Neolithic and Iron Age Structures at Grantown Road, Forres, Morayshire

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with contributions by
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Abstract

EVIDENCE for prehistoric activity was identified by evaluation in 2003 by AOC Archaeology Group, in advance of a proposed residential development. In accordance with planning conditions an archaeological excavation was undertaken in 2003, on behalf of Springfield Properties. The excavation identified evidence for Neolithic, Iron Age and Early Historic activity.

Introduction

THE site of Grantown Road lies in an area of improved agricultural farmland on the southern fringes of the town of Forres, Morayshire (NGR: NJ 027 576) (Figure 1). The main excavation area occupied a raised area of gravel, approximately 19 metres above sea level, which overlooked the floodplains of the Findhorn to the north and west and agricultural land to the south and east. The site, which had been intensively farmed and well drained and capable of growing a good range of crops (Futty & Towers 1982, 52-54). The nearest modern sources of water are the Findhorn River to the west, and, to the east, lie over half a kilometre away.

AOC Archaeology Group were commissioned by Springfield Properties to undertake a programme of archaeological works comprising a desk-based assessment, evaluation and a subsequent excavation, in advance of a residential development. The previously unknown features revealed during these works comprised two Iron Age roundhouses and a rectilinear set of features dated to the Neolithic (Figure 2).

The development area was stripped of 2800 square metres of topsoil and manually cleaned. The excavation was designed to investigate all the identified features within the structures with fifty percent of the remaining features being completely excavated. Soil samples were taken from all the features and were subsequently wet sieved for ecofacts and artefacts.

Archaeological Background

THE area around Forres is rich in archaeological remains recorded through aerial photography, developer-funded archaeology and private research excavations. A programme of aerial survey in the area identified a series of cropmarks in the immediate vicinity comprising a wide range of probable prehistoric features including enclosures (NMRS: NJ05NW98, NJ05NW99, NJ05NW117 and NJ05NW83), a barrow cemetery, cultivation remains and unenclosed settlement (NJ05NW35) and a ring-ditch (NJ05NW72) (Figure 1). Recent archaeological survey and excavations in Morayshire have further enriched the record, with modern excavations at Tulloch Wood (Carter 1993), Elgin (Suddaby 2002) and Birnie (Hunter 2002), all revealing multi-phased archaeological landscapes.

The Excavation

THREE significant phases of activity on the site were identified as a result of the excavation and post-excavation analyses. These were dated by radiometric determination to the Neolithic, Iron Age, and the Early Historic periods (Table 1). A Mesolithic date was also retrieved from an isolated pit, although this feature will not be discussed further. The archaeological features and structures will be discussed by type within the chronological sequence.

Neolithic Activity

A series of twelve pits and an associated rectilinear cut had been excavated into the palaeo-channel that runs across the site and were found to underlie a deposit of brown silt (032), approximately 0.30 metres in depth (Figure 3). The rectilinear cut (123) measured approximately 10 metres north to south, up to 6 metres east to west and was up to 0.40 metres deep (Figure 3). The pits varied in size between 0.66 and 1.20 metres in length and between 0.03 and 0.26 metres in depth, and were located in and around the rectilinear cut

Context	Laboratory code	Sample	C14 bp	d13C	Cal 1 sigma 68.20%	Cal 2 sigma 95.40%
88	SUERC-(GU-12605)	Pinus silvestris	7770±40	-26.4‰	6650-6560 BC (48.7)	6660-6470 BC
32	SUERC-(GU-12596)	Quercus sp.	5030±35	-23.7‰	3940-3850 BC (45.0)	3950-3710 BC
54	SUERC-(GU-12597)	Quercus sp.	5030±35	-26.8‰	3940-3850 BC (45.0)	3950-3710 BC
90	SUERC-(GU-12607)	Quercus sp.	2175±35	-26.3‰	360-290 BC (36.9)	370-110 BC
90	SUERC-(GU-12606)	Corylus avellana	2130±35	-26.4‰	210-90 BC	240-40 BC (83.8)
025B	SUERC-(GU-12598)	Corylus avellana	2130±35	-26.5‰	210-90 BC	240-40 BC (83.8)
025B	SUERC-(GU-12599)	Betula sp.	2120±35	-26.1‰	200-90 BC (65.8)	210-40 BC (87.7)
065C	SUERC-(GU-12600)	Alnus glutinosa	2120±35	-25.0‰	200-90 BC (65.8)	210-40 BC (87.7)
065C	SUERC-(GU-12601)	Corylus avellana	2105±35	-26.7‰	180-90 BC (56.9)	210-40 BC (92.9)
88	SUERC-(GU-12604)	Alnus glutinosa	2100±35	-25.4‰	170-90 BC (55.9)	210-40 BC (93.3)
81	SUERC-(GU-12602)	Pomoideae	1655±35	-27.5‰	AD 340-430	AD 320-470 (81.9)
81	SUERC-(GU-12603)	Alnus glutinosa	1655±35	-25.9‰	AD 340-430	AD 320 -470 (81.9)

Table 1: Radiocarbon dates arranged in order of age

(Figure 3). The features were excavated over a very dry three-week period in August, and so it is impossible to say whether the palaeo-channel would usually have been wetter. However, it seems very unlikely and unrealistic that the palaeo-channel was functional during the lifetime of the structure, as the features were cut through the base of the channel.

