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ARO53: A Mesolithic camp, Bronze Age roundhouse and an Iron Age building at Nairn Street, Larkhall, South Lanarkshire

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Published by GUARD Archaeology Ltd, archaeologyreportsonline.com

Editor Beverley Ballin Smith

Design and desktop publishing Gillian Sneddon

Produced by GUARD Archaeology Ltd 2023.

ISBN: 978-1-7398668-4-6

ISSN: 2052-4064

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Summary

An isolated middle Bronze Age roundhouse was discovered on a promontory on the west side of Larkhall in South Lanarkshire during an archaeological investigation in 2014 by GUARD Archaeology Ltd in advance of development.

The earliest evidence of settlement of this promontory, which overlooks the River Avon, was a small ephemeral structure (Structure 1), a hut circle with a windbreak discovered in the middle of the promontory and considered to be a Mesolithic hunter-gather encampment. A radiocarbon date placed it in the eighth to ninth millennia BC.

Located in the middle of the promontory was a substantial roundhouse (Structure 3), the best preserved of the structures encountered, although it was bisected by a medieval furrow. The main elements of the roundhouse comprised a ring of eight large postholes which contained the remains of oak posts that defined the internal central space and supported the building's roof. The other main feature was a shallow oval and segmented gully that indicated the extent of the roof and thereby size of the building. A hearth was not found because of subsequent destructive activity, but a number of pits and postholes indicated the use of the building and its subsequent alteration. Sherds of contemporary pottery vessels were found in the pits and postholes in the centre of the building along with fragments of daub or fired clay. The latter indicated that the structure had outer walls that needed protection from the weather by the building's overhanging roof. Radiocarbon dating of samples from the structure placed it firmly in the middle Bronze Age, between the sixteenth and thirteenth century BC.

Overlying the eastern part of the building was an organic deposit that was possibly part of its roof preserved by waterlogging. Radiocarbon dating placed this within the late Bronze Age - the twelfth to tenth century BC, although it contained middle Bronze Age pottery sherds as well as the remains of a worked oil-shale bangle.

A later event saw the insertion of a small rectangular wooden building (Structure 4) through the organic deposit and into the remains of the Bronze Age roundhouse (Structure 3) below. It had an entrance in the south wall and it contained a large fire-pit that was dated from the first to the third century AD (Iron Age). The building also contained evidence of dung.

These chronologically distinct phases of occupation emphasise the attractiveness of this place in the landscape for successive groups of people to inhabit from the Mesolithic to the Iron Age.

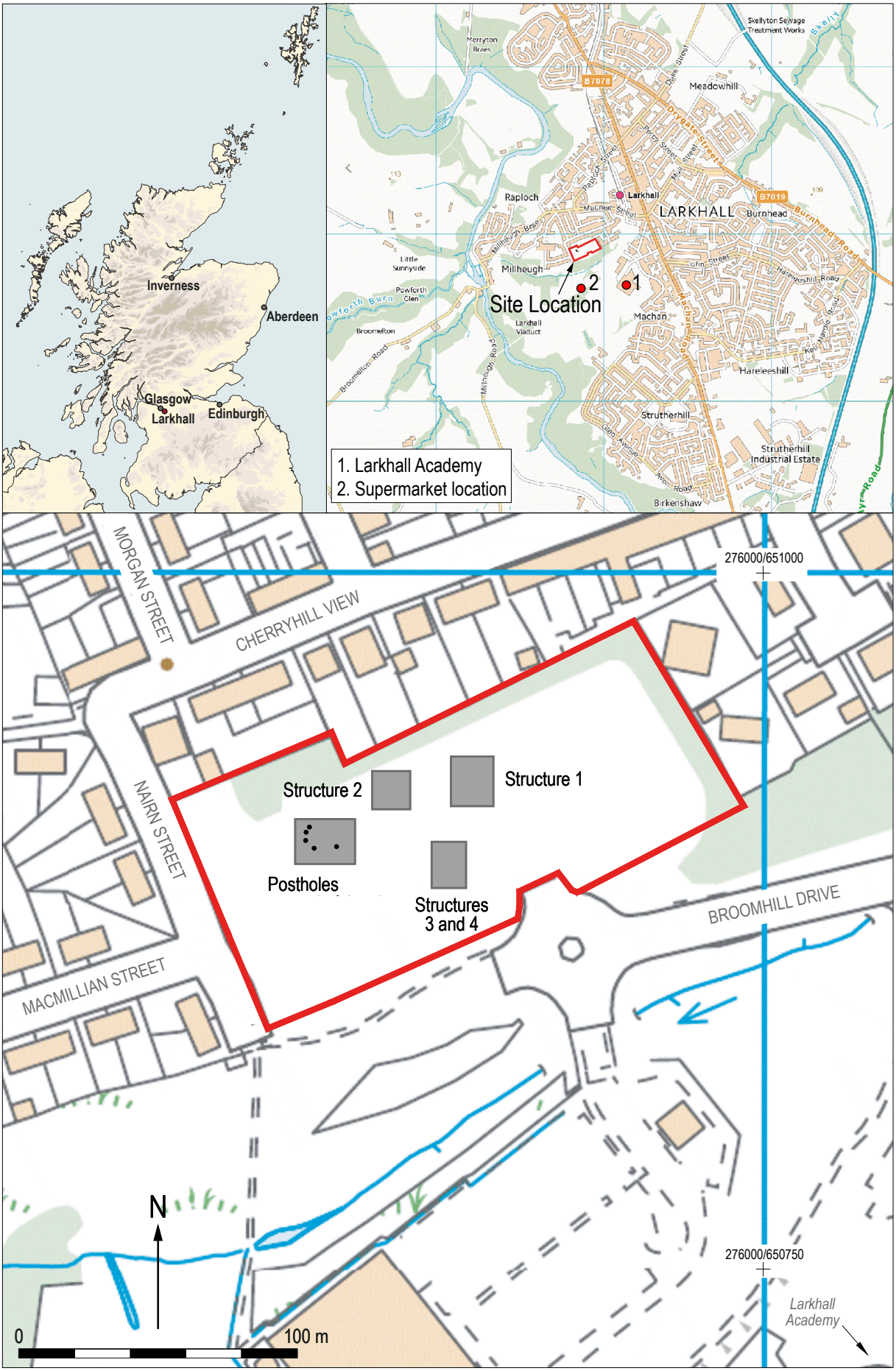


Figure 1: Location of the site and other archaeological features.

KEYWORDS: Mesolithic, Bronze Age, Iron Age, medieval, roundhouse, lithics, prehistoric pottery, oil shale

Introduction

In the summer of 2014 GUARD Archaeology Ltd, on behalf of Bracewell Stirling Consulting, carried out a series of archaeological investigations on development land adjacent to Nairn Street in Larkhall, South Lanarkshire. An initial trial trench evaluation highlighted the presence of a series of significant archaeological features including the remnants of a roundhouse (Kilpatrick 2014). Due to the importance of these remains a subsequent topsoil strip was conducted across the area that revealed further archaeological features.

Site location

The site is located on the western periphery of the town of Larkhall in South Lanarkshire centred on NGR: NS 758 508 (Figure 1). It is confined on the western side by Nairn Street, housing to the north and east and Broomhill Drive to the south. The surrounding landscape differs greatly from that experienced in prehistory with major new developments to the south and east, while a former railway line with an embankment cut across the area.

The natural plateau on which the site is located forms part of a promontory that dips steeply towards the River Avon to the west and south-west. The low lying ground to the south appeared in the past to have been an uncultivated wetland or a marshy area with a tributary burn feeding into the river.

The uses of the site prior to the archaeological included playing fields, with earlier arable cultivation, grazing land and small scale cultivation. The drift geology consists of Quaternary period glacio-fluvial deltaic deposits of gravel and silt allowing for a free draining and fertile topsoil, whilst the solid geology includes Carboniferous period Scottish Middle Coal Measures Formations (BGS 2023).

Archaeological background

The potential for archaeological remains and presence of prehistoric features was highlighted during investigation works adjacent to the site between 2005 and 2012. An archaeological evaluation conducted by Headland Archaeology in advance of the construction of Larkhall Academy in 2005 (Atkinson 2005), resulted in the recovery of a range of finds from features including a quantity of prehistoric pottery together with a small assemblage of lithic artefacts (Figure 1). Subsequently, in 2006 Headland Archaeology revisited the area during mitigation works and undertook a series of targeted archaeological excavations expanding on features found previously (Dutton and Atkinson 2005). The results from both the evaluation and the excavation did not reveal any clear indication of formal structures or dwellings, except for a fragment of daub that highlighted the likely presence of a timber construction nearby. The large prehistoric pottery assemblage appeared to comprise particularly fine traditional carinated bowls placing it firmly in the early Neolithic period. Pottery sherds of possible Iron Age date were also recovered as well as a single fragment of Roman coarseware. At the time of writing, no further post-excavation work has been undertaken on any of these sites. The botanical record from both the excavation and the evaluation revealed mixed assemblages of early prehistoric gathered resources from hazel nutshells to an assemblage of cereal grain likely relating to the later prehistoric period.

Further investigations conducted in 2011, 50 metres to the south-west of the present site during advanced work for the construction of a supermarket highlighted further prehistoric remains (Figure 1). A series of evaluation trenches undertaken by CFA Archaeology indicated the presence of a number of pits containing prehistoric pottery and a small stone-lined hearth (Mitchell 2011). As a result, further mitigation works were undertaken the following year, expanding around these features and exposing additional pits (Mitchell 2012). Publication of the site at the time of writing has not yet taken place, however the accumulation of features appeared to relate to the previous Neolithic

activity witnessed to the south-east. The material culture recovered again consists of Neolithic pottery and gathered environmental resources. The dispersed nature of these features possibly relates to widespread Neolithic settlement in the area.

The archaeology at Nairn Street

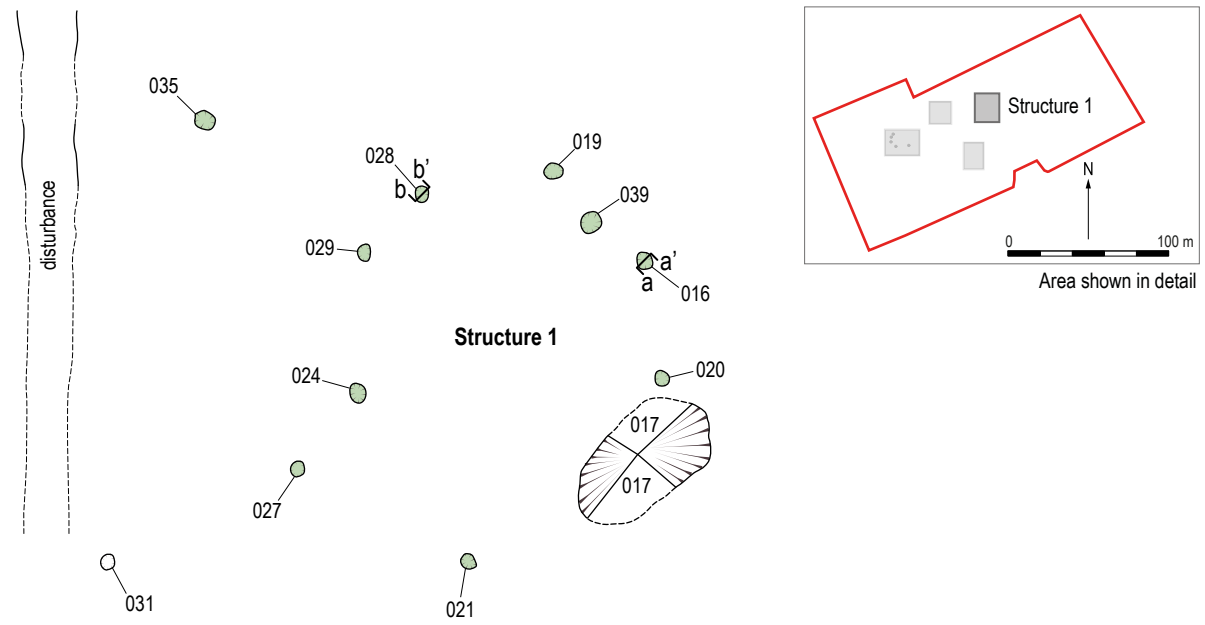
The excavated area was characterised by the presence of three structures with a fourth identified during post-excavation analysis. A small number of postholes at the west end of the site, probably from a recent fence line, contained no material culture are not discussed further here. A series of parallel ditches from rig and furrow cultivation crossed the site in a north/south orientation; they ranged in width between 0.5 m and 1.7 m and were spaced 9 m apart. It is likely that these reflected the remnants of a more substantial cultivated landscape dating to the late medieval period or earlier that affected the preservation of the prehistoric features on the site. Material cultural remains recovered from the base of a number of the furrows consisted of a quantity of medieval and later wares (see Medieval and later pottery report below).

Structure 1

This small group of features identified as a not particularly well-defined structure was fully exposed during the topsoil stripping of the site. It was located on the eastern extremity of the stripped area and on the crest of a low sandy gravel plateau. It consisted of a small sub-circular ring of postholes, complemented on the south-east edge by a shallow organic-rich depression or pit (017) with further postholes and pits around its periphery.

The arc of seven postholes (016, 019, 020, 024, 028, 029 and 039), with diameters between 0.20 m and 0.30 m and depths between 0.17 m and 0.40 m formed a structure 5 m in diameter (Figure 2). The postholes were irregularly distributed between 0.8 m and 2 m apart. A number of the postholes contained packing stones but their single fills when excavated presented no obvious datable material culture. A fragment of a lithic artefact, CAT4 recovered from the fill of posthole 016, indicated prehistoric activity, but remained undiagnostic of any particular period. Immediately, south and west of the arc of posts were another two postholes (021 and 027), which may have completed the structure, or represent evidence for a windbreak or barrier. These postholes were between 0.20 m and 0.40 m in diameter, but were shallow at 0.15 m in depth (Figure 3).

Figure 2: General view of Structure 1 prior to its excavation.



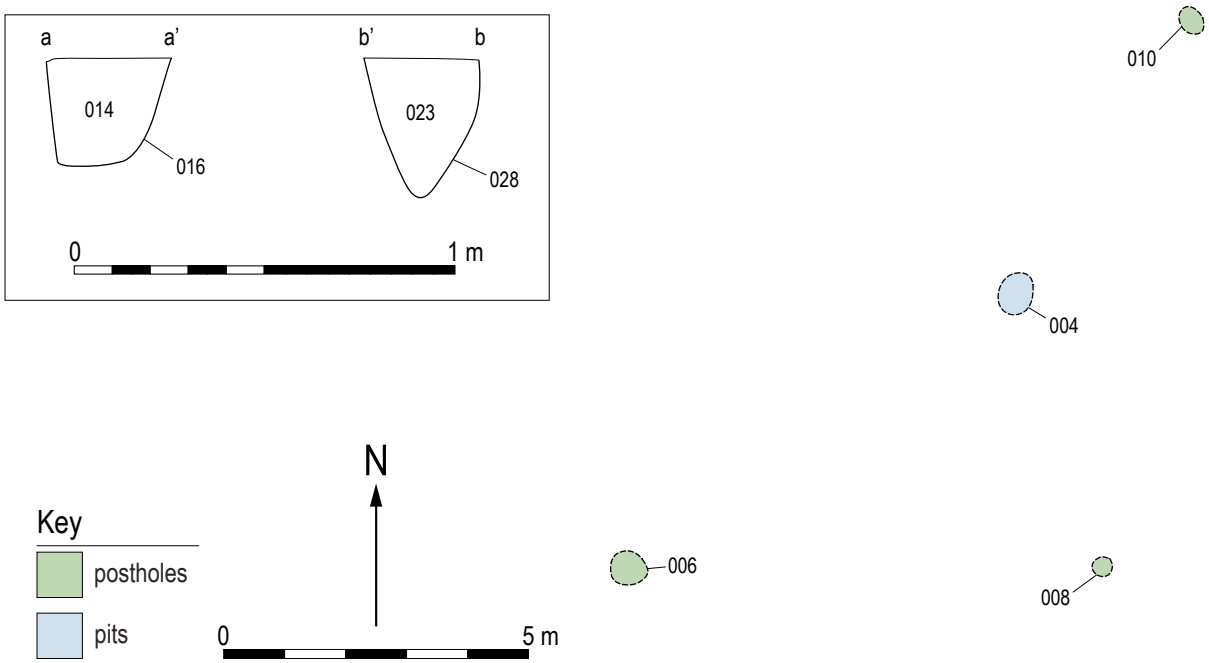


Figure 3: Plan of Structure 1 and sections through its postholes.

Botanical results from these features produced mixed charcoal assemblages with each containing small fragments of alder, birch, hazel, oak and willow, and a small quantity of cramp (fuel ash slag) was identified from within posthole (021). As there was a distinct lack of evidence for any in situ burning of timbers within the postholes, the likely indication was that the charcoal originated from domestic occupation of the structure. A radiocarbon date recovered from one posthole (029) from alder charcoal resulted in a date range of 8203 – 7793 cal BC (SUERC-62280). No further dates were possible from the fills of the remaining postholes. However, the distinct shape and size of the structure appeared similar to Mesolithic dwellings seen elsewhere in Scotland (Wickham-Jones 2004). Due to the lack of datable material culture recovered from the structure the dating of it relied largely on this single radiocarbon date.

The distinct lack of hazel nutshells from features did not indicate the Mesolithic period, however, results from an excavated site some 200 - 300 m to the south-east at Larkhall Academy (Dutton and Atkinson 2006), highlighted the potential for early occupation. The structure encountered at Nairn Street may not have been a focus for activities that are generally attributed to the Mesolithic period but it may still have reflected temporary or transient habitation in early prehistory.

The organic-rich deposit (017) located in the south-eastern arc of the structure (Figure 3) was sub-oval in shape and measured 2.8 m by 1.2 m. Its maximum depth was 0.24 m and beneath its filling were a number of depressions within the subsoil. The feature had also been truncated by small animal burrows especially around its edges. Botanical results from a number of processed soil samples revealed a mixed assemblage of alder, hazel, birch and oak charcoal. The quantities present were higher than those found within the adjacent postholes, but again the evidence was consistent with domestic hearth waste. A flint flake CAT5 was found in its fill.

