted upwards towards the centre. There was, however, no continuous layer of this.

In the northern pit the upper part of the fill was markedly sticky; below 15 cm the centre of the pit was soft, yielding and of fine soil. Sherds and daub were present in quantity and size sufficient to maintain voids in the fill where the soil had been unable to penetrate. At the top, the sides of the pit were lined by 2–5 cm of soft, clean earth, containing carbon layers and patches increasing towards the lower part of the pit. The figure-of-eight shape which the pit made with the kiln did not continue downwards; the eastern side was a steep-sided, shallower, flat-bottomed subsidiary pit or shelf. At its base there was a layer of 'clean' clay, and beneath it a carbonaceous layer varying in thickness from 2 cm to a skin of colouring.

This black layer (but not the 'clean' clay layer above it) continued irregularly under the clay packing on the E. side of the kiln which, though irregular, was of closely similar depth to the shelf or subsidiary pit. There was also another similar shelf or step with a steep side that must have been cut shortly before re-filling; on this there was a quantity of white burnt sand.

The bottom of the main pit was below the level of the kiln; it was probably pointed, though as a result of disturbance during excavation the exact shape is unknown. It contained a high proportion of carbonised matter and a quantity of sherds. It underlay a significant feature of the kiln; a mass of clay and stones, little affected by heat, which lay between the pit fill and the kiln mouth, and which rested not on the pit floor but on a mass of carbonised matter. Embedded in the W. side of the pit, close to the kiln, there was a well-built wall of stones (fist and two-fist size) from which the clay-and-stone mass sprang. Although there was no comparable 'wall' on the other side of the pit, and although the mass did not quite touch the sill of the flue, it would seem likely that this was a blocking of the kiln mouth made after firing.

In the southern pit the shelf or subsidiary pit was lacking, and the pit itself consisted of a number of rough 'steps', not freshly cut before filling. The fill was less clayey than in the northern pit, and contained less pottery. There were a few large stones on the fill, and, on the E. side, runs of sand near the top of the pit. As in the northern pit, there was no change in the nature or the content of the fill above and below these streaks.

As in the case of the northern pit, there was a clay-and-stone mass springing from the W. side of the pit (though not from the wall) and crossing the kiln mouth (with which it was in contact) to a slightly lower level against the E. wall. This mass was of compact yellow clay (that on the North was the grey soft clay almost

universal on this site) and contained less stone (but more sherds) than the first. Though hard it showed no heat reddening. Like the other it rested not on the bottom of the pit but on a carbonised mass containing sherds.

The floors of both flues were covered by several inches of carbonised matter, continuous with that in the pits outside (though this fell lower) and the N. end (and possibly to the South). It extended also under the sole of the flue. This matter was smooth, earthy and fibrous (it had possibly been penetrated by deep roots) and contained small sticks, but no other lumps; small brushwood (or peat?) was a likely fuel, though coal outcropped at no great distance, and appears as small patches of dirty coal in the natural sand.

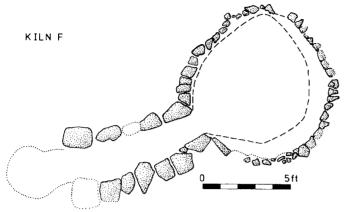
Site E, Hearth Burnt stones were seen in the sand and the surface within a 5 m square was cleaned and pared down to a level 25 cm below the surface as found, in search of the stones of a kiln. All that appeared was a roughly rectangular mass of burnt stones, with some surface disturbance, lightly bound together by clay. Deep gaps between them contained earth and black matter; it seemed likely that fire had been lit on the (formerly level?) surface. Beside the stone mass there was a scallopedged pit of dark soil, and beyond this there extended dark strips and ovals in the surface of the sand.

There were a few sherds embedded in the clay that bound the 'hearth' and a scatter of soil about it. The stones were found to rest on the filling of a pit, approximately 25 cm deep; this was of near-sterile sandy soil, with some traces of heat, containing only a few small sherds. The fill of the scalloped pit (which proved to be two oval pits, in contact only at the surface) was a uniform dirty sand; there were no finds. Immediately south-west of the hearth (and extending for at least 1 m but disturbed and largely inaccessible) there was a patch of heat-hardened sand covered by a black deposit, apparently charcoal. There were no traces of habitation debris or tread round the 'hearth', but this may have been destroyed by the stripping of topsoil; the dark patches and streaks (one of which was cut by the pit edge) appeared to have no pattern or certain shape, and were probably natural.

Site F, Com-Drying Kiln (Fig. 10) In early August 1960, a funnel shaped group of stones was observed in the same sand pit somewhat to the N. of the previous finds.

The main structure was near-circular, 2 m by 2.4 at the sand surface, with a funnel-shaped, slightly curved 'entrance' approximately 2.3 m long, 0.45 m wide internally at its junction with the circle, and 0.7 m or 0.8 m at the outer end; the doubt is due to the removal of the NE. entrance stone during the stripping process that uncovered the site. Outside the 'entrance' there was an irregular burnt patch, roughly circular and 1.06 m in diameter.

Within the circle, and immediately below the surface as found there was a clay layer 10 cm to 15 cm thick, at the W. end appearing to overlie the structure, but possibly only merging with one of the occasional patches of clay mortar between stones. The top surface of the funnel and the adjacent part of the circle were disturbed, but there was no trace here of an overlying clay layer. Within this funnel the fill consisted of unstratified dark sand, overlying a 5–6 cm black layer single at the inner end but interleaved with burnt clayey material at the outer. This



Excavated plan of kiln F.

black layer came nearer the current surface, and formed a bowl-shaped hearth (the patch 1.06 m in diameter) outside the funnel, but this was destroyed before excavation was complete. The base of both the funnel and circle (neither had a floor) was 0.75 m below the current surface, the outermost stones of the funnel being set slightly higher.

The lowest course within the circle was of much larger stones than the rest (as were those of the funnel). Clay mortar was more apparent between the upper stones; clean sand appeared in the larger gaps below. The stones appeared to be laid against the walls of the pit, without intermediate packing.

Within the circle, the filling was curious. The greater part consisted of black sand, not homogeneous but not stratified, containing dark patches of carbonised matter. Some of these were natural, resembling the lumps and streaks in the natural sand at this site. A few sherds, including parts of the base of a large vessel and a small sherd of thinner and harder ware, were found in this fill, one at the base almost embedded in the natural sand. The rest of the fill consisted of soil and clay, mainly the latter. On the northern part of the circle this deposit reached the base, but on the southern it overlay the sand; the very bottom of the northern deposit was of homogeneous clay. Both sand and clay-and-earth deposits were almost entirely free of stones, though in the clay layer at the top of the structure there were embedded three large heat-crumbled stones, much reddened on the under side.

Other finds from the circle were: a piece of slate, containing a peghole, found in the sand near the entrance; much decomposed fragments of bone, including a vertebra and long bone of a large animal (horse or cow?); and a long bone with a worked point, also found in sand on the NW. side. A small fragment of very recent pottery was an overnight insertion; it is less likely that this was the case with the slate fragment, although it looks modern. Decomposed bone was also found near the inmost stone of the funnel, on the N. side, and small amorphous medieval sherds were also found in sand within the funnel. Built into the lowest course of the kiln wall on the NW. side, there was a much worn grindstone, 40 to 45 cm in diameter and 15 cm thick. Among disturbed stones above the kiln was a whetstone-like object, but it showed no sign of use.

North of the kiln there were two hollows and a pit, containing dark homogeneous sand. The two hollows were barren; the pit (which contained recent as well as medieval sherds) was not fully cleared, but exceeded 5 cm in depth and was approximately 1 m in diameter. The eastmost hollow was possibly connected with the hearth outside the kiln; but this area was disturbed by roots and rabbits.

The filling of the pit, which was recent (possibly a sheep burial, though no bones were seen), closely resembled the clay and soil deposit within the kiln, and both may be recent. The sherds in the latter do not differ from those found scattered in topsoil throughout the site. The axis of the kiln was at 260.5° North.

In the late summer of 1961 a stone structure, partly cut away by the quarry face, was visible in the face of the sand pit at Stenhousemuir. There was no time for excavation or drawing. An approximately longitudinal section was visible in the quarry face and the surviving eastern half of the structure suggested an oval kiln 2 m by 1.5 internally; allowance must, however, be made for some disturbance at the S. end, and for the fact that the width of the presumed flue is unknown. There was no break in the curve found; the stones were closely fitted together with no trace of clay mortaring, and with no attempt to form a good face on the inside. In this it resembled the pottery kilns, but not the corn-drying kiln. The walls stood to a maximum of 1 m high at three and four courses, the top being 0.35 m below the current sand surface. There was only a slightly outward flare to the walls. Two of the stones had pecked markings, apparently irrelevant to their place in this structure. None showed signs of heat, or even of prolonged exposure to smoke and dirt. An approximately longitudinal section was cut back into the quarry face. The fill was of dark, earthy sand, with some clay near the surface. There were two streaks of black, carbonised material, both dipping towards the centre, one on the bottom of the structure and one a few inches higher. Both were about 7 to 8 cm thick at the centre and thinning irregularly towards the sides. The structure had no floor; the bottom was of soft sand unmarked by heat, dipping slightly towards the centre.

Medieval sherds, of the same general kind as were found everywhere on the site, were found at all levels in the filling. There was one small base sherd; but nothing else of definable form. There was a slight clustering of sherds immediately above the upper black layer.

Near, but not on, the bottom of the structure was a small socket stone, or possibly fragment of a larger stone, the upper surface of which was much reddened. It could have held in position a light roof support, which would otherwise have gone deep in the soft sand, but no more.

 $Kiln \, \mathcal{J}$  (Fig. 8) This was excavated in May 1962. The axis of the kiln, which was severely disturbed, was NW.—SE. The 'arch' over the flue at each end had collapsed in antiquity, though at the northern end the stones were present; at the southern end no large stones remained; the fire passage may here have been of a different kind from those already excavated. The walls were roughly coursed; the boulders of the lowest course were long and flat, the three upper courses of smaller stones, diminishing in size to the top course.

The plan was made when the top of the kiln and pits only was exposed. Severe damage was done before the excavation was complete, and only the kiln was

planned at a later stage. The southern pit was steep sided, with one shelf near the bottom, and a short 'arm' of filling outside the W. side of the kiln; the northern pit was larger, with a wider 'arm' down the W. side of the kiln. Its upper part was cut away on the N. side to a depth of c. 30 cm by a later and probably recent pit, but there is no reason to think that this had destroyed any shelf, such as was found in the corresponding pit at kiln D. Both pits at this kiln had a pointed base immediately in front of the fire passage and some inches below it, though in the absence of a sill stone or surviving floor the exact depth is uncertain. In neither pit was there any trace of blocking at the kiln mouth, nor of any wall or mass of stones set into the side of the pit for it to be keyed on; this was probably due to non-recent disturbance.

The sequence in the northern pit of this kiln resembles that in the northern pit of kiln D, and the deposit also resembles this pit in the quantity and 'interlocking' of large sherds. It was not possible to section the southern pit; it was steep-sided, shelving near the base, the lower half of the fill and especially the pointed base producing the most pottery. There had been considerable natural silting into this pit, especially on the S. and W. sides.

The kiln was of inferior construction to kiln D, and probably also to others on the site. Like kilns  $\Lambda$  and D, it was built in a pit, hard up against the side, but with considerable packing outside it on the West. The stones, except of the lowest course, were smaller than in kiln D and the structure less stable; a revetment had been built within the kiln on the E. side, supporting it and narrowing the kiln as in A and D. In the upper 20 cm of the fill, which consisted of stones and topsoil, two large and several small lumps of slag were found. These do not appear to be bloomery waste, and may be the result of later (but not recent) activity in the neighbourhood. The kiln filling below this was unstratified, though there was more clay, and more sherds, in the lower part; there was no clean deposit at the bottom as in kiln D. There was no floor, but this does not appear to have been the result of damage or weathering, as a few inches of undisturbed burnt material spread inwards from the fire passages, and a small quantity for some distance along the walls. Some displacement, however, and the presumed removal of the long stones forming the 'arch' over the fire passage, appears to have taken place before the date of the current damage.

East of the kiln, and within the area of a former hollow in the field there was an oblong pit with rounded corners cut into the sand with steep sides and near flat base. On its floor were brown stains strongly suggesting a slatted base (or less probably a woven lining) to the pit. Although the stains were marked, especially at the edges of the pit, there were no organic remains. The fill was sandy soil, barren except for some amorphous medieval sherds near the top, possibly due to recent disturbance. There was a report, during subsequent quarry operations, of a corndrying kiln resembling Site F near at hand, but this is not conclusive.

# Trial excavations 1978

Prior to redevelopment of a part of the site for local authority housing in 1978, a proton magnetometer survey was carried out by Edinburgh University. A trial excavation was carried out over the centre of an anomaly located by this survey

which proved to be a layer of vitreous slag probably dating to the 19th century. Below this a tumble of stone associated with a concentration of medieval pottery may have been derived from a possible kiln up the hill.<sup>34</sup>

#### THE KILNS AND OTHER STRUCTURES

By derek w. Hall (Figs. 5-10)

There are plans of five kilns from the excavations at Stenhouse: A, C, D, F and J. All the kilns apart from F are Musty's Type 2a with two opposing flues, external stoke pits and no internal structure.<sup>35</sup> The floors of  $\Lambda$ , C and D are recorded as being made of clay. F had a sand floor and J had no floor at all. It would appear that all the Stenhouse kilns were of the open-topped variety and were covered during firing with temporary covers.<sup>36</sup> The finds assemblage from the excavations includes fragments of fired clay and straw daub which appear to come from these temporary domes, but unfortunately virtually all this material is unmarked so its original location is not known (e.g. Fig. 46, nos. 562, 563). The superstructures of all the kilns were built of up to two or three courses of stones and kilns D and I had stone 'arches' at at least one of the flue entrances (Fig. 9). Kiln F resembles a corn-drying kiln rather than a pottery kiln, with a long flue connected to a circular chamber. Indeed this kiln had a re-used quern built into one of its walls. It therefore seems curious that broken kiln furniture was recovered from kiln F, and this may imply that it was used for both purposes.

