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Ripon Flood Alleviation Scheme,

Birkby Nab

North Yorkshire

Archaeological Evaluation

May 2009
Revised July 2009

Report No. 1954

CLIENT

ENVIRONMENT
AGENCY

Ripon Flood Alleviation Scheme
Birkby Nab
North Yorkshire

Archaeological Evaluation

Summary

An archaeological evaluation in advance of the construction phase of the proposed Ripon Flood Alleviation Scheme at Birkby Nab revealed four linear ditches, probably part of a field system, and two post-holes. Unfortunately it has not been possible to date any of these features. Geological features such as palaeo-channels and ice wedges were also noted. No archaeological finds were recovered during the fieldwork.

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Report Information

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1 Introduction

Archaeological Services WYAS (ASWYAS) was commissioned by Phil Catherall on behalf of the Environment Agency to undertake a programme of archaeological evaluation comprising geophysical survey (Field G) and trial trenching in advance of the construction phase of the Ripon Flood Alleviation Scheme at Birkby Nab. This report details the results of the evaluation which was carried out between March 9th and April 9th 2009. Geophysical survey had already been undertaken on the remainder of the site (Field F - Harrison and Webb 2006).

Site location and topography

The site is located approximately 3km north-west of Ripon on the River Laver (SE 2755 7265, Figs 1 and 2). Topographically, the site rises from approximately 55m above Ordnance Datum in the north-east to approximately 101m above Ordnance Datum in the north-west. The area is predominantly agricultural.

Soils, geology and land-use

The geology of the site comprises Lower Magnesian Limestone with overlying superficial (drift) deposits of sands and gravels with alluvium adjacent to the river (BGS 1978). The soils are classified in the East Keswick association being typically deep, well drained, fine loams prone to slight seasonal waterlogging, with some coarse loamy soils affected by ground water (SSEW 1983). At the time of the fieldwork, Field F was under a young winter cereal crop. Field G/the Dam Area was under permanent pasture being split into several strips in use as horse paddocks.

2 Archaeological and Historical Background

Prehistoric period

No sites or finds of a Mesolithic date have previously been recorded within the site boundary. The Neolithic period was characterised by the introduction of ritual and funerary monuments, such as the three Thornborough Henges, which were laid out on the same axis about 7km to the north of Ripon, and overlie an earlier *cursus* monument. Three further henges lie about 3km to the west of the town at Hutton Moor, Cana Barn and Nunwick. The massive standing stones known as the Devil's Arrows are also situated 7km to the south-east, outside Boroughbridge. A dense concentration of early Bronze Age monuments have been identified between the River Ure and the River Swale, such as the barrows at Hutton Grange, 4km to the north-east of Ripon. It seems clear that throughout the Neolithic and Bronze Age, the western edge of the Vale of York around Ripon had an important sacred and ritual significance. Extensive areas of Iron Age settlement, including enclosures, farmsteads, trackways and fields systems have been identified across the western edge of the Vale of York (Vyner 2003, 45), although no evidence for Iron Age occupation has been identified within

Ripon. The Ripon area, within the territory of the Brigantes, was annexed by the Romans in about AD 71. There is little evidence for any form of Roman activity within the town, apart from a few residual pieces of Roman pottery found in Anglo-Saxon and medieval contexts during archaeological excavations in Deanery Gardens and at Ripon Cathedral Primary School (Whyman 1997; McComish 2001).