Generally, these features produced very little charcoal, but two radiocarbon dates were obtained from samples of oak, one from a pit (053) dating to 3950-3710 BC (calibrated to 2 sigma, GU-12597) and one from the overlying deposit (032) dating to 3950-3710 BC (calibrated to 2 sigma, GU-12596). While it is possible that the charcoal represents residual action, it is assumed by the author to be contemporary with the features. No artefacts or ecofacts were recovered from the set of features.

Iron Age Activity

THE majority of features identified on site were dated to the Iron Age either by radiocarbon dating or by association with other features. The groups of features can be divided into Roundhouses 1 and 2. The general preservation of the structures was poor with no internal features, floor-levels or entrances being identified.

Roundhouse 1 (Figure 4), which was 12 metres in diameter, comprised a ring-ditch (064) measuring 16 metres in circumference, 2 metres in width and up to 0.25 metres in depth (Figure 5a). The ditch feature defined the southern perimeter of the roundhouse and was filled with a red-brown silt, with inclusions comprising charcoal, animal bone, slag and hammerscale (for analysis see Heald below). Roundhouse 1 contained four post-holes, two within the ditch (121 and 135), and two (070 and 072) which lay on the opposite side of a circle projected from the inner edge of the ditch. The post-holes measured between 0.25 metres and 0.34 metres in diameter and between 0.12 metres and 0.22 metres in depth. As already indicated, no floor-levels or remnants of an entrance were identified.

Two individual samples of birch and alder charcoal recovered from the ditch produced radiocarbon dates of 210-40 (calibrated to 2 sigma, GU-12600) and 210-40 BC (calibrated to 2 sigma, GU-12601) respectively.

Roundhouse 2 (Figure 4) was 11 metres in diameter and consisted of a series of post-holes and an irregular fragment of a ring-ditch. The ring-ditch (024) was located in the northern part of the structure and was

approximately 6.10 metres in length, 2.10 metres in width and up to 0.30 metres deep (Figure 5b). The ditch was filled with a dark brown, gritty sandy silt which contained charcoal, burnt animal bone, slag (see Heald below), and a rubbing-stone from a quern. A series of eight post-holes forms a post-ring just inside the ring-ditch, two of which (117 and 137) lie within the ditch cut itself. A further three post-holes may form an outer arc. The post-holes measured between 0.30 metres and 0.35 metres in diameter and were between 0.11 metres and 0.42 metres in depth. Two further coarse stone tools, a polisher and hammerstone/polisher were recovered from the post-holes. Again, no floor-levels or evidence for an entrance-structure survived. Four individual charcoal samples retrieved from the roundhouse were dated. Two samples of birch and hazel from the ditch fill (025) produced radiocarbon dates of 210-40 BC (calibrated to 2 sigma, GU-12599) and 210-40 BC (calibrated to 2 sigma, GU-12598), while two samples of oak and hazel produced dates of 370-110 BC (calibrated to 2 sigma, GU-12607) and 240-40 BC (Calibrated to 2 sigma, GU-12606) respectively.

Finally, a radiometric date of 210-40 BC (calibrated to 2 sigma, GU-12604) was obtained from alder charcoal recovered from a heat-affected deposit (088) which lay to the north of Roundhouse 1 in close proximity to two pits (074 and 085) (Figure 4). The pit contained hammerscale and other evidence of possible iron working (see Heald below) suggesting that this deposit is Iron Age in date. However, a date of 7770 ± 40 BP (GU-12605) was also obtained from a fragment of pine (*Pinus sylvestris*) charcoal from the same deposit. This may represent contamination from earlier activity on the site, but win the absence of any other features; it is more likely that it represents the use of bog pine as fuel for the iron working activities (Anne Crone pers.comm).

Early Historic Activity

A single feature was dated to the Early Historic period. Pit (080) lay to the west of Roundhouse 1 and is closely associated with another feature (108). The pit measured 1.02 metres in diameter by 0.85 metres and was 0.17 metres deep, and contained nothing but some charcoal. Dates of 320-470 AD (calibrated to 2 sigma, GU-12602) and 320-470 AD (calibrated to 2 sigma, GU-12603) were obtained from Pomoideae and alder charcoal.

Specialist Reports

Metalworking

Andrew Heald and Dawn McLaren

Introduction

2447 grammes of material from Grantown Road, Forres were visually examined, which allows this material to be broadly categorised on criteria of morphology, density, colour and vesicularity. During iron production a range of slag morphologies is produced. Only a few, for example tapped slag and hammerscale, are truly diagnostic (of smelting and smithing respectively). Further scientific analyses would be necessary to classify the material more conclusively. The slag has been described using common terminology (eg McDonnell 1994; Spearman 1997; Starley 2000). Within the small assemblage few of the slag/objects could be categorized, although where discernible they fall into two broad types: those indicative of ironworking, usually smithing; and those created during a range of pyrotechnic processes, and not necessarily indicative of metalworking. A full catalogue is given in the archive report.

Ironworking Slags

2198 grammes of slag appear to be associated with ironworking. However, relating any of this material to a specific process – smelting or smithing – is difficult. Three slags (all from context 65F) have the appearance of plano-convex bottoms and are very dense (average 501 grammes). Three other slags (from contexts 65F, 75 and 86) are fractured and small and are unclassified ironworking slags. Such unclassified slags can be produced during both iron smelting and smithing.

