

GRTG/02



LAND OFF GLOUCESTER ROAD, TUTSHILL, GLOUCESTERSHIRE

ARCHAEOLOGICAL EVALUATION

commissioned by Brock Planning Consultancy
on behalf of Mr J Bradley

December 2015

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project info

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PROJECT SUMMARY

An archaeological evaluation was undertaken on land at Tutshill, Gloucester Road to provide further information in support a planning application for a proposed development.

A single potentially significant feature was identified in the south of the proposed development area. The feature contained an abundance of charred cereal grain relating to Iron Age or later crop production. The feature continued beyond the northern bounds of the evaluation trench.

A linear earthwork located to the south of the grain filled feature is considered to relate to a change in the bedrock geology of the site. No archaeological material was found in association with this feature.

CONTENTS

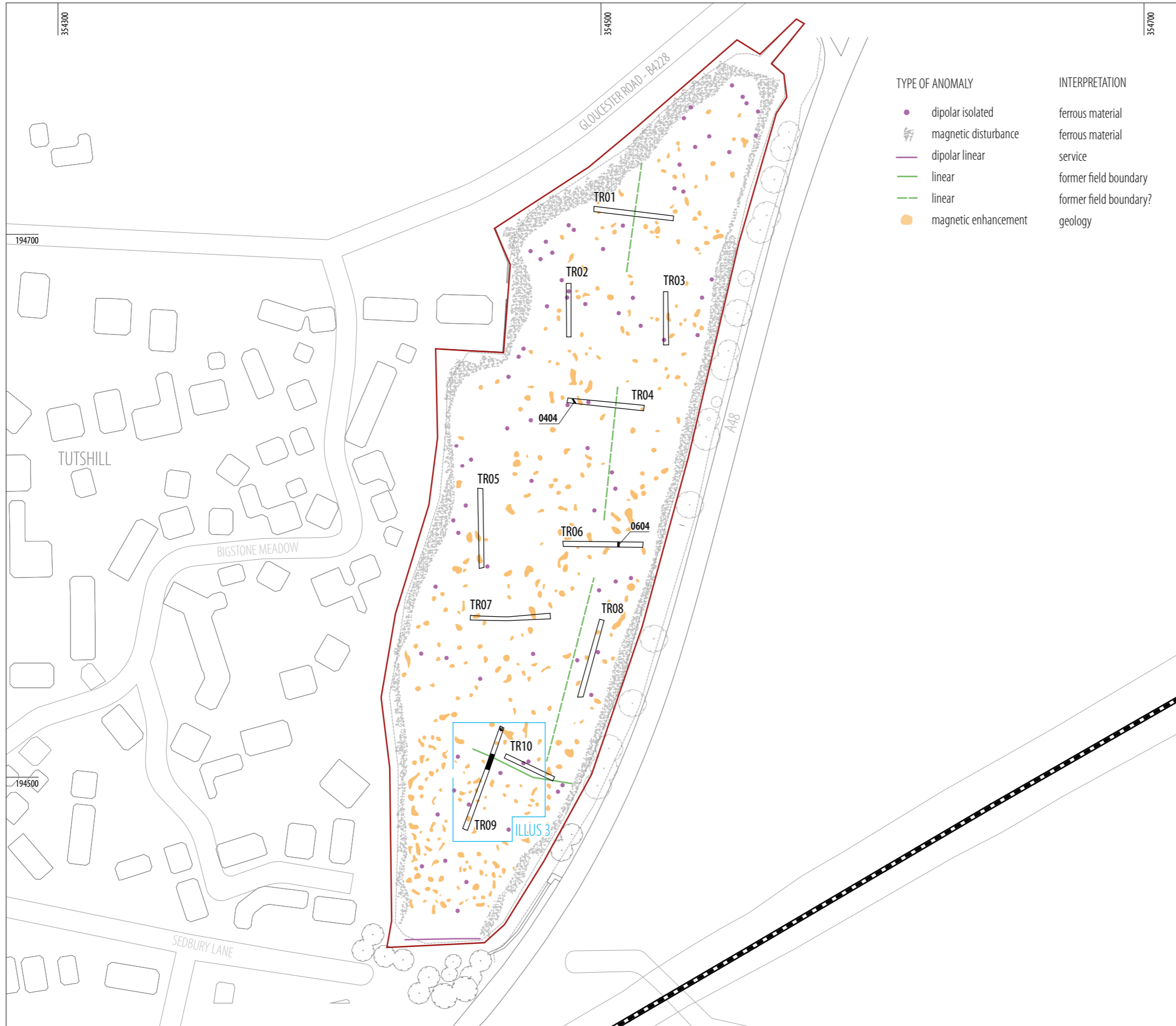
1	INTRODUCTION	1
2	SITE LOCATION	1
	2.1 ARCHAEOLOGICAL BACKGROUND	1
3	AIMS AND OBJECTIVES	2
4	METHODOLOGY	2
5	RESULTS	2
	5.1 GENERAL SITE STRATIGRAPHY	2
	5.2 TRENCHES CONTAINING UNDATED FEATURES	4
	Trench 4	4
	Trench 6	4
	5.3 TRENCHES CONTAINING ARCHAEOLOGICAL FEATURES	4
	Trench 9	4
6	DISCUSSION	5
7	CONCLUSION AND RECOMMENDATIONS	5
8	BIBLIOGRAPHY	5
	APPENDIX 1 TRENCH AND CONTEXT REGISTER	6
	APPENDIX 2 FINDS ASSESSMENT	8
	APPENDIX 3 ENVIRONMENTAL ASSESSMENT	9

