

TDCA13/04



A96 PARK AND RIDE

Archaeological Evaluation

commissioned by Aberdeen City Council

P100771

October 2013

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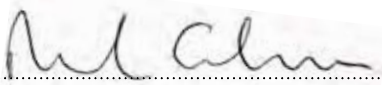
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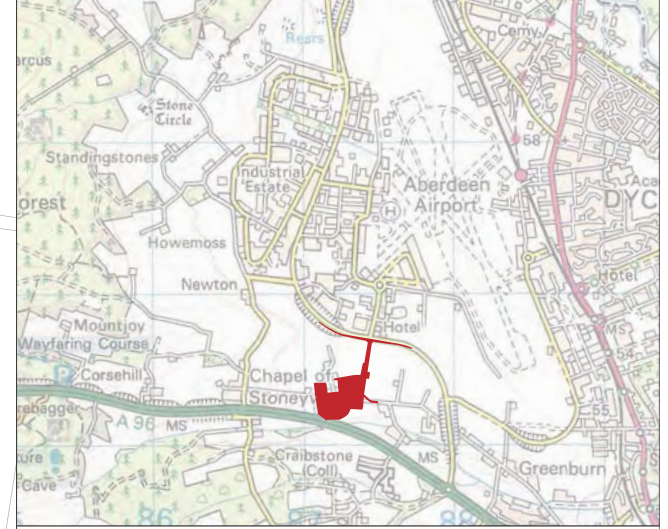


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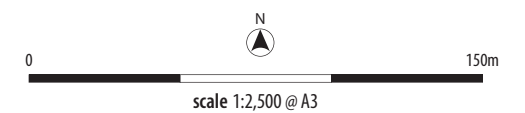
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- application boundary
- trench



land at Walton Farm
A96 Park and Choose
Aberdeen City

Illus 1
Site location

A96 PARK AND RIDE

Archaeological Evaluation

Headland Archaeology undertook a trial trench evaluation of the proposed A96 Park and Ride, located next to Walton Road to the north of the A96.

The evaluation comprised 36 trial trenches. A total of 42 features were recorded mainly pits and post-holes. Paleoenvironmental evidence from samples taken from pit fills indicates that the features could be of possible Iron Age or Medieval date. The majority of the features were confined to within an area of some 90m by 120m in the south-eastern part of the development area.

1 INTRODUCTION

This report presents the results of trial trenching of the proposed A96 Park and Ride, located next to Walton Road and Walton Farmhouse to the north of the A96, close to the planned junction with the Aberdeen Peripheral Route (**Illus 1**). The site covers nine hectares and will consist of a park and ride facility for 999 spaces with access roads linking the A96 and Dyce Drive.

The area consists mainly of semi-improved grassland with areas of arable farmland. The part that lies to the north of Walton Road is slightly undulating while the land to the south of the road slopes southward towards the Green Burn and the A96. The superficial geological deposits comprise fluvio-glacial and raised beach sands and gravels.

The evaluation was undertaken according to Written Scheme of Investigation (WSI) written by AECOM. The trial trench evaluation was carried out from 10th to 16th September 2013.

2 ARCHAEOLOGICAL BACKGROUND

There are no known archaeological sites within the development boundary. The Scottish National Monument Record (NMRS) lists two sites in close proximity of the development:

- NMRS NJ81SE 44.08. This is the site of a pillbox that has been identified from post-war RAF vertical air photographs that was demolished in the post-war period.
- NMRS NJ81SE 84.00. This is an 18th century farmhouse at Walton Farm, which is located immediately adjacent to the development area.

A geophysical survey was carried out of the development (Bartlett & Boucher 2013). The survey revealed a group of magnetic anomalies which may have an archaeological origin, possibly representing pits and a rectilinear feature.

The area to the south and east of the development that lay to the south of Walton Road had been subject to archaeological trial trenching in 2013 as part of the Northern Leg of the Aberdeen Peripheral Route (AWPR) (**Illus 1**). No features were found in these trenches, although further west, some 400m to the west of the current development, the AWPR evaluation uncovered part of a pre-historic round-house with associated features (M. Ginnever pers. comm.). The close proximity of these remains indicated the potential for prehistoric remains to survive in the A96 Park and Ride Scheme.

3 AIMS AND OBJECTIVES

The aim of the evaluation was to provide sufficient evidence for confident prediction of the archaeological significance and potential of the proposed development site. The specific objectives of the evaluation were to:

- Establish the location, extent, nature and date of archaeological features or deposits that may be present within the areas targeted for trenching;
- Establish the integrity and state of preservation of archaeological features or deposits that may be present within the accessible areas of the site.

The results of the evaluation will be used to inform a strategy for archaeological mitigation, if appropriate.

4 METHOD

The trenches were excavated using a 13 ton 360° mechanical excavator with a 1.8m wide flat bladed ditching bucket, under direct archaeological supervision. The machine was used to remove topsoil and any underlying deposits, in spits up to 0.2m thick. Machine excavation ceased at the first significant archaeological

horizon or the natural geology, whichever was encountered first. The stratigraphic sequence in each trench was recorded in full. Selected features were 50% excavated and a slot was excavated through any linear features

All recording followed IfA Standards and Guidance for undertaking archaeological evaluations (IfA 2008). All contexts, small finds and environmental samples were given unique numbers and recording was undertaken on pro forma record sheets. Photographs were taken using a digital camera. An overall site plan was recorded using a differential GPS.

Bulk samples, measuring up to 30 litres, were recovered from selected deposits for wet sieving and flotation if deemed appropriate. Samples were processed in laboratory conditions using a standard flotation method (Of Kenward et al 1980).

5 RESULTS

5.1 Fieldwork

A total of 36 trenches were excavated (**Illus 1**). The topsoil comprised grey brown sandy silts generally 0.2m to 0.3m thick. The underlying geological deposit comprised mainly orange-brown sand and gravels.

