

CDRD15



LAND AT DERBY ROAD, ASTON ON TRENT, SOUTH DERBYSHIRE

ARCHAEOLOGICAL EXCAVATION
PLANNING REF. 9/2014/1040

commissioned by Dignity UK Plc

December 2017

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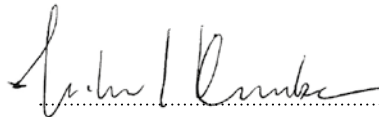
PROJECT INFO:

HA Project Code **CDRD15** / HAS No. **1190** / NGR **SK 41033 30970** / Parish **Aston-on-Trent** / Local Authority **South Derbyshire District Council** / OASIS Ref. **<headland3-289425** / Archive Repository **Derby Museum and Art Gallery**

PROJECT TEAM:

Project Manager **Mike Kimber** / Author **Robert Blackburn, Stuart Milby** / Fieldwork **Ildiko Egrý, Josh Gaunt, Robert Blackburn** / Graphics **Caroline Norrman, Rafael maya-Torcely** / Environmental **Angela Walker, David Henderson** / Finds **Ian Rowlandson, Julie Franklin, Julie Lochrie**

Approved by **Mike Kimber**



Headland Archaeology Midlands & West
Unit 1 | Clearview Court | Twyford Rd | Hereford HR2 6JR
t 01432 364 901
e midlandsandwest@headlandarchaeology.com
w www.headlandarchaeology.com



PROJECT SUMMARY

Open area excavation conducted on agricultural land north of the village of Aston-on-Trent, Derbyshire, produced evidence for Iron Age settlement activity. Small assemblages of residual Roman pottery and Bronze Age worked flint fragments were also recovered from the site. The excavation confirmed the presence of a large ditched enclosure and two large field boundary ditches, as well as a number of smaller discrete pits and post-holes, most of which were previously located on a geophysical survey.

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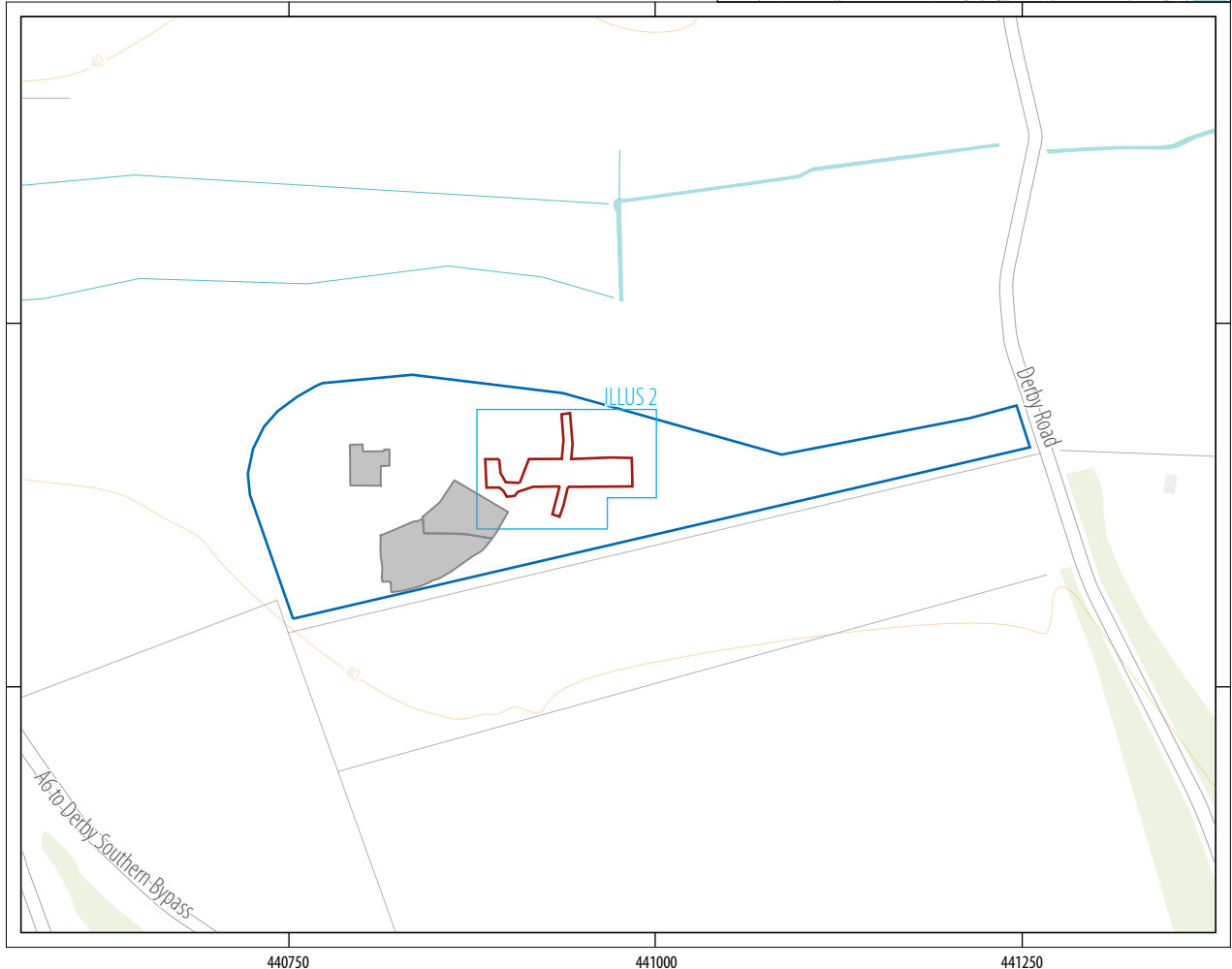
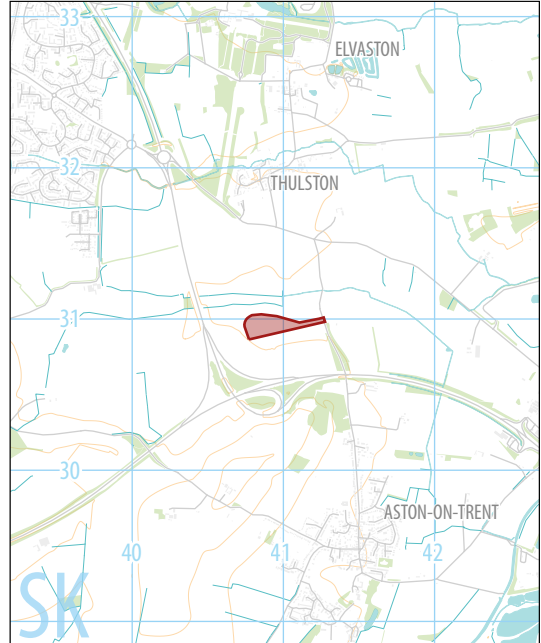
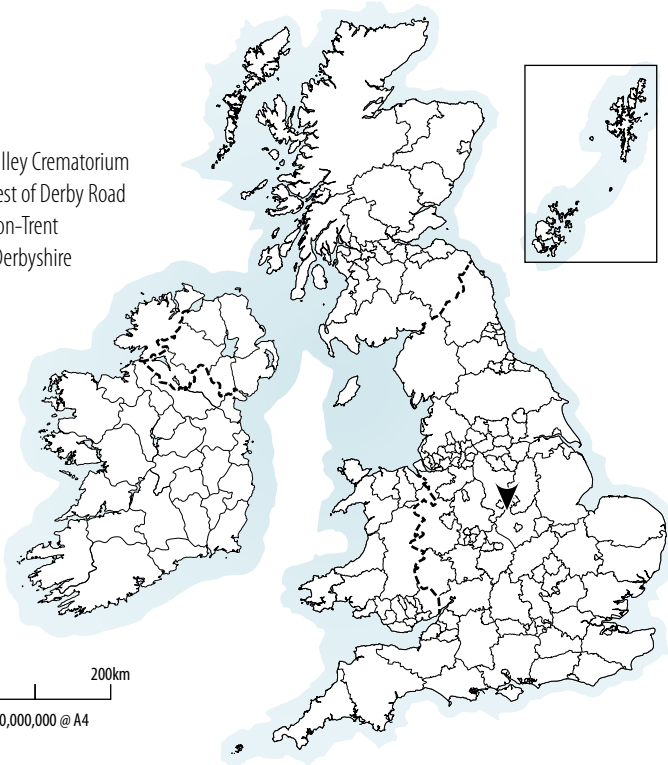
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Trent Valley Crematorium
land west of Derby Road
Aston-on-Trent
South Derbyshire

0 200km
1:10,000,000 @ A4



331075
330825

440750 441000 441250

0 100m
1:5,000 @ A4

KEY
 development boundary
 excavation area
 watching brief area

HEADLAND
ARCHAEOLOGY

MIDLANDS & WEST Unit 1, Clearview Court, Twyford Road
Hereford HR2 6JR
01432 364 901
www.headlandarchaeology.com

ILLUS 1 Site location

LAND AT DERBY ROAD, ASTON ON TRENT, SOUTH DERBYSHIRE

ARCHAEOLOGICAL EXCAVATION

1 INTRODUCTION

Dignity UK plc commissioned Headland Archaeology (UK) Ltd via its agent, The Harris Lamb Partnership, to undertake a programme of archaeological mitigation works on an area of land at Derby Road, Aston-on-Trent, Derbyshire (Illus 1). Planning permission was granted by South Derbyshire District Council (SDDC) for the construction of a new crematorium with associated car parking, memorial gardens and site access (ref 9/2014/1040) subject to condition 4 which states:

'Prior to works or ground clearances taking place on site an archaeological field evaluation including geophysics and trial trenching of the site in addition to a Written Scheme of Investigation for archaeological work shall be submitted to and approved by the Local Planning Authority in writing and shall be carried out in accordance with the programme set out in the archaeological Written Scheme of investigation.'

