

# A room with a view: excavations at Ravelrig Quarry

Christine Rennie\*

## ABSTRACT

*Excavations at Ravelrig Quarry, City of Edinburgh (NGR: NT 1434 6696) revealed activity from the Late Neolithic, and Late Bronze Age, although the main phase of activity was the construction of a palisaded homestead during the Early Iron Age. Inside an oval-shaped palisade was a circular ring-groove roundhouse and a possible second circular structure comprising ditches and post-holes. The roundhouse contained a central hearth with associated post-holes, two large pits and features that appear to represent the early formation of a ring-ditch. This phase has been radiocarbon dated to 600–400 cal BC.*

## INTRODUCTION

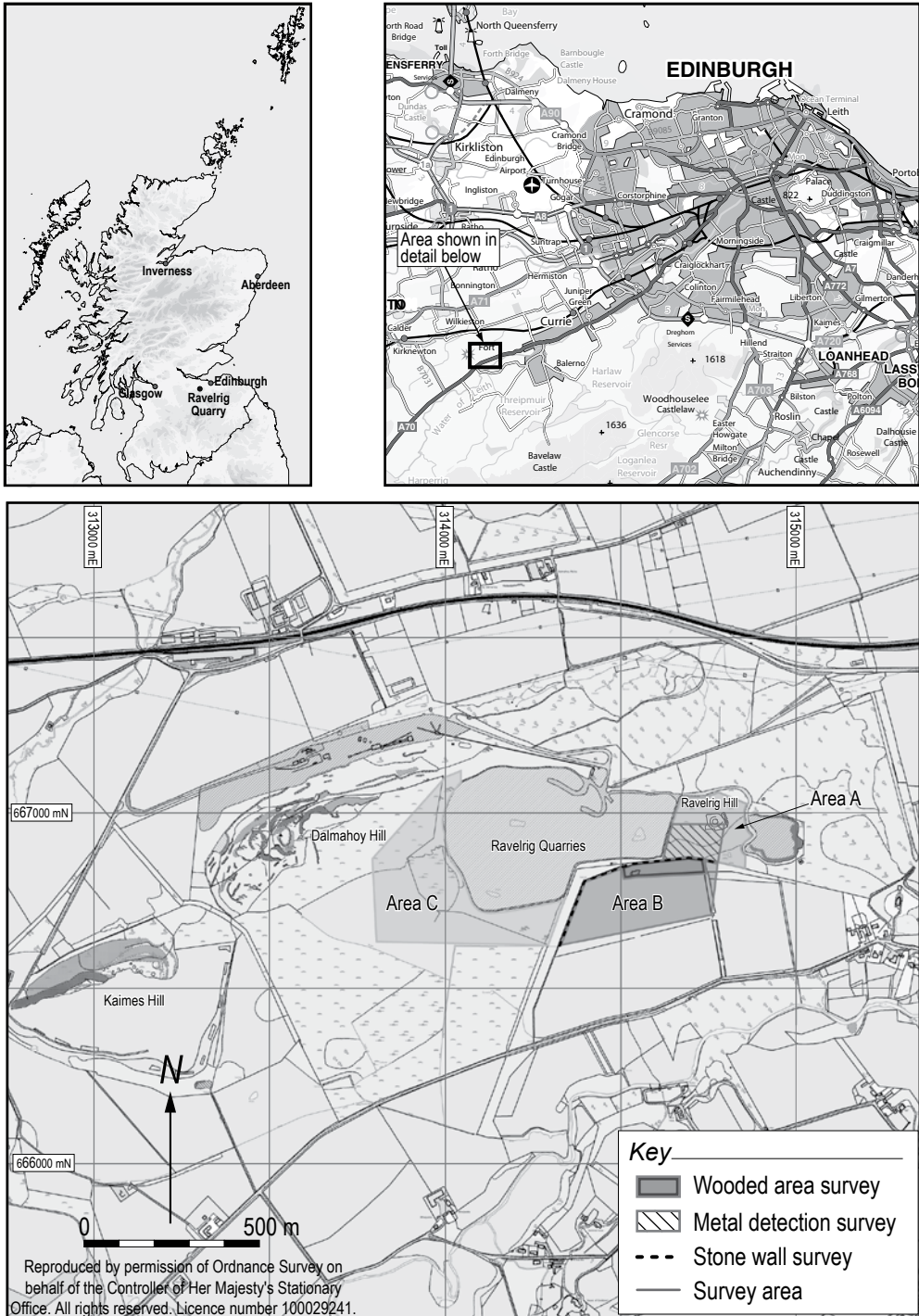
In January 2009, Tarmac Limited commissioned GUARD Archaeology Ltd (formerly Glasgow University Archaeological Research Division) to carry out the excavation of three enclosures and associated features in advance of a quarry extension at Ravelrig Quarry, City of Edinburgh (illus 1 and 2). These previously unrecorded features were uncovered during an evaluation of the proposed quarry extension in December 2008 and January 2009 (Maguire 2010). The archaeological site was centred at approximately NGR: NT 1434 6696 and lay on the south-east side of the existing Ravelrig Quarry. The site, the main part of which lay at 198m AOD, occupied two terraces on the north-facing slope of Ravelrig Hill and had commanding views to the west, north and east. Old Ravelrig Quarry lay immediately east of the excavation and a track relating to the quarry ran through the approximate centre of the site. Surviving earth works associated with the 19th-century quarry were investigated and recorded as part of the excavation, but are not included in this report, which relates solely to the prehistoric remains.

The area around the site consisted of very uneven terrain with frequent bedrock outcrops, which generally dropped away to the north, interspersed with several distinct terraces. The general area of the site is shown as being cultivated from the later 18th century (Laurie 1766) until the mid-19th century (Ordnance Survey 1853). The superficial geology comprised silts and gravels, while the bedrock consisted of Dalmahoy sill of Carboniferous date (BGS 1956).

## ARCHAEOLOGICAL CONTEXT

The landscape immediately west of the archaeological site is dominated by the locations of two Scheduled Monuments, Dalmahoy Hillfort (SAM 1213; NMRS NT16NW 1) and Kaimes Hillfort (SAM 1172; NMRS NT16NW 2). The fort on the former is believed to date to the early medieval period when the summit of the hill was fortified by a series of walls and ramparts leading up to a citadel with a single narrow entrance (Stevenson 1951: 191). Possible prehistoric activity at Dalmahoy is suggested by the remains of three hut circles,

\* GUARD Archaeology Limited, 52 Elderpark Workspace, 100 Elderpark Street, Glasgow G51 3TR