Anglo-Saxon period

In the century following the end of Roman rule in AD 410, the former province fragmented into a number of smaller kingdoms, some of which were controlled by the Romanised British population, and others established by incoming Anglo-Saxon groups from northern Europe. The name 'Ripon' derives from the Old English *Hrypum*, meaning 'amongst the *Hrype*', the *Hrype* being a local Anglo-Saxon tribal group (Smith 1961, 165), although by the early 7th century the area was part of the kingdom of Northumbria. The earliest settlement at Ripon probably originated about AD 657, when land was granted by King Alhfrith of Deira to a group of monks of the Celtic Church to create a daughter house of their monastery at Melrose (Ryder 1990, 1). Following the Synod of Whitby in 664, and the adoption of the Roman liturgy in Northumbria, it appears that the Celtic monks abandoned the site, and it was instead granted to Wilfrid, the Bishop of York, who constructed new monastic buildings here about AD 671-678 (Sherley-Price 1990, 187; Hall and Whyman 1996, 65). The new monastery included 40 hides of land, with a church built of dressed stone, including columns and side aisles (Hall and Whyman 1996, 63). The surviving crypt, beneath the present Ripon Cathedral, is thought to have been part of Wilfrid's original church, which was destroyed in AD 948 (Taylor and Taylor 1965, 301).

Recent archaeological work

Prior to the current phase of evaluation geophysical surveys had been undertaken at several locations (Field B, H, F and Dam Area - Harrison and Webb 2006) to advise on construction design proposals. These surveys identified several anomalies indicative of archaeological activity including a D-shaped enclosure and possible associated features in the field to the east of Dick Hill Wood (Field F). The site immediately south-east of the recorded site of Studley Parva, also known as Studley Roger, a deserted medieval village recorded in the Domesday Book, was also subject to geophysical survey (Field B). Rectilinear anomalies were evident within this field and have been interpreted as possible land divisions or open-ended enclosures (Harrison and Webb 2006).

3 Aims and Objectives

Geophysical Survey

The general aim of the survey was to obtain information on the presence/absence and extent of any archaeology within the area (Field G) likely to be affected by the proposed flood

alleviation works. This information would then enable further evaluation (trial trenching) and/or mitigation measures to be designed in advance of the flood alleviation works.

Trial Trenching

The aim of this stage of the evaluation was to provide detailed information on the presence/ absence, extent, character, date, depth and degree of survival of any archaeological deposits or features identified within the three areas within the site (Field F, Field G and the Dam Area) and to provide an indication of their extent, character, date, significance and level of survival.

All work was undertaken in accordance with a Written Scheme of Investigation (WSI) produced by ASWYAS (Appendix 1) on behalf of the Environment Agency and submitted to and approved by North Yorkshire County Council Heritage Section prior to the commencement of the fieldwork.

The fieldwork was carried out in three stages with the trial trenching in Field F followed by the geophysical survey in Field G and finally the trial trenching in Field G and the dam area.

4 Methodology

Geophysical Survey

A Bartington Grad601 magnetic gradiometer was used to take readings at 0.25m intervals on zig-zag (east-west) traverses 1m apart within 30m by 30m grids so that 3600 readings were recorded in each grid. These readings were stored in the memory of the instrument and later downloaded to computer for processing and interpretation. Geoplot 3 (Geoscan Research) software was used to process and present the data. Further details are given in Appendix 2. Detailed (recorded) survey allows the visualisation of weaker anomalies that may not have been readily identifiable by alternative evaluation techniques such as magnetometer (magnetic) scanning.

The geophysical survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David *et al.* 2008) and by the IfA (Gaffney *et al.* 2002). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 2. Appendix 3 details the survey location information and Appendix 4 describes the composition and location of the survey archive.

The figures in this report have been produced following analysis of the data in 'raw' and processed formats and over a range of different display levels. All figures are presented to

display in the most suitable form and interpret the data from this site based on the experience and knowledge of ASWYAS staff.

Figure 2 shows the processed greyscale magnetometer data and previous magnetometer surveys at 1:5000. The processed and 'raw' (unprocessed) magnetometer data from the survey, together with interpretations of the identified magnetic anomalies, are presented at a scale of 1:1000 in Figures 3, 4 and 5.

Trial Trenching

Seventy-six trenches were located across three areas (Field F, Field G and Dam Area) targeting geophysical anomalies and apparently 'blank' areas (Figs 6 and 7) in order to sample all parts of the site. The trenches were excavated using a 360° tracked excavator equipped with a toothless ditching bucket under archaeological supervision. The stripping was carried out in level spits, each spit of a maximum 0.2m depth, down to the first archaeological horizon or undisturbed natural. The resulting surface and any exposed archaeological features were then cleaned by hand and manually excavated. A sample of 10% of all linear features was excavated. All ditch intersections and termini were investigated. All discrete features were initially 50% excavated, recorded in section and then 100% excavated in accordance with the methodology set out in the WSI (Appendix 1). All archaeological features were recorded in accordance with ASWYAS standard methodology (ASWYAS 2004). A full written, drawn and photographic record of all material revealed during the course of the work was made.