Reason: to enable further archaeological investigation of the site and items of archaeological interest to be recorded/ and or preserved where possible as the site has the potential for below-ground archaeological remains which is recorded in the Derbyshire Historic Environment Record (HER 16611), that is believed to form a large area of medieval ridge and furrow earthworks.'

A geophysical survey was undertaken by Headland Archaeology (UK) Ltd and the report (Webb 2016) was submitted to Mr Steve Baker (Archaeologist, Derbyshire County Council (DCC)). Following the survey a programme of trial trenching was undertaken (Phase 1) in order to test the results and interpretation of the geophysical survey. The results of the evaluation (geophysical survey and trial trenching) were then discussed at a review meeting (Phase 2) between the Client's agent (Harris Lamb Partnership), the archaeological contractor (Headland Archaeology) and Mr Baker, at which point the need for the further archaeological mitigation (Phase 3) was agreed in principle. A number of changes to

the layout of landscaping features and tree belts were agreed, in order to minimise disturbance to buried archaeological remains.

An additional WSI document was submitted to and agreed upon by Mr Baker. This contained the specifications for the phase three mitigation works, which comprised a programme of pre-construction excavation work followed by an archaeological watching brief during construction groundworks. It was intended that these works would mitigate the truncation of the identified archaeological remains by the consented development.

This document reports on the Phase 3 pre-construction excavation, and the watching brief conducted during excavation of the car park.

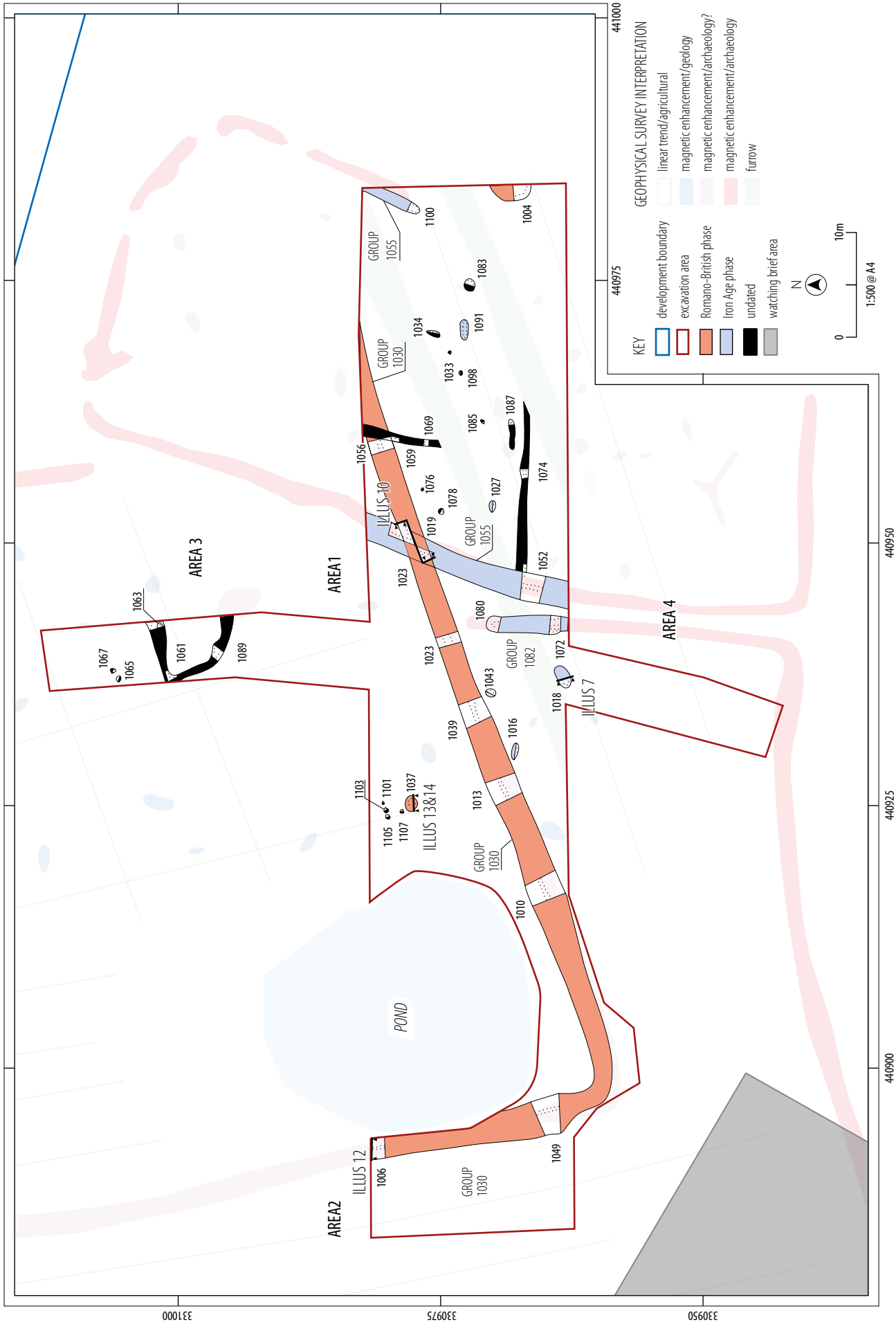
1.1 SITE DESCRIPTION

The site covers an irregularly shaped area of approximately 4.7 hectares (centred at NGR SK 41107, 31070), part of a single field currently in agricultural use. It is situated c. 2km to the north of Aston-on-Trent and c 750m south of Thulston, just to the north of the intersection of the A6 and A50, south-east of Derby

The underlying bedrock geology comprises Mudstone of the Branscombe Mudstone Formation. The Mudstone is overlain by superficial Allenton Terrace Deposits – sands and gravels (British Geological Survey 2016). In the west of the site the soils are characterised as slightly acid loams and clays with impeded drainage. In the east of the site the soils are characterised as freely draining slightly acid loams (Cranfield University 2016)

1.2 ARCHAEOLOGICAL BACKGROUND

There were no known heritage assets recorded within the application area on Derbyshire Historic Environment Record with the





ILLUS 3 N facing section of slot through [1052]

exception of a large area of ridge and furrow earthworks (HER 16611). Historic mapping indicated a pond was present in the middle of the application area in the 19th century and that this was later infilled.

In response to Condition 4 attached to the consented planning application, a geophysical survey (Webb 2016), was carried out by Headland Archaeology in 2016 in order to provide further information on the archaeological potential of the application area. The survey detected magnetic anomalies consistent with the presence of archaeological features. These included a rectilinear enclosure, two large field boundary ditches and several discreet anomalies (see Illus 2).

An archaeological field evaluation was subsequently undertaken (Wright 2016), which comprised the excavation of 11 trenches located to further investigate magnetic anomalies identified by the geophysical survey. Trenching confirmed the presence of several linear ditches and discreet features hinting at possible settlement activity, dating to the late prehistoric period. The results of the trial trenching broadly confirmed the results of the geophysical survey and provided a good indication of the extent of the below ground archaeological resource.

2 OBJECTIVES

The aim of the mitigation work was to identify and record the presence/absence, extent, condition, character and date of any archaeological features and deposits within the identified area of impact. Mitigation was designed to excavate and record any remains prior to their disturbance by construction activity in order to fulfil the

archaeological condition to the satisfaction of the planning authority; via the production and deposition of a satisfactory archive and the production of a grey-literature report and appropriate publication.

The local and regional research contexts were provided by the East Midlands Heritage Updated Research Agenda and Strategy for the Historic Environment of the East Midlands (Knight et al 2012). Any evidence retrieved during the works were analysed in light of objectives contained in these frameworks.

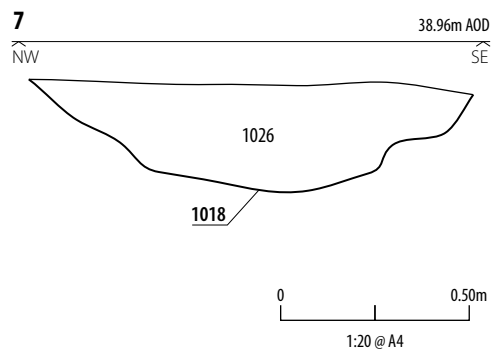
The archaeological investigations were carried out in order to:

- › assess extent, layout, structure and date of features and deposits of archaeological interest; and
- › where possible, place the identified features within their local and regional context.

In addition to these general aims, the excavation was believed to have the potential to address the following specific research objectives, specified within the updated research agenda:

Research Aim 4.3 1 Why are sites of this period comparatively rare in the archaeological record?

Research Aim 4.3 2 What can we deduce about the morphology, spatial extent and functions of settlements, and in particular the processes underlying the development in some areas of enclosed occupation or activity foci?



ILLUS 4 S facing section of terminus [1100] **ILLUS 5** Narrow gully profile, Slot [1072] S facing section **ILLUS 6** S facing section of pit [1043] **ILLUS 7** SW facing view of section through pit [1018]

Research Aim 4.4 1 Why were settlements increasingly enclosed during this period and to what extent may the progress of enclosure have varied regionally?

Research Aim 4.6 1 Can we shed further light upon the development of field and boundary systems?

Research Aim 4.6 2 What were the economic, social or political roles of the pit alignments and linear ditch systems that characterised many areas of the East Midlands?

The resulting archive (finds and records) will be organised and deposited with Derby Museums in line with 'Procedures for the Deposition of Archaeological Archives' (Derby Museums 2016) to facilitate access for future research and interpretation for public benefit.

3 METHODOLOGY

The strategy involved two stages of archaeological work: a programme of archaeological excavation along the line of the proposed access road and tree avenues and a programme of archaeological monitoring and recording (watching brief) during the preparatory groundworks for the construction of the crematorium building and car parking facilities.