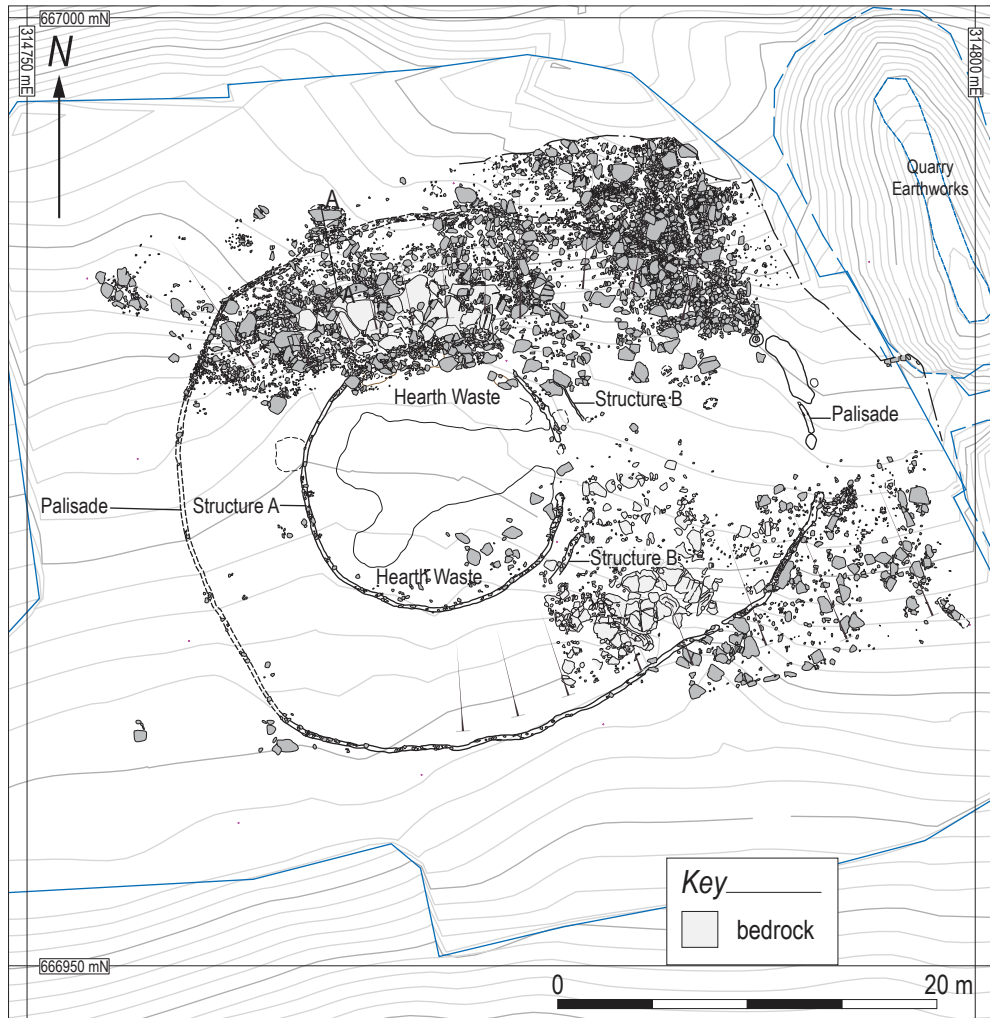
ILLUS 1 Site location map

which were surveyed and also described, although the dating should be regarded as speculative as none of the hut circles were excavated (ibid: 190).

Archaeological investigations at the fort on Kaimes Hill have been carried out since the mid-19th century, when the Reverend J Clason described the remains in his account of Ratho parish, included in the second Statistical Account of Scotland (Clason 1839 Vol 1: 91–2). Excavation in advance of quarrying carried out

by V G Childe in 1940 found evidence for three phases of occupation, these being distinguished by remodelling of the ramparts and the construction of hut circles (Childe 1941: 53–4). A recently published account of excavations carried out by D D A Simpson during the 1960s and 1970s concludes that:

the various campaigns of archaeological investigation at Kaimes Hill suggest a protracted and probably intermittent use of the site, beginning in the Mesolithic period [represented by microliths]



ILLUS 2 Pre-excitation plan

and extending through to the present day (Simpson et al 2004: 109).

Although Simpson found evidence of Bronze Age settlement, the majority of the remains from this date are ritualistic in function and comprise a cup-and-ring marked stone, a kerbed cairn and standing stones. The Iron Age remains on the site comprise ramparts that were apparently constructed to channel movement within the hillfort and control access to the upper terrace (Simpson et al 2004: 110–11). Radiocarbon samples from Ramparts 1 and 2, and from Houses 2, 4 and 5 all give dates of after 380 cal BC. Some Roman Iron Age activity is indicated by the recovery of a coin of Septimius Severus (AD 193–211), but the general paucity of Roman artefacts suggests that Kaimes Hill was not occupied during the Roman Iron Age, and that the settlement and social functions of the hillfort may have, ‘transferred to Dalmahoy Hill, where an Early Historic centre may well have developed’ (Simpson et al 2004: 114–15).

#### EVIDENCE FOR PRE-IRON AGE ACTIVITY

The excavation and post-excavation analysis identified phases of activity at Ravelrig Quarry from the Late Neolithic, later Bronze Age and Early Iron Age that were broadly determined by radiocarbon dates, artefactual dating and stratigraphic relationships. The Late Neolithic is represented by imported Yorkshire flints found on the site that had been reduced using a Levallois-like technique that dates these artefacts to the Late Neolithic (see Lithic Assemblage below). As the flints were recovered mainly from occupation layer 005 in Structure A and from the fills of the palisade trench and the ring-groove of Structure A, their deposition is most likely to be residual and the result of backfilling features during construction of the Iron Age structures. A second group of lithic artefacts comprised local pebbles primarily reduced using bipolar

technique consistent with a later Bronze Age date. No negative features produced radiocarbon dates that correspond with Late Neolithic or later Bronze Age activity on the site.