Excluding field drains, a total of 42 features were uncovered during the evaluation. The majority of the features were pits and post-holes and one shallow curvilinear feature [023]. The features were confined to an area on the eastern side of the development area straddling the Walton road (**Illus 2**).

Three pits were uncovered in Trenches 15 and 16 to the north of the road [003], [007] and [019]. The two larger pits [007] and [019] were found in close proximity in a small extension at the south end of Trench 16 (**Illus 3**). Pit [007] measured 2.2m by 3m in plan. A slot was cut into the side of the pit indicating that it was at least 0.37m deep. It was filled with dark brown sandy silt with some sub-angular stones 0.05m to 0.2m across. Pit [019] lay 0.5m to the north-east. It measured 1.1m by 0.9m in plan and was 0.2m deep. The pit appeared to be lined with sub-angular stones 0.05m to 0.2m across.

The remaining features were located on the south side of Walton Road. The features comprised mainly smaller pits and possible post-holes identified through the presence of packing stones. Pit [005] was one of the larger features located towards the north end of Trench 36. It extended in under the north-west side of the trench and was at least 1.5m across and 0.11m deep (**Illus 4**). The pit had steep sides and a flat base and was filled with stones, 0.1–0.3m across in a matrix of loose sandy silt and charcoal. There were areas of reddish sand along the edges of the cut that indicated in situ burning.

Sections cut across some of the smaller pits and post-holes indicated that they were fairly shallow, generally less than 0.2m deep. However, all features had a well defined outline indicated that they were man-made and not animal burrows or natural undulations in the sub-soil.

5.2 Palaeoenvironmental assessment

By Laura Bailey

5.2.1 Introduction

Seven samples taken during the evaluation of the proposed A96 Park and Ride, were received for palaeoenvironmental analysis. The samples ranged in volume from two to ten litres. The samples were taken from the fills of various pits. The aim of the assessment was primarily to evaluate the presence, preservation and abundance of any environmental remains in the samples, and to establish the palaeoenvironmental potential of the site.

5.2.2 Method

The samples were subjected to flotation and wet sieving 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. This was then sorted and any material of archaeological significance removed. All plant macrofossil samples were analysed using a stereomicroscope at magnifications of x10 and up to x100 where necessary to aid identification. Identifications, where provided, were confirmed using modern reference material and seed atlases including Cappers et al (2006).

5.2.3 Results

The results of the sample processing are presented in Appendix 3. Suitable material for Accelerated Mass Spectrometry (AMS) dating is identified in each table.

Charred cereal grain

A small number of charred cereal grains were present in the flots of four (2, 3, 5 and 6) of the seven samples processed, taken from the fills (006), (008), (010) and (022) of pits [005], [007], [009] and [021] respectively. Grains present included hulled barley (*Hordeum vulgare*) and oat (*Avena* sp).

The majority of barley grains were recovered from the fill (010) of pit [009].

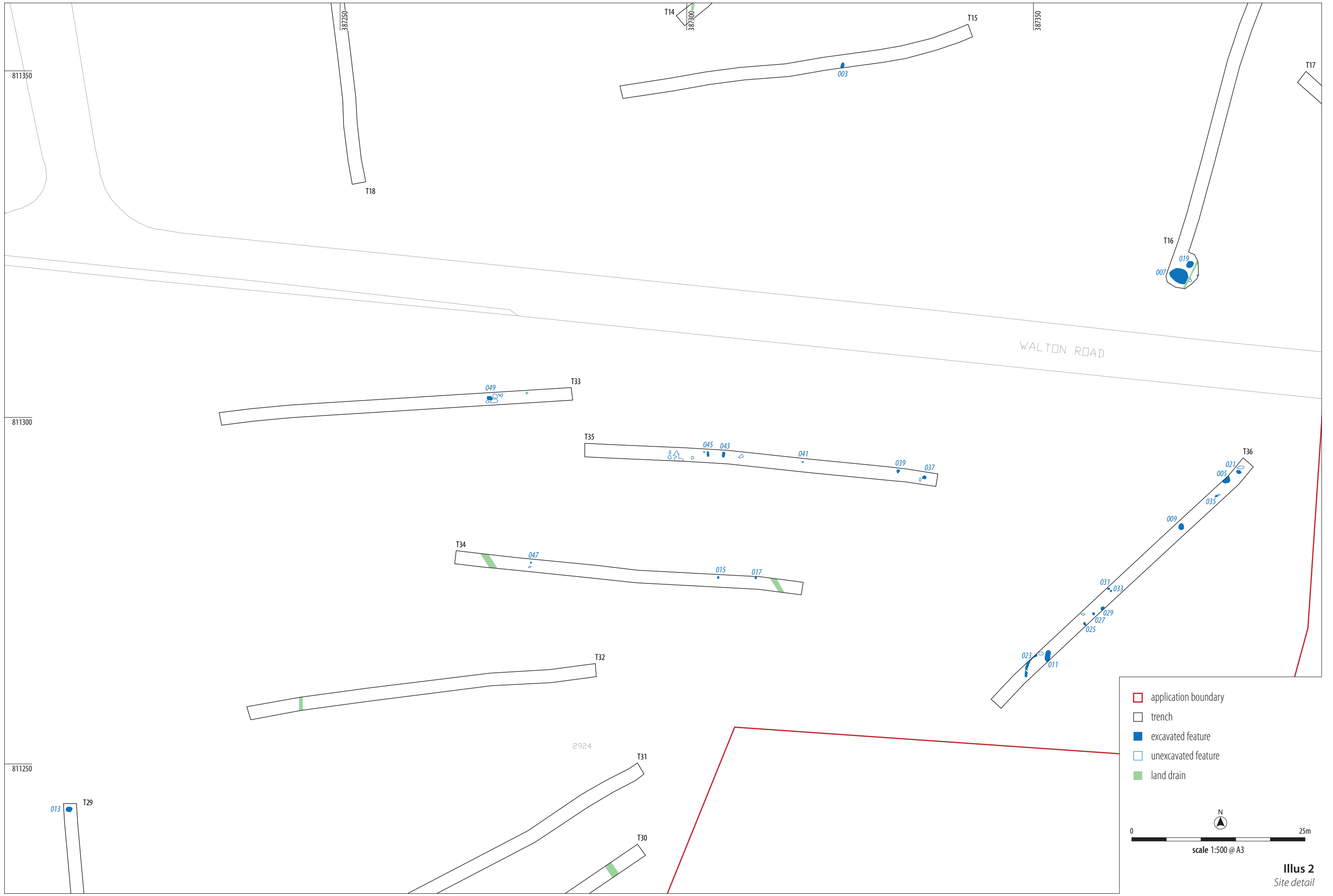
A cereal grain observed in the flot (022) taken from the fill of feature [021] was recorded as indeterminate as it was too highly abraded and fragmented to identify to species level.