Two isolated postholes (031 not illustrated and 035) to the north-west may relate to activities not associated with Structure 1. The smaller of the two (031) measured 0.26 m in diameter with a maximum depth of 0.11 m. The botanical remains recovered from it comprised exclusively fragments of oak charcoal and a single grain of cf oats. The presence of oats may indicate a medieval or later date but its proximity to a medieval furrow less than a metre away suggests contamination.

A cluster of four features were located 10 m - 15 m to the south-east of Structure 1 (Figure 3) and appeared to be unrelated to it. The largest of these, was a sub-circular pit (004) with a diameter of 0.6 m and a depth of 0.45 m. A large worn saddle quern, SF 01 (Figure 4, see Worked Stone, below), was deposited face down in the centre of it with a small fragment of unidentifiable burnt bone beneath it and possible fragments of oil shale. The botanical material recovered from the pit fill included trace amounts of alder, birch, hazel, oak and cherry-type charcoal possibly relating to domestic hearth waste from elsewhere in the vicinity. A radiocarbon date recovered from birch charcoal resulted in a date of 1261 – 1051 cal BC (SUERC-62279), indicating the deposition of this stone took place sometime between the middle and the late Bronze Age.

Figure 4: Quern in pit 005/004.

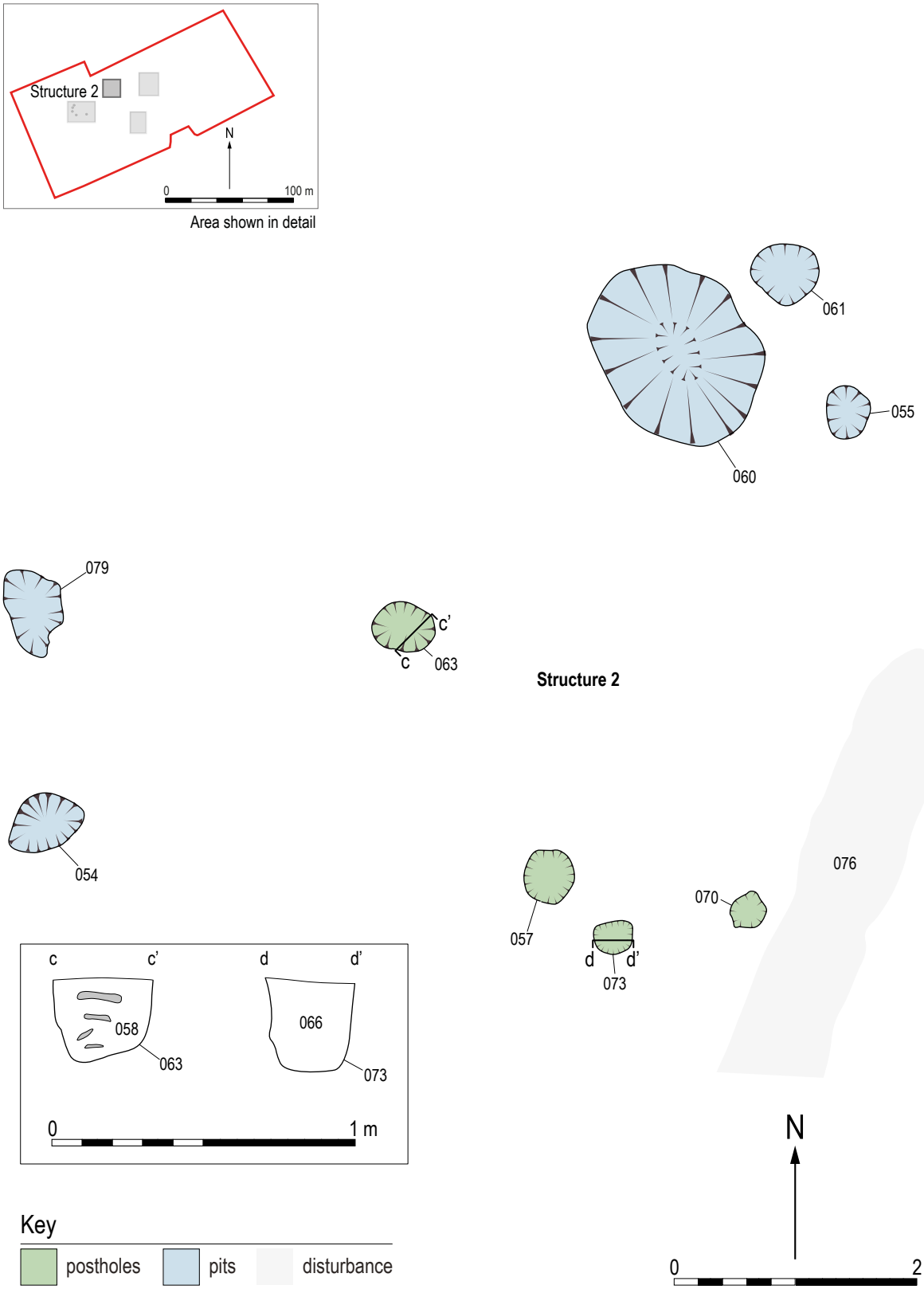


Figure 5: Plan of Structure 2 and surrounding features.

Structure 2

Located 10 m to the west of Structure 1 was a group of features that partly survived truncation from furrows and substantial bioturbation in the form of small mammal burrowing (Figure 5). A small group of three postholes (057, 070 and 073) were spaced between 0.5 m and 1.8 m apart, and a separate posthole (063) lay c. 2 m to the north-west. Their diameters varied between 0.4 m and 0.45 m and their depths between 0.27 m to 0.43 m. One posthole (057) contained a significant quantity of oyster shell, and another (063) included a number of packing stones.

Botanical remains recovered from these features produced a number of fuel resources including alder, birch, hazel, ash, oak and willow. Cereal grains including barley, oats and the seeds from crop weeds were also present suggesting midden material and domestic hearth waste. In addition to the postholes there were a number of shallow pits (054, 055, 060, 061 and 079) situated to the north and to the south west of them. These also varied in size and depth but contained the same mixed carbonised assemblages seen elsewhere on the excavated area. The presence of oak charcoal, hazel nutshell and a carbonised apple pip within a number of the features suggested the likelihood of a prehistoric date but a number of carbonised cereal grains, including barley were also present within them. However, remnants of medieval rig and furrow cultivation lay in close proximity to these features and could have contributed to the introduction of contaminants within the pits. Samples for radiocarbon dating were not taken from this area due to the disturbances of cultivation and animal burrowing.

Posthole alignment (Figure 1)

Located to the north-west of Structure 2, was a small alignment of postholes (085, 090, 093 and 094). They displayed similar profiles and ranged in diameter between 0.28 m and 0.50 m with depths of between 0.12 m and 0.19 mm. Their botanical remains comprised small mixed charcoal assemblages of alder, birch, hazel, willow, elm and oak. The small quantities possibly reflected hearth waste from elsewhere on the excavated area. A single fragment of prehistoric pottery was recovered from a posthole (093), but the features remain undated. The postholes may have formed a boundary or enclosure associated with the structure remains to the east and south.

Structure 3

This structure was the remains of a roundhouse c. 10 m in diameter which was well-defined by an oval-shaped gully within which was a number of postholes suggesting an interior ring of load-bearing posts. A large deposit of organic material survived across the eastern side of the structure which overlay and was cut through by a square arrangement of gullies indicating the presence of a later structure. Both buildings were truncated to the west by a north/south aligned furrow from later cultivation activities (Figure 6).

Gully

The most prominent feature of the structural remains was the oval, narrow and somewhat segmented gully (117) that measuring between 9.5 m and 10 m in diameter. It was partially truncated by an agricultural furrow (136) that bisected the structure from north to south.

The gully averaged c. 35 mm in width and was between 0.11 m to 0.26 m in depth and was filled with silt (116). A sample of alder charcoal from the north-east arc of the structure provided a middle Bronze Age radiocarbon date of 1500 – 1311 cal BC (SUERC-62281). The botanical assemblage recovered from the gully was diverse and including alder, birch, hazel, oak and willow charcoal. Although oak charcoal was dominant, the assemblage reflected the detritus generally associated with domestic occupation. Traces of hazel nutshell were also recovered along with a single unidentified carbonised cereal grain.

A total of five undiagnostic and plain sherds of pottery were recovered from a number of the slot trenches excavated across the gully as well as a number of small fragments of fired clay providing a glimpse into the construction of the building itself (see below).

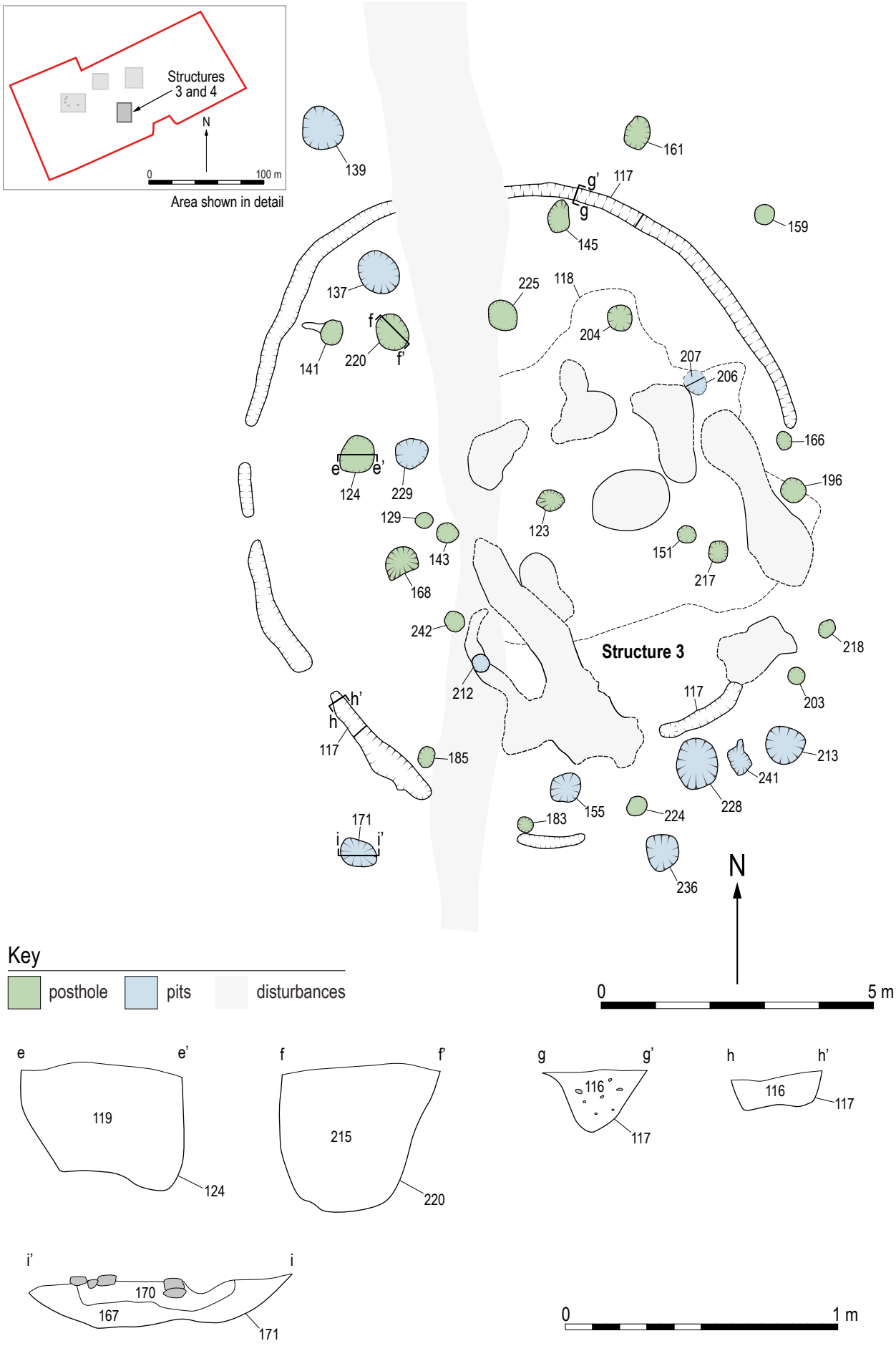


Figure 6: Plan of Structure 3 the roundhouse, with sections through the ring-groove, postholes and a pit.

Main internal features

The understanding of the layout of the building is not straightforward because of alterations during its life-time and because of the insertion of later features over its middle and south-eastern parts, including its entrance (Figure 7).

The interior area of the building, encircled by the gully, included eight postholes, which would have held roof-bearing posts. These (124, 168, 204, 207, 217, 220, 225 and 242) were spaced 1.4 m to 1.6 m apart with the largest postholes (for bigger timbers) forming the western arc. The average diameter of these postholes was c. 0.55 m and their depth was c. 0.32 m. Their posts created an inner, roughly circular space c. 7.5 m in diameter in which there was a central posthole (123). Evidence for at least two missing posts in the southern part of the building including that of the entrance had been removed by later activity. The entrance to the structure was positioned towards the south-east were smaller postholes (151 and 217) demarcated its alignment.. Its alignment continued as an exterior porch beyond the gully as far as posthole (218). This was partnered c. 1 m to the south-west by another (203), indicating the south-west wall of the porch.

The botanical assemblage recovered from the ring of postholes comprised mixed charcoal assemblages, which included oak, alder and hazel, all possibly from domestic hearth waste. A number of carbonised hazel nutshell fragments along with traces of barley grain also featured within this domestic detritus incorporated into the postholes. A number of sherds of pottery representing a large cooking pot (Vessel 7) were recovered from a posthole (220), with a worked cobble tool, SF 62, and a large quantity of daub. Some daub fragments were also recovered from other postholes (124 and 217), indicating the use of partitions or light-weight walls within the building.

Radiocarbon dates were taken from alder and hazel charcoal from load-bearing two postholes (206 and 220), as well as an entrance posthole (217) (see Table 1). These three dates overlapped in the middle Bronze Age period 1492 – 1297 cal BC (SUERC-62288), 1515 – 1413 cal BC (SUERC-62290) and 1518 – 1415 cal BC (SUERC-62291), and also with the date range produced for the gully, indicating their contemporaneity.

Other postholes, with depths of 0.26 m to 0.31 m, suggested that additional wood supports were needed within the building along its western arc of posts, such as (129 and 143), for example, to brace the post in posthole (168) from the interior. Botanical results from their fills indicated the presence of significant quantities of alder, hazel and oak charcoal consistent with scattered

Figure 7: Image of Structure 3 during excavation.

or dumped domestic hearth waste used as backfilling materials. Fragments of hazel nutshell and fragments of burnt animal bone were also recovered from these two features highlighting processing of food within the central area of the structure.

In the north-western part of the structure a post in posthole (141) could have supported or reinforced the larger timber in posthole (220), but from the west. Other smaller and shallower postholes such as (145, 166 and 196) along the eastern arc, but situated close to the gully, may have also supported the roof-bearing timbers from these locations. Posts (159 and 161) a metre or more to the north-west of the gully may have buttressed the internal roof supports from outside the building. Similarly three posts on the southern arc (183, 185 and 224) may have fulfilled a similar function, or may also be indicators of alterations to the building as two segments of gully took a wider course in the south-west than that proscribed by the rest of the feature.

Mixed botanical assemblages including traces of alder, birch, hazel, ash and willow and significant amount of oak charcoal – up to 90% of the full assemblage recovered – suggested that these additional posts were structural elements within the buildings. Two small fragments of prehistoric pottery were recovered from postholes (183 and 224) and a larger fragment of daub.

Other internal features

Other features were excavated that were likely to be contemporary with the habitation of the building. These included a number of postholes and shallow, organic charcoal-rich pits situated along the inside leading edge of the timber roof supports. In addition to these, a number of wide shallow organic-rich pits were also present around the inside periphery of the structure.

A small feature (151) originally interpreted as a posthole during the excavation but likely functioned later as small fire-pit or hearth had a diameter of 0.36 m and depth of 0.16 m. This shallow charcoal-rich pit appeared to be the only evidence of any form of hearth within the central area of the structure. Botanical results from its deposits produced significant quantities of oak charcoal alongside small traces of alder and hazel. The presence of oak in high quantities suggested the burning of fuel. A number of fragments of unidentified burnt bone were also present.

A pit (137) was located in the north-western portion of the structure between the ring of load-bearing posts and its outer wall indicated by the gully. It had a number of organic fills from which a large assemblage of alder, hazel, elm and oak charcoal was recovered along with a quantity of carbonised barley and wheat cereal in its lower fill. The function of this feature remains unclear but it is likely that it related to domestic activities.

A few metres to the south, a pit (229) was situated within the internal post ring. Its fill was similar to that within pit (137) and it contained two small sherds of prehistoric pottery. A number of fragments of hazel nutshell were also recovered from its basal fill, possibly relating to some small scale processing within the structure.

A number of shallow pits (155, 213, 228, and 241) formed an arc along the southern border of the building to the entrance porch, with pit (236) lying a little to the south. All displayed an abundance of charcoal in their fills with alder, birch, hazel, willow and oak present. There were traces of hazel nutshell but a significant quantity of burnt animal bone was identified. Small numbers of fragments of prehistoric pottery were recovered from all pits except pit (213). The sherds from pit (155) appeared similar to Vessel 3, a thick heavily burnt cooking pot (see below), found in a later feature directly to the north. A significant quantity of daub was also recovered from pits (155 and 236), possibly relating to their proximity to the outer walls of the structure. The function of these pits again remained unclear, but the abundance of charcoal and burnt bone may have indicated hearth waste or the scant or truncated remains of cooking activities at the entrance to the structure.

Organic layer

Apparently sealing Structure 4 and extending across the eastern half of the interior of Structure 3 was a large deposit of dark organic material (118) (Figure 6 and 8), which contained a significant number of finds including sherds of pottery and a piece of worked oil shale. XRF (X-ray fluorescence) sampling was undertaken in a grid across the deposit (Figure 9) in an attempt to understand the domestic practices

and distribution of activities taking place within Structure 3. The deposit sealed a significant number of features related to the construction and use of that building and also Structure 4, which was not recognised as a separate structure during the excavation. A radiocarbon date from a hazel nutshell from the deposit resulted in a late Bronze Age date range of 1127 – 930 cal BC, (SUERC-62282).

The botanical remains present within the deposit contained mixed charcoal of alder, birch, hazel including nutshells, oak and fragments of cramp were also noted. A significant quantity of burnt bone, including an identifiable animal rib was also present in the deposit. It appeared likely that the organic deposits comprised both the destruction of a structure (Structure 3) and scattered domestic waste.