LIST OF ILLUSTRATIONS

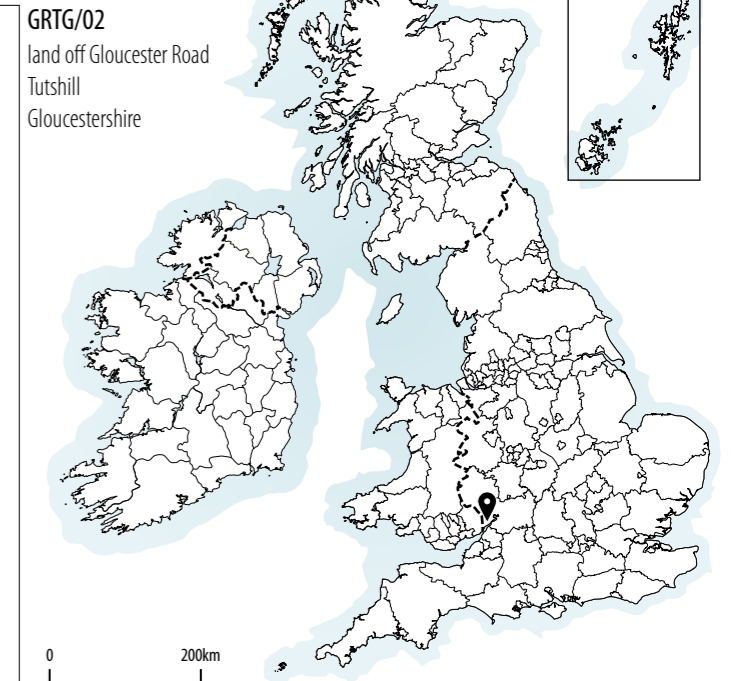
ILLUS 1	Site location	ix
ILLUS 2	Feature [0404], NW facing section through linear	2
ILLUS 3	Plan of Trench 9 containing features [0905] and [0906]	3
ILLUS 4	Ditch [0905], NW facing section through feature	4
ILLUS 5	Ditch [0905], camera facing NE	4
ILLUS 6	Feature [0906], S facing section through feature	4

LIST OF TABLES

TABLE 1	Finds catalogue	8
TABLE 1	Flotation sample results	10
TABLE 2	Retent sample results	10



TYPE OF ANOMALY	INTERPRETATION
● dipolar isolated	ferrous material
⚡ magnetic disturbance	ferrous material
— dipolar linear	service
— linear	former field boundary
— linear	former field boundary?
● magnetic enhancement	geology

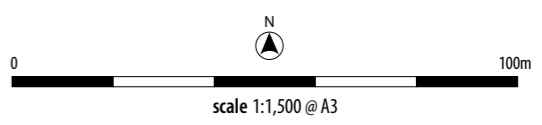


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KEY

—	development boundary
—	trench location
—	archaeological features



LAND OFF GLOUCESTER ROAD, TUTSHILL, GLOUCESTERSHIRE

ARCHAEOLOGICAL EVALUATION

1 INTRODUCTION

This report presents the results of an archaeological field evaluation on land off Gloucester Road, Tutshill, Gloucestershire.

The client is preparing an outline planning application for residential development of the site. In accordance with NPPF, para. 28, the archaeological advisor to the Forest of Dean District Council, Mr Charles Parry, requested further information on the archaeological potential of the site in order to aid the determination of the planning application.

The evaluation was commissioned by Brock Planning Consultancy on behalf of their client Mr J Parry and forms part of a program of archaeological works including desk based assessment and geophysical survey.