Charred nutshell

Small quantities of charred hazelnut shell were recovered from samples (3 and 4) taken from the fill (010) of pit [009] and the fill (020) of pit [019].

Wood charcoal

Wood charcoal was observed in all samples. It was abundant in all samples, with the exception of (008), taken from the fill of pit [005]. Fragment size ranged from less than 0.1cm to 2.5cm. Where possible, charcoal was identified as oak or non-oak. Oak charcoal was exclusively found within the fill (006) of pit [005], which also contained slag fragments. Oak was frequently used as a fuel due to its excellent burning properties (Austin 2007).



- application boundary
- trench
- excavated feature
- unexcavated feature
- land drain

N

0 25m

scale 1:500 @ A3

Illus 2
Site detail



Illus 3

View of pit [007] from the S, [019] visible in the background



Illus 4

Pit [005], half sectioned, from the SE

Other finds

A small number of slag and fragments were found in the flots from the fill (006) and (008) of pit [005].

Burnt bone

Fragments of burnt bone were recovered from the fills (010) and (022) of pits [009] and [021]. The bone was too fragmentary to identify to species level.

5.2.4 Discussion

The charred cereal grain assemblage, dominated by hulled barley, with occasional oats suggests that the assemblage may be of possible Iron Age or Medieval date.

The recovery of oak charcoal together with slag from the fill (006) of pit [005] suggests that there may have been iron working or

industrial activity taking place in the vicinity again suggesting an Iron Age date.

A small amount of charred hazelnut shell is present in the assemblage and show that wild food resources were being utilised.

It is unlikely that the material relates to the primary function of the features. All of the plant macrofossils within the assemblage appear to be the result of secondary deposition and therefore, the grain survival is probably due to the fact that they were incorporated into negative features and therefore protected from further disturbance.

6 CONCLUSIONS

The majority of the features were confined to an area of some 90m by 120m. Although no datable finds were retrieved from the features, macrofossil evidence from samples taken from fills in pits [005], [007], [009] and [021] indicate that they may be of possible Iron Age or Medieval date.

The distribution of the features suggests that they are focused towards the south-east corner of the site on a terrace that slopes gently towards the south. The features appear to be heavily truncated as most of them are less than 0.2m deep. Three post-holes of similar size were exposed along the south-east side of Trench 36 – [025], [027] and [029]. They were in line and evenly spaced indicating that they are part of the same structure.

The trenches only provide a small segment of the distribution of the archaeological features in this area. In order to get a fuller view of the distribution of features a larger area will have to be stripped to allow a wider understanding of the archaeology in this area.

7 REFERENCES

- Austin, P 2007 *Analysis of Wood Charcoal Macro Remains from 9 Sites in County Kilkenny Excavated as Part of the N25 Waterford Bypass Project*, ArchaeoScape Unpublished Report.
- Bartlett, A & Boucher, A 2013 *A96(T) Dyce Drive Park and Choose and Associated Link Road (Dyce). Geophysical Survey*, Unpublished Client Report for Aberdeen City Council (January 2013).
- Cappers, RTJ, Bekker, RM and Jans, JEA 2006 Digital seed atlas of the Netherlands (Barkhuis Publishing and Groningen University Library, Groningen).

