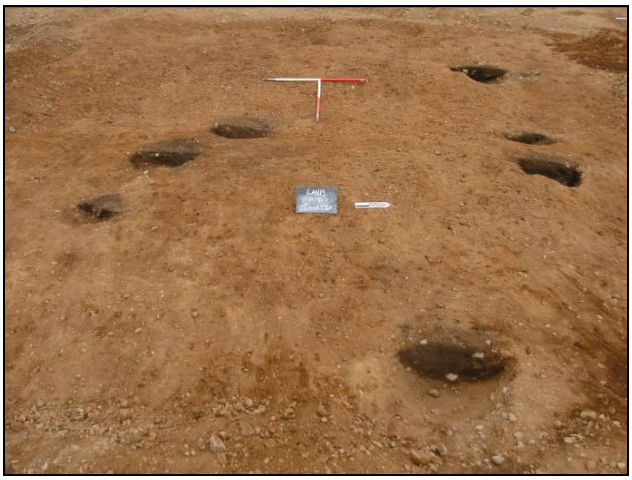
Lanton Quarry, Northumberland

Phase 6 Archaeological Excavation



Half-sectioned pit cluster at Lanton Quarry, which produced Neolithic pottery

ARS Ltd Report 2013/87
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Compiled By:
Laura Strafford AIfA
With contributions from Dr. Victoria Park and Joseph Tong
Archaeological Research Services Ltd
Angel House
Bakewell
Derbyshire
DE45 1HB
admin@archaeologicalresearchservices.com
www.archaeologicalresearchservices.com

Checked By:
Dr. Clive Waddington
Tel: 01629 814540
Fax: 01629 814657

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Archaeological Research Services Ltd

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Executive Summary

A sixth phase of archaeological excavation following a strip, map and sample methodology was conducted by Archaeological Research Services Ltd. at Lanton Quarry, Milfield, Northumberland on behalf of Lafarge Tarmac Ltd. The fieldwork took place over a three week period in August 2013 on a site of approximately 2.17 hectares. The investigation took the form of a strip, map and sample, in which the topsoil was mechanically removed under archaeological supervision before a sampling strategy was agreed and excavations were undertaken on the features exposed.

The archaeological remains excavated as part of the Phase 6 works included:

- *Ten pits and postholes containing pottery and flint tools of Late Neolithic date, including one pit cluster*
- *Twenty-six undated linear ditch features of varying form and depth, many of which were inter-cutting and some of which may represent very rare examples of a Neolithic field system*
- *39 additional isolated pit and posthole features.*

Approximately 300 sherds of Late Neolithic Grooved Ware and Plain Ware pottery was recovered from several pits together with abundant quantities of charred hazelnut shell and some chipped stone tools including blades, flakes, chips and re-touched specimens, along with a sandstone smoothing/rubbing stone.

Analysis of the botanical macrofossils obtained through flotation has shown the presence of charred hazelnut shell in large quantities from many of the Neolithic pit features, along with a small amount of wild/weed seeds and a single cereal grain of barley.

Radiocarbon dates were obtained from charred hazelnut shell fragments taken from a pit with both a primary and secondary fill, both of which contained Grooved Ware pottery. The two samples returned radiocarbon dates that places it in the Late Neolithic, which directly corresponds with the Grooved Ware pottery retrieved from the same pit and other features on the site. The two distinct date ranges indicate prolonged use, or re-use of the pit, with the primary fill dated to 2874 - 2589 cal BC and the secondary fill dated slightly later to 2861 - 2491 cal BC.

The archaeological features and ceramic finds from Phase 6 of the excavations at Lanton Quarry add important new information to the wider story of prehistory in the Milfield Basin and also the wider region. A full discussion of their wider significance will be produced as part of the final site narrative.

1 Introduction

1.1 This report describes Phase 6 of an archaeological strip, map and sample investigation undertaken at Lanton Quarry, Northumberland in 2013 by Archaeological Research Services Ltd on behalf of Lafarge Tarmac Ltd. In August 2013 Phase 6 was stripped of topsoil, revealing the archaeological deposits beneath, cut into the sand and gravel surface. Excavation and sampling of the 2.17 hectare area took place over a three week period.

2 Location, Land Use and Geology

2.1 Lanton Quarry lies in the Milfield Basin to the north-east of the Cheviot massif, approximately 3km north of Wooler (Figure 1).

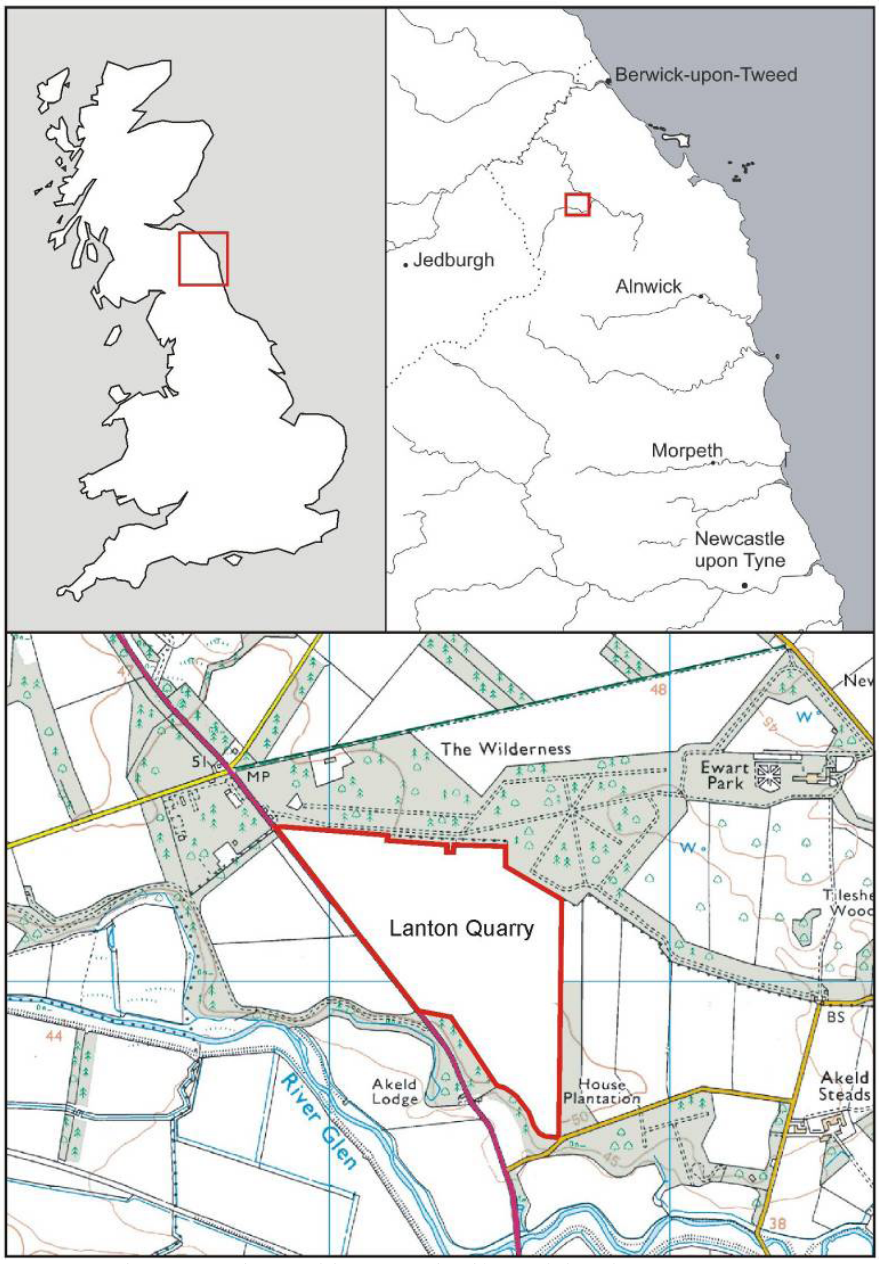


Figure 1. Site location.

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 an 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 Yeavering 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 is situated on a terrace of glaciofluvial sand and gravel deposits, situated for the most part at *c.*45 m aOD and covered by a ploughsoil of argillic brown earth origin (Payton 1992).

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 significant remains from the Mesolithic, Neolithic, Bronze Age, Iron 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, together with an assemblage of Carinated Bowl pottery, charred cereal grain and hazelnut shell; two Bronze Age roundhouses probably in association with two rectangular structures; and an Anglo-Saxon settlement in the southern-most part of the quarry including two rectangular and two square post-built buildings, seven sunken feature buildings and associated pits and postholes with an important assemblage of associated pottery, metalwork, loom weights, glass beads and quernstones.

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 the Phase 1 work at this site and on the nearby Cheviot Quarry site, three probable Bronze Age rectangular and triangular post-built structures also similar in form to those found during Phase 1, three irregular post-built structures of uncertain date, similar in form to the Early Neolithic structures, 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 human 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.

3.5 Phase 4 of the excavations at Lanton Quarry took place in June 2011. Features excavated during this phase included a Neolithic pit containing sherds of a Carinated bowl, a square structure defined by four linear gullies with a pit feature in the centre, thought to be an Iron Age shrine next to the Iron Age burial cist, a modern animal burial, a large pit feature with a stony fill, a linear feature and thirteen other isolated pits and postholes. The Neolithic pottery discovered in a shallow pit feature fits into the wider assemblage of such material that has already been recovered from the site. The square feature is thought to be

the remains of an Iron Age shrine. Similar features have been found in southern England where there are now around 30 examples.

3.6 Phase 5 of the excavations at Lanton Quarry took place in October 2012. Features excavated during this phase included thirteen pit and posthole features containing broken Neolithic pottery, stone tools and charred plant foods dating to the Neolithic, four possible post-built buildings, a Middle Bronze Age pit containing a well-preserved basal section of a large pottery vessel, a severely truncated, shallow linear ditch feature of uncertain date and thirty nine isolated, undated pits and posthole features.

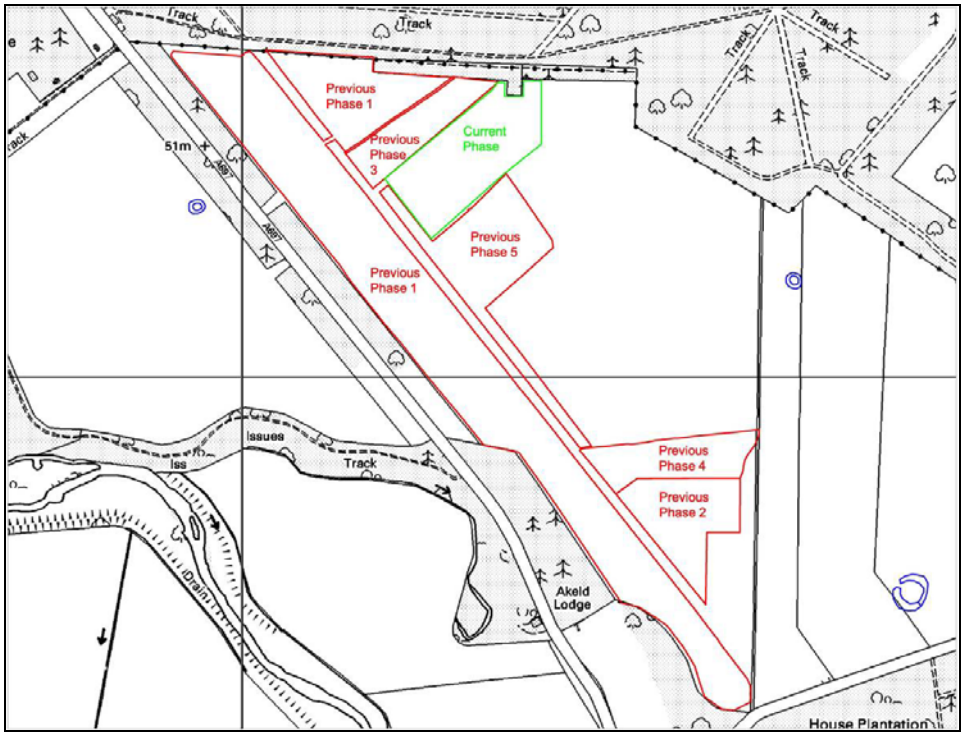


Figure 2. A plan of the quarry showing the current and previous phases of archaeological excavation. Henge and ring ditch cropmarks are shown in blue.

4 Method Statement

4.1 Following the initial topsoil strip, the excavation was carried out over a 3 week period in August 2013 by stripping back the topsoil in spits with a 360° tracked excavator equipped with a toothless ditching bucket. This exposed the underlying sand and gravel deposits into which archaeological features were cut. The entire process was monitored and as the machine stripped the ground, features were cleaned with a hoe and trowel before being marked with wooden pegs and assigned context and feature numbers.

4.2 Each of the features identified during the stripping process was subject to sample 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 hand tools. 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 film, black and white print film, and digital format. All sections and plans were drawn at either 1: 10 or 1: 20 scale as appropriate. The section lines were surveyed to provide an Ordnance Survey datum for each feature. Features that produced pottery and flints or those which were rich in organic material were 100% excavated to maximise finds recovery.

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. Registers of all contexts, samples, finds, levels, and drawings were also made. Artefacts were bagged individually and assigned an individual find number, with the site code and the deposit from which they were recovered clearly indicated. Ceramic finds were wrapped in acid-free paper and 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 which contained material culture or was organic-rich was floated through a minimum mesh size of 500μm to maximise the recovery of small finds and organic material. Material from the sieve was air dried and then placed in a sealed bag marked with its context and environmental sample number. All environmental samples were recorded in a separate register.

5 Results

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

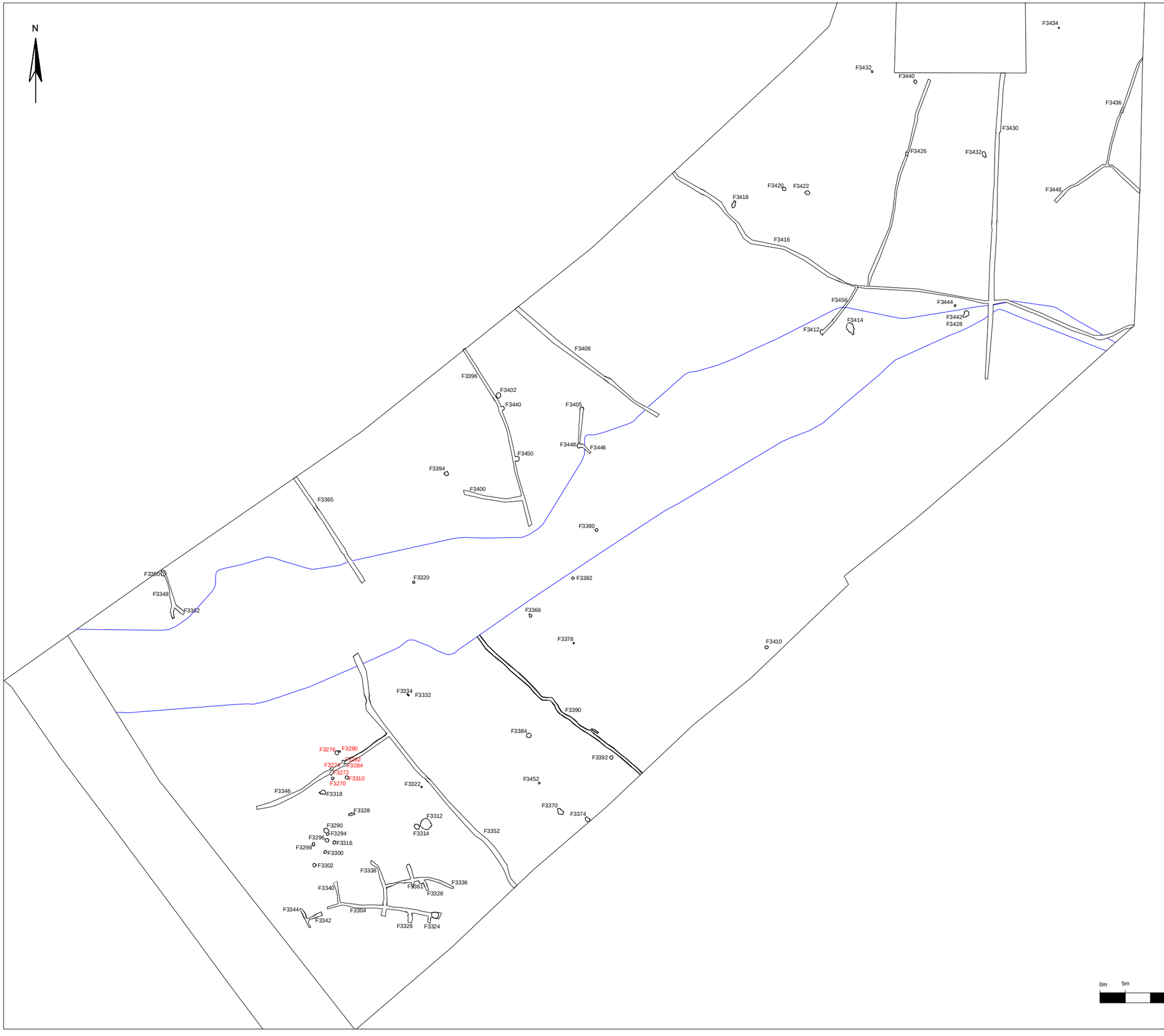
- Ten pits and postholes containing pottery and flint of Neolithic date, including one pit cluster
- Twenty-six linears, many of which were inter-cutting and may represent Neolithic field systems
- 39 additional isolated pit and posthole features

5.2 All features on the site were truncated as a result of past agricultural practices and due to this, many features had a very shallow depth and it should be considered that originally they would have been significantly deeper. No archaeological features survived within the topsoil, and only those features that were cut into the natural glaciofluvial sand and gravel deposits remained. The features and deposits are discussed individually, but grouped under headings according to their period, and association with other features and their type.

5.3 The Phase 6 excavations comprised an area of approximately 2.17 hectares. A wide, shallow shortlived palaeochannel formed as a result of glacial melt water running across the gravel surface at the end of the last glaciation, aligned roughly north-east to south-west through the centre of the site. This subsequently filled with inorganic fine-grained sediment.

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 (BGS 2013). 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 coarser gravel substrate.



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Derbyshire
DE45 1HB

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Figure 3: Distribution of features across the entire site

Palaeochannel

F. - Features within pit cluster

Notes:

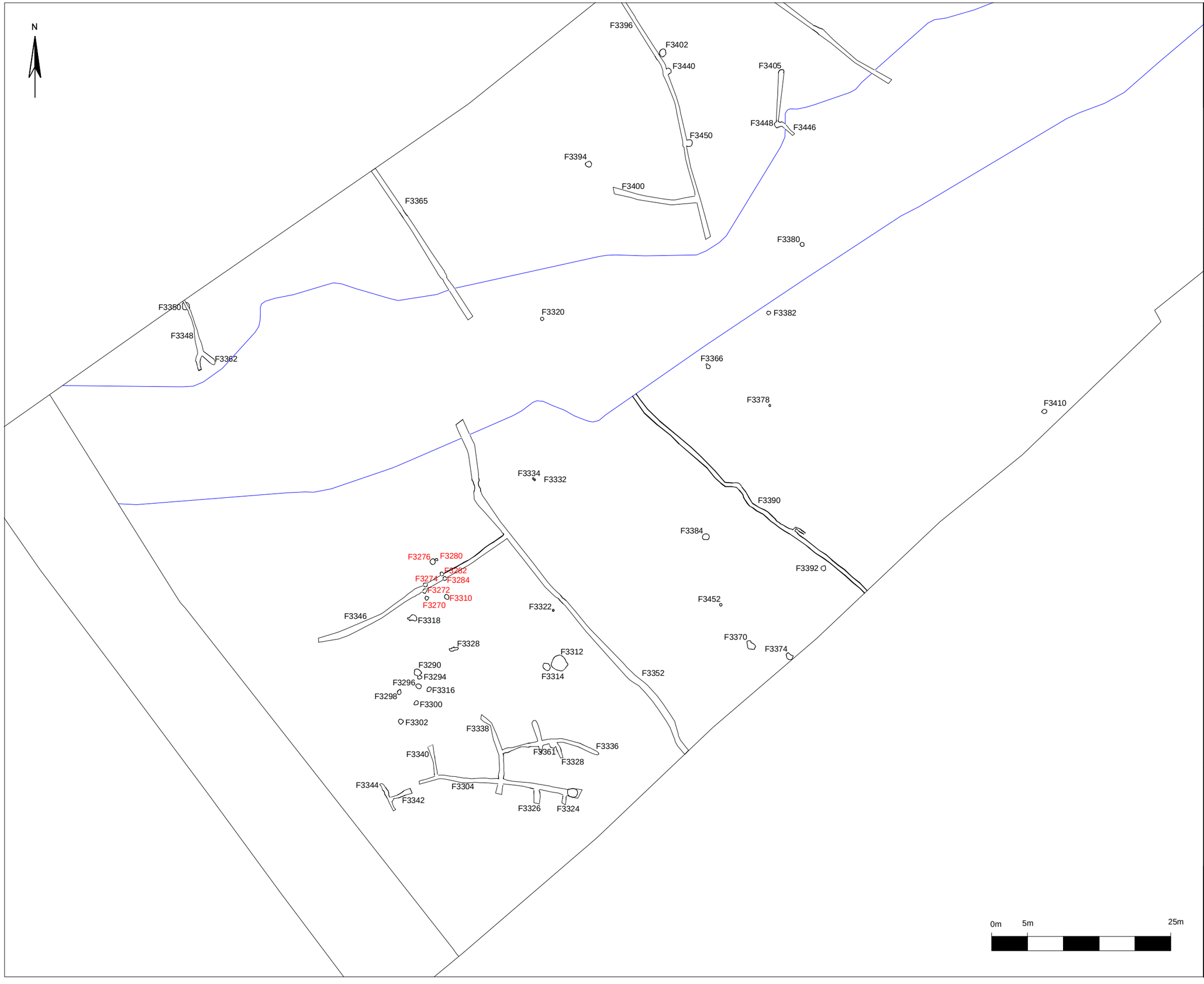

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Figure 4: Distribution of features at the SW end of the site

Palaeochannel

F. - Features within pit cluster

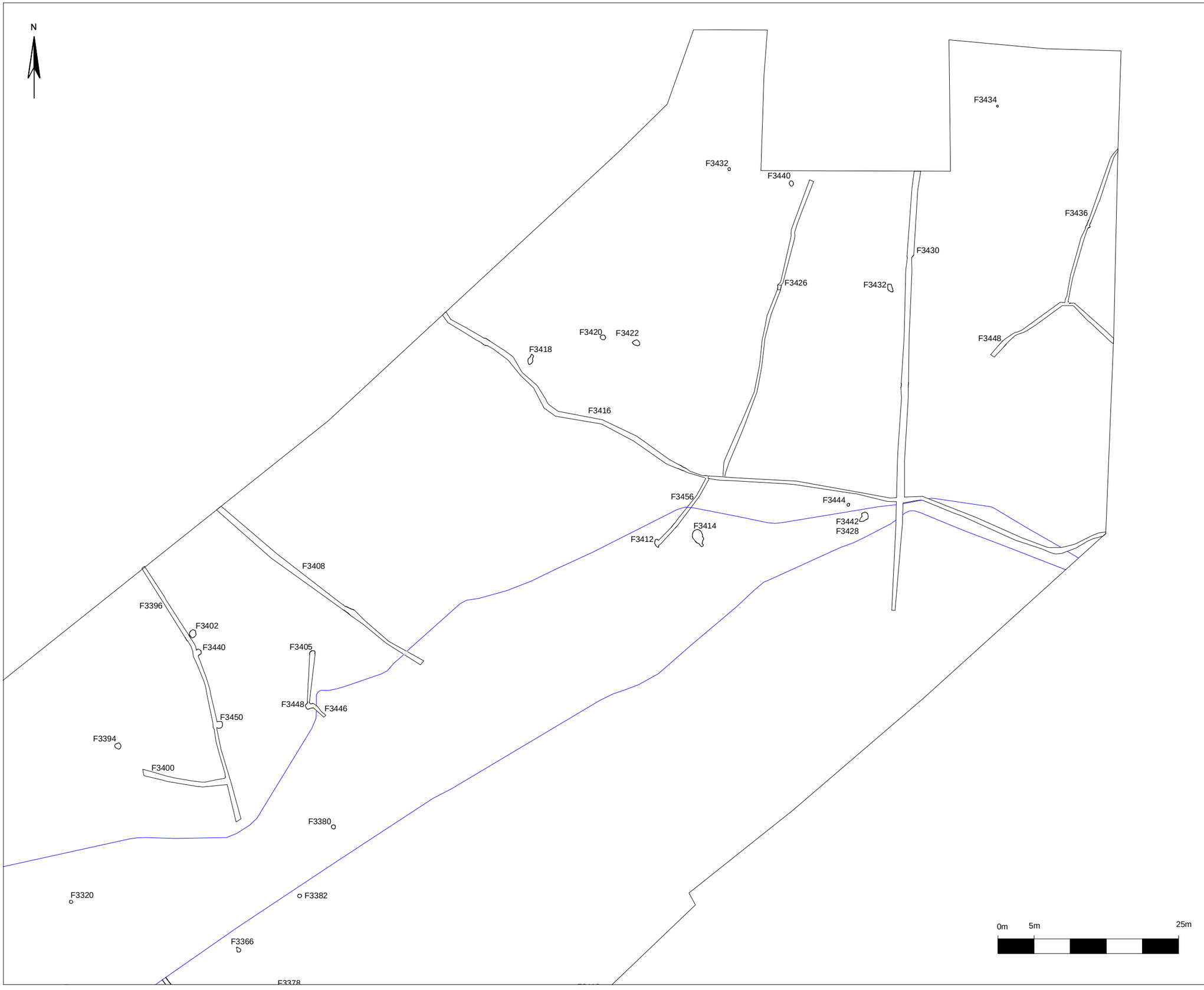

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Figure 5: Distribution of features at NE end of site

Palaeochannel

6 Stratigraphic Report

6.1 *Pit cluster*

6.1.1 One pit cluster was excavated during Phase 6, located at the south-west end of the site. The cluster comprised eight circular and sub-circular pits (F3270, F3272, F3274, F3276, F3280, F3282, F3284 and F3310) of varying size, arranged in a rough triangular arrangement which echoes the triangular arrangement of pit clusters seen in earlier phases at Lanton Quarry and other sites within Northumberland, such as Bolam Lake, Whitton Park and Thirlings (Passmore and Waddington 2012, 154; fig 5.7).