The evaluation was undertaken in accordance with a Written Scheme of Investigation (Craddock-Bennett 2015) agreed with the archaeological advisor and comprised the excavation of 10 trial trenches; their location informed by both cropmark evidence and the results of the geophysical survey.

2 SITE LOCATION

The proposed development site (**ILLUS 1**) comprises an area of land located at NGR 354477, 194589 (site centre). The total development site occupies a single field measuring approximately 2.25ha on the eastern outskirts of Tutshill, Gloucestershire.

To the north the site is bound by Gloucester Road, to the east and south by the A48, and to the west by residential development.

The site slopes steeply from c.48m AOD in the north-west to c.40m AOD in the south-east. An abrupt change in height of c.0.6m is visible as an apparent NW-SE aligned earthwork in the south of the site.

Immediately prior to the current works the site was under pasture.

The underlying geology of the site consists of Mercia mudstone. No superficial deposits are recorded (BGS 2015). The soils in the north of the proposed development area are classified in the Soilscape 7 association, characterised as freely-draining base rich soils.

2.1 ARCHAEOLOGICAL BACKGROUND

As part of the archaeological programme of works requested by the archaeological advisor a desk-based assessment (Delaney 2015) and geophysical survey (Schmidt & Webb 2015) were undertaken. The results of these are reported in separate reports and summarised below.

Gloucestershire Historic Environment Record (HER) records the presence of a single heritage asset within the site; an earthwork represented by a change in ground level is present in the south of the proposed development area (PDA). The origin of the feature, orientated on a NW-SE alignment is unknown. The location of the feature corresponds to the location of a field boundary present on the Tutshill tithe map (1843). It is not clear whether the feature represents a geological or archaeological formation.

No prehistoric features have been recorded in the area, however a number of artefacts have been found during fieldwalking in three separate areas around the south of the study area. These artefacts have been dated to the Bronze Age and include a knife, pointers, scrapers and a barbed and tanged arrow head, and a leaf shaped arrow head.

Activity from the Romano-British period in the area is concentrated around the route of the Gloucester to Caerleon Roman road, located approximately 200m to the north of the PDA.

Offa's Dyke runs to the north and west of the site, indicating activity from the 8th century, and there is a deserted medieval village at Tiddenham which is at the centre of a number of associated earthworks.

A range of ditches and banks have been identified from aerial photography, but archaeological evaluation has not verified these

features. A possible medieval village was indicated by the presence of former cross at the junction of Sedbury Lane and Birds Lane.

The post-medieval period is the most well presented in the area, and includes the record of Tutshill Farm recorded from 1655.

Beyond the presence of the east-west aligned earthwork, there is a moderate potential for agricultural features dating to the post-medieval period to be present within the site. The potential for previously unrecorded heritage assets of all other periods is considered to be low.

A geophysical survey undertaken by Headland Archaeology in November 2015 identified a large number of discrete anomalies indicative of variations in the composition of the soil (ILLUS 1). Two linear anomalies are likely to locate former field boundaries. The survey identified no anomalies of obvious archaeological potential and considered the archaeological potential of the site to be low.

3 AIMS AND OBJECTIVES

The aims and objectives of the programme of trenching are to gather further information to try and establish the presence/absence, character and extent of any archaeological remains within the areas to be impacted upon by the proposed development. The results of this work may then be used to inform further strategies should they be necessary.

The aims of the survey are to:

- provide information about the nature and possible interpretation of any magnetic anomalies identified;
- determine the presence/absence and extent of any buried archaeological features;
- produce a comprehensive site archive and report.

4 METHODOLOGY

Fieldwork was undertaken in accordance with a Written Scheme of Investigation (Craddock-Bennett 2015) agreed in advance with the archaeological advisor to the local planning authority.

The evaluation was undertaken between the 11th and 13th of November 2015 and comprised the excavation of 10 trenches totalling 280 linear metres (1 x 40m long, 6 x 30m long & 3 x 20m long). The trenches were located over anomalies identified by the geophysical survey and to achieve adequate coverage of the development area.

All trenches were set-out using differential GPS, which also provided absolute heights above OD. Service plans were consulted in advance of excavation and safe digging techniques were observed. All trenches were opened by a JCB 3CX excavator; fitted with a 1.6m wide ditching bucket. All machining was carried out under the direct supervision of an appropriately qualified archaeologist. Machining proceeded until the first archaeological horizon, or the natural basement were encountered. All archaeological features or deposits were cleaned and excavated by hand. Topsoil and subsoil were stored separately, at either side of each trench and were reinstated in stratigraphic order.