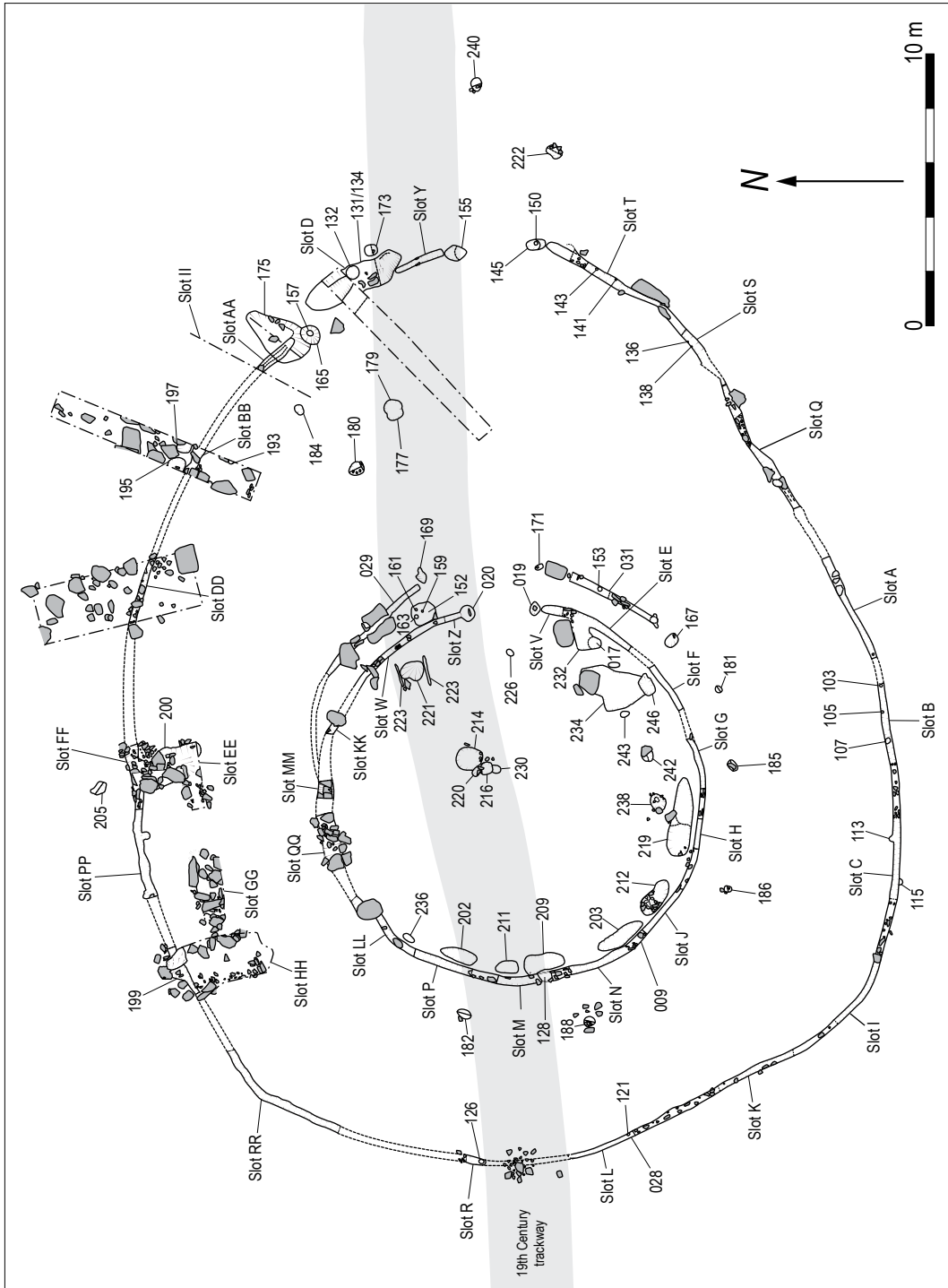
#### EARLY IRON AGE SETTLEMENT

The settlement at Ravelrig comprises an oval palisaded enclosure surrounding a roundhouse (Structure A) and a possible roundhouse (Structure B), both defined – at least partially – by a ring-groove.

##### *The Palisade*

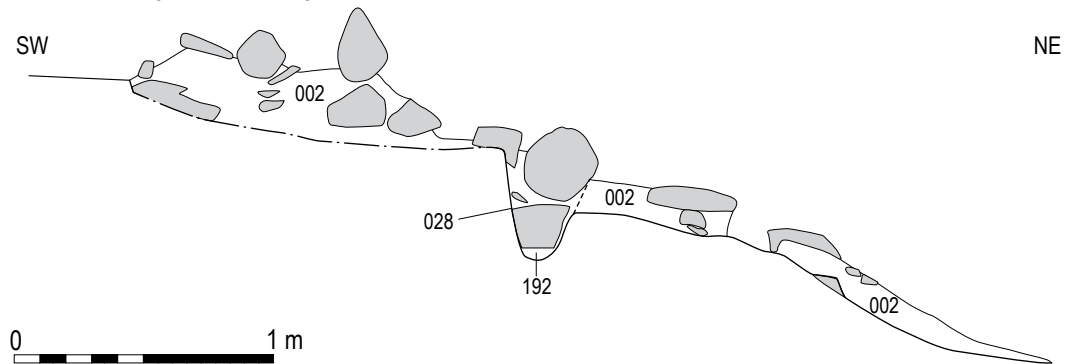
A large oval-shaped pit (175) with a post-hole (165) dug into its south end lay to the north of the palisade entrance. The pit was truncated by the palisade ditch (028) and must, therefore, pre-date the outer enclosure. This pit may have been dug in order to remove boulders from the area prior to the construction of the palisade. No datable evidence was recovered from the pit fills, although the later post-hole contained a postpipe (157), and two worked stones (SF65 and 66) were recovered from the post-hole fill.

The palisade comprised an oval-shaped trench enclosing an area that measured 28m north/south and 34m east/west. The palisade trench was investigated by the digging of 23 slot trenches and was found to be 150m long, 0.28m wide and up to 0.30m deep, with straight sides culminating in a U-shaped base (illus 4). The primary fill of the ditch for most of its circuit contained numerous large packing stones, with spacing between the stones ranging from over 3m at the west to an average of about 2m at the south of the trench. Most were set in an upright position and formed a double row of stones that may have contained wattlework panels (Maguire 2010: 22). Analysis of the botanical remains from fills 006, 102, 118, 125, 130, 174 and 192 of the palisade trench might suggest that the palisade comprised woven willow panels supported by upright oak posts. Some of

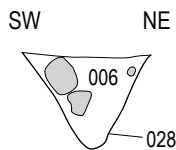


ILLUS 3 Post-excavation plan

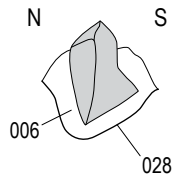
South-east facing section showing palisade trench and tumbled stone in Slot AA.



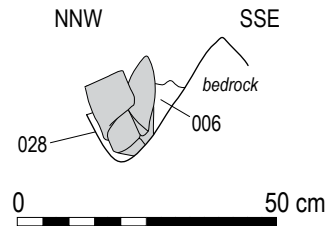
South-east facing section of palisade trench in Slot K.



East facing section of palisade trench in Slot RR.



West-south-west facing section of palisade trench in Slot T.



ILLUS 4 Sections through palisade trench. The slots locations are shown on illus 3

the seven post-holes (103, 105, 107, 113, 115, 143 and 199) and five stake-holes (121, 136, 138, 126 and 141) found within the palisade trench seem to have been situated to provide additional support at strategic points on the circuit of the palisade. For example, post-hole 143 and stake-holes 136, 138 and 141 were all located at the south-east, where the palisade trench was cut through a bedrock outcrop, and may have provided extra structural support for a palisade set within the trench (illus 5). Repair work to the palisade may be indicated by post-holes 113, 115 and 199 which were cut into the interior and exterior sides of the palisade trench, while post-holes 103, 105 and 107 and stake-holes 121 and 126 were cut into the base of the trench and are most likely contemporary with the palisade. One unusual feature of the palisade was its situation that spanned both the upper and lower terraces, and enclosed a

sizeable outcrop of bedrock in the north of the site: the height difference between the terraces was about 2m.

A gap of over 2m on the east side of the palisade was flanked by two substantial terminal post-holes (145 and 155) with construction ledges and packing stones. The northern terminal measured 0.90m by 0.55m east/west whilst the southern terminal measured 0.75m by 0.43m, and the size of the post-holes, in conjunction with the construction ledges and the large packing stones, indicate that the posted entrance to the palisaded enclosure would have been substantial (Maguire 2010: 46). The excavation revealed that while the palisade and post-hole terminals probably had contemporary usage, there was no direct relationship between the features. Two additional post-holes (222 and 240) positioned to the east of the palisade entrance may have been linked with the southern terminal to form

a barrier controlling access to the interior of the palisade.