6.1.2 Four of the eight pits produced pottery, all of the pits produced abundant charcoal and with the exception of F3310 every pit in the cluster contained charred hazelnut (*Corylus avellana)* shell fragments; those pits with two fills (F3274 and F3276) contained hazelnut in both the primary and secondary fills. The amount of hazelnut present varied greatly; with pit F3276 being by far the richest, with primary fill (3278) containing abundant charred hazelnut shell with well over 1000 fragments, and the secondary fill also containing hazelnut shell fragments but in smaller quantity. Primary fill (3278) of pit F3276 also contained the charred remains of one half of an acorn nut. Pits F3282 and F3284 produced the smallest amounts of hazelnut shell with 5 fragments and 3 fragments recovered respectively. Pit F3310 was unique in the cluster in containing no hazelnut shell, but did contain abundant charcoal. Although all the pits contained charcoal in abundance and the majority contained charred hazelnut fragments, there was no evidence for *in situ* burning. The entirety of each fill from all the pits in the cluster was collected as an environmental sample.

6.1.3 The pottery recovered from the pit cluster (see section 7) came from pits F3270, F3272, F3274 and F3310. The sherds recovered from F3270 and F3274 shared pottery from the same two vessels, with conjoining sherds from the basal section of a Grooved Ware vessel and rim sherds from a decorated vessel present in both features. Additional pottery from other vessels was also found within both features. The pottery from F3272 contained pottery with grooved decoration, and that from F3310 contained pottery with impressed dot decoration. All the pottery recovered from the pit cluster has been identified as Late Neolithic in date. Three pits in the cluster also produced worked stone tools; F3270 contained a Neolithic flint blade; F3274 contained a flint flake; and F3276 also contained a Neolithic flint blade.

6.1.4 Pit F3274 yielded radiocarbon dates of 2874 - 2589 cal BC from the primary fill and 2861 - 2491 cal BC from the secondary fill, both determined from charred hazelnut (*Corylus avellana*) shell fragments. These two dates place the pit within the Late Neolithic, which directly corresponds with the Grooved Ware pottery retrieved from the same pit and other features across the site.

6.1.5 Pits F3372, F3374, F3282 and F3284 all cut linear F3346, aligned roughly north-east to south-west through the pit cluster, indicating that the shallow linear ditch can be no later than, and must pre-date, the Late Neolithic.

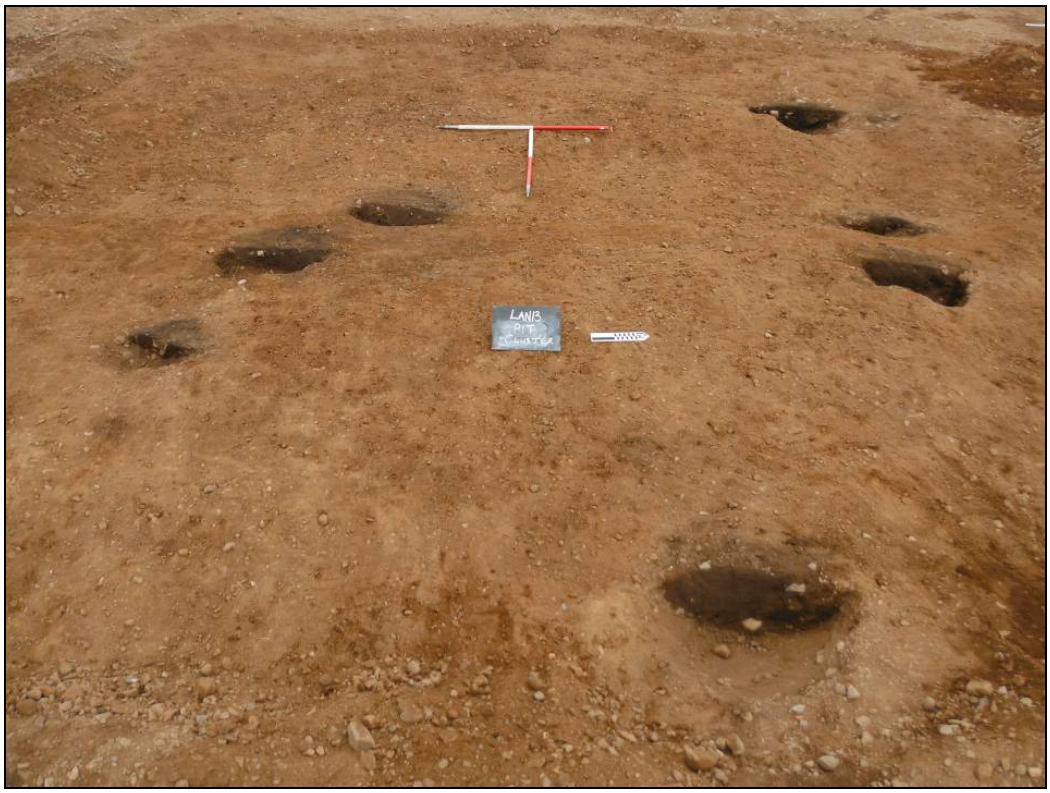

Figure 6. Pit cluster, post-excavation. Scale = 2x1m.

Feature No.	Context numbers	Description	Max. dimensions (mm)	Max. depth (mm)	Colour of fill	Composition	Pottery?
f.3270	3270, 3271	Circular pit	500 x 500	100	Very dark brown	Very slightly sandy silt	Y
f.3272	3272, 3273	Circular pit	640 x 640	120	Very dark brown	Silt with very fine trace of sand	Y
f.3274	3274, 3275, 3286	Circular pit	600 x 600	230	Very dark brown	Silt	Y
f.3276	3276, 3277, 3278	Circular pit	760 x 760	220	Very dark brown	Silt	N
f.3280	3280, 3281	Circular pit	400 x 400	40	Light grey-brown	Very fine silt	N
f.3282	3282, 3283	Circular pit	460 x 460	140	Very dark brown	Silt with a slight trace of sand	N
f.3284	3284, 3285	Circular pit	520 x 520	280	Very dark brown	Fine silt	N
F3310	3310, 3311	Circular pit	680 x 680	270	Very dark brown with black mottles	Very fine silt	Y

Table 1. Features within the pit cluster.

Figure 7. Pit F3270, post-excavation. Scale = 0.25m.

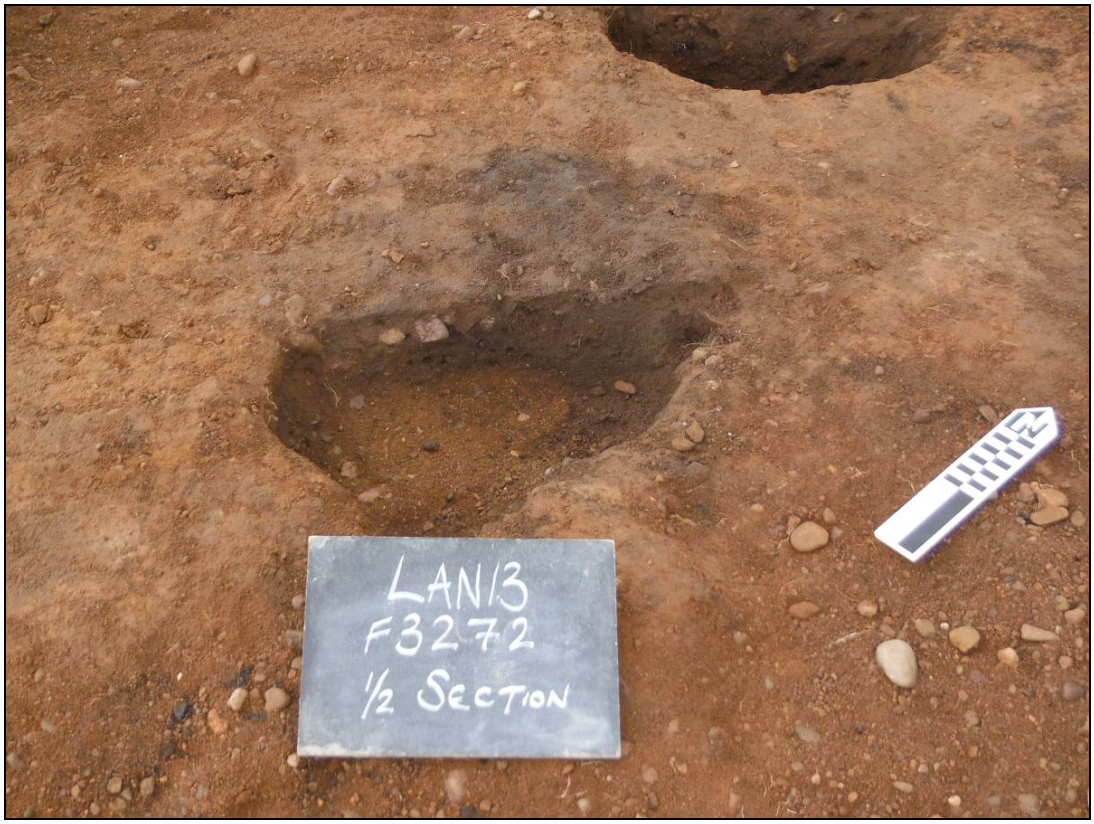

Figure 8. Pit F3272, post excavation. Scale = 0.25m. Note the paler fill of linear F3346 being cut by this pit.

Figure 9. Pit F3274. Scale = 0.25m. Note the edge of linear F3346 being cut by this pit.

Figure 10. Pit F3276, post-excavation. Scale = 0.25m.

Figure 11. Pit F3280, post-excavation. Scale = 0.25m.

Figure 12. Pit F3282, post-excavation. Scale = 0.25m. Note the paler fill of linear F3346 being cut by this pit.

Figure 13. Pit F3284, post-excavation. Scale = 0.25m. Note the edge of linear F3346 being cut by this pit.

Figure 14. Pit F3310, post-excavation. Scale = 0.25m.

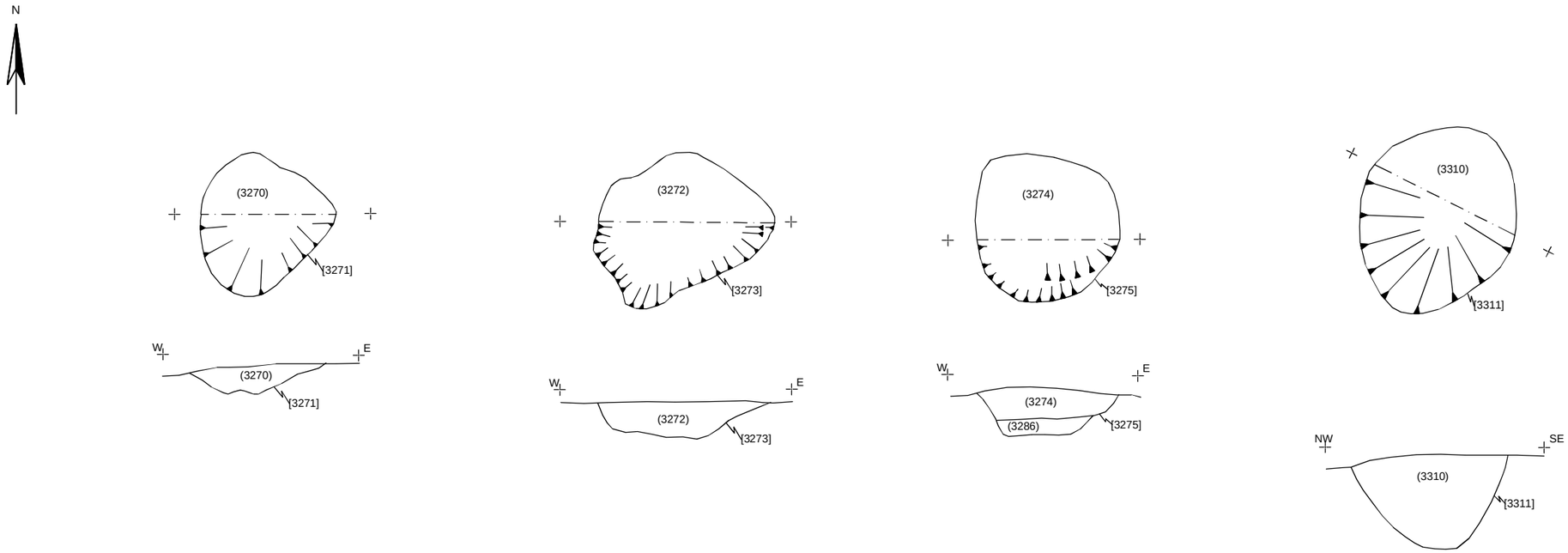

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Figure 15: Features within the Neolithic pit cluster

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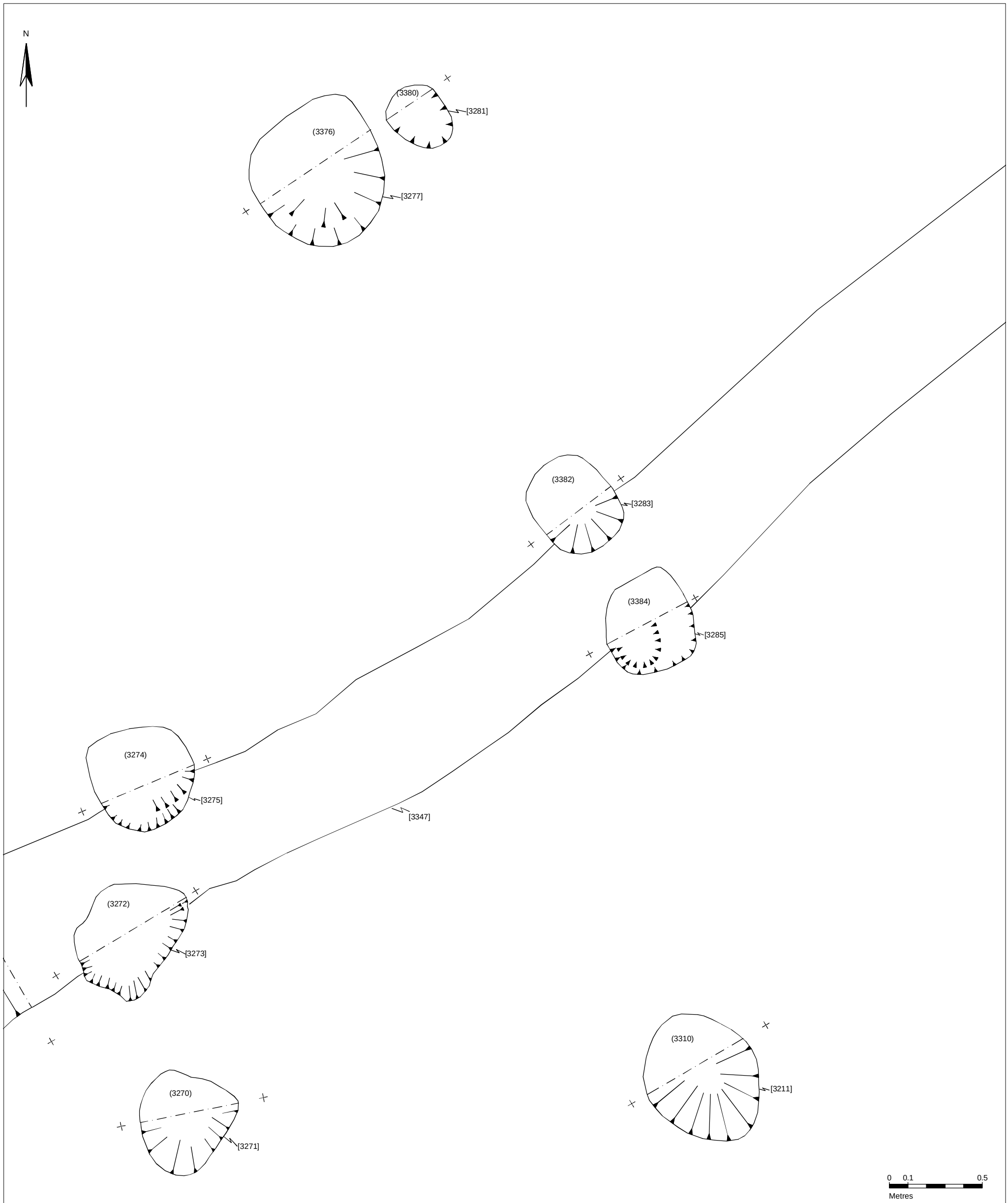

Archaeological Research Services Ltd Angel House Portland Square Bakewell Derbyshire DE45 1HB	Figure 16: Arrangement of pits within cluster		
Site Code: LAN13 Date: 21 Oct 2013 Drawn: VP Scale: 1:20 @ A3			Copyright/Licencing: This drawing © A.R.S. Ltd Ordnance Survey data if applicable © Crown Copyright, all rights reserved reproduced with permission. Licence No. 100045420

6.2 *Isolated pit and posthole features containing pottery*

6.2.1 A further six pit and posthole features outside of the pit cluster described above (section 6.1) contained pottery, outlined in Table 2 below. The features varied considerably in dimension and depth although all were circular or sub-circular. Some of the pits indicated burning activity, but none displayed evidence of *in situ* burning. Environmental samples were taken from the entirety of all the fills.

6.2.2 Pits F3290 and F3294 were situated directly next to each other and, based on pottery evidence, are likely to be contemporary, both containing Late Neolithic pottery. F3290 contained the most pottery out of all the features excavated during Phase 6 with 113 individual sherds from at least three, but likely a higher number, of both Plain Ware and Grooved Ware vessels from the upper fill (3290) and 31 sherds from at least one Grooved Ware and one Plain Ware vessel from primary fill (3292). Pit F3294 contained 13 individual sherds from at least two vessels. There was a noticeable variation in size between the two pits, with pit F3290 almost twice as big as pit F3294. In addition, pit F3290 had two distinct fills in comparison to pit F3294 which had just one. Both fills of F3290 (3290) and (3292) contained abundant charred hazelnut shell fragments, charcoal and one flint flake from each fill. F3294 also contained charred hazelnut fragments and charcoal, but in much smaller quantity.

6.2.3 Pit F3296 was situated in close proximity to both F3290 and F3294; however there was no clear arrangement between the three pits. The Neolithic pottery recovered from F3296, 49 sherds in total, some of which conjoin, represent a minimum of six vessels. A fragment of a sandstone smoothing stone was also discovered in this feature. Occasional charred hazelnut shell fragments were recovered from this pit together with abundant charcoal.

6.2.4 Pit F3316 was also located in close proximity to F3290, F3294 and F3296, but again, no clear relationship could be established between the pits. F3316 also contained charred hazelnut shell, but in much smaller quantity than the other pits nearby, with a total of just eight fragments recovered. Abundant charcoal was present but in a more fragmentary state than observed in the other nearby pits, together with two pottery sherds from a Plain Ware vessel.

6.2.5 Pit F3312 was a wide shallow pit, more like a scoop, likely to be heavily truncated. Despite this, one fragment of decorated pottery was recovered from the single fill. Abundant charcoal was also recovered from this pit, although generally in a form more fragmentary than observed in other charcoal-rich pits, and no charred hazelnut shell was recovered. This pit was located directly next to pit F3314, which was extremely similar in character, being a wide, shallow scoop, although it had slightly smaller in diameter than F3312. No pottery was recovered from nearby pit F3314.

6.2.6 Pit F3412 contained three fragments of Grooved Ware pottery from two individual vessels, along with several small crumbs of well-fired daub. The distinguishing feature of this pit was that it was located within the terminus of ditch F3456, having been cut into the terminus after the ditch had silted up. No other pits excavated on Phase 6, nor indeed during any other phases of the site, were found to have been dug into ditch termini. The pit also contained abundant charcoal and occasional charred hazelnut shell fragments. The presence of daub is suggestive of there having been a structure close by.

Feature No.	Context numbers	Description	Max. dimensions (mm)	Max. depth (mm)	Colour of fill	Composition
F3290	3290, 3291, 3292	Circular pit	990 x 980	350	Dark brown	Sand
F3294	3294, 3295	Slightly irregular pit	590 x 460	140	Light brown	Sand
F3296	3296, 3297, 3308	Oval pit	750 x 720	320	Dark brown	Sand
F3312	3312, 3313	Shallow rounded pit	2120 x 1980	120	Dark brown	Silt
F3316	3316, 3317	Roughly circular pit	600 x 420	230	Very dark brown with black mottles	Silt
F3412	3412, 3413	Circular pit	1140 x 1140	200	Mid grey-brown	Sandy silt

Table 2. Isolated pit and posthole features containing pottery.

Figure 17. Pits F3294 on the left and F3290 on the right, post-excavation. Scale = 0.25m.

Figure 18. Pit F3296, post-excavation. Scale = 0.25m.

Figure 19. Pit F3312, post-excavation. Scale = 1m and 0.25m.

Figure 20. Pit F3316. Scale = 1m and 0.25m.

Figure 21. Pit F3412, post-excavation. Scale = 0.25m.