3.1 EXCAVATION

The excavation comprised four discrete areas:

Area 1 extending 70m west of the gas pipe easement to the edge of the backfilled pond (c960m²);

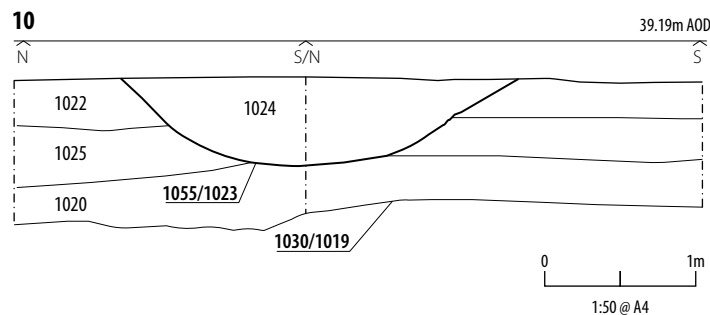
Area 2 extending c11m from immediately west of the backfilled pond (c155m²);

Area 3 a north/south arc 30m x 5m north of the access road with a contingency area of 15m x 5m should there be features in the initial strip (c95m² + 90m²); and

Area 4 a north/south/arc 20m x 5m south of the access road (c125m²).

The stripped areas were opened by a tracked excavator equipped with a 2.1m wide toothless bucket under direct supervision and in controlled spits. Machine excavation was terminated at the top of the natural geology, and the spoil was stockpiled beside the stripped area.

All archaeological remains were hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the project. The excavation recorded the complete stratigraphic sequence, down to naturally occurring deposits and investigated and recorded all relationships between features. The following excavation sampling was employed unless otherwise agreed with the Derbyshire County Council Archaeologist.



ILLUS 8 N facing post-excavation view of pit [1091] **ILLUS 9** NE facing view of [1027] containing base of Iron Age jar **ILLUS 10** E/W facing intersection of enclosure [1055/1023] and enclosure [1030/1019]

Linear boundaries features such as gullies and ditches were sampled at 20% of each linear feature. Each intervention was at least 1m wide. All relationships between component features were investigated. All ditch/gully termini were investigated.

Other linear and discrete features: all stake-holes, post-holes, pits, ring-ditches, kilns and other structural/funerary/industrial features were 50% excavated in the first instance, recorded in section and then fully excavated. All intersections were investigated to determine the relationships between the component features.

Recording followed ClfA and County guidance for conducting archaeological excavation, and the Headland field recording manual. All contexts, small finds and environmental samples were given unique numbers. A context summary listing all context numbers can be seen in Appendix 1. All recording was undertaken on pro forma record cards and a Harris matrix compiled as appropriate. High resolution digital photographs and black and white prints were taken in conjunction with a graduated metric scale.

A site plan including all identified features, areas of excavation and other pertinent information was recorded digitally. The site plan was accurately linked to the National grid and heights to Ordinance Datum (AOD). Where appropriate, sections and stratigraphic sequences were recorded digitally. Digital recording was undertaken using a differential GPS, linked to a hand held computer in order to allow data checking while in the field. If additional detailed recording of features and sections was required, then plans and sections were

hand drawn on permatrace at an appropriate scale (normally 1:20 or 1:50 for plans and 1:10 for sections)

Environmental sampling of deposits was selected on the basis of their potential to contain artefacts or eco-facts relevant to understanding the character and significance of the deposit. This was typically a bulk 40 litre sample, taken from potentially significant features across the site.

All artefacts were retained for processing and analysis, except for unstratified 20th century material, which was noted and discarded. Finds were stored in secure, appropriate conditions following the guidelines in First Aid for Finds (Watkinson & Neal, 1998). Small find locations were recorded by differential GPS. A full finds assessment is included in Appendix 2.

3.2 WATCHING BRIEF

A watching brief was carried out on ground reduction in the building footprint and car parking areas. All stripping was carried out by a tracked excavator equipped with a toothless bucket under continuous supervision by an archaeologist. Excavation ceased at the required construction formation level.

4 RESULTS

The natural was represented by a clean sandy gravel, overlain by a subsoil of reddish brown silty sand and gravel 0.25m thick. This was in turn sealed by a dark grey silty topsoil, 0.3m thick.



ILLUS 11 Enclosure [1030], multiple slots, facing SW

Following machine stripping a number of linear and discrete features were visible (Illus 2).

4.1 PREHISTORIC

Mid-late Iron Age

The earliest comprehensive phase of activity was represented by two adjacent linear ditches; [1055] and [1082], both of which had been identified on the original geophysical survey. The larger of the two ditches [1055], was part of a larger, sub-rectangular enclosure, which measured approximately 30m wide x 50m long. The full extent of the enclosure was seen on the geophysical survey but was not fully exposed in excavation.

Two interventions were recorded across ditch [1055]; one at the southern end [1052] to determine the profile and character of the ditch; a second at the northern end [1019] to determine the relationship between ditch [1055] and ditch [1030]. At intervention [1052] (Illus 3) ditch [1055] measured 2.4m wide by 0.95m deep, and contained two distinct fills; soft, light brown, sandy silt (1053), which was overlain by soft, brown, sandy silt (1054). The upper eastern edge of ditch intervention [1052] exhibited signs of collapse (1071), most likely from one or more instances of poaching by cattle and other animals.

Four fragments of sandy friable early Iron Age (EIA) pottery were recovered from basal deposit (1053) of intervention [1052].

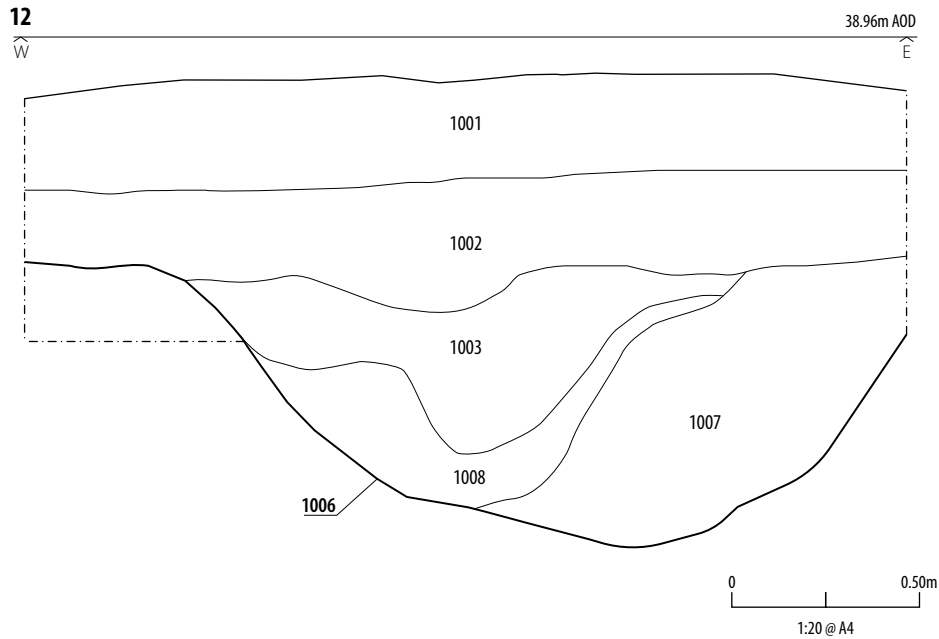
A shallow return of ditch [1055] was recorded in the north east corner of Area 1 at intervention [1100]. This measured 1.05m wide x 0.30m deep and contained a single fill of mid brown, sandy silt (1109) (Illus 4).

The terminal end of linear ditch [1082] was observed in Area 1, running roughly parallel with ditch [1055]. The geophysical survey shows ditch [1082] running south from Area 1 before turning and running west to the south of Area 4. Two interventions were made into ditch [1082]; one at the southern end near to where the ditch ran into the Area 1 baulk; and a second at the terminal (northern) end. At the southern intervention [1072], ditch [1082] measured 1.5m wide x 0.3m deep and contained a single soft, brown, sandy silt fill (1073) (Illus 5). At the northern intervention [1082] it measured 1.4m wide x 0.13m deep and contained a single brown, sandy silt (1081).

Pit [1043] located to the east of terminus [1080], was sub-circular in plan, measuring 1.00m in diameter x 0.2m deep (Illus 6). The profile was steep-sided with a flat base, and contained a single fill of brown sandy silt (1044). Within the fill were several fragments of a sandy friable pottery dating to the early Iron Age.

Pit [1016] located c.5m south-west of pit [1043], was an oval in plan, measuring 1.5m x 0.5m wide x 0.14m deep. The sides were gently sloping, with a rounded base, and contained a single fill of brown, sandy silt (1017). Several large sherds of grog/clay gritted pottery were recovered from the fill which was dated to the Iron Age. Deposit (1017) produced the richest assemblage of cereal grains, and pottery of potential Iron Age date, including evidence for crop-processing.

Pit [1018] located c 8m south-west of pit [1016], was oval shaped in plan, measuring 2.2m long x 1.12m wide x 0.26m deep. The sides were gently sloping, with a rounded base, containing a single fill of brown sandy silt (1026) (Illus 7). Within the upper part of the fill were



ILLUS 12 S facing view of slot through [1006]

the remains of a pot base, composed of a sandy friable fabric, dated to the Iron Age.

Pit [1091] was oval shaped in plan, measuring 1.3m long x 0.7m wide x 0.3m deep (Illus 8). It had steep sides and an uneven/concave base, and contained a single fill of brown sandy silt (1092). Small fragments of grainy pottery were recovered from the fill, dating to the Iron Age, as well as a large fragment of reddish hard fabric.

Pit [1027] was an elongated feature 0.97m long x 0.55m wide, and 0.12m deep, containing a whole base of an Iron Age vessel (Illus 9).