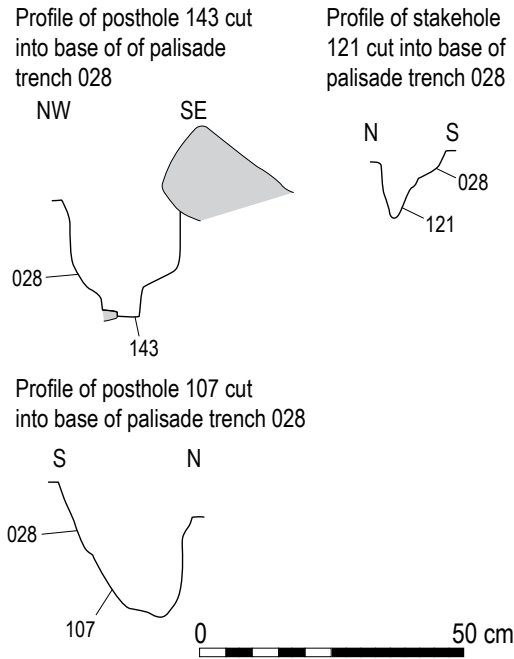
In the interior of the palisade, at the north of the site, was a large outcrop of bedrock, and to the north, north-west and north-east of this lay accumulations of tumbled stone. No archaeological features were found below the tumble and the underlying deposits did not yield any botanical remains. During the excavation it was thought that the tumble could relate to the collapse of a superstructure associated with the outer enclosure. However, given the presence of quarries in the immediate vicinity of the site and the footpath or trackway that ran through the site, it is more likely that the tumbled stone is related to one or both of these.

*Structure A*

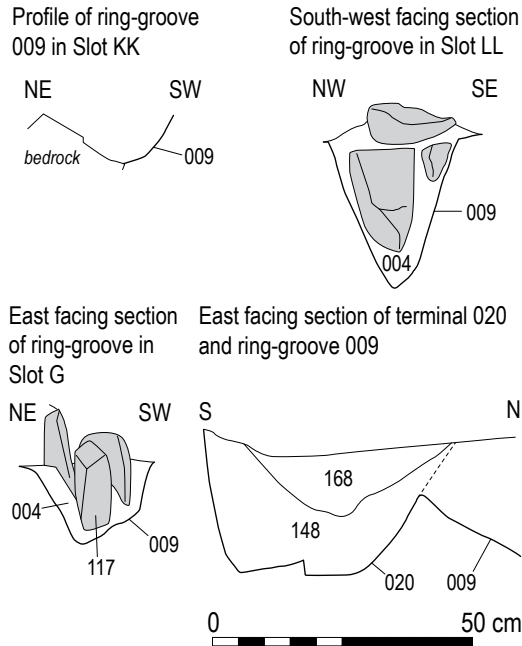
Located on the upper terrace, wholly within the palisade, was an enclosure defined by a ring-groove that comprised an almost perfectly

circular roundhouse, about 14.5m in diameter, with a break in its circuit at the east defined by terminal post-holes. The ring-groove, which was excavated by 15 slot trenches, had an average width of 0.30m, although this varied from 0.22m to 0.63m through the bedrock to the north (illus 6). The depth also varied from 0.10m to 0.30m, with an average of 0.18m, the ditch becoming narrower and deeper to the north-west, just before it met the outcropping bedrock. The ditch had a U-shaped base on the west, south and east sides (except at the entrance terminals), whereas to the north, the base was V-shaped (Maguire 2010: 28). At the north circuit, the ring-groove had been cut through an outcrop of bedrock and, where the bedrock had not been cut into, small angular stones and soil had been packed into gaps in it, along the line of the enclosure ditch. A boulder at the north-west had not been removed during construction and the circuit of the ring-groove dog-legged at this point. One post-hole (128) was found within the ring-groove, although it is possible that at least some of the packing stones encountered throughout the fill represent the remains of post-holes. The slightly polygonal shape of the ring-groove may be an indication that hurdling was used in the construction, with the packing stones also helping to hold the panels in place. A small stone bead (BS71) was found during post-excavation analysis of the ring-groove fill.

Occupation layer 005 covered the interior and inner edge of the roundhouse, effectively masking a hearth and associated post-holes near the centre of the structure, and eight cut features around the interior of the ring-groove. The latter proved to be shallow pits of varying sizes (202, 203, 209, 211, 212 and 221) and two post-holes (236 and 346) that abutted the interior of the ditch. The upper or main fills of all of these features contained hearth waste that included burnt animal bone, carbonised wood and cramp (from the burning of bone), suggesting that they were open features during the period the house was occupied, and pit 212 contained a layer of heat-affected stones around and above the



ILLUS 5 Profiles of post-holes and stake-holes in palisade trench



ILLUS 6 Sections and a profile of Structure A ring-groove

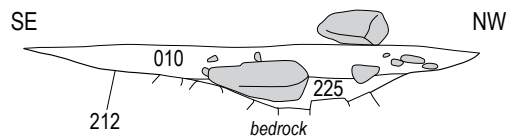
bedrock (illus 7). Pits 202, 203, 209, 211, 212 and 221 share some common features in that the side that abuts the ring-groove is markedly steeper than the remaining sides and, with the exceptions of pits 202 and 211, the basal deposits appear to be the result of silting-up of the open pits. The location, morphology and fills of these pits suggests that they may be components of a ring-ditch. At the south-east of the interior lay two large boulders, adjacent to irregularly shaped pits 232 and 234 that may be the result of attempts to remove the boulders during the construction of the ring-groove. The pits were filled in and posts subsequently erected into the re-deposited material.

Two post-holes containing packing stones (238 and 242) lay 1.5 to 2m from the ditch in the southern part of the roundhouse, suggesting that their function may have been structural, although it is also possible that they formed part of an internal partition or division. Shallow post-hole 226 lay about 2m west of the entrance

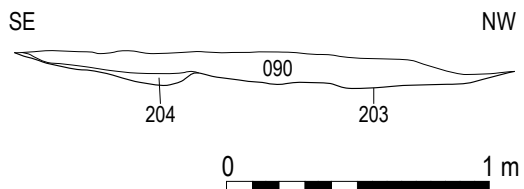
to the roundhouse, and its location suggests it may have had a function related to the entrance, perhaps to hold a door stop or a screen (Maguire 2010: 37), although it may equally be linked to the possible internal division suggested by the post-holes discussed above.

A hearth and three associated post-holes (216, 220 and 230) (illus 4) were found slightly north-east of the centre of the structure. The hearth and post-hole 230 were both cut by post-hole 216; and the hearth was additionally cut by post-hole 220. The hearth contained two fills of burnt material (088 and 215), both of which included unidentified burnt animal bone and carbonised wood. The oak post in post-hole 216 was burnt in situ, probably as a direct result of its very close proximity to the hearth, and carbonised oak from 216 appears to have been incorporated into the upper fill of the hearth. Post-hole 220 contained hearth waste and packing stones, with no indications of in-situ burning, despite its proximity to the hearth. From the intercutting of the post-holes, features 216 and 220 were the more recent in the sequence.