As well as the kilns, Doreen Hunter's text describes 'drying hearths' which she presumably interpreted as forming part of the pottery-making process prior to firing in the kilns. Interestingly enough on two of the three occasions these structures are mentioned they are described as containing complete pots. Three of these vessels are presumably the possible syrup-collecting jars from kiln C (Fig. 44, nos. 528, 529 and Fig. 46, no. 561); the other three are not easily identifiable. Another feature described and photographed to the East of kiln I is a square pit that may have been wood-lined: its function is unclear. No trace of any buildings or any other structures associated with these kilns was recorded.

#### THE POTTERY ASSEMBLAGE

By derek w. Hall (Figs. 12–46)

Following Doreen Hunter's work at Stenhouse, the pottery assemblage was divided between Falkirk Museum and the National Museum of Scotland in Edinburgh. The vast proportion of the material was held in Falkirk Museum's store in Grangemouth (Falkirk), the National Museum's material being largely made up of bodysherds in store in Port Edgar (City of Edinburgh). SUAT Ltd. catalogued all the material held by Falkirk Muscum, including the material excavated by

<sup>34</sup> Kenworthy, op. cit. in note 2.

J. Musty, 'Medieval pottery kilns', 41 65 in V. I. Evison et al. (eds.), Medieval Pottery from Excavations: Studies Presented to Gerald Clough Dunning (London, 1974).
 G. Bryant, 'Experimental kiln firings at Barton-on-Humber, S. Humberside, 1971', Medieval Archaeol., 21 (1977),

Marjorie Kenworthy in 1978. The assemblage, excluding the material still in the possession of the National Museum, numbers some 10,304 sherds.

#### Method

All the pottery held by Falkirk Museum has been catalogued and identified using the standard SUAT pottery recording sheet. All vessel forms are described using the terminology in 'A guide to the classification of Medieval Ceramic Forms'.<sup>37</sup> All the analysis and identification has been undertaken by eye. The use of a question mark in the illustration catalogue indicates pottery that is not marked with either a context number or identified to a particular kiln. Falkirk Museum accession numbers are given in brackets after each illustrated piece.

## The fabrics

Kiln wasters (Fig. 45, nos. 547, 548) Most of the catalogued material from Stenhouse probably represents pottery that never got beyond the kiln site. This is most obvious from those sherds that have glaze running over the edges or are very badly warped after firing in the kiln. So although the vessel-types represented in the assemblage are a valuable indication of the products of the kilns, most if not all of them were probably never used.

Stenhouse ware Fifteen years of archaeological excavations in the Scottish East Coast burghs have identified a fabric type now called 'East Coast Redware' as forming a tradition of native pottery production apparently dating from the 13th to the 15th centuries. The internal almost exclusively orange-brown in colour with a sandy matrix and no obvious inclusions. The internal and external surfaces are commonly coloured purple. It is not clear whether this represents an applied purple wash or is caused by the leeching of material from the clay during firing. This now a commonly identified characteristic of the East Coast redwares, although it is not apparent on the redwares from the kilns at Rattray (Aberdeenshire). This pottery is probably being made using the Carse clays that are readily available in the Forth valley. There are two unfired fragments of a thumbed base in a blue grey dried clay that is very light and pumice-like (Fig. 35, no. 373).

Scottish White Gritty ware (not illustrated) Recent archaeological excavation has identified three potential production centres for this fabric in Lothian, Tweeddale and Fife. 40 Recent ICPMS analysis by the British Geological Survey has suggested that this tradition might be more widespread than previously thought, with every sample submitted apparently coming from a different kiln. 41 White Gritty ware in the Scottish Borders has been dated by thermoluminescence to A.D. 1065 + 140 and 1175 + 120 respectively. 42 It is most commonly highly fired to a white or grey colour and contains quartz inclusions. Cooking pots appear to be the most popular vessel-type in this fabric although glazed jugs are also

Mcdieval Pottery Research Group, A Guide to the Classification of Medieval Ceramic Forms (Over Wallop, 1998).
 D. W. Hall, 'Blind date-Scottish medieval pottery industrics', Tayside Fife Archaeol., 2 (1996), 126–8.

<sup>39</sup> Ibid., 128,

<sup>&</sup>lt;sup>40</sup> G. Haggarty, 'Observations on the ceramic material from phase 1 pits BY and AQ', 395 -7 in C. Tabraham, 'Excavations at Kelso Abbey', *Proc. Soc. Antiq. Scotland*, 114 (1984); D. W. Hall, 'The pottery', 40–63 in M. Rains and D. W. Hall (eds.), *Excavations in St Andrews 1980–89: A Decade of Archaeology in a Historic Scottish Burgh* (Tayside Fife Archaeol. Mon. 1, Glenrothes, 1997).

<sup>&</sup>lt;sup>41</sup> R. Will, G. Haggarty and D. W. Hall, 1999, 'Sourcing Scottish East Coast white gritty ware' (Historic Scotland, inpubl. rep. 1999).
<sup>42</sup> E. Cox, *Jedburgh Abbey Excavations: The Ceramic Material* (privately published, n.d.).

being produced. Its presence at Stenhouse is surprising although, as there are only 10 sherds in the whole assemblage, it seems more likely to have been imported than manufactured on site.

The vessel forms

Jugs (Figs. 12–36, nos. 1–400) The most common vessel being produced by the Stenhouse kilns is the shouldered jug. These vessels are normally glazed green with a simple undecorated strap handle (e.g. Figs. 12 and 13, nos. 5–10). There are a few examples of twisted rod handles, including one which has a pierced loop attached to its top surface presumably for suspension (Fig. 26, no. 225).

Some of the Stenhouse jugs have very simple face masks attached directly to their rims (Fig. 23, nos. 150–7), and on a couple of occasions to their bodies (Fig. 24, nos. 178 and 191). These face masks are of a very distinctive 'alien' appearance, being made of three thumbed pads which are then decorated with two ring and dot symbols for eyes and a simple slash mark for the mouth. These face masks were discussed in a paper by Lloyd Laing and Norman Robertson in 1970 and dated to the 15th century. The facemasks attached to the vessel body have more incised detail added to represent hair and beard (Fig. 24, no. 191), and it has been suggested that these may be representations of the 'green man'. A complete jug from Linlithgow Palace (West Lothian) has a face mask which also appears to be a representation of the 'green man': this is particularly evident in the beard which is made of separate strands of clay which have been twisted in and out of each other (Fig. 47). The shoulder of this vessel is also decorated with ring and dot and incised foliage similar to that present of some of the bodysherds from the excavation (Fig. 29, no. 273 and Fig. 32, nos. 327 and 337). There are two face masks from an unstratified context which are modelled on spouts and may be of an earlier date (Fig. 24, no. 192).

All the kilns were producing versions of shouldered jugs with a bridge spout (Fig. 25, nos. 196-202) that is fixed to the rim with very well-defined thumb marks. The jugs from kilns  $\Lambda$ , C, D and G all possess frilled bases (Figs. 35, nos. 382-92 and Fig. 36, nos. 393-400) and may be attempting to copy Rhenish stoneware vessels which have this style of base. A very distinctive style of tubular spout is also represented from kilns D and  $\Lambda$ . This spout has been modelled very tightly against the body of the vessel and has deep thumb marks along its length (Fig. 27, no. 241 and Fig. 28, no. 245). There is a single very unusual example of this type of tubular spout that is attached to the outside of a strap handle (Fig. 27, no. 238) and it is tempting to consider whether this may either be from a puzzle jug or a trial piece. A rimsherd from one of these bridge-spouted jugs has a handle junction in such a position to suggest that the vessel appears to have had at least three handles (Fig. 25, no. 193).

Beakers (Fig. 39, nos. 458 467 and Fig. 40, nos. 468, 469) There are four complete examples of these small single-handled vessels which are glazed dark green on a purple background, three of which are illustrated here (Fig. 39, nos. 458 and 459 and Fig. 46, no. 560). The complete beaker with the wider mouth was found in kiln D. Two of the other beaker sherds are from contexts associated with Kiln A (Fig. 40, nos. 468 9) and the remainder are unmarked, it is not known where they were found on site. Such vessels are not thought to have been in general use until the late medieval period (late 15th/16th

centuries) and are probably copies of imported Rhenish stoneware drinking vessels.<sup>45</sup>

<sup>&</sup>lt;sup>43</sup> L. R. Laing and W. N. Robertson, 'Notes on Scottish medieval pottery', *Proc. Soc. Antiq. Scotland*, 102 (1969–70), 146–54

<sup>146 54.

44</sup> J. Hurst, D. S. Neal and H. J. E. Van Beuningen, Pottery Produced and Traded in North West Europe 1350 1650 (Rotterdam, 1986).

<sup>&</sup>lt;sup>45</sup> M. McCarthy and C. M. Brooks, Medieval Pottery in Britain AD 900–1600 (Leicester, 1988).

*Urinals* (Fig. 40, nos. 470 and 471) There are two virtually complete examples of this vessel-type with looped handles. Parallels for these vessels are best represented in the Melrose Abbey (Scottish Borders) collection. 46

Jars (Fig. 40, nos. 475 and 478 and Fig. 41, nos. 481–2) Kilns A and C also produce double handled jars that possess very well-defined thumbed lug handles (Fig. 40, no. 478 and Fig. 41, nos. 481–2). There is a reconstructed single-handled jar from context PT (Fig. 40, no. 475).

Vessels with bungholes (Fig. 40, nos. 476 and 477) There are two bodysherds from these distinctive vessels which would have held liquid. The bungholes were designed to hold a spigot or a tap to enable the contents to be drawn from the vessel.

Cooking pots (not illustrated) There are only eight sherds from kiln C that may be from cooking pots, but it would appear that this vessel-type was either being supplied in another fabric (white gritty ware?) or at a later date may have been produced in metal.

Open vessels (Fig. 41, nos. 488–502 and Fig. 43, nos. 512-14) There are small numbers of bowls present from all the kilns, and fragments of three small rod-handled ladles, one from kiln  $\Lambda$  and the others from unlocated contexts (Fig. 43, nos. 512-14). There is also a small drinking bowl from kiln  $\Lambda$  (Fig. 43, no. 515) and a dish from an unlocated context (Fig. 41, no. 495).

Dripping pans (Fig. 42, nos. 503–6 and Fig. 43, nos. 507–11) This very distinctive vesseltype is present from kilns A and C. These vessels begin arriving in Scotland from the Low Countries in the mid-14th century and local redware copies have been recovered from excavations in Perth.<sup>47</sup>

Skillets (Fig. 41, nos. 483–7) These ceramic 'frying pans' are present in kilns Λ and D. A handle from context DN (kiln D) is of the very distinctive folded type that has been found in excavations at Eyemouth (Scottish Borders),<sup>48</sup> Stirling Castle,<sup>49</sup> Linlithgow (West Lothian)<sup>50</sup> and Dunbar (East Lothian)<sup>51</sup> (Fig. 41, no. 485). This form is dated to the 16th and 17th centuries.

Pirlie pigs (Fig. 43, nos. 518-22) These small ceramic money boxes are only present from kiln  $\Lambda$ . These objects are usually dated to the 15th to 17th centuries, and there are good parallels in the assemblages from the kiln site at Throsk, Stirling Council, <sup>52</sup> from

<sup>&</sup>lt;sup>46</sup> S. Cruden, 'Scottish medieval pottery: the Melrose Abbey collection', *Proc. Soc. Antiq Scotland*, 87 (1952–3), 161–74.

<sup>161-74.

47</sup> P. Cheer, 'The Pottery', 801-4 in A. Cox et al., 'Backland activities in medieval Perth: excavations at Meal Vennel and Scott Street', *Proc. Soc. Antig. Scotland*, 126 (1996), 733-821.

Vennel and Scott Street', *Proc. Soc. Antiq. Scotland*, 126 (1996), 733–821.

<sup>48</sup> J. Franklin, 'Pottery', in D. H. Caldwell and G. Ewart, 'Excavations at Eyemouth, Berwickshire, in a mid 16th-century trace italienne fort', *Post-Medieval Archaeol.*, 31 (1997), 96–103.

<sup>49</sup> G. Haggarty, 'The pottery' in G. Ewart, 'Excavations at Stirling Castle 1977–78', *Post-Medieval Archaeol.*, 14

<sup>&</sup>lt;sup>49</sup> G. Haggarty, 'The pottery' in G. Ewart, 'Excavations at Stirling Castle 1977-78', *Post-Medieval Archaeol.*, 14 (1980), 36–46.
<sup>50</sup> L. Laing, 'Medieval and other material in Linlithgow Palace museum', *Proc. Soc. Antiq. Scotland*, 101 (1968-9),

<sup>134 45. 51</sup> D. W. Hall, 'The pottery', 107 12 in D. Perry (ed.), Excavations at Castle Park, Dunbar: Four Thousand Years on a

Fortified Headland (Edinburgh, 2000).

52 D. H. Caldwell and V. E. Dean, 'The pottery industry at Throsk, Stirlingshire, in the 17th and early 18th century', Post-Medieval Archaeol., 26 (1992), 1–46.

excavations at the Tron Kirk in Edinburgh<sup>53</sup> and from Melrose Abbey in the Scottish Borders.54

Syrup-collecting jars? (Fig. 44, nos. 528-30 and Fig. 46, no. 561) Kiln C contained three complete vessels of an unknown function. These are unglazed, very tall and have no handles and have traces of slight internal and external smoke blackening. The closest parallel may be a syrup-collecting jar that was used in the sugar refining process. 55 It is has been suggested that no. 530 may represent the rim of a funnel that was used in the same process.

Tile (Fig. 45, nos. 549–51) There are three pieces of glazed ceramic tile in this assemblage. One of these is from kiln  $\Lambda$  (no. 549) but the other two are unlocated. Such a small group of material cannot be used to argue that some of the Stenhouse kilns were also making tile.

Decoration (Fig. 28, nos. 246 54, Fig. 29, nos. 255-74, Fig. 30, nos. 275-89, Fig. 31, nos. 290 -316, Fig. 32, nos. 317-41 and Fig. 33, nos. 342-52)

4.5% of the pottery assemblage from Doreen Hunter's excavations exhibits some form of either incised decoration or facemask. The most common form of decoration on the vessels from Stenhouse is a mixture of ring and dot and incised lines. This is often employed to create a 'saltire' design on the vessel and in at least one example such a decorated vessel also has a face mask (no. 247). Incised lines are also used on a few occasions to create 'floral' patterns on both vessel bodies and handles (nos. 256, 263, 273 and 284). It seems likely from comparison with the complete vessel from Linlithgow Palace (West Lothian) that these incised decorations all relate to the depiction of the 'green man' on many of the vessels that were manufactured at the Stenhouse kilns (Fig. 47).