4.2 ROMANO-BRITISH

Towards the northern edge of Area 1, enclosure [1055] intersected with a second linear feature [1030] running north-east/south-west across the site. This ditch had been identified on the geophysical survey which was confirmed through excavation as belonging to a later phase of settlement (Illus 10).

Ditch [1030] was aligned east-west with a return at the western end (Area 2) turning north. That part of the ditch within Area 1 measured c 75m in length, whilst the north south aligned return seen in Area 2, measured c 25m in length. The ditch was between 2.6m and 3.2m wide and 0.6m to 1.00m deep, with gently sloping sides and an irregular base (Illus 11). A total of eight interventions were excavated across the ditch [1030]; these comprise [1006] (Illus 12), [1049], 1010, 1013, 1039, 1023, 1019 and 1056] and their corresponding fill numbers.

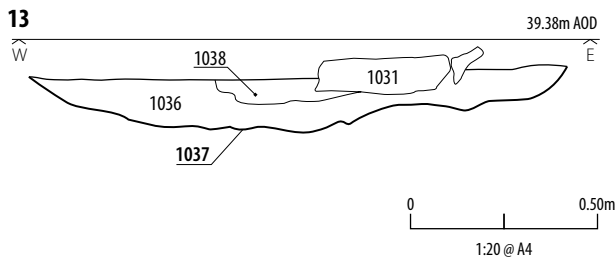
Ditch [1030] was deeper throughout its return in Area 2, becoming shallower along the southern side towards the eastern end, however this may reflect differential ploughing and modern agricultural activities.

A sherd of Roman oxidised jar was recovered from deposit (1012) in slot [1013]. Cattle bone was recovered from deposits (1012) in slot [1010], (1015) in slot [1013] and (1051) from slot [1049]. Sheep fragments were also recovered from (1015) slot [1013] and deposit (1051) from slot [1049].

In the north-west part of Area 1, was a large sub-circular pit [1037], measuring 1.6m wide x 0.15m deep, with a shallow concave profile (Illus 13). Excavation indicated a lower, heat-affected deposit (1036), and a limited overlying deposit (1038) composed of sandy silt (Illus 14).

The pit had been capped by a spread of large sandstone fragments (1031), one of which was a large fragment of Rotary Quern. The surface was smoothed with the remains of an Iron Rynd, and it was decorated with concentric lines around its interior edge and was bordered around the rim with radial lines, the decoration had been pecked into the surface. This find was dated to the Romano-British period (Appendix 2).

Immediately to the north of pit [1037], was a linear arrangement of three small post-holes, [1101, 1103 and 1105]. They measured on average 0.23m in diameter and 0.15m deep with steep sides and rounded bases (Illus 15). They each contained a single fill of brown sandy silt. A single charred



ILLUS 13–14 S facing view of section through pit [1037]

fruit stone of Blackthorn was recovered from deposit (1109), the fill of post-hole [1101]. A fourth, larger possible post-hole [1107], measuring 0.4m in diameter and 0.4m deep and narrowing to a blunted point at the base, was also identified. The fill of this feature was a brown sandy silt, different from the other three features.

A shallow pit [1004] was recorded protruding from the eastern end of the Area 1 baulk. It measured 4.0m long x 1.7m wide x 0.07m deep. The visible remains suggested a large sub-circular feature containing a greyish brown, gritty silty sand. On top of the excavated surface was the remains of shallow ceramic Romano-British dish composed of Roman grey-ware (Appendix 2).

4.3 UNDATED FEATURES

A number of undated features were excavated including post-holes [1076], [1085] and [1098], and pits [1078], [1032], and [1083]. These were mainly sub-circular or oval in plan. A further 'frying pan' shaped feature [1034] (Illus 16) was also excavated and recorded. This contained a large number of charred cereal grains and crop processing waste.

Two linear ditches were excavated from within enclosure [1055]. They included cuts [1074] and [1087]. They were earlier than the furrows which ran approximately north-east/south-west across the site, however there was no clear relationship with enclosures [1030], [1082] or [1055]. No finds were recovered from any of the contexts associated with these features.

4.4 NORTHERN EXTENSION – AREA 3

Area 3 measured approximately 30m x 5m and contained two intersecting ditches [1061] and [1089]. The relationship was unclear but the irregular profile of both of these features at the base suggested likely hedge lines disturbed by bioturbation.

Two sub-circular features, [1065] and [1067], were characterised by the presence of under-cutting and voids in the base creating an irregular profile, and were considered as probably natural in origin.

4.5 SOUTHERN EXTENSION – AREA 4

Area 4 measured approximately 5m x 20m, but was found to be archaeologically sterile.

4.6 WATCHING BRIEF

On 12th, 15th and 16th of May 2017, a follow up watching brief was conducted during the excavation of ground-works associated with the construction of two separate car parks close to the main crematorium building. The work comprised the removal of topsoil, with the larger area measuring approximately 90m x 40m, and the smaller area measuring 30m x 20m.

In both areas, the excavation went down to a depth of approximately 0.3m. The exposed deposits comprised a topsoil (001), composed of a mid-greyish brown sandy silt, overlying a subsoil (002) comprising an orange brown, sandy, coarse gravel. The strip was not deep enough to expose the natural substrate, thereby not revealing the enclosures identified in the excavation and evaluation phases. Coal fragments, post medieval ceramic and CBM were recovered from the subsoil deposit but were not retained.

No significant archaeological remains were identified during the monitoring, suggesting that the focus of activity did not extend to this part of the development site.

5 DISCUSSION

5.1 PREHISTORIC

A small assemblage of 9, probable Bronze Age, worked flint fragments; including retouched flakes, hard hammer flakes, a single burnt flake and some debitage, were recovered from pits [1004], [1016], [1018], [1043], & post-hole [1107]. A further 9 flint fragments were recovered from four interventions excavated in ditches [1030] & [1055]. Given presence of later finds associated with each of these features, it was considered that the flints recovered from within them are entirely residual, but may indicate that the earliest phase of limited occupation activity on or near to the site was Bronze Age in origin.

Iron Age

The majority of pottery sherds recovered from site were dated to the early to middle Iron Age and included two distinct fabric types;



ILLUS 15 South-east facing group of post-holes [1101,1103,1105 and 1107] **ILLUS 16** E facing view of pit [1034], 'frying pan shape'

grog/clay pellet gritted and quartz sand gritted. A total of 45 of the 54 Iron Age pottery sherds were of the latter type.

Ditches [1030] and [1055] both contained Iron Age pottery however, stratigraphically ditch [1055] predates ditch [1030]. Taking into account the results of the geophysical survey, ditch [1055] appears to be part of a larger enclosure potentially dating to the early Iron Age. To the west and immediately adjacent to ditch [1055], ditch [1082] would appear to be contemporary however, as no dating evidence was recovered, this cannot be proven. Only a short section of ditch [1082] was observed within Area 1 and although geophysical evidence shows it continuing south before returning west, there is no evidence to suggest any extension of this feature to the north of Area 1. The most likely interpretation is that ditch [1082] is part of an Iron Age field system, which may be contemporary with ditch [1030].

A modest assemblage of animal bone was recovered and amounts to sixteen skeletal elements from four species. Most common amongst types were cattle although these are likely residual (Appendix 3).

Although there was no definitive evidence of a bank associated with any of the ditches, deposit (1053), which occurs in intervention [1052], may be indicative of slumping. This may be consistent with a greater level of defensive capability.

Most of the Iron Age pottery assemblage is undiagnostic although the specialist report speculates that it could date to later in the Iron Age on account of its higher firing temperature (Appendix 2). Given the stratigraphic simplicity of the site and the generally low quantities of pottery, charred plant and faunal remains recovered, continuous occupation of the site appears unlikely. Radiocarbon dating is probably unable to resolve this uncertainty over the date of the enclosure. Firstly, the 'Hallstatt plateau' – a phenomenon of the radiocarbon calibration curve – causes significant inaccuracies in early Iron Age radiocarbon dating (Hamilton et al 2015). Secondly, the most suitable material for dating from this phase is charred grain from an isolated pit, without a definite association with the other activity on the site.

5.2 ROMANO-BRITISH

Romano-British settlements across the region are numerous but unevenly distributed and poorly understood. However, there is a trend of a continuation of the later Iron Age to early Roman

landscapes which represents a continuum of traditions of rural settlement from the former period. In the western parts of the East Midlands, settlement traditions appear to retain the characteristics of pre-existing Iron Age farms. They appear as agglomerated groups of ditched enclosures and trackways of rectilinear form from the late Iron Age to the second century AD (Taylor 2006).

A total of five sherds of Roman pottery were recovered although only one of these was from a stratified context; an oxidised jar sherd from deposit (1012) within ditch [1030]. Further to this a single fragment of rotary quern was recovered from pit [1037]. The same pit also contained an in situ heat affected deposit (1037). This would suggest that there is some small scale industrial/agricultural activity peripheral to the site during the Roman period.

A small circular ceramic base, with a spiral design on one side and with four holes, was identified as the remains of a cheese press from the Romano-British period. Unfortunately this was unstratified.

6 CONCLUSION

Excavation of the site at Derby Road, Crematorium positively confirmed multiple phases of limited, non-continuous occupation activity. The results of the excavation suggest that occupation on or near to the site began in the Bronze Age period, as represented by the presence of a small number of lithics of the period. By the middle Iron Age the site is characterised by a relatively large enclosure, which following its abandonment, was replaced with a larger system of field boundaries. The final phase of occupation activity relates to the Roman period (2nd–4th centuries AD) and is represented by very limited agricultural/ industrial activity.

The natural geology of the site (which includes gravels), may have influenced the choice of site for agricultural practice as the land would have probably drained well. This fits in with the regional model of settlement on the flood plains of the Trent valley and may also explain why the same site was occupied more than once over an extended period of time.