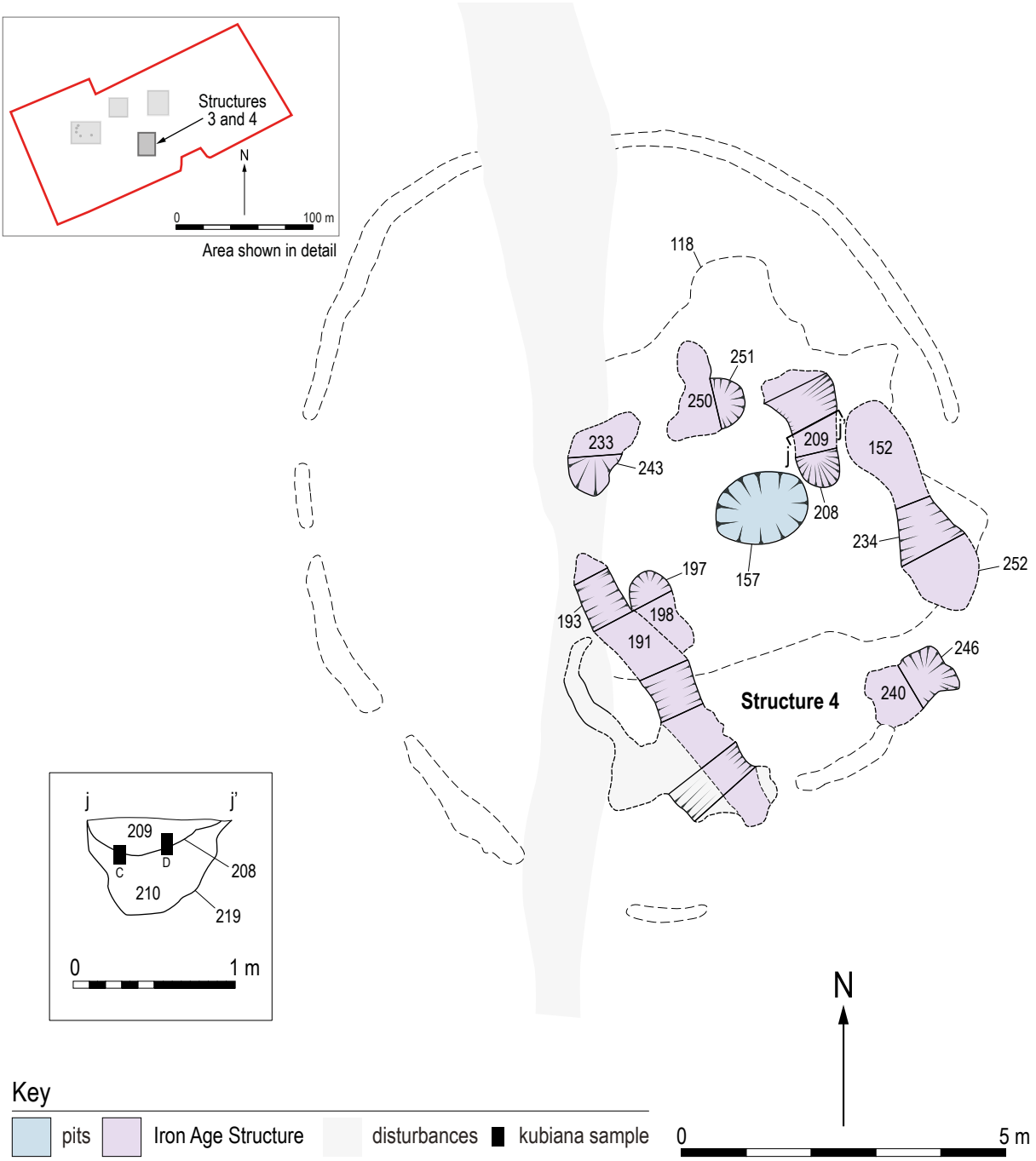


Figure 8: Plan of Structure 4 and relationship to organic deposit 118.

Figure 9: General view of XRF grid samples.

Structure 4

A rectangular arrangement of truncated pits and gullies (191, 198, 199, 208, 233, 234, 240 and 251), referred to as ditches during the excavation, formed the outline of another building within the central/south-eastern area of Structure 3 that destroyed much of the interior of the roundhouse in that area (Figure 8). Its features were generally irregular but shallow on its western side averaging c. 0.24 m in depth, but they were twice as deep on its eastern side. There was no evidence during their excavation of postholes or stakeholes within them, although most had multiple silty fills. Botanical remains present within these features produced significant quantities of birch, hazel, oak and willow charcoal. An increased quantity of alder was present through much of the upper fills of these features alongside oak. Large quantities of hazel nutshell were also recovered from across its eastern side alongside the presence of what appeared to be burnt dung.

The interior of northern part of these features was dominated by a large pit (157), possibly a fire-pit, which seemed to be part of the structure. With a diameter of 1.27 m and with a depth of up to 0.75 m it was the largest and deepest pit on the site. It contained a more mixed assemblage of botanical remains than seen in surrounding pits with large quantities of alder, birch, hazel, ash and oak charcoal. A quantity of burnt animal bone was also recovered from its base.

Radiocarbon dates recovered from the south-east gully (152/234) from alder charcoal resulted in a date of the middle to late Bronze Age 1265 – 1163 cal BC (SUERC-62287), possibly from the earlier deposits it cut into, and a Roman/Iron Age date of 19 cal BC – cal AD 130 (SUERC-62289) came from willow charcoal from a deposit (209) in the north-eastern gully (208). A radiocarbon date from alder charcoal from the fill of it interior pit (157) resulted in dates of cal AD 51 – 214 (SUERC-62286), placing this feature also in the middle of the Roman Iron Age. The presence of this large pit, which appeared during the original excavations to be sealed below the demolition layer 118 (see note above) dated to the late Bronze Age, posed a number of questions relating to its purpose, the understanding of the stratigraphic relationships, but also the security of the samples recovered for radiocarbon dating.

The radiocarbon dates

A total of ten samples from short-lived tree species returned radiocarbon dates (Table 1) from Structures 1, 3 and 4. The earliest date is late Mesolithic, from the ninth millennium BC (Structure 1) to the latest from the Roman/Iron Age of the third century AD (Structure 4). The majority of the other dates, mostly from Structure 3, are from the middle Bronze Age spanning a period from the early sixteenth century BC to the end of the thirteenth century BC.

Lab Code	Lab Code	Sample Nr	Context	Delta13C	Sample description (all charcoal)	Radiocarbon Age BP	Dates at 1 sigma (68.2% probability	Dates at 2 sigma (95.4% probability)
SUERC-62279	(GU38312)	001	004 fill of pit 005 near Structure 3	-27.7 ‰	Betula sp charcoal	2957 ± 30	1217 – 1123 cal BC	1261 – 1056 cal BC
SUERC-62280	(GU38313)	013	026 fill of posthole 029 Structure 1	-28.1 ‰	Alnus cf glutinosa	8839 ± 30	8171 – 8115 cal BC 8055 – 8046 cal BC 7987 – 7910 cal BC 7901 – 7834 cal BC	8203 – 8106 cal BC 8095 – 8037 cal BC 8012 – 7793 cal BC
SUERC-62281	(GU38314)	072	116 fill of gully 117 in Structure 3	-29.9 ‰	Alnus cf glutinosa	3151 ± 30	1493 – 1481 cal BC 1454 – 1402 cal BC	1500 – 1383 cal BC 1340 – 1311 cal BC
SUERC-62282	(GU38315)	024	118 occupation deposit over Structure 3 features	-24.2 ‰	Corylus avellana nutshell	2869 ± 30	1110 – 1002 cal BC	1127 – 930 cal BC
SUERC-62286	(GU38316)	086	149 fill of pit 157 in Structure 4	-25.2 ‰	Alnus cf glutinosa	1898 ± 30	cal AD 70 – 130	cal AD 51 – 214
SUERC-62287	(GU38317)	126	152 deposit in feature 234 in Structure 4	-27.3 ‰	Alnus cf glutinosa	2987 ± 30	1373 – 1357 cal BC 1299 – 1116 cal BC 1144 – 1131 cal BC	1265 – 1192 cal BC 1176 – 1163 cal BC
SUERC-62288	(GU38318)	109	207 fill of posthole 206 in Structure 3	-26.8 ‰	Alnus cf glutinosa	3125 ± 30	1435 – 1386 cal BC 1340 – 1317 cal BC	1492 – 1481 cal BC 1454 – 1297 cal BC
SUERC-62289	(GU38319)	110	209 deposit in feature 208 in Structure 4	-27.6 ‰	Salix sp	1938 ± 30	cal AD 25 – 86 cal AD 109 – 117	19 – 13 cal BC cal AD 1 – 130
SUERC-62290	(GU38320)	118	215 fill of posthole 220 in Structure 3	-26.4 ‰	Corylus avellana	3192 ± 30	1497 – 1471 cal BC 1465 – 1436 cal BC	1515 – 1413 cal BC
SUERC-62291	(GU38321)	117	216 fill of posthole 217 in Structure 3	-27.3 ‰	Corylus avellana	3196 ± 30	1497 – 1441 cal BC	1518 – 1415 cal BC

Table 1: The radiocarbon dates.

Specialists' reports

Many of the specialists' reports have been abbreviated or summarised for this publication but they can be found in full in the site archive.

Carbonised plant remains

By Susan Ramsay

This archaeobotanical report details the processing, analysis and interpretation of carbonised botanical remains recovered from samples taken during the evaluation and excavation at Nairn Street, Larkhall concentrating on the structures discussed. Reference was made to Schweingruber (1990) and Cappers *et al.* (2006) to aid identifications and vascular plant nomenclature follows Stace (1997).

Results

Structure 1 (Table 2 in Appendix 1, Figure 3)

This area included a cluster of postholes and a pit (Structure 1) and outlying pits.

This cluster of features consisted of a sub-circular ring of postholes and a deposit of organic material. The organic deposit (017) contained alder, birch, hazel and oak charcoal, suggesting the remains of domestic hearth waste scatter.

The ring of postholes (016, 019, 020, 021, 024, 028 and 029) produced fills (014, 018, 013, 015, 022, 023 and 026) that produced similar mixed charcoal assemblages with alder, birch, hazel, oak and willow represented in some or all of the assemblages. There was no preponderance or a particular charcoal type and no evidence for posts having been burnt *in situ*. The charcoal quantities involved were relatively small and suggest either midden or domestic hearth waste used as part of the post packing or trickle down of hearth waste into the postholes during occupation of the feature. Alder charcoal from the fill (026) of posthole (029) produced a Mesolithic AMS date of 8203 – 7793 cal BC (SUERC-62280, 8839 ± 30 BP).

Some outlying postholes were also recorded a few metres to the west of the above posthole ring. The fill (025) of posthole (027) produced only small amounts of alder and hazel charcoal, whilst the fill (032) of posthole (035) contained only a trace of alder charcoal. However, the fill (030) of posthole (031) was very different and revealed a significant concentration of oak charcoal, which may indicate that an oak post was burnt *in situ*. The presence of a single grain of *cf* oats might indicate a medieval or later date for this feature. A further, non-aligned posthole (034, fill 033), produced a very mixed charcoal assemblage of alder, hazel, cherry type, oak and willow, again suggesting domestic hearth waste.

To the south were a number of other features. The fill (005) of pit (004) produced a mixed charcoal assemblage of alder, birch, hazel, oak and cherry type, which suggests the presence of domestic hearth or midden waste. This pit also produced the remains of a saddle quern and some burnt animal bone, suggesting it may have been used for disposing of waste material. Birch charcoal from the fill (004) produced an AMS date of the middle to late Bronze Age 1261 – 1056 cal BC (SUERC-62279, 2957 ± 30 BP).

To the south of pit (005) was a posthole (007, fill 006) but this only produced a trace of alder charcoal. To the north of was a further posthole (011, fill 010), which produced more significant amounts of charcoal, with alder, hazel, ash and oak. This assemblage is consistent with domestic hearth waste.

Structure 2 (Table 3, Figure 5)

To the west of the above concentration of features was a further grouping of postholes and pits that initially appeared similar to those in Structure 1. A small arc of three postholes (057, 070 and 073), with fills (respectively 051, 067 and 066), produced carbonised assemblages that were very mixed with alder, birch, hazel, ash, oak and willow, and cereal grains of barley and oats. In addition, carbonised seeds of weedy species, including the crop weed corn spurrey, were also identified. This suggests midden material that includes possible crop processing waste.

Four shallow pits (054, 055, 060 and 063), with fills (052, 050, 059 and 058), to the north and west of the postholes produced varied charcoal assemblages of alder, alder, birch, hazel, oak and willow. In addition, cereal grains of barley (including the hulled variety) and oats were also

recorded, but they were fewer in number than in the postholes described above. The fill (052) of pit (054) also contained traces of hazel nutshell and a carbonised apple pip. From these carbonised assemblages it would appear that these pits contained midden or domestic hearth waste. The presence of oats in the cereal assemblage might suggest a medieval or later date for the features, but taken with the presence of oak and hazel nutshell, it appears more likely that these features are prehistoric in date and the oats are contaminants from a barley crop, rather than evidence for oats as a main cereal crop.

A single posthole (061) with fill (053) lay to the north of this concentration of features. It contained a more limited carbonised assemblage, with alder, birch and hazel charcoal, with a single indeterminate cereal grain present. It does not appear to be contemporaneous with the previously discussed pits and postholes.

A feature (079) that was identified during excavation as a possible fire-pit, with fire-cracked stone and heat affected subsoil, produced no charcoal remains and so it is unlikely to have been the remains of a domestic hearth.

Structure 3 - From the evaluation

A curving gully (8004) was located across Trenches 8 and 14 may be the remains of a gully for a roundhouse. The fills (8011 and 14009) of the gully produced significant amounts of charcoal, with alder, hazel, oak, ash and willow all represented, together with traces of hazel nutshell. This is consistent with the remains of scattered or dumped hearth waste.

An internal posthole (8012, fill 8006) produced a carbonised assemblage that was very similar to that found within the gully fills. Significant quantities of alder, hazel and oak charcoal were recorded, with fragments of hazel nutshell. It is probably that this material also represents hearth waste, perhaps used as post packing.

Gully (Table 4, Figure 6)

The dominant feature in this area was an oval-shaped gully, up to 10 m in diameter, which was part of the timber structure. It enclosed an organic-rich deposit (118) that produced a mixed charcoal assemblage of alder, birch, hazel and oak, together with traces of hazel nutshell. This would be consistent with scattered domestic hearth waste from the prehistoric occupation. A hazel nutshell from (118) produced a late Bronze Age AMS date of 1127 – 930 cal BC (SUERC-62282, 2869 ± 30 BP).

The gully (117) contained a single fill (116), which also produced fragments of Bronze Age pottery. Its carbonised assemblage consisted of a diverse range of charcoal types, with alder, birch, hazel, oak and willow all represented, together with traces of hazel nutshell and a single indeterminate cereal grain. This assemblage is similar to that recorded from the deposit (118) and is likely to be contemporaneous and from the same source, probably domestic cooking fires. Alder charcoal from its fill (116) produced a middle Bronze Age AMS date of 1500-1311 cal BC (SUERC-62281, 3151 ± 30 BP).

Interior ring of postholes (Table 4)

The interior of the structure contained a ring of substantial postholes, three of which produced prehistoric pottery fragments. The postholes (including 124, 168, 204, 206, 220, 225 and 217 which marked the NE side of the entrance) produced diverse charcoal assemblages. All fills contained oak charcoal, with all but one fill (205) of posthole 204 also containing alder and hazel charcoal. Overall, c. 60% of the charcoal was oak, 30% alder and 10% hazel. Hazel nutshell fragments and traces of barley grain were also recorded from some fills. The lower proportion of oak in these posthole fills may suggest that this carbonised material is more likely to be from domestic hearth waste, rather than structural material, although structural timbers cannot be ruled out. Only the fill (215) of pit 220 produced a very large quantity of oak charcoal, but a significant amount of alder charcoal was also present and so this assemblage cannot be entirely composed of an oak post burnt in situ. Alder charcoal from the fill (207) of posthole 206 produced a middle Bronze Age AMS date of 1492 – 1297 cal BC (SUERC-62288, 3125 ± 30 BP). Hazel charcoal from fill (215) of pit 220 produced an overlapping middle Bronze Age AMS date of 1515 – 1413 cal BC (SUERC-62290, 3192 ± 30 BP), as did hazel charcoal from the fill (216) of pit 217 with an AMS date of 1518 – 1415 cal BC (SUERC-62291, 3196 ± 30 BP).

Postholes associated with the inner ring of postholes (Table 4)

A number of postholes (141 in the NW, 145 in the N and 166 and 196 to the E), (183, 185, 190, and 224 along the southern arc of the building), and (203 and 218 identifying the porch), were mainly located between the gully, and the inner ring of load-bearing postholes. Their fills all produced charcoal, with alder present in all and oak present in all but one fill (140). Analysing the quantities of charcoal identified from these assemblages shows that c. 90% of the charcoal was oak, with 9% alder and 1% other types (including birch, hazel, ash and willow). Traces of hazel nutshell were also recorded in some fills. Although it is impossible to say for certain that the oak in the fills is structural in origin, it does seem likely that a proportion of the oak charcoal came from the timbers used to build or support the structure. In particular, the fill (194) from posthole 196 and the fill (214) from posthole 218 both show an overwhelming predominance of oak charcoal. However, it is clear that other charcoal types are also present in most of these fills and so this charcoal may represent scattered hearth waste that has trickled down into the posthole fills over time.

Other interior features (Table 4)

A number of features, including small and large pits and postholes, were located within the structure.

A single pit (137) was located within the north-west arc of the structure. It contained two fills (135 and 138), with very similar charcoal assemblages of alder, hazel, oak. In addition, 135 also contained traces of elm charcoal and single grains of cf barley and cf wheat, although these were very poorly preserved.

A small concentration of features lay within the inner post ring. Pit 229, with two fills (227 and 235), had a charcoal assemblage dominated by alder and oak, with smaller amounts of hazel also present. In addition, fill 227 also produced some hazel nutshell fragments and a single apple pip. Fragments of Bronze Age pottery were recorded from this pit and the carbonised assemblage is consistent with this date.