APPENDICES

Appendix 1 Site registers

Appendix 1.1 Trench register

Trench	Alignment	Dimensions	Max depth	Stratigraphy			Details
				Topsoil	Subsoil thickness (m)	Natural	
01	ESE-WNW	2m x 51m	0.5m	Light grey brown fine humic silt, 0.2m to 0.25m thick	Orange brown fine sandy silt 0.2m to 0.25m thick	Mottled orange brown sandy silt	Three drains were exposed at the base of the trench
02	ENE-WSW	2m x 50m	0.5m	Light grey brown fine humic silt, 0.25m to 0.3m thick	Orange brown fine sandy silt 0.2m to 0.25m thick	Mottled orange brown sandy silt	Two drains and a modern curving linear cut were exposed at the base of the trench
03	NNE-SSW	1.9m x 51m	0.45m	Light grey brown fine humic silt, 0.2m to 0.3m thick	Orange brown fine sandy silt 0.2m thick	Mottled orange brown sandy silt	Five drains and a modern linear cut were exposed at the base of the trench
04	NNW-SSE	2m x 50m	0.45m	Light grey brown fine humic silt, 0.2m to 0.26m thick	Orange brown fine sandy silt 0.2m thick	Mottled pale grey sandy silt with orange patches	Six drains were exposed at the base of the trench
05	N-S	1.9m x 52m	0.6m	Light grey brown fine humic silt, 0.25m to 0.32m thick	Orange brown fine sandy silt 0.2m to 0.3m thick	Pale grey sandy silt with orange mottles and some stones	One drain was exposed at the base of the trench
06	NNE-SSW	2m x 51m	0.6m	Light grey brown fine humic silt, 0.35m to 0.4m thick	Orange brown fine sandy silt 0.2m thick	Pale grey sandy silt with orange mottles and some stones	Four drains were exposed at the base of the trench
07	ENE-WSW	2m x 49m	0.6m	Light grey brown fine humic silt, 0.33m to 0.4m thick	Orange brown fine sandy silt 0.2m thick	Mottled orange brown sandy silt	14 drains were exposed at the base of the trench
08	NE-SW	2m x 51m	0.48m	Light grey brown fine humic silt, 0.3m to 0.4m thick	Orange brown fine sandy silt 0.1m thick	Mottled orange brown sandy silt	No features
09	NW-SE	2m x 52m	0.74m	Light grey brown fine humic silt, 0.28m to 0.33m thick	Orange brown fine sandy silt 0.3m to 0.45m thick	Mottled orange brown sandy silt	No features
10	E-W	2m x 52m	0.7m	Light grey brown fine humic silt, 0.35m to 0.42m thick	Orange brown fine sandy silt 0.25m to 0.4m thick	Mottled orange brown sandy silt	Four drains were exposed at the base of the trench
11	ENE-WSW	2m x 52m	0.74m	Light grey brown fine humic silt, 0.35m to 0.43m thick	Orange brown fine sandy silt 0.25m to 0.4m thick	Mottled orange brown sandy silt	Ten drains were exposed at the base of the trench
12	E-W	2m x 52m	0.64m	Light grey brown fine humic silt, 0.38m to 0.5m thick	Orange brown fine sandy silt 0.15m to 0.25m thick	Mottled orange brown sandy silt	Five drains were exposed at the base of the trench
13	NW-SE	2m x 51m	0.5m	Light grey brown fine humic silt, 0.26m to 0.32m thick	Orange brown fine sandy silt 0.15m to 0.25m thick	Mottled orange brown sandy silt	Four drains were exposed at the base of the trench
14	NE-SW	1.9m x 51m	0.78m	Light grey brown fine humic silt, 0.32m to 0.4m thick	Orange brown fine sandy silt 0.25m to 0.4m thick	Mottled orange brown sandy silt	Four drains were exposed at the base of the trench
15	ESE-WNW	1.9m x 51m	0.53m	Light grey brown fine humic silt, 0.22m to 0.26m thick	Orange brown fine sandy silt 0.2m to 0.3m thick	Mottled orange brown sandy silt	A small pit [003] was exposed against the S side of the trench
16	NNE-SSW	2m x 51m	0.38m	Light grey brown fine humic silt, 0.25m to 0.28m thick	Orange brown fine sandy silt 0.1m thick	Mottled orange brown sandy silt	A large pit [007] was partly exposed at the S end of the trench. The area was expanded exposing the full extent of [007] and a smaller pit [019] to the N
17	NW-SE	2m x 51m	0.68m	Brown fine humic silt, 0.23m to 0.28m thick	Orange brown fine sandy silt 0.2m to 0.4m thick	Orange brown sandy silt	One drain was exposed at the base of the trench
18	N-S	2m x 50m	0.47m	Light grey brown fine humic silt, 0.23m to 0.28m thick	Orange brown fine sandy silt 0.15m to 0.2m thick	Mottled orange brown sandy silt	One drain was exposed at the N end of the trench

Trench	Alignment	Dimensions	Max depth	Stratigraphy			Details
				Topsoil	Subsoil thickness (m)	Natural	
19	ESE-WNW	1.8m x 51m	0.5m	Light grey brown fine humic silt, 0.31m to 0.35m thick	Orange brown fine sandy silt 0.15m to 0.2m thick	Mottled orange grey brown sandy silt	Five drains were exposed at the base of the trench
20	NW-SE	2m x 50m	0.45m	Light grey brown fine humic silt, 0.18m to 0.21m thick	Orange brown fine sandy silt 0.15m to 0.25m thick	Mottled orange grey brown sandy silt	Three drains were exposed at the base of the trench
21	NW-SE	2m x 52m	0.82m	Light grey brown fine humic silt, 0.40m to 0.45m thick	Orange brown fine sandy silt 0.3m to 0.4m thick	Mottled orange grey brown sandy silt	Five drains were exposed at the base of the trench
22	ESE-WNW	2m x 51m	0.53m	Light grey brown fine humic silt, 0.23m to 0.4m thick	Orange brown fine sandy silt 0.1m to 0.25m thick	Mottled orange grey brown sandy silt	Six drains were exposed at the base of the trench
23	E-W	1.9m x 50m	0.65m	Light grey brown fine humic silt, 0.25m to 0.32m thick	Orange brown fine sandy silt 0.25m to 0.35m thick	Orange grey brown sandy silt with iron pan patches	Three drains were exposed at the base of the trench
24	ENE-WSW	2m x 50m	0.62m	Light grey brown fine humic silt, 0.22m to 0.27m thick	Orange brown fine sandy silt 0.25m to 0.35m thick	Orange grey brown sandy silt with iron pan patches	The subsoil at W end of the trench was very stony. Five drains were exposed at the base of the trench
25	ENE-WSW	1.9m x 50m	0.43m	Light grey brown fine humic silt, 0.24m to 0.32m thick	Orange brown fine sandy silt 0.1m to 0.2m thick	Orange grey brown sandy silt with iron pan patches	The subsoil at W end of the trench was very stony. Three drains were exposed at the base of the trench
26	E-W	2m x 50m	0.6m	Light grey brown fine humic silt, 0.28m to 0.35m thick	Orange brown fine sandy silt 0.2m to 0.3m thick	Mottled orange grey brown sandy silt	Three drains were exposed at the base of the trench
27	ENE-WSW	2m x 50m	0.44	Light grey brown fine humic silt, 0.26m to 0.3m thick	Orange brown fine sandy silt 0.1m to 0.2m thick	Mottled orange grey brown sandy silt	Two drains were exposed at the base of the trench
28	E-W	2m x 51m	0.48m	Light grey brown fine humic silt, 0.26m to 0.3m thick	Orange brown fine sandy silt 0.15m to 0.2m thick	Mottled orange grey brown sandy silt. Blue sandy clay at the E end of the trench	Three drains were exposed at the base of the trench
29	N-S	1.9m x 50m	0.92m	Light grey brown fine humic silt, 0.3m to 0.4m thick	Orange brown fine sandy silt 0.3m to 0.5m thick	Mottled orange grey brown sandy silt. Blue sandy clay at the S end of the trench	A pit [013] was exposed at the N end of the trench. Two drains were recorded to the S
30	NE-SW	2m x 50m	0.6m	Light grey brown fine humic silt, 0.25m to 0.35m thick	Orange brown fine sandy silt 0.2m to 0.3m thick	Bands of gravel and light yellow brown sand	One drain was exposed at the base of the trench
31	NE-SW	2m x 50m	0.88m	Light grey brown fine humic silt, 0.22m to 0.32m thick	Orange brown fine sandy silt 0.3m to 0.65m thick	Bands of gravel and light yellow brown sand	No features
32	E-W	2m x 50m	0.46m	Light grey brown fine humic silt, 0.26m to 0.31m thick	Orange brown fine sandy silt 0.15m to 0.2m thick	Orange brown sandy silt	One drain was exposed at the base of the trench
33	E-W	1.9m x 50m	0.58m	Light grey brown fine humic silt, 0.28m to 0.36m thick	Orange brown fine sandy silt 0.2m to 0.3m thick	Orange brown sandy silt	Seven features including [049] were exposed in the E half of the trench
34	E-W	1.9m x 50m	0.74m	Light grey brown fine humic silt, 0.34m to 0.5m thick	Orange brown fine sandy silt 0.25m to 0.35m thick	Orange brown sandy silt	Several features were exposed in the trench: A drain was located at either end of the trench, a modern rectangular machine excavated pit – possibly a test pit, and four sub circular features including three possible post-holes [015], [017] and [047]
35	E-W	1.9m x 50m	0.68m	Light grey brown fine humic silt, 0.28m to 0.35m thick	Orange brown fine sandy silt 0.25m to 0.35m thick	Orange brown sandy silt	Twelve features were recorded in the trench including [037], [039], [041], [043] and [045]
36	NE-SW	1.9m x 50m	0.68m	Light grey brown fine humic silt, 0.2m to 0.4m thick	Orange brown fine sandy silt 0.2m to 0.45m thick	Orange brown sandy silt	15 features were recorded in the trench including [005], [009], [011], [021], [023], [025], [027], [029], [031], [033] and [035]