ILLUS 2

Feature [0404], NW facing section through linear

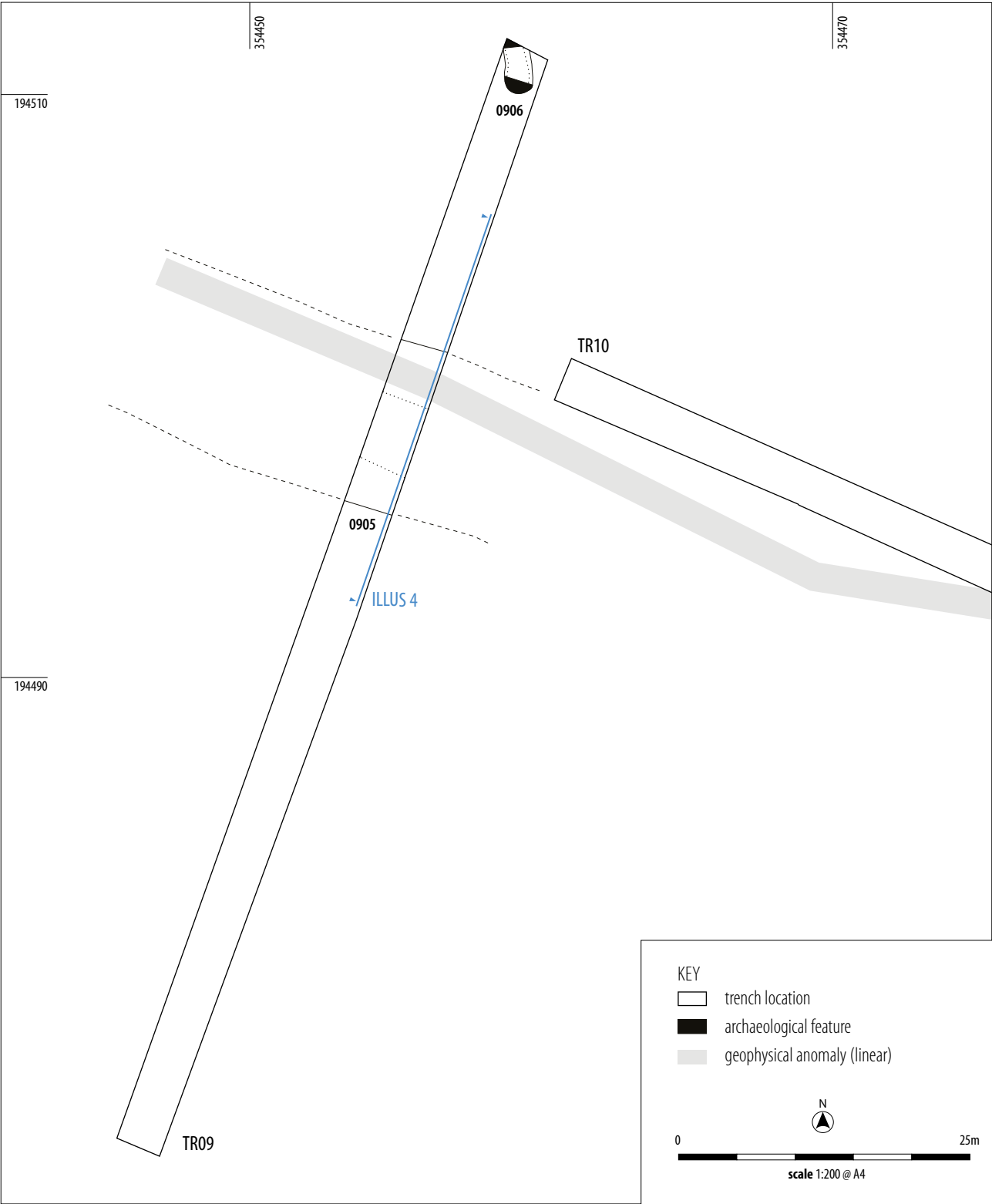
The stratigraphic sequence of every trench was recorded in full, even where no archaeological deposits were identified. All recording followed ClfA Standards and Guidance for conducting archaeological evaluations. All stratigraphic units were allocated unique numbers and recorded on pre-printed pro-forma record cards. The photographic archive comprised black-and-white negative photographs, supplemented by a digital photographic record. Plans and sections were recorded at scales of 1:10 and 1:20 as appropriate.