6.1 POTENTIAL FOR FUTURE RESEARCH

The original research objectives for the site assumed that it contained evidence of the Iron Age to Romano-British transition period. It

now seems likely that the remains on the site are evidence for three temporally separate periods of occupation ranging from minimal Bronze Age occupation through to at least the 4th century AD. The results of the excavation have addressed one of the relevant research objectives for the Iron Age period by establishing evidence for the agricultural economy in the form of charred plant remains and evidence for crop processing, and limited faunal remains (see Willis

2006: 132). The dataset is too small to permit further useful analysis on this material, although it may contribute to future regional studies.

The general objectives of the excavation, as outlined in the WSI, were met. More specific objectives directly relating to the East Midlands Heritage Updated Research Agenda and Strategy (Knight et al 2012) are addressed in Table 1 below.

Initial research aim	Relevant evidence	Work undertaken	Possible further analysis and research
Research Aim 4.3 Late Bronze Age and early Iron Age settlements (c.1000 – 450 BC)			
1: Why are sites of this period comparatively rare in the archaeological record?	In the case of Derby Road, the lack of well preserved, securely dateable artefacts has led to a more speculative interpretation. With few comparative securely dated sites in the region, this issue becomes compounded.	Finds assessment within grey literature report quantifying types, weight and amounts of finds recovered.	Pottery may be suitable for consideration for sampling by a regional study where a more viable sample could be retrieved from multiple sites in Derbyshire and contrasted with published assemblages. Such a study is considered to be outside the scope of the developer's obligations for this site.
2: What can we deduce about the morphology, spatial extent and functions of settlements, and in particular the processes underlying the development in some areas of enclosed occupation or activity foci?	Although limited, occupation activity on the Derby Road site does span more than one period, albeit not continuously. One thing that does seem apparent is that later areas of occupation tend to be larger overall, incorporating the use of large field systems as opposed to smaller, single enclosed areas. This may in part be due to economic growth with groups keeping more animals and requiring more space but may also indicate a greater social awareness and interaction between distinct social groups.	Finds assessment including typological and scientific investigation of pottery	Nothing further as the low number of individual vessels represented in the site assemblage and the possibility of divergent dates within the Iron Age, suggest that this assemblage alone does not represent a viable sample for Organic Residue Analysis (ORA)
Research Aim 4.6 Field systems and major linear boundaries			
1: Can we shed further light upon the development of field and boundary systems?	With a site of this size it would be difficult to draw any definite conclusions however, the distribution of finds across the features represented (limited though that is), suggests a reuse of the site, from a moderately sized enclosure to a later complex of larger field systems.	Finds assessment	Publishing of finds assessment and catalogue to allow integrated contextual and spatial analysis of artefacts comparative to other, similar sites; further analysis of finds assemblage against similar assemblage may not be possible due to the limited nature of this assemblage.
2: What were the economic, social or political roles of the pit alignments and linear ditch systems that characterised many areas of the East Midlands?	Relative to the Derby Road site it is difficult to make an interpretation on structural remains with only broad, relative dating evidence. It is possible to suggest a basic chronology for the site. However, the inception and abandonment of the site cannot be refined further.	Grey literature report includes broad comparison of features and find types with those seen on other similar sites (such as Carsington, Derbyshire)	Further comparative analysis with other sites of similar date in a wider study area.
Research Aim 4.8 The agricultural economy and landscape			
2: How may diet and land-use have varied over time and between different ecological zones? Can we identify specialist pastoral zones and elucidate coastal resource exploitation strategies?	Although a variety of charred plant remains were recovered from across site, the assemblage itself was quite small and did not offer any significant information relating to site economy other than possible crop choices. However, continuity of both crop choice and processing practices was demonstrated on site.	Processing of environmental soil samples through wet sieving and assessment of recovered flotation material and residues.	Nothing further

TABLE 1 Specific research objectives

Recommendations for further work

Given the small nature of the find assemblage, it was recommended by the finds specialist, that no further work was required. The cheese press is interesting but un-stratified. The Iron Age and Romano-British finds are recommended for retention in the site archive. The modern pottery, waste and lithics are of no further archaeological value, and can be discarded. A summary of the report containing a narrative description of the excavation results will be submitted for publication in a forthcoming edition of the Derbyshire Archaeological Journal, no later than October 2018, to facilitate use of the dataset in any regional research initiatives. A mid-project review has been completed and it is proposed to archive the documentary, film, artefact and ecofact assemblages at Derby Museum, no later than October 2018, to facilitate future research.

7 REFERENCES

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8 APPENDICES

APPENDIX 1 CONTEXT REGISTER

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1000	-	-	-	-	-	clean up layer
1001	-	-	-	-	0.3	topsoil: dark brown, sandy silt, loose
1002	-	-	-	-	0.4	subsoil: reddish brown, loose, sandy silt, common small pebbles
1003	-	-	-	-	-	natural sands and gravel
1004	-	1004	4	1.7	0.07	shallow pit, subcircular/rectangular
1005	-	1004	4	1.7	0.07	deposit: greyish brown, loose, gritty, silty sand
1006	1030	1006	1.2	2.35	1.26	ditch: linear, steep concave sides, rounded base
1007	1030	1006	1.2	1.1	0.75	ditch fill: greyish brown, loose, silty sand
1008	1030	1006	1	1.25	1.1	ditch fill: mid dark brown, friable/loose, silty sand
1009	1030	1006	1m	1.5	0.47	ditch fill: dark greyish brown, friable, gritty silty sand
1010	1030	1010	50	3.2	1.00m	ditch cut: linear, sloping sides, rounded base, sharp break of slope
1011	1030	1010	50	1.2	0.2	basal fill: light brown, firm, sandy silt
1012	1030	1010	50m	3.2	0.8	ditch fill: mid brown, firm, sandy silt, abundant sub-rounded stones
1013	1030	1013	50	3.2	0.86	ditch cut: linear, sloping sides, rounded base, sharp break of slope
1014	1030	1013		1.4	0.15	ditch fill: brownish yellow, loose, gritty silty sand
1015	1030	1013	50	3	0.86	ditch fill; mid brown
1016	-	1016	1.5	0.5	0.14	pit: oval shape, sloping sides, rounded base, gradual break of slope
1017	-	1016	1.5	0.5	0.14	pit fill: mid brown, firm, sandy silt, occasional charcoal fleck
1018	-	1018	2.2	1.12	0.26	pit: oval shape, sloping sides, rounded base, imperceptible break of slope
1019	1055	1019	20	3.4	1	ditch cut: linear, steep sides, rounded base, gradual break of slope

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1020	1055	1019	4	2.1	0.28	primary ditch fill: orange brown, loose, silty sand, occasional small pebble
1021	1055	1019	4	2.3	0.36	ditch fill: brown, soft, silty sand, common small stones
1022	1055	1019	3	1.3	0.38	ditch fill: dark brown, soft, silty sand, common small stones
1023	1030	1023	70	2.6	0.6	ditch cut: linear, steep sides, flattish/concave base, gradual break of slope
1024	1030	1023	4	1.4	-	ditch fill: brown, loose/soft, sandy silt, common small rounded stones
1025	1055	1019	4	0.23	0.36	ditch fill: brown, soft, silty sand, common small rounded stones
1026	-	1026	2.2	1.12	0.26	pit fill; mid brown, firm, sandy silt
1027	-	1027	0.97	0.55	0.12	pit: sub circular, sloping sides, rounded base, imperceptible break of slope
1028	-	1027	0.55	0.25	0.08	basal fill of pit: orange brown, firm, sandy silt
1029	-	1027	0.62	0.55	0.12	topsoil: mid brown/black, firm, sandy silt
1030	-	1030	-	-	-	group sheet of square enclosure
1031	-	1037	1.1	1	0.1	random setting of sandstone stones covering rough hearth/kiln
1032	-	1032	0.36	0.32	0.13	pit: circular, sloping sides, rounded base, imperceptible break of slope
1033	-	1032	0.36	0.32	0.13	pit fill; dark brown, firm, silt, common flecks of charcoal
1034	-	1034	1.23	0.63	0.1	pit: circular, sloping sides, flat base, imperceptible break of slope
1035	-	1034	1.23	0.63	0.1	pit fill: mid brown, firm, silt, abundant flecks of charcoal
1036	-	1037	0.3	0.4	0.15	pit fill: light brown, sandy silt, friable,
1037	-	1037	1.6	1.4	0.15	pit: sub circular, shallow sides, concave base, gradual break of slope
1038	-	1037	0.4	0.3	0.06	pit fill: light brown, sandy silt, soft, no inclusions

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1039	1030	1039	50	2.45	0.72	ditch: linear, sloping sides, rounded base, sharp break of slope
1040	1030	1039	-	0.5	0.16	base fill: brownish red, firm, silty clay, common rounded stones
1041	1030	1039	-	1.2	0.4	ditch fill: mid brown, loose, silty sand
1042	1030	1039	50	2.45	0.42	ditch fill: mid brown, loose, sandy silt
1043	-	1043	1.01	0.9	0.2	pit: circular, steep sides, flat base, sharp break of slope
1044	-	1043	1.01	0.9	0.2	pit fill: mid brown, loose, sandy silt
1045	1030	1045	50	2.3	0.56	ditch: linear, sloping sides, flat base, gradual break of slope
1046	1030	1045	-	1.15	0.23	ditch fill: yellowish brown, firm, diffuse interface, silty sand
1047	1030	1045	-	0.73	0.22	ditch fill: mid brown, loose, silty sand/gravel
1048	1030	1045	50	0.34	0.34	ditch fill: mid brown, firm, sandy silt, diffuse interface
1049	1030	1049	80	3.8	1.1	ditch: rectilinear, sloping sides, rounded base, sharp break of slope
1050	1030	1049	2.8	2.4	0.7	primary ditch fill: dark brown, firm, sandy silt
1051	1030	1049	2.8	2.4	0.4	ditch fill: mid brown, firm, sandy silt, frequent angular rounded stones
1052	1055	1052	20	2.4	0.95	ditch: linear, steep sides, rounded base, gradual break of slope
1053	1055	1052	2m>	1.1	0.7	ditch fill: light brown, soft, sandy silt, abundant small rounded stones
1054	1055	1052	2m>	1.5	0.7	ditch fill: brown, soft, silty sand, common small stones
1055	1055	-	-	-	-	group Number/sheet of earlier enclosure
1056	1030	1056	50	2.4	0.77	ditch: rectilinear, steep sides, flat base, sharp break of slope
1057	1030	1056	-	1.2	0.31	ditch fill: mid brownish grey, firm, silty sand, occasional rounded stone
1058	1030	1056	-	2.4	0.46	ditch fill: mid brown, firm, sandy silt, abundant sub rounded stones