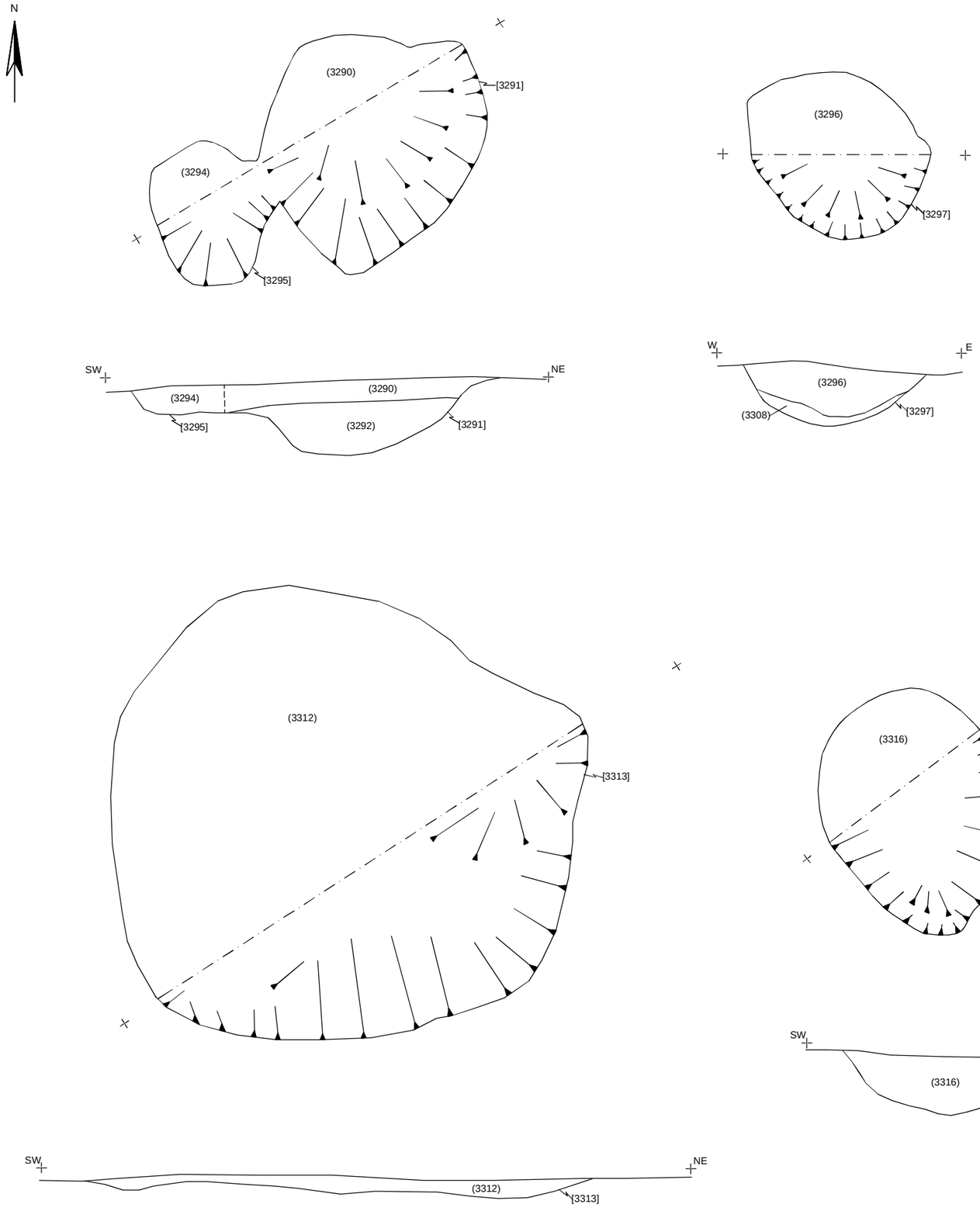

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Figure 22: Isolated pit and posthole features containing Neolithic pottery

Notes:

6.3 *Isolated pit and posthole features*

6.3.1 A total of 38 additional pit and posthole features were excavated, listed below in Table 3. The majority of these features did not appear to be associated with any structure or display any obvious association with other nearby features, and none of them contained pottery. They varied from small posthole-type features to large, shallow pit features ranging in size from 0.11 x 0.20m to 1.39 x 0.84m. The features were located across the site but with a slightly higher concentration towards the south-western end.

6.3.2 Environmental samples were taken from 17 of these features (F3318, F3322, F3366, F3370, F3372, F3374, F3380, F3382, F3394, F3410, F3414, F3424, F3428, F3432, F3434, F3444 and F3452). Charcoal was observed in all of the sample features during excavation.

6.3.3 Although none of the features detailed in the table below produced pottery, one of them contained the burial of a sheep and another contained an animal burrow. F3432 was situated towards the north-eastern extent of the excavation area and contained the skeleton of the sheep, thought to be post-medieval due to the well-preserved condition of the bone which does not survive well in the acidic soil. Similar sheep burials have been discovered during Phase 4 of the excavations carried out in 2011 and Phase 5 carried out in 2012. The skeleton discovered in Phase 4 yielded a radiocarbon date of between 1731-1809 cal. AD (Mapplethorpe and Scott 2011) and due to the good condition of the bone it is considered that the sheep discovered in F3432 is of a similar age. No pottery or any other artefacts were recovered from the feature and the environmental sample produced very little material, mainly uncharred modern seeds and very small fragments of charcoal.

6.3.4 F3318 was located towards the north-western end of the site and comprised a small animal burrow containing bone fragments. It was originally considered that this feature may be a pit, but after excavation the irregularity of the edges indicated an animal burrow. In addition, the nature of the bone appeared to be relatively recent and it is likely that the bone was brought into the burrow by animals and is a result of secondary deposition, or alternatively may represent the bone of a small mammal which died in its own burrow.

6.3.5 A number of postholes contained charred organic material; however there was no clear evidence of *in situ* burning. Posthole F3322 was a small posthole located in the south-western area of the site. The primary fill (3354) of this posthole contained frequent charcoal and the upper fill (3322) contained abundant charcoal.

6.3.6 Posthole F3370 measured approximately 1.39m x 0.84m and was 0.38m in depth. No finds were observed within the posthole, however a possible post-pipe F3372 was observed, with a very charcoal-rich fill. Environmental samples were taken from both fills.

6.3.7 Postholes F3434 and F3452 both contained abundant charcoal, some with large fragments. Posthole F3444 also contained charcoal, although was more fragmented than examples in other postholes.

6.3.8 Postholes F3332 and F3334 did not contain any evidence of burning, and were isolated from any other features, but were situated directly next to each other and appear to be related, being of a similar size and dimension and containing almost identical fills. However, the fills were very sterile and homogenous and no dating evidence or material culture was retrieved from them.

6.3.9 Pit F3350 was cut by deep linear slot F3348, interpreted as a construction slot due to its deep-sided vertical sides and narrow, straight form, although neither feature produced any dating evidence. The feature was large in comparison to most others excavated during Phase 6, measuring 1.5m in diameter with a depth of 0.34m. There linear ditch F3348 appeared to cut the pit F3350, although the relationship was not very clear due to the similarity of the

fills, suggesting that the two features may be contemporary. It is possible that F3350 may represent a large posthole related to the construction slot F3348.

6.3.10 Pit F3374 was a roughly circular pit with a maximum depth of 0.25m. Whilst the primary fill (3376) was fairly sterile, the upper fill (3374) was rich in charcoal. Other pits also rich in charcoal were F3382, F3394, F3410, F3428, F3424, F3414 and F3452. With the exception of F3410, which also contained one charred weed seed, no other charred remains were present in any of these features, although F3382 also contained one flint flake.

6.3.11 Several of these excavated features are believed to be natural and not archaeological in character, including F3288, F3298, F3300, F3302 and F3314. All of these features were sub-circular features of a similar size with an homogenous and sterile single fill.

6.3.12 Several pit features displayed relationships with linear ditch and gully features. Linear ditch F3396 cut circular features F3402 and F3450. The irregular shape of these circular features and sterile fills suggests they may be natural features, however their proximity to the linear ditch may suggest that they are pits. Pit F3448 cut linear ditches F3404 and F3446 and is therefore stratigraphically later than the linear ditches.

6.3.13 Pit F3442 was cut by pit F3428. These two pits were unique for Phase 6 of the site, being the only two pit features displaying clear evidence of an obvious re-cut. Neither features provided any artefacts however F3428 did produce abundant fragmentary charcoal from an environmental sample.

6.3.14 The majority of isolated pits and postholes excavated during Phase 6 had only a single fill, with the exception of F3322, F3356, F3366, F3374, F3384 and F3452 which each comprised two fills.

Feature No.	Context numbers	Description	Max. dimensions (mm)	Max. depth (mm)	Colour of fill	Composition
3288	3288, 3289	Natural feature/ tree throw	1300 x 500	260	Orange-brown	Sand
3298	3298, 3299	Natural feature/ tree throw	1060 x 520	110	Orange-brown	Sand
3300	3300, 3301	Natural feature/ tree throw	490 x 520	170	Orange-brown	Sand
3302	3302, 3303	Natural feature/ tree throw	700 x 650	170	Orange-brown	Sand
3314	3314, 3315	Natural feature/ tree throw	1100 x 1190	70	Orange-brown	Sand
3318	3318, 3319	Animal burrow	1200 x 820	140	Very dark brown	Silt
3320	3320, 3321	Natural feature/ tree throw	570 x 470	110	Orange-brown	Sand
3322	3322, 3323, 3354	Posthole	120 x 100	90	Very dark brown/ black	Silt
3332	3332, 3333	Posthole	260 x 200	80	Dark brown	Sandy-clay
3334	3334, 3335	Posthole	200 x 200	150	Dark brown	Sandy-clay
3350	3350, 3351	Pit	1050 x 1050	340	Mid-brown	Silty-sand
3356	3356, 3357, 3358	Pit	1150 x 1400	600	Pale brown-grey	Sandy-silt
3360	3360, 3361	Semi-circular pit	600 x 1100	300	Mid-pale brown	Sandy-clay
3366	3366, 3367, 3368	Pear-shaped pit	590 x 830	230	Mid-dark brown	Silty-sand
3370	3370, 3371	Ovoid posthole	1390 x 840	380	Mid-brown	Silty-sand
3372	3372, 3373	Circular post-pipe?	110 x 200	300	Dark-brown	Silty-sand

3374	3374, 3375, 3376	Roughly circular pit	900 x 950	250	Dark-brown	Silty-sand
3378	3378, 3379	Circular post-hole	250 x 230	130	Dark-brown	Silty-sand
3380	3380, 3381	Small circular pit	700 x 500	200	Dark-brown	Silty-sand
3382	3382, 3383	Small circular pit	570 x 580	130	Mid-brown	Silty-sand
3384	3384, 3385, 3386	Small circular pit	900 x 1000	300	Pale-grey brown	Silty-sand
3392	3392, 3393	Small circular pit	710 diam.	180	Mid grey-brown	Silty-sand
3394	3394, 3395	Circular post-hole	950 diam.	140	Dark-yellow brown	Sandy-silt
3398	3398, 3399	Sub-circular tree-throw?	560 diam.	250	Mid-yellow brown	Sandy-silt
3402	3402, 3403	Circular pit	780 diam.	200	Dark-grey brown	Sandy-silt
3410	3410, 3411	Circular pit	750 diam.	140	Mid-red brown	Sandy-silt
3414	3414, 3415	Large circular pit	420 diam.	1420	Dark-yellow brown	Silty-sand
3418	3418, 3419	Ovoid pit	700 diam.	280	Dark-yellow brown	Sandy-silt
3420	3420, 3421	Circular pit	750 diam.	240	Dark-yellow brown	Sandy-silt
3422	3422, 3423	Circular pit	900 diam.	220	Mid grey-brown	Slightly sandy silt
3424	3424, 3425	Small circular pit	420 diam.	110	Very dark brown/ black	Sandy silt with gravel
3428	3428, 3429	Circular pit	650 diam.	70	Dark-grey brown	Sandy silt
3432	3432, 3433	Sheep burial	560 x 1170	270	Very dark brown	Slightly sandy silt
3434	3434, 3435	Posthole	180 diam.	120	Dark-grey brown	Silty-sand
3440	3440, 3441	Small pit	540 x 650	170	Mid-brown	Silty-sand
3442	3442, 3443	Irregular pit	820 x 630	12	Dark yellow brown	Sandy-silt
3444	3444, 3445	Posthole	330 diam.	200	Very dark brown and black	Sandy-silt
3448	3448, 3449	Large pit	900 diam.	650	Mid-orange brown	Silty-sand
3450	3450, 3451	Circular pit	800 x 1000	200	Mid-orange brown	Silty-sand
3452	3452, 3453, 3454	Posthole	370 x 350	190	Dark-brown and mid-brown	Silty sand

Table 3. Isolated pits and postholes containing no pottery.

Figure 23. Posthole F3322, post-excavation. Scale = 0.25m.

Figure 24. Postholes F3334 on the left and F3332 on the right. Scale = 0.25m.

Figure 25. Pit F3366. Scale = 0.25m.

Figure 26. Posthole F3370 with possible post-pipe F3372 visible on the right-hand side. Scale = 0.25m.

Figure 27. Pit F3384, post-excavation. Scale = 0.25m.

Figure 28. Pit F3392, post-excavation. Scale = 0.25m.

Figure 29. Pit F3428. Note the darker lower fill of pit F3442, which is cut by F3428. Scale = 1m and 0.25m.

Figure 30. Posthole F3434, post-excavation. Scale = 0.25m.

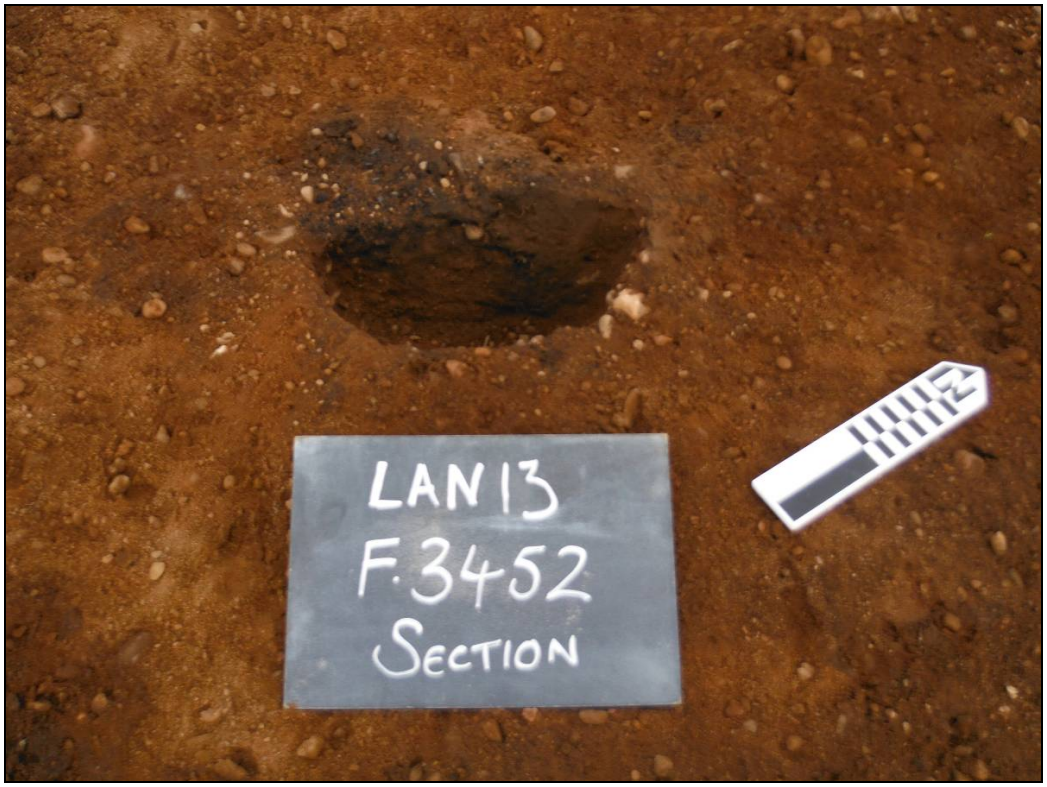

Figure 31. Posthole F3452, post-excavation. Scale = 0.25m.

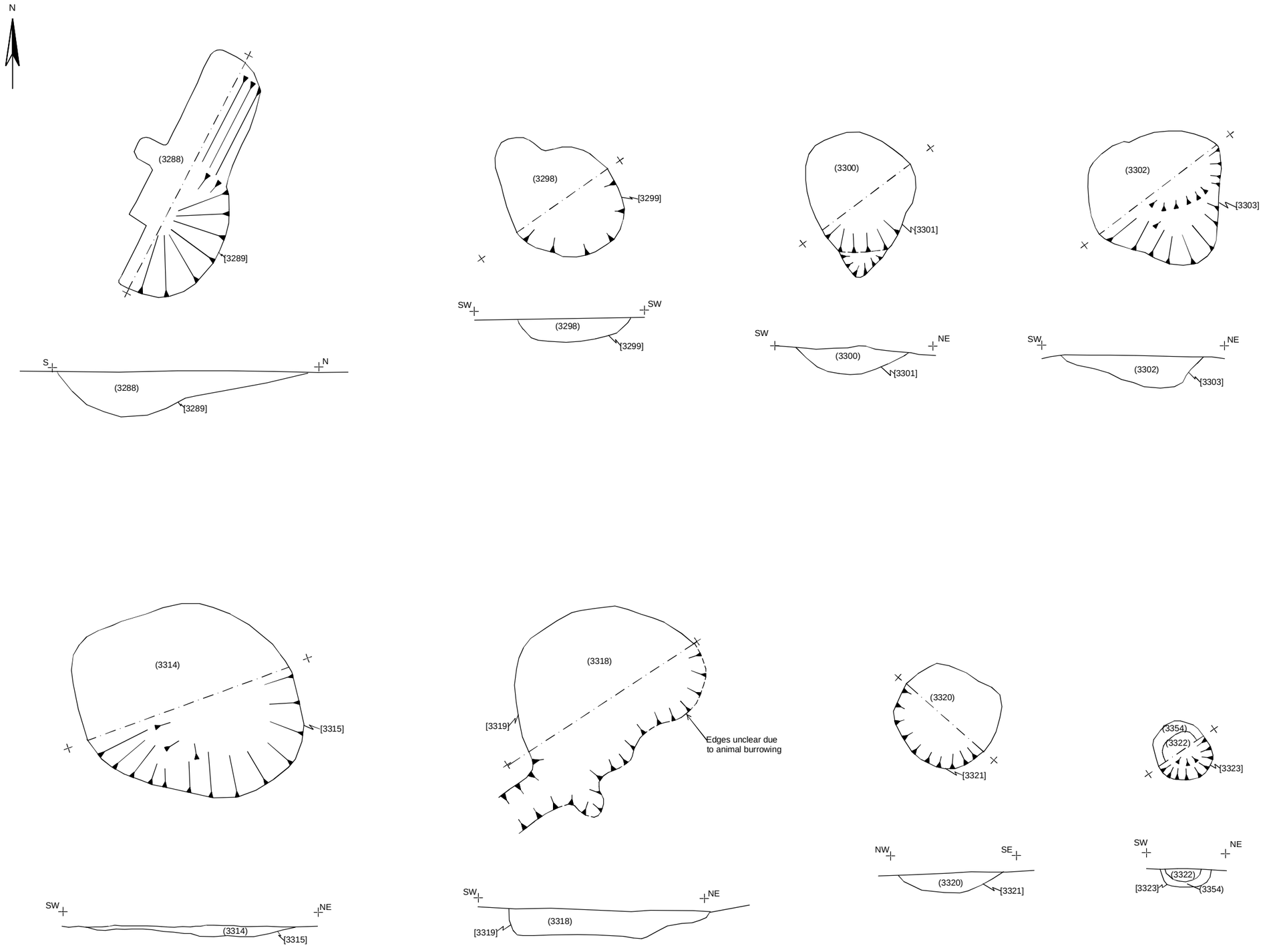

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Figure 32. Undated circular and sub-circular pit features

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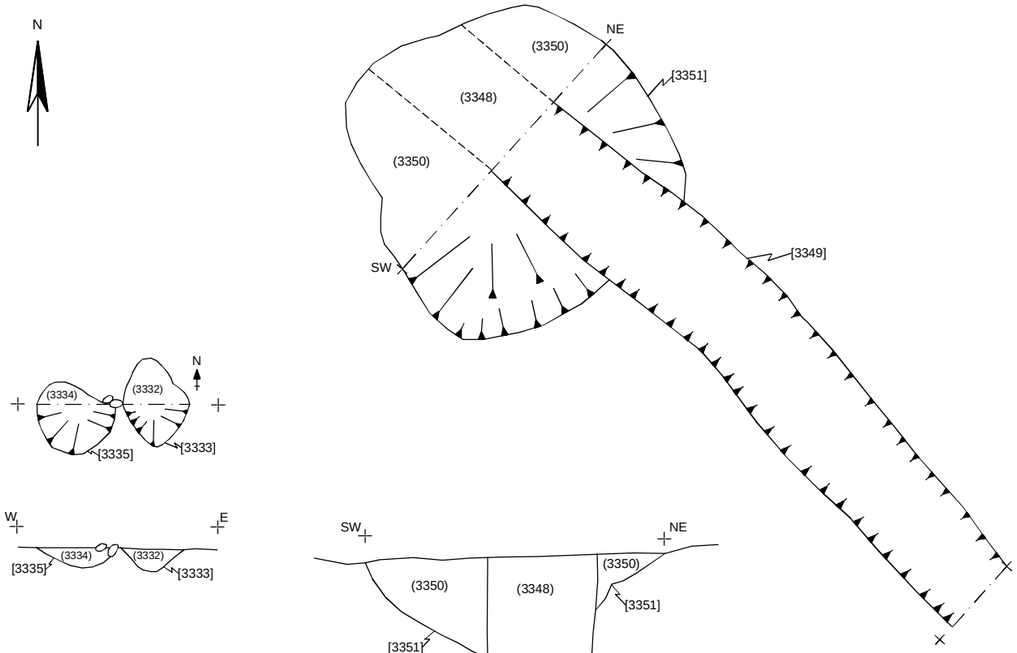
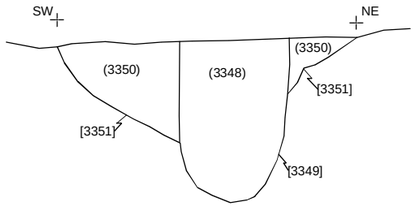
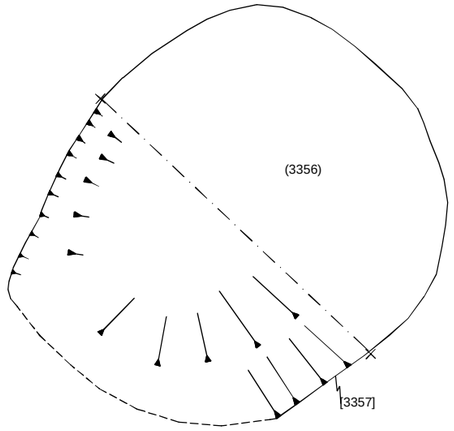
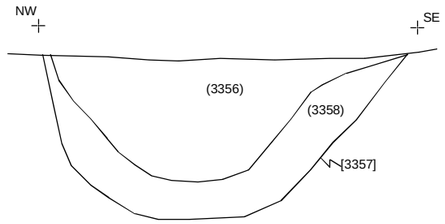
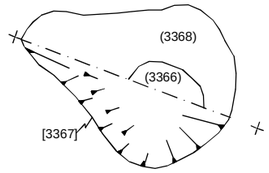