5 RESULTS

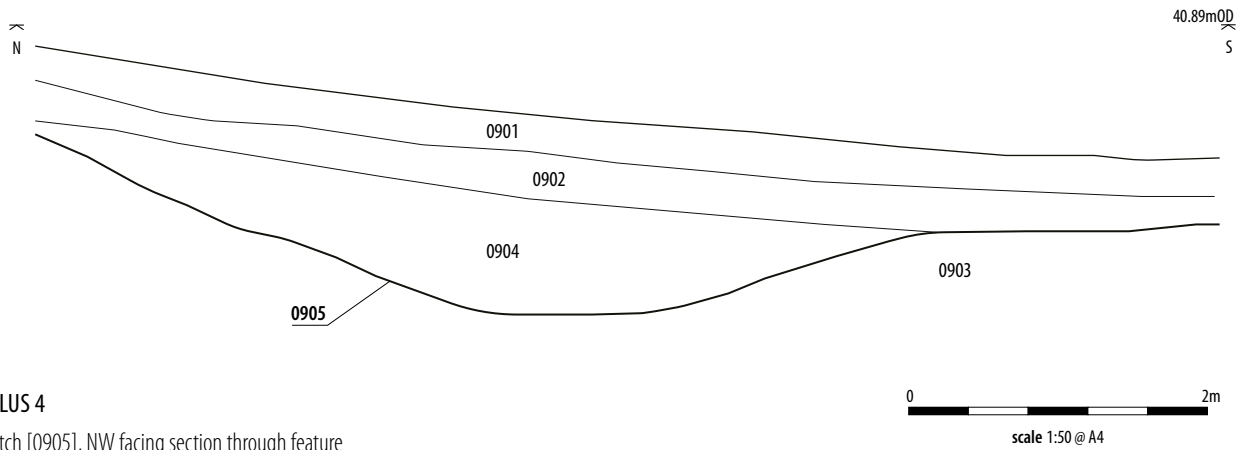
5.1 GENERAL SITE STRATIGRAPHY

The natural geology of the site was present as a firm red mudstone in the north of the site which was encountered at a depth of between 0.40m and 0.65m. In the south of the site, in the vicinity of the NW-SE earthwork or ridge feature, the geological material appeared as a laminated limestone bedrock. Overlying geological deposits was a 0.20m deep dark red/brown silty clay deposit which was subsequently overlain by a 0.2m deep dark brown silty clay topsoil.

No archaeological finds, features or deposits were identified in Trenches 1–3, 5, 7, 8 and 10.



ILLUS 3
Plan of Trench 9 containing features [0905] and [0906]



ILLUS 4

Ditch [0905], NW facing section through feature



ILLUS 5

Ditch [0905], camera facing NE

ILLUS 6

Feature [0906], S facing section through feature

5.2 TRENCHES CONTAINING UNDATED FEATURES

Trench 4

Measuring 0.76m in width and 0.25m in depth, ditch [0404] passed through the western end of Trench 4 on a NW-SE orientation (ILLUS 2). The shallow ditch was filled with a silty clay with frequent charcoal inclusions [0405]. No dateable material was recovered from the feature.

Trench 6

A north-south orientated ditch [0604] was identified within Trench 6. The feature, which was of similar dimensions (W 0.75m x D 0.26m) to ditch [0404] was filled with a sandy clay of loose compaction. The ditch broadly matches the location of a presumed field boundary identified by geophysical survey.

The trench, positioned at 90° to the earthwork, identified an accumulation of subsoil [0904] filling a broad, shallow depression [0905] on a NW-SE alignment at the base of the slope (ILLUS 4 & 5). The extant bank to the north of the ditch was composed of limestone bedrock [0903]. No dateable material was identified within the feature.

At the northern end of the trench, a feature [0906] interpreted as representing either the southern terminus of a N-S aligned linear or elongated pit was present (ILLUS 6). The feature measured 0.9m in width, 0.2m in depth, and a length of 1.3m was present within the confines of the trench; the feature continuing to the north. It was filled by a lower charcoal rich deposit [0907], which had been dumped around the base of the feature at the southern end. Above this was a later fill [0908], comprising a sandy orange silty clay.

5.3 TRENCHES CONTAINING ARCHAEOLOGICAL FEATURES

Trench 9

Trench 9 (ILLUS 3) was located to target the NW-SE aligned earthwork recorded in the Historic Environment Record.

A single flint flake dated to the Neolithic or early Bronze Age was recovered from deposit [0907] along with some small lumps of fired clay. An environmental sample recovered from the feature was found to be charcoal rich and contained a large quantity of hulled barley and free threshing wheat. The density of cereal grain amounted to 200 grains per litre of soil.

6 DISCUSSION

Evaluation of the extant linear earthwork in the south of the site failed to recover any evidence for its provenance. The change in geology evident in the vicinity of the earthwork (i.e. mudstone to limestone) may be the cause of the abrupt change in ground level. Although the site is mapped by the British Geological Survey (BGS 2015) as being underlain by mudstone, areas of limestone (Black Rock subgroup, Llanelly formation and Hunts Bay Oolite subgroup) are mapped in close proximity to the site. The trial trenching evidence suggests that the limestone deposits extend into the site and may be the cause for the abrupt change in ground level in the south of the proposed development area. The colluvial deposit identified at the base of the earthwork was devoid of cultural material and appears to relate to downslope migration leading to a deepening of subsoil in this area.