Very small amounts (less than 2 grammes per context) of either hammerscale or slag spheres were recovered from seven contexts (Table 2) inter-dispersed within other residues (see below). Hammerscale waste consists of small flakes of iron produced by the impact of hammers on hot iron during either the refining of iron blooms or the working of wrought iron. Slag spheres are ejected as spherical globules of molten slag during the same process. These objects are important, because when found in sufficient quantities they are indicative of *in situ* smithing.

Location	Context	Hammerscale	Slag spheres
Roundhouse A	65A (fill of 65A)	Yes	Yes
Roundhouse A	65C (fill of 65C)	Yes	
Roundhouse A	65E (Fill of 65E)	Yes	
Roundhouse A	65F (Fill of 65F)	Yes	Yes
Pit Fill	75 (Fill of 074)	Yes	
Pit Fill	86(Fill of 085)	Yes	Yes
Pit Fill	88	Yes	

Table 2: Contextual recovery of micro-slags

Other Vitrified Material

Many items classed as 'slag' during excavation cannot be directly related to ironworking.

230 grammes of material (from contexts 25A, 65D, 65F, 75, 86 and 88) are best described as unclassified slag as it is not clear whether they are a by-product of ironworking. However, some are magnetic, suggesting that they may be associated with this process, probably with smithing.

19 grammes of vitrified material (from contexts 65C, 65D and 107) were formed when material such as earth, clay, stones or ceramics were subjected to high temperatures, for example in a hearth. During heating these materials react, melt or fuse with alkali in ash, producing glassy (vitreous) and porous materials. These can be formed during any high temperature pyrotechnic process and are not necessarily indicative of deliberate industrial activity.

Other micro-slags of material (less than 2 millimetres) were recovered from the environmental samples (contexts 65A; 65B; 65C; 65E; 65F; 75; 86 and 88), these being a mixture of very small stones and silica and, often, vitrified material. Most of the hammerscale and slag spheres were found within this material. Although a considerable proportion of this material is magnetic it is unclear whether this is the direct by-product of ironworking.

Distribution

The majority of slag – including those examples apparently associated with ironworking – was recovered from contexts associated with, or in the vicinity of, Roundhouse 1 (Table 3): from the fill of the roundhouse gully (065); the fills of three pits (074, 085 and 108) and heat-affected soil (088).

	Context	Hearth bottom	Unclassified Fe slag	Hammerscale	Slag spheres
Roundhouse 1	65A (fill of 65A)			X	X
Roundhouse 1	65C (fill of 65C)			X	
Roundhouse 1	65E (fill of 65E)			X	
Roundhouse 1	65F (fill of 65F)	X	X	X	X
Pit fill	75 (fill of 74)		X	X	
Pit fill	86 (fill of 85)		X	X	X
Heat-affected soil	88			X	

Table 3: Distribution of ironworking slags

Although none of the features can be stratigraphically related to each other it appears that some, if not all, were associated with each other.

Radiocarbon dates from some of these features suggest that the suite of slag was deposited during the late first millennia BC. The amount of hammerscale and slag spheres from the site is very small and cannot be taken as evidence of *in situ* activity. However, the association of other probable ironworking slag from some of the contexts, particularly context 65F, suggests that ironworking took place in the vicinity of the roundhouse during the pre-Roman Iron Age.

Discussion

The Grantown Road material can, therefore, be added to the slowly expanding corpus of ironworking evidence from the pre-Roman Iron Age (summarised in Heald forthcoming). Even when issues of recovery and preservation are considered, the evidence for ironworking in the north-east remains relatively scarce. One key site is Cullykhan, Banffshire, now Aberdeen (Greig 1971; 1972). During excavations a house structure with a metalworking area was discovered. The surrounding occupation-level produced quantities of industrial bronze and iron waste, crucible fragments and a Late Bronze Age tanged chisel. The excavator interprets these finds as evidence for the working of both iron and bronze in north-east Scotland by the fifth century BC (Greig 1972, 229-30). The dating may be queried, but this material has been pivotal to discussions of early ironworking in Scotland (eg. MacKie 1971, 63).

More recent excavations have also produced ironworking evidence that appears to date to either the pre-Roman or Roman period, for example Kintore, Aberdeenshire (Cook & Dunbar forthcoming; Heald forthcoming), Seafield West, Inverness-shire (Cressey & Sheridan 2003), Birnie, Moray (F Hunters pers. comm.) and Forres (Bob Wills pers. comm.). It is difficult at present to draw any conclusions regarding the meaning of this material. As these excavations come to publication it will become possible to attempt a more thorough synthesis of the evidence and consider its wider social implications.

Coarse Stone and Lithics

Rob Engl

Three coarse stone tools were recovered from features of Iron Age date and a single chipped stone artefact was recovered from the topsoil. These can be identified as a polisher/hammerstone, a polisher, a fragment of saddle-quern rubber and a possible small saddle-quern. Three of the artefacts were made on locally derived mica schists while the other object is made on fine-grained sandstone.

The worked stone artefacts recovered at Grantown Road are not chronologically sensitive and little more can be said other than that they are of a general later prehistoric date and are commonplace on settlement sites (Rees 2000, 37). It is possible to suggest a use for the each of the artefacts based on their size and wear patterns. The polisher/hammer stone (1), which possessed several smooth worn surfaces, was probably used in the processing of a variety of materials such as leather, ceramics and stone. The polisher (2) was probably used to work leather or ceramics. The rubber (5) was the fragmentary piece of a saddle quern rubber.

