

Lanton Quarry, Northumberland
Phase 4 Archaeological Excavation



Potential Iron Age Structure, looking west

ARS Ltd Report No. 2011/69

July 2011

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Report on an Archaeological Excavation

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Executive Summary

A fourth phase of archaeological excavation was conducted by Archaeological Research Services Ltd on an area totaling 1ha at Lanton Quarry, Milfield, Northumberland on behalf of Tarmac Ltd. The investigation took the form of a strip, map and sample, in which the topsoil was mechanically removed under archaeological supervision before a complete plan of archaeological features was made. A sampling strategy was then agreed and excavations were undertaken.

Archaeological remains were excavated dating from a number of different prehistoric periods including:

- *A Neolithic feature that contained broken sherd from a Carinated Bowl*
- *A square structure with internal pit and an associated external animal burial (and which are also next to the human burial cist and pit found in the previous phase of work), of likely late Iron Age date, and thought to be an Iron Age shrine*
- *A large pit feature with stony fill*
- *A severely truncated linear feature of uncertain date*
- *Thirteen other isolated pits and posthole features*

Analysis of the botanical macrofossils obtained through flotation has shown the presence of wheat, hazelnut shells and other gathered wild resources in the Neolithic context, indicating a potential mix of agriculture and exploitation of natural resources. The picture of the Neolithic environment described by the botanical macrofossils is of cleared areas within mixed deciduous woodland containing a variety of tree species.

Three radiocarbon dates were obtained on material from this phase of excavation at Lanton. These comprised:

- *A single date on a hazelnut shell from the fill of a pit containing Carinated Bowl ceramic sherds.*
- *A single date on a piece of hazelnut charcoal from the fill of the central pit associated with the structure (F3024)*
- *A single date on bone from a sheep burial.*

The sample obtained from the pit fill containing the Carinated bowl vessel returned radiocarbon dates that are consistent with the use of this ceramic in the region, placing the feature within early – mid 4th millennium BC. The date obtained for the fill of the pit associated with structure (F3024) lies within the Mesolithic period, and is considered to therefore be from a residual sample. The fill of the pit was homogenous and yielded little in the way of datable material. It is very unlikely from the form of the feature and its probable association with the structure, that this date represents anything other than residual material. The date obtained on the sheep burial is consistent with the faunal assessment finding of an animal burial dating to the post-medieval, probably Georgian, period, and related to the farming improvements which were underway at that time.

The archaeological features and ceramic finds from the site add important new information to the wider story of prehistory in the Milfield Basin and also the wider region. The discovery of what appears to be an Iron Age shrine is the first such discovery of this type in northern England – directly analogous sites are known from several sites in southern England. A full discussion of their wider significance will be produced as part of the final site narrative.

1 Introduction

1.1 This report describes an archaeological strip, map and sample investigation undertaken at Lanton Quarry, Northumberland in 2011 by Archaeological Research Services Ltd on behalf of Tarmac Ltd. In June 2011 an area totaling one hectare was stripped of topsoil which revealed some archaeological deposits. Excavation was undertaken between June and July 2011.

2 Location, Land Use and Geology

2.1 The Lanton Quarry site lies in the Milfield Basin north-east of the Cheviot Hills and is approximately three km north of Wooler (see Fig 1).

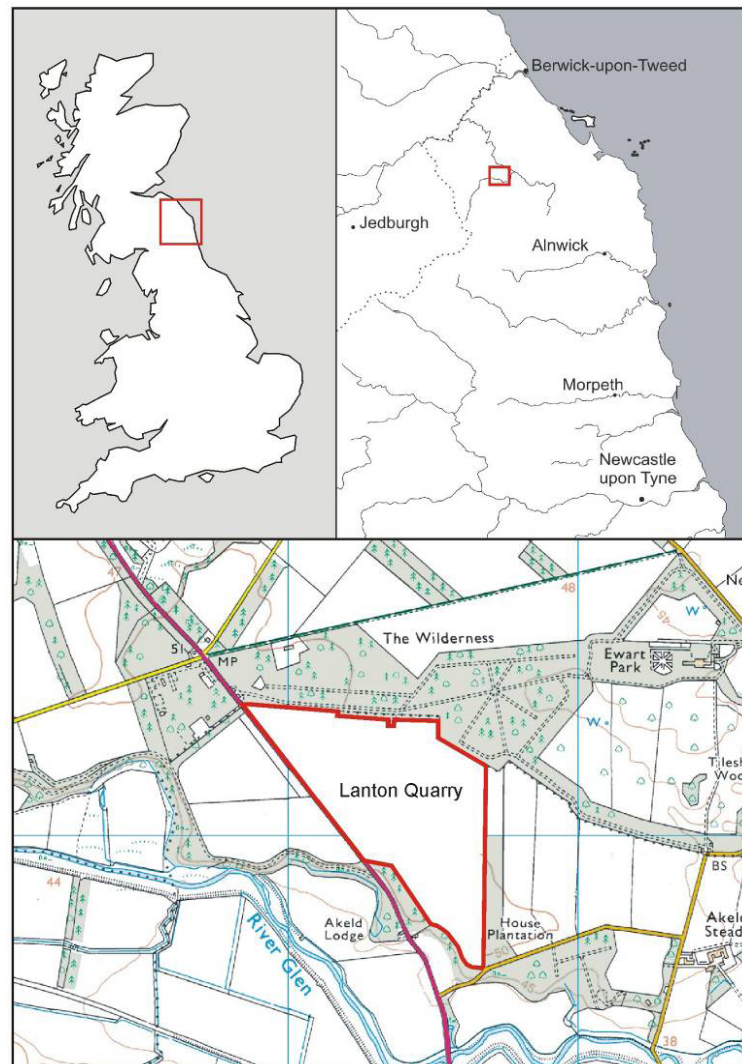


Fig. 1 Site location

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2.2 The Milfield plain is an area of low-lying ground which contains a complex sedimentary sequence, with glaciodeltaic and glaciofluvial sand and gravel deposits fanning out from the valley of the River Glen to form a series of terraces (Passmore *et al.* 2002). Inset below the gravel terraces is the in-filled glacial lake, Lake Ewart, which forms an extensive

alluvial floodplain. Eight hundred metres to the north-east of the site lies the present channel of the River Till, and beyond that the land rises to the Fell Sandstone escarpment that borders the basin on its eastern side. Three kilometres to the south, the igneous rocks of the Cheviot Hills rise abruptly from the plain above the River Glen, where the summits of Humbleton Hill, Harehope Hill and the double peak of Yeavinger Bell form prominent landmarks. To the west, the northern foothills of the Cheviots run parallel to the Fell Sandstone ridge, leaving only a 2 km wide corridor at the northern end of the plain through which the River Till meanders. The archaeology of Lanton Quarry was situated on a terrace of glaciofluvial sand and gravel deposits, situated for the most part at ≈ 45 m OD and covered by a ploughsoil of argillic brown earth origin (Payton 1992).