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1059	-	1059	10m>	0.6	0.33	small ditch: linear, steep sides, rounded base, gradual break of slope
1060	-	1059	10m>	0.6	0.33	ditch fill: mid brown, firm, sandy silt, occasional med stone
1061	-	1061	6m>	0.7	0.25	ditch: linear, sloping sides, rounded base, imperceptible break of slope
1062	-	1061	0.9m	0.7	0.25	ditch fill: reddish brown, firm, silty sand, frequent small, pebbles
1063	-	1063	0.9	1.4	0.52	pit/tree throw: sub circular, sloping sides, rounded base, imperceptible break of slope
1064	-	1063	0.9	1.4	0.52	pit fill: dark brown, firm, silty sand, frequent angular pebbles
1065	-	1065	0.5	0.4	0.4	pit/animal burrow: sub circular, sloping sides/ undercutting, rounded base
1066	-	1065	0.5	0.4	0.4	pit fill: reddish brown, firm, gritty silty sand, frequent small pebbles
1067	-	1067	0.65	0.45	0.55	pit/animal: sub circular, steep sides, round base, undercutting
1068	-	1067	0.65	0.45	0.35	pit fill: yellowish grey, firm, silty sand, frequent small pebbles
1069	1059	1067	10m>	0.59	0.17	small ditch: linear, steep sides, rounded base, gradual break of slope
1070	1059	1069	0.5	0.59	0.17	ditch fill: mid brown, firm, sandy silt, occasional medium stones
1071	1055	1052	2m>	0.5	0.15	natural/fill: reddish brown, loose/dry, fine sandy silt, no inclusions
1072	1082	1072	7m	1.5	0.3	ditch: linear, steep sides, flattish base, sharp break of slope
1073	1082	1072	1m	1.4	0.3	ditch fill: brown, loose/soft, sandy silt, occasional small pebble
1074	-	1074	15m	0.54	0.18	ditch: linear, sloping sides, rounded base, gradual break of slope
1075	-	1074	15m	0.54	0.18	ditch fill: mid brown, loose, sandy silt, common small stones.

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1076	-	1076	0.34	0.31	0.16	post-hole: circular, vertical sides, rounded base, sharp break of slope
1077	-	1076	0.34	0.31	0.16	post-holefill: mid brown, loose, sandy silt
1078	-	1078	0.54	0.47	0.2	pit: subcircular, gently sloping sides, rounded base, gradual break of slope
1079	-	1078	0.54	0.47	0.2	pit fill: mid brown, loose, sandy silt
1080	1082	1080	7m	1.4	0.13	ditch terminus: linear, shallow sides, concave base, imperceptable break of slope
1081	1082	1080	1m	1.4	0.13	ditch fill: brown, loose/soft, sandy silt, occasional small rounded stones
1082	1082	-	-	-	-	group number/sheet for short length of n/s ditch
1083	-	1083	1.08	1	0.14	pit: sub circular, gentle sides, flat base, gradual break of slope
1084	-	1083	1.08	1m	0.14	pit fill: mid brown, firm, silty clay, occasional charcoal fleck
1085	-	1085	0.52	0.44	0.15	post-hole: circular, steep sides, rounded base, sharp of break of slope
1086	-	1085	0.52	0.44	0.15	post-hole fill: mid brown, loose, sandy silt
1087	-	1087	3.5	0.39	0.13	ditch cut: linear, gentle sides, rounded base, gradual break of slope
1088	-	1087	3.5	0.39	0.13	ditch fill: mid brown, loose, sandy silt, common small stones.
1089	-	1089	1	0.4	0.2	ditch cut: curvilinear, sloping sides, rounded base, imperceptable break of slope
1090	-	1089	1m	0.4	0.2	ditch fill: mid brown, loose, silty sand, occasional small pebble
1091	-	1091	1.3	0.7	0.3	pit: oval shape, steep sides, rounded base, gradual break of slope
1092	-	1092	1.3	0.7	0.3	pit fill: brown, friable, sandy silt, occasional medium pebble
1093	-	1093	0.53	0.3	0.2	ditch: linear, gentle slopes, rounded base, imperceptable break of slope

Context	Group	Relates to cut	Dimensions			Summary interpretation
			L (m)	W (m)	D (m)	
1094	-	1093	0.53	0.3	0.2	ditch fill: yellowish brown, loose, silty sand, occasional pebble
1095	-	1095	1.00m	0.32	0.2	ditch: linear, sloping sides, rounded base, imperceptable break of slope
1096	-	1095	1.00m	0.32	0.2	ditch fill: mid brown, firm, gritty silty sand, frequent angular pebbles
1097	-	-	-	-	-	void
1098	-	1098	-	0.45	0.07	post-hole: circular, shallow, concave
1099	-	1098	-	0.45	0.07	post-hole fill: dark grey, loose/soft, sandy silt
1100	1055	1100	2.00m	1.00m	0.3	ditch terminus, steep sides, flattish base, gradual break of slope
1101	-	1101	-	0.23	0.15	post-hole: circular, steep sides, rounded base, gradual break of slope
1102	-	1101	-	0.23	0.15	fill: orange brown, loose silty sand
1103	-	1103	-	0.35	0.15	post-hole: circular: circular, gentle slopes, pointed base
1104	-	1103	-	0.35	0.15	fill: dark grey, loose, sandy silt, occasional small stone
1105	-	1105	-	0.4	0.15	post-hole: circular, gentle sides, round base, imperceptable break of slope
1106	-	1105	-	0.4	0.15	fill: brown, soft, sandy silt, occasional small stone
1107	-	1107	-	0.4	0.4	post-hole: circular, vertical sides, pointed base,
1108	-	1107	-	0.4	0.4	fill: brown, loose, sandy silt
1109	1055	1101	2.00m	1.00m	0.3	terminus fill: mid brown, loose/soft, sandy silt, common small stones

APPENDIX 2 FINDS ASSESSMENT

Context	Pottery (PH)		Pottery (Rom)		Pottery (Mod)		Iron	Stone		Lithics	CBM		Ind Waste	Dating
	Count	Wgt (g)	Count	Wgt (g)	Count	Wgt (g)		Count	Count		Wgt (g)	Count		
cleaning/unstrat	–	–	4	265	1	9	–	–	–	–	1	2	–	–
earlier enclosure 1055	4	24	–	–	–	–	–	–	–	2	–	–	3	EIA
square enclosure 1030	5	30	1	12	–	–	2	–	–	7	–	–	3	RB
pit 1004	–	–	–	–	–	–	–	–	–	1	–	–	1	?
pit 1016	1	3	–	–	–	–	–	–	–	2	–	–	2	IA?
pit 1027	5	388	–	–	–	–	4	–	–	4	–	–	1	IA
pit 1034	–	–	–	–	–	–	–	–	–	–	–	–	2	?
pit 1037	–	–	–	–	–	–	–	1	3,147	–	–	–	18	RB
pit 1043	36	367	–	–	–	–	–	–	–	1	–	–	<0.5	EIA
pit 1091	3	27	–	–	–	–	–	–	–	–	4	52	2	IA
PH 1107	–	–	–	–	–	–	–	–	–	1	–	–	<0.5	?
Total	54	839	5	277	1	9	6	1	3,147	18	5	54	32	

TABLE A2.1 Summary of finds assemblage by feature with spot dating

Summary

The assemblage numbered 60 sherds (1.125kg) of pottery, one large stone find, 18 pieces of chipped stone, six iron finds, five of ceramic building material and 32g of industrial waste. The majority of finds were of Iron Age and Romano-British date, with one sherd of modern pottery. The ceramics have been recorded using count and weight as measures according to the guidelines laid down for the minimum archive by The Study Group for Roman Pottery (Darling 2004) using the codes developed by the City of Lincoln Archaeological Unit CLAU (see Darling and Precious 2014). Local Prehistoric pottery code schemes have been used to describe diagnostic vessel features (PCRG 1997; Knight 1998). The finds are summarised by feature in Table A2.1. A complete catalogue is given at the end.

Fabric code	Fabric	Dating	Sherds	Wgt (g)	Rim EVE
IAGR	Grog/clay pellet-gritted	Iron Age	9	60	17
IASA	Quartz sand-gritted	Early Iron Age / Iron Age	45	779	
Total			54	839	19

TABLE A2.2 Prehistoric pottery type series

Prehistoric pottery

Prehistoric pottery was the most common type found on site, numbering 54 sherds (839g). The pottery occurrence by number and weight of sherds per fabric is shown in Table A2.2. The most significant vessels present were the sherds from Iron Age jars with friable sandy fabrics from pit [1043] (1044) and enclosure [1055] (1053). The vessel from pit [1043] with a tiny scrap of the rounded rim surviving and a rounded shoulder appears to fit with the range of early Iron Age pottery from Mam Tor (Elsdon 1996, A.1a).

The remainder of the grog/clay pellet-gritted handmade pottery could be broadly dated to the Iron Age. As no diagnostic feature sherds were present amongst this fabric and they had been fired to a higher temperature it is possible that these vessels may represent activity in the mid to late Iron Age.