Appendix 1.2 Context register

Context	Area	Description
01	Tr03	Modern linear cut aligned E-W. 1.3m wide. Vertical sides. Looks to be machine excavated
02	Tr03	Fill of modern linear cut [001]. Re-deposited sub-soil with pockets of topsoil indicating recent backfill
03	Tr15	Cut of shallow sub-oval, located up against the S side of the trench, 0.72m by 0.49m by 0.07m deep. Sloping sides, flat base
04	Tr15	Fill of pit [003]. Grey brown sandy silt with charcoal fragments and specs of manganese
05	Tr36	Cut of sub-circular pit extending beyond the NW edge of the trench. It is 1.5m in diameter and 0.11m deep. Steep sides, flat base. Areas of reddish sand along the edges of the cut indicated in situ burning
06	Tr36	Fill of pit [005]. Angular stones, 0.1–0.3m across in a matrix of dark loose grey brown sandy silt with charcoal fragments
07	Tr16	Cut of oval pit located at the S end of Trench 16. It measures 2.2m by 3m in plan and was at least 0.37m deep. Only partly excavated through a small slot cut into the edge of the feature exposing near vertical sides and a flat base
08	Tr16	Fill of pit [007]. Dark brown sandy silt with some sub-angular stones 0.05m to 0.2m across
09	Tr36	Cut of oval pit, 0.98m by 0.8m by 0.18m deep. Curving sides, rounded base
10	Tr36	Fill of pit [009]. Grey brown to pink silty sand with a band of charcoal running diagonally into the pit. The pink sand looks to be oxidized sand, an indication of in situ burning
11	Tr36	Cut of irregular elongated pit aligned N-S, 1.7m long by 0.75m to 0.95m wide and up to 0.17m deep. Sloping sides with an undulating base
12	Tr36	Fill of pit [011]. Grey brown sandy silt containing areas of oxidized pink sand. The S part of the fill contained more charcoal fragments and also a fragment of burnt bone
13	Tr29	Cut of oval pit located at the N end of Trench 29. It is aligned E-W and measures 0.95m by 0.8m in plan and 0.21m deep. The pit had sloping sides and a rounded base
14	Tr29	Fill of pit [013]. Grey brown sandy silt with occasional charcoal fragments
15	Tr34	Small oval cut aligned N-S, 0.46m by 0.34m and 0.18m deep with curving sides and a rounded base
16	Tr34	Fill of cut [015]. Dark brown uniform sandy silt containing occasional flecks of charcoal. The fill is similar to the overlying topsoil and the feature may therefore be a stone hole
17	Tr34	Sub-circular cut, 0.35m by 0.30m and 0.08m deep with steep sides and a flat base. Possibly a post-hole
18	Tr34	Fill of cut [017]. Grey brown sandy silt with some charcoal flecks concentrated towards the middle of the feature
19	Tr16	Cut of oval pit located at the S end of Trench 16. It is aligned NE-SW and measures 1.1m by 0.9m in plan and is 0.2m deep. The pit had sloping sides and a rounded base
20	Tr16	Fill of pit [019]. Grey brown sandy silt with sub-angular stones 0.05m to 0.2m across. The fill contained areas of charcoal often concentrated in areas between the stones. The stones appeared to be lining the sides of the pit
21	Tr36	Shallow oval cut located at the N-E end of Trench 36. It is aligned NW-SE and measures 0.58m by 0.54m by 0.05m deep. It has a flat slightly dished base
22	Tr36	Fill of cut [021]. Grey brown sandy silt with occasional small stones, charcoal fragments and small fragments of burnt bone
23	Tr36	Cut of curving gully, 4m long by 0.4m wide and 0.1m deep. Appears to be a heavily truncated curving linear feature
24	Tr36	Fill of gully [023]. Light grey brown sandy silt with occasional small sub-angular stones
25	Tr36	Cut of sub-circular feature, 0.43m by 0.39m in plan. Not excavated
26	Tr36	Fill of [025]. Light grey brown sandy silt with occasional small sub-angular stones. Not excavated
27	Tr36	Cut of oval feature, 0.41m by 0.32m in plan. Not excavated
28	Tr36	Fill of [027]. Light grey brown sandy silt with some small sub-angular stones. Not excavated
29	Tr36	Cut of oval feature, 0.62m by 0.52m in plan. Not excavated
30	Tr36	Fill of [029]. Light grey brown sandy silt with occasional small sub-angular stones. Not excavated
31	Tr36	Cut of possible post-hole, 0.35m by 0.27m in plan. Not excavated
32	Tr36	Fill of [031]. Light grey brown sandy silt with two possible packing stones. Not excavated
33	Tr36	Cut of possible post-hole, 0.35m by 0.29m in plan. Not excavated
34	Tr36	Fill of [033]. Light grey brown sandy silt. Not excavated
35	Tr36	Cut of oval feature, 0.54m by 0.32m in plan. Not excavated
36	Tr36	Fill of [035]. Light grey brown sandy silt. Not excavated
37	Tr35	Cut of possible post-hole, 0.48m by 0.42m in plan and over 0.18m deep. Not excavated
38	Tr35	Fill of [037]. Light grey brown sandy silt with three packing stones. Not excavated
39	Tr35	Cut of oval feature, 0.54m by 0.37m in plan. Not excavated
40	Tr35	Fill of [039]. Grey brown sandy silt with occasional charcoal fragments. Not excavated
41	Tr35	Cut of circular feature. 0.25m in diameter and 0.1m deep
42	Tr35	Fill of [041]. Dark grey brown sandy silt with frequent charcoal fragments
43	Tr35	Cut of oval pit, 0.8m by 0.43m in plan. Not excavated
44	Tr35	Fill of [043]. Light grey brown sandy silt. Not excavated
45	Tr35	Cut of oval pit, 0.82m by 0.37m in plan. Not excavated
46	Tr35	Fill of [045]. Light grey brown sandy silt. Not excavated
47	Tr34	Cut of sub-circular feature, 0.29m by 0.27m. Not excavated
48	Tr34	Fill of [045]. Grey brown sandy silt. Not excavated
49	Tr33	Cut of possible post-hole, 0.82m by 0.55m in plan. Not excavated
50	Tr33	Fill of [045]. Light grey brown sandy silt with several packing stones. Not excavated