Discussion

Neolithic Activity

THE set of features identified within the palaeo-channel produced only enough charcoal to obtain a single radiometric date, although a second was obtained from the overlying material (Table 1). The dates were statistically the same, suggesting that either the features represent a single discrete episode of activity, or that a structure already in existence by the Neolithic

period was destroyed and sealed in a single event. Although the charcoal may have been residual, no other Neolithic features were identified within the large sample of land stripped. Activity dating to the Neolithic period has been identified in sites in the north-east at Easterton of Roseisle and under the Neolithic barrow at Boghead, the latter producing a calibrated range of 3910-3520 BC, which broadly matches Grantown (Barclay 2003, 74-5). More locally, sites have been identified within close proximity at Fochabers (Burl 1984, 35-73) and Tulloch Wood (Carter 1993, 231).

Although the features within the palaeo-channel are not stratigraphically related their proximity suggests that they may be related, forming either an area of activity or the lower remnants of a building or structure. The shallow nature of the features suggests that they may have been truncated, with only the deepest surviving, a common fate of structures occurring on fertile land such as the Moray coast (Barclay et al. 2001, 81). The explanation of the limited ground-plan recorded at Kinbeachie, where a plough-truncated structure was investigated, was that the majority of features had been eroded away (Barclay 2003, 73-4). The site may represent a temporary, seasonal shelter, which was occupied in the summer for example, possibly when the palaeo-channel was dry. Alternatively, it may represent a structure used in the exploitation of the palaeo-channel. While there are obvious problems in trying to interpret a set of truncated features, the growing evidence for Neolithic settlement patterns means that some broad comparisons between the site and other structures can be made (Barclay 2003, 71-83). For example, the cut, measuring approximately 10 metres by 6 metres, falls into the general size of Neolithic building discussed by Topping (1996, 157-8), and is only marginally larger than the internal size of buildings at Eilean Dhomnuill and the Knap of Howar (Barclay 1996, 66). More locally, the site shares similarities with the Neolithic temporary structure excavated at Deers Den (Alexander 2000, 17). The general lack of both artefacts and ecofacts from the palaeo-channel, although unhelpful in our discussion of the site, is not wholly unexpected as Neolithic settlement sites often produce little of each. Although some debate still exists over the nature of Neolithic settlement (Barclay 1997, 127-9; Whittle 1999, 59) and the precise nature of the evidence is unclear, it clearly demonstrates activity during this period (Gibson 2003, 138-9).

Iron Age Activity

THE site was again used during the Late Iron Age when two roundhouse structures and a series of pits were constructed. Of the seven radiometric dates obtained from these features six of them fall within the period, 240 - 40 BC, suggesting that they are statistically the same (Table 1). Although the features date to the same approximate period, it is uncertain whether they were actually contemporary, formed varying parts of a sequence of settlement, or were completely unrelated chronologically and spatially.

As with the Neolithic activity on the site, it is likely that only the deepest features have survived, thus limiting interpretation. However, the structures bear similarities in size and design. The identification of an internal ditch in both the structures compares to those roundhouses excavated at Douglasmuir (Kendrick 1995), Culhawk Hill (Rees 1997) and Kintore (Alexander 2000), which are termed 'ring-ditches'. The ring-ditch is a feature common to prehistoric houses, and is diagnostic of neither period nor area, examples being found from the Middle Bronze Age to the Later Iron Age throughout Scotland (Strachan & Dunwell 2003, 59). A variety of explanations for its origin and function have been proposed, varying from the deliberate creation of the feature for storage (Kendrick 1995, 63-4; Armit 2002, 32-3) to its creation as a result of internal erosion caused by the activities within the roundhouse (O'Sullivan 1998, 112). The presence of post-holes within the ditches in both roundhouses balances the interpretation in favour of formation through erosion rather than design, though it is unclear what particular activity could cause such erosion, with suggestions varying from over-walking cattle (Armit 2002, 32) to the use of internal features (O'Sullivan 1998, 112).

The evidence from the surviving ground plan of Roundhouse 2 suggests that an inner ring of load-bearing posts would have been used to support a ring-beam (Reynolds 1982). The wider-spaced, less substantial outer ring would not have been load bearing and it is instead likely that it provided the foundations of a wattle or daub wall, a feature present at Douglasmuir (Kendrick 1995, 61). The recovery of fragments of hazel and alder, both suggested as a raw material for wattling and hurdling, support this claim (*ibid*.). An outer ring of post-holes is absent from Roundhouse 1, but this may have disappeared through truncation.

The general absence of a more comprehensive material and environmental assemblage is common to plough-truncated sites, and

obviously restricts any conclusions we can make regarding the economy of the site. However, the small amount of material recovered from the roundhouses suggests that each house may have had a wholly different function. The material recovered from Roundhouse 2 partially represents a domestic assemblage (coarse stone tools and burnt bone), hinting at the probable mixed agriculture practiced by the majority of Iron Age communities (Hingley 1992, 35). Roundhouse 1, on the other contained only slag and other metalworking debris, indicating that the process had occurred within close proximity to the structure. While the metalworking was not necessarily taking place at the same time as the structure was occupied, it has been inferred, from evidence from across Scotland that the process would have been a domestic industry, taking place on a small scale within settlements (Hingley 1992, 35). The results from recent excavations in north-east Scotland, at Kintore (Aberdeenshire), Birnie and Forres (Morayshire), Seafield and Culduthel Mains Farm (Inverness), suggest that this was also the case in this part of Scotland (Heald forthcoming).