Two vessels from this assemblage are decorated with Maltese crosses. The best example of this is a bodysherd from an unstratified context that has a very well-drawn Maltese cross incised into its surface with four 'dots' above each arm (Fig. 30, no. 276). Research in the site archive has revealed that these sherds were formerly part of an almost complete reconstructed jug with a frilled base that was then broken up for unknown reasons. The other example is from a warped jug and is a much simpler design (Fig. 30, no. 275).

Historical research has indicated that the Knights of St John (Hospitallers) owned land at Stenhouse in 1539 40<sup>56</sup> and, as it was only this order that used the Maltese cross, it is worth suggesting that vessels from this kiln site were being made specifically for the Knights at Torphichen preceptory (Midlothian). This may have been done as a form of rental payment to the Hospitallers, or it might even be that the kiln site was set up by the knights in the first place.

Kiln furniture (Fig. 45, nos. 552–8)

During the cataloguing of this material, fragments of kiln stands were found from kilns C, D and F (nos. 552-558). These objects are of the distinctive conical 'cooling tower' shape that has also been recovered from the kiln sites of Colstoun (East Lothian), Rattray (Aberdeenshire) and Throsk (Stirling Council).<sup>57</sup>

<sup>&</sup>lt;sup>53</sup> N. M. Holmes, 'Excavations within the Tron Kirk, Edinburgh', Post-Medieval Archaeol., 9 (1975), 137 63.

<sup>&</sup>lt;sup>54</sup> S. Cruden, op. cit. in note 46.

<sup>55</sup> C. M. Brooks, 'Aspects of the sugar-refining industry from the 16th to the 19th century', Post-Medieval Archaeol.,

<sup>17 (1983), 1–14.

56</sup> Cowan et al., op cit. in note 12, 14 and 22.

57 C. M. Brooks and G. Haggarty, 'Notes on Scottish medieval kiln furniture from Rattray, Aberdeenshire', *Proc.* Soc. Antiq. Scotland, 108 (1976 7), 379 -82.

## DISCUSSION (Fig. 11)

Work on Scottish medieval ceramics in the late 1990s concentrated on trying to source and identify the kiln sites that were supplying the medieval burghs.<sup>58</sup> Although a programme of ICPMS analysis by the British Geological Survey has proved that it is possible to identify different local wares using physical means, the field search for new kiln sites has yet to bear fruit. This is why it is so important finally to be able to report on all the results of Doreen Hunter's work at Stenhouse.

The kilns excavated at Stenhouse resemble those from Rattray (Aberdeenshire)<sup>59</sup> and two of the kilns from Colstoun (East Lothian).<sup>60</sup> Comparison with the experimental kiln at Barton-on-Humber (North Lincolnshire), which measured 1.4 m in diameter and 0.5 m deep, indicates that the Stenhouse kilns may have held up to 50 vessels at a firing.<sup>61</sup> Only three of the kilns, C, D and F, contained pieces of kiln furniture, but this may be due to the level of recovery rather than differences in technology. From Doreen Hunter's field notes there is a suggestion that these kilns had clay 'pottery floors' and some of the fired daub present in this assemblage may actually be from such surfaces.

It would appear that the kilns at Stenhouse may have been only producing pottery for a very localised market. From excavations in the Scottish East Coast burghs there has been no discovery of any redware that can be identified as being from Stenhouse, the only exception to this being a vessel from Ravenscraig Castle which may possess one of the distinctive face masks, and a bridge spout from Linlithgow Palace which appears to be a Stenhouse product.<sup>62</sup> The complete vessel recently rediscovered in the stores of Historic Scotland also appears to be a product of the Stenhouse kilns. Interestingly enough its find spot is also indicated as being Linlithgow Palace although a precise site location is not given (Fig. 47).

It is unfortunate that there has been little opportunity for excavation at Torphichen, as the Knights may have been using pottery from Stenhouse. The only pottery from Torphichen is a small box that was recovered from site clearance works in the 1980s and examination of this small assemblage by the author did not identify any material from Stenhouse.

Perhaps the most interesting thing about the Stenhouse pottery is the distinctive styles of decoration used on the vessels. As already suggested the two Maltese crosses appear to suggest a link between the Knights Hospitallers at Torphichen and the Stenhouse potters. The use of the Saltire as a decorative style may also hint at another chivalric link, perhaps reflecting the late-15th-century revival of the cult of St Andrew. Alternatively, the use of this style of cross on jugs with face masks may suggest that these anthropomorphic vessels were supposed to represent a human figure wearing a tabard with a cross on its front. If this figure

<sup>&</sup>lt;sup>58</sup> D. W. Hall, 'The Scottish medieval pottery industry — a pilot study', Tayside Fife Archaeol. Journal, 4 (1998),

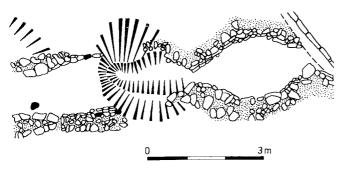
<sup>&</sup>lt;sup>59</sup> H. K. Murray and J. C. Murray, 'Excavations at Rattray, Aberdeenshire: a Scottish deserted burgh', Medieval

Archaeol., 37 (1993), 109–218.

60 C. M. Brooks, 'Medieval pottery from the kiln site at Colstoun, East Lothian', Proc. Soc. Antiq. Scotland, 110 (1978–80), 364–403. 61 Bryant, op. cit. in note 36.

<sup>62</sup> Laing, op. cit. in note 50, fig. 5, no. 14.

COLSTOUN 1973



#### RATTRAY KILN 2b

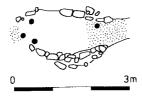


FIG. II Excavated plans of kilns from Colstoun (after Clarke 1973) and Rattray (after Murray and Murray 1993).

was supposed to represent a crusader then there might be an argument to suggest that the decorative style on the Stenhouse vessels is a reflection of the 16th-century Scottish revival of the crusading movement in which the preceptory of Torphichen was heavily involved. 63

There may be another link to Torphichen as this assemblage includes three vessels for which it has not been possible to find a Scottish parallel. All three are recorded as coming from kiln C and may be connected with the sugar refining process.<sup>64</sup> However the limited work that has been done on this industry in Scotland indicates that the first reference to it is in 1619 and that it is not until between 1667 and 1701 that it really takes off in Glasgow and Leith. 65 As the Hospitallers are known to have been planting sugar cane at Acre (Israel) when it fell to the Saracens in 1291 and European sugar production was developed as a result of the Crusades, is it possible that, if this industry was taking place at Stenhouse, it was very localised, and was being done specifically for the Knights of St John at Torphichen?<sup>66</sup>

<sup>63</sup> A. MacQuarrie, Scotland and the Crusades 1095 1560 (Edinburgh 1985), 114-17.

<sup>&</sup>lt;sup>64</sup> Brooks, op. cit. in note 55.
<sup>65</sup> T. C. Smout, 'The early Scottish sugar houses 1660–1720', Economic Hist. Rev., 14 (1961), 240 53.
<sup>66</sup> S. W. Mintz, Sweetness and Power: The Place of Sugar in Modern History (New York, 1985).

The best parallel for some of the Stenhouse decoration comes from excavations at Sandal Castle (West Yorkshire) from levels associated with Richard III's rebuilding in the 15th century.<sup>67</sup> One of the jugs at Sandal is decorated with a face mask and incised wavy lines very similar to a vessel from Stenhouse (Fig. 24, no. 191), and is described as being in a coarse redware fabric. Another jug bodysherd (Fig. 20, no. 273) also exhibits a similar mix of ring and dot and incised line to that found at Stenhouse.68

It is difficult to date the start and finish of pottery production at Stenhouse accurately, but to judge from vessel form and style there would not seem to be any material earlier than the late 15th century. The kilns would seem to have ceased production prior to the production of the Reduced Greyware fabrics like those produced at Throsk (Stirling Council). 69 Many of the vessel types being produced appear to be copying imported vessels from France and the Rhineland that would date to the 15th or 16th centuries. 70 This is particularly evident in the forms of the jugs with narrow necks and those with frilled bases (Fig. 18, nos. 66 and 89, Fig. 19, no. 92, Fig. 20, no. 100, Fig. 35, nos. 384-92, Fig. 36, nos. 393-400 and Fig. 47, no. 564).

As already stated, Stenhouse is important as it represents one of only two redware kiln sites to be investigated in the whole of Scotland. Following the cataloguing and illustration of its products, an attempt now needs to be made to identify pottery from Stenhouse in other excavated assemblages; this may need to wait for the opportunity for excavations in either medieval Falkirk or at the preceptory of the Knights Hospitaller at Torphichen. The suggested link between the pottery production centre at Stenhouse and the Knights at Torphichen is also a subject that seems worthy of further exploration.

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 $<sup>^{67}</sup>$  S. Moorhouse, 'The pottery', 83-230 in P. Mayes and L. A. S. Butler, Sandal Castle Excavations 1964–73 (Wakefield, 1983), fig. 69, 751.

<sup>68</sup> Ibid., fig. 85, 947. 69 Caldwell and Dean, op. cit. in note 52.

<sup>&</sup>lt;sup>70</sup> Hurst, Neal and Van Beuningen, op. cit. in note 44.

Illustration catalogue (numbers in brackets are Falkirk Museum accession numbers. The letters and words at the start of each catalogue entry indicate what is marked on the pottery. It is assumed that these are context numbers/codes)

		0 1 1 1 1 1		2	D: 1 16 : ( 0)
Ι.	C	Complete jug with broken strap	34.	5 5	Rimsherd from jug (3528).
		handle (3135).	35∙	3	Rimsherd from jug?(3204).
2.	$\mathbf{C}$	Complete small oil jug glazed	36.	,	Rim and neck from jug (3100).
		green (22).	37.	DN	Jug rim with pulled spout and
3.		Virtually complete jug with pulled	.,,		neck decorated with incised lines
Э.	•	spout (203/215).			(1570).
		Virtually complete jug decorated	38.	DN	Rim and strap handle from jug
4	•		30.	1714	1 3 0
		with incised lines with complete		TOST	(1700).
		strap handle	39.	DN	Top half of jug with complete
5.		Virtually complete jug with strap			strap handle (2816).
		handle (2003/4).	40.	$\operatorname{DNb}$	Rimsherd and strap handle from
6.	C	Top half of jug with complete	•		jug (1852).
		strap handle (3065).	41.	DNb	Top half of jug (1810).
7.	C	Top half of jug with strap handle	42.	DS	Rim, handle junction and pulled
/ ·	C	(160q).	4~.	.50	spout from jug (2744).
O	C			DSc	
8.	C	Rim, neck and strap handle from	43.	Dac	Rim and strap handle from jug
		jug (2982).		2000	(1795)-
9.	5	Top half of jug with complete	$44 \cdot$	DSC	Rim and strap handle from jug
		strap handle (acc 1900)			(1813).
IO.	5	Top half of jug with pulled spout	45.	J	Rim and strap handle from jug
		and strap handle (2991).	13		(2070).
II.	5	Top half of small jug with ring and	46.	J	Rim, neck and strap-handle
11.	•	dot decoration at handle junction	40.	J	junction from jug (2510).
				T	
		(951).	47.	J	Top half of jug with complete
12.	5	Top half of jug decorated with		_	strap handle (513).
		incised slashes and with complete	48.	J	Rim, neck, side wall and strap
		strap handle			handle from jug (2505).
		(3059).	49.	Kiln	Rim and neck from jug (3348).
13.	С	Rimsherd and neck from jug	50.	Kiln	Top half of jug with strap handle
	~	(1532).	3		(1903).
T 4	C	Rim and neck from jug (1715).	51.	?	Top half of jug with complete
I 4.	?		э1.	•	
15.		Slightly frilled rim from jug		T / 1	strap handle (2741).
	~-	(1961).	$5^{2}$ .	Kiln	Rim and neck from jug (3362).
16.	CL	Rim and neck from jug (3315).	53.	Kiln	Rim, neck and side wall from
17.	$_{\mathrm{CL}}$	Jug rim with pulled spout (246).			small jug (3365).
18.	D	Rim and neck from small jug with	54.	Kiln	Rim and strap handle junction
		pulled spout (1758).			(3329).
19.	D	Rim and strap handle from jug	55.	Kiln	Rim and neck from small jug
- 3.		(1818).	33		(3415).
20.	D	Rimsherd and strap handle from	56.	Kiln	Top half of small jug (2515).
20.	D	iug (1760).	_	Kiln	Rim, neck and side wall from jug
	D		57.	Kiiii	
21.	D	Rimsherd and strap handle	0	77.1	(3327).
		junction (2801).	58.	Kiln	Rimsherd and neck from jug
22.	DN	Rim and side wall from small jug			(3355).
		(1771).	59.	PΤ	Rim, neck and strap-handle
23.	DN	Rim and neck from jug (2293).			junction from jug (1838).
24.	÷	Rimsherd and neck from jug	60.	ST 78 Ea. 5	Rim, side wall and strap handle
F-	•	(3414).	• • • • • • • • • • • • • • • • • • • •	~ ~ / ~ ~ 4 .	from jug.
0.5	2	Rim and neck from jug (3399).	61.	Т	Rim and strap handle from jug
25.	?		01.	1	
26.		Rimsherd from jug (3432).	C		(2761).
27.		Rimsherd from jug (3341).	62.	T	Rim and strap-handle junction
28.	5	Rimsherd and neck from jug			from jug (2394).
		(3326).	63.	$V_5$	Rimsherd and neck from jug
29.	?	Rim and neck from jug (3420).		-	(1372).
30.	?	Rim and neck from jug (2745).	64.	$V_5$	Rim, neck and strap-handle
31.	ວ	Rim and neck from jug (3336).	- T.	3	junction from jug (3377).
~	2	Rim and neck from jug (3545).	65.	$V_5$	Rimsherd and strap-handle
32.	2		og.	• 5	junction (3387).
33.	•	Rimsherd from jug (3328).			Junetion (3307).