North-east facing section of pit 212. Fill 010 is hearth waste; fill 225 comprises heat affected stones



North-east facing section of pit 203. Fill of 090 is hearth waste; 204 is probably natural silting up



ILLUS 7 Sections of two of the pits from Structure A ring-ditch



*Structure B*

A second structure within the palisade is suggested by two curvilinear features lying to either side of the entrance to Structure A, two posted terminals and a series of six post-holes at the west, south and south-east exterior of Structure A (illus 3). Northern curvilinear ring-groove 029 lay to the north-east of Structure A and arched round to the west before joining Structure A's ring-groove at the most northerly point on its circuit. This intersection was within an outcrop of bedrock and it was not possible to establish the stratigraphic relationship between the two. The fill of 029 contained packing stones and, where it had been excavated through bedrock, smaller stones had been packed into gaps in the rock in order to maintain the line of the ditch. Sub-circular feature 169 at the southern end of the ring-groove is probably a terminal post-hole. Southern curvilinear ring-groove 031 lay to the south-east of Structure A and curved south-west around it for about 4.6m before petering out. As with the northern ring-groove, a post-hole (171) was found at the terminal of this feature. A series of six post-holes (167, 181, 185, 186, 188 and 182) may represent the continuation of the southern ditch feature to the south and west.

A shallow circular feature (152) found close to the entrances of Structure A and Structure B, lying between these two structures, contained animal bone and hearth waste. Three stake-holes (159, 161 and 163) cut into its base showed no signs of in-situ burning and, while the function of these features is unclear, the similarity in location between this small pit and the pits on the interior of Structure A makes it probable that this is also the remains of a ring-ditch.

Measuring about 18m on its longest axis, Structure B is at about the limit of structural viability for timber architecture, especially given its oval shape. The fragmentary nature of these remains, coupled with the total absence of occupation deposit 005 within this structure, suggests that, despite a Roman Iron Age

radiocarbon date, this is a larger, less well-built precursor to Structure A.

## SPECIALIST CONTRIBUTIONS

Susan Ramsey

## CARBONISED PLANT REMAINS

*Construction*

The evidence for wood used in the construction of the structures at Ravelrig is scarce. Despite evidence that the oak post in post-hole 216 was burned in situ, it is clear that the main structures had not been destroyed by fire. However, there was a clear difference in the overall charcoal assemblages obtained from the palisade and Structure A features.

The palisade trench produced a charcoal assemblage dominated by oak and willow, which might suggest the presence of an oak and willow wattlework structure. In contrast, the charcoal assemblage from Structure A was dominated by alder and hazel, a lesser proportion of oak and small quantities of willow. This might suggest either a different form of construction in the area of the inner enclosure, or more likely, that this charcoal assemblage also contains a significant proportion of hearth waste. It is clear from the charcoal assemblage that, at the time this site was constructed, there were still significant areas of wildwood from which to collect building materials and oak was not in short supply. Therefore, it is likely that the main structures at Ravelrig were constructed from oak posts, probably with willow or hazel wattlework panels forming the walls.

The only potential evidence for roofing material was found within the fill of post-hole 182, one of those that defines Structure B. This feature produced significant amounts of heather charcoal, together with a fragment of hazel, and it is suggested that this might be the remains of roofing material from Structure B. Although the charcoal could have been produced as a result of fire in Structure B, it is more likely to be related to the abandonment of the structure.

*Fuel*

The charcoal assemblage from Ravelrig was very diverse, with at least nine tree types present. There was no evidence of selection of fuel types for particular purposes and general collection of wood from local areas of woodland is considered the most likely explanation for the fuel types identified. The presence of significant amounts of oak within the hearth waste indicates that much of the original wildwood still remained in the area and that oak was not a scarce commodity. During later prehistory, much of the oak woodland was cleared and oak was usually preserved for building materials and for metalworking fuel but not generally

used for domestic fires. The dating of many features at Ravelrig to the 5th centuries BC is entirely in keeping with the evidence from the charcoal remains, as this date range is prior to the start of extensive woodland clearances in the central belt of Scotland (Ramsay 1995; Ramsay & Dickson 1998; Dumayne 1992, 1993a & b), which generally occurred in the later pre-Roman Iron Age.

*Pollen core analysis*

A palaeoenvironmental record of the archaeological site's environs was obtained from a peat core sample taken from Ravelrig Bog about 1km west of the site at location



ILLUS 8 Lithic tools; clockwise from top left SF1, SF21, SF44 and SF45

TABLE 1  
Lithic artefacts

	<i>Flint</i>	<i>Chert</i>	<i>Quartz</i>	<i>Quartzite</i>	<i>Chalcedony</i>	<i>Total</i>
<i>Debitage</i>						
Chips	1		1			2
Flakes	5	7	7	2	2	23
Indeterminate pieces		3	4			7
<i>Total debitage</i>	<i>6</i>	<i>10</i>	<i>12</i>	<i>2</i>	<i>2</i>	<i>32</i>
<i>Irregular cores</i>	<i>1</i>	<i>1</i>				<i>2</i>
<i>Tools</i>						
Short end-scraper				1		1
Scale-flaked knives	1					1
Serrated pieces	1					1
Pieces with edge-retouch	1					1
<i>Total tools</i>	<i>3</i>					<i>4</i>
TOTAL	10	11	12	2	2	38

NGR: NT 13920 66745; 187m OD. The core contained organic material spanning the entire Holocene period, and showed that the first potential evidence for human impact on the landscape occurs around 3000 cal BC, with an increase in grassland taxa associated with pastoral farming. Around 2000 BC, there is a major decline in woodland cover, with a corresponding increase in bracken (*Pteridium*), a further indicator of woodland clearance, as bracken spore production increases when the woodland canopy is opened up, allowing more light to reach the woodland floor. There is also an increase in the presence of grasses and the diversity of herbaceous agricultural indicators, suggesting that pastoral agriculture was being practiced in the vicinity of the site from 2000 cal BC onwards. This may be associated with the Bronze Age occupation of Kaimes Hill.

A further, larger increase in the presence of grasses and ribwort plantain at a level dated to 810–550 cal BC (SUERC-33104) suggests an intensification of agriculture at this time.

#### *Cereals and wild food plants*

Cereal grains were only rarely found on this site, with just 11 grains of six row barley (*Hordeum vulgare* s.l.) and 13 indeterminate cereal grains recorded. The six-row barley was recovered from the ring-groove of Structure A, occupation layer 005, ring-ditch 221, pit 232, post-holes 237 and 246 and from southern ring-groove 031 of Structure B. Indeterminate cereal grains were found in ring-ditch 221, pit 232 and palisade trench 028. It is difficult to interpret anything from this tiny cereal assemblage, although for a site of this size, the cereal assemblage seems remarkably sparse.

TABLE 2  
Stone artefacts

<i>SF No</i>	<i>Context</i>	<i>Context description</i>	<i>Artefact types</i>
11	002	Topsoil	Pecked cobble
12	002	Topsoil	Round quern
26	005	Occupation layer	Flaked cobble
31	005	Occupation layer	Pecked cobble
65	166	Fill of pit 175	Flaked stone
66	166	Fill of pit 175	Split and chipped stone
71	004	Fill of Structure A ring-groove	Fragmentary bead
85	016	Fill of pit 219	Split and chipped stone

This may simply be due to poor preservation and could indicate that this site was not used for domestic occupation but had some other primary function. The presence of barley grains did not help to date this site, since barley was commonly grown in Scotland from the Neolithic to the medieval period (Dickson & Dickson 2000). However, the presence of barley would be expected in a site dating to the 5th century BC. The only other food plant remains that were recorded from this site were occasional fragments of hazel nutshell and, as with the cereals, these were never frequent.