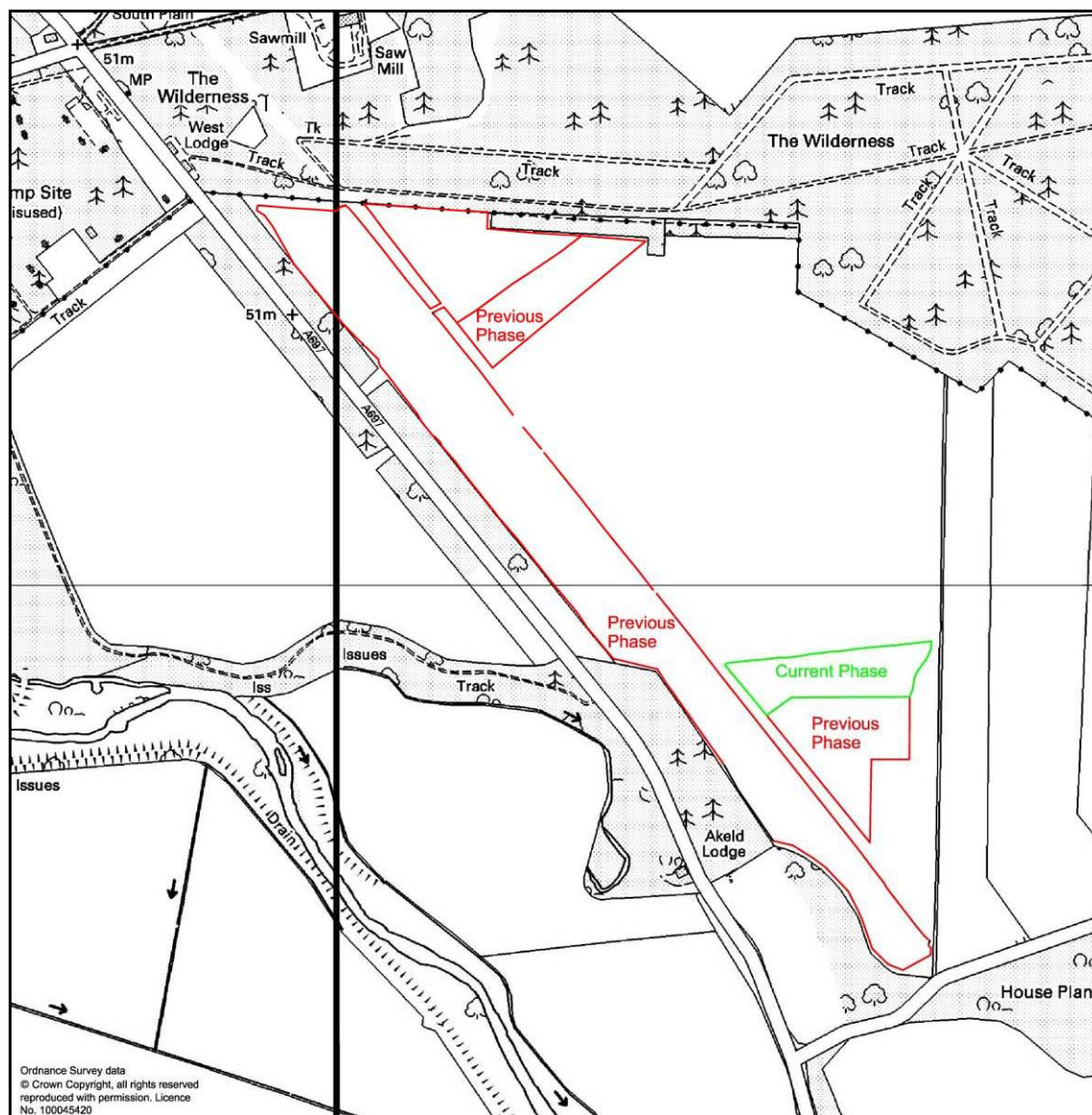


Fig. 2 Site plan showing locations of Phase 1, Phase 2, Phase 3 and current excavation areas.

3. Archaeological and Historical Background

3.1 Numerous and extensive archaeological remains are known from the vicinity of the quarry site, dating from all periods with important remains from the Mesolithic, Neolithic, Bronze Age and Anglo-Saxon periods.

3.2 The Phase 1 excavations at Lanton quarry, which took place between August and December 2006, uncovered multi-period remains. These remains included evidence for Neolithic settlement including four trapezoidal structures, three triangular structures and associated hearths and pits; one Bronze Age roundhouse probably in association with two rectangular structures; one possible Iron Age roundhouse with large associated pits, and a concentration of Early Medieval settlement evidence along the southern half of the excavated area including two rectangular and two square post-built buildings, six sunken feature buildings and associated pits and postholes.

3.3 The Phase 2 excavations took place between December 2008 and February 2009. Multi-period remains uncovered during the excavation included, Early Neolithic 'midden pits' that contained Carinated Bowl ceramics, a probable Bronze Age circular post-built house similar in form to others found during a previous phase of work at this site and on the nearby Cheviot Quarry site, three probable Bronze Age rectangular and triangular post-built structures similar in form to others found during a previous phase of work at this site, three irregular post-built structures of uncertain date, similar in form to probable Early Neolithic structures found during previous work on this site, and a late Iron Age burial within a corbelled stone cist. A second nearby feature was probably also an Iron Age burial cist but this had been more deeply truncated by ploughing and so no remains were found in the base of this feature.

3.4 The Phase 3 excavations took place between May and June 2010. Remains uncovered during the excavation included Neolithic domestic midden pits, two hearth pits and two pits containing Neolithic Grooved Ware pottery. Eleven chipped stone artefacts were also found dating from the Neolithic or Bronze Age.

4. Method Statement

4.1 The excavation was carried out between June and July 2011 by stripping back the topsoil in spits with a 360° tracked excavator equipped with a toothless ditching bucket, exposing the underlying sand and gravel deposits into which archaeological features were cut. The entire process was monitored by suitably experienced archaeologists. As the machine stripped the ground, features were cleaned with a hoe and trowel, recorded in plan and photographed before being marked with wooden pegs and ascribed context and feature numbers.

4.2 Each of the features identified during the stripping process was subject to excavation and recording. This involved the sectioning of deposits to determine their form and dimensions, and the collection of artefacts and samples suitable for radiocarbon dating and environmental analysis. All excavation was undertaken with trowels and small tools. The content of all deposits were sieved through a 10mm mesh and deposits containing artefacts, or with potential for containing organic material, were subject to flotation through a 500µm sieve. All features were photographed using colour print and black and white print film, and selective digital photographs were taken. All sections were drawn at 1:10 and features

planned at 1:20. The section lines were surveyed to provide an Ordnance Survey datum for each feature.

4.3. All the deposits and cuts were described in the field on pro-forma context sheets. The sheets contain prompts for the recording of sediment composition, compaction and colour, the dimensions of the deposit, its relationship to other deposits and features, artefact content, environmental samples, drawing and photographic records and an interpretative discussion to ensure consistency across all records. All features were described in accordance with MoLAS conventions. Drawings were produced on drawing film and on graph paper on the reverse side of the context sheets. Registers of all contexts, samples, finds, levels, and drawings were also made. Artefacts were bagged individually and assigned an individual finds number, with the site code and the deposit from which they were recovered clearly indicated. Ceramic finds were bubble-wrap before being placed in labelled bags or boxes as appropriate. Any single entity charred material samples suitable for radiocarbon dating were wrapped in aluminium foil before being placed in labelled bags.

4.4. Flotation of sediments to recover organic materials was undertaken on site. The fill of every feature associated with a building, or which contained material culture or was organic-rich were dry-sieved through a 10mm mesh, and then passed through flotation to maximise recovery of small finds and organic material. The sediments were passed through four mesh sieves from 5mm down to the smallest which measured 500µm. Material from the sieve was air dried and then placed in a sealed bag marked with its context and environmental sample number. All the dating and environmental samples were recorded in a separate register.

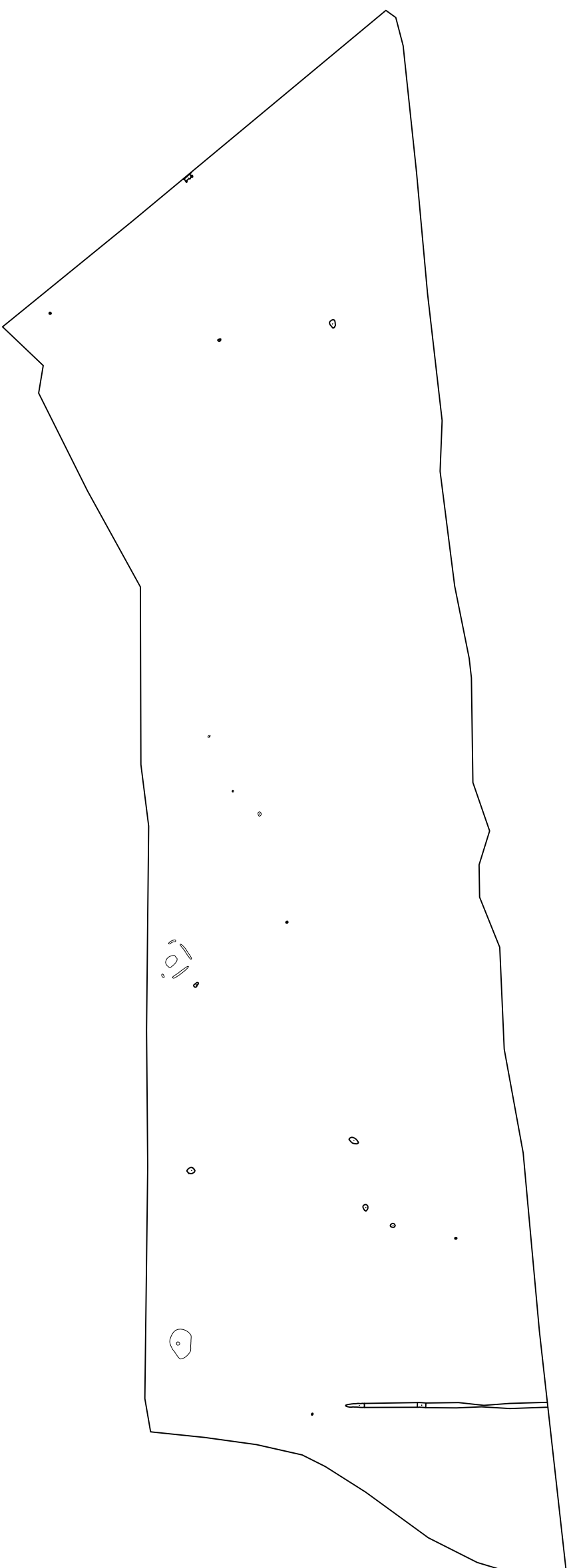


Figure 3:
Site plan showing the locations and
distribution of features

Key:



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5. Results

5.1 This section describes the results of the excavation. In summary the features discovered on site were:

- Ten post holes of varying sizes, some of which contained burnt material but no evidence of *in-situ* burning.
- Seven pits of varying sizes including one small pit containing an animal burial, one small pit containing a large smashed sherd of Neolithic Carinated Bowl, and one very large pit containing many stones and is comparable to the stone-filled grave pit features found in the Phase 2 work next to this feature.
- One square gully-defined structure with associated central pit.
- One boundary linear.

5.2 All features on the site were truncated as a result of past agricultural practices. No archaeological features survived within the topsoil, and only those features that were cut into the natural glaciofluvial gravel deposits remained. The features and deposits are discussed individually, but arranged under headings according to their period, association with other features and their type.