T	0	h
1	_	١,

# DEREK W. HALL AND DOREEN HUNTER

1 = 0	•	DEMANE III IIII IIII			
66.	$V_5$	Rim, neck and strap-handle junction from narrow necked jug	103.	ż	Rim and rod handle from small jug (2450).
	3.7	(3359).	104.	÷	Rimsherd and ribbed strap handle
67.	$V_{5}$	Rim and strap handle (1829).		3	from jug (1868).
68.	$V_5$	Top half of jug with strap handle (1901).	105.	7	Rimsherd and ribbed strap handle from jug (1905).
69.	$V_5$	Top half of jug with strap handle	106.	5	Rimsherd and handle junction
09.	. 3	(1908).	100.	•	from jug (1833).
70.	ç	Top half of jug with strap handle	107.	?	Rimsherd and strap-handle
,		(1904).	,		junction decorated with thumbed
71.	PΤ	Rim, neck and handle junction			strip (2476).
	3.71	from jug (1803).	108.		Rimsherd from jug with handle
72.	VI V178	Rimsherd from jug (391). Rimsherd with applied thumbed		2	junction (3548).
73.	V1/0	decoration (73).	109.		Rim and small strap handle from small jug (955).
74.	$VI_{2-4}$	Rimsherd from jug (1141).	110.	3	Rim and neck from jug with
75.	VI <sub>2-4</sub>	Rimsherd and handle junction		·	handle junction (1427).
	•	from jug (3321).	III.	C	Rimsherd and strap handle (3334).
76.	VI2 4	Rim and strap handle (1870).	112.	5	Rim and complete strap handle
77.	$VI_5$	Virtually complete small jug with			from jug (683).
-0	VI-	handle junction (2532). Rim and neck from jug (1385).	113.	5	Rimsherd from jug (1882).
78. 79.	VI <sub>5</sub> VI6	Rim and neck from jug (1305).	ПΙ.	5	Rimsherd and strap-handle junction from jug (1509).
80.	VI6	Rimsherd from jug with pulled	115.	с	Rim and strap-handle junction
		spout (3323).	113.	•	from jug (3324).
81.	VI <sub>7</sub> 8	Rim and strap handle from small	116.	?	Rim and handle junction from jug
0	X 77 13'	jug (1712).			(3370).
82.	VI <sub>7</sub> Pit	Rim and strap-handle junction	117.	; 5	Rim and strap handle from jug
83.	V18	from jug (3352). Rim, neck and strap-handle		2	(3335).
03.	V10	junction from jug (3339).	118.		Rim and neck from jug (3383).
84.	VI8	Rimsherd and handle junction	119.	5	Rimsherd and ribbed strap handle
•		from jug (3372).	I 20.	5	from jug (1807). Rimsherd and strap handle from
85.	VI8	Rimsherd and strap-handle	120.	•	jug (1897).
o.c	1/10	junction (3332).	121.	?	Rim and strap-handle junction
86.	VI8	Rim and strap handle from jug (2487).			(3392).
87.	VI8	Rimsherd and complete strap	I 22.	5	Fragment of narrow strap handle
٠,٠		handle from jug (3388).		2	(3426).
88.	VI8	Rim and neck from jug (3306).	123.	45	Rim and strap handle (1753).
89.	VI8	Rim and narrow neck from jug	I 24.	•	Rim and strap-handle junction (1819).
	1710	(3363).	125.	С	Rimsherd and small strap handle.
90.	VI8	Rimsherd and rod-handle	126.		Strap handle with drilled holes
OT	V18	junction (3350). Pit Rim and complete strap			(952).
91.	V10	handle from jug (1176).	127.	, ,	Strap handle with drilled holes
92.	VI8	Rim and strap handle from		_	(936).
.,		narrow necked jug (3395).	128.		Small strap handle (989).
93-	VI8	Rim, side walls and complete strap	129.		Strap handle with hole drilled
	1/10	handle from jug (3134).	130.	Э.	through it (924). Strap handle (922).
94.	VI8 VI9	Rim and strap handle (3203).	131.		Complete narrow strap handle
95-	VI8	Rim and strap handle from jug (1909).	131.	•	(928).
96.	c	Rim and neck from jug (3374).	132.	5	Strap handle with hole drilled
97.		Rimsherd from jug (2348).	,		through it.
98.	c ·	Rim and handle junction (3325).	133.		Fragment of strap handle (3344).
99.		Rimsherd with handle junction	134.		Fragment of strap handle from jug
	2	(950).		9	(3333).
100.		Rim and strap-handle junction	135.	•	Fragment of strap handle decorated with incised floral
101.	ç	from narrow necked vessel (3394) Rimsherd and handle junction			design (988).
101.	•	from jug (1752).	136.	÷	Strap handle (1001).
102.	5	Rim and neck from jug with strap-	0	$V_5$	Rim and handle junction from
		handle junction (1902).			narrow necked jug (1751).

		MEDIE ( III) KIDING III	~		127
138.	?	Rim and neck from narrow	175.	VI8	Rimsherd with face mask from narrow necked vessel (949).
139.	c	necked jug (3120). Rimsherd from narrow necked jug	176.	9	Rimsherd with face mask (1444).
139.	-	(3231).	177	Kiln	Face mask on bodysherd (161).
140.	2	Rimsherd from narrow necked jug	178.	Kiln	Bodysherd decorated with face
140.	•	(3405).	. 70.		mask (945).
141.	c	Rimsherd from vessel with narrow	179.	VI8	Face mask on bodysherd (157).
141.	•	neck (3511).		VI8	Bodysherd with face mask (101).
142.	9	Rimsherd from narrow necked jug	.181	?	Bodysherd with remains of face
		(3506).			mask (164).
143.	ż	Rim from narrow necked vessel	182.	5	Face mask on bodysherd (160).
13		(3522).	183.	5	Face mask and bodysherd (58).
I 44.	5	Rimsherd from narrow necked jug	184.	5	Beard from face mask decorated
		(3513).	0	2	with incised lines (98).
145.	?	Rimsherd from narrow necked	185.	5	Face mask on bodysherd (102).
		vessel (3243).	186.	5	Face mask on bodysherd (163).
146.	?	Rim and handle from small	187.	? Kiln	Face mask on bodysherd (91).
	_	narrow necked jug (3114).	100.	Kiiii	Stylised face mask on bodysherd
147.	7	Rim and neck from narrow	180	VI8	(2481). Face mask (109).
		necked jug (3103).			Bottom half of bearded face mask.
148.	?	Bodysherd with handle junction		VI8	Neck and side wall from jug
	1.770	from narrow necked vessel (3167).	191.	V 10	decorated with face mask (248).
149.	V18	Neck and handle junction from	192.	5	Rim with face mask (2463).
	IZ II.a	jug (3116).	193.	PΤ	Rim and neck from jug with
150.	Kiln	Top half of jug with face mask on rim and complete strap handle	50		bridge spout and three handles
		(2459).			(1893).
151.	2	Rimsherd with face mask from	194.	PT	Rim and bridge spout from jug
131.	•	narrow necked vessel (3601).			(2493).
152.	5	Rim with face mask and strap	195.	$VI_5$	Rim with remains of bridge spout
	·	handle junction (2870).			and side wall decorated with cross
153.	÷	Rimsherd with face mask (150).			formed of thumbed pads and lines
154.	3	Rimsherd and face mask (162).	, C	C	(2470).
155.	÷	Rim and face mask from jug (992).	196. 197.	DZ.	Rimsherd with bridge spout (219). Rimsherd with bridge spout
156.	5	Rimsherd and face mask from jug	197.	D.N	( )
		(1671).	198.	c	(3477). Rimsherd with bridge spout
157.	Kiln	Rimsherd and face mask from jug	. 90.	•	(2492).
		(66).	199.		Rim with thumbed bridge spout
158.	5	Stepped neck and side wall from	33		(2820).
	_	jug (487).	200.		Rim and bridge spout from jug
159.		Stepped neck and side wall from			(3180).
	2	Jug (3190).	201.	5	Rimsherd and bridge spout from
160.	?	Neck and bodysherd decorated			jug (2494).
	2	with incised decoration (3128).	202.	?	Thumbed bridge spout (3245).
161.		Neck and main body of jug (2750). Rim and face mask (64).	203.	С	Side wall from jug (2223).
162.		Rimsherd with face mask from jug	204.	Kiln	Neck from jug (3419).
163.	$V_5$	(3551).	205.	$VI_5$	Side wall from jug (1340).
164.	$V_5$	Rimsherd and face mask (51).		$VI_5$	Side wall from narrow jug (3086).
165.		Rimsherd with face mask and	207.	VI8	'Stepped' neck from jug (76).
105.	<b>v</b> 5	handle junction from narrow	208.	5	Bodysherd and handle junction
		necked jug (2480).			(1229).
166.	VI6	Rimsherd and face mask from jug	209.	D	Rod handle from jug (893).
		(29).	210.	$\mathrm{D}_5\mathrm{b}$	Rod handle (847).
167.	VI7 Pit	Rim and face mask (82).	2II.	Kiln	Rod handle (1010).
ı 68.	VI8	Rimsherd with face mask (169).	212.	VI6	Small rod handle (1322).
169.	VI8	Rimsherd with face mask (3095).	213.	St783	Small rod handle.
170.	VI8	Rimsherd with face mask (62).	214.	VI8	Rod handle from jug (93).
171.	VI8	Rimsherd with face mask (1203).	215.	VI8	Complete rod handle (999).
172.	Kiln	Face mask on rimsherd (171).	216.	?	Rod handle (1014).
173.	Kiln	Rimsherd and face mask fragment	217.	5	Rod handle from jug (926).
		(173).	218.	5	Small rod handle (522).
174.	$V_5$	Rimsherd with face mask (170).	219.	5	Small rod handle (1024).

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220. 221.		Twisted rod handle (921). Twisted rod handle from jug			ring and dot and floral design (3098).
		(3000).	253.	5	Neck and side wall from jug
222.	Kiln	Twisted rod handle and			decorated with saltire cross formed of ring and dot and incised
		bodysherd decorated with incised lines (3389).			lines (3099).
223.	VI8	Fragment of twisted handle (970).	254.	?	Neck and side wall decorated with
224.		Rim and narrow neck from jug			saltire cross formed of ring and dot
		with twisted rod handle and two	0.5.5	э	and incised lines (3093). Neck and side wall from jug
225.	5	face masks (2468). Twisted handle with pierced	255.	•	decorated with ring and dot
3.	•	suspension loop (1490).			decoration (944).
226.		Rod handle from jug (999).	256.	· .	Bodysherd decorated with incised
227.		Complete strap handle (1260).			floral decoration and saltire cross formed of ring and dot and incised
228. 229.		Fragment of strap handle (1797). Rimsherd with strap handle			lines (923).
229.	<b>v</b> 5	(3396).	$^{257} \cdot$	J	Bodysherd decorated with ring
230.		Strap handle from jug (2452).	a = 0	V:1	and dot and incised lines (148).
231.	VI8	Strap handle and lower thumbed	250.	Kiln	Bodysherd decorated with ring and dot and incised lines (110).
232.	VIB	junction (981). Complete strap handle and side	259.	Kiln	Bodysherd decorated with ring
-3	V 10	walls from jug (3089).			and dot and incised floral
233.	J	Strap handle (2617).	260	<b>V</b> -	decoration (969). Bodysherd decorated with ring
-	Kiln	Strap handle (397).	260.	<b>v</b> 5	and dot decoration (92).
235.	ST78 X	Strap handle decorated with incised lines.	261.	V8	Bodysherd decorated with ring
236.	$V_{4.}$	Fragment of strap handle (3337).		* **	and dot (116).
237.		Looped side handle (3172).	202.	$VI_5$	Bodysherd decorated with ring and dot and incised floral pattern
238.	VI6	Strap handle with attached			(67).
220	DN	tubular spout (2495). Bodysherd and handle junction	263.	VI6	Bodysherd decorated with ring
239.	17.1	from jug (871).	~C.	VIIC	and dot and floral design (1019).
240.	VI8	Handle junction and bodysherd	264.	VI6	Bodysherd decorated with ring and dot and incised lines (1006).
0.4.	D	(3133). Tubular mout (2228)	265.	VI8	Bodysherd decorated with ring
241. 242.	D D	Tubular spout (2338). Tubular spout (840).	CC	1/10	and dot and incised lines (151).
243	Ď	Tubular spout (843).	266.	VI8	Bodysherd decorated with ring and dot and incised lines.
244.		Tubular spout (939).	267.	VIq	Bodysherd decorated with ring
245.	D	Tubular spout (842).			and dot and incised lines (117).
246.	1-1	Rimsherd with face mask and side wall decorated with saltire and	268.	5	Rim and side wall decorated with
		ring and dot decoration and			ring and dot and incised lines (3144).
	DTP	incised floral designs (968).	269.	5	Bodysherd decorated with ring
247.	17 1	Rimsherd with face mask and side wall decorated with saltire cross			and dot and incised lines (96).
		formed of ring and dot and incised	270.		Bodysherd decorated with ring and dot and incised lines (929).
0		lines (919).	271.		Bodysherd decorated with ring
248.	$v_5$	Side wall and neck from jug decorated with ring and dot and			and dot and incised lines (52).
		incised lines forming saltire cross	272.	5	Bodysherd decorated with ring
		(963).	273.	c	and dot and incised lines (63).  Bodysherd decorated with ring
249.	V16	Side wall decorated with saltire cross formed of ring and dot and	2/3.	•	and dot and incised floral design
		incised lines (957/958).			(131).
250.	PT	Bodysherd decorated with saltire	274.	5	Bodysherd decorated with ring
		cross formed of incised lines and	275.	c	and dot and incised lines (52). Warped jug decorated with incised
		ring and dot decoration and incised floral designs (968).	-/3.	•	Maltese cross glazed dark green.
251.	$V_5$	Bodysherd decorated with saltire	276.	5	Bodysherd decorated with incised
	-	cross formed out of ring and dot			Maltese cross glazed green brown
252.	ç	and incised lines (942). Stepped neck and side wall from	277	СМ	(655). Bodysherd decorated with slashed
-)	•	jug decorated with incised saltire,	-//	=	lines (222).