The feature located to the north of the earthwork contained an environmental assemblage rich in cereal grain. Although a flint flake dated to the Neolithic or early Bronze Age was recovered from the feature, the range of charred grain identified is more in keeping with an Iron Age or later date.

The material did not appear to have been burnt in situ, but instead had been dumped in the feature after burning. The presence of the material suggests that crops were used near to the site and this may potentially indicate an agricultural settlement in the near vicinity.

The geophysical survey results do not appear to suggest a linear continuation of the grain filled feature to the north and it seems more likely to represent a discrete feature, the full extent of which is currently unknown.

The undated linear feature identified in Trench 6 appears to relate to a deviation of the N-S field boundary identified by geophysical survey. The feature of almost identical dimensions recorded in Trench 4 is likely to be of a similar function and date and neither are considered to be archaeologically significant.

7 CONCLUSION AND RECOMMENDATIONS

A single potentially significant feature has been identified in the south of the proposed development area at the northern end of Trench 9. The feature contained an abundance of charred cereal grain relating to Iron Age or later crop production. The feature continued beyond the northern bounds of the evaluation trench.

On the basis of the evaluation results the client intends to submit a development proposal which avoids significant ground disturbance within the southern part of the site. A 3m wide footpath/cycleway on a N-S orientation will be the only disturbance within the area identified as having archaeological potential. It is proposed that archaeological monitoring will take place during all ground disturbing activities within this area.

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APPENDIX 1 TRENCH AND CONTEXT REGISTER

TR01	Orientation	L (m)	W (m)	Av. D (m)
	E-W	40.00	1.60	0.60
Context	Description			Thickness of deposit (m)
0101	Topsoil: Dark brown, friable, silty clay.			0 – 0.20
0102	Subsoil: Dark red/brown silty clay.			0.20 – 0.40
0103	Natural: Firm red silty clay.			0.40 – 0.60+
Summary	Clay field drain present in trench. No archaeological features.			

TR02	Orientation	L (m)	W (m)	Av. D (m)
	N-S	20.00	1.60	0.60
Context	Description			Thickness of deposit (m)
0201	Topsoil: Dark red/brown loamy soil. Friable.			0 – 0.28
0202	Subsoil: Mid red/brown silty clay. Soft, friable, small stone inclusions.			0.28 – 0.50
0203	Natural: Mid red/brown silty clay. Firm compaction.			0.50+
Summary	No archaeological features.			

TR03	Orientation	L (m)	W (m)	Av. D (m)
	N-S	20.00	1.60	0.58
Context	Description			Thickness of deposit (m)
0301	Topsoil: Dark red/brown loamy soil. Friable.			0 – 0.28
0302	Subsoil: Mid red/brown silty clay. Soft, friable, small stone inclusions.			0.28 – 0.55
0303	Natural: Light-mid red/brown silty clay with light yellow sandy mottling. Firm compaction with large stone inclusions.			0.55+
Summary	No archaeological features.			

TR04	Orientation	L (m)	W (m)	Av. D (m)
	E-W	30.00	1.60	0.60
Context	Description			Thickness of deposit (m)
0401	Topsoil: Dark red/brown loamy soil. Friable.			0 – 0.25
0402	Subsoil: Mid-dark red/brown silty clay.			0.25 – 0.52
0403	Natural: Light-mid red/brown silty clay with light yellow sandy mottling. Firm compaction with large stone inclusions.			0.40+
0404	Cut for linear ditch. NW-SE alignment. 0.76m wide x 0.25m deep. Gently sloping sides to a rounded base.			0.40 – 0.65
0405	Fill of [404]. Dark red/brown silty clay. Frequent charcoal inclusions.			0.40 – 0.65
Summary	Single undated linear feature likely to be of agricultural origin.			

TR05	Orientation	L (m)	W (m)	Av. D (m)
	N-S	30.00	1.60	0.70
Context	Description			Thickness of deposit (m)
05010	Topsoil: Dark brown silty clay. Loose compaction.			0 – 0.25
0502	Subsoil: Red/brown silty clay. Friable.			0.25 – 0.50
0503	Natural: Light-mid red/brown silty clay with light yellow sandy mottling. Firm compaction with large stone inclusions.			0.50 – 0.70+
Summary	No archaeological features.			