Appendix 1.3 Photographic register

Picture	File name	Facing	Description
001	TDCA13-04-Pic001.JPG	E	Trench 01. W end
002	TDCA13-04-Pic002.JPG	W	Trench 01. E end
003	TDCA13-04-Pic003.JPG	E	Trench 02. W end
004	TDCA13-04-Pic004.JPG	W	Trench 02. E end
005	TDCA13-04-Pic005.JPG	SW	Trench 03. NE end
006	TDCA13-04-Pic006.JPG	NE	Trench 03. SW end
007	TDCA13-04-Pic007.JPG	S	Trench 04. N end
008	TDCA13-04-Pic008.JPG	N	Trench 04. S end
009	TDCA13-04-Pic009.JPG	S	Trench 05. N end
010	TDCA13-04-Pic010.JPG	N	Trench 05. S end
011	TDCA13-04-Pic011.JPG	SW	Trench 03. C01 modern ditch / drain
012	TDCA13-04-Pic012.JPG	SE	Trench 17. NW end
013	TDCA13-04-Pic013.JPG	NW	Trench 17. SE end
014	TDCA13-04-Pic014.JPG	NW	Trench 09. SE end
015	TDCA13-04-Pic015.JPG	SE	Trench 09. NW end
016	TDCA13-04-Pic016.JPG	NE	Trench 08. SW end
017	TDCA13-04-Pic017.JPG	SW	Trench 08. NE end
018	TDCA13-04-Pic018.JPG	N	Trench 06. S end
019	TDCA13-04-Pic019.JPG	S	Trench 06. N end
020	TDCA13-04-Pic020.JPG	W	Trench 07. E end
021	TDCA13-04-Pic021.JPG	E	Trench 07. W end
022	TDCA13-04-Pic022.JPG	W	Trench 11. E end
023	TDCA13-04-Pic023.JPG	E	Trench 11. W end
024	TDCA13-04-Pic024.JPG	E	Trench 12. W end
025	TDCA13-04-Pic025.JPG	W	Trench 12. E end
026	TDCA13-04-Pic026.JPG	SW	Trench 14. NE end
027	TDCA13-04-Pic027.JPG	E	Trench 10. W end
028	TDCA13-04-Pic028.JPG	W	Trench 10. E end
029	TDCA13-04-Pic029.JPG	NE	Trench 14. SW end
030	TDCA13-04-Pic030.JPG	S	Trench 16. N end
031	TDCA13-04-Pic031.JPG	N	Trench 16. Pit [007] at S end of Trench
032	TDCA13-04-Pic032.JPG	S	Trench 16. Pit [007] fully exposed at S end of trench
033	TDCA13-04-Pic033.JPG	NW	Trench 16. Pit [007] fully exposed at S end of trench
034	TDCA13-04-Pic034.JPG	SE	Trench 13. NW end
035	TDCA13-04-Pic035.JPG	NW	Trench 13. SE end
036	TDCA13-04-Pic036.JPG	S	Trench 18. N end