At least 10 litres of soil were sampled from the primary fill of each feature for the potential recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefacts.

The site archive contains all the information gathered during the archaeological evaluation and it is indexed in Appendix 5. The archive is currently held at ASWYAS headquarters but archive deposition will be arranged in due course following consultation with the recipient museum.

5 Geophysical Survey Results

The anomalies identified in this survey fall into four categories as described below.

Ferrous responses/magnetic disturbance

These anomalies are typically caused by ferrous (magnetic) material either on the ground surface or in the topsoil, that cause prompt variations in the magnetic readings resulting in a characteristic 'spiky' XY trace (see Fig. 4). Unless there is supporting evidence for an archaeological interpretation, little importance is normally given to these anomalies as they may be a consequence of modern infilling or ferrous debris deposited as a result of the

current land use. In this survey area, the distribution of 'iron spikes' is considered to be random and therefore not of any archaeological significance. Magnetic disturbance has been detected around the easternmost edge of the survey block which is a common feature of modern cultural debris.

Geological anomalies

The majority of magnetic anomalies identified by the survey have been interpreted as having a geological origin (Fig. 5). Due to the location of the survey and its proximity to the River Laver, these anomalies are thought to be caused by infilled river channels and/or spreads of alluvium or river gravel deposited over the flood plain.

Linear trends

Several linear trend anomalies have been identified, the majority of which are aligned north/south. Three isolated linear trends, situated at the south-eastern area of the site, run north-east to south-west. All these anomalies are interpreted as being agricultural in origin, probably being due to ploughing, due to the consistency in alignment and spacing.

Potential archaeological anomalies

Two areas of magnetic enhancement have been interpreted as possibly having an archaeological cause (Fig. 5). In the centre of the survey area, a linear anomaly running 20m north-north-east/south-south-west has been identified. Forty metres to the east of this anomaly is a small cluster of responses that may also be archaeological in origin. However, a geological cause cannot be dismissed.

6 Trial Trenching Results

Summary

The site was divided into three areas, Field F, Field G and the Dam Area with seventy-six trenches located in order to investigate the areas defined in the WSI (Appendix 1). Trenches devoid of archaeological features are briefly summarised in Table 1 but are not described further.

Dark grey brown silty clay ploughsoil covered the site to a maximum depth of 0.52m. The subsoil comprised mid-reddish brown silty clay subsoil up to 0.81m in depth. The archaeological remains recorded during the trenching were predominantly shallow ditches or gullies which were all undated. Two post holes were also identified. Modern land drains and geological features such as palaeochannels and ice wedges were also revealed. These features are described in more detail below.

Field F (Fig. 6)

Forty-six trenches were excavated in this field, with possible archaeological features identified in six of them.

Trench 4 (Fig. 8, S.3; Plate 1)

This trench was orientated north-east to south-west and was positioned to investigate an apparently 'blank' area. A curvilinear ditch feature (109), running on an approximate north to south alignment, was revealed. Ditch 109 measured 1.6m in width by 0.26m in depth and was irregular in profile. It contained two fills (107 and 108), but no datable finds were recovered. This feature was not identified by the geophysical survey.

Trench 7 (Fig. 8 , S.1; Plate 2)

Orientated on a north-east to south-west alignment, this trench contained a single linear feature (103) which corresponded to a geophysical anomaly and has been interpreted as a drainage gully. It possessed a U-shaped profile which measured 0.53m in width by 0.13m in depth and contained a single fill (102). No datable artefacts were found in this feature.