		MEDIEVAL KILNS AT	511	MIIOCS	129
278.	J	Bodysherd decorated with slashed lines (2021).	310.	VI8	Bodysherd decorated with incised lines and hollows (118).
279.	Kiln	Bodysherd decorated with slashes	311.	VI8	Bodysherd decorated with incised
280.	1962	(111). Rim and bodysherds from jug	312.	VI8	marks (3162).  Bodysherd decorated with incised
281.	J	decorated with slashed lines (907). Bodysherd decorated with slash	313.	VI8	lines (65). Bodysherd decorated with incised
282.	VI	marks (495). Bodysherd decorated with slashes	314.	VI8	floral design (107). Bodysherd decorated with wavy
283.	5	(153). Bodysherd decorated with slashed	315.	T	incised lines (87). Side wall and bodysherd from jug
284.	DN	lines (496). Bodysherd decorated with incised			decorated with notched lines (2451).
285.	Kiln	'fern' pattern (1820). Bodysherd decorated with incised	316.	VI8	Neck and side wall decorated with incised lines (966).
	Kiln	lines (72). Bodysherd decorated with wavy	317.	J	Handle junction with incised cross on thumb mark (515).
	Kiln	incised lines (178). Bodysherd decorated with incised	318.	5	Bodysherd decorated with incised lines (1016).
	Kiln	line and hollows (70). Bodysherd decorated with incised	319.	5	Bodysherd decorated with incised
	Kiln	wavy lines (149). Bodysherd decorated with incised	320.	ç	lines (61).  Bodysherd decorated with incised
	Kiln	lines (167). Bodysherd decorated with incised	321.	ż	lines (99). Bodysherd decorated with incised
291.		lines (88). Bodysherd from jug decorated	322.	ċ	lines and slashes (95). Bodysherd decorated with incised
		with incised lines (3219).	323.	?	lines and hollows (77). Bodysherd decorated with incised
292.		Bodysherd decorated with incised floral design (90).	324.		lines and slashes (174). Bodysherd decorated with incised
293.	St78 Area incised lin	es.	325.		wavy line (1419). Bodysherd decorated with incised
294.	VI	Bodysherd decorated with incised floral design (134).	326.		lines (144). Bodysherd decorated with incised
295.	VI 8	Bodysherd decorated with incised wavy lines (938).	327.		floral design (59). Bodysherd decorated with incised
296.	VI	Bodysherd with incised design (933).			floral design (927).
297.	$VI_5$	Bodysherd decorated with incised lines (1315).	328.		Bodysherd decorated with incised lines (2880).
298.	VI6	Bodysherd decorated with incised wavy lines (105).	329.		Bodysherd decorated with wavy incised lines (3590).
299.	VI7E	Bodysherd decorated with incised lines (154).	330.		Bodysherd decorated with incised lines (3222).
300.	VI7E	Bodysherd decorated with incised lines (132).	331.	ż	Bodysherd decorated with incised lines (2895).
301.	VI <sub>7</sub> Pit	Bodysherd decorated with incised wavy lines (974).	332. 333.	5 5	Bodysherd with incised lines (935). Narrow neck decorated with
302.	VI8	Bodysherd decorated with incised wavy lines (938).	334.		incised lines (962). Bodysherd decorated with incised
303.	VI8	Bodysherd decorated with incised floral design (75).	335.		wavy lines (935). Bodysherd decorated with incised
304.	V18	Bodysherd decorated with incised floral design and wavy lines (57).	336.		lines (3254). Bodysherd decorated with incised
305.	VI8	Bodysherd decorated with incised	337.		floral design (140). Bodysherd decorated with incised
306.	VI8	floral design (81).  Bodysherd decorated with incised lines (8250).	338.		floral decoration (3169).  Jug side wall decorated with
307.	VI8	lines (3259).  Bodysherd decorated with incised hollows (155)			incised lines (3106). Bodysherd decorated with incised
308.	VI8	hollows (155).  Bodysherd decorated with incised	339.		lines (934).
309.	VI8	lines (166). Bodysherd decorated with incised lines (135).	340.	•	Side wall and neck from jug decorated with incised lines (2615).
		* * *			

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341.	c	Bodysherd decorated with incised	388.	V5	Frilled base from jug (2456).
34	•	hollows (106).	389.		Frilled base from jug (1952).
342.	DN	Bodysherd decorated with raised	390.	VĬ8	Frilled base from jug (1858).
342.		thumbed strip (1724).	201	VI <sub>2</sub> 4	Frilled base from jug (2992).
343.	I	Bodysherd decorated with	392.	2 4	Frilled base sherd from jug (1948).
343.	J	thumbed pad (2218).		C	Frilled base sherd from jug (1947).
344.	PΤ	Bodysherd decorated with applied	393.	9	Frilled base sherd from jug (1947).
344		thumbed strip forming cross	394.	· ·	Frilled base sherd from jug (1944).
		(2458).	395. 396.	5	Frilled base sherd (3013).
345.	VI	Bodysherd decorated with hollows		5	Frilled base from jug (3028).
343.		(175).	397. 398.	è	Frilled base sherd from jug (2078).
346.	VI6	Bodysherd decorated with	399.	· •	Frilled base sherd (867).
340.		thumbed pads (1015).	399· 400.	?	Frilled base from jug.
247.	VI6	Bodysherd decorated with	401.		Rimsherd from small vessel.
347.		thumbed pads (136).	402.		Rim and strap handle from small
248.	VI8	Bodysherd with floral design made	402.	CIVI	vessel (1796).
340		of thumbed pads (948).	100	CM	Rimsherd from small vessel
349.	VI8	Bodysherd decorated with	403.	CIVI	(286 <sub>5</sub> ).
349.		thumbmarks (975).	101	CM	Rimsherd and handle junction
350.	Y	Bodysherd decorated with	404.	CIVI	from small vessel (1622).
350.	•	thumbed pad (856).	405	Kiln	Rimsherd from small vessel
351.	С	Bodysherd with thumbed	405.	Kiiii	
3311	•	decoration (941).	406.	рT	(3508). Rim from small vessel (3518).
252.	ST78 area	7 F15 Bodysherd with raised		Sten 59	Rimsherd from very small vessel
33		and drilled hole.	407.	эсси 59	
353.	?	Bodysherd with drilled holes (960).	108	V-	(1573). Pimsbard from small yessel
	VI6	Bottom half of jug (3003).	408.	<b>v</b> 5	Rimsherd from small vessel
354. 355.	VI <sub>7</sub> Pit	Bottom half of vessel (30).		<b>1</b> 7-	(1423).
356.	2	Bottom half of jug (3012).	409.	<b>v</b> 5	Rimsherd from small vessel
357·	2	Bottom half of jug (2988).	410.	X/I.	(3509).
358.	?	Bottom half of jug (3055).	410.	V 14.	Rimsherd from small vessel
359		Base from jug (3017).	411.	VIG	(3524).
36o.	Ď	Base sherd from small jug (1646).	411.	VIO	Rimsherd from very small vessel
361.		Base from jug (2028).		VI= Dia	(3560).
362.	Kiln	Base sherd from jug (3301).	4 I 2.	VI <sub>7</sub> Pit	Rim and side wall from small
363.	Kiln	Base and side wall from jug (1037).		2	vessel (940).
364.	$V_5$	Base from globular jug (1).	413.	5	Rim from small vessel (3375).
	$\overset{\mathbf{v}}{\mathbf{v}_{5}}^{\mathbf{o}}$	Base sherd from jug (3021).	414.		Rimsherd from small vessel
365. 366.	$VI_{2-4}$	Base and side wall from jug (3039).		2	(3530).
367.	VI <sub>5</sub>	Base and side wall from jug (3044).	415.	•	Rimsherd from small vessel
368.	$VI_5$	Base sherd from jug (1945).	416	Э.	(3532). Rimshard from small yessel
	VI <sub>7</sub> -8	Base sherd from jug (3057).	416.	:	Rimsherd from small vessel
369.	VI <sub>7</sub> 8	Base sherd from jug (3057).		2	(3533). Rimsherd from small vessel
370.	?	Basal angle and side wall (3276).	417.	:	
371.	; 2	Base sherd from jug (3006).	418.	)	(3531). Rimsherd from small vessel
372.	?	Thumbed base (1667).	410.	÷	
373.	?	Base sherd from jug (3278).	419.	э	(3519). Rimsherd from small vessel
374.	· c	Base sherd from jug (3276).	419.	•	/
375	?	Base shord from jug (5045).	420.	э	(3517). Rimsherd from small vessel
376.		Base fragment with hole drilled	420.	•	
377.			40.1	2	(3550). Base from very small vessel (22)
α = Ω	5	through (855). Splayed base from jug (1937).	421.	Kiln	Base from very small vessel (23).
378.	5	Splayed base from jug? (1937).	422.	VI-E	Base from very small vessel (24).
379.		Splayed base from jug? (3574).		VI7E	Base from small vessel (1274). Pit Base and side wall from small
380.	:	Splayed base sherd from jug	424.	$V1_7$	
αΩ.	c	(1951). Splayed base from jug (2051)	405	VIS	vessel (48). Basesherd from small vessel (46)
381.	9	Splayed base from jug (3051).		VI8	Basesherd from small vessel (46).
382.	•	Thumbed and splayed base from	426.	5	Base from small vessel (953).
a9a	3	Jug (3053).	427.	5	Base from small vessel with cross
383.		Pedestal base shord from jug	100	C	incised on base (681).
ωΩ.	DN	(1949). Frilled base from jug (2800)	428.	V-	Rimsherd from small jar (2939).
384.		Frilled base from jug (2809).	429.	v э э	Rim and side wall from jar (1320).
385.	F St=2 II =	Frilled base from jug (2984).	430.	:	Rim and upper body from jar
	St78 II 5	Frilled base from jug. Frilled base from jug.	407	2	(906). Rimsherd from jar (2357).
387.	St78 II 5	rimed base from jug.	431.	•	Kinishera nom jar (2357).

		MEDIEVAL KILNS AT	311	MII 0 0 5.	EMOIR 131
432		Rimsherd from jar? (3346). Rim from jar? (3369).	473.	VI <sub>7</sub> Pit	Rimsherd from storage vessel (3340).
433 434		Rim and side wall from jar?	474.		Rimsherd from large storage
435	. ?	(3353). Rimsherd from jar? (3357).	475.	$V_5/PT$	vessel (3351). Rim and strap handle from small
$\frac{436}{437}$	. ? . V5	Rimsherd from jar? (3366). Rimsherd from storage jar (3411).	476.	D	Thumbed pad with bunghole
	. V <sub>5</sub>	Rimsherd from storage vessel (3523).	477.	5	(2489). Bodysherd from vessel with
439	. V <sub>5</sub>	Rim and side wall from storage vessel (857).	478.		bunghole (2499). Rimsherd and lug handle from
440	. V <sub>5</sub> . VI <sub>2 '4</sub>	Rim from storage vessel (3393). Rimsherd from storage vessel			large vessel (3413). Pierced lug handle (860).
441	. VI2 4	(3500).		VI8	Rimsherd from storage vessel
442	. ?	Rim from storage vessel (3331).	.1.00.	, .0	(3373).
443	0	Rimsherd from storage vessel (3493).	481.	DN	Lug handle from storage vessel (866).
444		Rimsherd from storage vessel (3391).	482.	$VI_5$	Thumbed lug handle from large vessel (1898).
445	. ?	Rim and neck from storage vessel	483.	D	Small skillet handle (880).
110		(3376).	484.		Folded skillet handle (891).
446	. ·	Rimsherd from storage jar (3501).	485.		Skillet handle (2486).
447	~	Rimsherd from storage jar (3503).		DNb	Skillet handle (849).
448		Rimsherd from storage vessel	487.	3	Small skillet handle (3364).
		(3386).	488.		Rimsherd from open vessel form
449	. · ·	Rimsherd from storage vessel	T		(2832).
		(3390).	489.	DN	Rimsherd from open vessel (1786).
450	. ?	Rim from storage vessel (3401).	490.	V5	Rimsherd from open vessel form
$45^{1}$	. ?	Rimsherd from storage vessel?	13	.,	(1007/1207).
		(1492).	491.	V5	Rimsherd from open vessel form
$45^{2}$	. VI7E	Rimsherd from small jar (1275).	10	3	(3224).
453		Rim from jar (3406).	492.	VI <sub>2</sub> <sub>4</sub>	Rim from open vessel form (848).
454	. VI7pit	Rimsherd from storage jar (3400).		VI <sub>7</sub> 8	Rim from open vessel (3402).
455	. VI8	Rim and side wall from jar?	494.	VI8	Rimsherd from open vessel (3407).
_		(3356).	495	?	Profile from dish (16).
456	. VI8	Rim and two strap handles from large vessel.	496.	?	Rimsherd from large open vessel (3410).
457		Complete cup/mug with small rod	107	5	Rimsherd from open vessel (3322).
		handle (2866).	497.	c	Rimsherd from open vessel (3328).
458	. ?	Complete single handled beaker	498.		Rim and side wall from large open
		(2009).	499.	•	vessel (2998).
459		Complete beaker (3283).	-00	2	Rimsherd from open vessel (2823).
460		Rimsherd and complete strap	500. 501.	· ?	Rimsherd from open vessel (2023).
	_	handle from beaker? (2818).	301.	•	decorated with thumbed strip
461	. ?	Rim and side wall from beaker?			(3152).
	2	(3342).	502.	DN	Rim and side wall from bowl
4.62	. ?	Notched rim and strap handle	502.	D. (	(1790).
	2	junction from beaker? (3360).	503.	St78 X	Profile from dripping pan.
463		Pedestal base from jar/beaker (6).		2	Profile from dripping pan (8).
464		Rimsherd from beaker? (3398).	504. 505.		Profile from dripping pan (38).
465		Top half of beaker (1016).	506.	****	Rimsherd from dripping pan
•	Sten 62	Rim and complete strap handle from beaker (904).	_		(3347).
467	VI <sub>7</sub>	Pit Rim and handle junction from beaker (3427).	507.		Rimsherd from dripping pan $(165)$ .
468	VI8	Rim and strap handle from beaker	508.	?	Rimsherd from dripping pan (55).
469		(3379). Rimsherd and strap-handle	509.	CL	Pierced lug handle from dripping pan (2498).
		junction from chamber pot (2352).	510.		1 F <sub>4.5</sub> Base sherd from dripping
470	$VI_7$	Rim and complete loop handle		pan.	Dim and base shard from drip-i
	2	from urinal (2484).	511.	VI <sub>7</sub> 8	Rim and base sherd from dripping
471	2	Rim and complete loop handle		V/10	pan (4).
472	ST78 F3 5	from urinal (2493). Rimsherd from storage vessel.	512.	VIÖ	Complete ladle with rod handle (2491).