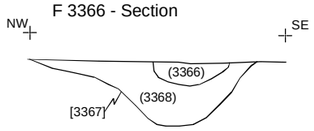


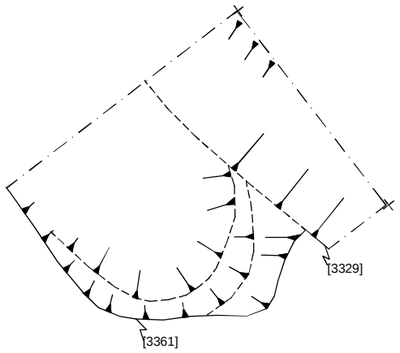


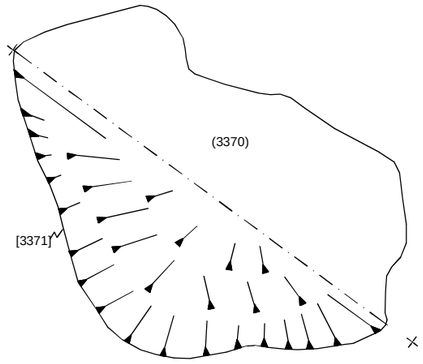
F 3366 - Plan

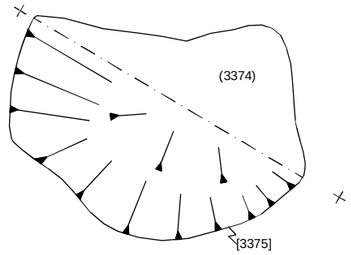


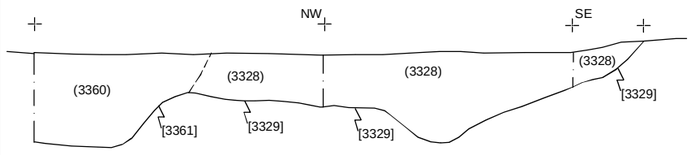
F 3366 - Section











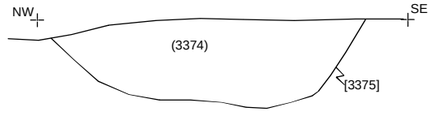


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Figure 33: Undated circular and sub-circular pits

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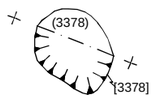

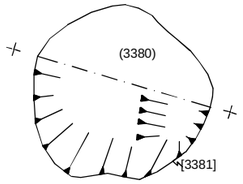

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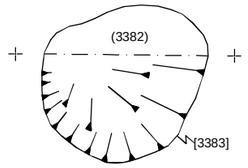

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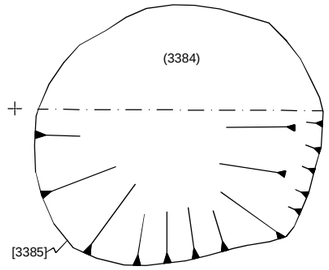
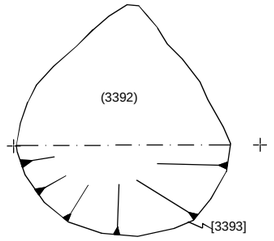
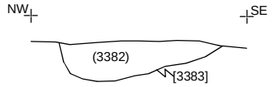




F 3378 - Section

F 3380 - Section

F 3382 - Section



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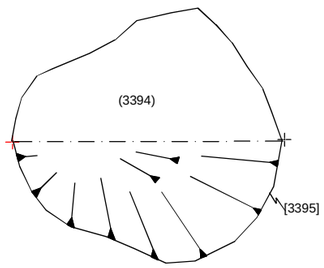
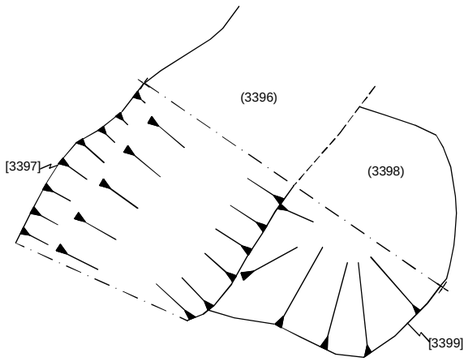
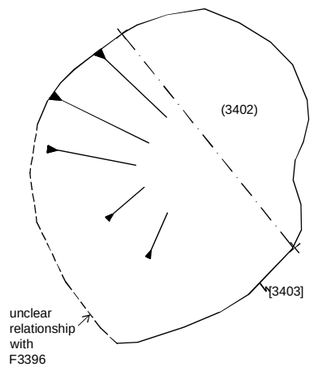
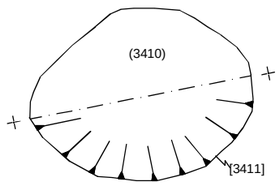






F 3410 - Plan



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F 3410 - Section

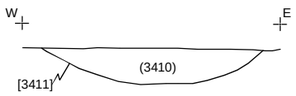

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Figure 34: Undated circular pit features

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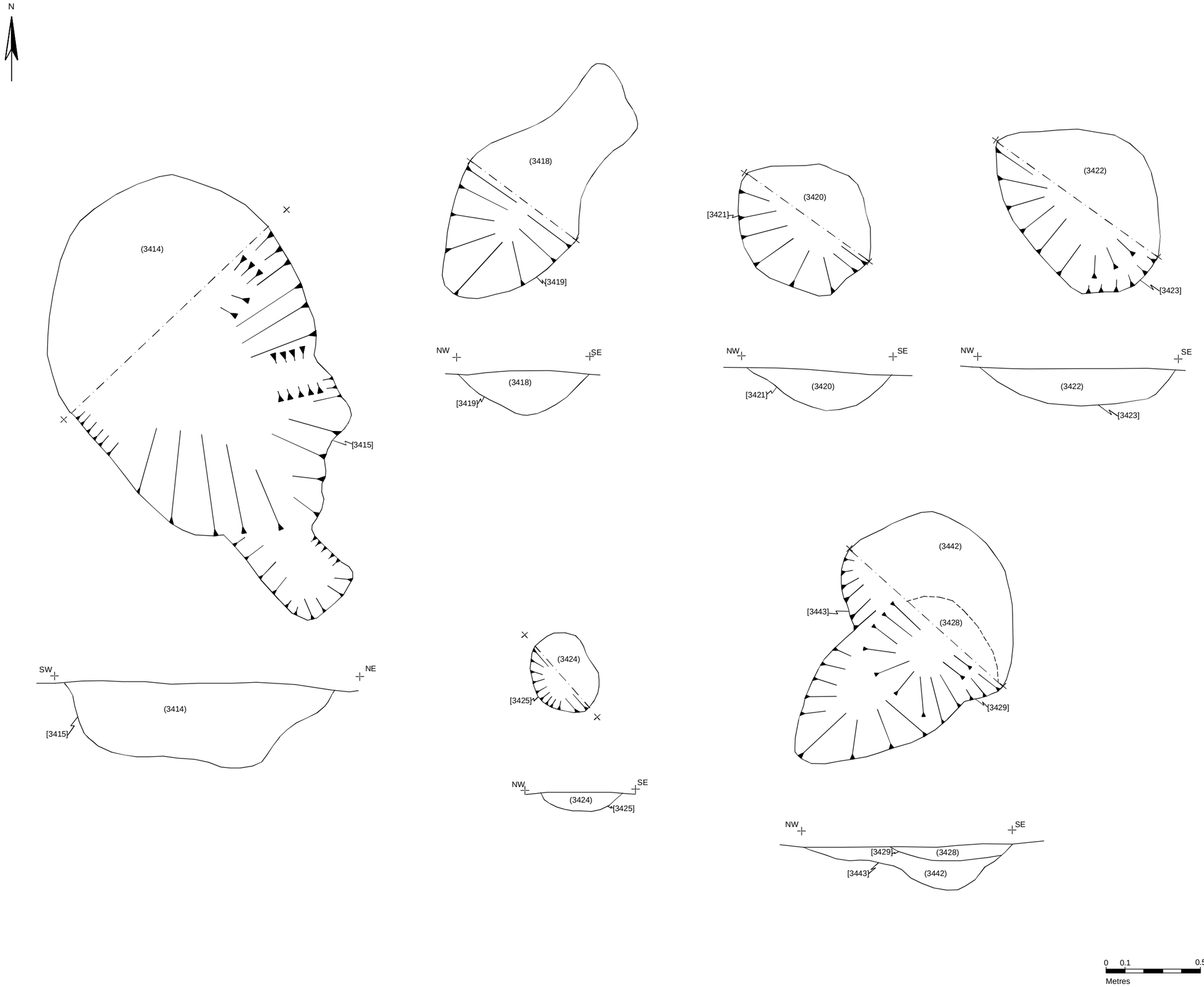

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Figure 35: Undated circular and sub-circular pit features

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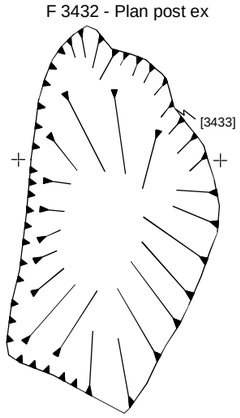
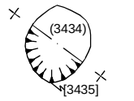
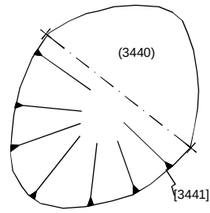
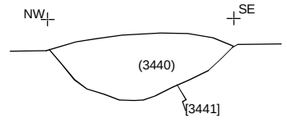
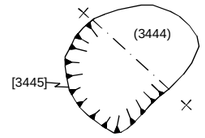
F 3432 - Plan post ex

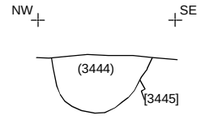












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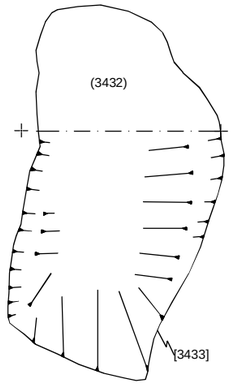

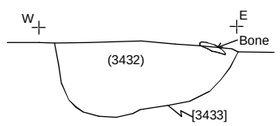

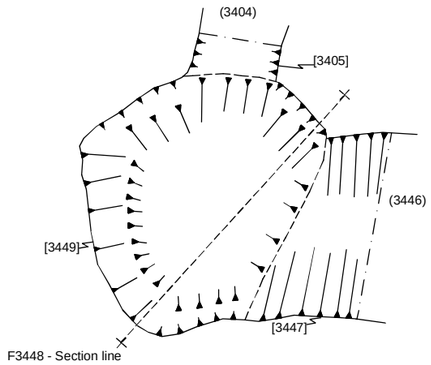

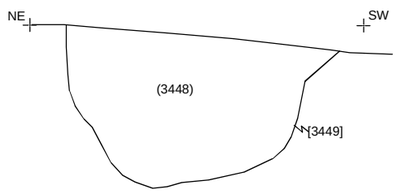

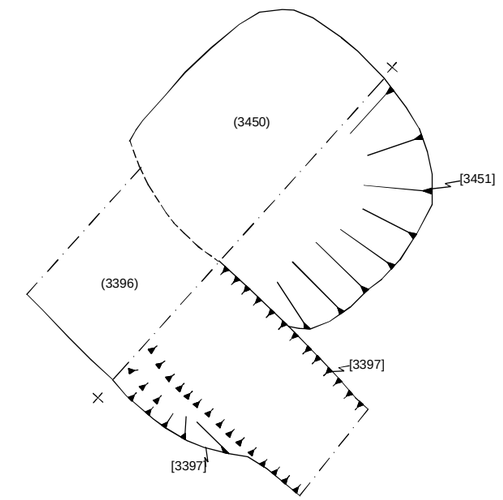

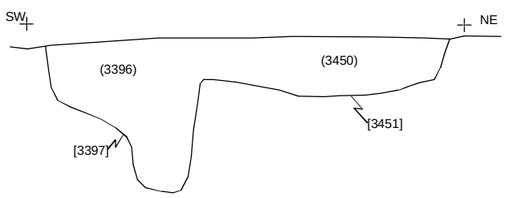

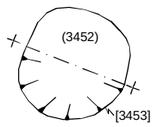

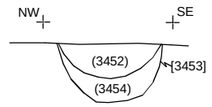

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Figure 36: Undated circular and sub-circular pit features

Notes:

6.4 *Linear ditches*

6.4.1 Twenty-six linear ditch features, many of which were inter-cutting, were excavated as part of Phase 6, which is many more than have been observed in previous phases at Lanton. The linear ditches previously excavated (Cockburn, Burrill and Brightman 2009, Mapplethorpe and Scott 2011, Cockburn 2012) were all very similar in character and mostly contained modern pottery and as such have been interpreted most likely as post-medieval field boundaries or woodland boundaries (Cockburn, Burrill and Brightman 2009), although some of the linear ditches previously excavated are thought to relate to a possible Iron Age shrine complex (Mapplethorpe and Scott 2011). The linear ditches of Phase 6 demonstrate characteristics not previously seen in similar features in previous phases of the site.

6.4.2 The linear ditches were all relatively shallow, although it is likely that they have been severely truncated. None of the ditches or gullies produced any evidence of material culture, nor were any of the environmental samples productive in producing adequate dating material; the fills were all sterile and all the environmental samples produced were modern plant rootlets and modern uncharred seeds, with occasional tiny fragments of charcoal that proved too small to identify to species. The only exception to this was F3404 whereby the sample taken from the terminus produced abundant charcoal. The linears observed were generally very similar in dimension, and where the linears inter-cut relationships could not be determined due to the similarities of the fills; hence, it seems likely that many of the ditches are contemporary. Many of the features were extremely shallow and graded.

6.4.3 North-east to south-west aligned ditch F3346 was demonstrably cut by pits F3272, F3274, F3282 and F3284, indicating that this ditch can be no later than the Late Neolithic as represented by the pottery in two of these pits. Ditch F3346 met with ditch F3352, although no relationship could be determined between the two ditches due to the similarity of the fills. Hence, it is considered that these two ditches are contemporary.

6.4.4 A series of inter-cutting ditches were observed at the south-western end of the site, comprising F3304, F3324, F3326, F3328, F3330, F3336, F3338, F3340, F3342 and F3344. Where intersections between different ditches occurred, sections were cut in order to establish stratigraphic relationships between the individual ditches, however, in all cases the fills of the ditches were identical, hence the relationship was not possible to be determined. The implication of this would be that all the ditches observed in this group are contemporary; however the lack of material culture or environmental remains makes it difficult to place a date on these features. Inter-cutting ditches F3346 and F3352, pre-dating the Late Neolithic pit cluster, were situated in close proximity to this ditch group and it is possible that they may indeed be related, but the relationship is lost because many of the ditches have graded out. Ditches F3304 and F3342, both of which are aligned east-west, may in fact be the same feature however poor preservation has resulted in it appearing as two separate features.

6.4.5 A number of ditches were aligned north-west to south-east across the site, but all graded out in the area of the palaeochannel. The majority of the features were very similar in form; however, there were some examples which differed. F3390 was a long, narrow, curving feature that displayed distinct sediment changes on the upper surface, ranging from sandy silt to very compacted sub-rounded pebbles, although the dimensions remained constant throughout, with a maximum depth of 0.42m and a maximum width of 0.80m. The ditch graded out towards the north-west, and it seems likely that it runs into the palaeochannel.

6.4.6 In contrast to the prevailing shallow, U-shaped ditches observed across the site, linear F3348 displayed a noticeably different profile with very steep, almost vertical sides and a maximum depth of 0.45m. The profile and depth of this feature is indicative of a

construction slot; in addition, circular feature F3350 was located centrally in linear F3348 and may be a large posthole. F3416 was similar in profile to construction slot F3348 with a flat-bottomed V-shaped profile and a maximum depth of 0.60m, and again is indicative of a construction slot. This ditch met with ditch F3456, which although itself was a prevailing shallow U-shaped type ditch, contained daub in pit F3412 cut into its terminus, indicative of a building with close proximity.

6.4.7 Ditch F3396 was situated directly next to three circular features (F3398, F3402 and F3450). None of the circular features contained any dating evidence or material culture, and all were somewhat irregular in shape, however, their proximity to the ditch suggests they may indeed be related features. Ditch F3396 cut features F3402 and F3450, hence is stratigraphically later than the two circular features.

6.4.8 Pit f.3448 was situated at the intersection of ditches F3404 and F3446 and was cut into both ditches. As the pit obscures the intersection between the two ditches, it is not possible to determine the relationship between the two features, and it should be considered that they may in fact be the same ditch, with the pit placed at the point where the linear changed course, suggestive of a timber post.

6.4.9 A series of intercutting ditches existed at the northern end of the site including F3416, F3456, F3426, and F3430. As above, none of the intersections displayed clear relationships and it is considered that these ditches are all contemporary with each other. A Neolithic flint scraper was recovered from the upper surface of ditch F3426; however caution should be applied when considering the ditch and its likely contemporaries as Neolithic, as the position of the artefact on the surface of, rather than securely within the feature, leads to only a tentative datable association. Ditch F3456 had pit F3412 cut into it, demonstrating that ditch F3456 pre-dates the Late Neolithic.

6.4.10 With the exception of the two possible construction slots discussed above, it seems likely that the excavated ditches from part of a field system; the above observations suggest that the group of roughly parallel ditches running perpendicular from the palaeochannel form part of a system of Neolithic land allotment. It should be considered that the ditches have been heavily truncated by later agricultural activity, and although appear shallow, would have been considerably deeper and somewhat wider.

Feature No.	Context numbers	Description	Max. width (mm)	Max. depth (mm)	Colour of fill	Composition
3304	3304, 3305	E/W Linear	620	150	Mid-light brown	Sandy-silt
3324	3324, 3325	N/S Linear	520	200	Mid-brown	Silty-sand
3326	3326, 3327	N/S Linear	850	190	Mid-dark brown	Silty-sand
3328	3328, 3329	NW/SE Linear	700	190	Mid-brown	Silty-sand
3336	3336, 3337	Slightly curved E/W Linear	550	150	Light yellow-brown	Silty-sand
3338	3338, 3339	Slightly curved N/S Linear	850	180	Orange-brown	Silty-sand
3340	3340, 3341	NW/SE Linear	360	100	Mid-pale brown	Silty-sand
3342	3342, 3343	NE/SW Linear	700	150	Mid-brown	Silty-sand
3344	3344, 3345	NW/SE Linear	600	350	Mid-brown	Silty-sand

3346	3346, 3347	NE/SW Linear	900	200	Mid-brown	Silty-sand
3348	3348, 3349	N/S Linear	350	450	Pale grey-brown	Silty clay
3352	3352, 3353	NW/SE Linear	1100	310	Dark-mid brown	Silty-sand
3362	3362, 3363	NW/SE Linear. Offshoot of linear f.3348	750	200	Mid-brown	Silty-sand
3364	3364, 3365	NW/SE Linear	750	320	Dark yellow-brown	Silty-sand
3390	3390, 3391	Curved NW/SE linear	420	250	Dark yellow brown	Sandy-silt, frequent pebbles
3396	3396, 3397	Curved NW/SE Linear	750	520	Dark yellow-brown	Sandy-silt
3400	3400, 3401	Slightly curved E/W Linear	440	200	Pale grey-brown	Sandy-silt
3404	3404, 3405	N/S Linear	720	210	Dark yellow-brown	Sandy-silt
3408	3408, 3409	NW/SW Linear	770	210	Light yellow-brown	Sandy-silt
3416	3416, 3417	Irregular NW/SE linear	580	600	Dark yellow-brown	Sandy silt
3426	3426, 3427	N/S Linear	500	150	Dark yellow-brown	Sandy-silt
3430	3430, 3431	N/S Linear	1120	200	Very dark brown	Silt
3436	3436, 3437	NE/SW Linear	400	500	Mid orange-grey brown	Silty-sand
3438	3438, 3439	Irregular NE/SW linear. Possible right angle?	600	70	Mid orange-brown	Silty sand
3446	3446, 3447	Small NW/SE Linear	600	500	Mid-orange brown	Silty sand
3456	3456, 3457	NE/SW Linear	760	750	Orange-brown	Sand

Table 4. Linear features.

Figure 37. Linear F3326. Scale = 0.25m.

Figure 38. Linear F3348 and pit/posthole F3350.

Figure 39. Linear F3352. Scale = 0.25m.

Figure 40. Terminus of linear F3362. Scale = 0.25m.

Figure 41. Linear F3364. Note the linear appears to run from the palaeochannel in the middle distance. Scale =0.25m.

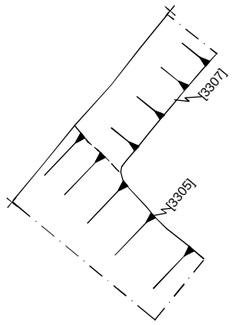
Figure 42. Linear F3390. Note the change in sediment and profile between this section and section 2 of the same feature (figure 43). Scale = 0.25m.

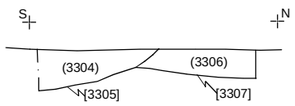
Figure 43. Linear F3390. Scale = 0.25m.

Figure 44. Linear F3408. Scale = 0.25m.