Topsoil. The topsoil (001) at Lanton Quarry consisted of a dark-brown sandy soil containing coarse to medium gravel inclusions and was loosely compacted.

Glaciofluvial Deposits. The soils of the Milfield Basin are underlain by thick glaciofluvial deposits from the Devensian glacial episode. A mixed deposit of gravel and coarse sand (002) was evident across the area, interspersed by bands of finer, fluvially deposited sand. The archaeological features tended to be more prevalent on the sandy substrate with noticeably fewer archaeological remains on the carser gravel substrate.

6. Stratigraphic Report

6.1 Truncation of features across much of the site was very severe. Due to this many features had a very shallow depth and may have originally been considerably deeper.

6.2 *Pits containing pottery*

6.2.1 F3044 (fig 4 and fig 14) was a small ovoid pit, containing frequent flecks of charred material. A total of 23 sherds of Neolithic Carinated Bowl ceramics was discovered, along with several smaller flecks. The sherds appear to have come from the same truncated vessel that has been crushed and consequently broken. A charred hazelnut shell fragment was noted within the assessment of the flot sample from this feature and charcoal was common amongst the fill. The feature itself was a shallow, irregular and sub-rectangular in plan with an uneven base and sides. The pottery was found in the top lenses of the feature, which was medium grey brown silty sand. Radiocarbon dating of a charred fragment of hazelnut shell from the fill of this feature yielded a date of 3705 – 3539 cal BC (4860 BP±30: SUERC-36823). It is most likely (89.4%) that the actual date range for this deposit exists between 3705 – 3632 cal BC.



Fig. 4 Truncated pit feature (F3044) during excavation. This feature produced Carinated Bowl ceramic sherds from a single vessel.

6.3 *Square Structure (Shrine)*

6.3.1 F3024 (fig 5 and fig 18) consisted of four linear gullies running at right angles, approximately 4 metres from north to south, and similarly 4m from east to west. The gullies were heavily truncated and disappeared in places, particularly on the western and southern

sides and at the intersections, with the deepest area being 11cm in depth and 40cm in width. It is possible that these gullies originally intersected to form a square structure. The profile of the gullies was curved, with a u-shaped base.

6.3.2 F3026 (fig 5 and fig 18) was a large ovoid pit, 147cm x 200cm x 49cm in size with sloping sides and a flat base. It was situated centrally within the interior of the square structure, and was slightly longer north to south than east to west. It was filled with a very stony yellowish grey sandy silt with patches of both paler and darker material. A very small amount of charred material was recovered during flotation. Radiocarbon dating of a charred hazelnut fragment from this feature yielded a probably residual date of 6212 – 6031 cal BC (7240 BP±35: SUERC- 36824). Palaeoenvironmental assessment determined that the fill contained rare occurrences of charcoal, earthworm egg case, insect/beetle and uncharred seeds as well as a trace of charred tuber/rhizome. A small post hole (F3082) (Fig. 5 and Fig. 18) was situated immediately to the west of F3026. It did not contain any finds or charred material.



Fig. 5 Possible Square Structure (F3024), showing central pit (F3026), and burial pit (F3028).

6.3.2 Pit F3028 (fig 6, fig 7 and fig16) was situated approximately 2.5 m east of the eastern gully of F3024 and consisted of a rectangular pit 77cm x 44cm x 22cm in size with an irregular base and straight sides, and contained an animal burial. The pit's base was stepped down at the southern end by approximately 10cm, with the animal's head resting on the higher northern side. This may indicate either that the individual who deposited this animal intended for the head and forelegs to be situated higher in the grave than the torso and hind

legs, or that the pit was originally dug too small and had to be extended in order to fit the animal's head in. The animal is a juvenile sheep, positioned so that it was resting on its right side, with the legs folded and its head to the north. The fill of the pit consisted of mid yellowish brown silty sand with patches of lighter sand. Radiocarbon dating of bone from this burial yielded a date of cal AD 1646 – 1955 (205 BP±30: SUERC- 36823). It is most likely (50.4%) that the actual date range for this deposit exists between 1731 – 1809 cal BC. The entire fill from this feature was floated. Palaeoenvironmental assessment found that the fill contained rare occurrences of charcoal, insect/beetle and uncharred seeds.



Fig. 6 Articulated sheep skeleton (F3028) during excavation.



Fig. 7 Sheep burial pit (F3028) after excavation, showing the raised northern end of the pit and the deeper southern section.

6.4 Possible Burial Pit

6.4.1 F3056 was a large pit 350cm x 200cm x 40cm in size, located at the south-eastern edge of the site, closely spatially related to the two burial pits (one of which contained a corbelled cist which contained the partial remains of an elderly woman) excavated during 2009. The pit profile is a wide U-shape, with gently sloping sides and a narrow, rounded base, and appears shallow in comparison to its length and width. A post hole feature (F3087) was present in the base of the pit, and was 46cm x 43cm x 38cm in size. The fill of this feature was mid yellowish brown gravelly sand, with no charred material present. Above this post hole, the larger pit feature was filled with three separate fills: a yellowish brown gravelly sand deposit, very similar to the fill of F3087 (the primary fill 3056); a dark greyish brown sand (the secondary fill 3084); and a mid greyish brown silty sand (the upper fill 3085). The primary fill was located only on the southern edge of the feature and did not continue all of the way to the centre of the feature. The secondary fill contained a layer of stone which was then overlaid with a layer of larger stones, deposited in no particular order. The upper fill also contained stones, although these were smaller than those in the secondary fill. The stones in the secondary fill were of a very similar makeup, material, size and shape to the stones present in the two nearby cists. It is possible that this feature is a potential burial pit similar to those excavated in 2009. One of the 2009 pits did not have a surviving burial within it and the same could be true for this pit as human bone rarely survives on this gravel terrace. The only reason why the skeletal remains survived in the cist feature was because the cist was made from base-rich igneous rocks and this had sufficiently reduced the Ph of the surrounding environment to allow the bones to be preserved. The secondary fill of this

feature (3084) produced a reasonable amount of charred material during floatation. Palaeoenvironmental assessment of this material identified occasional charcoal and rare occurrences of charred heather twigs and charred tuber/rhizomes as well as a trace of uncharred seeds.

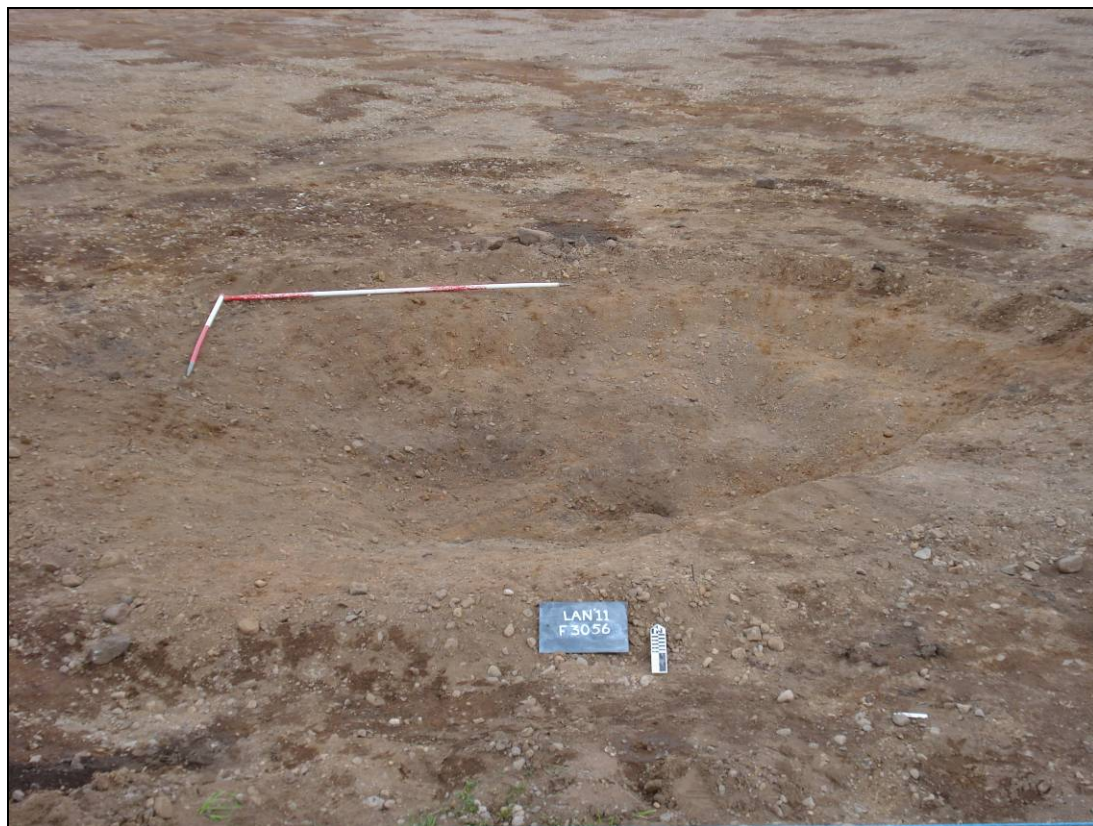


Fig. 8 Possible Burial Pit (F3056 after excavation (far scale = 2m).



Fig. 9 Possible burial pit (F3056) during excavation, showing the concentration of dumped stone at the centre of the pit, with larger stones overlying smaller stones (scale = 1m).