The presence of the two different assemblages may be nothing more than a result of taphonomic processes and the survival of features, but the possible magical nature of metalworking would certainly single it out for special treatment. The ritual nature of ironworking has been discussed in association with regeneration and agricultural production (Hingley 1997, 10), and it does not seem unlikely that such an important process, not to mention a toxic and dangerous one, would merit a separate workshop. The identification of evidence for a hearth bottom and a slag sphere in the terminus of the ditch may in some way support this, as the ritual nature of the deposition of metal is well documented in both the Bronze and Iron Ages (Hingley 1997, 10; Hunter 1997, 108-33), while the use of terminals and boundaries as receptacles is further attested (Collis 1996).

Early Historic Activity

A single pit produced two dates which can be placed into the Early Historic period. Discounting the possibility of residual deposits, the pit may have been used as a rubbish pit during this period, with the burnt and organic matter being dumped. However, the possibility that the pit represents some sort of ritual activity should not be dismissed as evidence of this nature was identified under similar conditions in Kintore (Cook & Dunbar forthcoming). The lack of any associated structures or artefacts limits what

we can say about the feature, but we can place it in a wider context. The Romans may have played an important role in the preceding centuries, with Roman hoards dating to the second century (Birnie – Hunter 2002, 12-16) and third century (Covesea – Shepherd 1993) being recovered in the area. Research to date has yielded evidence for occupation at Burghead was dated to between the fifth and seventh centuries, but dates have also been obtained from samples providing evidence for activity from the third century (Shepherd 1993, 80). A further parallel with known activity may be the undated square barrows located at Greshop (NMRS: NJ05NW35), to the west of Forres, which may date to a similar period (Shepherd 1993, 84).

Conclusion

THE identification of multi-phased landscapes is becoming more common as the amount of archaeological research undertaken in the area increases. In and around Moray itself, multi-phased landscapes have been recognized through comprehensive programmes of fieldwork and dating such as Tulloch Wood (Carter 1993), as well as the newly excavated site in Culduthel Mains Farm, Inverness (R Murray pers. comm.).

The evidence from Grantown Road is of a landscape inhabited from at least the Neolithic onwards. While the richness of the land in terms of agricultural produce may be the reason for prehistoric settlement in the area, it is also the reason why more evidence does not survive, as Grantown Road demonstrates; as in the rest of the lowlands of Scotland cropmark sites are constantly under threat.

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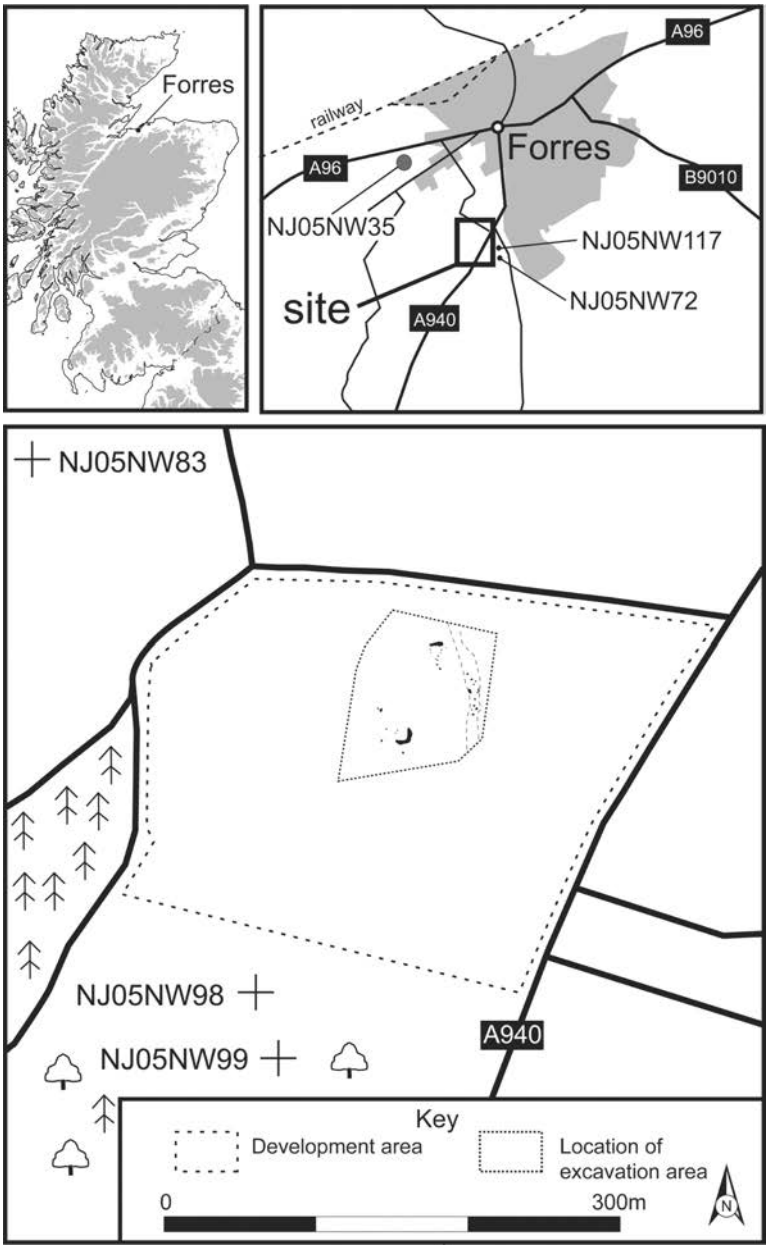
Forres
railway
A96
Forres
A96
B9010
NJ05NW35
NJ05NW117
site
NJ05NW72
A940
NJ05NW83
NJ05NW98
NJ05NW99
A940
Key
Development area
Location of
excavation area
0
300m
N