TR06	Orientation	L (m)	W (m)	Av. D (m)
	E-W	30.00	1.60	0.80
Context	Description			Thickness of deposit (m)
0601	Topsoil: Dark red/brown, friable, loamy soil.			0 – 0.28
0602	Subsoil: Mid-dark red/brown sandy clay. Friable.			0.28 – 0.65
0603	Natural: Light-mid red/brown silty clay with light yellow sandy mottling. Firm compaction with large stone inclusions.			0.65+
0604	Cut for linear ditch. N-S alignment. 0.75m wide x 0.26m deep. Gently sloping sides to an irregular base.			0.65 – 0.91
0605	Fill of [604]. Mid-dark red/brown sandy clay. Loose compaction.			0.65 – 0.91
Summary	Linear feature likely to relate to former field boundary.			

TR07	Orientation	L (m)	W (m)	Av. D (m)
	E-W	30.00	1.60	0.60
Context	Description	Thickness of deposit (m)		
0701	Topsoil: Dark brown silty clay. Loose compaction.	0 – 0.30		
0702	Subsoil: Red/brown silty clay. Friable.	0.30 – 0.50		
0703	Natural: Light-mid red/brown silty clay with light yellow sandy mottling. Firm compaction with large stone inclusions.	0.50 – 0.70+		
Summary	No archaeological features.			

TR08	Orientation	L (m)	W (m)	Av. D (m)
	NE/SW	30.00	1.60	0.40
Context	Description	Thickness of deposit (m)		
0801	Topsoil: Dark brown silty clay. Loose compaction.	0 – 0.25		
0802	Subsoil: Red/brown silty clay. Friable.	0.25 – 0.35		
0803	Natural: Stony, laminated bedrock.	0.35 – 0.40+		
Summary	No archaeological features.			

TR09	Orientation	L (m)	W (m)	Av. D (m)
	NE/SW	40.00	1.60	0.60
Context	Description	Thickness of deposit (m)		
0901	Topsoil: Dark brown silty clay. Loose compaction.	0 – 0.25		
0902	Subsoil: Red/brown silty clay. Friable.	0.25 – 0.50		
0903	Natural: Stony, laminated bedrock.	0.50+		
0904	Colluvium: Red/brown silt. Loose compaction. Infrequent charcoal inclusions. Fill of [905].	0.50 – 1.30		
0905	Possible ditch cut / natural hollow. NW-SE orientation. 5.80m wide, 0.80m deep. Located at base of slope / change in field level.	0.50 – 1.30		
0906	Cut of linear / elongated pit feature terminating in northern end of trench. 0.9m wide, 0.20m deep and 1.3m in length present within trench (feature continues to north). Steep sides to flat base.	0.50 – 0.70		
0907	Lower fill of [906]. Very dark brown/black clayey silt. Abundant charcoal and charred seeds.	0.60 – 0.70		
0908	Upper fill of [906]. Orange/brown silty clay. Frequent charcoal inclusions.	0.50 – 0.60		
Summary	Broad, shallow ditch or depression recorded at base of slope (earthwork identified on HER). No dateable material within or indication that it is manmade. Ditch terminus or pit to north contained a flint flake and abundant cereal grain.			

TR10	Orientation	L (m)	W (m)	Av. D (m)
	NW-SE	20.00	1.60	0.50
Context	Description	Thickness of deposit (m)		
1001	Topsoil: Dark brown, friable, silty clay.	0 – 0.30		
1002	Subsoil: Red/brown, friable, silty clay.	0.30 – 0.40		
1003	Natural: Stony, laminated bedrock.	0.40 – 0.50+		
Summary	No archaeological features.			

APPENDIX 2 FINDS ASSESSMENT

BY JULIE LOCHRIE

The finds amount to one flint tool and 8g of fired clay. They were found together in pit [0906] (0907). The flint tool is a small flake with inverse lateral retouch with a notch towards the proximal end and can be dated to the Neolithic or early Bronze Age. The fired clay comprises abraded featureless fragments which are too small for any further interpretation. They cannot be dated but it is possible they are contemporary with the flint tool.

Trench	Context	Qty	Weight (g)	Material	Object	Description	Spot Date
09	0907	1	2	Lithics	Tool	mid to dark grey brown flint. Secondary hard hammer/platform flake abrupt, inverse retouch to most of the left lateral, including a shallow notch directly after the proximal. Cortical right lateral	Neo-EBA
09	0907	3	8	CBM	Fired Clay	small lumps of fired clay, no shape or impressions	-

TABLE 1

Finds catalogue

APPENDIX 3 ENVIRONMENTAL ASSESSMENT

BY CATHERINE LONGFORD

Method

One soil sample <001> of 20 litres was taken from a charcoal rich deposit (0907) at the base of an undated ditch terminal or pit in Trench 9 and was received for environmental analysis. The aims of the assessment were to assess the presence, preservation and abundance of environmental remains in the sample and to characterize the assemblage as far as possible.