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513. ?	Rimsherd and skillet handle from ladle? (3368).	53 <sup>8</sup> .	ż	Rimsherd from unidentified vessel form (3430).
514. ?	Rim and rod handle from ladle? (887).	539-	5	Rimsherd from unidentified vessel form (3221).
515. VI5	Profile from small drinking bowl (9).	540.	?	Rimsherd from unidentified vessel form (931).
516. VI5	Rim and side wall from ink well? (2956).	541.	·	Rim and neck from unidentified vessel form (1928).
517. VI6	Bodysherd from curfew decorated with incised lines and slashes	542.	5	Rimsherd from unidentified vessel form (940).
0 171 0	(2474).	543.	ST781 F4	5 Bodysherd from unidentified
518. VI 7 ? 519. VI8	Side wall from pirlie pig (845). Fragments of pirlie pig money box	544-	vessel forr	n. Bodysherd from unidentified
519. VIO	(2527).	344.	•	vessel form (3520).
520. VI6	Base from pirlie pig money box	545.	J	Bodysherd reused as counter/
521. VI8	(885). Base of pirlic pig money box (884).	546.	Ģ	gaming piece (2117). Bodysherd reused as counter/
522. ?	Base of pirlie pig money box (876).	340.	•	gaming piece (1244).
523. VI7E	Bodysherd from colander with	547.	VI8	'Bubbled' bodysherd from jug,
	three drilled holes (2496).			kiln waster? (54).
524. VI8	Virtually complete vessel with small rod handle (2454).	548.	?	Waster with 'bubbled surface' (3292).
525. VI7	Rim from narrow necked vessel	549.	V5	Tile fragment (2478).
3-3, **/	(3526).	550.	5.	Tile fragment (483).
526. VI7 Pit	Rimsherd from narrow necked	551.		Tile fragment (1139).
<i>J I</i>	vessel (2475).	552.	CL	Base of kiln stand (2958).
527. VI8	Bodysherd from narrow necked	553.	D	Base of kiln stand (2794).
,	vessel (3536).	554.		Top half of kiln stand with hole
528. C	Complete unglazed jar with slight			(1743).
	external and internal smoke	555.	F	Main body of kiln stand (2526).
	blackening (St 1).	556.	F	Top half of kiln stand with hole
529. C	Complete unglazed jar with slight			(2987).
	external and internal smoke	557.	ST78, Ar	ea 1 6 Base from kiln stand.
	blackening (St 2).	558.		Base of kiln stand (2980).
530. DNC	Rimsherd from unidentified vessel form (1815).	559-	Sten 62	Virtually complete unglazed jug with vertical incised lines and
531. J	Rimsherd from unidentified vessel			strap handle (3600).
00 0	form (2355).	560.	D	Complete single-handled beaker
$532. V_5$	Rim and neck from unidentified vessel form (1836).			glazed dark green with small looped strap handle (2008).
533. PT	Rim and neck from unidentified	561.	$\mathbf{C}$	Complete unglazed jar with slight
534. V <sub>5</sub>	vessel form (1805). Rim and side wall from			internal and external smoke blackening (2001).
	unidentified vessel form (1289).	562.	?	Fragment of fired clay and straw
535. V5	Rim and strap-handle junction	-60	2	from kiln dome (2677).
536. VI8	from unknown vessel form (2471). Bodysherd and handle junction	563.	•	Fragment of clay and straw kiln dome (2701).
550. +10	from unknown vessel form (3163).			(-//-
537∙ ?	Rimsherd and neck from			
er er f	unidentified vessel form (1883).			

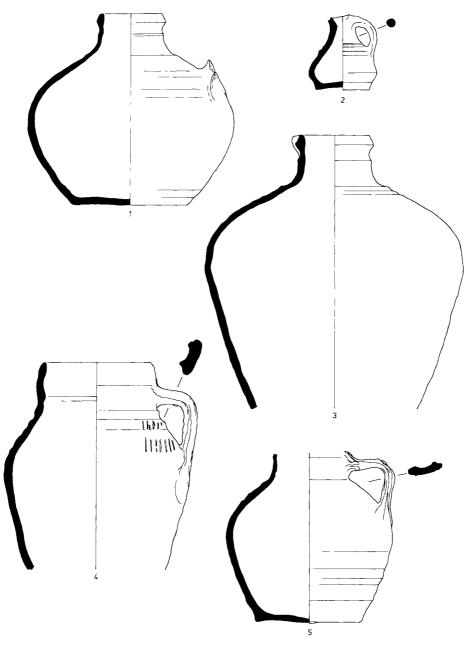
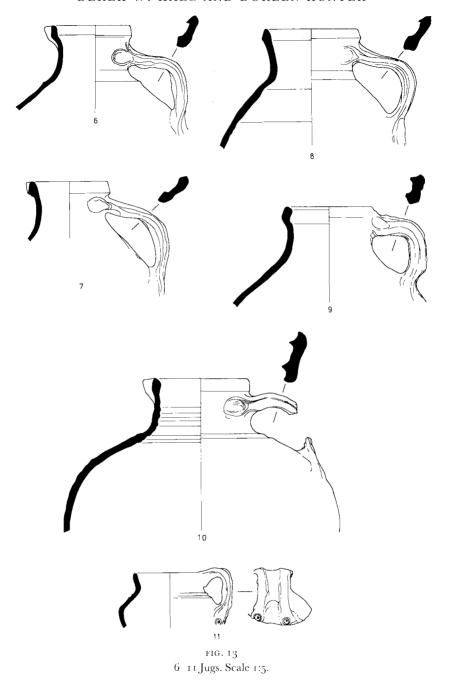
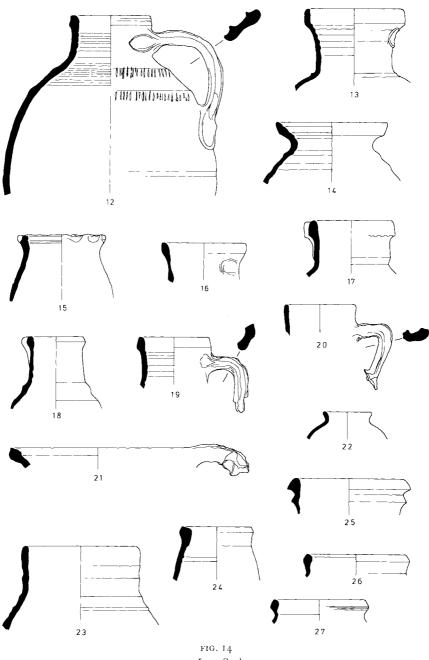
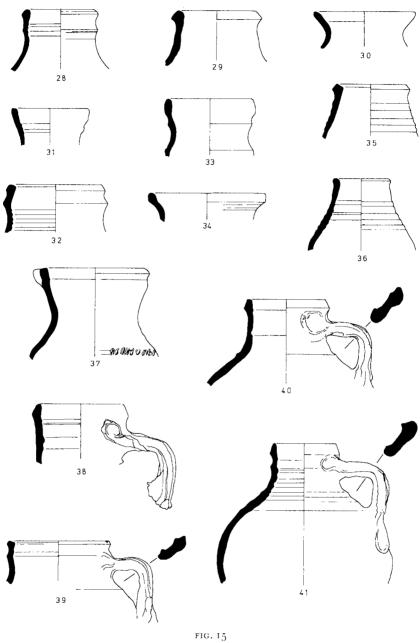


FIG. 12 1-5 Jugs. Scale 1:5.





12-27 Jugs. Scale 1:5.



28 41 Jugs. Scale 1:5.

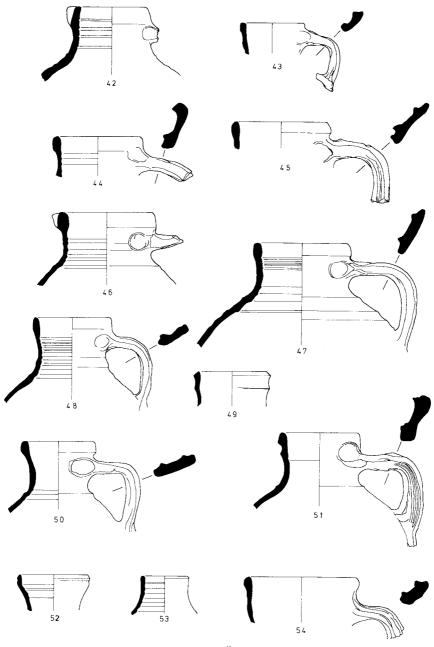


FIG. 16 42 54 Jugs. Scale 1:5.

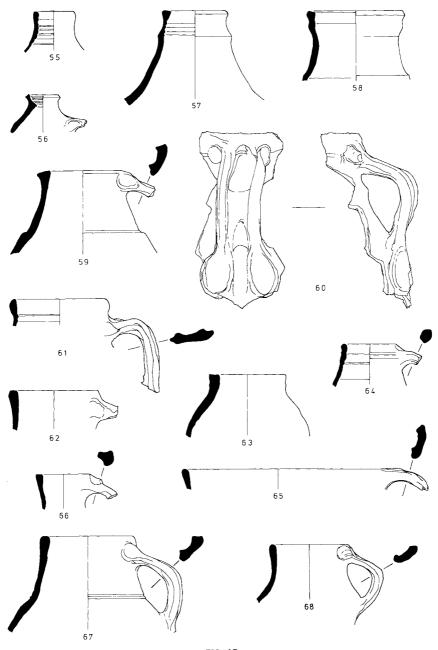


FIG. 17 55-68 Jugs. Scale 1:5.

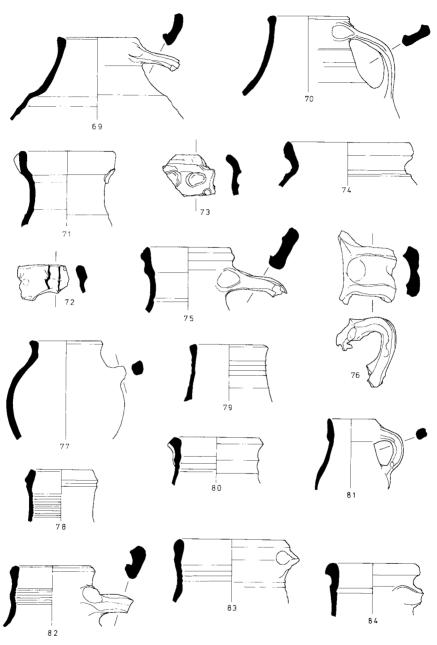


FIG. 18 69 84 Jugs. Scale 1:5.

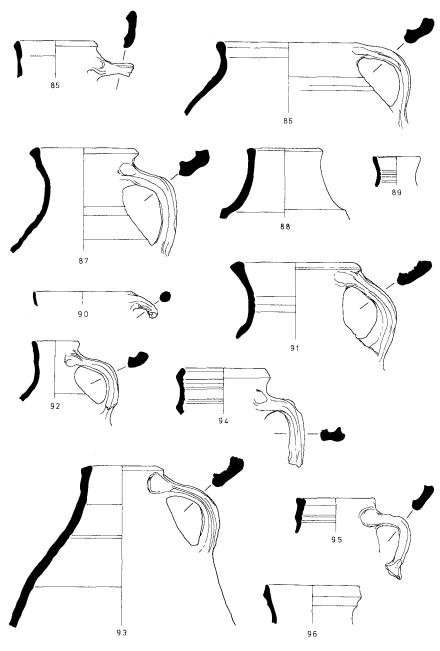
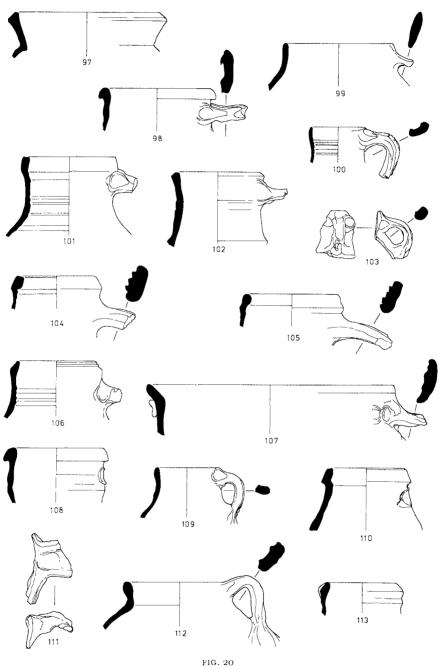
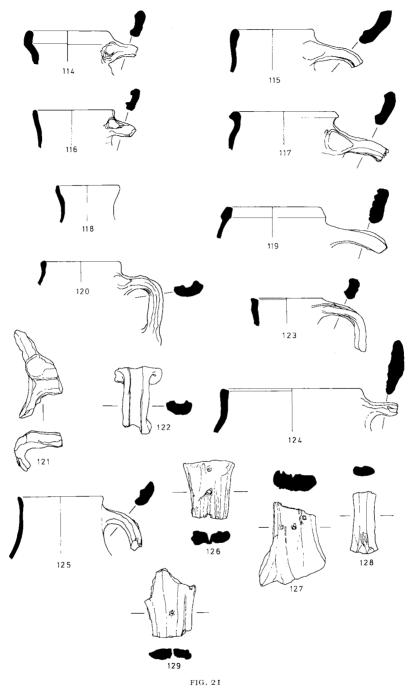


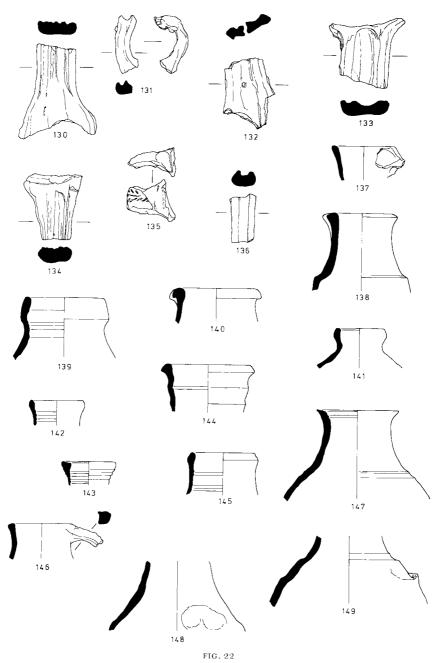
FIG. 19 85-96 Jugs. Scale 1:5.