Figure 1

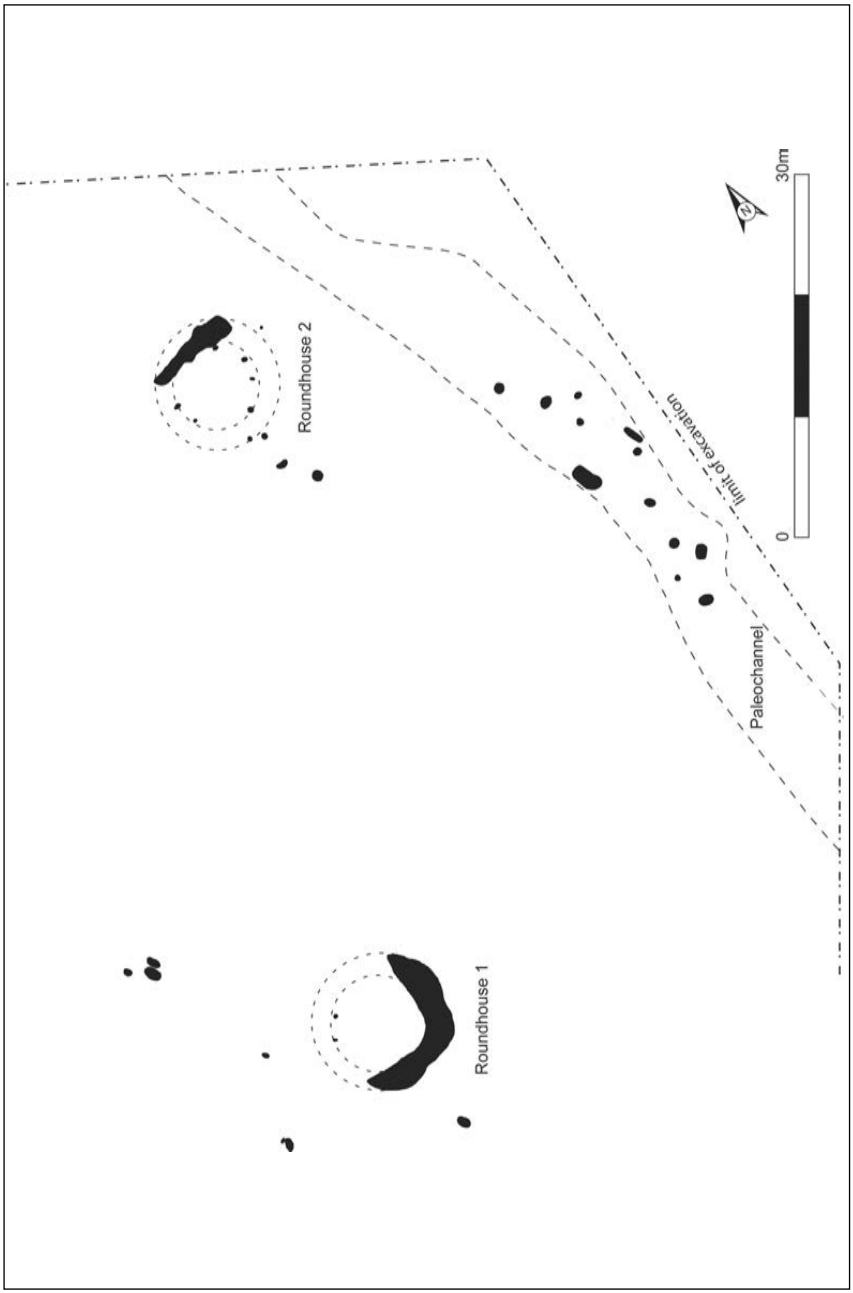
Roundhouse 2
Roundhouse 1
limit of excavation
Paleochannel
N
0
30m