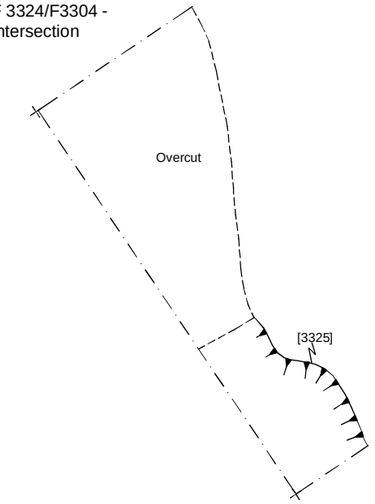
N

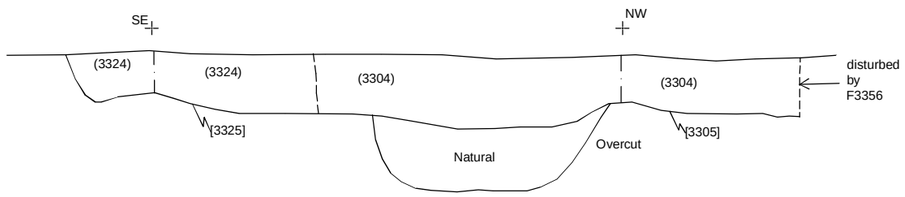
F 3306/F3304 - Intersection



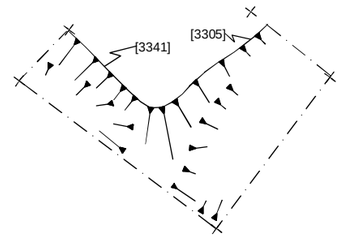


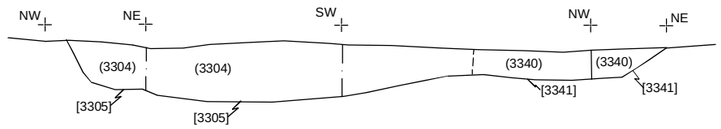
F 3324/F3304 - Intersection



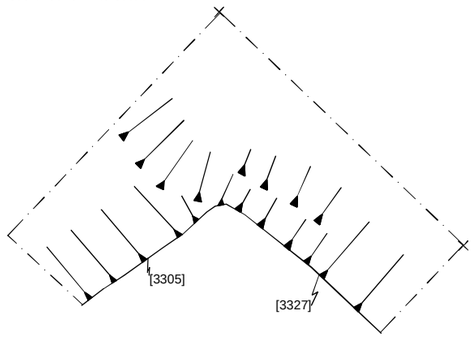


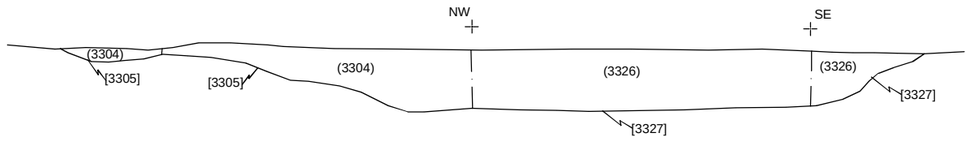
F 3304/F 3340 - Intersection



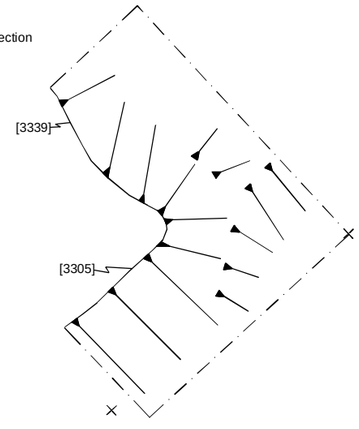


F3304/F3326 - Intersection





F3304/F3338 - Intersection



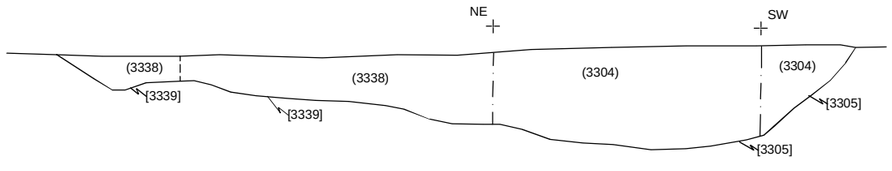


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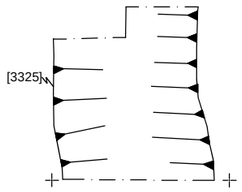
Figure 45: Ditch features

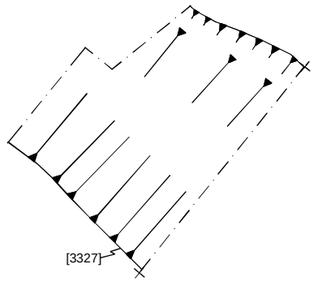
Notes:

N

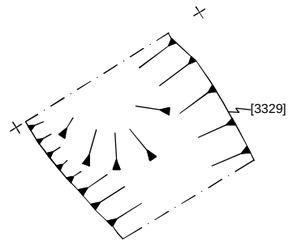
F 3324 Sec. 2



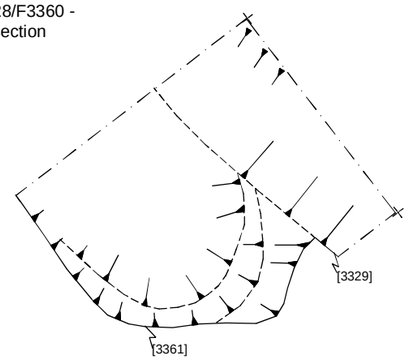
F 3326 Sec. 2

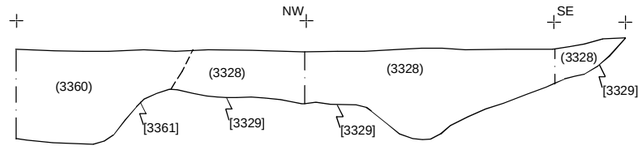


F 3328 Sec. 2



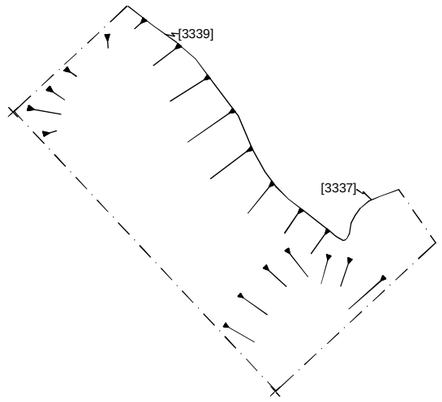
F 3328/F3360 - Intersection



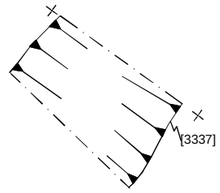


F 3338 Sec. 2

F3336/F3338 - Intersection



F 3336 Sec. 1



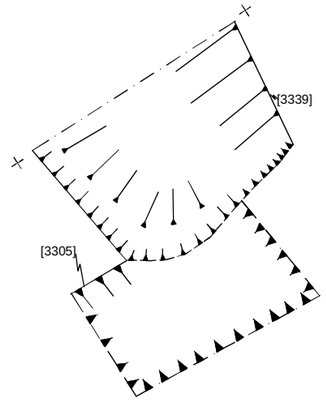


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Figure 46: Ditch features

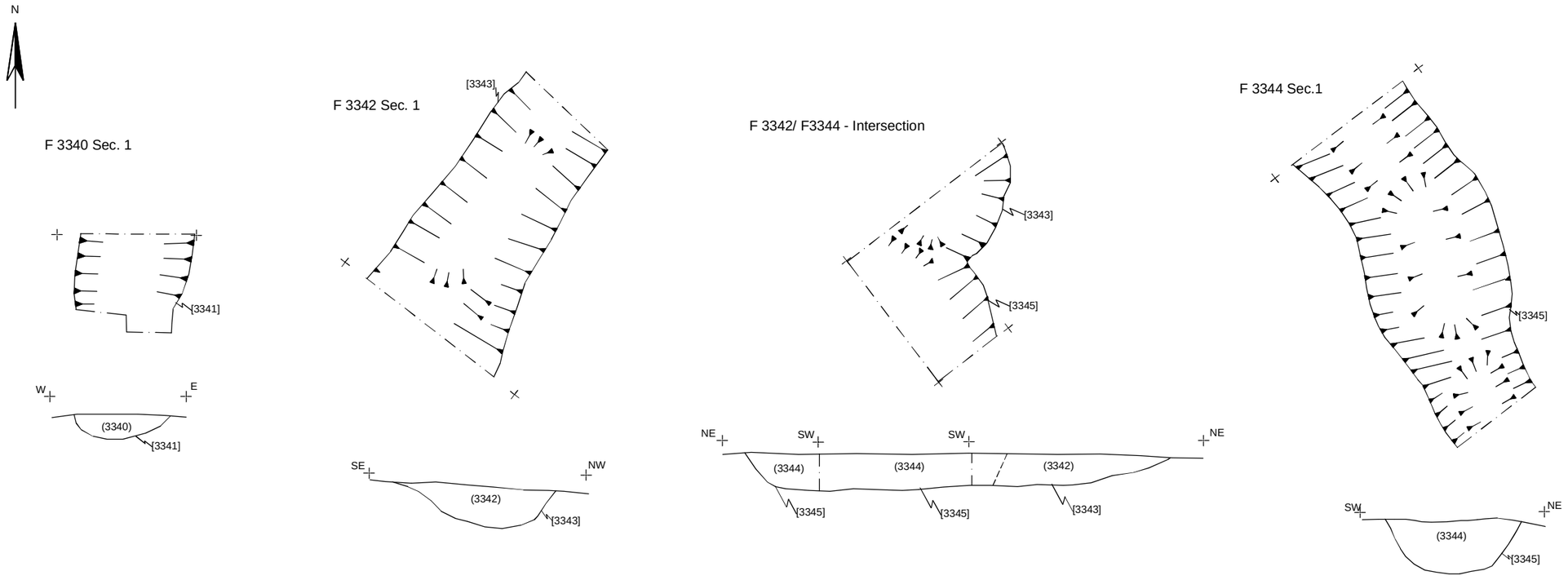

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Figure 47: Ditch features

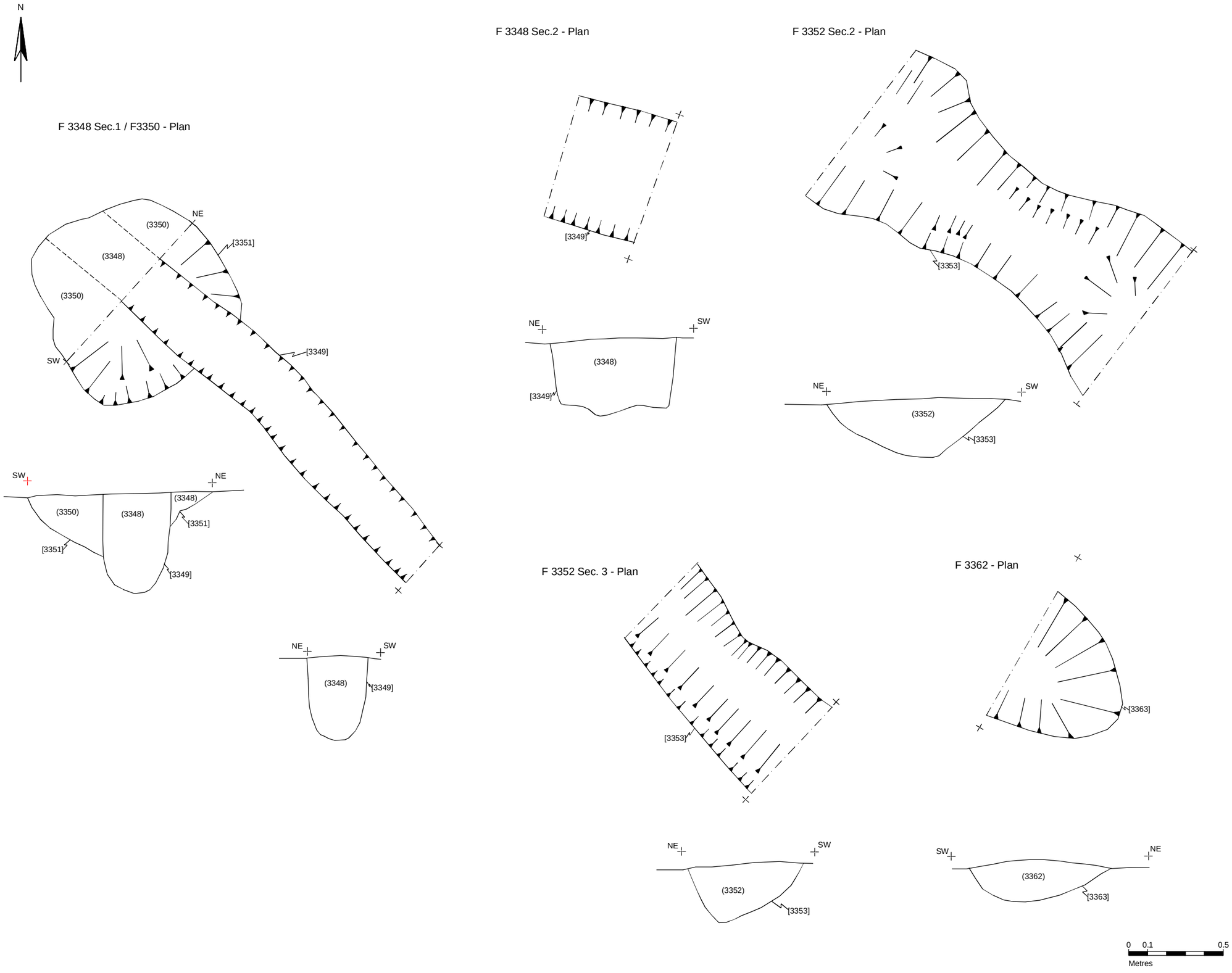

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Figure 48: Ditch features

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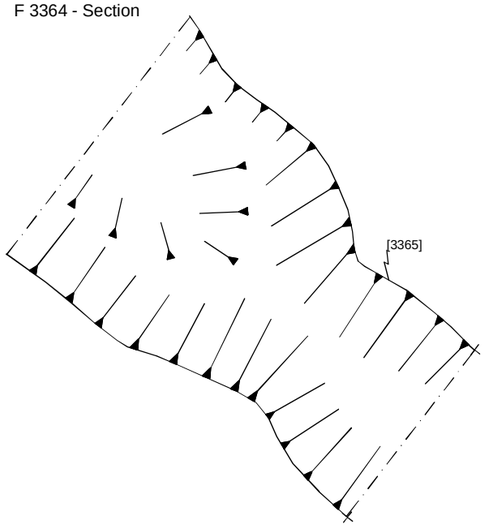
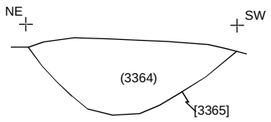
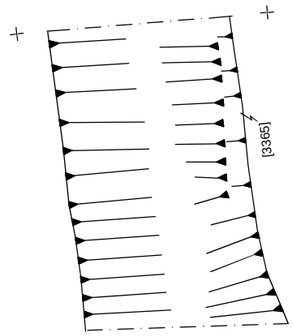
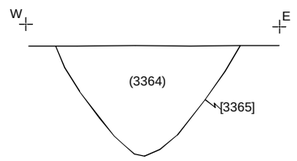
F 3364 - Section



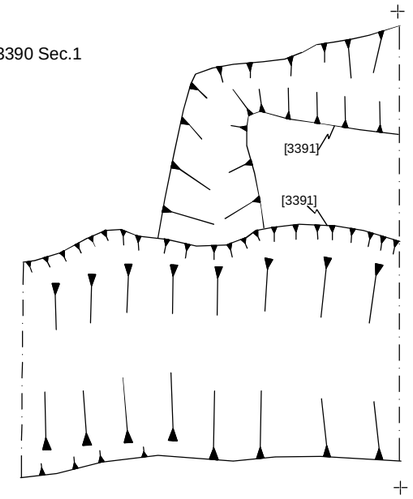


F 3364 Sec.2

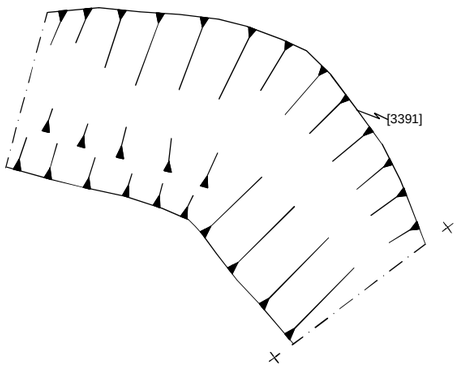


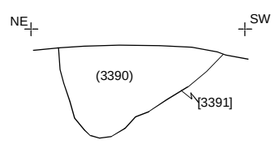


F 3390 Sec.1

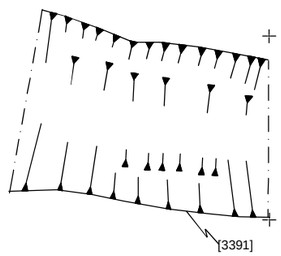


F 3390 Sec. 2





F 3390 Sec. 3



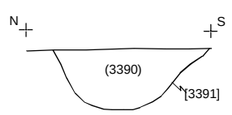


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Figure 49: Ditch features

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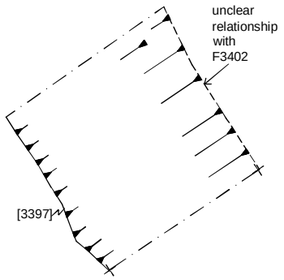
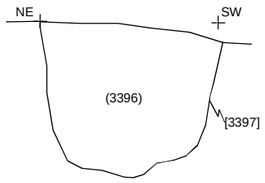
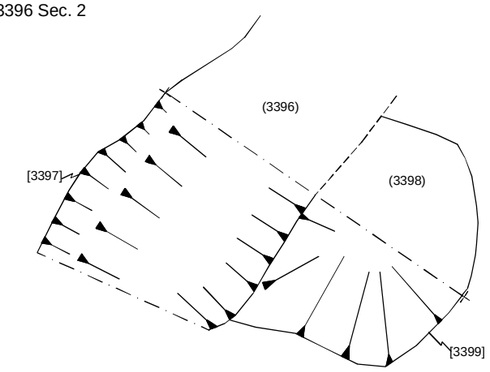
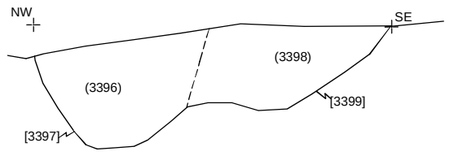
F 3396 Sec. 1



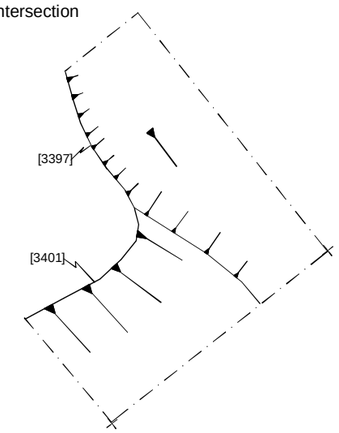


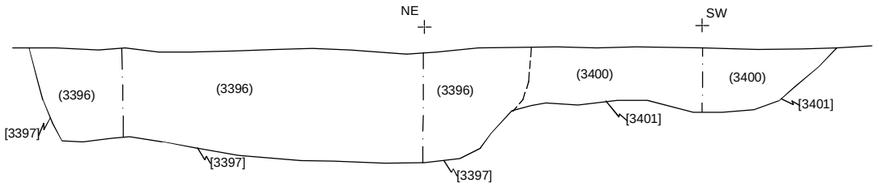
F 3396 Sec. 2



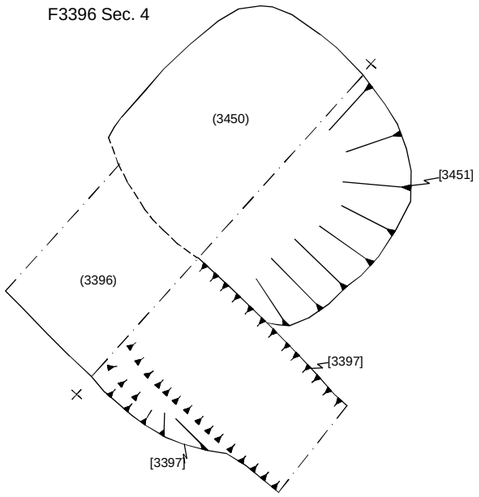


F3396 Sec. 3/F 3400 - Intersection

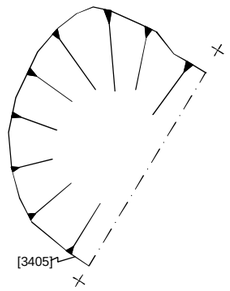


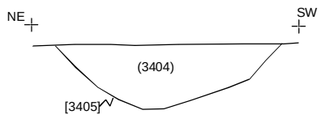


F3396 Sec. 4

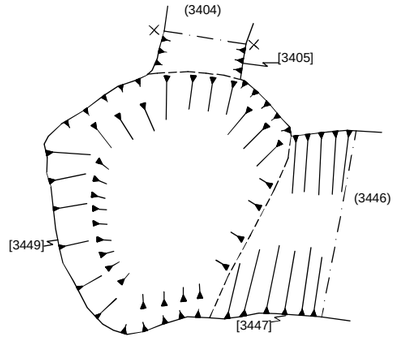


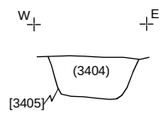
F3404 Sec.1



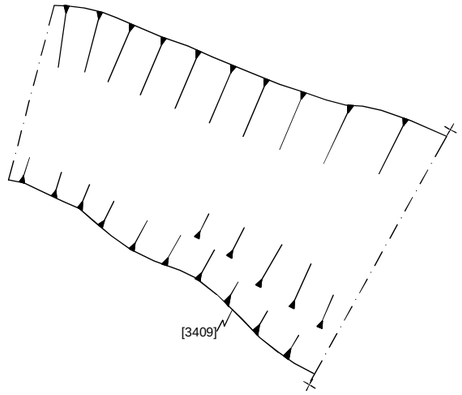


F3404 Sec.2





F 3408 Sec. 1 - Plan



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Angel House
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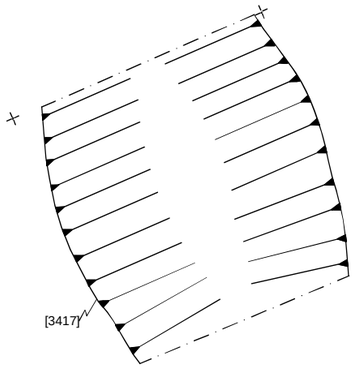
Bakewell
Derbyshire
DE45 1HB

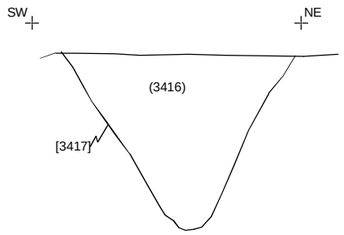
Site Code: LAN13
Date: 14 Oct 2013
Drawn: VP
Scale: 1:20 @ A3

Figure 50: Ditch features

N

F 3416 Sec. 1





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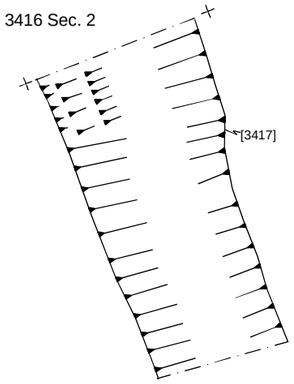
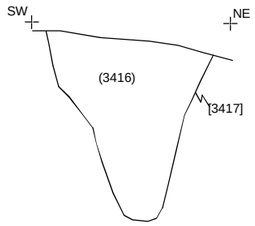
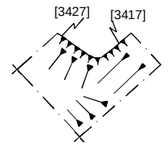
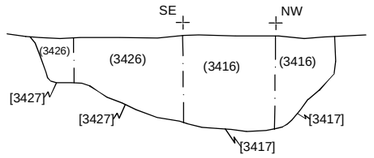


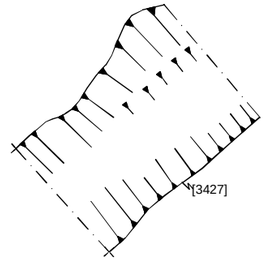


F 3416 Sec. 3

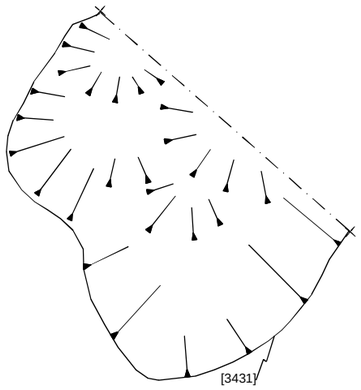


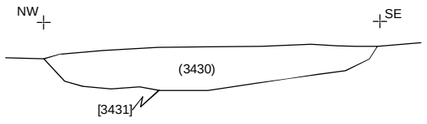


F 3426 Sec. 1



F3430 Sec. 1





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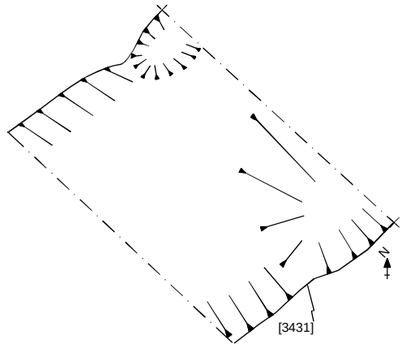

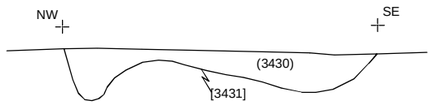

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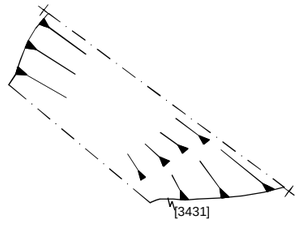

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Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