Trench 9 (Fig. 8, S.20 and S.21; Plates 3 and 4)

Excavation of this trench revealed a single ditch and its terminus (143 and 145) which had been identified as a geophysical anomaly. The ditch was orientated approximately east to west and measured between 1.3m to 1.4m in width by 0.5m to 0.62m in depth. It was V-shaped in profile and contained a single fill (142), with frequent medium to large stones inclusions, indicating that it had been intentionally backfilled. No datable finds were retrieved from this feature.

Trench 28 (Fig. 8, S.16; Plate 5)

Located to the east of Field F, this trench was orientated on a north-west to south-east alignment and was positioned to investigate linear anomalies identified by the geophysical survey. Within the centre of the trench a ditch was identified (127), which has been interpreted as a drainage ditch. It measured 1.72m in width by 0.32m in depth and was U-shaped in profile. It contained two fills (126 and 137), with deposit 126 yielding a fragmented iron horse shoe.

Trench 29 (Fig. 9, S.11; Plate 6)

This trench was orientated north-east to south-west and was positioned to target a linear geophysical anomaly. Towards the north-eastern end of the trench, a single ditch (123) was identified. It traversed the trench on a north to south alignment and has been interpreted as having a possible drainage function. Excavation revealed that it measured 1.02m in width by 0.52m in depth, with a U-shaped profile. It contained a single fill (122), but no datable artefacts.

Trench 34 (Fig. 9, S.13; Plate 7)

Located towards the eastern edge of Field F, this trench was positioned to investigate linear anomalies identified in the geophysical survey. The cause of the linear anomalies was not seen but two post-holes (132 and 135) adjacent to the north edge of the trench were identified. Both post-holes contained burnt clay and charcoal rich fills, which may indicate the *in-situ* burning of posts. Whether these features formed part of a larger structure such as fence or possibly a roundhouse is unknown. No datable artefacts were found.

Field G (Figs 2 and 7)

Seventeen trenches were excavated in this field. No archaeological remains were recorded, with only palaeochannels/alluvial features, a land drain (T68) and a cow burial (T64) of recent date identified. The latter feature was not excavated on health and safety grounds following advice from the Environment Agency.

Dam Area (Figs 2 and 7)

Eleven trenches were excavated in this field. No archaeological features or finds were identified. A north-east/south-west aligned ice wedge was identified in Trenches 51 and 56 which corresponded with the linear magnetic anomaly identified by the geophysical survey. No finds were retrieved during the excavation of this area.

Table 1. Summary of results of the trial trenches

Trench	Location	Dimensions (m)	Depth (m)	Topsoil (m)	Subsoil (m)	Geophysical survey	Summary of archaeological remains present
1	Field F	2 x 50	0.41	0.33	0.14	Linear anomalies?	No archaeology
2	Field F	2 x 50	0.35	0.35	0.15	Linear anomalies?	No archaeology
3	Field F	2 x 50	0.39	0.34	0.08	No anomalies	No archaeology
4	Field F	2 x 50	0.31	0.31	N/A	No anomalies	Curvilinear ditch (109)
5	Field F	2 x 50	0.33	0.28	N/A	No anomalies	No archaeology
6	Field F	2 x 50	0.40	0.32	0.10	No anomalies	No archaeology
7	Field F	4 x 24	0.42	0.33	0.11	Linear anomaly	Linear gully (103)
8	Field F	2 x50	0.49	0.32	0.20	No anomalies	No archaeology
9	Field F	5 x 20	0.45	0.30	0.15	Linear anomaly	Linear ditch (143, 145)
10	Field F	2 x 50	0.38	0.21	0.19	No anomalies	No archaeology
11	Field F	4 x 24	0.33	0.33	N/A	Discrete anomalies	No archaeology
12	Field F	2.1 x 50	0.35	0.35	0.05	No anomalies	No archaeology
13	Field F	5 x 20	0.42	0.42	N/A	Linear anomaly?	No archaeology
14	Field F	4 x 25	0.40	0.40	N/A	Discrete anomalies	No archaeology
15	Field F	2 x 50	0.70	0.40	0.30	Discrete anomaly	No archaeology
16	Field F	4 x 25	0.33	0.33	N/A	Linear anomaly?	No archaeology
17	Field F	4.1 x 25	0.30	0.30	N/A	Discrete anomalies	No archaeology
18	Field F	3.9 x 25	0.60	0.40	0.20	Area of enhanced magnetic background	No archaeology
19	Field F	4 x 25	0.68	0.30	0.42	Area of magnetic enhancement	No archaeology
20	Field F	2 x 50	0.40	0.34	0.11	No anomalies	No archaeology
21	Field F	2 x 50	0.41	0.41	N/A	No anomalies	No archaeology