Figure 2

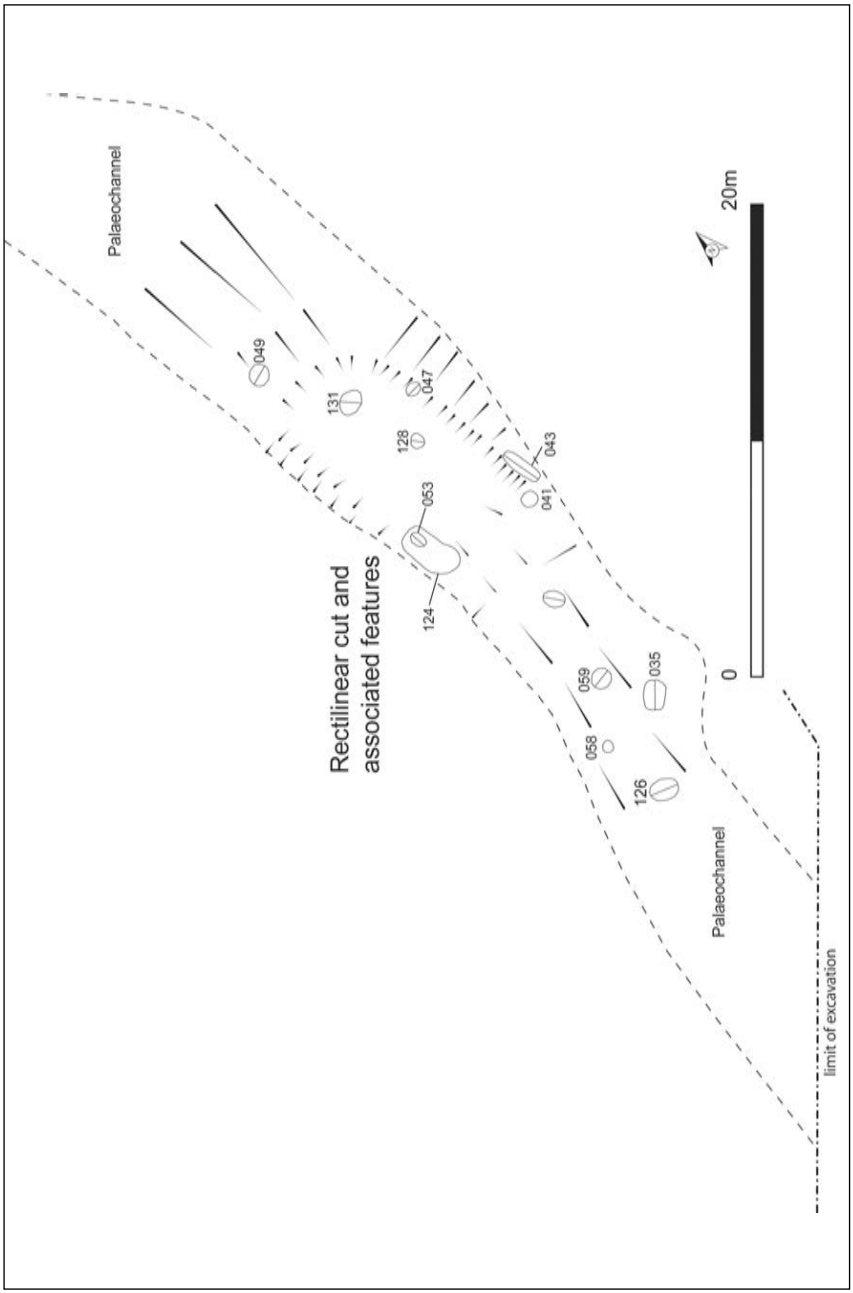
Palaeochannel
049
131
047
128
043
041
053
124
Rectilinear cut and
associated features
059
035
058
126
0
20m
Palaeochannel
limit of excavation

Figure 3

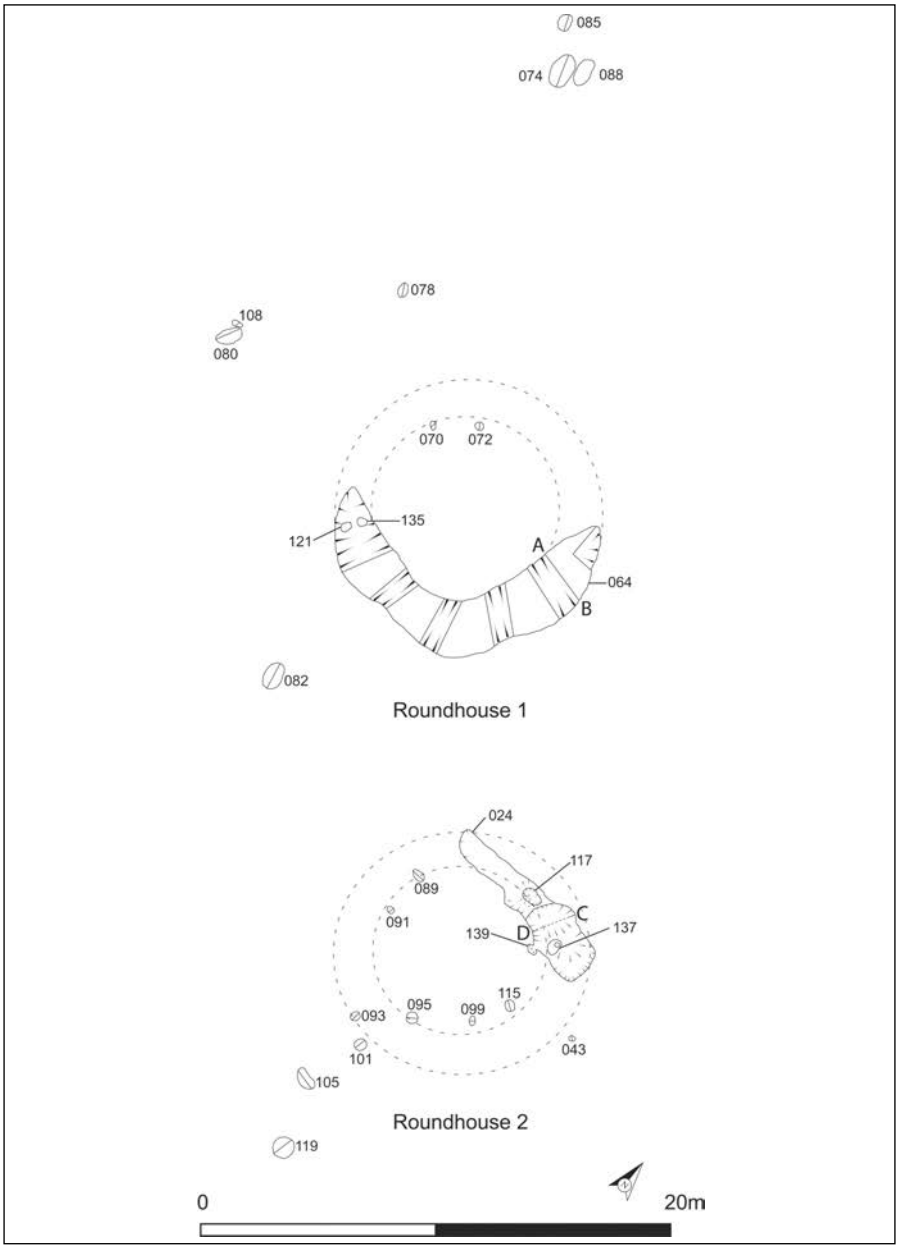
085
074
088
078
108
080
070
072
135
121
A
064
B
082
Roundhouse 1
024
117
089
091
C
139
D
137
095
099
115
093
101
043
105
Roundhouse 2
119
0
20m