To the south-east of this pit were a couple of postholes (129 and 143), with fills (126 and 142). They contained very similar carbonised assemblages of alder, oak and hazel charcoal, together with hazel nutshell. Fill (126) also contained a couple of carbonised barley grains. These carbonised assemblages are consistent with scattered or dumped domestic hearth waste.

A single posthole (123) was located at the centre of the inner ring of postholes. Its fill (120) was similar to that seen in the general vicinity with alder, oak and hazel charcoal, with fragments of hazel nutshell. Again, fragments of pottery suggest this fill may be middle to late Bronze Age in date.

A further feature (151) in direct line with the north-east wall of the entrance and porch appeared to be a small pit that contained a bone-rich fill (150) and which was suggested as a possible cremation pit. The carbonised plant assemblage was dominated by oak charcoal, with small amounts of alder and hazel also present. Oak is generally the favoured fuel for cremations and so the carbonised assemblage is consistent with the interpretation of this material a cremation deposit (see Bone Report below).

On the southern edge of the structure was a small pit (155), with fill (154) that produced fragments of Bronze Age pottery. The carbonised assemblage contained large quantities of oak charcoal with much smaller quantities of alder, hazel and traces of hazel nutshell. Although this may just be domestic hearth waste, the preponderance of oak may suggest burnt structural elements are also present.

Structure 3 - features immediately north of the structure (Table 4)

Immediately outside the gully of the structure were a number pits and postholes. To the north-east of the structure postholes (159 and 161), with fills (158 and 160), contained the same mixed charcoal assemblage of alder, hazel and oak seen in many of the features in this part of the site. In addition, a pit (139) with fill (133) also lay immediately outside the structure but contained only small amounts of alder, hazel and oak charcoal.

Features south of Structure 3 (Table 4)

A number of pit and postholes also lay to the immediate south of the structure and Bronze Age pottery was recorded from several of them. The carbonised assemblage of pit (241), with fill (237), contained a mixed range of charcoal types with a trace of hazel nutshell and a single carbonised buttercup seed. Buttercups grow in a wide range of environments abut are often weedy species growing in and around sites of habitation.

Immediately to the west of pit (241) was a larger pit (228), with a fill (221) dominated by oak charcoal with alder, hazel and hazel nutshell also present. Since Bronze Age pottery was also recorded from this fill, it is likely to be the remains of midden waste. To the east of pit (241) was a shallow pit (213) with its fill (202), which produced a very mixed charcoal assemblage of alder, birch, hazel, apple type and oak, suggesting domestic hearth waste. Slightly to the south-west of these features, pit (236) with fill (230), contained Bronze Age pottery and the same mixed carbonised assemblage of alder, hazel, oak and hazel nutshell found in many of the features on this site.

To the south-west of the structure was a possible fire-pit (171), with fills (167 and 170). These fills produced charcoal of oak, alder and hazel, with significant amounts of indeterminate charcoal suggesting high temperature burning may have occurred.

Structure 4 (Table 5)

Once the organic layer (118) had been removed from the interior of Structure 3, the remains of a possible gully (252) were located some distance below. The gully appeared segmented or disturbed but its fills (152, 209, 239 and 250) were all analysed for the presence of carbonised remains. The charcoal assemblage consisted of alder, birch, hazel, cherry type, oak and willow, with hazel nutshell particularly common in (152). In contrast to the charcoal assemblages from the posthole rings, these gully fills produced significantly more alder charcoal (67%) than oak (30%) and so it seems likely that much of the carbonised material from the ditch fills is from dumped domestic hearth waste rather than evidence for structural material. Alder charcoal from the fill (152) produced a middle Bronze Age AMS date of 1373-1116 cal BC (SUERC-62287, 2987 ± 30 BP). However, willow charcoal from fill (209) produced a much later Roman/Iron Age AMS date of 19 cal BC – cal AD 130 (SUERC-62289, 1938 ± 30 BP).

A possible continuation of the gully was seen with pit (208), fill (210), which also contained a charcoal assemblage of alder, oak and hazel, with some fragments of what might be burnt dung. To the south was a gully (199), with fill (211) that produced small amounts of alder and oak charcoal with traces of hazel nutshell. A related pit (233) also produced the same alder, hazel oak charcoal assemblage but in this case oak was the dominant type present.

A more substantial pit (157) was located in the centre of the structure. It contained a single fill (149) with charcoal of alder, birch, hazel, ash and oak all present, together with traces of hazel nutshell. This is consistent with domestic hearth waste and may indicate the position of a central hearth. Alder charcoal from its fill (149) produced a Roman/Iron Age AMS date of cal AD 30-214 (SUERC-62286, 1898 ± 30 BP).

Discussion

The charcoal remains from many of the pit and postholes on this site were indicative of scattered, dumped or *in situ* domestic hearth waste. The carbonised assemblages were generally dominated by alder and oak charcoal, with smaller amounts of hazel and traces of other types such as cherry type, apple type, ash and elm occasionally present. This is consistent with collection of fuel from locally available woodland resources. A burn runs less than a hundred metres from the site and the banks of this watercourse would probably have been colonised by alder trees in the past, since they thrive in wet soils, particularly along rivers and at the edges of larger areas of woodland. The presence of significant amounts of oak within the hearth waste tends to suggest a Bronze Age or earlier date for many of these features, since oak was becoming more limited in lowland woodlands from the Iron Age onwards as a result of woodland clearance (Ramsay 1995; 1998). From the Iron Age onwards in Scotland, oak is often kept for specific uses such as construction or for burning in metalworking hearths (Gale and Cutler 2000). AMS radiocarbon dating has produced a cluster of dates within the middle to late Bronze Age, which supports the interpretations based on the carbonised remains.

However, there are some outlying dates within the assemblage. Fill (026) of posthole (029) that formed part of the ring of postholes in Structure 1 contained charcoal of alder that dated to the Mesolithic period. This may not actually be the date of the posthole but may be redeposited earlier material that has become incorporated into the posthole fill. There are also two AMS dates that fall within the Roman/Iron Age period; from the fills (209) of a gully (252) and from the fill (149) of the pit (157) in Structure 4 over Structure 3 indicating that there was a later period of occupation on the site.

There is probable evidence for structural remains in the supporting posthole fills belonging to the inner ring of postholes delineating the Structure 3 roundhouse, with oak dominating within the charcoal assemblages. Oak is also very common in the fills of the inner ring of postholes, but less so than in the outer postholes and so it is not as obvious whether this is structural or simply hearth waste.

In terms of food plant remains, carbonised cereal grains were present at trace levels in many samples. Significant numbers of cereal grains were only identified within the pits and postholes located in Structure 3. Barley was the commonest cereal type present, with the hulled variety further identifiable. In addition, oat grains were also identified but these may be the remains of wild oats growing as weeds within the barley crop. Barley is the commonest cereal type grown in Scotland from the Bronze Age onwards (Bishop *et al.* 2009; Dickson and Dickson 2000) and so these finds are consistent with the Bronze Age pottery located in several of the features and subsequent AMS radiocarbon dating of several features. Some evidence of cereal processing may be evident in this area since carbonised seeds of weedy types, including a single seed of the crop weed corn spurrey, together with a single fragment of chaff were present.

Hazel nutshell fragments were present at trace levels in many of the samples but were never particularly abundant. The only other food plant remains that were recovered were a couple of carbonised apple pips, which are not commonly found in Scottish prehistoric sites. This scarcity may simply be a result of preservation, since they do not require processing and would only survive if dropped into a fire.

Bone report

By Maureen C. Kilpatrick

Forty-nine of the features excavated during the fieldwork produced bone fragments, with most of the bone retrieved during post-excavation soil analysis due to its very small size.

The bone mainly comprised heat affected, unidentifiable cortical fragments which ranged in size from 2.4 mm to 24.1 mm, with most at the smaller end of the scale. Most of the bone was unidentifiable to species, with only 21 contexts producing bone which could be identified as animal (006, 010, 015, 100, 118, 126, 142, 149, 152, 156, 202, 221, 222, 223, 235 and 237) or possible animal in origin (116, 201, 207 and 227) and none was identified as human. One fragment from context (152) possibly from pit (151), sample 103 was identified as a possible fish vertebra, while sample 98 from (118), produced small fragments from the head and body of an animal rib.

All fragments, except those fragments retrieved from context (100), had been burnt most white or a combination of white/grey or white/brown in colour suggesting that temperatures in excess of 600 degrees centigrade were obtained during firing.

Several bone fragments from eight contexts (006, 011, 087, 116, 118, 142, 223 and 237) also appeared to have white, rolled, chalky surfaces suggesting that they had been affected by the weathering process prior to their final deposition. This could suggest that they are residual in nature and were incorporated into these features accidently, rather than by design. Only context (100) produced a few fragments of unburnt animal bone from a posthole of probable modern date.

Soil micromorphology

By Carol Lang[1]

Four Kubiena tins were submitted for thin section manufacture and micromorphological analysis and interpretation (thin sections A, D, E and F). The aims of the micromorphology analysis were to produce a full description of the soil samples and to determine the processes of soil formation and sediment deposition in the areas sampled. The descriptions included the semi-quantitative recording of coarse and fine mineral and organic materials and of pedofeatures following the internationally accepted terminology in Bullock *et al.* (1985) and Stoops (2003).

In all the thin sections there was a noticeable lack of organic matter and plant related material other than charcoal. There were no phytoliths, parenchymatic material or cell residues in any of the thin sections analysed. This indicates the area were the samples were taken was not well vegetated.

There were many signs of anthropogenic activity in the site in the form of fuel residues, fire-exposed rock fragments and features. However, all this material was considerably weathered and shows signs of having been transported to the site of deposition. There was variation in the fuel residues found indicating different sources and temperature of combustion.

All the thin sections are formed by sedimentary material and show evidence of short periods of waterlogging. It is likely that a lot of the material has been transported by water to infill the features although direct human inputs cannot be discarded.

XFR soils report

By Clare Wilson[2]

A total of 68 soil samples from an occupation deposit and 5 samples from control areas were presented for multi-element analysis using XRF (X-ray fluorescence). The analysis aimed to provide the chemical composition of the deposit 118, assess whether the structure it belonged to was occupied solely by humans or shared with animals and provide guidance in the interpretation of possible activities carried out within different areas of the building.

The XRF provided details of the concentration of 36 chemical elements in the samples. An initial examination of the data showed that most of these elements appeared in very small concentrations in the samples. Therefore, a subgroup of seven elements with the greater concentrations in the samples was selected for statistical analysis. The subgroup of elements comprised Zirconium (Zr), Strontium (Sr), Zinc (Zn), Nickel (Ni), Cobalt (Co), Iron (Fe) and Manganese (Mn).

Soils and floor layers from different functional areas generally have distinctive chemical signatures (Middleton and Price 1996; Pierce *et al*. 1998; Fernández et al. 2002; Knudson et al. 2004; Terry *et al*. 2004; Wilson *et al*. 2005; Wilson *et al.* 2008). The first thing to notice in this analysis is that the elements found in greater concentrations were metals belonging to the d-block of the periodic table known as transition metals. The absence or negligible levels of some elements allows in itself to discard certain land uses. For example, samples taken from hearths are usually associated with high levels of Calcium (Ca), Phosphorus (P), Barium (Ba), Copper (Cu) and Lead (Pb) (Wilson *et al.* 2007) all of which were virtually absent in the samples. Likewise, high levels of Phosphorus (P) and Calcium (Ca) are generally associated with hearths, barns, byres and areas of animal use and, in general, areas associated with organic waste disposal (Parnell *et al.* 2002; Wilson et al. 2007, 2008). The only elements that presented enhanced concentrations in the samples compared to the controls were Zirconium (Zr) and Manganese (Mn). The other elements were either within the range present in the control samples - Iron (Fe), Zinc (Zn) and Cobalt (Co) - or in lower concentrations - Strontium (Sr) and Nickel (Ni).

A possible explanation for the differences found might be environmentally-induced post-depositional processes such as leaching or depletion in the case of Strontium (Sr) and Nickel (Ni) and burning or waterlogging in the case of Manganese (Mn) (Aston *et al.* 1998).

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The lithic assemblage (not illustrated)

By Torben Bjarke Ballin

The purpose of this report is to characterize the lithic artefacts from the excavation in general terms as well as seeking to date and discuss the finds, as the DSR (Mooney 2014) indicated that the location probably represents multi-period occupation, including various parts of the Neolithic and Bronze Age periods, as well as later historical periods. The evaluation of the lithic material is based upon a detailed catalogue (Table 6), of the lithic finds and the artefacts are referred to by their number (CAT no.).

The lithic assemblage includes 12 pieces of worked flint, chert and quartz (Table 7). The chert and the quartz are likely to represent local procurement (e.g. Ballin 2008; Ballin and Ward 2013), whereas all flint must have been brought to the site from the coast. Some of the flint chips are light- or dark-grey and fine-grained, and they may be so-called Yorkshire flint, procured from outcrops in north-east England (Ballin 2011b). Yorkshire flint was traded into Scotland during the middle and late Neolithic periods.

Description	Flint	Chert	Quartz	Total
Chips	4	2	2	8
Flakes	1		1	2
Indeterminate pieces	1			
Pieces with edge-retouch	1			1
TOTAL	7	2	3	12

Table 7: Lithics general artfacts list.

CAT 2 is the proximal fragment of a burnt and discoloured flint flake with full retouch of both lateral sides. It has a finely faceted platform remnant, revealing that it was produced by the application of Levallois-like technique (Ballin 2011a; Suddaby and Ballin 2011). In Scotland, this technique was in use during the middle and late Neolithic periods, supporting the date indicated by some of the flint chips (above).

Catalogue Nr	Context	Description
CAT 1	Unstratified	Secondary indeterminate piece (GD 15 mm); mottled grey, medium-grained flint.
CAT 2	Context 118 (deposit over Structures 3 and 4)	Proximal fragment of tertiary hard-hammer flake with bilateral edge-retouch (22 by 18 by 8 mm); burnt, discoloured, fine-grained flint. The flake has a finely faceted platform remnant, revealing that it was manufactured by the application of Levallois-like technique. This suggests a date of the middle/late Neolithic period.
CAT 3	Context 118 (deposit over Structures 3 and 4)	Tertiary chip (GD ≤ 10 mm); light-grey to cream, fine-grained flint.
CAT 4	Context 014 (fill of posthole 016 in Structure 1)	Tertiary hard-hammer flake (17 by 10 by 3 mm); cream, fine-grained flint.
CAT 5	Context 017 (sub-oval featuren in Structure 1)	Lateral fragment of tertiary platform flake (12 by 5 by 3 mm); white milky quartz.
CAT 6	Context 030 (posthole north of Structure 1)	Tertiary chip (GD ≤ 10 mm); dark-grey, fine-grained chert.
CAT 7	Context 118 (deposit over Structures 3 and 4)	Tertiary chip (GD ≤ 10 mm); dark-grey, fine-grained chert.
CAT 8	Context 118 (deposit over Structures 3 and 4)	Tertiary chip (GD ≤ 10 mm); white milky quartz.
CAT 9	Context 050 (pit 055 associated with Structure 2)	Tertiary chip (GD ≤ 10 mm); white milky quartz.
CAT 10	Context 059 (fill of Pit 060 associated with Structure 2)	Tertiary chip (GD ≤ 10 mm); light-grey to cream, fine-grained flint.
CAT 11	Context 119 (posthole 124 within Structure 3)	Tertiary chip (GD ≤ 10 mm); light-grey, fine-grained flint.
CAT 12	Context 148 (fill of Posthole 153 south of Structure 3)	Tertiary chip (GD ≤ 10 mm); dark-grey, fine-grained flint (possibly Yorkshire flint).

Table 6: Catalogue of lithic artefacts.

The 12 lithic artefacts were recovered from various parts of the site, with five pieces deriving from (118) a deposit and (119) a posthole in Structure 3. However, as pottery from this structure suggests a date of middle to late Bronze Age, with the lithics most likely dating to the middle or late Neolithic, the lithics most probably represent residuality and disturbance of earlier contexts by later Bronze Age settlers.

A series of 10 radiocarbon dates includes one late Mesolithic date, two Roman/Iron Age Period dates, and seven middle Bronze Age dates (Adkins et al. 2008), supporting the dates of the site's main occupation suggested by the excavator. No absolute dates have been obtained for the location's residual later Neolithic finds.

Worked stone

By Beverley Ballin Smith

A total of seven stones or fragments of stone were recovered from the excavations and soil samples, which were considered to be worked stone. On examination only two, one a quern and the other a cobble were identified as tools.

SF 01 (Figure 4)

A large saddle quern was found, lying on its working face, towards the base of a pit (005/004), located south-east of Structure 1 during its excavation. It is a large piece of light yellowish brown sandstone (Hue 10YR 6/4-5/4) 50 - 60 mm thick, which measures 0.49 m in length by 0.28 m in width. The piece has been flaked to shape it, especially around its narrow end and possibly at one corner of the broad end. Both long sides are also flaked. The lower surface of the piece appears to have been pecked around the middle area of the stone to straighten or flatten it, so that it would sit firmly on the ground.

The working surface of the stone is noticeably concave along its long axis due its use as a quern and it also slightly concave across its short axis. This surface was well-pecked all over to roughen it to within 5 - 10 mm of its edges. However, this has been masked by its use which has worn ⅔ of the face right to the edges of its broad end and sides. The remaining ⅓ to its narrow end is also worn but natural inconsistencies in the stone, possibly due to its bedding planes, have caused some unevenness of the surface and also some flaking. At this end of the stone the wear favours its right corner, but the evidence for use has been partly removed by the natural flaking of the stone. The use of the quern has been heavy as it is very smooth across its middle and over the broader end of the working surface.

The edges of the stone around the working face are chipped and the wear on the face has been clearly terminated by more recent flaking and chipping of the stone. It is possible that the shape of the piece was altered by trimming its sides by flaking to fit it more comfortably within its burial context of the pit.

The quern was a successful piece of domestic equipment and even though it had been well used it was not worn through. The amount of wear and polish on its working face indicates that it needed to be re-pecked in order to roughen it and make its use more effective. However, this did not happen and the quern was buried instead.

SF 62

This stone was found within posthole (220/215) in Structure 3. It is a small cobble of probably quartzite weighing 486 g, which has been split. It has an area of wear or very slight pecking on one face and three areas of facetted wear around the edge of the stone. The two opposed areas on the edge are quite marked but the third area is slight. The pebble split during or after use.