Trench	Location	Dimensions (m)	Depth (m)	Topsoil (m)	Subsoil (m)	Geophysical survey	Summary of archaeological remains present
22	Field F	2 x 50	0.32	0.32	N/A	No anomalies	No archaeology
23	Field F	2 x 50	0.32	0.30	N/A	No anomalies	No archaeology
24	Field F	2 x 50	0.56	0.45	0.17	Discrete areas of enhancement	No archaeology
25	Field F	4 x 25	0.67	0.50	0.24	Discrete areas of enhancement	No archaeology
26	Field F	2 x 50	0.40	0.40	0.10	Discrete areas of enhancement	No archaeology
27	Field F	10 x 10	0.65	0.35	0.30	Discrete areas of enhancement	No archaeology
28	Field F	4 x 25	0.42	0.42	N/A	Discrete areas of enhancement	Linear ditch (127)
29	Field F	2 x 50	0.40	0.40	N/A	Linear anomalies	Linear ditch (123)
30	Field F	4 x 25	0.45	0.35	0.12	Discrete areas of enhancement	No archaeology
31	Field F	2 x 50	0.40	0.30	0.10	Linear anomalies	No archaeology
32	Field F	10 x10	0.40	0.40	N/A	Discrete anomalies	No archaeology
33	Field F	2 x 50	0.40	0.40	N/A	Linear anomalies	No archaeology
34	Field F	2 x 50	0.49	0.31	0.18	Linear anomalies	Two post-holes (132 and 135)
35	Field F	2 x 50	0.40	0.38	0.10	No anomalies	No archaeology
36	Field F	2 x 50	0.45	0.36	N/A	Linear anomalies	No archaeology
37	Field F	2 x 51	0.40	0.30	0.10	No anomalies	No archaeology
38	Field F	2 x 50	0.25	0.25	N/A	No anomalies	No archaeology
39	Field F	2 x 50	0.31	0.31	N/A	No anomalies	No archaeology
40	Field F	2 x 50	0.30	0.30	0.10	No anomalies	No archaeology
41	Field F	2 x 50	0.52	0.52	N/A	No anomalies	Field drain (119)
42	Field F	2 x 50	0.32	0.32	N/A	No anomalies	No archaeology
43	Field F	4 x 27	0.70	0.40	0.30	Discrete areas of enhancement	No archaeology
44	Field F	2 x 50	0.36	0.36	N/A	No anomalies	No archaeology