Picture	File name	Facing	Description
037	TDCA13-04-Pic037.JPG	N	Trench 18. S end
038	TDCA13-04-Pic038.JPG	W	Trench 15. E end
039	TDCA13-04-Pic039.JPG	E	Trench 15. W end
040	TDCA13-04-Pic040.JPG	E	Trench 33. W end
041	TDCA13-04-Pic041.JPG	W	Trench 33. E end
042	TDCA13-04-Pic042.JPG	E	Trench 35. W end
043	TDCA13-04-Pic043.JPG	W	Trench 35. E end
044	TDCA13-04-Pic044.JPG	S	Trench 15. Small pit [003] pre-ex
045	TDCA13-04-Pic045.JPG	S	Trench 15. Small pit [003] part excavated
046	TDCA13-04-Pic046.JPG	S	Trench 15. Small pit [003] half sectioned
047	TDCA13-04-Pic047.JPG	W	Trench 15. Small pit [003] half sectioned
048	TDCA13-04-Pic048.JPG	NE	Trench 36. SW end
049	TDCA13-04-Pic049.JPG	SW	Trench 36. Features at NE end of trench
050	TDCA13-04-Pic050.JPG	SW	Trench 36. Stony pit [005] pre-ex
051	TDCA13-04-Pic051.JPG	NE	Trench 36. Stony pit [005] half sectioned
052	TDCA13-04-Pic052.JPG	NW	Trench 36. Stony pit [005] half sectioned
053	TDCA13-04-Pic053.JPG	NW	Trench 36. Stony pit [005] half sectioned
054	TDCA13-04-Pic054.JPG	SW	Trench 36. Pit [009] pre-ex
055	TDCA13-04-Pic055.JPG	N	Trench 36. Pit [009] half sectioned
056	TDCA13-04-Pic056.JPG	N	Trench 36. Pit [009] half sectioned
057	TDCA13-04-Pic057.JPG	NE	Trench 36. Pit [009] half sectioned
058	TDCA13-04-Pic058.JPG	S	Trench 36. Cut [011] pre-ex
059	TDCA13-04-Pic059.JPG	S	Trench 36. Cut [011] half sectioned
060	TDCA13-04-Pic060.JPG	E	Trench 36. Cut [011] half sectioned
061	TDCA13-04-Pic061.JPG	W	Trench 23. E end
062	TDCA13-04-Pic062.JPG	E	Trench 23. W end
063	TDCA13-04-Pic063.JPG	E	Trench 24. W end
064	TDCA13-04-Pic064.JPG	W	Trench 24. E end
065	TDCA13-04-Pic065.JPG	W	Trench 25. E end
066	TDCA13-04-Pic066.JPG	E	Trench 25. W end
067	TDCA13-04-Pic067.JPG	SE	Trench 21. NW end
068	TDCA13-04-Pic068.JPG	NW	Trench 21. SE end
069	TDCA13-04-Pic069.JPG	NW	Trench 20. SE end
070	TDCA13-04-Pic070.JPG	SE	Trench 20. NW end
071	TDCA13-04-Pic071.JPG	E	Trench 19. W end
072	TDCA13-04-Pic072.JPG	W	Trench 19. E end
073	TDCA13-04-Pic073.JPG	E	Trench 22. W end
074	TDCA13-04-Pic074.JPG	W	Trench 22. E end

Picture	File name	Facing	Description
075	TDCA13-04-Pic075.JPG	E	Trench 32. W end
076	TDCA13-04-Pic076.JPG	W	Trench 32. E end
077	TDCA13-04-Pic077.JPG	E	Trench 26. W end
078	TDCA13-04-Pic078.JPG	W	Trench 26. E end
079	TDCA13-04-Pic079.JPG	E	Trench 27. W end
080	TDCA13-04-Pic080.JPG	W	Trench 27. E end
081	TDCA13-04-Pic081.JPG	S	Trench 29. N end
082	TDCA13-04-Pic082.JPG	N	Trench 29. S end
083	TDCA13-04-Pic083.JPG	NE	Trench 31. SW end
084	TDCA13-04-Pic084.JPG	SW	Trench 31. NE end
085	TDCA13-04-Pic085.JPG	SW	Trench 30. NE end
086	TDCA13-04-Pic086.JPG	NE	Trench 30. SW end
087	TDCA13-04-Pic087.JPG	W	Trench 28. E end
088	TDCA13-04-Pic088.JPG	E	Trench 28. W end
089	TDCA13-04-Pic089.JPG	N	Trench 29. Pit [013] at N end of trench. Pre-ex
090	TDCA13-04-Pic090.JPG	E	Trench 29. Pit [013] half sectioned
091	TDCA13-04-Pic091.JPG	E	Trench 34. W end
092	TDCA13-04-Pic092.JPG	W	Trench 34. E end
093	TDCA13-04-Pic093.JPG	N	Trench 34. Cut [015] half sectioned
094	TDCA13-04-Pic094.JPG	NW	Trench 34. Cut [017] half sectioned
095	TDCA13-04-Pic095.JPG	S	Trench 16. Pit [019] pre-ex
096	TDCA13-04-Pic096.JPG	W	Trench 16. Pit [019] half sectioned
097	TDCA13-04-Pic097.JPG	W	Trench 16. Pit [019] E-facing section
098	TDCA13-04-Pic098.JPG	S	Trench 16. Pit [019] half sectioned
099	TDCA13-04-Pic099.JPG	SE	Trench 16. Pit [007] pre-ex with pit [019] to the right
100	TDCA13-04-Pic100.JPG	N	Trench 16. Pit [007] pre-ex with pit [019] in the background
101	TDCA13-04-Pic101.JPG	E	Trench 16. Slot cut into pit [007] with pit [019] in the background
102	TDCA13-04-Pic102.JPG	E	Trench 16. Detail of slot cut into pit [007]
103	TDCA13-04-Pic103.JPG	NE	Trench 36. Pit [021] pre-ex
104	TDCA13-04-Pic104.JPG	N	Trench 36. Pit [021] half sectioned
105	TDCA13-04-Pic105.JPG	N	Trench 36. Gully [023] pre-ex
106	TDCA13-04-Pic106.JPG	SW	Trench 36. Gully [023] pre-ex
107	TDCA13-04-Pic107.JPG	W	Trench 36. Slot cut into gully [023]
108	TDCA13-04-Pic108.JPG	SE	Trench 36. Cut [025]
109	TDCA13-04-Pic109.JPG	SE	Trench 36. Cut [027]
110	TDCA13-04-Pic110.JPG	SE	Trench 36. Cut [029]