Site Code: LAN13
Date: 14 Oct 2013
Drawn: VP
Scale: 1:20 @ A3

Figure 51: Ditch features

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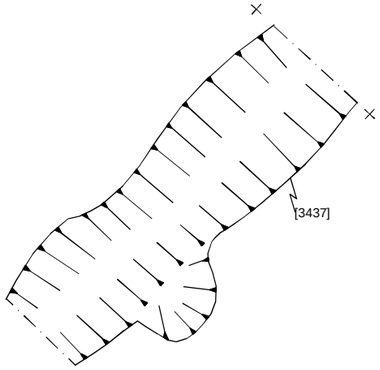
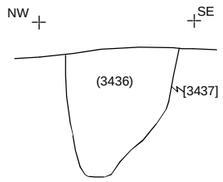
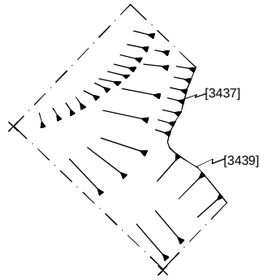
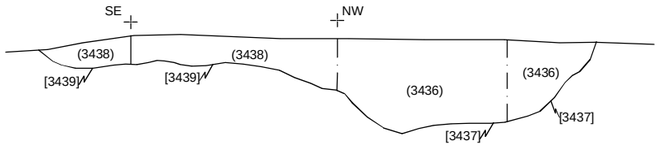
F3436 Sec. 1



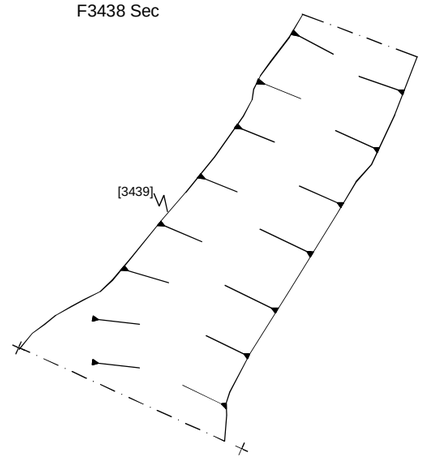


F3436 Sec.2/ F3438 - Intersection

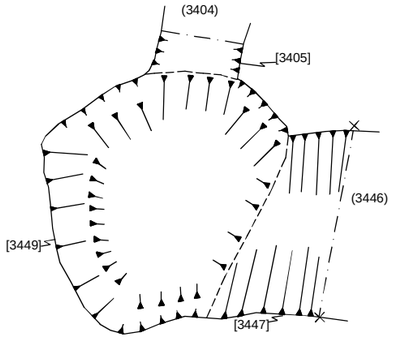


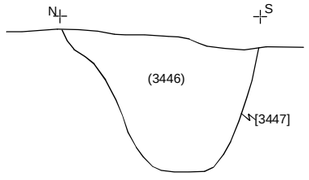


F3438 Sec

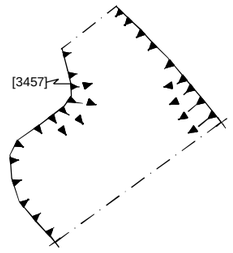


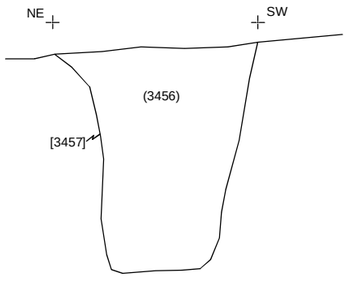
F3446 Sec. 1





F 3456 Sec.1





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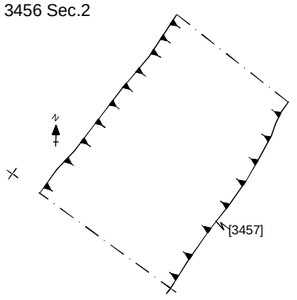

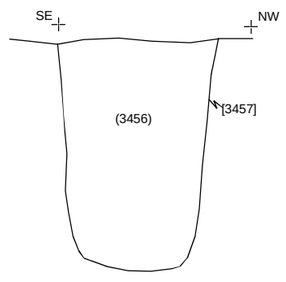

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Angel House
Portland Square
Bakewell
Derbyshire
DE45 1HB

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Figure 52: Ditch features

7 Overall Discussion

7.1 The excavations and post-excavation assessment from Phase 6 have provided additional information to further our understanding of the Neolithic archaeology of the quarry, but also for the region as a whole. The results of this phase of excavation at Lanton Quarry fit within the larger programme of excavation, assessment and analysis which is still ongoing. The Phase 6 excavations revealed 10 pit and posthole features containing Neolithic pottery, lithics and charred food remains, several possible Late Neolithic or earlier field boundaries and at least one potential construction slot.

7.2 The Neolithic archaeology, comprising 'domestic pits' and postholes, fits within the pattern of features revealed elsewhere in the quarry and also the distribution of Neolithic flints from fieldwalking across the field surface (Cockburn *et al.* 2009; Stafford and Johnson 2007). The Neolithic pit cluster identified during the Phase 6 excavations was in a rough triangular arrangement, similar to other Neolithic pit clusters excavated during earlier phases at Lanton Quarry and at other sites within Northumberland (Passmore and Waddington 2012, 154; fig 5.7).

7.3 Thirty nine isolated, undated pit features and postholes with no associated material culture were also recorded. However, nothing more is known about these features. It is possible that they could date to almost any period and they had no certain identifiable associations with any of the other features on the site.

7.4 The possible Neolithic field boundaries identified as part of the Phase 6 excavations represent a rare resource not just for the region, but for Britain as a whole, and highlights the potential for further such features in future phases of the site.

8 Specialist Reports

8.1 Faunal Remains Assessment

Kate Mapplethorpe

8.1.1 Introduction

8.1.1.1 The animal bone assemblage from Phase 6 at Lanton Quarry consisted of a total of two bags of material from contexts (3318) and (3432). The material is well-preserved, although in the case of context (3318) it is quite fragmentary, with the bone surface lightly degraded by root etching.

8.1.2 Description

Pit (3318)

8.1.2.1 The remains from context (3318) consisted of one sheep–sized rib and one sheep-sized scapula blade. No anatomical landmarks were present on either bone and therefore the species could not be narrowed down further. Six unidentified fragments were also present. The assemblage weighed a total of 32.59g.

8.1.2.2 No pathology (including evidence of butchery) was visible on the bones, and no landmarks for determining age or sex were present.

Pit (3432)

8.1.2.3 The remains from context (3432) consisted of a complete (>95%) sheep/goat skeleton which was found articulated. The bones were mainly recovered through excavation;

however the residue was also sieved, increasing the recovery of smaller bones. The assemblage weighed a total of 1254.9g.

8.1.2.4 No butchery marks were visible on the bones and there was no pathology visible. The teeth of the animal are present and can be used to estimate age. All of the permanent tooth crowns are fully developed and erupted, suggesting an age of older than approximately two years of age (Hillson 2005, 231). As the teeth are still contained within the jaw it was not possible to distinguish the development stage of the roots which would have allowed the age to be narrowed down further. An interesting point to note is that the left deciduous first molar has been pushed out by the permanent second premolar, however the base of the deciduous tooth fits the crown of the permanent tooth so tightly that it is still present, capping the permanent tooth and causing a small gap between the roots of the permanent second premolar and permanent first molar.

8.1.3 Assessment

8.1.3.1 Context (3318) was the fill of pit feature [3319] which had been heavily disturbed by animal burrowing. In addition, the bone was all recovered from the exposed surface of the pit rather than from a secure location within the fill. For this reason it cannot be ascertained whether the bones are the result of primary or secondary deposition, as they may have been pulled into the area from the topsoil by burrowing.

8.1.3.2 The sheep/goat skeleton from (3432) came from a secure pit feature. No dating evidence such as pottery was recovered from the fill so it is not known when the animal was buried. The articulated nature of the burial indicates a primary deposition, and the high level of preservation may suggest a post-medieval livestock burial.

8.1.4 Recommendations

8.1.4.1 No further analysis is recommended for the recovered bones. If additional work is undertaken at the site the results of this assessment should be added to any further relevant assessment produced.

8.1.4.2 As the sheep /goat is almost certainly post-medieval or later in date, it is not recommended that it is kept due to the fact that it is not archaeologically significant. It is also not recommended that the assemblage from (3318) is kept as the stratigraphy for this deposit is uncertain. If the bones are to be discarded the sheep/goat skeleton can be added to a teaching collection.

8.2 Analysis of the prehistoric ceramic assemblage

Dr. Clive Waddington

8.2.1 Introduction

8.2.1.1 The corpus of ceramic material recovered from the Phase 6 excavation at Lanton Quarry comprised a substantial assemblage of Neolithic pottery numbering approximately 300 sherds in total (excluding crumbs and prior to conjoining sherds being identified), with a combined weight of just over 2.73kg. It represents a minimum of 25 vessels that can be classified as Late Neolithic Grooved Ware and Plain Wares, based upon consideration of profile, fabric and depositional context as well as slightly less reliable indicators such as colour and wall thickness, together with various unclassifiable sherds from four contexts. They were all recovered from pit features and one linear ditch fill scattered across the Phase 6 excavation area.

8.2.1.2 The assemblage complements the previous assemblages recovered from Lanton Quarry and relates to the evidence for later Neolithic occupation across the wider site. It may also be compared with further assemblages recovered from neighbouring sites such as those from Cheviot Quarry (Johnson and Waddington 2008) and Thirlings (Miket *et al.* 2008). In this respect it forms a substantial and significant addition to the local and regional pottery sequence.

8.2.2 **Method Statement**

8.2.2.1 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 according to context and then by fabric group and individual vessels. 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.

8.2.3 **Catalogue**

8.2.3.1 A catalogue describing each identified vessel is presented below.

Grooved Ware

Vessel Number	Small Find Number	Context Number	Description	Weight (grams)
10		3270 and 3274	Basal section of a Grooved Ware vessel, 13 of the sherds conjoin plus two additional small sherds. Six of the 13 conjoining sherds come from a different pit fill (3270). The vessel has buff-brown exterior and slightly darker brown interior and core and is evenly fired throughout. The fabric contains crushed stone inclusions, some of which erupt on the surface, and average 2mm across. Vessel wall averages 5mm thick. Decoration consists of vertical grooved zones, left either blank or infilled with diagonal grooves. Flat based.	162.01
11		3270 and 3274	Rim sherd with evidence for slight/feint diagonal grooving below the rim. It is probably from the same vessel as two sherds from pit fill 3270. It has a dark brown inner and outer surface with an evenly fired fabric. The fabric contains crushed stone inclusions up to 2mm across.	48.59
28		3286 (lower fill pit F3274)	Four sherds, of which 2 conjoin, from a Grooved Ware vessel with parallel grooved decoration arranged in vertical and horizontal lines and a plain round-topped rim. Overall it is a vertical-walled and substantial vessel. Fabric is hard and well-fired and contains sandstone crushed stone inclusions, some of which erupt at the surface, the inclusions being u0p to 5mm across. Wall of vessel averages 8mm thick. Pale brown outer surface and dark brown inner surface and core.	103.44
12		3270	Nineteen sherds, of which there are two conjoining rim sherds, and a further two conjoining body sherds, with plain outer surface except for the rim where two horizontal rows of irregular 'maggot' impressions. The rim tapers to a narrow top c.1mm wide. The vessel has a medium brown inner and outer surface and core	156.8

			and contains crushed grits up to 3mm across. It is well-fired and a well-made ceramic. The vessel wall averages 7mm thick. A small base sherd survives indicating a flat base.	
13		3270	Nine small sherds from what appears to have been a plain vessel with buff-brown inner and outer surface and medium brown core. The fabric includes prepared crushed stone inclusions up to 6mm across. Vessel wall averages 7mm thick.	60.47
14		3296	Four sherds, of which two conjoin, from a plain ware vessel with flat base. It has a smoothed medium brown outer surface and a rougher darker brown inner surface, and dark grey core. It has been evenly fired and contains crushed stone inclusions averaging 2mm across and the wall averages 5mm thick.	43.95
15		3296	Fifteen body sherds from what appears to be a plain ware pot. It has a smoothed red-brown outer surface, medium brown inner surface most of which has encrusted burnt residue on, and medium brown core. It has a hard evenly fired fabric that contains crushed stone inclusions up to 3mm across. There is one base sherd indicating a flat-based pot.	122.26
16		3296	Eight sherds, probably from the same vessel, of which two conjoin. They include a base sherd indicating a flat-based vessel with encrusted burnt residue on its interior surface. The two conjoining sherds form part of the rim which has an internal bevel and a vertical cordon decoration on its outer surface. It has a hard fabric and contains crushed stone inclusions up to 4.5mm across with a dark brown and burnished inner and outer surface and a medium brown core. Vessel wall averages 8-10mm thick.	103.24
17		3296	Four body sherds, of which two conjoin, from a cordon-decorated vessel. It has a medium brown inner and outer surface and core and has a hard fabric containing crushed stone inclusions up to 4.5mm across.	41.62
18		3296	Single body sherd from what is possibly a plain vessel with encrusted burnt residue on its inner surface. It has a smoothed inner and outer surface, and is a pale buff-brown on the outside and with a medium brown core. The wall averages 7mm thick.	14.05
19		3296	Two small body sherds from a thin-walled (5mm thick) plain ware vessel. It has medium brown inner and outer surfaces and a dark grey core. The outer surface is smoothed whereas the inner surface has a rougher finish.	14.05
20		3312	Single small rim sherd from a vessel with a hard fabric and with crushed stone inclusions that erupt on the inner and outer surfaces and are up to 5mm across. It has a smoothed dark brown outer surface and a smoothed medium brown inner surface with medium brown core. The wall of the vessel averages 10mm thick although it thins towards the rim which is upright and has a rounded top.	14.88

21		3412	Two body sherds from a distinctive vessel with heavily grooves horizontal lines on its outer surface. The wall averages 13mm thick and it has encrusted residue on its inner surface. The gritty fabric is hard and well-fired and contains crushed stone inclusions up to 4mm across. The outer surface is an orange-brown colour and the core is similar in colour until it merges with the medium brown of the inner surface.	75.9
22		3412	Single body sherd from a decorated vessel with slightly raised cordon with diagonal grooved lines running down the vessel side from the cordon. Wall of vessel up to 12.5mm thick. It has a smoothed and pale brown core. The fabric is hard and well-fired and contains crushed stone inclusions up to 4mm across.	23.95
23		3294	Twelve small sherds all probably from the same thin-walled and flat-based vessel with applied cordon decoration. It has a smoothed red-brown outer surface and medium brown inner surface, although some encrusted burnt residue is evident on one of the sides. Wall averages 7mm thick. Hard, well-fired fabric containing crushed stone inclusions up to 4mm across.	81.14
24		3294	Single small body sherd that could be part of a base or have a length of cordon present. It is of hard well-fired fabric and its wall averages 6mm thick and contains crushed stone inclusions up to 2mm across. It has dark brown inner and outer surfaces and core.	11.6
25		3272	Two conjoining body and rim sherds from a vessel with fine vertical and horizontal parallel grooved decoration immediately below the round-topped rim. It has a hard and well-fired fabric containing crushed stone inclusions up to 4mm across. It has a dark brown inner and outer surface and core and encrusted burnt residue adheres to inner surface. Wall 7-9mm thick. It is burnished on inner and outer surfaces.	80.38
26		3272	A small sherd with encrusted burnt residue adhering to the inner surface. The fabric is hard and well-fired and contains crushed stone inclusions up to 4mm across and has a pale orange-brown inner and outer surface and medium brown core. Wall averages 8mm thick.	9.71
27		3310	Two tiny sherds which may or may not be from the same vessel. Impressed dot decoration on external side of one of the sherds. The other sherd is a tiny rim sherd indicating an upright and flat-topped rim. Both have pale brown smoothed inner surface, dark brown core and one has a pale brown outer surface and the other dark brown. Both are from a vessel/s with hard evenly fired fabric containing crushed stone inclusions 2mm across and which has a wall 6.5-8mm thick.	4.1
29		3292	Fourteen small sherds, of which 10 conjoin, from a plain bucket-shaped vessel. The fabric is hard and well fired and contains sandstone crushed stone inclusions, some of which erupt	149.91

			at the surface and are up to 3mm across. Vessel wall averages 5mm thick. Pale-dark brown outer surface, dark brown core and burnt encrusted residue on inner surface. Both inner and outer surfaces have been burnished.	
30		3292	Seventeen sherds from a substantial vertical-sided Grooved Ware vessel decorated with applied cordons arranged in straight lines with other lines running off at angles. Made from a hard well-fired fabric with large crushed stone inclusions up to 8.5mm across. Medium brown inner surface, outer surface and core. Wall averages 7.5mm thick. Burnished on inner and outer surface.	352.7
31		3290	Fifty three sherds from a substantial vertical-sided Grooved Ware vessel decorated with applied cordons arranged in straight lines, some being at angles to each other. Could possibly be the same vessel as 30 from 3292. Several sherds conjoin including three that form an area of rim. The rim is upright with an internal bevel. On the exterior there are vertical cordons interspersed with diagonal cordons running down from the rim with an area of deep fingernail impression infill. Wall averages 7-11mm thick.	673.01
32		3290	Eleven sherds, of which several conjoin, from at least one plain vessel with burnished inner and outer surfaces. It is made from a hard well-fired fabric and contains crushed stone inclusions 3-4mm across and is burnished. If all sherds are from same vessel then the wall thickness can vary from 6-8mm. Pale brown outer surface and medium brown inner surface and core, although several sherds have encrusted residue adhering to internal surface. Two tiny base sherds present but insufficient to provide an estimated diameter.	66.14
33		3316	Two small sherds from a plain vessel with medium brown outer surface and pale brown inner surface and core. Fabric is hard and well-fired and contains crushed stone inclusions up to 3mm across. Wall up to 6.5mm thick.	16.66
Unattributable		3274	Seven small crumbs and sherds, one of which has a plain outer surface and its inner surface has burnt residue.	20.38
Unattributable		3270	Thirty small crumbs and sherds, all from well-made and well-fired vessels.	92.08
Unattributable		3290	Forty nine small and tiny crumbs and sherds from probably several different vessels, including some detached cordons, and one small sherd with external grooved decoration. All from well-fired and well-made vessels.	115.88
Unattributable		3296	Fifteen crumbs and small sherds, some of which have encrusted burnt residue adhering.	46.99
Daub		3412	Several small crumbs of daub, pale brown in colour and well-fired.	25.09

Table 5. Table of identified vessel by ceramic type.

Figure 53. Conjoining rim sherds (top) and body sherds (bottom) from a classic cordoned Grooved Ware vessel (31) (scale = 10mm graduations).

Figure 54. Two sherds from Vessel 21, part of a substantial vessel with deep grooving for external decoration (scale = 10mm graduations).

Figure 55. Conjoining sherds from Vessel 29, a plain vessel with encrusted brunt residue adhering to its inner surface (scale = 10mm graduations).

Figure 56. Basal section of a Grooved Ware vessel (Vessel no. 10) recovered from Phase 6 (scale = 100mm).

8.2.4 **Fabric**

8.2.4.1 The fabrics are typically hard and well-fired with crushed stone inclusions that can be gritty. The stone inclusions are typically sandstone but other stone is also used. The inclusions are evidently well prepared in advance of pot construction. Occasionally the inclusions erupt on the surface, the latter of which is typically burnished on both inner and

outer sides. Frequently the fabrics have a pale buff-brown or red-brown outer and inner surface and typically a similar or darker core. Carbonised residues are evident on several vessels, but notably they are typically on the plain vessels and not the Grooved Ware decorated vessels.

8.2.5 **Form**

8.2.5.1 All the vessels for which base sherds survive are flat-based. Those with substantial areas of wall surviving reveal bucket-shaped or vertical-sided vessels. Some of the vessels can be relatively small whilst others are evidently of substantial size. Insufficient rims and bases survive to identify estimated diameters.

8.2.6 **Decoration**

8.2.6.1 Decoration includes the use of substantial applied cordons (e.g. Fig. 1) suggestive of the 'Durrington Walls' sub-style (Wainwright & Longworth 1971) together with a limited repertoire of grooving (e.g. Fig. 2) which could belong to almost any of the sub-styles. The grooved lines tend to be in groups of diagonal or straight lines, sometimes giving the impression of lozenge motifs suggesting parallels with Smith's 'Clacton' style (Smith 1956).

8.2.6.2 This range of Grooved Ware styles is in keeping with the styles recovered elsewhere from the Lanton site, together with those known to be present in the Milfield Basin as, in Gibson's recent review (Gibson 2002), parallels with Durrington Walls and Clacton style vessels have been attested at the nearby sites of Old Yeavering, Ewart 1 pit alignment and Redscar Bridge, and similar Grooved Ware has since been found at Cheviot Quarry (Waddington in Johnson and Waddington 2008) and at the Milfield North Pit (Passmore and Waddington 2009, 196-204).

8.2.7 **Numbers**

8.2.7.1 A minimum of 25 vessels are present within the assemblage of which 12 can be classified as Grooved Ware and 10 as plain vessels with the others unattributable. Cross contextual fits could be located for vessels 10 and 11 from pit fills (3270) and (3274).

8.2.8 **Discussion**

8.2.8.1 Finds of Grooved Ware are relatively rare in Northumberland and their chronology and use is only just beginning to be understood. The sherds from Lanton Quarry show clear evidence for grooved and applied cordon decoration and they form pure Grooved Ware assemblages with no sherds from other traditions identifiable in the same context. The fabric of all the vessels reveals well-made ceramics. The assemblage of Grooved Ware from Phase 6 is significant and complements the overall Grooved Ware assemblage from Lanton Quarry, and which will ultimately form one of the largest single assemblages of Grooved Ware from North East England. Carbonised deposits on the plain vessels indicate that these vessels had probably held foodstuffs prior to their deposition and that they were utilised in a different way to the Grooved Ware-decorated pots.

8.2.8.2 This Late Neolithic material all comes from pits cut into the sand and gravel terrace providing direct depositional comparanda to the Grooved Ware material recovered from Cheviot Quarry (Johnson and Waddington 2008), the Milfield North pit (Gibson in Passmore and Waddington 2009), Yeavering (Ferrell 1990) and the possible material from Thirlings (Miket *et al.* 2008). As the Grooved Ware corpus for North East England grows the ceramics will be able to be more effectively compared to other regional assemblages. Although not all the vessels can be reconstructed a crude indication of size is afforded by the shape and size of the surviving sherds which suggest a fairly wide range of forms from large

vessels to smaller service vessels. All are executed in a fabric with varying quantities of crushed stone, including sandstone, and have been well fired. The surfaces are burnished.

8.2.8.3 The opportunity to gain radiocarbon dates for this pottery style is important and forms a priority in the North East archaeological research agenda (Petts and Gerard 2006).

8.3 Lithic Assessment

Dr. Clive Waddington

8.3.1 Factual Data

8.3.1.1 A total of 13 chipped lithic artefacts were recovered from the Phase 6 excavations at Lanton Quarry together with one coarse stone artefact, and those that were diagnostic were identified as being Neolithic in date.

8.3.2 Provenance

8.3.2.1 Table 1 below lists the feature numbers/contexts from which the material was recovered.

Context No	Feature No	Find No	Context Type	No Lithics	Lithic Types Present	Other asstns.	Period
3270	F.3270	1785	Pit fill	1	Flint blade	Grooved Ware	Neolithic
3274	f.3274	1790	Pit fill	1	Flint flake	Grooved Ware	
3276	F.3276	1784	Pit fill	1	Flint blade		Neolithic
3278	F.3276	1791, 1792, 1793	Primary pit fill	3	Flint debitage including a flake, blade and chip		
3290	F.3290	1789	Pit	1	Flint flake	Grooved Ware	
3292	F.3290	1788	Pit fill	1	Flint flake	Grooved Ware	
3296	F.3296	1783	Upper pit fill	1	Sandstone smoothing stone fragment	Grooved Ware	
3382	F.3382	1787	Pit fill	1	Flint flake		
3426	F.3426	1786	Linear ditch fill	1	Flint scraper		Neolithic
001	-	1794, 1795, 1796	Ploughsoil	3	Flint scrapers x 2 and knife		Neolithic
Total				14			

Table 6. Lithic counts by context.