Roman pottery

The Roman pottery assemblage numbered only five sherds (277g). The pottery occurrence by number and weight of sherds per fabric is shown in Table A2.3.

Fabric code	Fabric	Dating	Sherds	Wgt (g)	Rim EVE
DBY	Derbyshire ware	Late 2nd – 4th century AD	2	51	–
GREY	Grey ware	Roman	2	214	–
OX	Misc. Oxidised	Roman?	1	12	–
Total			5	277	

TABLE A2.3 Roman pottery type series

The range of Roman pottery present included a fragment from a cheese press and a dish in grey ware fabrics and fragments from Derbyshire ware jars. Unfortunately the only stratified sherd was one possible oxidised jar sherd found in square enclosure ditch [1030] (1012). These vessels are typical occurrences amongst assemblages from Derbyshire. While it is difficult to extrapolate site status or function on the basis of such a small assemblage, it is not unusual to find only small numbers of Roman vessels on rural Roman sites in this area.

Modern pottery

A black glazed sherd from topsoil was an unsurprising modern find.

Iron

The iron assemblage was largely unremarkable. A possible staple and a small fragment of wire were found in the apparently Roman square enclosure ditch [1030] (1012) (1050). Some small sheet fragments were found in Iron Age pit [1027] (1026).

Coarse stone

A single coarse stone find is a large piece (3.147g) of a rotary quern of a form typical of the Roman period. It is an upper stone fragment with the remains of a recess for an iron rynd. It is decorated with concentric lines around its interior edge and is bordered around the rim with radial lines. The decoration has been pecked and ground into the surface. It was found in pit [1037] (1038).

Lithics

The small assemblage of lithics are most likely residual finds of Bronze Age date. They number 18 pieces, with six miscellaneous retouched pieces and 12 pieces of debitage. The assemblage is small with few chronologically diagnostic elements. As a whole the reduction techniques point towards Bronze Age technology; hard hammer, irregular flakes, simple, wide platforms.

Ceramic building material

Fragments from a sand-gritted brick or large vessel with vegetation impressions of uncertain date was retrieved from pit [1091] (1092). A further fragment of fired clay was also retrieved from cleaning layer (1000).

Industrial waste

The industrial waste comprises 32g of magnetised gravel which could contain traces of hammerscale. Gravel can become magnetised through pyrotechnic activities. The individual finds per context are very small in weight and cannot be confidently assumed to be in situ.

Discussion

The earliest finds on site were the lithics. Though of apparently Bronze Age date these were clearly residual and widely scattered through later features.

The earliest stratified finds appear to be of early Iron Age date. These were noted in pit [1043] and in enclosure [1055]. Further and potentially later Iron Age pottery was found in pits [1027], [1091] and [1016]. Associated finds include pieces of possible brick in pit [1091] and iron sheet fragments in pit [1027].

The square enclosure [1030] appears to be of Romano-British date, though this is evidenced by only one sherd of possible Roman pottery. The quern in pit [1037] suggests this feature also dates to the Roman period. The two iron finds found in the square enclosure are presumably contemporary but little else could be dated to this period. The site appears to represent a typical rural Roman site for the area, with little in the way of imported or luxury goods.

Recommendations

The Romano-British pottery assemblage was small and could not be closely dated by typology or scientific methodologies (Knight et al 2012, 6.4.1). Only one vessel had a possible form parallel and the other vessels could not be attributed to a date or stylistic group due to the lack of diagnostic feature sherds. The low number of individual vessels present (a maximum of eight vessels from 59 sherds) and the possibility of divergent dates within the Iron Age suggest that this assemblage alone does not represent a viable sample for Organic Residue Analysis (Historic England 2017; Knight et al 2012, 6.4.8.2).

It is recommended that this pottery should be deposited in the relevant museum and it may be suitable for consideration for sampling by a regional study where a more viable sample could be retrieved from multiple sites in Derbyshire and contrasted with published assemblages (eg Waddington 2015).

Any associated Iron Age and Romano-British finds are recommended for retention in the site archive, though again these are too few to warrant further analysis by themselves. The modern pottery, lithics and industrial waste are of no further archaeological value and could be discarded.

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APPENDIX 3 ENVIRONMENTAL ASSESSMENT

Introduction

Twelve bulk sediment samples, ranging in size from ten to forty litres, were recovered during archaeological works undertaken on land at Derby Road, Aston, Derbyshire. Samples were from the fills of various ditches, pits and post-holes, and range in date from the Iron Age to Romano-British periods. In addition to the bulk samples seven further deposits were sampled for hand collected bone. The aims of the assessment were to assess the presence, preservation and abundance of any environmental remains and to determine the potential of the material in indicating the character and significance of the deposit.

Method

Bulk samples were subjected to flotation in a Siraf-style flotation machine. The floating debris (the flot) was collected in a 250 µm sieve and once dry, scanned using a binocular microscope. Any material remaining in the flotation tank (retent) was wet-sieved through a 1mm mesh and air-dried. All samples were scanned using a stereomicroscope at magnifications of x10 and up to x100. Identifications, where provided, were confirmed using modern reference material and seed atlases including Cappers et al (2006) and Zohary et al (2012), nomenclature for wild taxa follows Stace (1997). After careful consideration of the uncharred seeds present in the samples they were determined to be a modern intrusive component and were therefore not considered further.

Faunal remains were examined under low magnification and, as far as possible, identified to species and skeletal element, using modern reference material and with reference to Schmid (1972), and Hillson (1992). Measurements are taken as per von den Dreisch (1976). Ageing criteria are recorded using various methods outlined in Amorosi (1989).

Results

Results of the assessment are presented in Tables A3.1 (Retent samples) A3.2 (Flot samples) and A3.3 (Hand collected bone). Material suitable for AMS (Accelerated Mass Spectrometry) radiocarbon dating is shown in the tables. The majority of samples had varying proportions of modern roots and rare numbers of intrusive uncharred seeds.

Wood charcoal

Wood charcoal was present in varying quantities in all 12 samples (Tables A3.1 and 2). The charcoal assemblage was primarily composed of abraded and unabraded rectilinear pieces of varying sizes. The overall assemblage also contained rare occurrences of fragments of heather (*Calluna vulgaris*) stem and indeterminate pieces of rhizome/tuber.

Cereal grain

Cereal grains were recovered from ten samples (Table A3.1) the two richest assemblages derived from 2 pits; deposit (1035) the fill of pit [1034] an undated feature (with over 100 grains present) and deposit (1017) the fill of pit [1016] which was tentatively dated

to the Iron Age period (approx. 30 grains present). Less than ten cereal grains per feature were recovered from the other contexts. Glume wheat, specifically emmer wheat (*Triticum dicoccon*) was the dominant species present followed by roughly equal numbers of barley (*Hordeum* sp.) and bread/club wheat (*Triticum* c.f. *aestivum-compactum*). Also present were occasional grains of spelt wheat (*Triticum spelta*) and oat (*Avena* sp.) as well as proportion of indeterminate cereal grains. The grains exhibited mixed levels of preservation the majority being poor to very poor with evidence of distortion, fragmentation and missing surfaces.

Other charred plant remains

Cereal chaff was present in three contexts, the two most abundant assemblages being from deposits (1035) the fill of pit [1034] and (1017) the fill of pit [1016]. The elements present included glume bases and spikelet forks of emmer wheat with a rare occurrence of a spelt wheat spikelet fork as well as rare occurrences of barley rachis internodes.

The seeds of wild peas/vetches (*Lathyrus/Vicia*) were present in four samples and were particularly common in deposit (1035) the fill of pit [1034]. It is though unlikely that these are domesticated varieties

A number of charred 'weed seeds', (here used to include seeds, fruits, achene, caryopses etc) were recovered from seven samples. Of the weed taxa present the majority were grasses (*Poaceae*), with rare occurrences of Black-bindweed (*Fallopia convolvulus*), docks (*Rumex* sp.) and achenes of the knotweed family (*Polygonaceae*). The weed taxa are all species common in arable fields and disturbed ground (Stace 1997).

Grass caryopses were the dominant weed taxon in two deposits; (1035) the fill of pit [1034] and (1017) the fill of pit [1016]. The grasses, including brome grass (*Bromus* sp.) from pit [1034] were larger (measuring > 2mm) and tended to be of a similar size to the cereal grains, whereas the grasses from Pit [1016] were much smaller (< 2mm in size) and were fewer in number.

A single charred fruit stone of Blackthorn (*Prunus spinosa*) was recovered from deposit (1109) the fill of post-hole [1101].

Animal Bone

Faunal remains were recovered from 11 contexts, this included hand collected material in addition to material recovered in the bulk samples (Table A3.1 and 3). Four of these contexts ((1004), (1026), (1036) and (1108)) contained only a few tiny non-identifiable fragments collected from processed samples, and will not be discussed further. All of the contexts yielded identifiable bone were ditch-fills, though only one, deposit (1050), was recorded as a primary fill.

Preservation was mixed, depending on context, with some elements in very good condition and some very eroded.

In total, 16 individual skeletal elements were identified, from four species. Dog tooth-marks were noted on some bone, attesting to a fifth species.

Cattle bones were the most commonly represented in the identified fraction (9 fragments), followed by pig (three fragments), horse (two fragments) and sheep (two fragments).

Cattle Deposit (1012) the fill of ditch [1010] yielded the largest assemblage of cattle bones, six fragments from high meat (rib, scapula, radius) and low-meat (tooth fragment) areas of the carcass. Two fragments of scapula blade (a left and a right) showed dog tooth-marks. Deposit (1015) the fill of ditch [1013] also produced a scapula fragment (un-gnawed) and the majority of the unidentified small eroded fragments were of a robusticity consistent with deriving from cattle limb bones. A very eroded scapula fragment was recovered from deposit (1051) the fill of ditch [1049] and a complete third phalanx (hoof bone) from deposit (1053) the fill of ditch [1052]. No pattern can be discerned from the cattle assemblage, which appears to be largely residual, possibly accumulated partially through the action of canines.