Figure 4

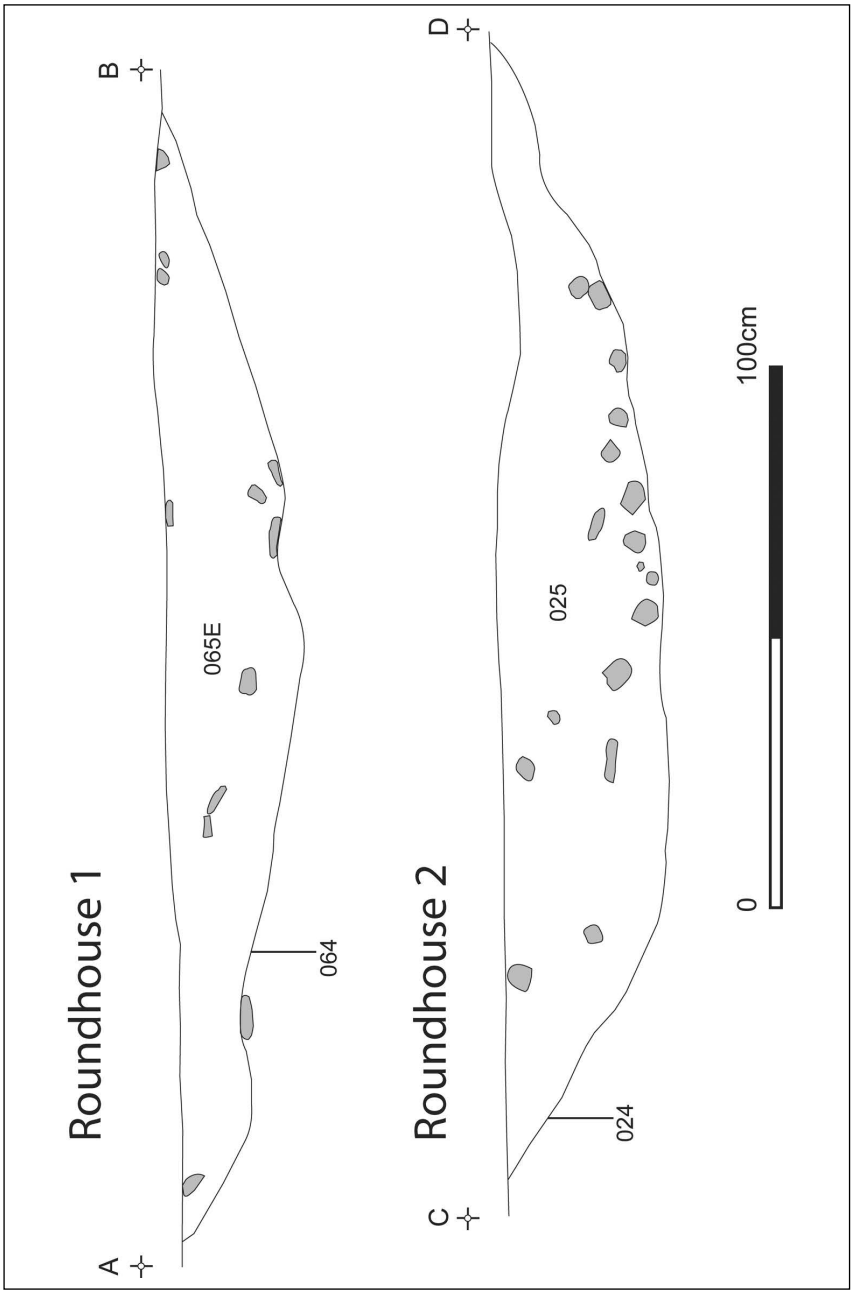

Figure 5