Trench	Location	Dimensions (m)	Depth (m)	Topsoil (m)	Subsoil (m)	Geophysical survey	Summary of archaeological remains present
45	Field F	2 x 50	0.35	0.35	N/A	No anomalies	Field drain (113)
46	Field F	2 x 51	0.40	0.40	N/A	Linear anomalies	No archaeology
47	Dam Area	2 x 20	0.29	0.30	0.29	No anomalies	No archaeology
48	Dam Area	2 x 20	0.44	0.29	0.15	No anomalies	No archaeology
49	Dam Area	2 x 20	0.70	0.50	0.20	No anomalies	No archaeology
50	Dam Area	2 x 20	0.55	0.32	0.23	No anomalies	No archaeology
51	Dam Area	2 x 22	0.50	0.30	0.20	Linear anomaly	Ice wedge (150)
52	Dam Area	2 x 20	0.40	0.40	N/A	No anomalies	No archaeology
53	Dam Area	2 x 20	0.35	0.29	N/A	No anomalies	No archaeology
54	Dam Area	2 x 20	0.30	0.30	N/A	No anomalies	No archaeology
55	Dam Area	2 x 20	0.43	0.26	0.20	Linear anomaly	Ice wedge
56	Dam Area	2 x 20	1.08	0.30	0.81	No anomalies	No archaeology
57	Dam Area	2 x 20	0.92	0.26	0.70	No anomalies	No archaeology
58	Field G	2 x 50	0.50	0.30	N/A	Linear anomaly	Palaeochannel
59	Field G	2 x 50	0.50	0.30	0.20	Faint linear anomaly	No archaeology
60	Field G	2 x 50	0.70	0.45	N/A	Linear anomaly	Palaeochannel (154)
61	Field G	2 x 50	1.10	0.30	0.30	Faint linear anomaly	No archaeology
62	Field G	2 x 52	1.10	0.40	N/A	No anomalies	No archaeology
63	Field G	4 x 26	0.46	0.40	N/A	Linear anomaly	No archaeology
64	Field G	2 x 50	0.38	0.30	0.09	Linear anomaly	Modern cow burial
65	Field G	2 x 30	0.53	0.32	0.24	Discrete anomalies	No archaeology
66	Field G	5 x 20	0.46	0.30	0.20	Discrete anomalies	No archaeology
67	Field G	2 x 50	0.42	0.28	N/A	Discrete anomalies	No archaeology

Trench	Location	Dimensions (m)	Depth (m)	Topsoil (m)	Subsoil (m)	Geophysical survey	Summary of archaeological remains present
68	Field G	2 x 50	0.36	0.36	N/A	Linear anomaly	Field drain (139)
69	Field G	8 x 12	0.52	0.30	0.22	Linear anomaly	No archaeology
70	Field G	4 x 20	0.54	0.35	0.25	Linear anomaly	No archaeology
71	Field G	2 x 30	0.50	0.35	0.21	No anomalies	No archaeology
72	Field G	2 x 50	0.90	0.30	0.72	No anomalies	No archaeology
73	Field G	2 x 50	0.71	0.34	0.40	No anomalies	No archaeology
74	Field G	8 x 20	1.10	0.60	0.75	Linear anomaly	No archaeology
75	Field G	2 x 50	0.96	0.40	0.29	Linear anomaly	No archaeology

7 Environmental Record

Carbonised Plant Macrofossils and Charcoal by Diane Alldritt

Introduction

A total of eight environmental sample flots from excavations at Ripon Flood Alleviation (RFA09) were examined for carbonised plant macrofossils and charcoal. Three bags of charred material sorted from the retent portions of the samples were also analysed. Charcoal from Sample 4 (131) and Sample 5 (134) was identified in order to find suitable short-lived pieces for radiocarbon dating.

Methodology

Bulk environmental samples were processed by Archaeological Services WYAS using an Ankara style water flotation system (French 1971). The flots were subsequently dried prior to being examined with the aid of a low powered binocular microscope. Four of the samples produced very small quantities of charred material with approximately >2.5ml tea-leaf sized charred fragments recovered. Two of the samples produced no carbonised remains. Sample 4 (131) and Sample 5 (134) proved the most abundant with 25ml and 70ml of wood charcoal fragments respectively.

Modern root fragments were present in fairly small background amounts from 5ml to 10ml together with very occasional modern (non-carbonised) seeds, indicating a reasonably low level of modern contamination. All identified plant remains including charcoal were removed and bagged separately by type.

All wood charcoal fragments from (131) and (134) were rapidly scanned under low power in order to distinguish any short-lived types present. Unfortunately all was found to be oak type and a selection of this was bagged for comparative purposes. Full identification of selected fragments was carried out using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

Results

Results are presented and discussed in Table 2 and below.