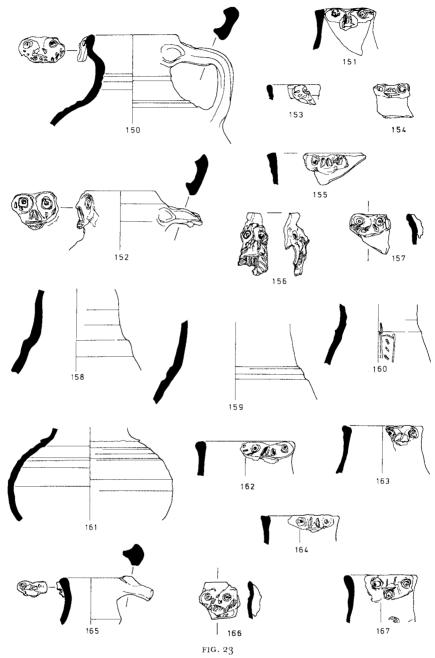
97 113 Jugs. Scale 1:5.



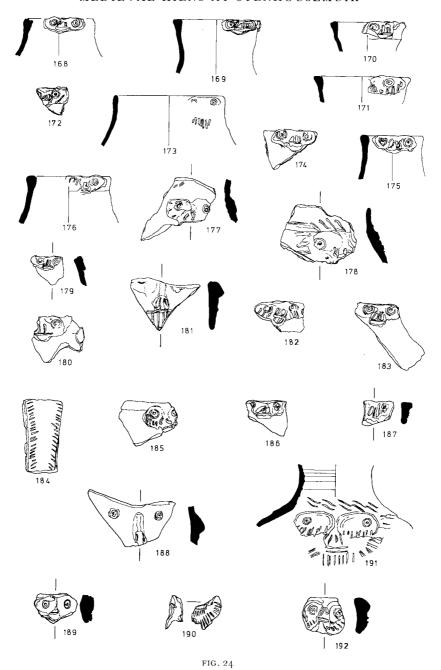
114-25 Jugs; 126-9 Strap handle fragments. Scale 1:5.



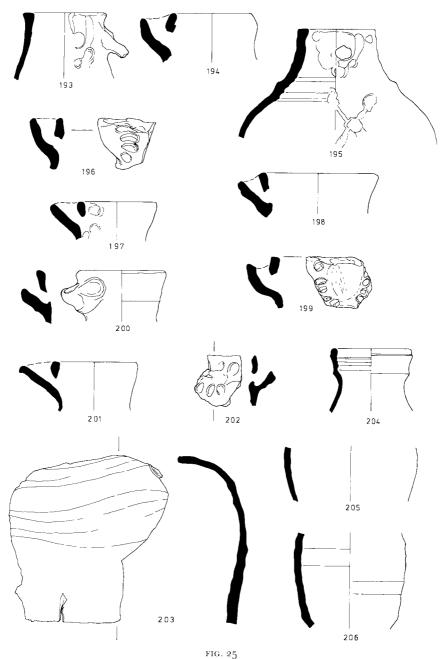
130-6 Strap handle fragments; 137-49 Jugs. Scale 1:5.



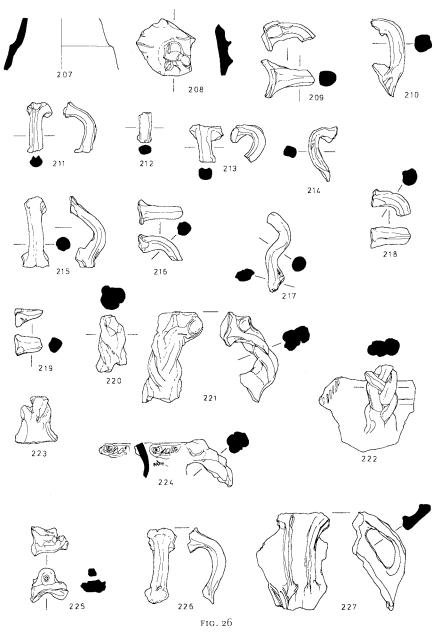
150–7 Face masks on jug rims; 156 strap handle; 158–9 Neck profiles from jug forms; 160 Neck profile with incised decoration; 161 Body profile from globular vessel; 162–7 Face masks on narrow necked jugs. Scale 1:5.



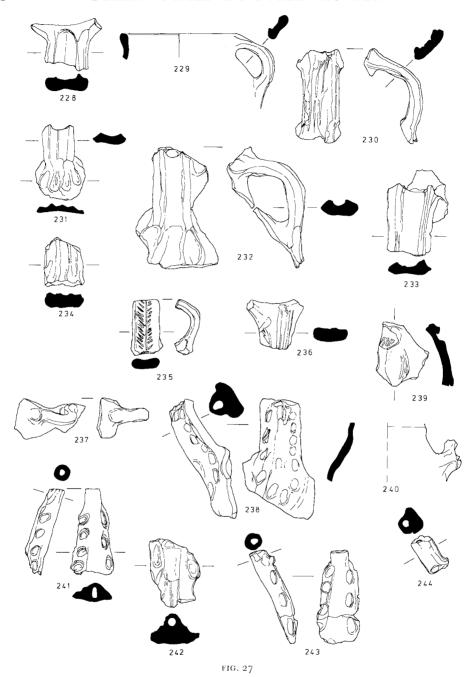
168 83 Face masks; 184 Strap handle with incised lines; 185–7 Face masks; 188–92 face masks, including Green Man (191). Scale 1:5.



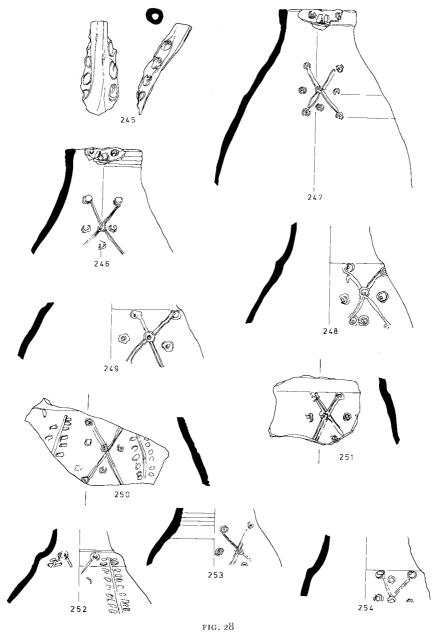
193 202 Jugs with bridge spouts; 203 6 Body profiles from jugs. Scale 1:5.



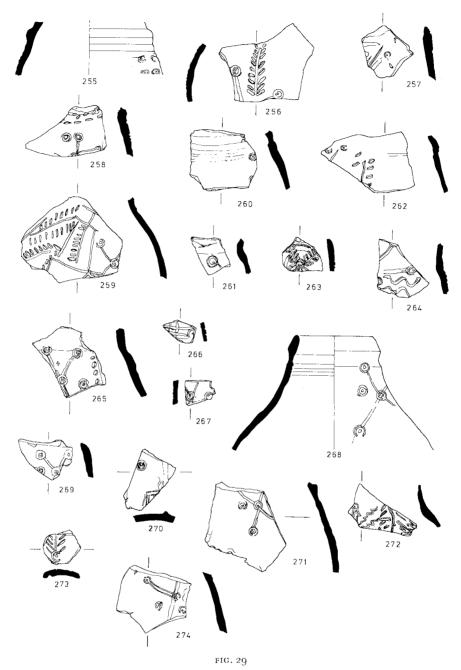
207 Neck profile from jug; 208 Handle junction; 209–18 Decorative handles; 219 Skillet handle?; 220–3 Twisted handles; 224 Narrow necked jug rim with face mask and twisted handle; 225 Twisted handle with suspension loop; 226 Rod handle; 227 Rim with complete strap handle. Scale 1:5.



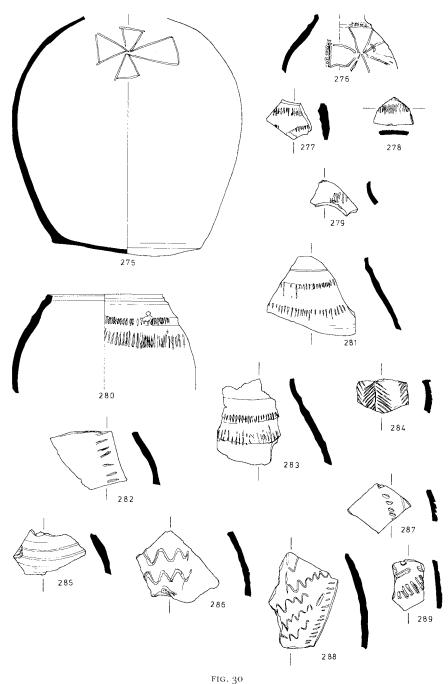
228 34 Strap handles; 235 Narrow strap handle with incised decoration; 236 Strap handle; 237 Loop handle; 238 Tubular spout moulded on to strap handle; 239 Applied decorative pads; 240 Twisted handle junction; 241-4 Tubular spouts. Scale 1:5.



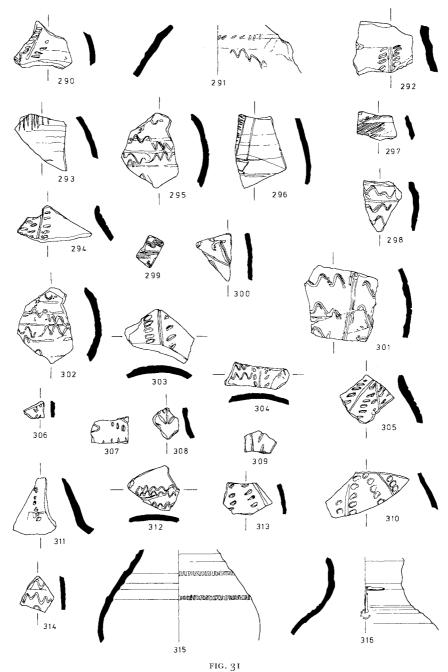
245 Tubular spout; 246, 247 Figure jugs with face masks and saltire crosses; 248 54 Incised saltire crosses. Scale 1:5.



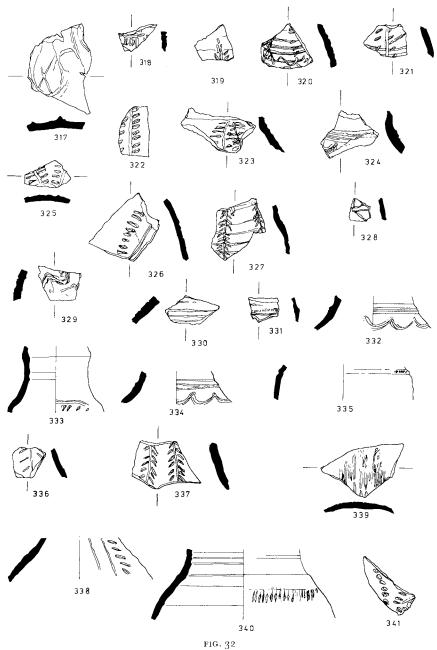
255-74 Incised decoration including saltire crosses and foliage. Scale 1:5.



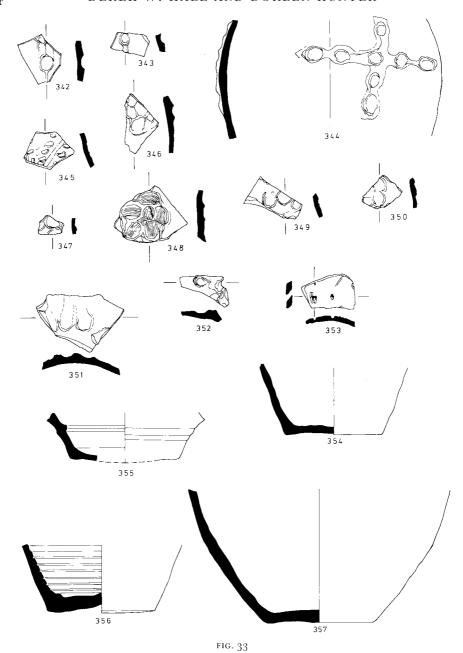
275 Vessel with incised Maltese cross; 276 Bodysherds from vessel with incised Maltese cross; 277 89 Incised decoration. Scale 1:5.



290-316 Incised decoration. Scale 1:5.



317-41 Incised decoration. Scale 1:5.



342 · 52 Applied decoration including cross (344); 353 Bodysherd from jug with pierced holes; 354 · 7 Basal angles from jugs. Scale 1:5.