Picture	File name	Facing	Description
111	TDCA13-04-Pic111.JPG	NW	Trench 36. Pits [031] and [033]
112	TDCA13-04-Pic112.JPG	W	Trench 36. Cut [035]
113	TDCA13-04-Pic113.JPG	E	Trench 35. Post-hole [037]
114	TDCA13-04-Pic114.JPG	S	Trench 35. Post-hole [037]
115	TDCA13-04-Pic115.JPG	E	Trench 35. Pit [039]
116	TDCA13-04-Pic116.JPG	N	Trench 35. Pit [041] pre-ex
117	TDCA13-04-Pic117.JPG	W	Trench 35. Pit [041] half sectioned
118	TDCA13-04-Pic118.JPG	W	Trench 35. Pit [043]
119	TDCA13-04-Pic119.JPG	E	Trench 35. Pit [045]
120	TDCA13-04-Pic120.JPG	W	Trench 35. Possible features in western half of trench
121	TDCA13-04-Pic121.JPG	E	Trench 34. Modern machine excavated pit. Geological test pit?
122	TDCA13-04-Pic122.JPG	W	Trench 34. Small pit [047]
123	TDCA13-04-Pic123.JPG	E	Trench 33. Possible post hole [049] and other features in E half of trench
124	TDCA13-04-Pic124.JPG	S	Trench 33. Possible post hole [049] and other features in E half of trench

Appendix 1.4 Sample register

Sample	Context	Description
001	4	Fill of pit [003]. Grey brown sandy silt with charcoal fragments and specs of manganese
002	6	Fill of pit [005]. Angular stones, 0.1–0.3m across in a matrix of dark loose grey brown sandy silt with charcoal fragments
003	10	Fill of pit [009]. Grey brown to pink silty sand with a band of charcoal running diagonally into the pit. The pink sand looks to be oxidized sand, an indication of in situ burning
004	20	Fill of pit [019]. Grey brown sandy silt with sub-angular stones 0.05m to 0.2m across. The fill contained areas of charcoal often concentrated in areas between the stones. The stones appeared to be lining the sides of the pit
005	8	Fill of pit [007]. Dark brown sandy silt with some sub-angular stones 0.05m to 0.2m across
006	22	Fill of cut [021]. Grey brown sandy silt with occasional small stones, charcoal fragments and small fragments of burnt bone
007	42	Fill of [041]. Dark grey brown sandy silt with frequent charcoal fragments

Appendix 2 Finds register

Trench	Context	Sample	Material	Qty	Weight (g)	Object	Description
T16	8	5	Industrial waste	—	1	Slag	Vitrified lumps and fragments
T36	10	3	Industrial waste	—	1	Mag res	Magnetized gravel and possible hammer scale
T36	10	3	CBM	1	2	Fired clay	Small sub rounded burnt clay with possible charcoal impression

Appendix 3 Palaeoenvironmental registers

Appendix 3.1 Retent sample results

Context	Sample	Sample vol (l)	Burnt bone	Charred cereal grain	Charred nutshell	Charcoal		Material available for AMS dating	Coal	Comments
			Mammal			Qy	Max size (0m)			
04	1	10	-	-	-	+++	1.5	Charcoal ++	-	-
06	2	10	-	-	-	++++	1.7	Charcoal ++	+	-
08	5	10	-	-	-	+	0.9	-	-	-
10	3	10	+	+	+	+++	1	Burnt Bone +, Nutshell +, Cereal Grain +, Charcoal +	-	Contains 1 oat and 1 barley grain
12	7	2	-	+	-	+++	0.9	Charcoal +	-	Contains 1 barley grain.
20	4	10	-	-	++	++	1.5	Nutshell +, Charcoal +	-	-
22	6	10	+	-	-	+++	1.4	Burnt Bone +, Charcoal +	-	-

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

NB charcoal over 1cm is suitable for identification and AMS dating

Appendix 3.2 Flotation sample results

Context	Sample	Total flot vol (ml)	Cereal grain:				Other plant remains	Charcoal		Material available for AMS	Comments
			<i>Avena</i> sp.	<i>Hordeum vulgare</i>	<i>Triticum</i> sp.	<i>Cerealia</i> indet.		Qy	Max size (0m)		
04	1	40	-	-	-	-	Contains modern roots +++++	++++	1.2	Yes	Contains oak and non-oak charcoal
06	2	700	-	+	-	-	-	++++	2.5	Yes	Charcoal oak, contains slag fragments
08	5	25	+	-	-	-	Uncharred roots +++, Rosaceae sp +, uncharred seeds- including Rumex sp., Chenopodium sp +, Stellaria media +	+	<0.1	Yes	Contains 2 oat grains
10	3	100	+	+++	-	-	Plantago sp. +, Galaeopsis tetrahed +	++++	1.5	Yes	Contains oak and non-oak charcoal
12	7	30	-	-	-	-	Contains modern roots +++++	++++	1	Yes	Contains oak and non-oak charcoal
20	4	25	-	-	-	-	-	++++	<0.1	No	Contains fungal sclerotia +++++
22	6	15	-	-	-	+	Contains modern roots +++++	++++	0.5	No	-

Key: + = rare (1–5), ++ = occasional (6–15), +++ = common (16–50) and ++++ = abundant (>50)

NB charcoal over 1cm is suitable for identification and AMS dating



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