The sample was subjected to flotation and wet sieving in a Siraf-style flotation machine. The floating debris (the flot) was collected in a 250 µm mesh and air dried. 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. Due to the large volume of charred material recovered by flotation, the flot was split into equally proportioned fractions and one sixteenth of the flot was scanned using a binocular microscope. Charred plant remains were identified with reference to Cappers et al. (2006) and Zohary et al. (2012).

Results

The results are presented below in TABLES 1 & 2.

The sample was very rich in charred grain and wood charcoal, approximately 900ml of charred material was recovered (TABLE 1). A large quantity of hulled barley grain was identified in the subsample examined (165 grains), together with a small amount of free threshing wheat (*Triticum aestivo-compactum*) grain (27 grains), indeterminate cereal grain (55 grains) and one oat (*Avena* sp.) grain. There were approximately 200 cereal grains per litre of soil floated. One 6-row barley rachis internode was identified in the subsample and this, together with the presence of symmetrical and asymmetrical barley grains, suggests that hulled 6-row barley (*Hordeum vulgare*) was used at the site. Most grains appear abraded, although there are a few very well preserved barley grains, and a number of cereal grains have evidence of insect damage.

A few rye-grass (*Lolium* sp.), brome grass (*Bromus* sp.), knotweed (*Polygonum* sp.) indeterminate Poaceae and Fabaceae seeds were also identified in the subsample. These are typical crop weeds that are common in arable fields and disturbed ground (Stace 2010).

The bulk of the flot sample was composed of wood charcoal. Both oak (*Quercus* sp.) and non-oak wood charcoal was present in the sample. The charcoal assemblage was a mix of large fragments with weak growth ring curvature and pieces of roundwood. Some charcoal fragments had insect bore hole damage.

The retent (TABLE 2) contained wood charcoal, some very small and undiagnostic fragments of burnt bone and magnetised soil particles.

Discussion

Hulled six-row barley and free threshing wheat were common crops in Midlands from the late Iron Age onwards and became the

dominant crops in England in the early first millennium AD (Van der Veen 1992, Monkton 2006, Pelling et al. 2015). The density of charred cereal grains in the sample is also more common in sites from the late Iron Age and later periods in the Midlands (Monkton 2006). One oat grain was also present in the sample which may represent a weedy contaminant of the barley and wheat crops. The charred seed assemblage appears to contain cleaned crop products which had been winnowed to remove the cereal chaff and sieved to get rid of weed seeds prior to being charred (Jones 1990). Although a few barley grains were very well preserved, the majority of grains were abraded which suggests that the charred deposit was not a burnt in situ crop store. This deposit may represent charred crop products which had been mixed with other burnt material and dumped in the depression of the ditch terminal.

The large amount of cereal grain, with some crop weeds and cereal chaff, in this sample indicates that crops were used near to the site and that there was potentially an agricultural settlement in the vicinity.

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Context	Sample	Total flot Vol (ml)	Fraction assessed	Oat grain	Barley grain	Barley chaff	Wheat grain	Indet. cereal grain	Other charred plant remains	Charcoal	
										Qty	Max size (cm ³)
0907	001	900	1/16	+	++++	+	+++	++++	Lolium sp.: 8; Bromus sp.: 9; Indet. Poaceae: 7; Polygonum sp.: 1; Indet. Fabaceae: 2; modern Ranunculus sp.: 1	++++	3

Material available for AMS Yes. Cereal grain
Comments Hulled symmetrical and assymetrical barley grain: 165. 6-row barley rachis internode (Hordeum vulgare): 1. Free threshing wheat grain: 27. Indet cereal grain: 55. Oat: 1. Grains abraded. Oak and non-oak charcoal present.
Key + = rare (1 – 5), ++ = occasional (6 – 15), +++ = common (16 – 50) and ++++ = abundant (>50)
NB charcoal over 1cm is suitable for identification and AMS dating

TABLE 1
 Flotation sample results

Context	Sample	Sample Vol (l)	Magnetic residue	Burnt bone	Charcoal	
					Qty	Size (cm ³)
907	001	20	+++	++	+++	1

Key + = rare (1 – 5), ++ = occasional (6 – 15), +++ = common (16 – 50) and ++++ = abundant (>50)
NB charcoal over 1cm is suitable for identification and AMS dating

TABLE 2
 Retent sample results



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