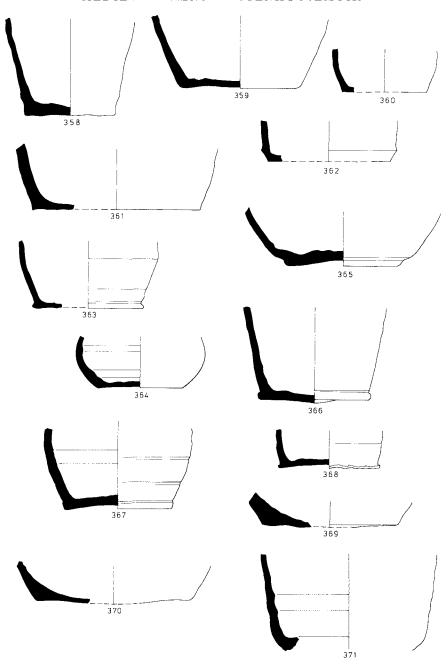
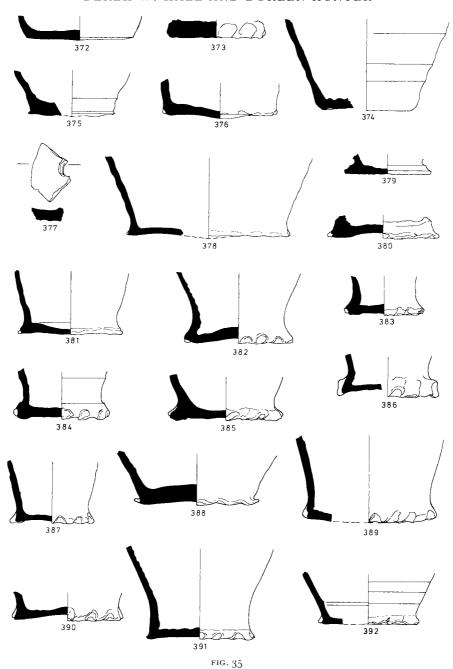
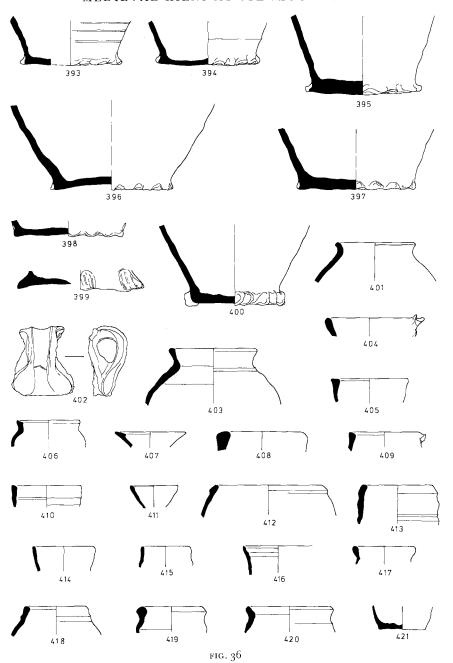


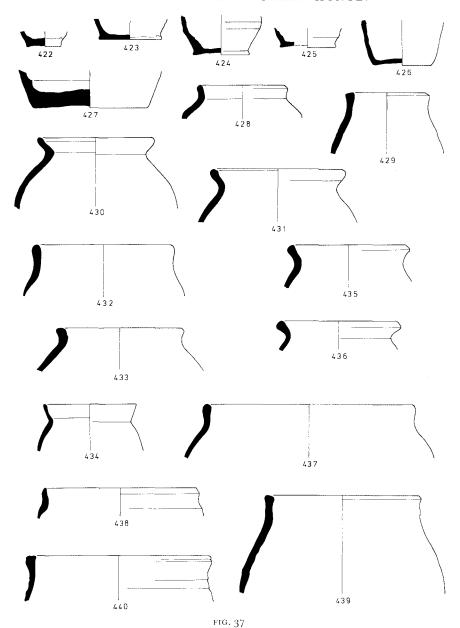
FIG. 34 358 71 Basal angles from jugs. Scale 1:5.



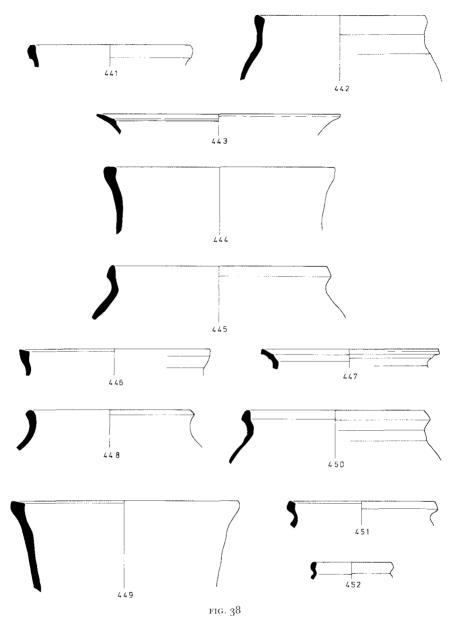
372 92 Thumbed basal angles. Scale 1:5.



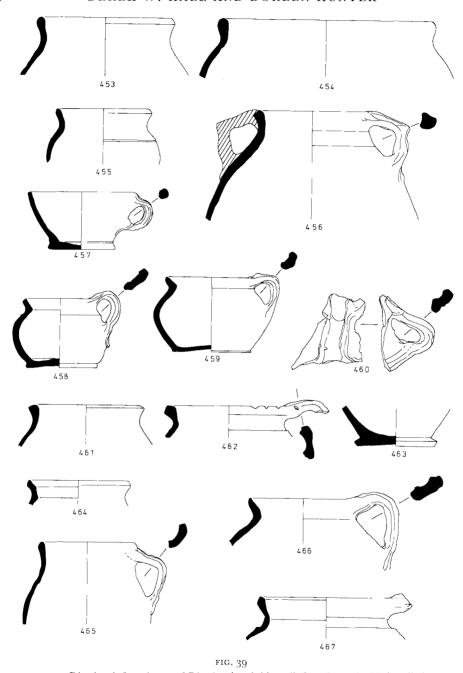
393–400 Thumbed basal angles; 401–20 Rimsherds from small vessel forms; 421 Basal angle from small vessel. Scale 1:5.



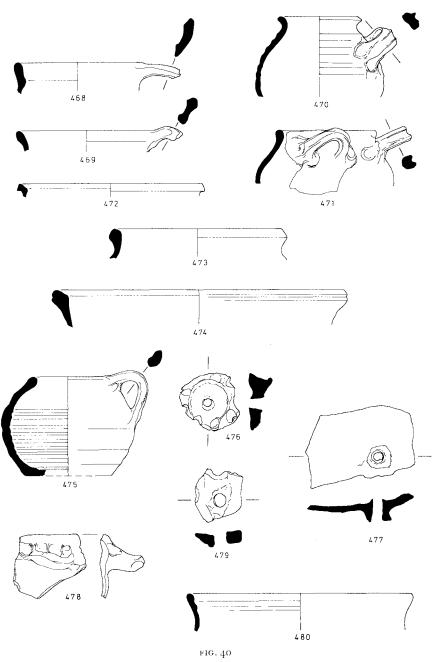
422–7 Basal angles from small vessels; 428–36 Rimsherds from jars; 437–40 Rimsherds from large storage vessels. Scale 1:5.



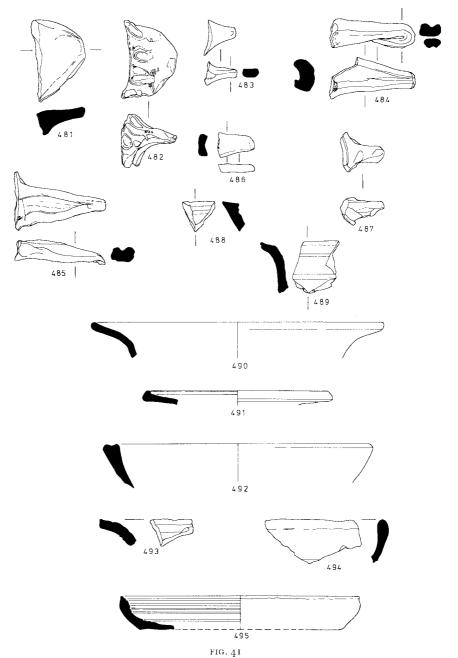
 $441\!-\!51$  Rimsherds from large storage vessels; 452 Rimsherd from jar. Scale 1:5.



 $_{453-5}$  Rimsherds from jars;  $_{456}$  Rimsherd and side walls from large double handled vessel;  $_{457}$  Complete handled cup or mug;  $_{458-67}$  Rimsherds from handled beakers. Scale 1:5.



468, 469 Handled beakers; 470, 471 Loop-handled urinals; 472–4 Rimsherds from large storage vessels; 475 Complete handled jar; 476, 477 Bodysherds from vessels with bungholes; 478 Rim and lug handle from vessel; 479 Bodysherd with drilled hole; 480 Rimsherd from large storage vessel. Scale 1:5.



481, 482 Lug handles; 483 7 Skillet handles; 488 95 Rimsherds from open vessel forms. Scale 1:5.

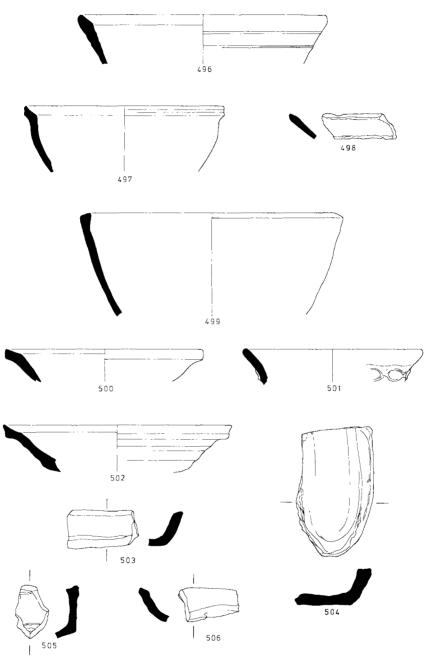


FIG. 42 496 502 Open vessel forms; 503 6 Dripping pans. Scale 1:5.

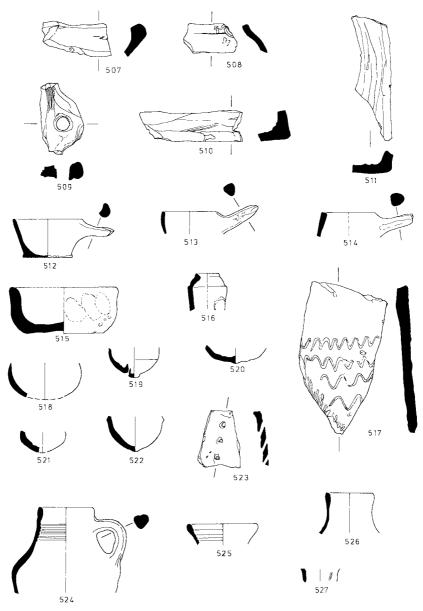


FIG. 43

507–11 Dripping pan fragments; 512–14 Small handled vessels; 515 Small complete bowl; 516 Very small unidentified vessel form; 517 Bodysherd from curfew (?) decorated with incised wavy lines; 518–22 Pirlie pigs; 523 Bodysherd with drilled holes; 524 Rim, complete rod handle and side walls from small jug; 525–7 Rimsherds from small vessel forms. Scale 1:5.

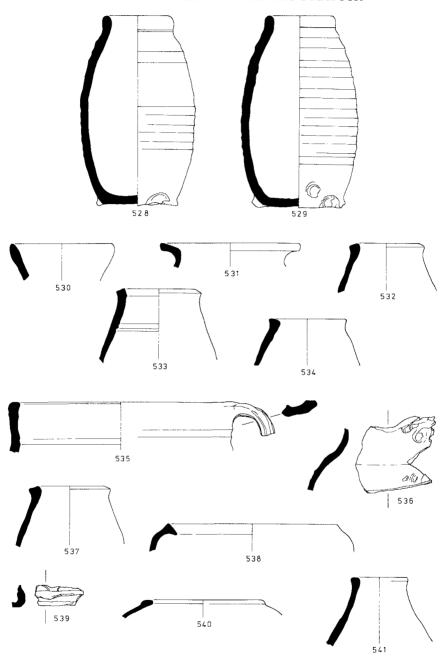
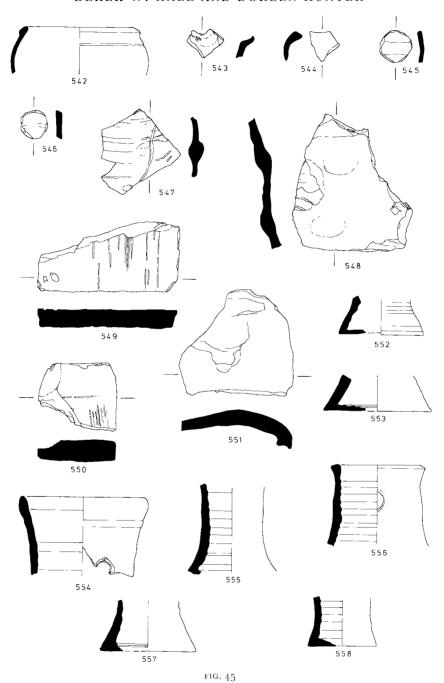
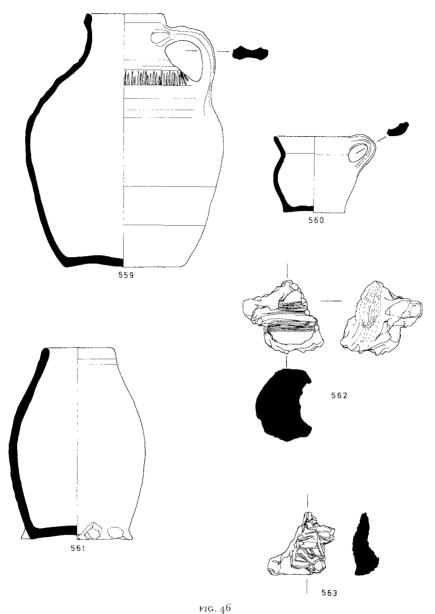


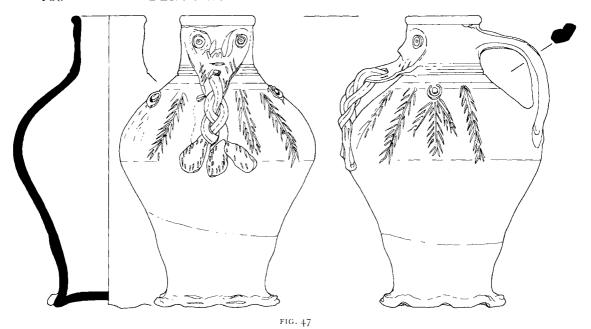
FIG. 44
528, 529 Complete syrup collecting jars; 530–41 Unidentified vessel forms. Scale 1:5.



542 4 Unidentifed vessel forms; 545, 546 Bodysherds reused as counters or gaming pieces; 547, 548 Kiln wasters with bubbled surfaces; 549 51 Tile fragments; 552–8 Kiln stands. Scale 1:5.



559 Virtually complete unglazed jug with vertical incised lines and strap handle; 560 Complete single handled beaker; 561 Syrup collecting jar; 562, 563 Fragments of fired daub from kiln dome. Scale 1:5.



Complete jug with frilled base and 'green man' face mask, ring and dot and foliage decoration from Ministry of Works clearances at Linlithgow Palace, West Lothian. Scale 1:4.