6.5 Isolated Pits

6.5.1 Across the site there were a total of 13 isolated pits and post holes, none of which appeared to be associated with any form of structure. The pits varied considerably in size although most were oval in shape. Some pits indicated burning activity, but none had evidence of *in-situ* burning. They are presented in Table 1 below. The fills of five of these pits produced charred remains during floatation. Palaeoenvironmental assessment of these remains identified rare to common occurrences of charcoal as well as traces and rare occurrences of uncharred seeds.

Feature No.	Context Numbers	Description	Max. dimensions (mm)	Max. Depth (mm)	Colour of Fill	Composition
F3000	3000, 3001	Post hole	310 x 240	240	Dark yellowish brown	Sandy silt
F3004	3004, 3005	Disturbed post hole	1980 x unknown width	90	Mid brownish orange	Silty sand
F3010	3010, 3011	Post hole	310 x 280	70	Dark blackish brown	Sandy silt
F3016	3016, 3017	Post hole	370 x 220	140	Mid greyish brown	Silty sand
F3020	3020, 3021	Post hole	200 x 340	50	Dark brownish grey	Silty sand
F3022	3022, 3023	Pit	620 x 440	50	Dark brownish grey	Silty sand
F3030	3030, 3031	Post hole	300 x 330	60	Mid greyish brown	Silty sand
F3042	3042, 3043	Pit	930 x 1050	180	Mid yellowish grey	Silty sand

F3044	3044, 3045	Pit	1400 x 770	70	Mid greyish brown	Silty sand
F3046	3046, 3047	Post hole	410 x 380	40	Mid yellowish grey	Silty sand
F3048	3048, 3049	Pit	670 x 800	110	Mid orangey grey	Silty sand
F3058	3058, 3059	Pit	260 x 300	60	Mid greyish orange	Silty sand
F3068	3068, 3069	Pit	280 x 200	110	Mid orangey grey	Silty sand

Table 1 Isolated pits

6.5 Linear Feature

6.5.1 One linear feature was observed on the site (F3066). This linear gully was narrow and shallow (65cm in width by 13cm in depth maximum) and very truncated. At several points the truncation was so severe that the feature disappeared. The linear feature runs south from the northern trench edge for approximately 30 metres before terminating. It is possible that this linear represents an ancient field boundary or a boundary to the burial and shrine complex. Palaeoenvironmental assessment of charred remains that were obtained through floatation identified only rare occurrences of charcoal and uncharred seeds.



Fig. 10 Truncated Linear Feature (F3066) (scale = 2m).

7. Radiocarbon Dating

7.1 Three radiocarbon dates were obtained on material from this phase of excavation at Lanton. These comprised:

A single date on a hazelnut shell from the fill of a pit containing Carinated Bowl ceramic sherds.

A single date on a piece of hazelnut charcoal from the fill of the central pit associated with the structure (F3024)

A single date on bone from a sheep burial.

Feature	Context	Sample	Lab No.	RC Age (BP)	$\delta^{13}\text{C}$ (‰)	Calibrated date range (95.4% confidence)
Pit with Carinated Bowl Ceramic	3044	Nutshell: hazelnut	SUERC-36823	4860±30	-23.8	3705 – 3539 cal BC
Pit	3026	Charcoal: hazelnut	SUERC-36824	7240±35	-26.6	6212 – 6031 cal BC
Sheep Burial	3028	Bone: Sheep	SUERC-36825	205±30	-23.1	cal AD 1646 – 1955

Table 2 Radiocarbon dating results

7.2 The sample obtained from the pit fill containing the Carinated bowl vessel returned radiocarbon dates that are consistent with the use of this ceramic in the region, placing the feature within early – mid 4th millennium BC.

7.3 The date obtained for the fill of the pit associated with structure (F3024) lies within the Mesolithic period, and is considered to therefore be from a residual sample. The fill of the pit was homogenous and yielded little in the way of datable material. It is very unlikely from the form of the feature and its probable association with the structure, that this date represents anything other than residual material.

7.4 The date obtained on the sheep burial is consistent with the faunal assessment finding of an animal burial dating to the post-medieval, probably Georgian, period, and related to the farming improvements which were underway at that time.

8. Palaeoenvironmental and Faunal Remains Assessment

Archaeological Services Durham University

8.1 Summary

8.1.1 The small charred plant macrofossil assemblage comprised remains of cereals, hazelnuts and brambles, indicating that both cultivated crops and wild-gathered foods formed an important part of the diet. The charcoal suggests that hazel, oak, elm and Maloideae were available in the local landscape for use as fuel or building materials. The presence of charred tuber/rhizomes may reflect the use of turves.

8.1.2 A largely complete skeleton of an immature, male sheep was recovered. The bones are generally in a poor condition with degradation of the surfaces and loss of mineral content. The limb bones are extremely stocky for their length and for the age of the animal at death. The skeleton is unlikely to have a medieval or earlier origin.

8.1.3 No further analysis is recommended for the plant macrofossils due to their low numbers and poor preservation. Analysis of the charcoal assemblage in context (3044), may identify other woodland taxa available and utilised at the site. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

8.1.4 The sheep skeleton would be of interest in its own right if it could be securely dated to the later 18th or early 19th century, when the changeover to new types of livestock was underway. Lacking such a secure timeline, this sheep may merely represent a relatively recent mortality of a Cheviot type sheep and, as such, warrants no further work.

8.2 *Methods*

8.2.1 The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ6 stereomicroscope. Identifications were carried out by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al* (2002).

8.2.2 Where possible, fragments of charcoal were identified from the contexts. The transverse, radial and tangential sections were examined at up to x600 magnifications using a Leica DM2500 stereomicroscope. Identifications were assisted by the descriptions of Schweingruber (1978) and Hather (2000), and modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Material recommended for dating was cleaned of adhering roots and other organic material, wrapped in foil and put in labelled bags.

8.3 *Results*

8.3.1 Charcoal was noted in all of the flots. This was generally present in small quantities, although context (3044) comprised a moderate charcoal assemblage. The species recorded in the flots were hazel, oak, elm and Maloideae (hawthorn, whitebeams, apple). A few charred heather twigs and tuber/rhizomes were noted in pit fills (3026) and (3084).

8.3.2 A small assemblage of charred plant macrofossils was recorded in pit fill (3056). This comprised two wheat grains, six indeterminate cereal grains, a bramble fruitstone and a few weed seeds from ribwort plantain, grass, buttercup and a member of the pea family. Charred plant macrofossils were absent from the other contexts, apart from a hazel nutshell fragment in context (3044). The well-drained nature of the sediments and the presence of earthworm egg cases and articulated beetle fragments, suggest the uncharred seeds (mainly goosefoots, black-bindweed, knotgrass and fumitories) are recent introductions.

8.3.3 The results are presented in Appendix 1. Material suitable for radiocarbon dating is available for six contexts: (3026), (3028), (3030), (3044), (3048) and (3084). A list of material suitable for radiocarbon dating is presented in Appendix 2.

8.3.4 The small assemblage of charred plant remains provides evidence for the exploitation of both cultivated crops and wild-collected foods. The results indicate that wheat was used, although the low number of grains and lack of diagnostic chaff prevent identification of the wheat species present. The few charred tuber/rhizomes may indicate the burning or use of turves, and heather may have provided a source of fuel, bedding/roofing or winter fodder. The charcoal assemblages suggest that hazel, oak, elm and Maloideae were available in the local landscape for use as fuel or building materials.

8.4 Faunal remains assessment

8.4.1 A largely complete skeleton of a sheep was recovered from pit [3029]. All the bones are in poor condition with degradation of the surfaces and loss of mineral content. The left humerus and radius are missing. A fragment of the articulation of the left ulna is present, suggesting that the associated humerus and radius were originally present but have decayed. Fragments of eight ribs were recognised but all were in poor condition, again suggesting that the remaining ribs have decayed beyond recognition. Only three first phalanges and one second phalanx are present. No third phalanges are extant.

8.4.2 The mandibles and maxillae exhibit wear on the deciduous premolars and some wear on molar 1, TWS 8 on Grant's (1982) wear scores. Molars 2 and 3 are unerupted. The epiphyses of the distal humerus and proximal radius are just fused; the fusion lines are still very clear. The left acetabulum is unfused while the right side is just starting to show evidence of incipient fusion. All the remaining epiphyses are unfused. This combination of tooth eruption and wear together with epiphysial fusion suggests that the sheep was aged between 6-12 months at death.

8.4.3 The frontal bones indicate that the sheep was polled and the left pubic symphysis shows that this was a male. The limb bones are extremely stocky for their length and for the age of the animal at death. A sheep skeleton with polled skull and similarly short but stocky limb bones has been seen by the author from a later post-medieval context at Old Durham Gardens (ODG). This appeared to be corroborative archaeological evidence for the textual descriptions of improved 18th century sheep in the region. It was possible to measure the proximal ends of the right metacarpal and metatarsal and these measurements are compared with the mean values for medieval examples from Ripon Market Place (RMP01; Archaeological Services 2011) in Table 4.1 below.