8.3.3 Dating

8.3.3.1 Together the lithics are all part of a parallel-sided blade-based manufacturing tradition that employs broad thin blades which is consistent with Neolithic traditions in this region. This is supported by the fact that later Neolithic pottery was discovered associated with the lithics in four out of the eight pits.

8.3.4 **Range and Variety**

8.3.4.1 The assemblage consists of unaltered blades, flakes and chips together with some fine retouched specimens. They include a very fine scraper from (3426), a scraper and a scraper fragment and what appears to be a broken knife, all from the topsoil (001). The sandstone smoothing stone is suggestive of some form of rubbing stone used either for sharpening tools or perhaps as a grinder, but being only a fragment little more can be said of its original form or function. The flint from (3274) has been heavily burnt. The range of raw materials is of interest as most of the material is high quality nodular flint that has clearly been imported to the area from a considerable distance. This includes the fine scraper from (3426) and the three tools from the topsoil. The nearest nodular sources of dark grey chalky flint is that from Norfolk. The piece of high quality light grey flint from (3382) is probably from the Yorkshire Wolds. The sandstone is a local material and this red coloured variety can be found outcropping in the river cliffs of the lower Tweed just a few kilometres to the north of Lanton Quarry. The number of lithics made from different raw materials is shown in the table below (table 7).

Raw Material	**Quantity**
Nodular flint	5
Undiagnostic	8
Sandstone	1
Total	14

Table 7. Breakdown of lithics by raw material.

8.3.5 C**ontamination**

8.3.5.1 All of the lithic material came from discrete pit features that had not been disturbed by later activity apart from the three pieces from the ploughsoil (001).

8.3.6 **Residuality**

8.3.6.1 Excavations at the Lanton Quarry site have confirmed that this area of landscape has been favoured for settlement from Mesolithic through Neolithic, Bronze Age, Iron Age and Early Medieval times, and therefore the potential for earlier material to become incorporated in the fills of features cut into the ground at a later date will always remain. However, the fact that most of the material is from features that contained other forms of contemporary domestic waste in the form of broken ceramics and carbonised plant food remains suggests little or none of this material is residual.

8.3.7 **Condition**

8.3.7.1 None of the pieces show fresh breaks and therefore the broken pieces have been broken in antiquity prior to discard.

8.3.8 **Primary Sources and Documentation**

8.3.8.1 There are no primary sources or documentation that might enhance the study of this collection.

8.3.9 **Means of Collecting the Data**

8.3.9.1 The lithics were excavated from the ground using hand tools (trowels and small tools) and from sieves with a 1cm^2 mesh. Each lithic was washed in tap water and gently

cleaned with a toothbrush before being left to air dry. Each lithic was placed in an individual plastic bag that was labelled with a unique small find number and the context number.

8.3.9.2 For the assessment, the lithics were un-bagged and laid out on tables and grouped by context. Each lithic was catalogued and a preliminary examination made of all pieces. The lithics were then re-bagged and packed, by context, into a sturdy plastic storage box.

8.3.10 **Statement of Potential**

8.3.10.1 This assemblage of material is very small on its own but combined with the lithic material from earlier excavations on this site it has the potential to advance the regional research agenda and understand more, specifically, about Neolithic lithic production, use and significance in the region.

8.3.11 **Integration of Study with Other Research**

8.3.11.1 The study of this assemblage could be enhanced through acquisition of radiocarbon dates on material from the same context to assist with dating the flint sequence in the region, and by comparison with the dates, styles and circumstances of discard with Neolithic assemblages from previous excavations at Lanton Quarry (see previous Phase reports), the nearby sites of Cheviot Quarry (Waddington 2000; Johnson and Waddington 2008), Thirlings (Miket *et al.* 2008), Bolam Lake (Waddington and Davies 2002) and elsewhere (e.g. Harding 1981; Miket 1976; 1981; 1985; Passmore and Waddington 2012).

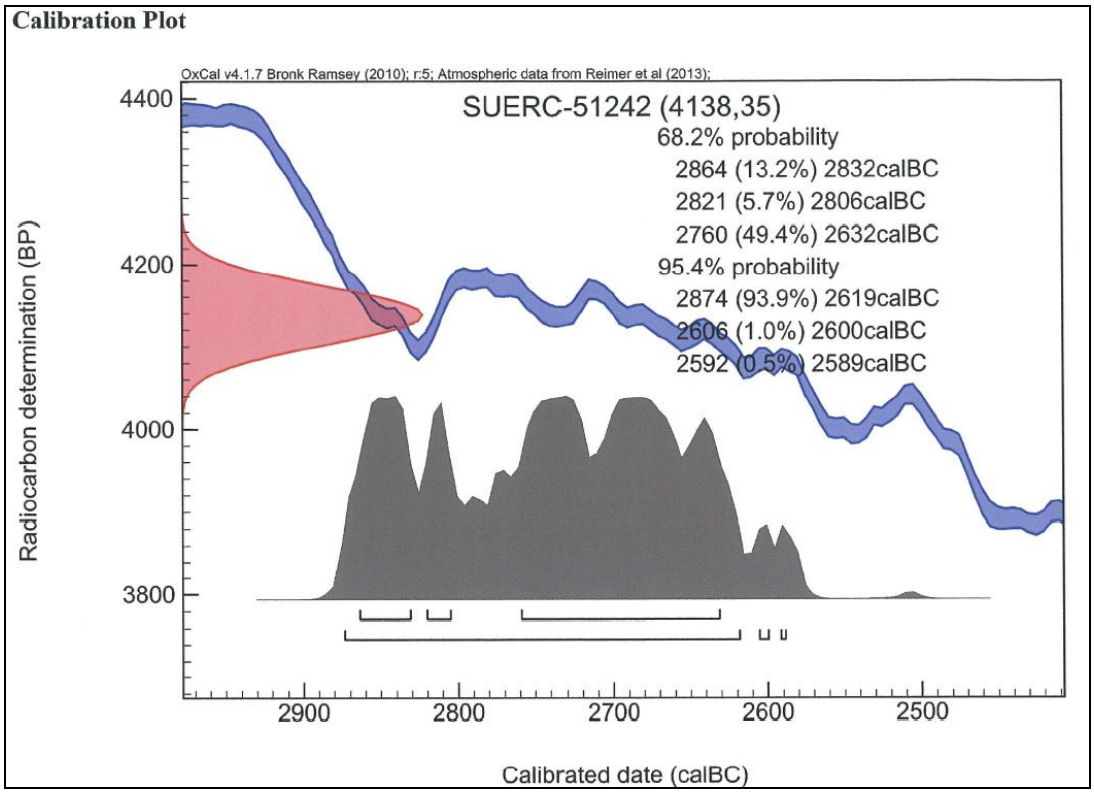
9 Radiocarbon Dating

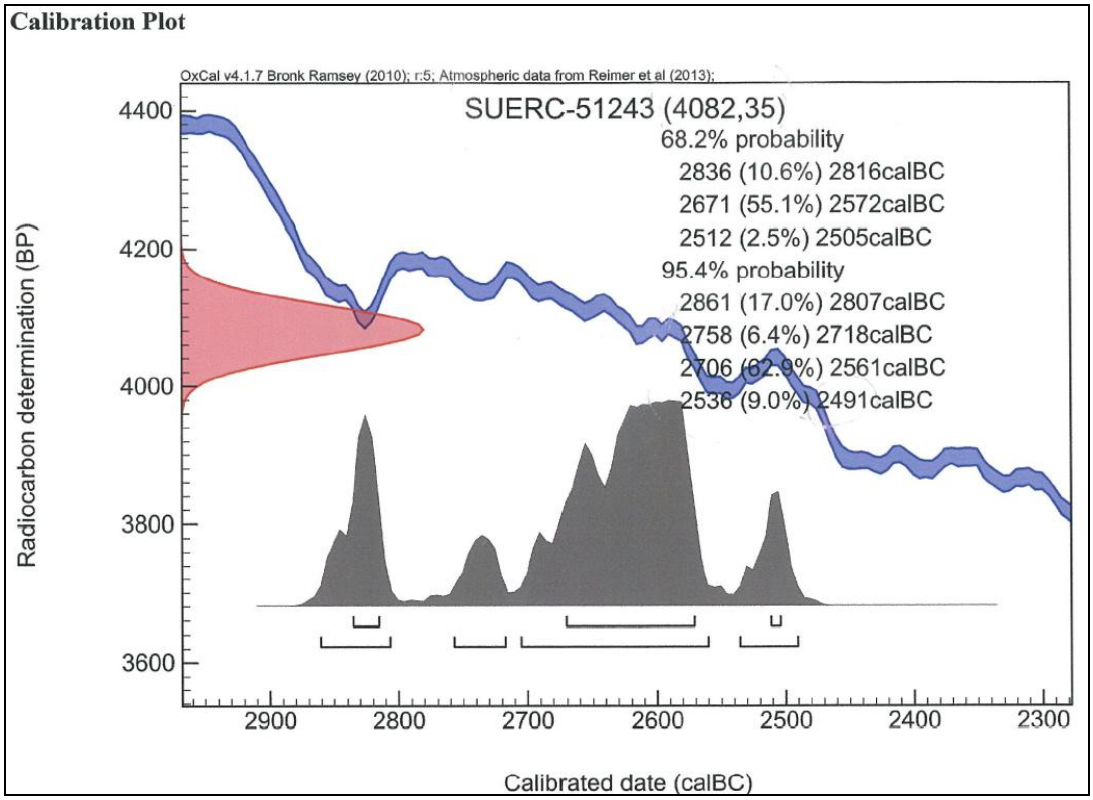
9.1 Two radiocarbon dates were recovered from pit F3274, one from the primary fill (3286) and one from the secondary fill (3274), both of which contained Neolithic Grooved Ware pottery. The results of the radiocarbon determination are detailed in Table 8, below.

Feature	Context	Sample	Lab No.	RC Age (BP)	δ13C (‰)	Calibrated date range (68.2% confidence)	Calibrated date range (95.4% confidence)
Primary fill of pit containing Neolithic Grooved Ware pottery	(3286) from F3274	Charred hazelnut (*Corylus avellana*) shell fragment	SUERC-51242 (GU33013)	4138±35	-27.7‰	2864 – 2632 cal BC	2874 - 2589 cal BC
Secondary fill of pit containing Neolithic Grooved Ware pottery	(3274) from F3274	Charred hazelnut (*Corylus avellana*) shell fragment	SUERC-51243 (GU33014)	4082±35	-24.6‰	2836 – 2505 cal BC	2861 – 2491 cal BC

Table 8. Radiocarbon dating results.

9.2 The two samples obtained from pit F3274 returned radiocarbon dates that places it in the Late Neolithic, which directly corresponds with the Grooved Ware pottery retrieved from the same pit and other features on the site. The two distinct date ranges indicate prolonged use, or re-use of the pit, with the primary fill dated to 2874 - 2589 cal BC and the secondary fill dated to 2861 - 2491 cal BC.





10 Palaeoenvironmental Assessment

10.1 Introduction

10.1.1 A total of 40 samples were taken from the Phase 6 excavations at Lanton, all of which produced flots for assessment. The results are summarised in Table 9.

10.2 Method

8.2.1 Samples were processed on-site for the recovery of charred plant remains (CPR) in a Siraf-style flotation tank. The flots were collected on a 300μm mesh and the heavy residue sieved to 1mm, and both were air-dried at room temperature, after which the residue was sorted by eye for artefacts and ecofactual remains. The flots were scanned for charred plant remains using a binocular microscope at between x15 and x40 magnification. In addition, hand-picked charcoal and CPR from the heavy residues was also assessed. In all cases 100% of the flot/ hand-picked charcoal and CPR was scanned. Identifications were made without consulting a reference collection and therefore, should all be seen as provisional. Nomenclature for the plant remains follows Stace (2010).

10.3 Results

10.3.1 Table 9 presents the results of the assessment of the CPR flots. Many of the flots were abundant in charred material, especially when considered alongside how much sediment was actually processed. Almost all samples produced modern roots and many also produced modern uncharred seeds and modern insect remains. The abundant modern plant root and frequent recovery of modern weed seeds and insect remains suggests that many of the deposits sampled have been subject to some degree of modern intrusion.

10.3.2 Material sorted from heavy residues was also subject to archaeobotanical analysis, although in all cases, no charred plant remains apart from charcoal or hazelnut (*Corylus avellana*) shell fragments were recovered from the heavy residue sorting.

10.3.3 Aside from charcoal, the most commonly recorded charred macrofossil was hazelnut (*Corylus avellana*) shell, present in 17 of the samples. Little other CPR was noted in any of the flots, and in those samples where it did occur, all the material represented wild/weed seeds and it was in such small quantity that it is likely to represent material accidently exposed to the deposit rather than being deliberately charred and placed within the deposit.

10.3.4 Many of the samples produced rich charcoal remains but little in the way of other CPR. Some samples also produced abundant charred hazelnut (*Corylus avellana*) shell fragments and, depending on the research aims of the project, may be worthy of further analysis. These are discussed below.

10.4 CPR potential

Sample <388>, upper pit fill, context (3276)
This flot was very rich in charcoal, with numerous large fragments. Abundant hazelnut (*Corylus avellana*) shell fragments were also present with well over 200 fragments, mostly body fragments but also some base fragments.

Sample <389>, primary pit fill, context (3278)
This sample produced abundant hazelnut (*Corylus avellana*) shell fragments, with approximately 1000 well-preserved fragments observed in total, with numerous complete and near complete half shells. The fragmentary nature of the hazelnuts make it impractical to determine how many individual hazelnuts are present in the sample, but it is certainly very rich, especially when it is considered that only eight litres of sediment was processed – this equates to approximately 125 hazelnut shell fragments per one litre of sediment processed.

Charcoal was also abundant in this sample with numerous large fragments, and one half of a charred acorn (*Quercus* sp.) nut was also present.

Sample <395>, upper pit fill, context (3290)
This flot produced well over 100 hazelnut shell fragments and abundant charcoal, including some large fragments.

Sample <396>, primary fill of pit, context (3292)
This sample produced abundant charcoal, including some large fragments. Although not particularly rich in other CPR, approximately 100 hazelnut (*Corylus avellana*) fragments were present, many of which were body fragments and comparatively small compared to the hazelnut remains present in other samples, however, this sample may be worthy of full analysis, as it is the primary fill of f.3290, sample <395>, above.

Sample <385> pit fill, context (3270); sample <386> pit fill, context (3272); sample <387> pit fill, context (3274); sample <390> pit fill, context (3280); sample <398> pit fill, context (3296)
These samples all produced hazelnut (*Corylus avellana*) shell fragments in fairly high quantity, generally around 100 fragments per sample, although generally they were very small and fragmentary and not as well-preserved as the above samples. Alone these samples may not be worthy of full analysis, however, it may be of interest to fully analyse them in order to gain a comparison with larger and better preserved quantities of hazelnut from the samples outlined above.

10.5 **Charcoal potential**

10.5.1 Charcoal was present in most of the samples, in some cases in abundance and with large fragments. Generally the condition was good, with identifying morphological features present.

10.5.2 Whilst assessing the flots and charcoal hand-picked from the heavy residues, suitability of the charcoal for radiocarbon determination was considered. Round wood (small twigs/ branches of less than 10 – 15 years growth) is considered the most suitable material for radiocarbon determination although in the vast majority of samples no round wood was present. However, those samples which produced charred hazelnut shells would be able to provide suitable material for dating, and would indeed provide preferable material to those samples only with non-round wood charred wood. Those samples that contain no round wood or hazelnut shell may contain charcoal that could be submitted for radiocarbon determination, but it should be considered that all non-round wood fragments of charcoal are likely to be from long-lived species (e.g. oak), hence a narrow AMS date would not be possible from such material.

10.6 **Conclusion**

10.6.1 Seventeen of the samples contain short-lived annuals (in all cases, hazelnut (*Corylus avellana*)shell) which can support AMS radiocarbon determination and will compare favourably with previous phases of the site and the relatively limited number of previously published prehistoric and archaeobotanical assemblages in the region (University of York 2008), and indeed, nationwide, for a site of this character.

10.6.2 The charred plant macrofossil assemblages comprised remains of hazelnuts, wild weed seeds, and one single poorly-preserved barley (*Hordeum* sp.) grain, suggesting that wild-gathered foods formed part of the diet for the Neolithic occupants of the site.

10.6.3 Charcoal was noted in all of the flots, often in abundance with some large fragments, however no evidence of *in situ* was observed in any of the features.

10.6.4 Hazelnut (*Corylus avellana*) was present in a number of samples. In some cases hazelnut was present in abundance, such as pit f.3276 (particularly in primary fill (3278) but also in secondary fill (3276), pit f.3272 and. pit f.3280. Hazelnut shell was present in all of the pits identified as part of the pit cluster, with the exception of pit f.3310.

10.6.5 Aside from charcoal and hazelnut, little other CPR was present in the samples, and aside from the half acorn (*Quercus* sp.) nut, all other CPR represented wild weed seeds, in small quantity. Where present, the small quantity of these seeds suggests that they may be an accidental or secondary addition to the deposit, and were not intentionally charred.

10.6.6 Without exception, all samples produced evidence of modern intrusion, most notably in the form of modern uncharred seeds (commonly goosefoot or orache (*Chenopodium* spp./*Atriplex* spp.), sedge (*Carex* spp.), fumitory (*fumaria* sp.) and grass seeds (Poaceae). Complete beetle and beetle elytra were also present in some of the samples, and all samples contained varying amounts of modern plant rootlets.

10.6.7 The assemblage of charred plant remains suggests exploitation of wild-collected foods in the abundance of hazelnut (*Corylus avellana*) shell fragments observed from the Late Neolithic pits. The lack of cereal remains or other cultivated resources is unlikely to represent a preference of wild resources over cultivated resources; the presence of a possible Neolithic field system (section 6.4) in Phase 6, together with cereal remains collected from previous phases suggests organised Neolithic agriculture at the site. It is highly likely that grain processing and storage at the site would have been somewhat removed from the land allotments where the grain was produced, which may explain the lack of cereal remains recovered from Phase 6.

10.7 **Recommendations**

10.7.1 Hazelnuts (*Corylus avellana*) are notoriously difficult to quantify, their only unique morphological identifiers being the base fragments, however these are not always contained on a single fragment (true with this assemblage), and it is difficult to ascertain how many body fragments represent one complete hazelnut. As a result, there are large discrepancies in the quantification of hazelnut in archaeobotanical assemblages (Antolín and Berihuete 2012), and as such full analysis of this assemblage may not prove entirely useful in either accurately defining the number of complete hazelnuts in each sample, or indeed comparing this assemblage with other similar sites.

8.7.2 It is recommended that those samples rich in hazelnut should be retained for future reference. Those samples rich in charcoal may be useful for a teaching or reference collection.

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
385	3270	Fill of pit. Charcoal		12				+	+++		+++		Very rich in charcoal, many large examples, plenty of identifiable material if required. No round wood observed. Occasional hazelnut (*Corylus avellana*) shell fragments in flot and several more fragments retrieved from residue, less than 10 base fragments overall. Rare other CPR – two indeterminate weed/wild seeds and one wild legume (*Vicia* sp.) Occasional uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), also fumitory (*Fumaria cf. capreolata),* grass (Poaceae), speedwell (*Veronica hederifolia),* and sedge (*Carex* sp.). One beetle elytra. Very occasional modern rootlets.	Moderate	Maybe	Good	Hazelnut
386	3272	Fill of pit. Charcoal		33	365			+	++ ++		+++ ++		Very abundant charcoal, some round wood examples noted, may be suitable for dating. Plenty of identifiable material if required. Plenty of identifiable material. Hazelnut (*Corylus avellana*) shell fragments common although fragmentary and few quantifiable examples – mostly body fragments. One hawthorn (*Crataegus* sp.) stone and 3 indeterminate wild/weed legume seeds. 3 further indeterminate wild/weed seeds. Occasional uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), speedwell *(Veronica hederifolia),* also some fumitory *(Fumaria cf. capreolata).* Some modern rootlets. One beetle elytra noted.	Moderate	Maybe	Good	Hazelnut and round wood

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
387	3274	Fill of pit. Charcoal and pottery		42	195			+	++ +		+++ ++		Abundant charcoal. Some fragmented round wood observed. Plenty of identifiable material if required, some large charcoal fragments. Frequent hazelnut (*Corylus avellana)* shell although very fragmented and mostly body fragments, few base fragments. Only one other CPR observed, being an indeterminate weed/wild seed. Occasional uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), *and* speedwell (*Veronica hederifolia)*. Occasional modern plant rootlets. One beetle elytra noted.	Moderate	Maybe	Good	Hazelnut and round wood
388	3276	Upper fill of pit. Charcoal.		34	425			+	++ ++ +		+++ ++		Abundant charcoal, several fragments ~5cm, plenty of suitable ID material if required. Abundant hazelnut (*Corylus avellana*) shell fragments, ~50 base fragments with many more body fragments. Rare other CPR in the form of one hawthorn stone (*Crataegus* sp.) and two wild cleaver seeds (*Galium aprine*). Common uncharred (modern) seeds, mostly speedwell (*Veronica hederifolia)* and goosefoot *(Chenopodium* sp.)/orache (*Atriplex* sp.), also some bindweed (*Fallopia convolvulus)* and some grass seeds (poaceae). Occasional modern rootlets. One flint retrieved from the flot and bagged up as a find.	Good	Maybe	Good	Hazelnut

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
389	3278	Primary fill of pit. F.3276		8	150			+	++ ++ +		+++ ++		Abundant charcoal, many large fragments and some very rare round wood, plenty of material suitable for ID if required. Abundant hazelnut (*Corylus avellana)* shell fragments with additional material retrieved from heavy residue, numerous complete/near completer half shells and numerous additional fragmented body segments. ~1000 fragments in total? One half acorn (*Quercus* sp.) nut. Very rare other CPR. Common uncharred (modern) seeds, mostly speedwell (*Veronica hederifolia)* and *goosefoot (Chenopodium* sp.)/orache (*Atriplex* sp.). Very occasional modern plant roots.	Good	Maybe	Good	Hazelnut
390	3280	Fill of pit. Charcoal		3	45				++ ++		+++ ++		Abundant charcoal, fragmentary but plenty of material for ID if required. Common hazelnut (*Corylus avellana)* shell fragments, occasional almost complete half-shells but few bases. ~100 body fragments present. No other CPR observed. Common uncharred (modern) seeds, mostly speedwell (*Veronica hederifolia)*. Very occasional modern plant rootlets.	Moderate	Maybe	Moderate	Hazelnut
391	3282	Fill of pit. Charcoal		14	45				+		+++ ++		Abundant charcoal, quite fragmentary but plenty of material suitable for ID if required. Very occasional hazelnut (*Corylus avellana)* shell fragments in flot and 5 fragments of hazelnut shell recovered from heavy residue (one of which is a base fragment). Occasional modern plant rootlets and uncharred (modern) seeds, mostly speedwell (*Veronica hederifolia)* and possible sedge (Cyperaceae).	Poor	No	Good	Hazelnut