Pig Deposits (1012) and (1053) the fills of ditches [1010] and [1052] respectively, produced parts of mandibles. In deposit (1012) one of the mandible fragments was from an animal of over three years old, the other fragment had sockets for male tusks. A dog-chewed distal metapodial III/IV (fused ie > 2yo) was also recovered from deposit (1012). These skeletal elements are among the more robust parts of the pig skeleton.

Horse Two horse bones were recovered largely complete, though fragmented in antiquity, and well preserved. A right metacarpal III from deposit (1007) the fill of ditch [1010] was dog-chewed, and came from an adult animal of 1.36 m at the withers (13.2 hands, a large pony). The proximal end showed signs of periarticular periostitis, known as spavin of the 'knee'. Deposit (1050) the primary fill of ditch [1049] contained a proximal shaft fragment of a left femur, dog-chewed and with the proximal end broken off in antiquity. Further fragments of the same bone were recovered from deposit (1051) the fill of ditch [1049].

Sheep Deposit (1015) the fill of ditch [1013] yielded a fragment of left scapula while deposit (1051) the fill of ditch [1049] produced an upper molar. Deposit (1042) the fill of ditch [1039] also had some small fragments of tooth enamel, unidentifiable, but probably from sheep.

Other finds

Finds including pottery, lithics, coarse stone, ceramic building material and industrial waste will be discussed as the subject of a separate finds report. It is assumed at this point the much of the magnetic residue is natural in origin.

Discussion

The small charred plant assemblage does not offer any significant information relating to site economy other than possible crop choices, though the range of species present is consistent with the spectra of crops commonly associated with Iron Age and Roman sites in Derbyshire, particularly at Carsington, Derbyshire (Monckton 1997).

The presence of weed seeds in conjunction with cereal remains in features such as pit [1034] suggest that the two grew together in the same fields, with the seeds as contaminants of the cereal crop. The weed assemblage was characterized by a number of larger seeds and traditional societies often find it difficult to separate these from

the grain by sieving, winnowing etc. The suggestion is therefore that the samples on this site are the essentially the remains of a largely cleaned cereal product that was burnt during food preparation or while in storage. Cereal chaff was also encountered in a number of samples and these too could have been contaminants of a largely cleaned crop. An alternative explanation might indicate mixing of waste fractions with cleaned grain after charring or the burning of whole ears.

The charred plant assemblages from pits [1034] and [1016] potentially offer insight into crop usage at the site over time. The assemblage demonstrates a continuity in crop choices and processing practices at the site across different phases and periods of occupation.

The animal bone assemblage provides limited information pertaining to site economy despite the presence of common domestic species (including indirect evidence of the presence of dogs). Preservation was generally very poor with high fragmentation and extensive evidence of dog-gnawing all suggesting that the material was residual, with the possible exception of the horse bones which were better preserved and occurred in primary ditch fill a context. This material may have been deliberately fed to the dogs. The paucity of remains precludes any further analysis.

Dating potential of the remains

Seven samples contain material sufficient for AMS dating (Tables A3.1 and 2). The charred plant assemblage from Pit [1034] could potentially provide a date for this as yet undated feature. All of the other features from which the bulk soil samples derive have been dated and assigned to phases through the finds recovered.

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Context	Sample	Sample Vol (l)	Ceramic/ Pottery	Stone		Metal/ Fe object	Industrial Waste			Unburnt bone	Shell	Charcoal		sufficient for AMS?	Comments
				Lithics	Stone		Fe slag	Magres	Other			Qty	Max size (mm)		
1004	004	10	-	+	-	-	+	+++	-	+	-	+	8	N	Bone fragment (<0.5g)
1015	006	20	-	+	-	-	+	+++	-	+	-	+	10	Potentially if not Oak	tiny bone fragments (<0.5g)
1017	001	10	+	+	+	-	++	+++	-	-	-	++	5	N	-
1026	002	10	-	+	-	+	++	+++	-	+	-	+	10	Y	Tiny fragments cancellous bone (<0.5g)
1035	007	10	-	-	-	-	++	+++	-	-	+	++	10	Potentially	
1036	008	20	-	-	-	-	+	+++	-	++	-	-	-	N	Tiny fragments calcined bone (<0.5g)
1044	003	10	-	+	-	-	+	++	+	-	-	++	6	N	-
1050	005	40	-	-	-	+	++	++++	-	+	-	+	1	N	1 tiny fragment, possibly calcined (<0.5g)
1053	009	20	-	-	-	-	++	+++	-	++	-	-	-	N	non-identifiable bone fragments (1g)
1092	010	20	-	-	-	-		++++	-	-	-	+	20	Only if it is not Oak	-
1108	012	10	-	+	-	-	+	+++	-	+	-	+	4	N	5 tiny bone fragments (<0.5g)
1109	011	30	-	+	-	-		++++	+	-	-	-	-	N	-

Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (15-50) and ++++ = abundant (>50)

TABLE A3.1 Retent sample results

Context	Sample	Group	Total flot Vol (ml)	Oat grain	Barley grain	Glume wheat grain	Wheat grain	Indet. cereal	Cereal chaff	Peas/Vetches	Weeds	Other Charred plant remains	Charcoal		sufficient for AMS?	Comments
													Qty	Max size (mm)		
1004	004	-	1	-	-	-	-	+	-	-	+	+	+	4	N	charred rhizome/tuber
1015	006	1030	15	+	-	-	-	+	-	+	+	+	++++	9	Y	rhizome/tuber. Cereal grains poorly preserved, may be sufficient for AMS dating. Charcoal possibly sufficient for AMS but only if non-oak species are present
1017	001	-	15	+	++	+	+	++	+++	-	+++	-	+++	22	Y	Grains of barley, oat, emmer wheat and bread/ club wheat, cereal chaff; glume bases and spikelet forks, barley rachis internodes
1026	002	-	8	-	+	-	-	+	+	+	+	-	+++	6	N	
1035	007	-	50	-	++	+++	++	+++	+++	+++	++	-	++++	11	Y	Grains of barley, emmer wheat, bread/club wheat. Cereal chaff; glume bases and spikelet forks, barley rachis internodes
1036	008	-	10	-	+	-	+	-	-	-	-	-	+++	9	Y	Cereal grains sufficient for AMS

Context	Sample	Group	Total float Vol (ml)	Oat grain	Barley grain	Glume wheat grain	Wheat grain	Indet. cereal	Cereal chaff	Peas/Vetches	Weeds	Other Charred plant remains	Charcoal		Comments	
													Qty	Max size (mm)		
1044	003	-	10	-	+	-	-	+	-	-	-	-	+++	7	N	-
1050	005	1030	1	-	-	-	-	-	-	-	+	-	+++	4	N	-
1053	009	1055	2	-	-	-	-	+	-	-	-	-	++	4	N	Cereal grain fragment insufficient for AMS dating
1108	012	-	9	-	-	-	-	-	-	-	-	+	+++	9	N	Indet fruit, heather stem fragments
1109	011	1055	40	+	+	-	-	+	-	+	+	+	+++	6	Y	Charred prunus fruitstone. Cereal grains sufficient for AMS

Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (15-50) and ++++ = abundant (>50)

NB charcoal over 10mm is sufficient for identification and AMS dating

TABLE A3.2 Flotation sample results

Context	Condition	Wgt (g)	Identification	Comments
1007	good	124	Horse: Right MC III Complete (broken at distal quarter in antiquity, but almost all present) GLI=214; GL=222; SD=34.4; Dp=33.3. LI=212 => 1.36 m	Some signs of periarticular periostitis at C/MC joint ie knee spavin. Dog-chewed.
1012	fair	241	'Pig: Mandible Right side, P3 - M3 P4 wear f, M1 wear l, M3 wear e. (ie - Bull & Payne Phase 5, >35months.) Distal MP iii/iv, dog chewed. Cattle: Radius, L midshaft. Scapula L & R frags: both dog-chewed 2 x ribs Upper molar broken enamel	
1015	fair to poor	47	Probable cattle limb-bone frags, also cattle scapula blade fragment. Sheep fragment of left scapula blade.	Very fragmented, some elements powdery with little structural integrity. No definite toothmarks.
1042	very poor	29	Fragments of sheep molar enamel	no identifiable elements, comminuted.
1050	very good	95	Horse: Left femur proximal shaft fragment, modern breaks, but prox end lost in antiquity	dog tooth-marks
1051	mixed	59	'Horse: fragments from same femur as (1050) Cattle: Left scapula neck fragment, surface eroded. Residual? Sheep: Upper molar 1 or 2'	Cattle: very poor preservation
1053	medium	27	Pig: Mandible: L side of anterior, I1-C alveoli. Male pattern Canines. Cattle: Phal III, complete. DLS=62.7; Ld=50.1; MBS=22.6	Medium preservation, some powderiness, eroded surface.

TABLE A3.3 Hand collected bone



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Headland Archaeology South & East
Building 68C | Wrest Park | Silsoe | Bedfordshire MK45 4HS
t 01525 861 578
e southandeast@headlandarchaeology.com

Headland Archaeology Midlands & West
Unit 1 | Clearview Court | Ivyford Rd | Hereford HR2 6JR
t 01432 364 901
e midlandsandwest@headlandarchaeology.com

Headland Archaeology North
Unit 16 | Hillside | Beeston Rd | Leeds LS11 8ND
t 0113 387 6430
e north@headlandarchaeology.com

Headland Archaeology Scotland
13 Jane Street | Edinburgh EH6 5HE
t 0131 467 7705
e scotland@headlandarchaeology.com

www.headlandarchaeology.com