The stone is likely to have been used both for pecking (indented marks) and rubbing (facetted wear), which are two separate actions. One likely explanation is the pounding of grain or seeds to break the husk of shell and then rubbing the broken fragments to create coarse flour. Interestingly, this stone was recovered from the fill of a posthole (220) which would have contained a load-bearing post situated in the northern part of the building, along with sherds of Vessel 7 and SF 61, fragments of burnt clay. Given this association, it is likely that the stone and the pottery are contemporary with the use of the building but became incorporated into the posthole fill after the post was replaced or the building had burnt down.

The maximum dimensions of the stone are length 79 mm, width 84 mm and thickness 50 mm.

The worked oil shale and cannel coal

By Fraser Hunter

Excavation of deposit (118) overlying the Middle Bronze Age roundhouse recovered a fragment of unfinished oil shale bangle SF 8 (Figure 10a and b), raising the likelihood of on-site working of this material. Subsequent sorting of sample residues recovered 182.9 g of oil shale and related material from 28 contexts. These were examined microscopically for traces of working, using criteria established in previous work (Hunter 2007). This revealed a small amount of probable or possible working debris (7 pieces from 7 contexts; total mass 3.52 g) and one additional fragment of roughout.

The most diagnostic piece was SF 8, a prepared bangle roughout. This broke during finishing as the perforation was expanded and the surface smoothed by abrasion, but attempts were made to reuse it, with a series of parallel marking-out lines scratched into the split surface to subdivide it. Sample 112 is a fragment from a smaller block at an earlier stage in the process, when the block was rounded off but (apparently) the perforation had not started. Working debris was sparse; no feature had more than one fragment, but four of the pieces were in features associated with the complex roundhouse, Structure 3; the other three were scattered across the site. This is enough to indicate that working took place in the building, but not at any intensity. If it is assumed that the fragments are not residual, this indicates working during both the Middle Bronze Age when the house was occupied and the later Bronze Age when layer 118 (containing the roughout SF 8) was deposited and a possible flake of debris entered pit 005 (south-east of Structure 1), which has a middle to late Bronze Age radiocarbon date.

The material covers a range from oil shale through canneloid shale to what may be cannel coal. As the site lies on Coal Measures deposits, it is likely that raw materials were available locally; this is confirmed by the presence of fragments in the soil samples from the site, stemming from drift deposits.

The working of bangles and other material from black shiny stone was a long-lived habit. Many examples are poorly dated, and it seems the habit was most popular in the Iron Age, but use of such bangles is well-attested in the Bronze Age though the evidence has not been synthesised. For instance, early Bronze Age fragments were recovered from the roundhouse at Bodsberry Hill, Elvanfoot, Lanarkshire (Terry 1993, 58-9), and a late Bronze Age example is known from the St Andrew's hoard, Fife (Cowie *et al*. 1991, pl.8). Extensive Bronze Age working sites are known elsewhere such as the Peak District (e.g. Beswick 1975); the evidence to date suggests more intermittent production in Scotland, as no large assemblages of debris of this date have been recovered. The small quantities and scattered distribution of material from Larkhall support this picture of small-scale, domestic production using a local resource.

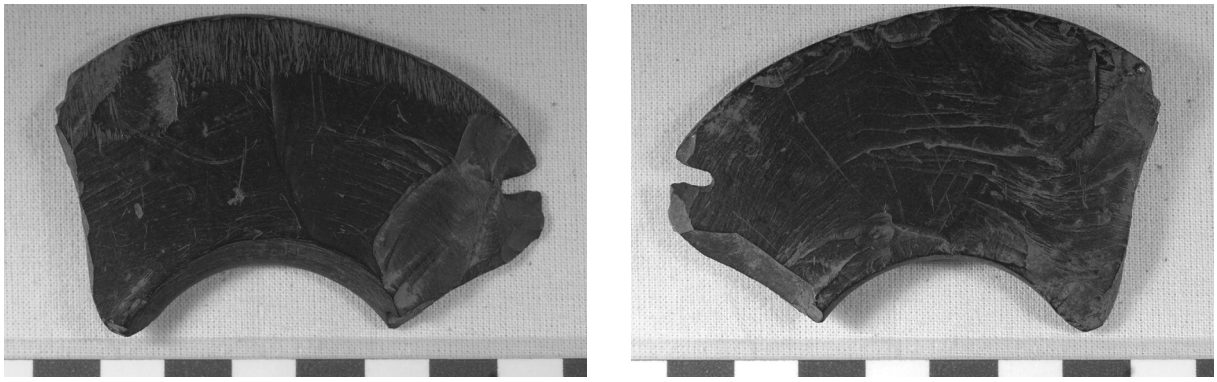

Figure 10: Image of oil shale disc SF 08.

Catalogue

SF 8 prepared roughout, broken during finishing, with some attempts at reuse. Broad disc, the edge abraded into a good circular form. It has a biconical perforation with circumferential abrasion, and asymmetrical owing to loss of one face. One face has been carefully flaked to shape, and abrasion was in progress from the edge inwards to smooth it off. The other face has split, leading to its abandonment as a bangle roughout, but there are indications of attempts to reuse it in a series of three parallel lines c. 16 mm apart; the first lies parallel to one broken edge, and a groove has been cut into the edge in this area. There are scratches elsewhere on this surface but these three are more than incidental marks, as two of them have been outlined more than once. Perhaps it was intended to cut it into smaller objects. It is likely that the original product was a large bangle. Tool marks suggest abrasion with a sandstone rubber. Cannel coal or canneloid shale. External diameter c. 110 mm, internal diameter c. 45 mm; length 74 mm, width 35 - 38 mm, thickness 17 mm, weight 21.51 g.

Sample 112 fragment of a rounded block. One face split smooth, the other unevenly flaked. Edge flaked or snapped into a curve; in places the natural edge was used. Approximately 70 mm in diameter; around a quarter survives. Oil shale. 48 by 25 by 4.5 - 10 mm, 7.16 g. Context 210, lower fill of kidney-shaped feature 208 part of Structure 4 within Structure 3.

Working debris

Given the amount of naturally fractured material on the site one needs to be rigorous in deciding what is likely to be worked, so material from the early stages of working will be under-represented as it is very hard to tell from natural spalls. It is possible that some of the fragments classed as working debris could also be natural spalls, but all have flake scars or other features which suggest they are working debris. Five of the flakes (2.15g) were most likely from thinning blocks, one came from thinning a corner of a squared block (0.30g) and the clearest piece of debris was an edge-trimming flake, removing an edge which had been flaked to shape (1.07g).

Prehistoric pottery

By Beverley Ballin Smith

Analysis and description of the pieces

A total of 82 sherds of coarse hand-built pottery were recovered from the excavation which also included small fragments found during the processing of soil samples. All the pottery was recovered from pits, postholes, an occupation deposit, gully fills, a hearth and other presently unidentified features, mostly associated with a wooden structure (Structure 3) and related external features. The total weight of the pottery assemblage is c.1.16 kg.

The assemblage includes six individual rim sherds (7.3% of the total sherds), and three base/base edge sherds (3.7%). The rest, 73, are plain body sherds (89%). There are no decorated pieces. All sherds where surfaces survived were measured across their broken sections. They range in thickness from 7.7 - 9.9 mm (5 sherds), c. 10 - 17.5 mm (39 sherds) and between 17.6 - 30 mm (2 sherds). The average thickness of the sherds is 12.5 mm. The few examples at the thinnest end of the range may represent residual pieces or a deliberate attempt to make finer vessels while two thick sherds represent an exceedingly bulky vessel base.

Temper

All the pottery in the assemblage is coarsely tempered, with all but six thin sherds having very coarse to exceptionally coarse stone added to the clay. Some of the temper measures c. 10 mm by 10 mm, identified as small angular or irregular pebbles, which are poorly sorted. The majority of temper is easily identified by the eye as stone, and it can be felt when handling the sherds as it protrudes readily through the walls of sherds. It is difficult to accurately calculate the amount of temper added to the clay but in some cases it could be as much as 30% of the fabric. This gives sherds a very dense consistency and they are individually heavy, averaging c. 14.7 g each.

The identified stone temper includes some quartz, mica flecks, and some degraded rock but the bulk is predominantly fine-grained igneous or unidentified rock. The proximity of the Avon

Water c. 400 m to the west may account for some or all of the resources used in the pottery manufacture. Igneous rock formations lie some 9-10 km away to the south-east of Larkhall, but due to the complex movement and deposition of superficial deposits of sand, gravel, silt and clay by glacial, river and lacustrine activities in the area, it is quite likely that small pebbles from these intrusions have moved northwards to near the present site (British Geological Survey 2023).

The clay and stone consistency of the pottery is relatively uniform indicating that the same or similar resources were used throughout its manufacture. Cut grass or other vegetable matter was also identified in c. 84% of the sherds suggesting it was used widely as a filler in most pottery vessels and as a material for wiping the surfaces of pots after they had been formed.

Post-depositional changes

Although many of the sherds exhibit surface abrasion, much of this may have been as a result of use of the pottery rather than taphonomic conditions. Occasionally, sherds have a tendency to fragment but this is due to several factors: the amount of rock and grass temper added to the clay, the temperatures the pottery was fired at, and the uses to which the vessels were put. Some sherds are burnt but this is again probably due to their use on a hearth. Others have surface cracking around grits, which is to be expected due to the size of the latter.

The most obvious signs of post-depositional changes include the rare coating of some sherds with superficial ferrous deposits. Edge abrasion and fragmentation has occurred due to mechanical disturbance but generally the pottery is reasonably well-preserved.

Manufacture

The pottery was all coil-built with bases possibly made as thick roundels of clay due to the amount of grit. Coils were added separately to the base and body of the vessel as the finger moulding on Vessel 7 (SF 60) indicates. Due to the presence of coarse rock temper the surfaces of pots were left fairly roughly finished, often with the temper protruding through the clay. Analysis of the assemblage shows that marks left by moulding of the clay by the potter's fingers were common and that these marks were not removed from either external or internal surfaces when they were smoothed or wiped with dried grasses or straw. The marks made by grasses were also not removed indicating that the pottery was utilitarian and functional.

The base edge of Vessel 6 (SF 21) and base fragments that survive indicate that the pots produced had flat bases, which could be very thick as in Vessel 1 (SF 32). The heavy tempering of vessels and the bases in particular may indicate that their primary function was as cooking pots.

All the rims were very similar: usually flat, tending to being broad, undecorated and sharply in-turned from the neck of the vessel (Figure 11). In Vessel 4 (SF 76) the clay expanded outwards either side of the rim producing a flanged or T-shaped profile. In this case, this seems to have been a deliberate shaping of the rim and not a product of turning a pot upside down while it dried. The in-turned rims made the vessels appear to have a slight shoulder. Most of the vessels were similar shaped and were probably bowl-shaped pots. Vessel 4 was likely to have been straight-sided.

There is more similarity in this assemblage than is usual in others, and this means that identifying specific vessels is difficult. Diagnostic sherds such as rims and bases can be easily compared and identified as sherds from individual pots, but that is not the case with the body sherds. Diagnostic sherds identified as individual vessels are described below.

vessel 1

From deposits (118) over some of the central-eastern features of Structure 3, the remains of Vessel 1 comprised SFs 22, 27, 31 and 32. Out of a total of nine sherds, three of them are base or base edge sherds. This vessel is extremely coarse as can be seen from the remains of base SF 32 (Figure 12). Nine sherds weigh a total of 223.8 g and measure between 14.8 mm and 17 mm in wall thickness, with the base sherds SF 32 attaining a depth of 30 mm. Although carbonised food deposits, impressions of vegetable matter and finger moulding are noted on this pottery, the external surfaces of SF 27 and SF 32 are largely lost through prolonged contact with the heat of a hearth.

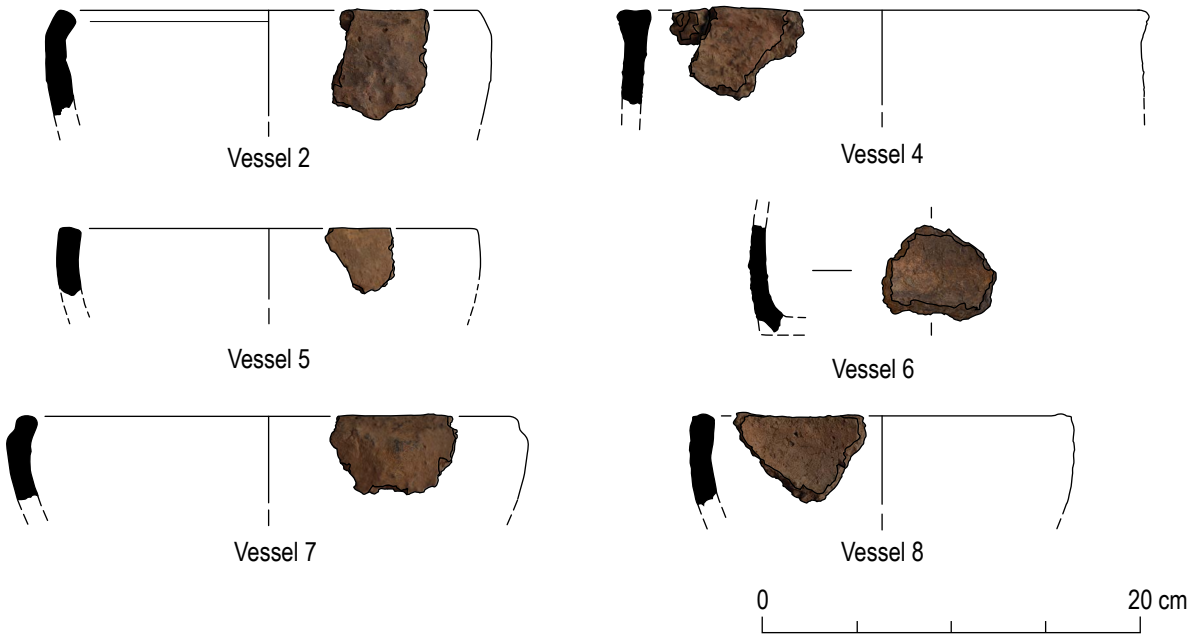

Figure 11: Pottery vessels 2, 4, 5, 6, 7 and 8.

The internal surface of the vessel was not smooth. Pieces of rock temper show through the surface, indicating wear and abrasion through use.

Figure 12: Pottery Vessel 1, SF 32 side view of base.

vessel 2

This vessel is represented by a single rim sherd SF 43 recovered from the fill (152)of the gully (252), Structure 4. Its weight is 45.2 g, and it has a wall thickness of 11.1 mm. Its rim diameter measures c. 220 mm and the sherd represents c.6.5% of the overall rim. Although other similar sherds to this rim were found in the same context they are treated as a separate pot (see Vessel 3 below) because of slight differences in manufacture.

The surfaces of the rim were not smooth as the pot was heavily gritted with a mixture of fine to very coarse igneous rock and some quartz. Moulding marks and deposits of carbonised food remains on the surface are visible (Figure 11) as are negative impressions of burn-out pieces of grass or straw from the clay or from wiping the surface after forming.

The rim measured c. 10 mm in width, it is flat topped and inturned but does not have a defined neck. Its shape suggests a narrow-mouthed jar or bowl.

vessel 3

This vessel comprises a total of six body sherds, SFs 35, 37, 40, 42, 44 and sample 134, with a combined weight of 107.8 g. They range in wall thickness from 10 mm to 16.2 mm. As with Vessel 2 the sherds were found in the fills (152 and 154) of a gully (252) of Structure 4. It is not certain they are all from the same vessel and although they are similar to Vessel 2 rim (SF 43), they exhibit slightly different characteristics.

Surfaces, where present are either obscured by carbonised food remains or other burnt deposits. Cracking around the large grits is noticed on some of the sherds as are grass impressions from wiping the surfaces of the pot

before firing. Internal surfaces are heavily worn, have protruding grits and are often burnt. Even though there is evidence of smoothing and of finger moulding, the surfaces of the vessel are very uneven, and were probably made to be so. SF 35 contains some mica and quartz as well as igneous rock but the remainder all have igneous rock. SF 35, 40 and 42 are coated externally with iron-pan deposits from the soil, and this material has obscured the surface finish and treatment. SF 44 is heavily abraded and its inner surface has eroded away.

vessel 4

One body sherd and two rim fragments, SF 50 and SF 76, comprise this vessel from context 199, the fill of a feature forming part of the west side of Structure 4. The sherds weigh 58.5 g, and are 10 mm-17.5 mm in wall thickness. The rim sherds measure 280 mm in diameter and represent c. 6 % of the total rim.

The rim has a T-shaped profile with a flat top to a straight sided vessel. The clay has protruded slightly either side of the rim creating slight flanges. Moulding marks can also be seen on both surfaces of the rim (Figure 11) suggesting the shaping was deliberate. The actual rim edge is very unevenly moulded as are the surfaces of the sherd due to the amount of coarse temper protruding through them. Its external surface is partly obscured by soot and other deposits and the internal surface is somewhat abraded. The amount of grit and the lack of finish may have been a deliberate technique in the manufacture of this vessel, interpreted as a cooking pot (see below).

vessel 5

A body and rim sherd, SF 45 and SF 47 were recovered from the fill (191) of a later linear feature within Structure 4. Their total weight is 19.3 g, and the wall thicknesses are 10.5 mm to 14.6 mm.

The rim is broad, flat and inturned at a weak angle from a predominantly straight bodied vessel, and is similar in shape to SF 43, Vessel 2 (Figure 11). The rim diameter measured 220 mm but only c. 5% of it survived. Although is some evidence of finger moulding and the use of vegetable matter to wipe the vessel before firing, neither are as prominent as on other vessels. The sherds are abraded but surface cracking round grits was noted, as were carbonised food deposits on the body sherd. Like the other vessels described, the external surface of this pot is also roughly finished with grits protruding through its surface.

vessel 6

This vessel comprises SFs 21, 24, possibly SF 48 and sample 98, from (118), the later organic deposit that overlay Structure 3. The six sherds of this vessel weigh a total of 60.3 g. With wall thicknesses between 8.6 mm and 10.2 mm, this is one of the thinnest pots of the assemblage. The amount of coarse stone temper added to the clay could be as high as c. 35%. The base edge is burnt and it has lost some of its external surface (Figure 11). There is also much cracking of the clay around the grits externally due to the vessel being heated on a hearth, while the internal surface shows abrasion and loss of the clay surface through use. Burnt food deposits are present suggesting its use as a cooking pot.

SF 48 is a flat base sherd that may be part of the same vessel.

vessel 7

The four sherds (three body sherds and one rim) SFs 57-60, which comprise this vessel were found in the fill (220) of posthole (215) from the central ring of posts within the Structure 3 roundhouse. The sherds weigh 88.2 g and their wall thickness is between 12.2 mm and 14 mm. They are also dense, heavy sherds because of the stone filler added to the clay.

The flat-topped rim, SF 60, measures c. 260 mm in diameter but only c. 6% is present. Finger moulding marks are visible below the rim (Figure 11) from attaching the rim coil to the body, but the shaping has produced a weak neck and shoulder. The rim is inturned from the slightly curved body of the pot and is similar to Vessel 5 in form. SF 59 is a similar sherd but from close to the rim.

The finish of the pot included smoothing and wiping: the latter with grass or straw, as marks are clearly visible on the internal surface. The

surfaces of the vessel are uneven and carbonised food remains indicate this vessel is most likely a cooking pot.

vessel 8

This vessel comprises eight sherds, SF 71, 74, 75, 78-82, one a rim, from the fill (243) of pit (249) external to Structure 3. Their total weight is 158.8 g, and the pottery wall thickness is between 12.5 mm and 16.2 mm. All the sherds are heavily gritted, well-fired and hard, and although similar to Vessel 4, its temper is not as coarse.

SF 78, measures 200 mm in diameter and represents c.10% of the rim of the vessel. The rim top is flattened and it is very slightly inturned. The interior of the rim is slightly concave (Figure 11) with moulding marks from its manufacture. SF 74 and 75 are similarly concave but are missing the rim.

As with the majority of sherds in this assemblage the surfaces of the pot are uneven and gritty to the touch because of the protrusion of temper through the surface clay. Cracking of the clay around the grits was also noted and there is also evidence that organic temper has been lost to leave small pits in the vessel surface. The presence of carbonised food deposits suggests that this is also a cooking pot.

Other sherds

A total of 39 undiagnostic sherds and fragments were not attributed to vessels. They were mainly found in the fill of the gully, pits, postholes and other features of Structure 3 and also Structure 4, and all share manufacturing characteristics with the vessels described above.

Vessel form and function

The vessels are clearly heavy, coarse-tempered cooking pots with straight to slightly curved sides with flat bases, most likely bucket-shaped and with rim diameters of c. 200 mm to 260 mm. The thickness of the sherd walls suggest there were a limited range of pots from the relatively thin and possibly small Vessel 6 to the significantly, thick, large and heavy Vessel 1. All apart from Vessel 4 (a straight T-shaped rim) had inturned rims suggesting the function of them was to prevent the spillage of their contents.

The rough surfaces of the pottery are a product of their manufacture and the similarities in construction between all the vessels, in spite of their slight variations in rock temper and wall thicknesses, suggest that they were built intentionally to be coarse functional pots. This, together with the occurrence of carbonised food deposits in or on the pots indicates their use on the hearth for cooking. This, however, does not discount their use as storage vessels, when needed.

Handling hot or full cooking pots may have been a difficult operation for the cook and a smooth vessel was possibly not best suited for the function. A vessel with a coarse surface was less likely to slip between the hands. The deliberately roughening of the surfaces of vessels, by the application of grit was noted on pottery produced during the excavation of a burial cairn thought to be Roman Iron Age in date, in Østfold, Norway (Ballin Smith 1995). This technique called '*beklaskning'*, and was not too dissimilar to coarsening the vessel surface by the use of large grits that protruded through the clay.

The flat bases of Vessels 1 and 6, were both burnt, suggesting prolonged contact with a hearth. As can be seem from Vessel 6, it was usually the bases of pots that burnt through and caused the vessel to be discarded. Base sherds are often low in numbers or completely absent from other prehistoric assemblages (Ballin Smith 2015a, 13; 2015b Ladywell). The ultra-thick base of Vessel 1 demonstrates that these pots were built for sitting in the ashes of a hearth and not suspension over them. The only vessel that was slightly different was Vessel 4 with its T-shaped rim. The fact that the rim was made with flanges could imply that a leather thong or equivalent could have been fastened below the rim to suspend the vessel over the flames. There is, however, no evidence of wear marks beneath the rim of the surviving sherds to confirm this.

Vessel distribution and dating

Approximately 72% of the assemblage was retrieved from features within the wooden roundhouse (Structure 3) and from a later structure (Structure 4) inserted into it. There are problems in understanding the relationship of the pottery to the two structures and the organic deposit that overlay them. For example,

Vessels 1 and 6 are likely to be middle to later Bronze Age vessels and possibly contemporary with the use of the roundhouse but they were found in the overlying deposit 118, which was radiocarbon dated to the late Bronze Age with a date range between 1127 and 930 cal BC (Table 8). There appears to be much disturbance of the Structure 3 features with the insertion of Structure 4, later rig and furrow cultivation, and subsequent truncation, leading to the occurrence of potentially earlier pottery sherds in later contexts. Even though features containing pottery have not all been dated, it is possible that most of the pottery assemblage comfortably into the latter half of the Bronze Age, and according to ScARF (Downes 2012, 14) this would be somewhere from c. 1550 – 1150 BC.

Vessels 2 and 7 were found in postholes within the roundhouse where they had become incorporated into their fills during alteration or reuse. The fill from the posthole containing Vessel 7 was dated to the middle Bronze Age 1515 – 1413 cal BC (Table 8). Vessel 8 is a similar pot to Vessel 7 and although it was deposited some distance from the building in the fill of another posthole, it is characteristically like the rest of the identified vessels, and therefore probably a middle, to possibly later, Bronze Age pot. Vessels 3, 4 and 5 are undated but although found in the fills of features of Structure 4 that was inserted later into the roundhouse (Structure 3), they are very similar to the rest of the assemblage and again are considered to be middle to later Bronze Age in date, even though some contexts of Structure 4 area dated to the Roman/Iron Age period (Table 8). The T-shaped rim of Vessel 3, considered typologically late Bronze Age (Smith 1983, 37). Unattributed and undated sherds were found in small numbers in features both within and beyond the roundhouse, indicating the widespread association of pottery with Structure 3. Although a hearth within the roundhouse was not confirmed by excavation, the identification of cooking vessels indicates that cooking took place either within or outside the building, and that the building is likely to have had a domestic function.

This pottery is difficult to compare: usually because sites that have produced Bronze Age plain pottery have done so from several periods. It is also challenging to match up radiocarbon dates, with features and specific sherds or vessels, such as the results from the Fruid Reservoir excavations in Pebbleshire (Ward 2013) and the earlier excavated settlement at Lintshie Gutter, Lanarkshire (Terry 1995) - both unenclosed platform settlement sites, and because the pottery is somewhat difficult to identify. Similar pottery was also found at Larkhall Academy, currently not published (Timpany 2006). The pottery from Larkhall is important as it reveals a rare glimpse into domestic life within a seemingly unenclosed single wooden roundhouse in the Clyde Valley during the middle to later Bronze Age.

Vessel No.	Feature	Vessel Type
1	Later deposits context 118 over Structure 3 and 4	Base of the heaviest vessel of the assemblage – a large, heavy cooking pot
		SUERC-62282 (GU 38315), 1127 – 930 cal BC, Late Bronze Age
2	From fill of posthole context 151, Structure 3	Cooking pot with inturned rim c. 220 mm diameter
3	From fill of gully context 252, Structure 4	Cooking pot
4	From fill of gully context 200, Structure 4	Larger mouthed cooking pot with inturned T-shaped rim c. 280 mm diameter.
5	From fill of a linear feature context 191. Structure 4	Cooking pot with inturned rim c. 220 mm diameter
6	Deposits context 118 over Structures 3 and 4	Base of the thinnest vessel of the assemblage – small cooking pot
		SUERC-62282 (GU 38315) 1127 – 930 cal BC, Late Bronze Age
7	Fill of a posthole context 220, load bearing posthole of Structure 3	Cooking pot with inturned rim c. 260 mm diameter
		SUERC-62290 (GU 38320), 1515 – 1413 cal BC Middle Bronze Age
8	From fill of a posthole context 249 external to Structure 3	Cooking pot with inturned rim c. 200 mm diameter

Table 8: Summary of vessels, their location and type.

The burnt and unburnt clay pieces

By Beverley Ballin Smith

Introduction

Nineteen samples of burnt clay (46 pieces) and one of plain clay (3 pieces) were found in contexts across the excavated area. Many of the pieces were retrieved with sherds of pottery but others were found separately in the fill of a pit, postholes and a possible hearth in Structure 3. The total weight of the pieces is 209.8 g.

Description of the pieces

Clay is a local natural resource and component of the subsoil in the Larkhall area, and was likely to be the same resource used for manufacture of the pottery found at the site. The clay pieces share another similarity with the pottery vessels in that organic matter was used as a binder. The piece (SF 27) portrayed in Figure 13 displays the voids and marks made by grass or dung. In some of the pieces, occasionally small stones were noted as present. Various names are given to this material (Graham 2004, 27; Walker and McGregor 1996, 38) but burnt or fired clay is possibly the most appropriate for its occurrence in Scotland.

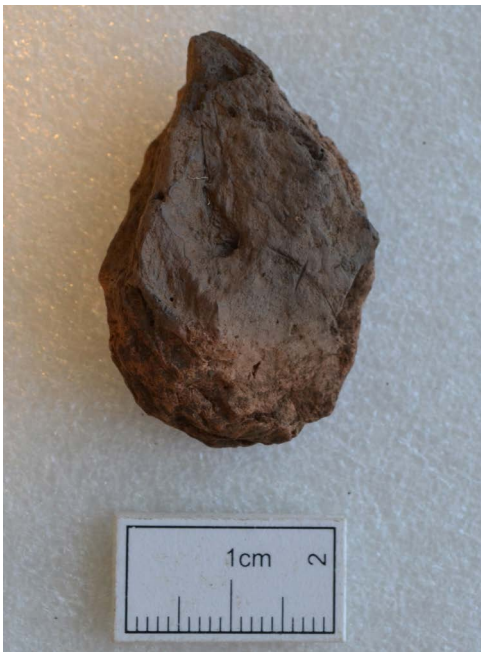

Figure 13: Fired clay SF 27.

Figures 13 and 14 indicates the variety of shapes taken by the clay, as most of the pieces are soft, highly abraded and often quite irregular due to erosion by percolation rainwater and mechanical movement in the soil. Their colours range from pale brown to pale red, red and grey. Only two pieces were considered to have been applied to wattle, sample 54 (Figure 14) from the fill of a surviving entranceway posthole (217) and SF 38, from a feature in the gully, both part of the Structure 3 roundhouse, where concave linear shapes from wooden withies or small diameter branches were noted. If, as the evidence suggests, the walls of the building defined by the gully were made of wooden hurdling, puddled and mixed clay would have been applied to them make the structure more stable and windproof.

Figure 14: Fired clay Sample 54.

Location and distribution

Fifteen pieces of burnt clay, and just over half the weight of all the samples (111.5 g), were found in the fill of the gully. 28 pieces weighing c. 75.2 g were found in postholes, three small pieces (11.7 g) came from a later deposit (118), and two small pieces (1.7g) were found in the possible hearth (190). The distribution by weight is linked to the structure of the building and its destruction, most likely by fire, which has helped preserve the clay. The occurrence of burnt clay on sites is a positive but fragile indication of a wooden structure or component that has used clay in its construction (Ballin Smith 2014).

Unfired clay

SF 65, a linear piece of unfired clay 10 mm thick and weighing 9.7 g was found in the fill (227) of a pit (229) within the Structure 3. It is very fragile and broken into three bits and contains small quartz fragments. It may be a discarded piece of daub or a flattened fragment of an unfired pottery coil.

Medieval and later pottery report

By Bob Will

Introduction

This small assemblage consists of 11 sherds (67.6g) (Table 9) and dates from the medieval to modern period. All the sherds were examined, weighed and recorded according to guidelines and standards produced by the Medieval Pottery Research Group (MPRG 1998 and 2001). Many of the sherds were small and unglazed. No scientific analysis has been undertaken.

Fabric	Total sherds	Rims	Bases	Handles	Body sherds	Weight (g)
Scottish White Gritty wares	5	0	0	0	5	21.7
Scottish Medieval Redwares	3	1	0	0	2	18.5
Scottish Post-Medieval Oxidised and reduced wares	2	0	0	0	2	25.4
White earthenwares	1	1	0	0	0	2
Total	11	2	0	0	9	67.6

Table 9: Later pottery fabric types, weight and numbers.

Scottish White Gritty Ware

Five sherds (21.7g) in Scottish white gritty ware fabrics were recovered. This fabric type is found throughout Scotland but particularly in the east of the country. White gritty wares first appear in the late twelfth century but the tradition lasts into the late fifteenth century. So far the only published kiln site is at Colstoun in East Lothian. This fabric has been extensively studied and it is likely that a number of kilns were in production throughout Scotland (Jones *et al*.). The sherds from Larkhall have a white/buff coloured fabric although one has a reduced grey core which suggests that this was fired in a different way to the others and could be from a different pottery kiln site. The sherds are all unglazed and maybe from cooking pots or storage jars which tend not to be decorated or glazed.

Scottish Medieval Redwares

Three sherds (18.5g) were recovered in Scottish Medieval redware fabrics this type of pottery was produced from the thirteenth to fifteenth century and is found across most of Scotland and has recently been the subject of an extensive research programme funded by Historic Scotland (Haggarty *et al*. 2011). One of the sherds from Larkhall is a rounded rim with spot of glaze on the inside and could be from a jug.

Scottish Post-medieval Oxidised and Reduced Wares (SPMOW/SPMRW)

Two sherds of Scottish Post-Medieval wares were recovered, one in a red oxidised fabric and the other in a reduced fabric. These two sherds are glazed with a green/brown glaze and are probably from jugs. The fabric types were first classified at Stirling Castle (Haggarty 1980) and date from the late fifteenth to eighteenth centuries. The only published kiln site in Scotland is at Throsk on the banks of the River Forth to the east of Stirling (Caldwell and Dean 1992) but other kiln sites making similar vessels are likely to have been in operation across Scotland. The reduced wares tend to have thick walls with a reduced grey or black fabric and a heavy green glaze while the oxidised wares are usually thinner with orange/red fabric often with a purple/red heat skin and splashes of glaze. The best range of vessels so far recovered comes from Throsk and Stirling Castle where platters, bowls, skillets, fish dishes and money boxes or *pirlie pigs* as well as the more common jugs have been recovered.

White earthenwares

One rim sherd (2 g) possibly from a cup or small bowl was recovered in a white earthenware fabric with a grey and black transfer printed design. White earthenwares become the dominant ceramic for tablewares in the nineteenth century and were produced in vast number at a variety of factories throughout Britain.

Discussion

This small assemblage covers a wide date range from mainly the medieval to modern period. All the sherds are quite small making it difficult to identify vessel types and all have mainly been recovered from unstratified contexts. The medieval sherds include the two main fabrics found in Scotland; Scottish White Gritty Wares and Scottish Medieval Redwares along with two sherds of the main Scottish post-medieval fabrics. Surprisingly there was only one modern sherd in the assemblage.

Discussion

The structures and their dating

Structure 1

It is clear from the excavation that the area had been well-wooded with oak and hazel on drier areas of the plateau and with alder, willow and birch closer to the edges of water courses on the lower ground to the south especially. The location of the Mesolithic Structure 1 on a raised area of gravel towards the edge of the plateau was an advantageous position with resources close to hand and open views across the landscape.

The small, somewhat ephemeral structure, a possible hut circle with a windbreak measuring roughly 5 m by 6 m, was considered to be a Mesolithic hunter-gatherer encampment sometime in the eighth and ninth millennia BC. Botanical evidence from a large organic deposit to the immediate south-east of the hut circle indicated discarded ashes from a hearth on which fuel gathered from nearby woodland was burnt. Postholes to the north may have been separate in time from that of the hut circle as they produced no artefactual or dating evidence. Although no lithic artefacts of Mesolithic date were recovered from the area of Structure 1, they were noted at the excavations to the south-east near Larkhall Academy (Dutton and Atkinson 2006) but there was no related structural evidence there.

Postholes to the south of Structure 1 produced no discernible pattern but the presence of a large saddle quern, debris from oil shale working in posthole (004) and a radiocarbon date of the middle to late Bronze Age, indicate that there was more contemporary activity across the landscape at that time than that confined to the Structure 3 roundhouse lying further to the south-west. The botanical investigation of this posthole also noted the presence of cherry-type charcoal and oats. Both of these could have been intrusive species because of the widespread medieval or later rig and furrow cultivation noted on the plateau.

Structure 2

The postholes and pits of this particular area produced no clear pattern as it too had been truncated by another wide furrow from medieval rig and furrow cultivation. Apart from two small chips of flint no other artefactual or dating evidence was produced from the features, but the botanical analysis was of interest.

The organic remains appeared consistent with those found in the postholes of Structure 1, with woodland in close proximity to the site, but supplemented by ash charcoal and carbonised barley, oats and weed seeds. In addition there were hazel nutshells and a single apple pip. The woodland may have changed and become more open through clearance for agriculture, which would have allowed ash trees to come in, and apple and hazel along the woodland margins.

The evidence of grain and associated weed seeds suggested that crops were processed in the vicinity, perhaps from small fields. The hazel nutshells and the apple pip suggest some of this activity could have been prehistoric, but with the adjacent presence of rig and furrow cultivation, there may have been some contamination of earlier features during the medieval or later periods. These pits and postholes may have been nothing more than an assortment of prehistoric or later features that survived invasive agricultural activities.

Structure 3

The roundhouse was the best preserved structure excavted. In spite of an awkwardly placed medieval furrow bisecting a significant portion of the building, enough survived to provide information on its architecture and its internal arrangements. The eight remaining load-bearing postholes (two were possibly lost because of later activities) contained oak timbers that supported the roof structure of the building. Radiocarbon dates from these postholes suggested a time frame for the construction of the building to be from the beginning of the sixteenth century BC to the beginning of the fifteenth century BC, the middle Bronze Age. It is clear from the location of other smaller postholes that the building's oak posts needed extra support on its western and south-western arc, presumably because of the prevailing winds coming from that direction. The addition of birch, hazel, ash and willow charcoal in those secondary postholes suggest that a variety of timber was used both within the building's central space and between it and

its external wall to buttress and support it. These alterations might also account for the oval, rather than round shape of the building. Its entrance, with a porch, was located in its south-east arc.

The pitched roof of the building extended in a circuit approximately 2 m beyond the load-bearing timbers where a gully developed, and although the latter was segmented, possibly because of alterations to the building over time, it produced a range of carbonised wood from the same tree species already discussed growing in the local area. A radiocarbon date from the gully indicates that the building was used from the beginning of the sixteenth century BC to the beginning of the fourteenth century BC, within the time frame of the middle Bronze Age.

Burnt clay fragments from postholes and other features indicate that the external walls of the building were constructed of light weight panelling of most likely alder, hazel and willow withies, and made windproof by daubing them with clay mixed with organic material such as dung or straw. The walls situated towards the interior edge of the gully were protected from rain by the overhanging roof.

Apart from a few pits and a central posthole, the central and south-eastern areas of the building were badly disturbed by the insertion of Structure 4 at a later date (Figure 15). An important element missing from the roundhouse was evidence associated with its use, with only one posthole (220) providing contemporary artefactual material. This included a quartzite cobble (SF 62), pecked and facetted at one end that could have been used on a quern for dehusking grain and pounding it into flour; pebbles of burnt clay; and sherds of pottery Vessel 7, representing a cooking vessel of likely middle Bronze Age date. Small sherds of pottery were also found in the gully and in a pit south of the building, all of which were similar to Vessel 7. Also located in the features of the roundhouse were lithic artefacts dating to the middle or late Neolithic, indicating earlier human activity there.

Figure 15: Excavation of Structure 3 with Structure 4 in the foreground.

From the middle of the building to its southern extremity, alterations to the entrance, its porch or the roof in this area, meant that the gully moved outwards. This, together with a number of undated pits and postholes also pointed to the use or reuse of the building. However, due to the insertion of Structure 4, the understanding of the changes that occurred there have been lost.

A dark organic deposit (118) overlay the central eastern part of the roundhouse. It contained fragments of middle to late Bronze Age pottery vessels V1 and V6, the remains of a worked oil shale bangle, burnt animal bone, and charcoal of alder, hazel, birch, oak and hazel nutshells. Also included in the mix were residual lithic artefacts from late in the Neolithic.

The composition of this material plus its cultural content suggests it sealed Structure 3 and provided a glimpse of activities that took place there. A hazel nutshell delivered a date for this material of the twelfth to tenth century BC, the late Bronze Age, a date later than expected for the artefactual material found within it (see also Structure 4, below).

The scientific analysis of the structure of the deposit highlighted its complexity. Short periods of waterlogging had affected it as some organic materials seemed to have been transported by water, and there were elements of leaching and burning. It would appear that at some point after the building had most likely burnt down and fallen into decay, the ground remained open and was affected by heavy rain and water-runoff.

The interpretation of the sparse evidence of Structure 3 indicates a building of middle Bronze Age date used for domestic purposes as a dwelling. The building was altered over time and it probably burnt down. The survival of the organic deposit preserved some information of the activities that had taken place in the structure that had largely been lost elsewhere. The later Bronze Age hazel nutshell could perhaps date one of the periods of waterlogging and run-off rather than the deposit itself but there is much uncertainty in this interpretation. However, the story of this deposit (118) is made more complex with the insertion of Structure 4.

Structure 4

This structure was identified during the post-excavation analysis as a separate pattern of deep features that was either dug through, or was overlain by a large part of the organic deposit (118). There is some uncertainty concerning their exact relationship as the natural weathering factors identified above may have blurred that relationship during the excavation.

The building was probably rectangular c. 4.5 m by 5.5 m but its foundation pits for its timber construction were dug deeply through the remains of Structure 3, to a depth of over 0.50 m in two examples. It destroyed much of the central eastern interior of Structure 3 and its south-eastern extremities including that of the entrance and porch area. The western portion of Structure 4 was largely missing. Not only was it truncated by a furrow from later agricultural activities, but it a short straight gully possibly of more recent origin was dug through it and it was also subject to considerable animal burrowing. The only notable feature within Structure 4 was its large and deep pit (157), a possible fire-pit that produced no artefactual evidence but a single Roman/Iron Age date of the mid first century AD to the beginning of the third century AD. The botanical evidence indicates that the structure used alder and oak wood in its construction with the addition of birch, hazel and salix. One other interesting identification was that of burnt dung found in the fill of pit 208 in the building's north-east corner, close to the fire-pit.

The material cultural evidence from the fill of the foundation pits is largely that of middle Bronze Age pottery derived from Structure 3. The fill of the foundation pit for its eastern wall also produced a middle Bronze Age date range of the mid-thirteenth century to the mid-fourteenth century BC, while the fill of the pit at its north-east corner was dated to the two decades of the first century BC to as late as the first quarter of the second century AD. The artefactual evidence for this structure is not surprising given its location, but nothing of later date was retrieved from it. However, the two Roman / Iron Age dates are perhaps the most reliable for its use and abandonment.

Comparison with other structures and material culture

Structure 1

During the excavation it was considered that Structure 1, with its small size and limited extent was probably a structure of Mesolithic date, and this seemed to be confirmed by a radiocarbon date of approximately 7900 cal BC. However, the structure entirely lacked evidence of material culture, such as a contemporary lithic scatter (see ScARF 2012), that would have been expected if it was Mesolithic. The structure was not hollowed or sunken in any way such as the tent-like Mesolithic structures found at the replacement Forth Replacement Crossing in 2011 (Robertson *et al*. 2013). One of these, at Echline Fields, is probably the earliest recorded in Scotland with a date of c. 8300 cal BC. Another late Mesolithic house dated similarly to the first quarter of the ninth millennium BC was excavated in 2001 at East Barns in East Lothian (Engl and Gooder 2021). Similar in size and form to the Echline Fields house, the East Barns structure had copious lithics associated with it and both were more complex structures than the Larkhall building.

The Larkhall Structure 1 is more like the slightly larger Circular Structure 410 excavated at Echline Fields (Robertson *et al*. illus 6, 85) with its more regular arrangement of postholes and external pits. It too completely lacked material culture and remains undated, thus leaving it and Structure 1 as enigmas for now.

Structure 3

Several roundhouses, some dated to the middle Bronze Age, have been excavated recently in the west of Scotland. Two which provide particularly good structural comparison with Structure 3 are from Colinhill, near Strathaven excavated in 2015, and of mid-second millennium date (Spence 2019). Structure A and B are of similar size to Structure 3, with an internal ring of large posts, an entrance each, but a particularly fine one with a porch in Structure B. There may have been some reinforcement of postholes in Structure A, but the internal hearth deposits show what has been lost from Structure 3. Contemporary finds were sparse at both the Colinhill roundhouses, but the incidence of early Neolithic material culture, some possibly deliberately deposited in postholes, indicates, as in the case of Structure 3, that they were not the first occupiers of their sites, as other people had been there earlier.

The partial remains of roundhouse was also excavated at Inverkip in 2014 (Rennie 2016), and again of similar size and orientation as Structure 3. Its prominent features were the postholes of structural posts, an entrance and the remains of a ring-groove. Although dated to the middle Bronze Age, early Bronze Age dated material was also present. Cultural material was limited to a contemporary pottery vessel, possibly a cooking pot, and later Bronze Age lithic artefacts.

Further timber roundhouses, excavated in 2017 were located at Northbar, Erskine, near the River Clyde. At least four of them were well-preserved with complex interiors indicating alteration of the structures over time, and some with segmented and intricate arrangements of gullies (Atkinson and McNicol forthcoming). The radiocarbon dates for these structures largely fell within the middle Bronze Age, but often extended into the later Bronze Age, and therefore indicated a longer use than that of Structure 3 at Larkhall. The Northbar buildings and their material cultural assemblages will hopefully throw more light onto the domestic activities performed in those roundhouses than has been possible at Larkhall.

Structure 3 seems to be typical of roundhouses constructed and used during the middle Bronze Age in the region. These seemingly isolated structures in more elevated areas like Larkhall and Inverkip were unenclosed, and possibly relatively short-lived, but also prone to partial loss of structural integrity through later activities that affected the area.

Structure 4

Little can be conclusively said about Structure 4 because of the paucity of material cultural evidence and the uncertainty concerning its function. Its radiocarbon dates are a combination of earlier and possibly contemporary material, dating the building to the first two centuries AD. Was it a byre or a shepherd's hut due to the presence of dung?

Worked oil shale

The occurrence of a piece of worked oil shale (SF 08) within the deposit (118) associated with Structures 3 and 4, is important, as it links Structure 3 to other types of buildings and activities in the region. For example, the hill fort at Craigmarloch Hill, Kilmacolm, dated to the eighth century BC, where a number of shale bracelet fragments, roughouts and wasters were found (Nesbit 1996, 54, figure 11), with CM 890 being particularly similar to SF 08 (Figure 10). The unenclosed platform settlement at Bodsberry Hill, near Elvenfoot, Strathclyde (Terry 1993, 58, Figure 5) is another comparison possibility as middle Bronze Age pottery and fragments of a shale bangle were found there, but only a single radiocarbon date from later in the early Bronze Age was produced from the site. The infilling of a palaeochannel at Ferniegair (Atkinson 2023), indicated temporary occupation during the early and middle parts of the Bronze Age, but with also an oil shale bracelet roughout forming part of its material culture. These sites situated close or relatively close either to the River Clyde and the Avon Water, one of its major tributaries, highlights the importance of the movement through the landscape of people, and the transmission of ideas and personal items such as bangles of oil shale using a local resource.

Conclusions

The survival of the structures at Larkhall is remarkable considering the amount of disturbance and truncation that affected them. In prehistory, the resources of an area repeatedly attracted people to particular sites. These sites were often close to routeways through the landscape that enabled personal contact and the dissemination and interchange of cultural ideas and items. The site at Larkhall is not necessarily an important site, but it has importance. It helps to fill in some of the gaps in our understanding and knowledge of the exploitation of the landscape throughout prehistory and especially in the vicinity of the location of domestic settlement. The story encompasses local changes to the environment and how those changes affected the people that lived there.

Acknowledgements

The author would like to thank Bracewell Stirling Consulting for providing the funding for the excavations, post-excavation analysis and publication of results. Martin O'Hare of WoSAS is to be thanked for providing guidance before and during the excavation as well as making available unpublished reports on surrounding sites. A great deal of appreciation is also shown to the supervisors and team who endured the unpredictable weather at Larkhall over the duration of the excavations. Similar appreciation is also shown towards the post-excavation team, Clark Innes, Stuart Paterson, Erica Villis and Juan Ignacio de Vincente who undertook soil processing and sorting. Specialist reports were undertaken by Torben Bjarke Ballin, Beverley Ballin Smith, Fraser Hunter, Maureen Kilpatrick, Carol Lang, George MacLeod, Susan Ramsey, Bob Will and Clare Wilson. The illustrations were undertaken by Jennifer Simonson. Dr John Atkinson managed the project offering invaluable support and guidance throughout the duration of the excavations and post excavation work.

Project archive and finds location

The site archives will be lodged with the NRHE at Historic Environment Scotland, Edinburgh, and the finds will be reported to Treasure Trove Scotland.

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Appendices

Appendix 1

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924	3924	3924
	Context	004	006	010	014	014	015	017	018	022	023
	Sample	001	002	004	006	010	008	015	007	011	012
	Description	Fill of pit (005)	Fill of posthole (007)	Fill of pit (011)	Fill of posthole (016)	Fill of posthole (016)	Fill of posthole (021)	Sub-oval feature	Fill of posthole (019)	Fill of posthole (024)	Fill of posthole (028)
Volume of charcoal 2-4 mm		10ml	<2.5ml	2.5ml	<2.5ml	<2.5ml	<2.5ml	10ml	2.5ml	<2.5ml	<2.5ml
Volume of charcoal >4 mm		10ml	<2.5ml	5ml	<2.5ml	2.5ml	5ml	10ml	5ml	2.5ml	2.5ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Betula sp (0.18g)	Alnus cf glutinosa (0.02g)	Alnus cf glutinosa (0.11g)	Betula sp (0.04g)	Alnus cf glutinosa (0.05g)	Alnus cf glutinosa (0.06g)	Alnus cf glutinosa (0.10g)	Alnus cf glutinosa (0.13g)	Corylus cf avellana (0.05g)	Corylus cf avellana (0.11g)
Charcoal											
Alnus cf glutinosa	alder	16 (0.40g)	1 (0.02g)	3 (0.20g)		5 (0.12g)	6 (0.25g)	13 (0.27g)	8 (0.29g)		3 (0.08g)
Betula spp	birch	1 (0.18g)			3 (0.13g)		3 (0.30g)	22 (0.96g)		3 (0.07g)	
Corylus cf avellana	hazel	3 (0.15g)		1 (0.05g)			1 (0.01g)	3 (0.09g)	4 (0.05g)	3 (0.11g)	4 (0.19g)
Fraxinus spp	ash	-		1 (0.07g)							
Prunoideae	cherry type	1 (0.12g)									
Quercus	oak	17 (1.40g)		4 (0.23g)		1 (0.04g)		1 (0.02g)	1 (0.01g)	2 (0.06g)	1 (<0.01g)
Salix spp	willow	-							2 (0.17g)		2 (0.04g)
Coal cinder			<2.5ml (0.17g)		2.5ml (0.29g)		<2.5ml (0.30g)				
Misc											
Cramp							+ (0.16g)				

Table 2: Botanical results from Structure 1.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924	3924
	Context	049	051	051	052	053	058	059	066	067
	Sample	028	026	033	030	029	032	031	036	034
	Description	Upper fill of posthole (061)	Fill of posthole (057)	Fill of posthole (057)	Fill of cut (054)	Lower fill of posthole (061)	Fill of cut (063)	Fill of pit (060)	Fill of posthole (073)	Fill of posthole (070)
Volume of charcoal 2-4 mm		5ml	2.5ml	<2.5ml	5ml	<2.5ml	15ml	5ml	20ml	10ml
Volume of charcoal >4 mm		10ml	5ml	5ml	5ml	<2.5ml	10ml	5ml	10ml	20ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Alnus cf glutinosa (0.04g)	Corylus cf avellana (0.05g)	Alnus cf glutinosa (0.13g)	Corylus cf avellana (0.05g)	Corylus cf avellana (0.02g)	Alnus cf glutinosa (0.15g)	Corylus cf avellana (0.12g)	Corylus cf avellana rw 3 rings (0.08g)	Salix sp (0.15g)
Charcoal										
Alnus cf glutinosa	alder	29 (0.62g)	7 (0.10g)	11 (0.40g)	1 (0.02g)		9 (0.48g)	8 (0.08g)	13 (0.35g)	7 (0.11g)
Betula spp	birch	1 (0.01g)		-			2 (0.04g)		5 (0.19g)	
Corylus cf avellana	hazel	5 (0.13g)	2 (0.06g)	1 (0.03g)	10 (0.21g)	3 (0.04g)	25 (0.67g)	15 (0.30g)	15 (0.40g)	24 (0.56g)
Fraxinus spp	ash			-					1 (0.03g)	6 (0.15g)
Quercus	oak		7 (0.17g)	6 (0.21g)			5 (0.21g)	4 (0.15g)		
Salix spp	willow		3 (0.05g)	-			4 (0.19g)			12 (0.45g)
Coal cinder					10ml (4.83g)	<2.5ml (0.04g)	15ml (6.84g)	5ml (0.56g)	2.5ml (0.49g)	5ml (2.51g)
Carbonised cereals										
Avena spp	oats				4		10		12	6
cf Avena spp	cf oats		1	3					8	
Hordeum vulgare var vulgare	hulled barley						7		4	5
Hordeum vulgare sl	barley		5	12	10		14		33	7
cf Hordeum vulgare sl	cf barley			3					16	10
Cereal indet	indet cereal	1	2	7	3		27	2	29	15
Culm node									1	
Carbonised seeds etc										
cf Aethusa cynapium	fool's parsley								1	
Chenopodium album	fathen			2					4	
Corylus avellana nutshell	hazel nutshell			-	2 (0.03g)				3 (0.09g)	1 (<0.01g)

Table 3: Botanical results from Structure 2.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924	3924
	Context	049	051	051	052	053	058	059	066	067
	Sample	028	026	033	030	029	032	031	036	034
	Description	Upper fill of posthole (061)	Fill of posthole (057)	Fill of posthole (057)	Fill of cut (054)	Lower fill of posthole (061)	Fill of cut (063)	Fill of pit (060)	Fill of posthole (073)	Fill of posthole (070)
Carbonised cereals										
Fallopia convolvulus	black bindweed			1						
Malus sylvestris	apple				1					
Galium aparine	cleavers								2	
Poaceae	grass			1						
Plantago lanceolata	ribwort plantain								2	
Raphanus raphanistrum pod frag	wild radish pod frag						1		2	
Rubus cf fruticosus	cf bramble			1						
Scirpus spp	rush			1						
Spergula arvensis	corn spurrey								1	

Table 3 (Continued): Botanical results from Structure 2.

	Site Code	3898	3898	3898	3924	3924	3924	3924	3924
	Location	Trench 8	Trench 8	Trench 8	CP - Gully	CP - Gully	CP - Gully	CP - Gully	CP - Gully
	Context	8006	8011	8011	116	116	116	116	116
	Sample	007	004	005	062	068	070	072	074
	Description	Fill of posthole (8012)	Fill of roundhouse feature (8004)	Fill of roundhouse feature (8004)	Fill of gully (117)	Fill of gully (117)	Fill of gully (117)	Fill of gully (117)	Fill of gully (117)
Volume of charcoal 2-4 mm		15ml	2.5ml	5ml	10ml	5ml	10ml	10ml	20ml
Volume of charcoal >4 mm		15ml	5ml	5ml	10ml	5ml	10ml	10ml	20ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Alnus cf glutinosa (0.09g)	Corylus cf avellana (0.06g)	Corylus cf avellana (0.13g)	Corylus cf avellana (0.18g)	Corylus cf avellana (0.05g)	Corylus cf avellana (0.19g)	Alnus cf glutinosa (0.17g)	Alnus cf glutinosa (0.15g)
Charcoal									
Alnus cf glutinosa	alder	31 (1.10g)	15 (0.35g)	8 (0.15g)	22 (0.72g)	2 (0.07g)	6 (0.31g)	13 (0.44g)	2 (0.20g)
Betula spp	birch						5 (0.51g)	-	
Corylus cf avellana	hazel	10 (0.21g)	12 (0.29g)	8 (0.43g)	3 (0.22g)	23 (0.46g)	20 (0.73g)	4 (0.03g)	3 (0.07g)
Fraxinus spp	ash							-	
Maloideae	apple type								
Quercus	oak	45 (0.98g)	8 (0.21g)	11 (0.14g)	20 (0.34g)	16 (0.57g)	5 (0.11g)	23 (0.45g)	77 (2.96g)
Rosaceae	rose family							-	
Salix spp	willow							1 (0.02g)	
Ulmus spp	elm								
Indet bark									
Indet twigs	indet twigs							-	
Indet charcoal									
Coal cinder							<2.5ml (0.30g)		5ml (1.02g)
Carbonised cereals									
Hordeum vulgare sl	barley							-	
cf Hordeum vulgare sl	cf barley							-	
cf Triticum spp	cf wheat								
Cereal indet	indet cereal							-	1
Carbonised seeds etc									
Corylus avellana nutshell	hazel nutshell	7 (0.08g)		2 (0.03g)	1 (0.02g)			-	1 (0.01g)
Fallopia convolvulus	black bindweed								
Malus sylvestris	apple								
Ranunculus acris type	buttercup								
Misc									
Cramp									

Table 4: Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924
	Location	CP - Gully	CP - Gully	CP - Gully	CP - Interior ring of postholes	CP - Interior elements within structure	CP - Interior elements within structure	CP - Outlying features North of Structure	CP - Interior elements within structure
	Context	116	118	118	119	120	126	133	135
	Sample	077	024	098	063	065	067	073	075
	Description	Fill of wall feature (117)	Occupation deposit	Occupation deposit	Fill of posthole (124)	Fill of posthole (123)	Fill of posthole (129)	Fill of large shallow pit (139)	Upper fill of pit (137)
Volume of charcoal 2-4 mm		5ml	10ml	2.5ml	10ml	5ml	20ml	2.5ml	10ml
Volume of charcoal >4 mm		20ml	10ml	5ml	25ml	10ml	20ml	5ml	20ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Alnus cf glutinosa (1.24g)	Corylus avellana nutshell (0.06g)	Alnus cf glutinosa (0.08g)	Alnus cf glutinosa (0.29g)	Corylus cf avellana (0.06g)	Corylus cf avellana (0.17g)	Corylus cf avellana (0.13g)	Corylus cf avellana (0.11g)
Charcoal									
Alnus cf glutinosa	alder	14 (1.59g)	16 (0.36g)	14 (0.49g)	29 (1.25g)	17 (0.38g)	30 (1.26g)	3 (0.06g)	29 (2.09g)
Betula spp	birch		6 (1.32g)						
Corylus cf avellana	hazel	5 (0.15g)	10 (0.25g)	3 (0.07g)	46 (2.74g)	8 (0.17g)	16 (0.74g)	17 (0.39g)	5 (0.17g)
Fraxinus spp	ash		-						
Maloideae	apple type								
Quercus	oak	61 (2.24g)	4 (0.34g)	6 (0.27g)	36 (0.89g)	10 (0.55g)	13 (0.47g)	3 (0.05g)	22 (0.73g)
Rosaceae	rose family		-						
Salix spp	willow		-						
Ulmus spp	elm								1 (0.05g)
Indet bark									
Indet twigs	indet twigs		-						
Indet charcoal									
Coal cinder					<2.5ml (0.40g)			<2.5ml (0.39g)	
Carbonised cereals									
Hordeum vulgare sl	barley		-				2		
cf Hordeum vulgare sl	cf barley		-						1
cf Triticum spp	cf wheat								1
Cereal indet	indet cereal		-						4
Carbonised seeds etc									
Corylus avellana nutshell	hazel nutshell		2 (0.08g)	1 (0.01g)	4 (0.04g)	2 (0.04g)	14 (0.19g)		
Fallopia convolvulus	black bindweed								1
Malus sylvestris	apple								
Ranunculus acris type	buttercup								
Misc									
Cramp				5 (0.12g)					

Table 4 (Continued): Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924
	Location	CP - Interior elements within structure	CP - Outer ring of postholes	CP - Interior elements within structure	CP - Interior elements within structure	CP - Outer ring of postholes	CP - Outlying features South of structure	CP - Interior elements within structure	CP - Structure Gully
	Context	138	140	142	142	144	148	150	156
	Sample	076	078	079	081	080	083	084	089
	Description	Upper fill of pit (137)	Fill of posthole (141)	Fill of posthole (143)	Fill of posthole (143)	Fill of posthole (145)	Fillof posthole (153)	Fill of cremation pit (151)	Fill of gully (117)
Volume of charcoal 2-4 mm		10ml	<2.5ml	10ml	5ml	<2.5ml	5ml	15ml	20ml
Volume of charcoal >4 mm		10ml	2.5ml	20ml	10ml	5ml	25ml	10ml	40ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Alnus cf glutinosa (0.31g)	Alnus cf glutinosa (0.03g)	Alnus cf glutinosa (0.33g)	Alnus cf glutinosa (0.47g)	Alnus cf glutinosa (0.02g)	Alnus cf glutinosa (0.32g)	Alnus cf glutinosa (0.06g)	Alnus cf glutinosa (0.28g)
Charcoal									
Alnus cf glutinosa	alder	28 (1.30g)	7 (0.10g)	30 (1.17g)	15 (1.90g)	8 (0.14g)	82 (3.48g)	8 (0.18g)	39 (1.82g)
Betula spp	birch		1 (0.01g)				5 (0.41g)		
Corylus cf avellana	hazel	10 (0.65g)			1 (0.04g)	2 (0.02g)	1 (0.06g)	2 (0.03g)	12 (0.74g)
Fraxinus spp	ash		1 (0.02g)						
Maloideae	apple type								
Quercus	oak	3 (0.10g)		54 (1.76g)	6 (0.10g)	11 (0.23g)	2 (0.05g)	155 (2.85g)	70 (6.11g)
Rosaceae	rose family								
Salix spp	willow								
Ulmus spp	elm								
Indet bark									
Indet twigs	indet twigs	13 (0.24g)							
Indet charcoal							1 (0.21g)		
Coal cinder				1 (0.08g)		2.5ml (0.19g)	1 (0.91g)		
Carbonised cereals									
Hordeum vulgare sl	barley								
cf Hordeum vulgare sl	cf barley								
cf Triticum spp	cf wheat								
Cereal indet	indet cereal								
Carbonised seeds etc									
Corylus avellana nutshell	hazel nutshell			8 (0.08g)					
Fallopia convolvulus	black bindweed	1							
Malus sylvestris	apple								
Ranunculus acris type	buttercup								
Misc									
Cramp									

Table 4 (Continued): Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924
	Location	CP - Outlying features North of Structure	CP - Outlying features North of Structure	CP- outer ring of postholes	CP - Interior ring of postholes	CP - Outlying features South of structure	CP- outer ring of postholes	CP- outer ring of postholes	CP- outer ring of postholes
	Context	158	160	164	165	170	182	184	190
	Sample	085	087	090	093	091	100	101	102
	Description	Fill of posthole (159)	Fill of posthole (161)	Fill of posthole (166)	Fill of posthole (168)	Fill of firepit (167)	Fill of cut (183)	Fill of posthole (185)	Fill of pit (192)
Volume of charcoal 2-4 mm		10ml	2.5ml	<2.5ml	25ml	15ml	<<2.5ml	<<2.5ml	2.5ml
Volume of charcoal >4 mm		15ml	5ml	2.5ml	50ml	15ml	5ml	2.5ml	5ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Corylus cf avellana (0.10g)	Corylus cf avellana (0.10g)	N	Corylus cf avellana (0.73g)	Alnus cf glutinosa (0.09g)	Alnus cf glutinosa (0.14g)	Salix sp (0.02g)	Alnus cf glutinosa (0.05g)
Charcoal									
Alnus cf glutinosa	alder	15 (0.27g)	8 (0.15g)	4 (0.13g)	86 (7.32g)	30 (0.70g)	16 (0.41g)	7 (0.06g)	16 (0.41g)
Betula spp	birch								
Corylus cf avellana	hazel	38 (1.37g)	7 (0.27g)		7 (1.02g)		1 (0.03g)		
Fraxinus spp	ash								
Maloideae	apple type								
Quercus	oak	19 (0.65g)	3 (0.04g)	3 (0.31g)	43 (2.18g)	54 (2.40g)	22 (0.62g)	5 (0.05g)	2 (0.06g)
Rosaceae	rose family								
Salix spp	willow							1 (0.02g)	
Ulmus spp	elm								
Indet bark									
Indet twigs	indet twigs								
Indet charcoal						17 (0.54g)			
Coal cinder									
Carbonised cereals									
Hordeum vulgare sl	barley				2				
cf Hordeum vulgare sl	cf barley								
cf Triticum spp	cf wheat								
Cereal indet	indet cereal				2			1	
Carbonised seeds etc									
Corylus avellana nutshell	hazel nutshell				5 (0.07g)				
Fallopia convolvulus	black bindweed								
Malus sylvestris	apple								
Ranunculus acris type	buttercup								
Misc									
Cramp									

Table 4 (Continued): Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924
	Location	CP- outer ring of postholes	CP- outer ring of postholes	CP- outer ring of postholes	CP - Outlying features South of structure	CP - Interior ring of postholes	CP - Interior ring of postholes	CP- outer ring of postholes	CP - Interior ring of postholes
	Context	194	195	201	202	205	207	214	215
	Sample	104	105	106	113	108	109	114	118
	Description	Upper fill of posthole (196)	Lower fill of posthole (196)	Fill of posthole (203)	Fill of pit (213)	Fill of posthole (204)	Fill of posthole (206)	Fill of posthole (218)	Fill of posthole (220)
Volume of charcoal 2-4 mm		40ml	5ml	20ml	2.5ml	<2.5ml	10ml	20ml	15ml
Volume of charcoal >4 mm		160ml	10ml	10ml	5ml	2.5ml	10ml	25ml	100ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Corylus cf avellana (0.14g)	Alnus cf glutinosa (0.10g)	Alnus cf glutinosa (0.09g)	Alnus cf glutinosa (0.23g)	N	Alnus cf glutinosa (0.16g)	Alnus cf glutinosa (0.05g)	Corylus cf avellana (0.16g)
Charcoal									
Alnus cf glutinosa	alder	22 (0.87g)	15 (0.44g)	18 (0.72g)	22 (0.69g)		9 (0.34g)	29 (0.76g)	35 (6.88g)
Betula spp	birch				1 (0.02g)		-		-
Corylus cf avellana	hazel	13 (0.52g)			2 (0.04g)		5 (0.09g)		24 (2.14g)
Fraxinus spp	ash						-		-
Maloideae	apple type				1 (0.04g)				
Quercus	oak	1578 (44.38g)	118 (1.83g)	49 (1.15g)	19 (0.41g)	10 (0.13g)	66 (1.44g)	280 (4.19g)	89 (28.38g)
Rosaceae	rose family						-		-
Salix spp	willow						-		-
Ulmus spp	elm								
Indet bark									
Indet twigs	indet twigs						-		-
Indet charcoal									
Coal cinder									
Carbonised cereals									
Hordeum vulgare sl	barley						4		-
cf Hordeum vulgare sl	cf barley						-		3
cf Triticum spp	cf wheat								
Cereal indet	indet cereal						-		-
Carbonised seeds etc									
Corylus avellana nutshell	hazel nutshell	2 (0.01g)	2 (0.02g)	3 (0.07g)			4 (0.07g)	2 (0.01g)	-
Fallopia convolvulus	black bindweed								
Malus sylvestris	apple								
Ranunculus acris type	buttercup								
Misc									
Cramp									

Table 4 (Continued): Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924	3924	3924	3924
	Location	CP - Interior ring of post holes	CP - Outlying features South of structure	CP- outer ring of postholes	CP - Interior ring of postholes	CP - Interior elements within structure	CP - Outlying features South of structure	CP - Outlying features South of structure	CP - Interior elements within structure	CP - Outlying features South of structure
	Context	216	221	222	223	227	230	230	235	237
	Sample	117	123	122	121	128	124	129	130	133
	Description	Fill of posthole (217)	Fill of pit (228)	Fill of posthole (224)	Fill of posthole (225)	Fill of pit (229)	Fill of posthole (236)	Fill of posthole (236)	Basal fill of pit (229)	Fill of pit (241)
Volume of charcoal 2-4 mm		5ml	20ml	10ml	<2.5ml	15ml	10ml	10ml	5ml	<2.5ml
Volume of charcoal >4 mm		10ml	25ml	20ml	10ml	30ml	15ml	10ml	5ml	10ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%	100%	100%	100%
AMS potential		Corylus cf avellana (0.27g)	Alnus cf glutinosa (0.06g)	Alnus cf glutinosa (0.20g)	Alnus cf glutinosa (0.09g)	Alnus cf glutinosa (0.55g)	Alnus cf glutinosa (0.08g)	Corylus cf avellana (0.10g)	Alnus cf glutinosa (0.10g)	Alnus cf glutinosa (0.14g)
Charcoal										
Alnus cf glutinosa	alder	15 (0.41g)	24 (0.89g)	53 (1.68g)	12 (0.45g)	49 (3.14g)	50 (1.57g)	32 (0.80g)	10 (0.40g)	24 (0.82g)
Betula spp	birch	-		3 (0.06g)	1 (0.04g)					
Corylus cf avellana	hazel	3 (0.31g)	2 (0.15g)	10 (0.26g)	4 (0.11g)	4 (0.14g)		6 (0.43g)	2 (0.03g)	8 (0.31g)
Fraxinus spp	ash	-								
Maloideae	apple type									
Quercus	oak	9 (0.24g)	40 (3.41g)	145 (2.34g)	17 (0.66g)	26 (2.26g)	23 (1.06g)	37 (0.87g)	150 (1.22g)	5 (0.10g)
Rosaceae	rose family	1 (0.15g)								
Salix spp	willow	-								1 (0.01g)
Ulmus spp	elm									
Indet bark										6 (0.79g)
Indet twigs	indet twigs	-								
Indet charcoal										
Coal cinder					2.5ml (0.25g)					2.5ml (1.05g)
Carbonised cereals										
Hordeum vulgare sl	barley	-								
cf Hordeum vulgare sl	cf barley	-								
cf Triticum spp	cf wheat									
Cereal indet	indet cereal	-								
Carbonised seeds etc										
Corylus avellana nutshell	hazel nutshell	4 (0.07g)	2 (0.03g)	7 (0.06g)	2 (0.02g)	5 (0.27g)		8 (0.10g)		1 (<0.01g)
Fallopia convolvulus	black bindweed									
Malus sylvestris	apple					1				
Ranunculus acris type	buttercup									1
Misc										
Cramp										

Table 4 (Continued): Botanical results from Structure 3.

	Site Code	3924	3924	3924	3924	3924	3924
	Location	CP - Interior elements within structure	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch
	Context	149	152	152	152	152	152
	Sample	086	103	126	127	131	134
	Description	Fill of large pit (157)	Fill of ditch (234)	Fill of ditch (234)	Fill of ditch (234)	Fill of ditch (234)	Fill of ditch (234)
Volume of charcoal 2-4 mm		10ml	80ml	5ml	5ml	15ml	25ml
Volume of charcoal >4 mm		20ml	400ml	10ml	10ml	10ml	30ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%
AMS potential		Alnus cf glutinosa (0.21g)	Alnus cf glutinosa (0.48g)	Alnus cf glutinosa (0.09g)	Alnus cf glutinosa (0.08g)	Alnus cf glutinosa (0.13g)	Corylus cf avellana (0.45g)
Charcoal							
Alnus cf glutinosa	alder	36 (1.57g)	178 (57.08g)	17 (0.89g)	16 (0.41g)	25 (0.96g)	29 (1.61g)
Betula spp	birch	2 (0.07g)		-		2 (0.23g)	1 (0.11g)
Corylus cf avellana	hazel	6 (0.15g)	4 (0.21g)	7 (0.17g)	12 (0.22g)	3 (0.13g)	26 (2.39g)
Fraxinus spp	ash	6 (0.12g)		-			
Prunoideae	cherry type	-		-		1 (0.04g)	
Quercus	oak	12 (0.24g)	293 (20.64g)	15 (0.51g)	55 (1.70g)	32 (0.88g)	75 (2.52g)
Salix spp	willow	-		-		1 (0.04g)	
cf Burnt dung							
Carbonised seeds etc							
Corylus avellana nutshell	hazel nutshell	1 (0.02g)	1 (0.01g)	-		12 (0.13g)	102 (1.67g)

Table 5: Botanical results from Structure 4.

	Site Code	3924	3924	3924	3924	3924	3924
	Location	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch	CP - Segmented ditch
	Context	209	209	210	211	233	250
	Sample	110	111	112	117	135	139
	Description	Upper fill of ditch	Upper fill of ditch	Lower fill of pit (208)	Fill of posthole inside ditch (199)	Base of possible habitation layer	Subcircular ditch
Volume of charcoal 2-4 mm		20ml	5ml	5ml	<2.5ml	30ml	<2.5ml
Volume of charcoal >4 mm		10ml	2.5ml	10ml	2.5ml	25ml	10ml
% charcoal >4mm identified		100%	100%	100%	100%	100%	100%
AMS potential		Salix sp (0.07g)	Alnus cf glutinosa (0.06g)	Alnus cf glutinosa (0.15g)	Alnus cf glutinosa (0.03g)	Alnus cf glutinosa (0.27g)	Alnus cf glutinosa (0.21g)
Charcoal							
Alnus cf glutinosa	alder	27 (0.85g)	9 (0.26g)	25 (0.93g)	1 (0.03g)	32 (1.30g)	34 (1.31g)
Betula spp	birch	5 (0.10g)					
Corylus cf avellana	hazel	12 (0.49g)	1 (0.03g)	2 (0.06g)		2 (0.02g)	5 (0.08g)
Fraxinus spp	ash	-					
Prunoideae	cherry type	-					
Quercus	oak	41 (0.93g)		7 (0.22g)	4 (0.10g)	117 (4.00g)	5 (0.08g)
Salix spp	willow	1 (0.07g)					
cf Burnt dung				7 (0.24g)			
Carbonised seeds etc							
Corylus avellana nutshell	hazel nutshell	3 (0.06g)	7 (0.13g)		6 (0.07g)	1 (0.05g)	2 (0.04g)

Table 5 (Continued): Botanical results from Structure 4.

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