## THE LITHIC ASSEMBLAGE

Torben Bjarke Ballin

The assemblage includes 38 pieces, 33 of which are almost certainly artefacts (Table 1). The finds are dominated by flint, chert and quartz, but also include quartzite and chalcedony. Most of the identifiable flint is 'imported' Yorkshire flint, with the other raw materials probably having been procured locally in the form of pebbles. A total of 84% of the assemblage is debitage, whereas 5% are

cores and 11% tools. Most of the debitage is flakes, supplemented by small numbers of indeterminate pieces and chips. Two flint cores were both classified as irregular specimens. The tools embrace one simple end-scraper in quartzite (SF45), with one fragment of a scale-flaked knife (SF44), one serrated piece (SF1), and one edge-retouched piece being in flint (SF21) (illus 8).

In technological terms, the collection appears to form two parts, namely a Late Neolithic segment based on 'imported' Yorkshire flint, and one based on the reduction of small local pebbles in whatever raw material was available. The former was reduced by the application of Levallois-like technique and the latter primarily by the application of bipolar technique.

Although most finds were recovered from topsoil, some pieces in Yorkshire flint were retrieved from the fills of the palisade trench and Structure A ring-groove, suggesting that the Late Neolithic finds are residual to the building. The technological approach applied to reduce the local pebbles is unschematic and would be consistent with a later Bronze Age date. A small lithic assemblage recovered from



ILLUS 9 Small quern stone SF12

occupation deposit 005 included flint debitage (SF32 and BS 12), retouched flint (SF21), chert debitage (SF27) and chalcedony debitage (SF33). Two of the flints (SF21 and BS12) are of Yorkshire flint, while the remainder are of local origin.

#### CLAY AND DAUB

Beverley Ballin Smith

The occurrence of small pieces of burnt clay in ring-ditch pits 212 and 219 suggests that the roundhouse within the palisade was not

only built of wooden posts, which would have supported the roof, but probably had either a wattle and daub infill between them, or a wall of wattle covered with daub forming the inner and/or outer wall of the building.

Although the evidence is slight in comparison with that from other prehistoric wattle and daub buildings, such as Craig's Quarry where a bank of slumped daub rendering was uncovered (Piggott 1957–8: 69), these pieces indicate that part of the building is likely to have been made wind and weather-tight by the use of a clay mixture pressed onto wattle.

TABLE 3  
Radiocarbon dates

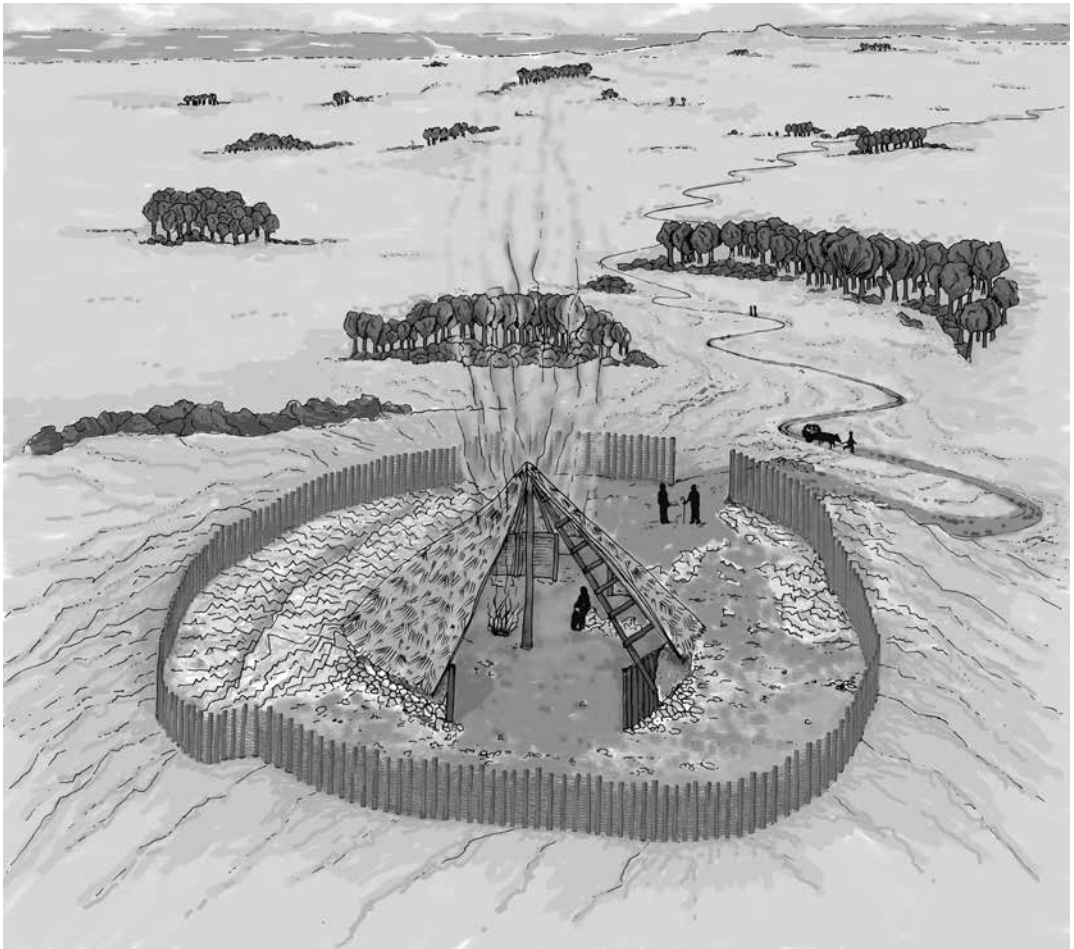
Site	Sample	Material	Context	Description	Depositional context	Uncal	Calibrated 1- $\sigma$	Calibrated 2- $\sigma$	Delta <sup>13</sup> C
Ravelrig	SUERC-32385	Charcoal-Salix	006	Palisade ditch	Primary	2445 ± 30	740–410 BC	600–400 BC	-25.3%
Ravelrig	SUERC-32386	Charcoal-Salix	006	Palisade ditch	Primary	2430 ± 30	740–410 BC	600–400 BC	-26.2%
Ravelrig	SUERC-32387	Charcoal-Salix	174	Palisade ditch	Primary	2435 ± 30	540–410 BC	600–400 BC	-28.6%
Ravelrig	SUERC-32388	Charcoal-Rosaceae	149	Southern terminal of palisade	Secondary?	3380 ± 30	1700–1630 BC	1750–1600 BC	-27.5%
Ravelrig	SUERC-32392	Charcoal-Alnus	086	Posthole in NW palisade	Primary	2415 ± 30	530–400 BC	560–390 BC	-28.9%
Ravelrig	SUERC-32393	Charcoal-Alnus	088	Upper fill of hearth	Secondary	2430 ± 30	540–410 BC	600–400 BC	-26.6%
Ravelrig	SUERC-32394	Charcoal-Corylus	215	Lower fill of hearth	Primary	2465 ± 30	760–510 BC	670–410 BC	-25.4%
Ravelrig	SUERC-32395	Charcoal-Alnus	231	Posthole adjacent to hearth	Primary	2500 ± 30	650–540 BC	790–510 BC	-26.7%
Ravelrig	SUERC-32396	Charcoal-Alnus	004	Structure A ditch	Primary	2510 ± 30	650–550 BC	790–520 BC	-21.2%
Ravelrig	SUERC-32538	Charcoal-Corylus	004	Structure A ditch	Primary	2445 ± 40	550–410 BC	670–400 BC	-26.3%
Ravelrig	SUERC-32539	Charcoal-Corylus	168	Upper fill of Structure A terminus	Primary	2465 ± 40	760–510 BC	770–410 BC	-25.2%
Ravelrig	SUERC-32540	Charcoal-Alnus	239	Post-hole in Structure A interior	Primary	2465 ± 40	760–510 BC	770–410 BC	-25.2%
Ravelrig	SUERC-32541	Charcoal-Corylus	207	Post-hole in Structure A interior	Primary	2410 ± 40	540–400 BC	600–390 BC	-24.3%
Ravelrig	SUERC-32545	Charcoal-Salix	063	In post-hole at interior of palisade	Primary	2285 ± 40	400–230 BC	410–200 BC	-25.5%
Ravelrig	SUERC-32546	Charcoal-Alnus	038	Post-hole that defines Structure B	Primary	2440 ± 40	550–410 BC	600–400 BC	-26.1%
Ravelrig	SUERC-34865	Charcoal-Alnus	005	Deposit on interior of Structure A	Primary	2535 ± 35	800–590 BC	700–530 BC	-27.1%
Ravelrig	SUERC-34866	Charcoal-Alnus	022	Northern terminus of Structure B	Primary	2500 ± 35	650–540 BC	790–500 BC	-30.2%
Ravelrig	SUERC-34867	Charcoal-Alnus	154	Ditched element of Structure B	Secondary?	6485 ± 35	5490–5360 BC	5520–5360 BC	-25.6%
Ravelrig	SUERC-34868	Charcoal-Corylus	042	Post-hole that defines Structure B	Primary	1845 ± 40	AD 120–230	AD 70–260	-27.1%