	Metacarpal	Metacarpal	Metatarsal	Metatarsal
	Proximal Breadth	Proximal Depth	Proximal Breadth	Proximal Depth
LAN11	27.4mm	20.2mm	24.6mm	23.8mm
RMP01 mean	22.8mm	16.4mm	19.7mm	19.4mm

Table 3 Metacarpal/metatarsal comparison measurements

8.4.4 It can be seen that the adult sheep from Ripon were of considerably more gracile build than this immature sheep. The Ripon sheep metrical data are comparable to those from other medieval sites in northern England. This comparison demonstrates that this skeleton is unlikely to have a medieval or earlier origin.

8.5 *Recommendations*

8.5.2 No further analysis is recommended for the plant macrofossils due to their low numbers and poor preservation. Analysis of the charcoal assemblage in context (3044), may identify other woodland taxa available and utilised at the site. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

8.5.3 The sheep skeleton would be of interest in its own right if it could be securely dated to the later 18th or early 19th century, when the changeover to the new types of livestock was underway. Lacking such a secure timeline, this sheep may merely represent a relatively recent mortality of a Cheviot type sheep and, as such, warrants no further work.

9. **Lanton Quarry Phase 4 Prehistoric Ceramic Analysis**

Clive Waddington – Archaeological Research Services Ltd

9.1 *Introduction*

9.1.1 The corpus of ceramic material recovered from the Phase 4 excavation at Lanton Quarry comprises ceramic material from a single vessel from the fill of pit F3044. The vessel is represented by 14 sherds, several of which can be refitted, together with six abraded sherds with only one surface surviving, and some crumbs. The form of the rim and shoulder of the vessel can be clearly seen, however it is not possible to reconstruct the rest of the pot with accuracy other than it evidently having a rounded body.

9.1.2 This small assemblage of material compliments the wider assemblage of Neolithic ceramics from the site, and particularly the growing corpus of Carinated Bowl material that has come from pit features of various types across the site. The vessel has some traces of carbonised residue on its internal surface. Dating material, in the form of charred wood fragments, were also recovered from the fill of the pit. This vessel can be compared not only with those from elsewhere on the site, but also with those recovered from Cheviot Quarry (Johnson and Waddington 2008); Coupland henge (Passmore and Waddington 2009), Yeavinger (Ferrel 1990) and Thirlings (Miket *et al.* 2008).

9.2 *Method Statement*

9.2.1 The sherds were gently finger-washed in cold water and then left to air dry. Once they had dried the remaining soil was gently brushed off with a sable shaving brush. The sherds were laid out and the pottery was examined macroscopically with the aid of a x10 hand lens. No microscopic analysis was undertaken. Joining sherds were refitted using HMG adhesive.

No	Context	Description
V1	3044	<p>Vessel 1 is represented by a total of 14 sherds together with 6 sherds with only one surface surviving and crumbs. The pot was not whole when found but in broken pieces indicating that the vessel had been broken either before the sherds entered the pit or by breaking after being thrown in. With most of the pit having been removed through plough truncation it is possible that the rest of the pot was originally deposited in the pit as well. The vessel is a classic Early Neolithic Carinated Bowl. The rim flares outwards forming an open bowl, consistent with a vessel used for pouring, and has a very shallow neck before the profile of the pot turns outwards to create a high carination. The body sherds show the pot to have a gently rounded profile below the carination, however, the exact profile of the pot below the carination can only be estimated.</p> <p>The fabric is hard and well-fired with a dark grey and buff brown outer surface that is very finely burnished. The interior of the vessel is much rougher, though it is still well fired and hard. The vessel walls vary between 7mm and 11mm thick and contain crushed stone inclusions primarily of quartz, but also of sandstone, ranging from 1-8mm across, which can hardly ever be seen to erupt at the surface. This could be because the highly burnished outer surface may in fact have some form of slip painted on to it, as it is otherwise hard to account for the incredibly smooth surface that appears to overly the buff brown pot surface. Voids visible on the inner surface of the ceramic indicate where organic inclusions have burnt out. No decoration is visible on the pot.</p>

Table 4 Carinated Bowl Catalogue

9.3 *Fabric*

9.3.1 The fabric is hard and well fired and contains specially prepared crushed quartz and sandstone inclusions which can vary widely in size from 1mm to 8mm across. The consistent colouring of both surfaces of the pot and its core indicate an even firing process. Clear traces of join voids and/or coil breaks indicate that coil, ring or strap building was the preferred potting method. Evidence for the use of a clay coating or some kind of slip on the outer surface of Carinated Bowl ceramics is beginning to be acknowledged in some assemblages. The even dark grey, almost black, coating on the outer surface of this vessel has a shiny lustre and is smoother than the buff brown and slightly rougher pot surface on to which this clay coating appears to have been applied in this case. If this is the case then the use of clay to coat Carinated vessels and give them a hard and shiny appearance is an important point of note. Overall this is a well made pot and it fits in well with many of the well-made, dark grey and hard Carinated Bowl vessels that have been recovered from this area. Small areas of encrusted charred organic residue survive on the internal surface of some of the sherds.

9.4 *Form*

9.4.1 The vessel has an everted, or flared, rim with a rounded top. Below the rim the neck of the vessel pinches in before turning out again to produce a shoulder high on the vessel. Below the shoulder the vessel has a gently rounded profile although its exact shape can only be estimated as there are not sufficient sherds to reconstruct the full profile. As with all other Carinated Bowls it would have had a rounded base.

9.5 *Numbers and size*

9.5.1 One vessel is present in the assemblage. The outer rim diameter of the vessel is around 180mm.



Fig. 11 Sherds of the vessel found in F3044.

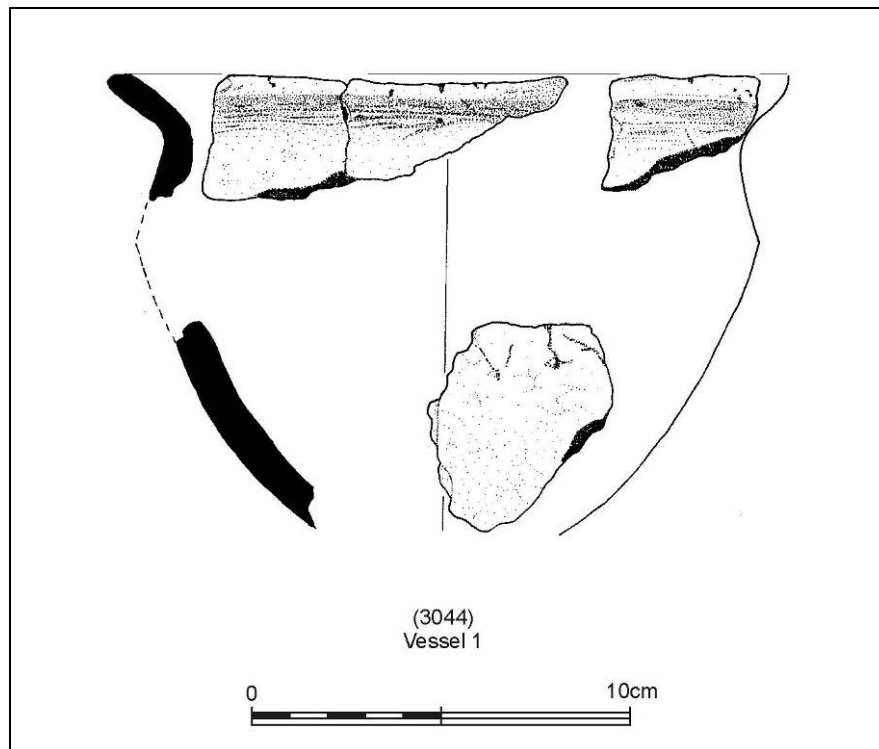


Fig. 12 Illustration of the reconstructed sherds of the vessel found in F3044

9.6 Discussion

9.6.1 The earliest ceramics found in the Milfield Basin are Carinated Bowls, which include 'traditional' and 'modified' forms (see Sheridan 2007). The traditional Carinated Bowl repertoire includes shouldered vessels, S-profile pots, bag-shaped vessels, simple cups and bowls, some with vertical and rolled-over rims, as well as occasional examples of pots with flared rims, such as the one reported here. All the vessels are round-bottomed. The form of these vessels is by and large synonymous with the classic 'Grimston-Lyles Ware' of Yorkshire, Ireland and Scotland, as defined by Piggott (1954, 114) and includes vessels with everted, semi-rolled, rolled-over and out-turned rims, as well as upright and flaring rims. Carinations can occur high up on the vessel (Herne's 'Shouldered Bowls'; 1988), as in the pot described here, or lower in the vessel profile. Many of the pots are very well made and finished, sometimes with surprisingly thin walls, and with a high level of burnishing. However, coarser vessels, characteristic of the latter part of the Carinated Bowl sequence, are present at Thirlings, Cheviot Quarry and Threefords. Most pots are coil made, as can be seen by horizontal fracture lines, although some of the small bowls may have been made as pinch pots. There is little evidence for decoration, although some 'modified' Carinated Bowl vessels have been identified that include forms with lugs or handles, usually situated on the carination itself.