	Sample	1	3	4	5	6	7	8	9
	Context	102	122	131	134	126	142	144	154
	Total CV	0	<2.5ml	25ml	70ml	0	<2.5ml	<2.5ml	<2.5ml
	Modern	10ml	10ml	10ml	10ml	5ml	5ml	5ml	10ml
Carbonised Cereal Grain	**Common Name**								
Indeterminate Cereal Grain (+embryo)							1		
Charcoal									
Quercus	Oak			11+ (2.79g)	12+ (2.33g)				
Other Carbonised Remains									
Whole bud									1
Other Remains									
Modern (non-carbonised) weeds								5+	

Table 2 Carbonised plant remains, charcoal and other material

Discussion

The eight environmental samples produced very few carbonised plant remains, with wood charcoal constituting the largest category of material recovered. Very scarce amounts, probably trace or accidental occurrences, of cereal grain and a single bud were also present.

A single indeterminate carbonised cereal grain was found in Sample 7 (142) in a poor state of preservation. This was most likely trace or wind-blown material and probably not significant. No carbonised weed seeds were recovered from the samples. A whole indeterminate bud from Sample 9 (154) probably became accidentally carbonised when wood was cut and brought to the site for fuel.

Wood charcoal was recovered primarily from Sample 4 (131) and Sample 5 (134) with smaller indeterminate slivers of charcoal present in the retent of Sample 7 (142). All fragments of charcoal from (131) and (134) were examined with a view to identifying pieces for radiocarbon dating, but all were found to be Quercus (oak) type. No short-lived types were present in either of the samples. The presence of two quite large amounts of oak charcoal suggested the cutting of deciduous woodland for fuel, with an ample supply of oak available for use on hearths or in fire-pits for cooking, heating and so forth. Oak may also have been used for metalworking processes, as it has a high calorific value, producing a long-lasting heat (Gale and Cutler 2000), but no evidence for metalworking waste was found in the samples, so it was more likely just being used as a domestic fuel at the site.

Conclusion

The environmental samples have produced a narrow range of carbonised plant material consisting mainly of wood charcoal, with only single trace specimens of cereal grain and a plant bud. The cereal grain was indeterminate and is probably not a significant find, perhaps being wind-blown from elsewhere.

Wood charcoal was concentrated in Sample 4 (131) and Sample 5 (134) and was found to be exclusively oak type. No short-lived material suitable for radiocarbon dating was present. Oak was probably the main source of fuel in use at the site, with no evidence for other fuel types such as peat, or indeed other types of wood, present in any of the samples.

8 Discussion and Conclusions

Overall the geophysical surveys undertaken in all three parts of the site have proved to have given a reliable indication of the actual level of archaeology present. Where no features could be identified correlating with linear anomalies this almost certainly indicates that they were due to the effects of modern ploughing rather than to a cut feature that was not seen in plan.

In Field F where trenches were targeted on discrete areas of magnetic enhancement no archaeological features were identified. In all cases the anomalies were confirmed as having a geological cause being due to either variations in the composition of the subsoil or natural or to the accumulation (increased depth) of soils found at the bottom of slopes such as in Trenches 18 and 19.

No archaeological features were identified in the trenches in Field G where trenches were targeted on discrete areas of magnetic enhancement. Here the anomalies were due to the presence of a palaeochannel (Trenches 58 and 60) whose alignment fairly closely matches the current course of the River Laver and to other changes in the geology, primarily the presence of pockets of alluvium. Indeed no probable archaeological features were identified in the trenches in Field G or in the Dam Area. This should not be seen as surprising given the low lying nature of the site and the proximity of the river.

In Field F possible archaeological features were recorded in six trenches. These mainly comprised relatively shallow, linear, ditch type features. Unfortunately no finds or environmental evidence was recovered from any of the features to ascertain either date or function. These ditches may form part of a field system, perhaps contiguous with a larger system running across the wider landscape and associated with the D-shaped enclosure (identified to the north-west of Field F by geophysical survey (Harrison and Webb 2006). Alternatively they may be much more recent in origin, perhaps functioning in part as drainage features.

The post-holes identified within Trench 34 are intriguing and provide scant evidence for possible occupation within this part of the site. Unfortunately, as with the linear features, the post-holes remain undated as no artefacts were recovered and no material suitable for C14 dating was present. Whether they formed part of a larger structure/fence is uncl