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
392	3284	Fill of pit. Charcoal		35	100				+		+++ ++		Abundant charcoal, somewhat fragmented but plenty of material suitable for ID if required. Little other CPR observed. Occasional hazelnut (*Corylus avellana)* shell fragments in flot and a further 3 hazelnut fragments retrieved from heavy residue. Occasional uncharred seeds and modern plant rootlets. One labiate herb seed (cf. *Mentha* sp.) and one hawthorn (*Crataegus* sp.) stone. One unidentified weed/wild seed.	Poor	No	Moderate	Hazelnut
393	3310	Fill of pit. Charcoal		39	100			+	+		+++ ++		Abundant charcoal, quite fragmented but plenty of material for ID if required. No round wood observed. Very occasional hazelnut (*Corylus avellana)* shell fragments in flot and occasional additional fragments retrieved from heavy residue. Rare other CPR - one charred hawthorn (*Crataegus* sp.) stone and two indeterminate sedges (*Carex* sp.). Occasional uncharred (modern) seeds, mostly speedwell (*Veronica hederifolia),* fumitory *(Fumaria cf. capreolata)* and some goosefoot (*Chenopodium* sp./orache (*Atriplex* sp.). Very occasional modern plant rootlets.	Poor	No	Moderate	Hazelnut
394	3286	Primary fill of pit. Pot and charcoal (f.3274)		2	30				+		+++ ++		Frequent charcoal, some larger fragments and some likely partial round wood fragments, plenty of material for ID if required. Occasional hazelnut (*Corylus avellana*) fragments, no more than 20 noted. No other CPR observed. Occasional uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) and speedwell (*Veronica hederifolia)*. Occasional plant rootlets.	Poor	No	Moderate	Hazelnut (may need more than one fragment as small)

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
395	3290	Upper fill of pit. Pottery and charcoal		50	150			+	++ ++ +		+++ ++		Abundant charcoal, some large fragments and plenty of material suitable for ID if required. Frequent hazelnut (*Corylus avellana*) fragments, ~80 fragments, mostly body fragments, plus an additional ~50 fragments recovered from heavy residue. One legume/vetch (*Vicia* sp. cf. *lathyroides*) and one wild cleaver (*Galium aparine*). Frequent uncharred (modern) seeds, goosefoot *(Chenopodium* sp.)/orache (*Atriplex* sp.). and grass (Poaceae) dominant, also speedwell (*Veronica hederifolia)*, fumitory (*Fumaria cf. capreolata)* and sedge *(Carex* sp.). Rare beetle remains, some complete, some just elytra, ~ 5 observed. Occasional modern plant rootlets.	Good	Maybe	Moderate	Hazelnut
396	3292	Primary fill of pit. Pottery and charcoal (f.3290)		10	120				++ ++		+++ ++		Abundant charcoal, some large fragments and also rare partial round wood observed. Plenty of material for ID if required. Occasional hazelnut (*Corylus avellana*) shell fragments in flot and additional fragments retrieved from heavy residues, no more than 100 examples in total. Few base fragments, mostly body fragments. No other CPR observed. Occasional uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), fumitory (*Fumaria cf. capreolata)* and speedwell (*Veronica hederifolia)*. Occasional modern plant roots.	Good	Maybe	Moderate	Hazelnut
397	3294	Fill of small pit. Pot and charcoal		19	40				+		+++ ++		Abundant charcoal, notably smaller fragments than many other samples from this phase of the site but still plenty of identifiable material if required. Occasional hazelnut (*Corylus avellana*) fragments, ~20, few base fragments. No other CPR observed. Occasional modern (uncharred) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), but notably fewer than most other samples from the site.	Poor	No	Moderate	Hazelnut (quite small fragments – may need more than one)

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
398	3296	Upper fill of pit. Charcoal and pot		17	150				++ +		+++ ++		Abundant charcoal, fragmented but still plenty of identifiable material if required. Some small round wood observed. Occasional hazelnut (*Corylus avellana*) shell fragments, with additional examples retrieved from heavy residue, ~70 examples altogether although small and fragmentary. No other CPR observed. Occasional uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) and grass (Poaceae). Two beetle elytra noted.	Moderate	Maybe	Moderate	Hazelnut (quite small fragments – may need more than one)
399	3312	Fill of shallow pit. Charcoal rich		16	12						+++ ++		Abundant charcoal although generally smaller fragments than observed in most other samples from the site. However, still plenty of material suitable for ID if required. No other CPR observed. Frequent (modern) uncharred seeds, majority goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) but also speedwell (*Veronica hederifolia)* and fumitory *(Fumaria cf. capreolata).*	Poor	No	Moderate	Charcoal but no round wood present – not ideal dating material
400	3316	Pit fill. Charcoal rich		8	20			+	+		+++ ++		Abundant charcoal in flot, quite fragmented but plenty of material for ID if required. Only other CPR present was one indeterminate charred specimen, likely to be a tree bud of indeterminate species. No other CPR noted in flot but 8 small fragments of hazelnut (*Corylus avellana*) shell recovered from heavy residue. Uncharred (modern) seeds present, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.).	Poor	No	Moderate	Hazelnut
401	3318	Animal burrow		16	1						++		Very poor flot. Occasional charcoal, although very small fragments, hence likely indeterminate. No other CPR observed. Some small uncharred woody fragments – as the deposit displayed no signs of being waterlogged these are likely to be modern. Also common uncharred seeds in the form of goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.). Some modern plant roots.	Poor	No	Poor	No

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
402	3368	Upper fill of pit. Charcoal rich		2	100						+++++		Very charcoal rich flot, many large fragments and much identifiable material if required. No other CPR observed. Very occasional (modern) uncharred seeds such as goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) and *Fallopia* sp. Occasional modern plant rootlets.	Poor	No	Good	Charcoal but no round wood. Not ideal dating material
403	3366	Primary fill of pit f.3366. Charcoal		6	100						+++++		Very charcoal rich, abundant material suitable for ID if required. No other CPR observed. Some uncharred (modern) seeds including fumitory (*Fumaria cf. capreolata),* goosefoot *(Chenopodium* sp.)/orache (*Atriplex* sp.), and speedwell (*Veronica hederifolia)*. Occasional modern plant roots.	Poor	No	Good	Charcoal but no round wood. Not ideal dating material
404		VOID		1	-								-	-	-	-	-
405	3322	Upper fill of posthole. Charcoal rich		2	20						+++++		Very charcoal rich, plenty of material for ID if required. No round wood observed. No other CPR observed. Few uncharred seeds or modern plant roots in comparison to many other samples from the site.	Poor	No	Moderate	Charcoal but no round wood. No ideal dating material
406	3354	Primary fill of f.3322		16	5						++++		Charcoal rich, although no more than 100 fragments, plenty of ID material if required but no round wood. No other CPR observed. Occasional uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) and fumitory (*Fumaria sp.)*	Poor	No	Poor	Charcoal but no round wood. Not ideal dating material
407	3370	Primary fill of pit. Charcoal.		2	12						+++++		Charcoal rich flot with numerous other examples retrieved from heavy residue, plenty of material for ID but no round wood observed. No other CPR observed. Very occasional uncharred (modern)seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.).	Poor	No	Moderate	Charcoal but no round wood. Not ideal dating material

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
408	3372	Charcoal lens of f.3370		7	150				+		+++ ++		Abundant charcoal, plenty of material for ID if required. No round wood observed. Very occasional hazelnut (*Corylus avellana*) shell fragments. No other CPR observed. Occasional uncharred seeds. One beetle elytra observed.	Poor	No	Good	Hazelnut, although very few fragments and generally small – may need to combine.
409	3374	Charcoal rich upper fill of pit		2	60								Abundant charcoal, plenty of ID material if required. No other CPR observed. Common uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), fumitory (*Fumaria* sp.*)* and sedge *(Carex* spp.).	Poor	No	Good	Charcoal but no round wood. Not ideal dating material
410	3380	Charcoal rich fill of irregular pit		4	1						++		Flot very small – some charcoal but very fragmented and small, hence indeterminate. No other CPR observed. Lots of fine gravel makes up ~half of flot.	Poor	No	Poor	Charcoal but no round wood. Not ideal dating material
411	3382	Fill of pit. Some charcoal		4	25						+++ ++		Abundant charcoal, plenty of material suitable for ID if required. No other CPR observed. Common uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), fumitory (*Fumaria sp.)* and sedge (*Carex* spp.).	Poor	No	Moderate	Charcoal but no round wood. Not ideal dating material
412	3394	Fill of pit. Some charcoal.		4	6						+++ ++	+	Abundant charcoal, plenty of material for ID if required. Very rare hazelnut shell fragments. Common uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), sedge (*Carex* spp.), speedwell (*Veronica hederifolia)* and fumitory (*Fumaria sp.)*. One freshwater mollusc (*cf. Anisus* sp.) observed.	Poor	No	Moderate	Hazelnut although very small amount. Charcoal but no round wood.

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
413	3404	Ditch terminus. Some charcoal		6	6						+++++		Abundant charcoal, plenty of material suitable for ID if required. No other CPR observed. Common uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), sedge (*Carex* spp.), speedwell (*Veronica hederifolia)* and fumitory (*Fumaria* sp.).	Poor	No	Moderate	Charcoal but no round wood. Not ideal dating material
414	3410	Fill of pit. Some charcoal		6	40	+		+			+++++		Abundant charcoal, plenty of material suitable for ID if required. Very rare other CPR, just one incomplete poorly preserved barley grain (*Hordeum* sp.). Common uncharred (modern) seeds including goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), sedge (*Carex* spp.) and speedwell (V*eronica hederifolia).*	Poor	No	Moderate	Charcoal but no round wood. Not ideal dating material. Barley grain.
415	3432	Sheep burial		26	<1								No CPR present. Flot comprises mostly modern roots. Some uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.).	Poor	No	Poor	None
416	3434	Charcoal rich posthole		1	30						+++++		Abundant charcoal, quite fragmented but still plenty of ID material. Uncharred (modern) seeds common, mostly goosefoot *(Chenopodium* sp.)/orache (*Atriplex* sp.) and grass seeds (Poaceae).	Poor	No	Moderate	Charcoal but no round wood. Not ideal dating material
417	3430	Linear		9	<1						+		Very little charcoal, all small fragments and therefore unidentifiable. Frequent modern plant roots. Frequent uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.) and sedge (*Carex* spp.).	Poor	No	Poor	None
418	3428	Charcoal rich upper fill of pit		5	10						+++++		Rich in charcoal although many fragments may be too small for ID. Nonetheless there will be some material that will be suitable for ID if required. No other CPR observed. Uncharred (modern) seeds in the form of goosefoot (*Chenopodium* sp.)/orache *(Atriplex* sp.). Some modern plant roots.	Poor	No	Poor	Charcoal but no round wood. Not ideal dating material

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
419	3444	Posthole. Charcoal rich fill		3	50						+++++		Abundant charcoal, many examples highly fragmented and indeterminate but still plenty of material suitable for ID if required. Small round wood observed. No other CPR present. Uncharred (modern) seeds in the form of goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.). Few modern plant roots.	Poor	No	Moderate	Round wood
420	3424	Pit		7	<1						+		Very little charcoal present, 2 larger fragments (approx.. 1cm in length) and ~5 very small fragments, likely to have flaked off the larger examples in storage. No other CPR present.	Poor	No	Poor	Charcoal but no round wood. Not ideal dating material
421	3426	Linear		9	<1								~5 very small fragments of charcoal, all too small for ID purposes. Common modern intrusion in the form of uncharred goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), sedge (*Carex* sp.) grass seeds (Poaceae) and modern plant rootlets.	Poor	No	Poor	None
422	3414	Pit. Some charcoal		16	20						++++		Majority of flot comprises gravel. Frequent charcoal, many indeterminate small fragments but some larger fragments present suitable for ID if required. Rare other CPR, just one indeterminate legume (*Vicia* sp.) noted. Common uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.), also sedge (*Carex* spp.).	Poor	No	Poor	Charcoal but no round wood. Not ideal dating material.
423	3412	Pit fill.		7	220								Abundant charcoal, plenty of identifiable material if required. Occasional examples highly clinkered. Very occasional hazelnut (*Corylus avellana*) shell fragments in the flot and also recovered from the heavy residue, no more than ~25 examples in total. Common uncharred (modern) seeds, mostly goosefoot (*Chenopodium* sp.)/orache (*Atriplex* sp.).	Poor	No	Good	Hazelnut (May require more than one fragment as quite small)

Sample Number	Context Number	Description	Phase	Sample Volume (L)	Flot Vol (ml)	Grain	Chaff	Weeds	Other Charred	Bone	Charcoal	Mollusc	Comments on CPR (Unless otherwise indicated 100% of flot was scanned for the assessment)	CPR Potential	Full Analysis CPR	Charcoal Potential	Material for AMS
424	3452	Secondary pit fill		5	370						+++ ++		Very abundant charcoal, some large fragments, lots of identifiable material if required. No other CPR observed. Some uncharred (modern) seeds in the form of goosefoot (*Chenopodium* sp.)./orache (*Atriplex* sp.) and sedge *(Carex* spp.).	Poor	No	Good	Charcoal but no round wood. Not ideal dating material.

+ = 1-20 ++ = 25-50, 3 = 50-75, ++++ = 75-100, +++++ = >100 items

Table 9. Result of the charred plant remains assessment.

11 Publicity, Confidentiality and Copyright

11.1 Any publicity will be handled by the client.

11.2 Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

12 Archive Requirements

12.1 Storage and Curation

12.1.1 The lithics are currently contained in sealed and labelled plastic bags. Each lithic is individually bagged and those lithics from the same context are all bagged again in a context specific larger bag. These bags are stored in a sturdy plastic storage box.

12.1.2 The pottery is stored in acid-free paper wrapped in bubble-wrap and sealed in labelled plastic bags. With the exception of those fragments that have been re-fitted and glued together, each sherd is individually bagged and those sherds from the same context all bagged again in a context specific larger bag. These bags are stored in a sturdy plastic storage box.

12.1.3 The environmental flots and CPR are kept in sample and context-specific labelled bags. These bags are stored in a sturdy plastic box.

12.2 **Retention and Discard Policy**

12.2.1 With the exception of the animal bone, it is recommended that all of this collection is kept for future study.

13 Statement of Indemnity

13.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

14 Acknowledgements

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Appendix I. Site Records

Context Register

Context No	Context Description
3270	Fill of pit
3271	Cut of {3270)
3272	Fill of pit
3273	Cut of (3272)
3274	Fill of pit
3275	Cut of (3274)
3276	Fill of pit
3277	Cut of (3276)
3278	Primary fill of (3276)
3279	VOID
3280	Fill of pit
3281	Cut of (3280)
3282	Fill of pit
3283	Cut of (3282)
3284	Fill of pit
3285	Cut of (3284)
3286	Primary fill of (3274)
3287	VOID
3288	Fill of possible pit/ tree throw
3289	Cut of (3288)
3290	Fill of pit
3291	Cut of (3290)
3292	Primary fill of (3290)
3293	VOID
3294	Fill of pit
3295	Cut of (3294)
3296	Fill of pit
3297	Cut of (3296)
3298	Fill of pit/ tree throw
3299	Cut of (3298)
3300	Fill of pit/ tree throw
3301	Cut of (3300)
3302	Fill of pit/ tree throw
3303	Cut of (3302)
3304	Fill of E/W linear
3305	Cut of (3304)
3306	VOID
3307	VOID
3308	Primary fill of (3296)
3309	VOID
3310	Fill of pit
3311	Cut of (3310)
3312	Fill of pit
3313	Cut of (3312)
3314	Fill of pit
3315	Cut of (3314)
3316	Fill of pit
3317	Cut of (3316)

Context No	Context Description
3318	Fill of possible pit/ likely animal burrow
3319	Cut of (3318)
3320	Fill of posthole/ tree throw
3321	Cut of (3320)
3322	Upper fill of post hole
3323	Cut of (3322)
3324	Fill of small NS ditch/linear
3325	Cut of (3324)
3326	Fill of small N/S linear
3327	Cut of (3326)
3328	Fill of NW/SE linear
3329	Cut of (3328)
3330	VOID
3331	VOID
3332	Fill of posthole
3333	Cut of (3332)
3334	Fill of posthole
3335	Cut of (3334)
3336	Fill of E/W ditch/linear
3337	Cut of (3336)
3338	Fill of N/S linear
3339	Cut of (3338)
3340	Fill of NW/SE linear
3341	Cut of (3340)
3342	Fill of NE/SW linear
3343	Cut of (3342)
3344	Fill of NW/SE linear
3345	Cut of (3344)
3346	Fill of NE/SW linear
3347	Cut of (3346)
3348	Fill of N/S linear
3349	Cut of (3348)
3350	Fill of pit/ large posthole
3351	Cut of (3350)
3352	Fill of NW/SE linear
3353	Cut of (3352)
3354	Fill of primary fill of (3322)
3355	VOID
3356	Fill of pit
3357	Cut of (3356)
3358	Primary fill of (3356)
3359	VOID
3360	Fill of pit
3361	Cut of (3360)
3362	NW/SE linear, offshoot of linear f.3348
3363	Cut of (3362)
3364	Fill of NW-SE linear
3365	Cut of (3364)
3366	Upper fill of pit
3367	Cut of (3366)
3368	Primary fill of (3366)

Context No	Context Description
3369	VOID
3370	Fill of posthole
3371	Cut of (3370)
3372	Charcoal lens. Post-pipe within f.3370?
3373	Cut of f.3372
3374	Fill of pit
3375	Cut of (3374)
3376	Primary fill of (3374)
3377	VOID
3378	Fill of posthole
3379	Cut of (3378)
3380	Fill of pit
3381	Cut of (3380)
3382	Fill of pit
3383	Cut of (3382)
3384	Fill of pit
3385	Cut of (3384)
3386	Primary fill of (3384)
3387	VOID
3388	VOID
3389	VOID
3390	Fill of NW/SE linear
3391	Cut of (3390)
3392	Fill of pit
3393	Cut of (3392)
3394	Fill of pit
3395	Cut of (3394)
3396	Fill of NW/SE linear
3397	Cut of (3396)
3398	Fill of pit. Maybe natural? Tree throw?
3399	Cut of (3398)
3400	Fill of E/W linear
3401	Cut of (3401)
3402	Fill of pit
3403	Cut of (3402)
3404	Fill of N/S ditch/linear
3405	Cut of (3404)
3406	VOID
3407	VOID
3408	Fill of NW/SE linear
3409	Cut of (3408)
3410	Fill of pit
3411	Cut of (3410)
3412	Fill of pit
3413	Cut of (3412)
3414	Fill of pit
3415	Cut of (3414)
3416	Fill of irregular NE/SW linear/ditch
3417	Cut of (3416)
3418	Fill of pit
3419	Cut of (3418)

Context No	Context Description
3420	Fill of pit
3421	Cut of (3420)
3422	Fill of pit
3423	Cut of (3422)
3424	Fill of pit
3425	Cut of (3424)
3426	Fill of N/S ditch/linear
3427	Cut of (3426)
3428	Fill of pit. Cuts in to 3442
3429	Cut of (3428)
3430	Fill of N/S linear
3431	Cut of (3430)
3432	Fill of pit with sheep skeleton
3433	Cut of (3432)
3434	Fill of posthole
3435	Cut of (3434)
3436	Fill of NE-SW linear
3437	Cut of (3436)
3438	Fill of irregular NE/SW linear. Right-angle?
3439	Cut of (3438)
3440	Fill of pit
3441	Cut of (3440)
3442	Pit cut by pit f.3428
3443	Cut of f.3442
3444	Fill of posthole
3445	Cut of (3444)
3446	Fill of NW/SE linear
3447	Cut of (3446)
3448	Fill of pit
3449	Cut of (3448)
3450	Fill of pit
3451	Cut of (3450)
3452	Fill of posthole
3453	Cut of (3452)
3454	Primary fill of (3452)
3455	VOID
3456	Fill of NE/SW linear/ditch
3457	Cut of (3456)

Environmental Sample Register

Sample No.	Context No.	Sample Volume	Percentage of Entire Context	Provisional Date	Feature Type /Description /General Notes	Residue sorting notes
385	3270	12	100	Neolithic	Fill of pit, beaker pottery in fill. Charcoal.	Hazelnut (>25), charcoal (5)
386	3272	33	100	Neolithic	Fill of pit. Charcoal.	Hazelnut (3)
387	3274	42	100	Neolithic	Fill of pit. Pottery and charcoal.	Charcoal (~15), Hazelnut (14)
388	3276	34	100	Neolithic	Upper fill of pit. Charcoal.	Nothing

Sample No.	Context No.	Sample Volume	Percentage of Entire Context	Provisional Date	Feature Type /Description /General Notes	Residue sorting notes
389	3278	8	100	Neolithic	Primary fill of pit. Charcoal.	Hazelnut (>100), charcoal (>25)
390	3280	3	100	Neolithic	Fill of pit. Charcoal. 1 bag	Hazelnut (~15)
391	3282	14	100	Neolithic	Fill of pit. Charcoal.	Charcoal (>25), charcoal (4)
392	3284	35	100	Neolithic	Fill of pit. Charcoal.	Charcoal (6), hazelnut (3)
393	3310	39	100	Neolithic	Fill of pit. Charcoal.	Charcoal (>25), hazelnut (17)
394	3286	2	100	Neolithic	Primary fill of pit (3274). Pot and charcoal.	Nothing
395	3290	50	100	Neolithic	Upper fill of pit. Pottery and charcoal.	Hazelnut (>25), pot (8), charcoal (>25)
396	3292	10	100	Neolithic	Primary fill of F3290. Pot and charcoal.	Charcoal (>25), hazelnut (>25)
397	3294	19	100	Neolithic	Fill of small pit. Pot and charcoal.	Nothing
398	3296	17	100	Neolithic	Upper fill of pit. Charcoal and pottery.	Hazelnut (>25), charcoal (5)
399	3312	16	100	?	Fill of shallow pit. Charcoal rich.	Charcoal (10)
400	3316	8	100	Neolithic ?	Fill of pit. Charcoal rich.	Nothing
401	3318	16	50	?	Fill of pit disturbed by animal burrow. Mammal bone present.	Nothing
402	3368	2	100	?	Primary fill of pit f.3366. Charcoal rich.	Charcoal (~10)
403	3366	6	100	?	Upper fill of pit.. Charcoal and possible flint.	Charcoal (5)
404	Void	Void	Void	Void	Void	Void
405	3322	1	100	?	Upper fill of post hole. Charcoal rich.	Nothing
406	3354	2	100	?	Primary fill of F3322.	Nothing
407	3370	16	100	?	Primary fill of posthole. Charcoal.	Charcoal (>25)
408	3372	2	100	?	Charcoal lens of F3370.	Charcoal (4)
409	3374	7	100	?	Charcoal rich upper fill of pit.	Charcoal (~10)
410	3380	2	100	?	Charcoal rich fill of irregular pit.	Nothing
411	3382	4	100	?	Fill of pit. Some charcoal and possible flint.	Charcoal (4)
412	3394	4	100	?	Fill of pit. Some charcoal .	Nothing
413	3404	6	100	?	Ditch terminus. Some charcoal.	Nothing
414	3410	6	100	?	Fill of pit. Some charcoal.	Nothing
415	3432	26	100	?	Sheep burial.	Nothing
416	3434	1	100	?	Charcoal rich posthole	Nothing
417	3430	9	<10	?	Linear.	Nothing
418	3428	5	100	?	Charcoal rich upper fill of pit.	Nothing
419	3444	3	100	?	Post hole. Charcoal rich fill.	Charcoal (>25)
420	3424	7	100	?	Pit.	Nothing

Sample No.	Context No.	Sample Volume	Percentage of Entire Context	Provisional Date	Feature Type /Description /General Notes	Residue sorting notes
421	3426	9	<10	?	Linear.	Nothing
422	3414	16	100	?	Pit. Some charcoal.	Charcoal (3)
423	3412	7	100	?	Pit fill.	Charcoal (>25), hazelnut (8)
424	3452	5	50	?	Secondary pit fill.	Charcoal (~10)

Appendix II- Harris Matrix