9.6.2 Carinated Bowl and related ceramics have been found at the Yeavinger Anglo-Saxon site (Hope-Taylor 1977; Ferrel 1990), Yeavinger henge pit E (Harding 1981), Thirlings (Miket 1987; Miket *et al.* 2008), Cheviot Quarry (Johnson and Waddington 2008), the Coupland 'henge' (Gibson in Passmore and Waddington 2009), Lanton Quarry (Waddington 2009), Broomridge (Greenwell & Rolleston 1877; Newbiggin 1935), and most recently during an excavation at Threefords, Milfield (Miket pers comm.). Interestingly, the Coupland site yielded a suite of radiocarbon dates from short-lived species (mostly single entity charred

hazelnuts) that included the earliest date for Carinated Bowls in northern Britain (Passmore and Waddington 2009; also quoted in Sheridan 2007). Early Neolithic ceramics are mainly found in midden pits, hearth pits or from burial cairns, as at Broomridge (Greenwell & Rolleston 1877; Newbigin 1935), although occasional examples have been retrieved from postholes. Based on the latest calibrations, the date ranges for Carinated Bowls in Northumberland span the period 4040–3510 cal BC (95% confidence). The dates so far available are tightly grouped into the first half of the 4th millennium cal BC revealing a shorter period of use for this type of ceramic than had previously been envisaged.

9.6.3 The Carinated Bowl ceramics from Lanton Quarry provide an important opportunity for improving understanding of the ceramic sequence of the region, and the lifestyles and diet of the first farmers in North East England, and given the presence of datable burnt material, the opportunity to get to grips with the chronology of this momentous event in the region.

10. Discussion

10.1 The Phase 4 excavations at Lanton Quarry revealed one Neolithic pit. The Carinated Bowl from this pit fits into the wider assemblage of such material that has already been recovered from the site. This material provides further information on the type and shape of bowls belonging to this ceramic style in the region.

10.2 A square structure defined by a gully and with a central pit and adjacent burial pits, of which one contained the partial skeletal remains of an elderly woman (2009 excavation), is thought to be the remains of a Late Iron Age shrine. Directly analogous features have been found in southern England at sites such as Caesar's Camp, Heathrow and Maiden Castle, Dorset. As is typical for these shrines the example at Lanton Quarry appears to have had an entrance in its south-east side. The rectangular pattern of these shrines is repeated in the majority of the thirty plus similar shrines now known, most of which have been found in southern England (Wilson 2011). They are generally small, rarely more than 10m across and typically having an entrance in their south or south-east side. They are usually defined by foundation gullies or postholes or a combination of both. It is interesting to note that the square, or rectangular, form of these buildings contrasts with the domestic structures of the period which are invariably circular. The shrines themselves are typically small, but it is not uncommon for them to be enclosed within a larger bounded area or 'sacred space' (Wilson 2011). Although such shrines may date back to the Middle Bronze Age most of those found so far date to the end of the Iron Age with some replaced by Romano-British temples which overlie, or are based on, their earlier predecessor, as for example at Uley, Gloucestershire (Wilson 2011, 4).

10.3 It is not clear what kind of activities took place at shrine sites, however animal remains are sometimes associated with them which is suggestive of sacrifice and/or feasting. At Hayling Island, for example, the faunal remains were dominated by sheep/goat and pig, while at Heathrow they indicate the autumn slaughter of lambs (Wilson 2001, 5). Human inhumation graves, though no human remains survived, outside the ritual enclosure at Fison Way, Sussex (Wilson 2011, 5), and this provides a useful comparanda for the grave pits next to the shrine at Lanton Quarry. The large pit with posthole for a standing timber post and its stony fill is considered to most likely have been a burial pit given that two similar burial pits were found a few metres away and in one, due to the altered geochemistry caused by the construction of a corbelled cist made from igneous rock, the remains of an elderly woman

dating to around the 1st century cal BC was found. The presence of a posthole for a timber upright in the most recently excavated pit suggests that this pit was marked above ground by the presence of the timber post – perhaps a grave marker signifying the grave of a particular individual.

10.4 The intriguing square structure at Lanton Quarry and its nearby graves could yet shed some light on Druidic practices in Northumberland, a topic of study about which we currently know virtually nothing.

10.5 The linear feature appears to be some form of ancient boundary, though it remains unknown whether this is associated with what is thought to be the Iron Age shrine. If it is then this would be an important feature to trace during further stripping as it will form an important part of the ritual complex. Alternatively the feature could be an old land boundary of late prehistoric, medieval or post-medieval date.

10.6 A number of small shallow pit features and postholes with no dating associations or associated material culture were recorded but nothing more is known about these features which could date to almost any period and which had no identifiable associations with any of the other features on the site.

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13. Acknowledgements

13.1 Archaeological Research Services Ltd would like to thank all those who contributed to the outcome of this project, in particular Mike Young and Scott Delay of Tarmac Ltd.

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Figure 13:

Isolated pit/posthole features across the site

Key:

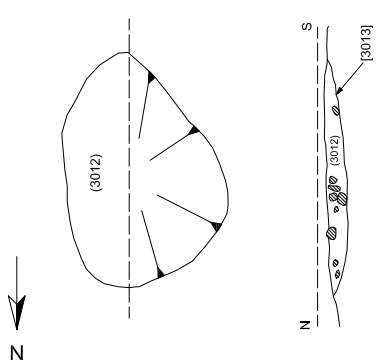
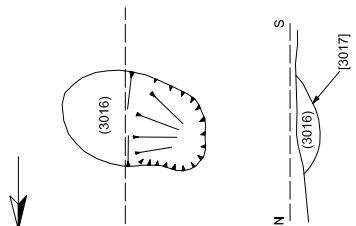
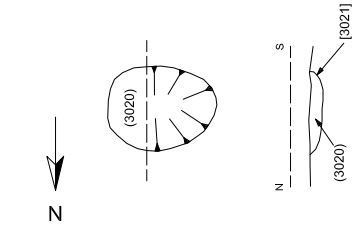
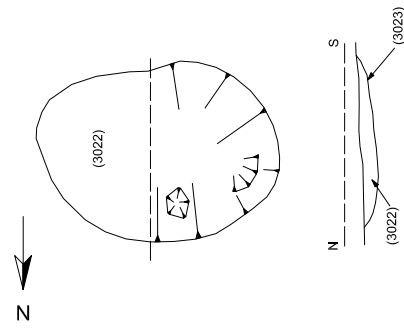
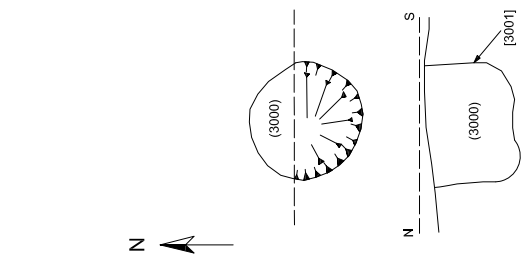
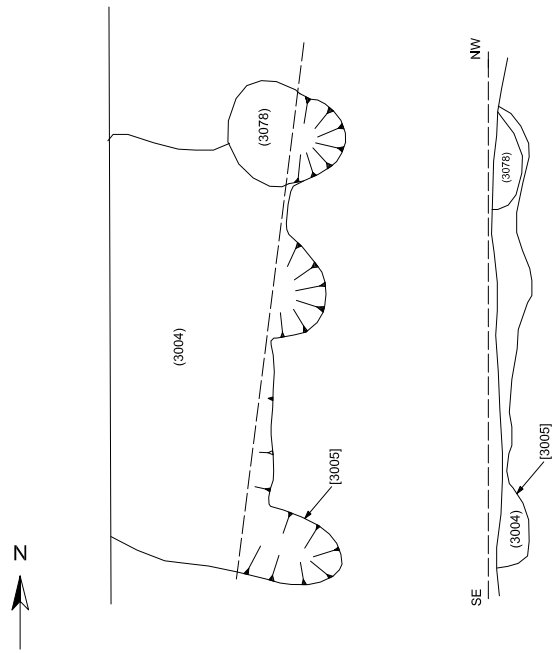
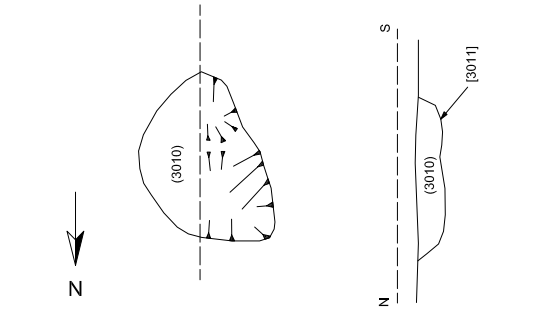
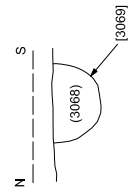
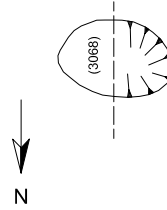
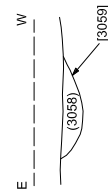
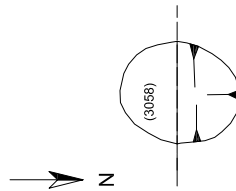
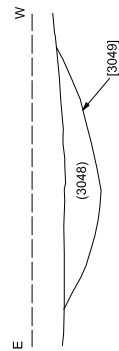
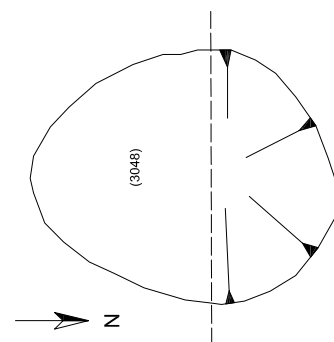
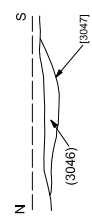
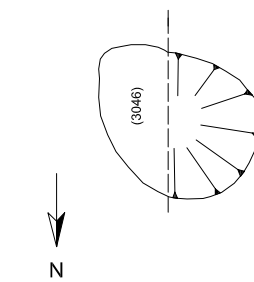
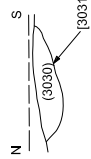
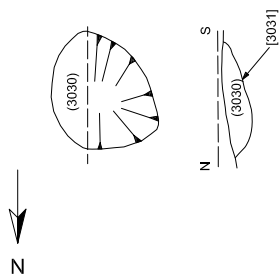
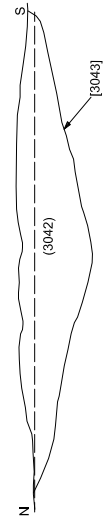
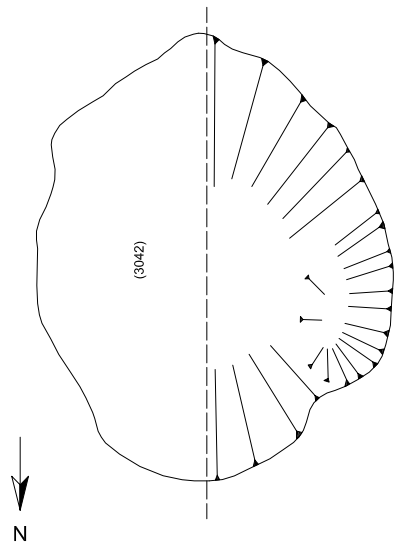
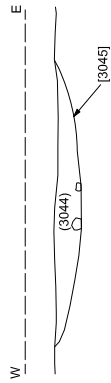
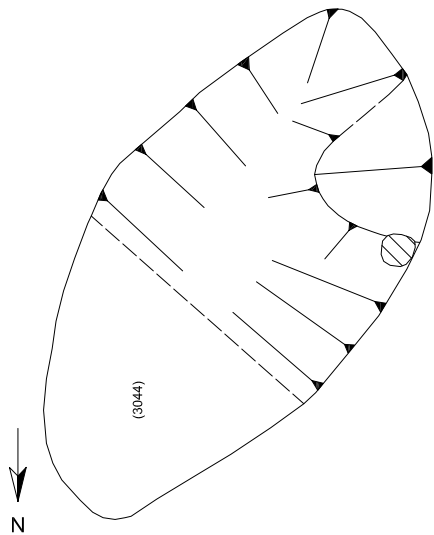