## COARSE STONE

Beverley Ballin Smith

A small assemblage of stone finds was recovered from the deposits and features of the site (Table 2). The majority of worked stones are used cobbles or chipped irregular pieces. Of particular note are a small quern (SF12; illus 8) found within the topsoil and a fragment of a stone bead (BS71; too small to illustrate) recovered during post-excavation processing of fill 004 of the palisade trench (illus 10). The quern is a circular stone of vesicular basalt *c*210mm in

diameter and 45mm thick, with roughly chipped edges and one naturally roughened face – its base. The upper face is flattened and smoothed through use, but is slightly chamfered towards the edges. The working face has suffered slight damage due to it being found in the topsoil above the site. Although displaced, the quern indicates the processing of grain and the possible domestic use of the site. The small, circular and flat bead is a laminated fragment of basalt. It measures *c* 6mm in diameter and has a central perforation of *c* 2mm diameter. Its surviving sides and surface are smooth and worn. The assemblage



ILLUS 10 Reconstruction of palisade and Structure A

includes three cobble tools (SF11, 26 and 31) of possibly degraded sandstone, quartz and fine-grained quartz. Evidence for their being used as hammers is relatively limited, although all show scars through use.

It is highly likely that the cobbles derived from the drift deposits found across the area during the construction of the enclosures, as boulder clay frequently contains cobbles of quartz, quartzite and sandstone, dependent on its origin. The occurrence of basalt, and probably dolerite blocks, in various states of weathering indicate they derived either from within the boulder clay or as loose rocks from local outcrops of volcanic sills.

Given the paucity of finds from the site, their distribution is limited in extent and in information. It is highly likely that the stone artefacts from topsoil and upper contexts of the site derive from the enclosure itself, but are not in situ due to ploughing or the formation of the 19th-century trackway. It is also possible that the cobble finds (SF26 and 31) from deposit 005 that covered much of the interior of Structure A, and the bead fragment SF71 from fill 004 of the palisade trench, are a product of the abandonment of the site.

## RADIOCARBON DATES

The AMS radiocarbon dates were obtained from Scottish Universities Environmental Research Centre (SUERC) and, where possible, shorter-lived species such as hazel and alder were chosen as dating samples. Of the 19 radiocarbon dates obtained, 16 pertain to the pre-Roman Iron Age, with the vast majority of these representing a date-range of 600–400 cal BC. While the calibrated dates (Table 3) indicate four phases of activity on the site, those that encompass the Late Mesolithic, early Bronze Age and Roman Iron Age should be treated with caution as no other evidence for the use of the site during these periods was obtained during the excavation or post-excavation processes. These dates cannot be completely discounted and, while there

may have been activity on the site at these times, ‘natural erosion caused by bioturbation including overgrowth (gorse bushes) and animal action (rabbit and fox burrowing) were noted during the excavation’ (Maguire 2010: 77) and some of these processes may have introduced charcoal into the sampled features.

## DISCUSSION

The palisaded homestead at Ravelrig shares some features with ring-ditch houses found at Craig’s Quarry, Glenachan Rig, Douglasmuir and Knapps. The slightly polygonal shape of both the palisade trench and the ring-groove of Structure A are reminiscent of the Late Bronze Age palisade and house at Knapps (Alexander 1996: 16, Fig 17), which may suggest that hurdling was utilised in the construction at both sites, while the scooped appearance of the ring-ditches at Douglasmuir are similar to the series of pits that comprise Structure A’s ring-ditch, albeit those at Ravelrig are very truncated (Kendrick 1982: 43). At Craig’s Quarry and Glenachan Rig, the features had been partially built on solid rock (Piggott 1957–8: 69; Feachem 1958–9: 20).

The similarities between these sites may indicate a continuation of settlement type and construction methods from the Late Bronze Age into the Early Iron Age, a continuity that may also be reflected in the Ravelrig lithic assemblage, which conforms to several of the characteristics that Humphrey suggests are indicative of Iron Age lithic production (Humphrey 2003: 20). This continuity in settlement form is known from several sites in the east of Scotland, notably Douglasmuir (Kendrick 1982), Melville Nurseries, Dalkeith (Raisen & Rees 1996), Craig’s Quarry (Piggott 1957–8) and Dryburn Bridge (Triscott 1982), perhaps reflecting a geographical trend that bridged the transition between the Bronze and Iron Ages.

### *Construction and possible repairs*

From the few post-holes and stake-holes found in the palisade ditch and in that of Structure



A, it may be unlikely that the walls of these structures comprised lines of upright timbers: it is most probable that they comprised wattle panels that were attached to occasional upright posts and were held in place by the double row of chocking stones. This construction method is likely to result in a less robust structure than a post positioned into a hole would produce, and may indicate that the primary function of the palisade was not defensive. It is not possible for us to estimate the height of the palisade at the lower northern section, so it is conceivable that the roundhouse was visible above the timbers of the outer palisade. As the site had commanding views over Edinburgh, the Forth Valley and the Fife coast, and several Iron Age sites were visible from Ravelrig Hill, it may simply be that visibility of other contemporary sites was important (Gillings & Wheately 2001: 3).

Analysis of the fills of the palisade trench suggests that the upright posts were oak, with willow wattle woven between the uprights. Insufficient carbonised material was recovered from the palisade terminals to determine the type of wood used for the upright posts, but the balance of evidence would suggest that they were also oak. The materials used to build Structure A included upright posts of mainly alder, with hazel wattle between them, and its terminals were oak posts, presumably with some wattle attached. Both of the ditch sections at the entrance to the Structure B contained carbonised hazel, although the quantities were insufficient to say if this material was the remains of wattle. Post-hole 182, at the west of Structure B, contained a significant amount of carbonised heather, along with hazel. These carbonised remains strongly suggest that one or both of these structures were roofed, perhaps with hazel poles supporting a heather thatch roof. The presence of small pieces of daub suggest that Structure A was made wind and watertight by the application of a daub layer to the wattle. A less likely alternative for the construction is that suggested for the roundhouse at West Acres, where wattle panels were either fixed into a

sleeper beam or attached together to form a continuous wall (Toolis 2005: 489).

All three structures had been partly cut through bedrock at one or more points on their circuits although, unlike the ring-ditch at Ratho, this did not appear to affect the course of the ditches (Smith 1995: 78). The bedrock on the line of the palisade trench and ring-grooves had been chipped away and fractured in order to create enough of a depression to hold upright posts. Structures A and B were found to share a common foundation slot through the bedrock outcrop at the north of their circuits. A possible explanation for this is that the time and effort involved in cutting through the bedrock for the earlier of these structures was circumvented by making use of the same ditch for the later one.

Linear pit 131 lay partly on the line of the palisade trench and had two post-holes (132 and 173) on its eastern side, one inside the pit and the other outside. Given that the palisade was not found at the location of this pit, it may be either that this gap was intended as the original entrance to the palisade, and that these post-holes and post-hole 165 were later utilised to maintain the line of this outer ditch, or that pit 131 and the three post-holes represent repairs to the palisade. In the south-west area of this pit was an upper fill of peaty silt and burnt stone. This suggests some reconstruction or repair work may have been carried out on the ditch, with burnt material possibly being used in place of packing stones (Maguire 2010: 22). Repair work to the palisade trench, indicated by three post-holes (113, 115 and 199) cut into its edge, may suggest that the structure was relatively long-lived.

#### *Dating and phasing*

The major structural elements of this palisaded homestead produced consistent radiocarbon dates that place the palisade and Structure A firmly in the Early Iron Age (see Table 3). This is entirely in keeping with Armit and Ralston's findings that:

for much of eastern Scotland, south of the Moray Firth, the first millennium BC seems to be marked by the renewed expansion of settlement into the uplands (Armit & Ralston 1997: 189).

Despite lithics dating to the late Neolithic and later Bronze Age – lithic artefacts recovered mainly from the occupation layer within Structure A and from the fills of the palisade ditch and that of Structure A – the structural remains at Ravelrig date solely to the Early Iron Age, and there is little doubt that the palisade and Structure A are contemporary. Although no clear stratigraphic relationship between Structures A and B was demonstrated, the relative phasing of these two structures can be extrapolated from the available information. Structure A was in a far better state of preservation than Structure B, which – for most of its circuit – was defined by post-holes rather than a continuous ring-groove. The interior features of Structure A, especially those that respect the enclosure ditch, had not been removed by later activity. Occupation layer 005 within Structure A was wholly confined to that structure, but there were no signs of this domestic activity associated with Structure B. For these reasons, it is most likely that Structure B pre-dates Structure A, although by how much is not known. Although the later C-14 date from post-hole 182 leaves this in some doubt, we believe that the sequence given here is the most secure when all the evidence is considered.

#### *Function of the inner structures*

The morphology of the Early Iron Age remains at Ravelrig is indicative of a palisaded homestead, an interpretation that is strengthened by the recovery of carbonised heather that was probably roofing material, by the presence of a hearth and the finding of part of a rotary quern and a stone bead fragment. Furthermore, the volume of hearth waste found in the interior of Structure A and in post-holes within the palisade suggests sustained episodes of burning. The excavation found very little material culture within the palisade and interior structures. No

prehistoric pottery and only a few carbonised cereal grains were recovered during either the excavation or the post-excavation analysis of its fills and deposits. However, the aceramic nature of Ravelrig is far from exceptional in lowland Scotland where, ‘later prehistoric material culture is not only virtually aceramic but also impoverished in terms of other surviving material types’ (Harding 2000: 20). Conversely, there was no evidence that the site had any other function, and given that several features associated with domesticity were uncovered, it is more probable that the palisade and enclosures represent a homestead. The paucity of ceramic evidence for domestic occupation may be due to the use of the site since its abandonment. Cartographic evidence indicates that some level of agricultural activities took place in the vicinity during the post-medieval period, with the resultant loss of the upper portions of archaeological features and presumably of artefactual evidence. Additionally, the quarry to the immediate east of the enclosures and the track running through their centre will almost certainly have caused truncation of the remains. The relatively shallow depth of both the palisade ditch and of Structure A point to such disturbance, with the truncated features unable to ‘act as reservoirs for material’ in the way that deeper or more robust remains can (Davies 2007: 274).

Whilst there were no obvious repairs to Structure A, there were to the palisade which suggests that the palisaded homestead may have been occupied for perhaps two to three generations. Structure A’s ring-ditch is arguably in the early stages of formation when it was abandoned. The reasons for this could not be established, but it is clear from the botanical remains that none of the structures were destroyed by fire. Excavation of some of the ramparts and hut circles at Kaimies Hill during the 1960s and early 1970s has revealed Iron Age occupation of the hillfort from about 390 BC (Simpson et al 2004: 91), and it is possible that political or social changes in the wider landscape led to the abandonment of the single-

house homestead on Ravelrig Hill in favour of this more populous and defensive location.

## CONCLUSIONS

The location of a homestead within the palisade and the parallel alignments of their entrances implies a degree of planning of the lay-out of the site. This implication is borne out by the radiocarbon dates obtained from the fills of the two foundation trenches, which indicate that the palisade and Structure A were in use contemporaneously. The main structures at Ravelrig date from the Early Iron Age, although the relative phasing of these was less easy to establish. It is likely that Structure B was the earliest, as it is the least well preserved, and that it was superseded by Structure A and the palisade, elements of which have shared design traits and similar dates. It may be that Ravelrig began life as an open settlement – represented by the slightly structurally awkward Structure B – prior to the construction of the palisaded enclosure and a more structurally-sound roundhouse (Structure A). The dating of the main structures of the settlement to the Early Iron Age ties in with our current understanding of the known phases of occupation at Kaimes Hill (Simpson et al 2004: 65), and with evidence of population movement into upland areas during the Early Iron Age.

The palisaded homestead at Ravelrig has parallels with the settlement at Dryburn Bridge, although Ravelrig may have been occupied slightly later than that larger settlement, and is contemporary with the ring-ditch houses at Kintore (Houses 9 and 16), Douglasmuir (Houses 1, 4 and 6) and Dryburn Bridge (Houses 2 and 9). From the excavated evidence, Ravelrig appears to be at the southern extent of the Early Iron Age ring-ditch tradition that includes sites from the Lothians and Angus (Kendrick 1995: 63; Pope forthcoming) and currently represents the most recent example of this type of settlement.

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