Figure 14:

Isolated pit/posthole features across the site

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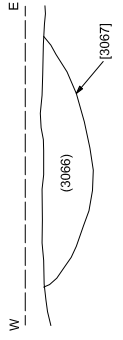
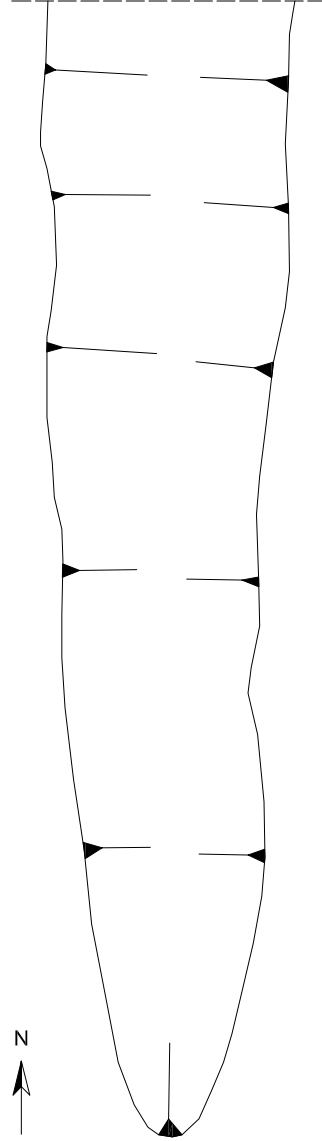
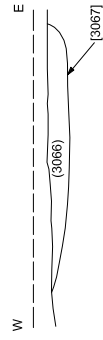
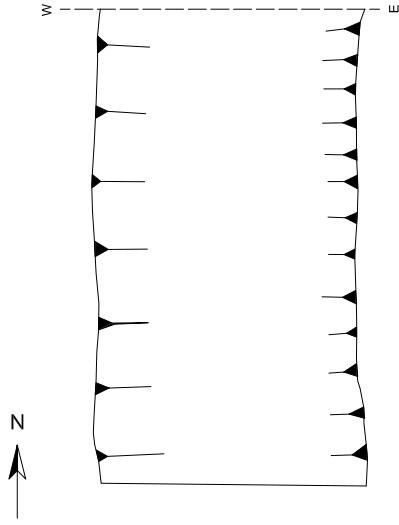
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Figure 15:

Plans and sections of linear feature

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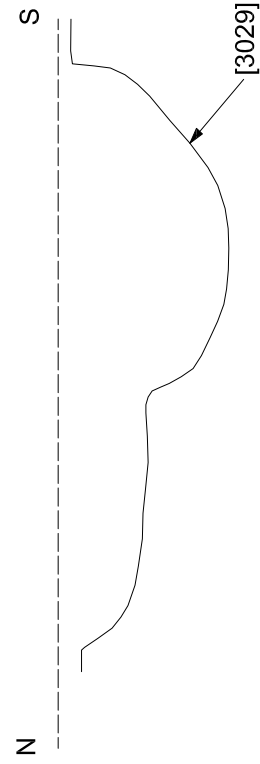
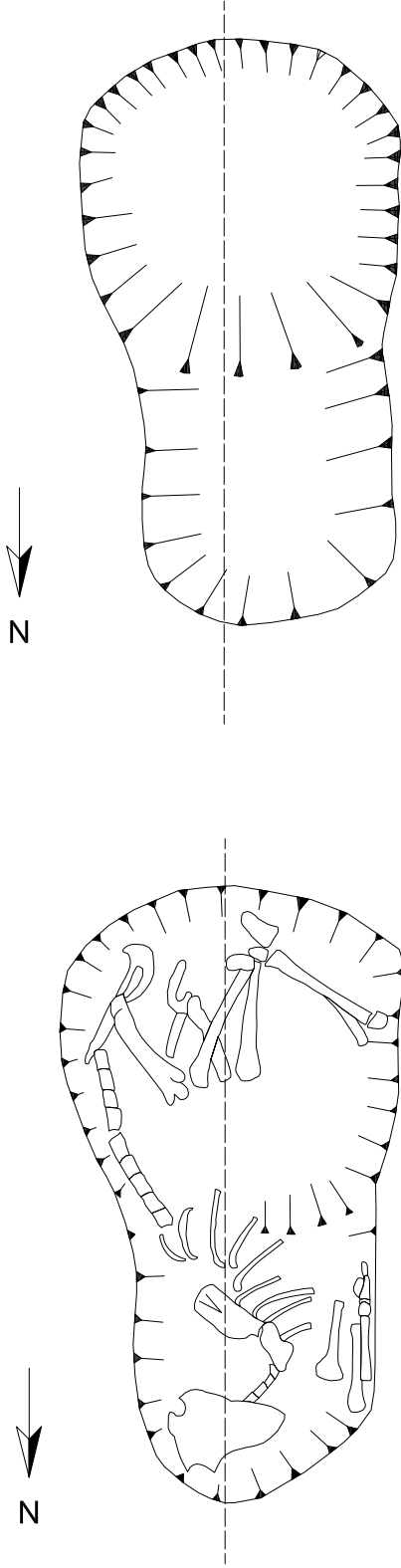
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Figure 16:

Sheep burial

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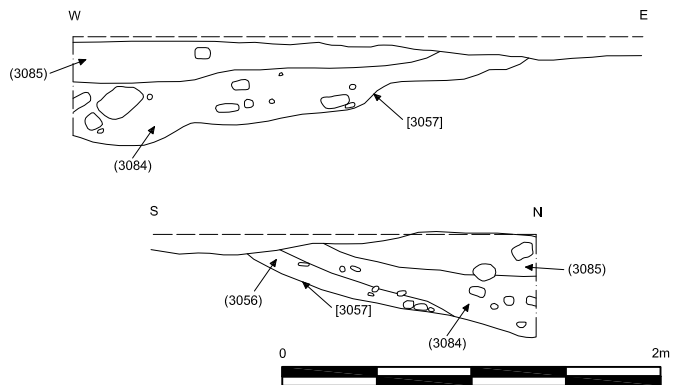
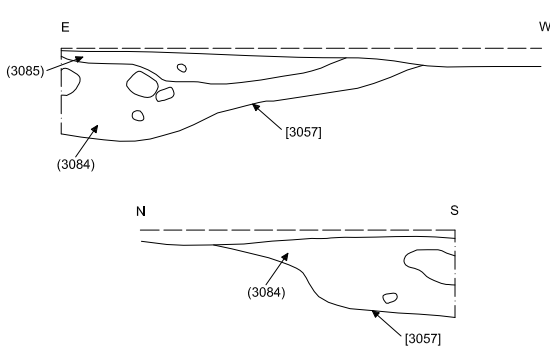
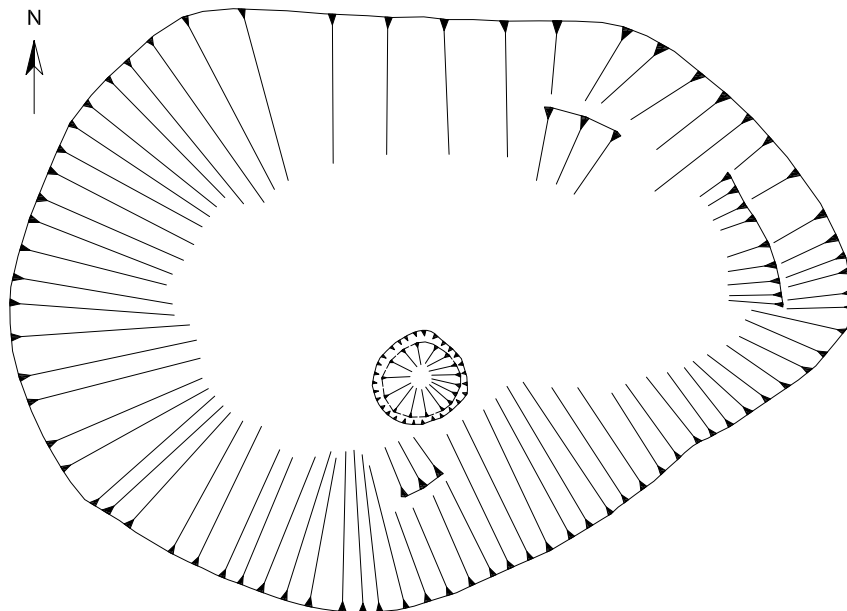
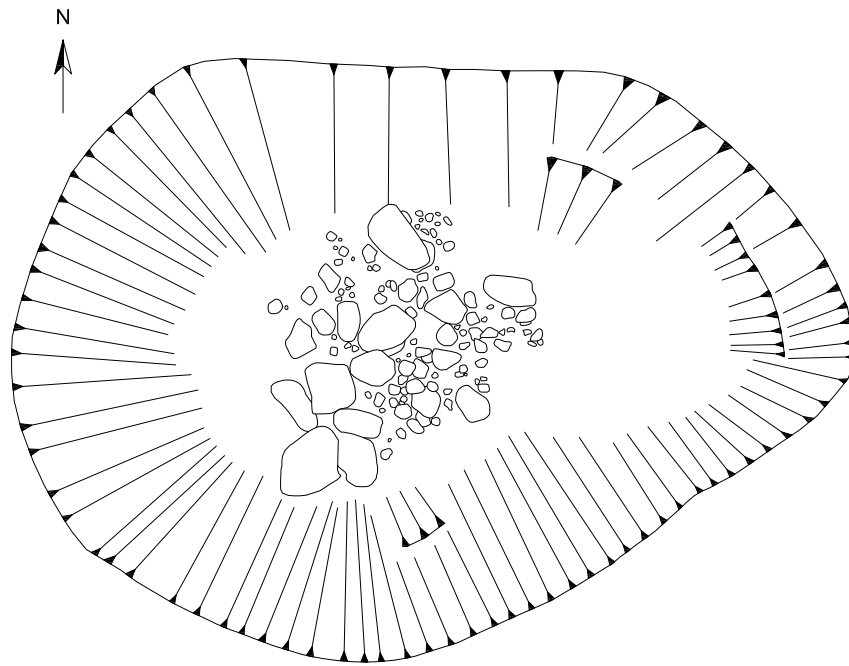


Figure 17:
Large pit feature

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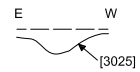
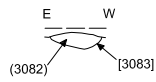
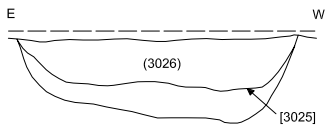
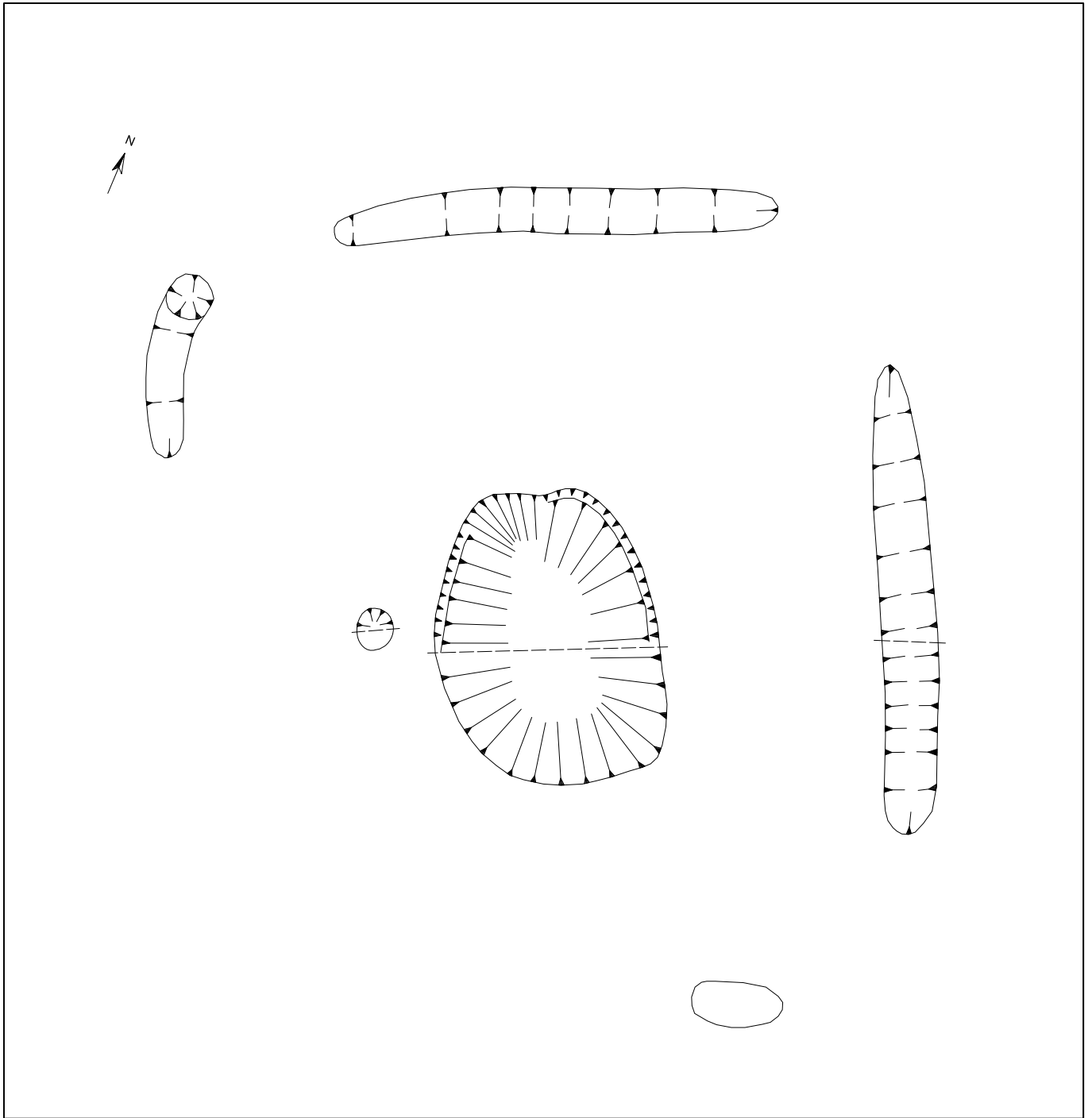


Figure 18:
Possible Iron Age Shrine

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Appendix II: Data from palaeoenvironmental assessment

Context	3016	3026	3028	3030	3044	3048	3066	3068	3084
Feature	posthole	pit	animal burial pit	posthole	natural feature	pit	boundary linear	pit or posthole	pit
Material available for radiocarbon dating	-	✓	✓	✓	✓	✓	-	-	✓
Volume of flot assessed (ml)	3	10	3	12	150	20	2	8	50
Flot matrix									
Charcoal	+	+	+	++	+++	++	+	++	++
Earthworm egg case	-	+	-	-	-	-	-	-	-
Heather twigs (charred)	-	+	-	-	-	-	-	-	+
Insect / beetle	-	+	+	-	-	-	-	-	-
Tuber / rhizome (charred)	-	(+)	-	-	-	-	-	-	+
Uncharred seeds	(+)	+	+	-	-	-	+	+	(+)
Charred remains (total count)									
(c) Cerealia indeterminate grain	-	-	-	-	-	-	-	-	6
(c) Triticum sp (Wheat species) grain	-	-	-	-	-	-	-	-	2
(r) Plantago lanceolata (Ribwort Plantain) seed	-	-	-	-	-	-	-	-	1
(t) Corylus avellana (Hazel) nutshell frag.	-	-	-	-	1	-	-	-	-
(t) Rubus fruticosus agg. (Bramble) fruitstone	-	-	-	-	-	-	-	-	1
(x) Fabaceae undiff. (Pea family) seed	-	-	-	-	-	-	-	-	1
(x) Poaceae undiff. >1mm (Grass family) caryopsis	-	-	-	-	-	-	-	-	1
(x) Ranunculus sp (Buttercup) achene	-	-	-	-	-	-	-	-	1

[c-cultivated; r-ruderal; t-tree/shrub; x-wide niche. (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant]

Key:

