

Archaeological Investigations Ltd

MODEL FARM, HILDERSLEY, NEAR ROSS ON WYE HEREFORDSHIRE

An archaeological evaluation



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ARCHAEOLOGICAL INVESTIGATIONS LTD

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**Model Farm, Hildersley, near Ross-on-Wye, Herefordshire:
archaeological evaluation February, 2009**

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For: Herefordshire Council

**Cover picture: foreground - excavated trenches in Area 9 - Area 1 under excavation
in background**

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1 Summary

Project name: Model Farm, Hildersley, Ross-on-Wye, HFD MG 2009-212

Location: Hildersley, near Ross-on-Wye, Herefordshire

Grid reference: NGR SO 615242 (centre)

Type: Evaluation

Date: 23-27 February 2009

Client: Adult and Community Services, Herefordshire Council

Archaeological Investigations Ltd was commissioned by Adult and Community Services of Herefordshire Council, to undertake archaeological evaluation of the site at Model Farm and Spring Farm, Hildersley, near Ross-on-Wye. Work consisted of an archaeogeophysical survey and trial trenching.

A total of 32 trenches, each measuring 25m in length were machine excavated to what were thought to be natural deposits. Trenches were positioned to investigate magnetic anomalies identified during the geophysical work. No features or deposits of archaeological significance were identified on the site during the trial trenching. The only artefacts to be recovered from the site were a single, post-medieval fragment of roof tile and a much abraded sherd of pottery also dating to the post-medieval period.

2 Introduction

In February, 2009, Archaeological Investigations Ltd (AIL) was commissioned by the client to carry out an archaeological evaluation at Model Farm, Hildersley, Ross-on-Wye.

The evaluation was carried out in consultation with Julian Cotton, the Archaeological Advisor to Hereford City Council. It followed a Written Scheme of Investigation produced by AIL and approved by Julian Cotton. The fieldwork adhered to the Institute of Field Archaeologists *Standard and Guidance for archaeological field evaluation* (IFA, 2008) and the Management of Research Projects in the Historic Environment (MoRPHE, 2007)

3 Geology and topography

The site lies on farmland about 1km to the east of Ross-on-Wye. It lies on bedrock of the Lower Old Red Sandstone. The evaluation centred on two adjoining farms Model Farm and Spring Farm. The evaluation area consisted of parts of a number of fields and small paddocks (Fig. 1)

4 Historical and archaeological background

4.1 Prehistoric

The Herefordshire Sites and Monuments Record records that a Bronze Age axe (SMR8455) was found in Ross. A quantity of later Iron Age pottery was found at Coughton, some 3km to the southwest of the site.

4.2 Roman

The site lies about 2 miles to the west of the Roman settlement of Ariconium (Weston under Penyard). A possible Roman temple has recently been located in the town of Ross-on-Wye, to the west of the site.

4.3 Medieval

The Domesday Book mentions the presence of a settlement with a mill at Ross by 1086. The town flourished during the early medieval period, but its fortunes began to wane by the beginning of the 14th century, as no representatives were sent to parliament in 1305 due to a lack of resources to pay them with. The Black Death and raids from Wales led to further decline in the later 14th century. Ross survived the troubles of the age and by 1500 was one of only nine market towns in the county.

4.4 Post-medieval

By 1600 Ross was the only market centre south of Hereford and became the main wool market in the region. Transport improvements in the 18th century meant that Ross-on-Wye became a hub and increasing interest in areas of natural beauty meant that it became a tourist centre for the Wye Valley. The 1930 OS map (Fig. 2) shows Spring Farm as 'Spring Cottages' - a number of buildings were present to the east of Spring Cottages. The field boundaries, however, are largely unchanged. The marshy nature of the field adjoining the A40 (Area 7) is apparent on the early map as a pond is shown in its north-eastern corner.

The former railway line running along the northern side of the site was the remains of the Hereford, Ross and Gloucester Railway, taken over by the Great Western Railway in 1869. The railway was built in broad gauge and the GWR managed to convert the stretch from Rotherwas junction to Ross to standard gauge in a single week in August 1869.

5 Aims and objectives

The aim of the evaluation was to gain information about the archaeological resource within the defined area of the site.

The objectives were to establish the character, quality, date, extent and preservation of the archaeological deposits surviving within the site and make an assessment of them in an appropriate local, regional or national context. This information will assist Hereford City Council in making an informed judgement on the significance of the archaeological resource, and the likely impact of any development upon it.

6 Method

6.1 The Archaeogeophysical Survey

Magnetometer readings were taken with Bartington 1m fluxgate Grad 601 gradiometers at 25cm intervals along transects 1m apart. Magnetic susceptibility readings were taken at 20m intervals over the Site using an MS2 meter and field sensor loop.

The results of the geophysical survey are presented alongside the trial trenching results. The full report comprises Appendix 2.

6.2 Trial Trenching (Figs. 1, 3)

A total of 32 trenches, each measuring 25m in length and 1.6m wide were excavated using a mechanical excavator with a toothless ditching bucket and under archaeological supervision throughout. This amounted to 1600m², 2% of the available area. Trenches were excavated to a depth at which deposits considered to be natural in origin became apparent.

Sondages were excavated into the base of several of the trenches to confirm the presence of natural deposits on the site.

The sections of the trenches were cleaned using a trowel prior to photography and to confirm stratigraphy.

All trench positions were tied in to the OS grid using a Trimble R6 GPS survey instrument.

A temporary site bench mark was set up on the site using the Trimble R6 GPS.

With the exception of a charcoal spread in Trench 20, no features or possible features of archaeological interest were encountered during work on the site. Recording therefore took place using the Trimble R6 GPS. Sketch plans and sections were made on Archaeological Investigations Ltds general trench recording sheets.

Photographs were taken on 35mm black and white film for archive purposes and 7.1 mmp digital formats.

7 Results

7.1 Stratigraphy

The results of the evaluation are provided as a general period overview; a detailed description of all deposits present is provided in Appendix I. Levels given in Appendix 1 represent the highest and lowest levels in the excavated trench.

Results of the geophysical survey (Appendix 2) and the trial trenching are combined. The Areas described in the report are those used in the geophysical survey.

Area 1 (Trenches 1-7)

Area 1 was bordered by a lane to the east and the southern part of the site was bordered by farm buildings. The former railway line ran to the north of the site. A band of strong magnetic anomalies was associated with this and strong readings close to the farm buildings were also thought to be also associated with modern debris or ferrous metal. A number of shallow features on the same alignment as weak parallel linear anomalies were identified during trial trenching (Fig. 4) and almost certainly resulted from former cultivation. This now seems almost certainly to have been ploughing or deep ploughing during recent times rather than medieval ridge and furrow, for which there was no evidence.

No explanation for the smaller scattered ferrous anomalies identified in this area during geophysical work was identified during trial trenching. A number of fragments of coal were found during trenching in Area 1, and, as they were at some distance from the former railway line, it seems likely that they were a result of steam ploughing of this field. In all trenches (1 – 7) rock strata in the bedrock was visible in the base of the trench demonstrating the shallow depth of topsoil and subsoil in this area. In Trench 1 separate topsoil and subsoil were not identified. Subsoil in all cases consisted of a sand or silty sand, with some clay present in the case of Trench 7.

Area 2 (Trenches 8-15)

The area lay to the east of Area 1, with the farm lane to its west. Similar strong anomalies associated with the railway line were identified to the north of the site where, in any case, no trenching took place as it was identified as being a 'species rich margin' during the ecological survey (Ecology Solutions, 2007). Similar faint linear anomalies to those identified during trenching in Area 1 were present. Once again these were thought to be a result of ploughing of the site in recent times and there was no surviving evidence for ridge and furrow. The rock strata identified in the base of the trenches in Area 1 was present in Trenches 9 and 10. The natural deposit in Trench 11 was a bright pink clay, with that in the remaining trenches a pink sand derived from bedrock. Marling was apparent in Trench 13. Subsoil was a reddish sandy silt throughout, with a greater mixture of clay present in Trenches 9, 11 and 15.

Area 3 (Trenches 16 and 17)

Area 3 also consisted of part of a pasture field, lying to the south of Area 2. To the east it was bordered by a farm track. The only strong magnetic disturbance identified during the archaeogeophysical survey was in an area where the farmer stated he had buried a large amount of concrete. The two trenches in the field were therefore positioned to avoid this area. Deposits thought to be natural in both trenches consisted of a pink sand, probably derived from the bedrock in the case of Trench 17. In Trench 16, this material also contained rounded pebbles.

Area 4 (Trench 19)

Area 4 lay immediately to the south of Area 3. The only strong magnetic anomaly was close to the gate, and was therefore probably associated with consolidation at the entrance to the field.

One trench was excavated in this area. The probable natural deposit encountered in the base of the trench consisted of bedrock, showing the strata in the sandstone, and a bright pink sand derived from degraded Old Red Sandstone.

Area 5 (Trench 26)

The area lay immediately to the east of area 5 and was a wide unfenced verge adjoining the farm track. A number of small strong magnetic anomalies were identified in area 7, and these seemed to continue into area 5. One trench (no 26) was dug in this area. The deposit thought to be natural in this trench was a bright pink stony clay. No evidence was identified for human activity having caused the anomalies recorded during the archaeogeophysical survey.

Area 6 (Trench 18)

Area 6 consisted of a number of paddocks together with the area of the duck ponds and free-range chicken runs. As it was not possible to bring heavy machinery into this area, one trench was excavated in one of the paddocks (Area 6a) to the west of the track. Readings in this area were disturbed by fencing and other ferrous objects. The paddock sloped sharply. The natural degraded bedrock was identified along the full length of the trench, with rock strata apparent throughout.

Area 7 (Trenches 20-29)

Area 7 consisted of a fairly flat pasture field, which had been used to grow bio fuels. To the south it was bounded by the A40, with farm tracks to both east and west and a track and buildings to the north. The geophysical survey identified a large number of magnetic anomalies which, it was thought possible, may have been associated with material such as slag or burnt clay in the vicinity of a metal smelting or working site. These were centred on two parts of the site, and were investigated by trenches 21 and 27. Deposits thought to be of natural origin in these trenches were, respectively a dark red brown sandy clay with blue and grey marling and a dark red brown sandy clay. In both cases the subsoil was an orange brown sandy clay. There was no obvious evidence in either trench for the cause of the magnetic anomalies and it seems likely that they were geological in origin. In all trenches on this part of the site the deposit identified as natural was a red brown sandy clay.

Area 8

No trial trenches were positioned within this area. It was thought likely that anomalies encountered during the geophysical survey were associated with the farm track.

Area 9 (trenches 30-32)

The evaluation area consisted of the eastern part of a pasture field lying to the south of a number of buildings. To the east was the trackway to the farm complex.

The only feature to be identified was a culvert, upcast from insertion of which was apparent in the topsoil. Natural deposits in all three trenches showed evidence for gleying, suggesting ongoing problems with waterlogging in this part of the field. This was clearly demonstrated by the fact that there was evidence for attempts to raise the surface level in order to cope with this problem, with the importation of a pink sandy natural, deposited above a grey silt thought to be the original topsoil.

7.2 The artefacts

No archaeological features or deposits were identified on the site. The only finds were a single fragment of roof tile dating to the post-medieval period and a single, much abraded sherd of post-medieval pottery.

8 Discussion

No deposits or features of archaeological significance were found during work at Model and Spring Farms. The site lies at some distance from the Roman settlement of Ariconium and also from Ross on Wye, where deposits and features of Roman date have been identified. It seems likely that the majority of the anomalies identified during the archaeogeophysical work were geological in nature, or resulted from either modern debris or magnetic stones. The fact that few finds of any date were present suggests that the site may have been pasture at any rate during the historic period.

There was no evidence for the ridge and furrow suggested by the geophysical work and the marks found on the same alignment as the anomalies shown on the geophysical plot may have been in fact deep ploughing, possibly taking place during the Second World War when such land was taken into cultivation. The presence of occasional fragments of coal in topsoil/subsoil deposits might have resulted from ploughing of fields using traction engines, possibly during the Second World War. The lack of topsoil suggests that the fields were probably used as pasture and were not generally considered suitable for arable farming.

9 Conclusion

The geophysical survey and trial trenching revealed neither finds nor features of archaeological significance. However the position of the site between two known Roman settlements, and the magnetic anomalies suggesting the possibility of iron working debris suggested that evaluation was an appropriate method of dealing with the potential of the site

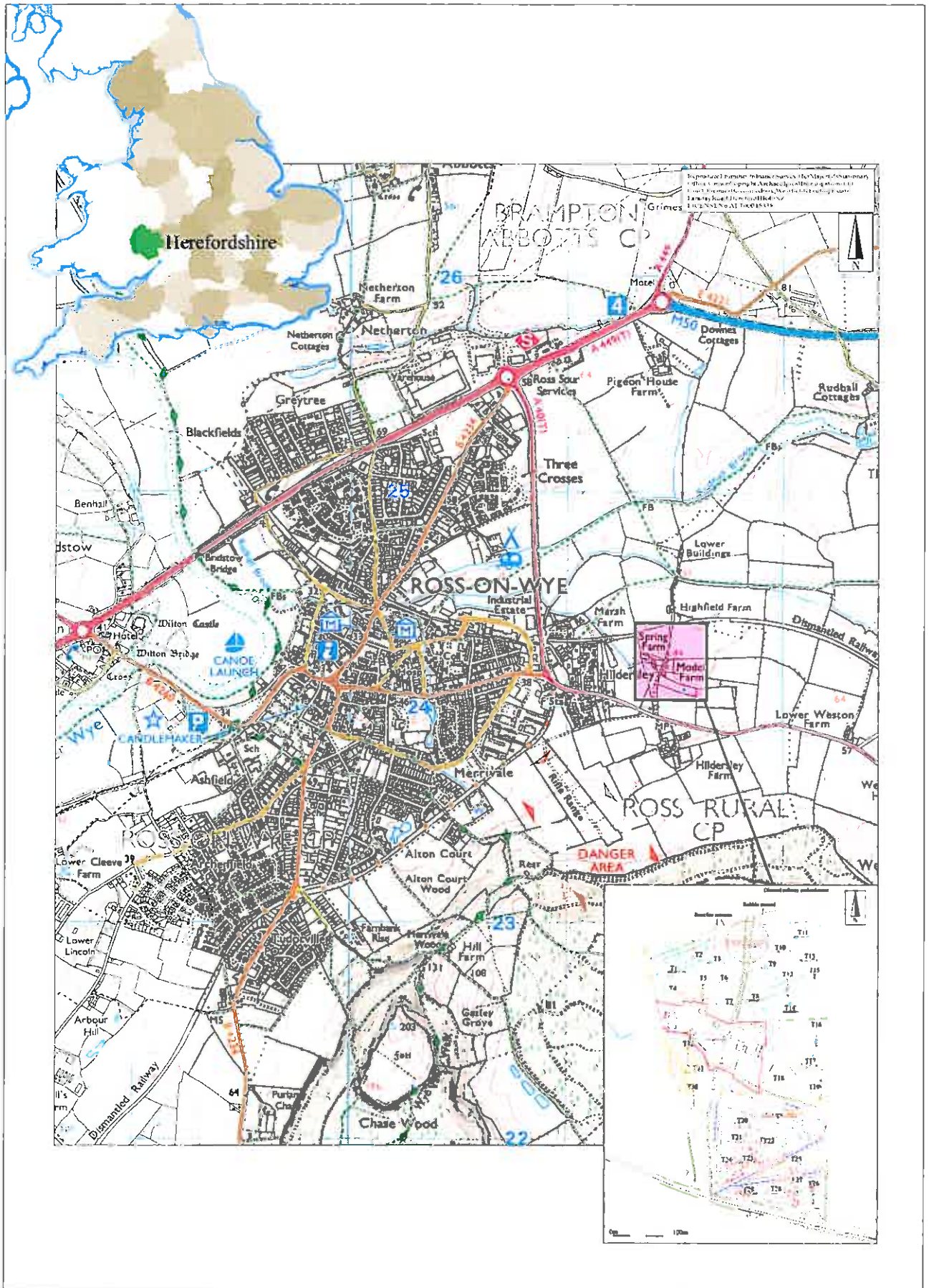
10 Site archive

The site records are currently held by AIL at their offices in Hereford. Following the completion of all work on the project and subject to agreement of the client the archive will be deposited with Hereford City Museum.

Bibliography

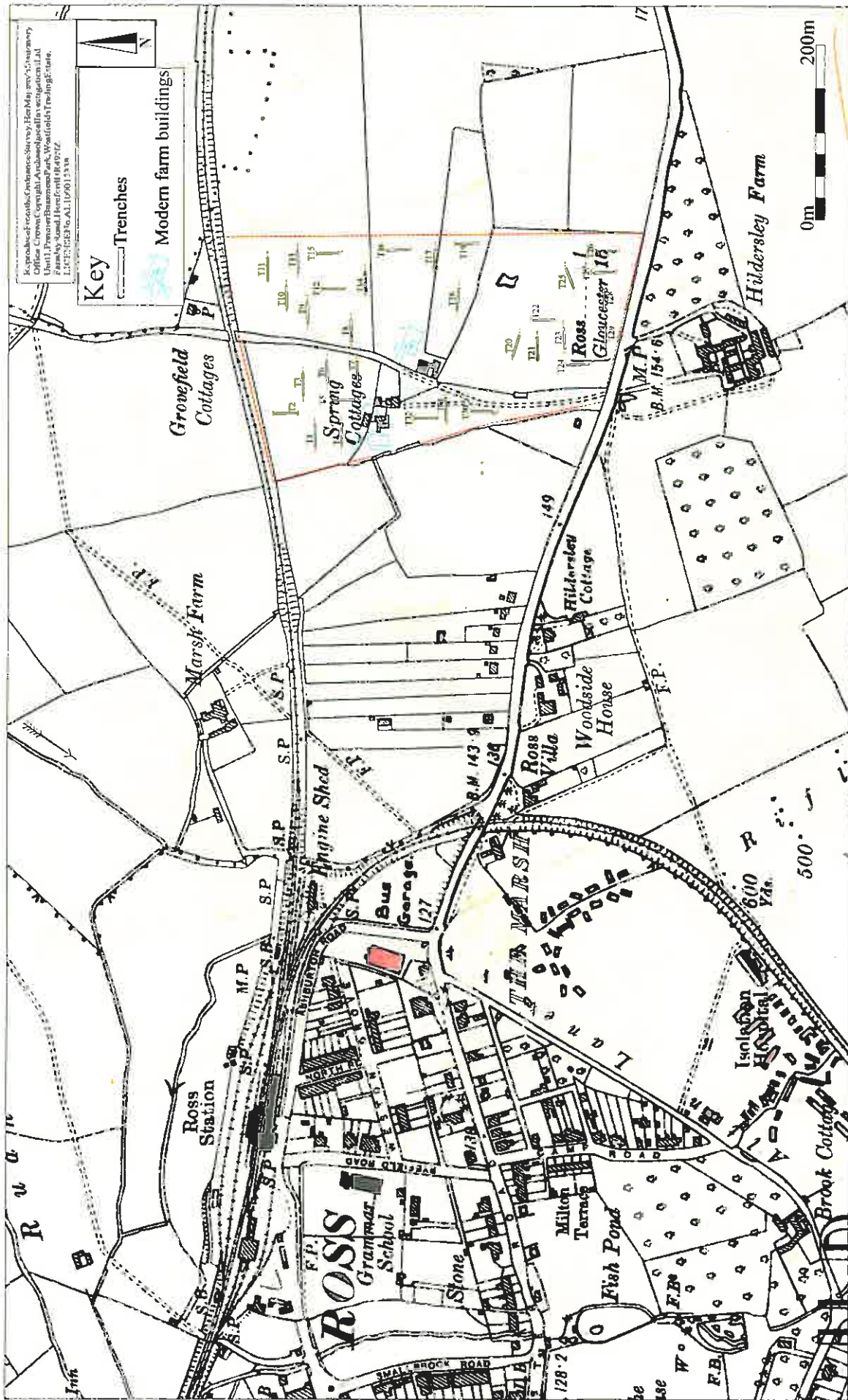
- AIL, 2005 *Field Recording Manual. An unpublished report.*
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- IFA, 2008 *Standard and guidance for archaeological evaluation. Institute of Field Archaeologists*
- Ecology Solutions, 2007 *Model Farm, Ross-on-Wye, Ecological Assessment – Draft report*

Figures



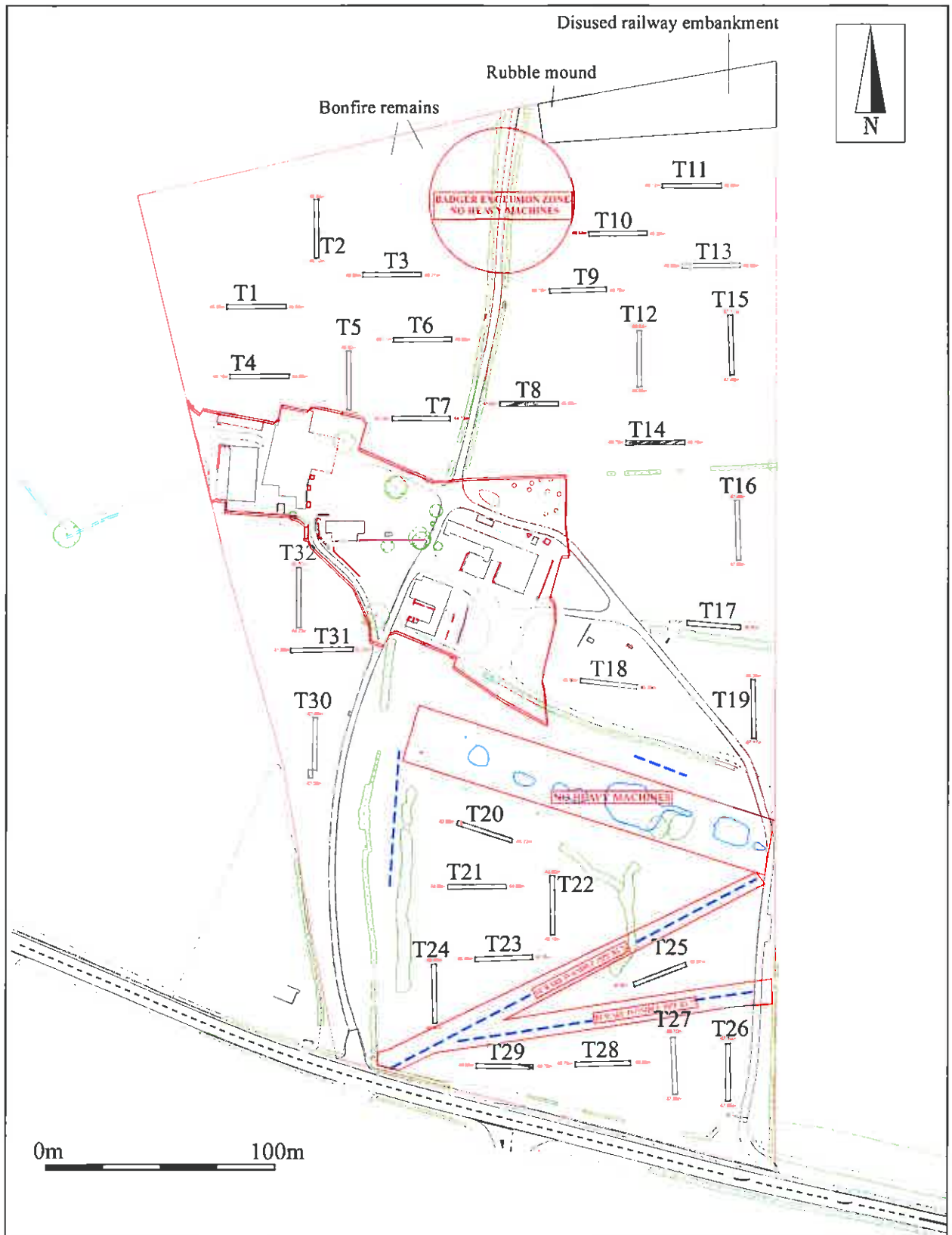
Location of Model Farm and Spring Farm, Ross-on-Wye.

Fig.1



1930 Ordnance survey map with excavation trenches overlaid

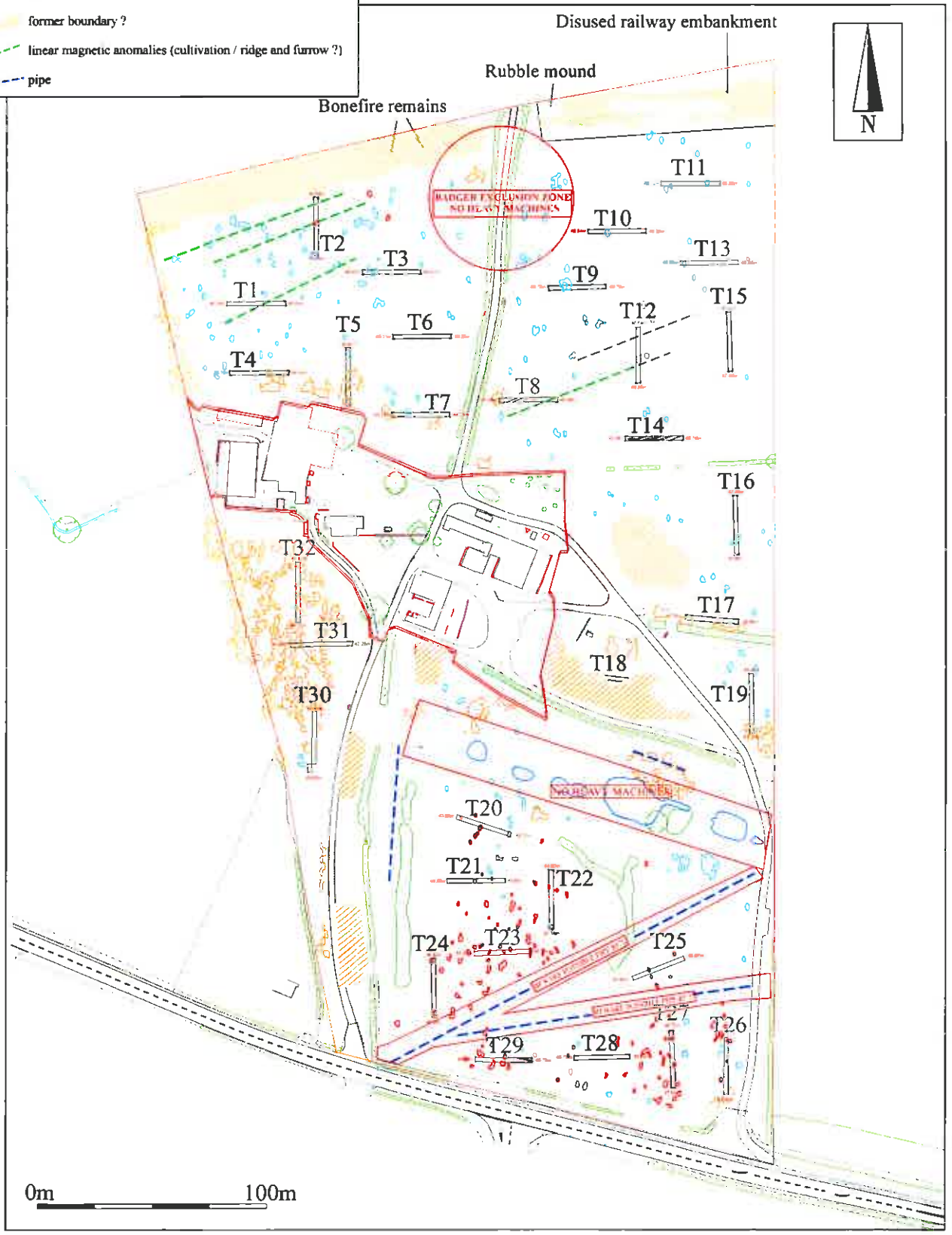
Fig. 2



Trench location plan

Fig.3

- magnetic anomalies (archaeological ?)
- magnetic anomalies (non archaeological / recent ?)
- magnetically disturbed area (non archaeological / recent ?)
- strong magnetic anomalies (ferrous ?)
- magnetic anomalies over disused railway track and access road
- former boundary ?
- linear magnetic anomalies (cultivation / ridge and furrow ?)
- pipe



Magnetometer results with surveyed trenches overlaid

Appendix 1: Context database

Table 1

<i>ID</i>	<i>context</i>	<i>length</i> (<i>width</i> (<i>depth</i> (m)	<i>level top</i>	<i>level base</i>	<i>description</i>	<i>interpretation</i>	<i>alignment</i>
1	100	25+	1.6+	0.4	45.55		pink brown sandy loam. No sign of topsoil	subsoil	e/w
2	101	25+	1.6+	0.02+		44.71	pink sandy bedrock derived natural. Rock strat	natural	e/w
3	200	25+	1.6+	0.1	45.92		mild brown sandy loam	topsoil	e/w
4	201	25+	1.6+	0.45			mild pink brown sand silt	subsoil	n/s
5	202	25+	1.6+	0.05+		45.46	red pink sand with rock strata apparent	natural	n/s
6	300	25+	1.6+	0.07	46.36		brown sandy loam	topsoil	n/s
7	301	25+	1.6+	0.27			mild pink brown sandy silt	subsoil	e/w
8	302	25+	1.6+	0.1+		45.68	pink sandy bedrock derived natural; rock strata	natural	e/w
9	400	25+	1.6+	0.08	44.49		pink brown sandy loam	topsoil	e/w
10	401	25+	1.6+	0.2			pink brown sand	subsoil	e/w
11	402	25+	1.6+	0.07+		43.41	bedrock derived sand	natural	e/w
12	500	25+	1.6+	0.15	45.62		mild grey pink sandy loam	topsoil	n/s
13	501	25+	1.6+	0.3			mild pink brown sandy silt	subsoil	n/s
14	502	25+	1.6+	0.07+		44.31	bright pink sand - bedrock derived	natural	n/s
15	600	25+	1.6+	0.36	46.31		red brown sandy loam	topsoil	e/w
16	601	25+	1.6+	0.02			mixed green brown and pink sand. Topsoil and	subsoil	e/w
17	602	25+	1.6+	0.01+		46.05	bedrock derived pink sand. Rock strata appare	natural	e/w
18	700	25+	1.6+	0.14	44.9		mild brown sandy loam	topsoil	e/w

<i>ID</i>	<i>context</i>	<i>length</i>	<i>width</i>	<i>depth (m)</i>	<i>level top</i>	<i>level base</i>	<i>description</i>	<i>interpretation</i>	<i>alignment</i>
19	701	25+	1.6+	0.2			mid pink brown sandy clay	subsoil	e/w
20	702	25+	1.6+	0.1+		44.1	red brown bedrock derived sand	natural	e/w
21	800	25+	1.6+	0.36		46.01	red brown sandy loam	topsoil	e/w
22	801	25+	1.6+	0.1			strong pink brown sandy silt	subsoil	e/w
23	802	25+	1.6+	0.01+		45.21	bedrock derived pink sand	natural	e/w
24	900	25+	1.6+	0.3		46.87	red brown sandy loam	topsoil	e/w
25	901	25+	1.6+	0.1			bright red pink clay marl	subsoil	e/w
26	902	25+	1.6+	0.01+		96.31	strong pink brown sand - bedrock derived	natural	e/w
27	1000	25+	1.6+	0.38		46.62	pink brown sandy loam	topsoil	e/w
28	1001	25+	1.6+	0.07			orange pink brown sandy silt	subsoil	e/w
29	1002	25+	1.6+	0.02+		46.09	strong pink bedrock derived sand with rock stra	natural	e/w
30	1100	25+	1.6+	0.28		46.18	red brown sandy loam	topsoil	e/w
31	1101	25+	1.6+	0.07			orange brown sandy clay	subsoil	e/w
32	1102	25+	1.6+	0.15+		45.49	bright pink clay	natural	e/w
33	1200	25+	1.6+	0.34		46.93	red brown sand loam	topsoil	n/s
34	1201	25+	1.6+	0.07			strongly pink brown silt sand	subsoil	n/s
35	1202	25+	1.6+	0.01+		46.46	bright pink brown sand	natural	n/s
36	1300	25+	1.6+	0.38		46.79	red brown sandy loam	topsoil	e/w
37	1301	25+	1.6+	0.2			orange brown sandy silt	subsoil	e/w
38	1302	25+	1.6+	0.12+		46.11	pink bedrock derived sand with some gley and	natural	e/w
39	1400	25+	1.6+	0.3		46.7	red brown sandy loam	topsoil	e/w

<i>ID</i>	<i>context length</i>	<i>width</i>	<i>depth (m)</i>	<i>level top</i>	<i>level base</i>	<i>description</i>	<i>interpretation</i>	<i>alignment</i>
40	1401	25+	1.6+	0.08		red sandy silt	subsoil	e/w
41	1402	25+	1.6+	0.01+	46.03	strongly pink bedrock derived sand	natural	e/w
42	1500	25+	1.6+	0.3	47.55	red brown sandy loam	topsoil	n/s
43	1501	25+	1.6+	0.06		bright pink sandy clay	subsoil	n/s
44	1502	25+	1.6+	0.01+	47.23	pink gravel and marl mixed sand	natural	n/s
45	1600	25+	1.6+	0.27	48.67	mid red brown silt clay	topsoil	n/s
46	1601	25+	1.6+	0.27		red brown sandy silt	subsoil	n/s
47	1602	25+	1.6+	0.08+	47.53	bright pink brown sand with rounded pebbles	natural	n/s
48	1700	25+	1.6+	0.2	98.22	red brown sandy loam	topsoil	e/w
49	1701	25+	1.6+	0.07		red marl	subsoil	e/w
50	1702	25+	1.6+	0.01+	47.61	pink sand, bedrock derived	natural	e/w
51	1800	25+	1.6+	0.36	46.25	mid brown silt clay loam	topsoil	e/w
52	1801	25+	1.6+	0.1		pink brown sand	subsoil	e/w
53	1802	25+	1.6+	0.01+	44.56	pink brown degraded bedrock. Trench slopes s	natural	e/w
54	1900	25+	1.6+	0.3	48.23	mid brown sandy loam	topsoil	n/s
55	1901	25+	1.6+	0.2		pink brown sandy silt	subsoil	n/s
56	1902	25+	1.6+	0.4+	47.30	pink degraded bedrock and bedrock derived sa	natural	n/s
57	2000	25+	1.6+	0.26	44.95	mid brown sandy clay	topsoil	e/w
58	2001	25+	1.6+	0.4		orange brown sand clay with black degraded s	subsoil	e/w
59	2002	25+	1.6+	0.25		dark red clay sand with frequenl sandstone	subsoil	e/w
60	2003	25+	1.6+	0.5+	42.85	dark red with frequent black sandstone	natural	e/w

<i>ID</i>	<i>context</i>	<i>length</i>	<i>width</i>	<i>depth (m)</i>	<i>level top</i>	<i>level base</i>	<i>description</i>	<i>interpretation</i>	<i>alignment</i>
61	2004	1.45	0.53	0.2	43.33	43.24	irregular spread probably charcoal filling a natu	spread	n/s
62	2005	1.45	0.53	0.2	43.33	43.24	moderately compact mild brown clay sand with	dump or spread	n/s
63	2100	25+	1.6+	0.33	44.71		mid brown sandy clay	topsoil	e/w
64	2101	25+	1.6+	0.12			orange brown sandy clay	subsoil	e/w
65	2102	25+	1.6+	0.18+		43.44	dark red sandy clay with silver grey and blue m	natural	e/w
66	2200	25+	1.6+	0.29	44.77		mid brown sandy clay	topsoil	n/s
67	2201	25+	1.6+	0.36			orange brown clay sand	subsoil	n/s
68	2202	25+	1.6+	0.65+		44.05	mid to dark red silt sand	natural	n/s
69	2300	25+	1.6+	0.38	45.32		mid brown sandy clay	topsoil	e/w
70	2301	25+	1.6+	0.1			orange brown sandy clay	subsoil	e/w
71	2302	25+	1.6+	0.18+		44.79	red pink clay	natural	e/w
72	2400	25+	1.6+	0.31	46.04		mid brown sandy clay	topsoil	n/s
73	2401	25+	1.6+	0.22			dark orange brown sandy clay	subsoil	n/s
74	2402	25+	1.6+	0.01+		44.87	dark red clay sand with black sandstone. Wate	natural	n/s
75	2500	25+	1.6+	0.37	45.92		mid brown sand silt	topsoil	e/w
76	2501	25+	1.6+	0.35			orange brown sandy clay	subsoil	e/w
77	2502	25+	1.6+	0.05+		45.28	bright pink brown sandy clay strongly flecked w	natural	e/w
78	2600	25+	1.6+	0.3	47.92		mid brown silt clay	topsoil	n/s
79	2601	25+	1.6+	0.2			orange brown sand clay	subsoil	n/s
80	2602	25+	1.6+	0.2+		46.57	pink brown stony sand clay	natural	n/s
81	2700	25+	1.6+	0.32	47.59		mid brown sandy clay	topsoil	n/s

<i>ID</i>	<i>context length</i>	<i>width</i>	<i>depth (m)</i>	<i>level top</i>	<i>level base</i>	<i>description</i>	<i>interpretation</i>	<i>alignment</i>
82 2701	25+	1.6+	0.12			orange brown sandy clay	subsoil	n/s
83 2702	25+	1.6+	0.05+		45.8	pink brown sandy natural with degraded sandst	natural	n/s
84 2800	25+	1.6+	0.23	46.91		mid brown sandy clay with occasional quartz p	topsoil	e/w
85 2801	25+	1.6+	0.18			red brown sandy clay	subsoil	e/w
86 2802	25+	1.6+	0.1+		46.24	bright pink brown sandy natural strongly flecke	natural	e/w
87 2900	25+	1.6+	0.34	46.89		mid brown silt clay	topsoil	e/w
88 2901	25+	1.6+	0.2			red brown sand silt	subsoil	e/w
89 2902	25+	1.6+	0.01+		46.24	bright pink brown silt sand with black degraded	natural	e/w
90 3000	25+	1.6+	0.06	49.98		mid brown silt clay	topsoil	n/s
91 3001	25+	1.6+	0.2			red brown sandy silt	redeposited nat	n/s
92 3002	25+	1.6+	0.16			mid grey brown silt clay	old topsoil	n/s
93 3003	25+	1.6+	0.13+		41.83	bright yellow brown sandy with some marling	natural	n/s
94 3100	25+	1.6+	0.2	42.3		varied - Includes upcast from culvert & redepos	topsoil	e/w
95 3101	25+	1.6+	0.2			grey brown silt clay	original topsoil	e/w
96 3102	25+	1.6+	0.05			yellow grey sandy silt	subsoil	e/w
97 3103	25+	1.6+	0.01+		41.36	yellow brown sandy silt	natural	e/w
98 3200	25+	1.6+	0.28	41.84		mid brown sandy silt	topsoil	n/s
99 3201	25+	1.6+	0.09			grey brown sand	subsoil	n/s
100 3203	25+	1.6+	0.01+		41.02	sandy waterlogged orange and green clay san	natural	n/s

Appendix 2: Geophysical Survey

**LAND AT HILDERSLEY, ROSS-ON WYE
HEREFORDSHIRE**

Report on Archaeogeophysical Survey 2008

P.M. Cottrell

Surveyed by:

Bartlett-Clark Consultancy

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North Leigh,
Oxfordshire OX29 6PW
01865 200864**

for:

**Archaeological Investigations Ltd
Unit 1,
Premier Business Park,
Hereford HR4 9NZ**

Land at Hildersley near Ross-on-Wye Herefordshire

Report on Archaeogeophysical Survey 2008

Introduction

This report describes the findings from a magnetometer survey carried out as part of an archaeological evaluation in connection with a proposed development at Model Farm and Spring Farm, Hildersley, Herefordshire. The application area for the development covers approximately 10ha centred at OS grid reference SO 615242.

The survey was commissioned by Archaeological Investigations Ltd of Hereford. Fieldwork for this project was done between 24-27 November 2008.

The Site

The areas to be surveyed lie on relatively flat farmland about 1km to the east of Ross-on-Wye. The site is on a bedrock of Lower Old Red Sandstone, and appears to be free of drift deposits. Previous magnetometer surveys done in comparable site conditions in Herefordshire have successfully detected archaeological sites.

The evaluation area is centred on the two adjoining farms. It includes parts of pasture fields to the north, west and east, and an arable field to the south. There are also some small pens immediately to the south of Model Farm, and grassed corridors by the sides of the two tracks to the farms. The site is bounded in the south by the A40 Gloucester to Ross road and to the north by the route of a former railway, the embankment of which is still extant in area 2 of the survey.

We are not aware of any previous archaeological findings from within the application area, but are told that Ross-on-Wye was the centre of a Roman metal working industry.

Survey Procedure

Magnetometer readings were taken with Bartington 1m fluxgate Grad 601 gradiometers at 25cm intervals along transects 1m apart.

The results are presented in this report as a grey scale image in figure 1 at 1:2000 scale, and as graphical (x-y trace) plots in two sections in figures 2 and 3, both at 1:1000 scale. An interpretation of the survey results is shown superimposed on figures 2 and 3, and is

reproduced separately to provide a summary of the findings in figure 4.

Findings indicated in the interpretation include a number of small individual magnetic anomalies which show some characteristics which may potentially be associated with archaeological features, and which are marked in red.

Individual disturbances which are likely to be of recent origin are outlined in orange/brown. Magnetic anomalies which appear to follow the line of a former boundary at the west of the survey are shown in a different shade to other such features elsewhere. More extended or continuous areas of magnetic interference are indicated by cross hatching. Both these categories are likely to include magnetic anomalies caused by ferrous objects or debris, but such materials as rubble or hardcore might also contribute to the total effect. Selected individual or isolated strong (dipole) magnetic anomalies which are clearly caused by ferrous objects are marked in blue.

Linear cultivation effects and pipes are shown by broken green and blue lines.

The survey plots show the magnetometer readings after standard treatments which include adjustment for irregularities in line spacing caused by variations in the instrument zero setting, and slight linear smoothing. Additional 2D low pass filtering has been applied to the grey scale plot to reduce background noise levels.

Magnetometer surveys can respond favourably to cut features such as ditches and pits where silting with topsoil has occurred. This survey technique is also effective in detecting thermoremanent magnetism of fired materials, notably baked clay structures such as kilns or hearths.

A number of background magnetic susceptibility readings were taken at 20m intervals over the site using an MS2 meter and field sensor loop. The results are included as a grey scale plot with the summary plan in figure 4. These readings can indicate the strength of the response to be expected from the magnetometer survey, and may also provide further evidence for the presence of areas of magnetically disturbed ground (which will often be of recent origin). Susceptibility readings also respond to geological variations.

The survey was located by reference to a temporary site grid set out on OS coordinates using differential GPS. The site plan used as a background to the survey plans was supplied to us by the client. This plan was repositioned on OS coordinates by means of GPS measurements.

Results

Areas 1-4

Area 1 consists of part of a pasture field to the west of the farm access road which separates the two farms. To the south the field abuts a barn and farm buildings with associated farm equipment and metal scrap (as noted on the data plot, figure 2). The former railway ran along the northern edge of areas 1 and 2. Remains of a group of bonfires were visible here (as marked on figure 2).

The survey detected a broad band of strong magnetic anomalies along the line of the former

railway, as indicated by cross-hatching in the interpretation. A number of strong readings close to the farm buildings in area 1 must be caused by modern debris or ferrous material.

A sequence of magnetic anomalies at the western side of the survey area (as labelled at A in figure 4) may indicate the presence of debris along the line of a former boundary. (This disturbance continues to the south in area 9.)

Individual scattered ferrous anomalies (as outlined in blue) appear to be more numerous in the northern half of the survey (areas 1-4) than elsewhere, but they do not appear to form any significant groups or clusters, or to relate to other findings in a way which would suggest the presence of an ancient industrial site within this part of the site.

Some weak parallel linear anomalies are indicated in green in areas 1 and 2. They do not align closely with modern field boundaries, but may relate to past cultivation.

Areas 3 and 4 are parts of pasture fields to the east of a recently built track to the farm. The most significant finding in area 3 is a large magnetic anomaly (at B), which corresponds to the location at which the farmer told us he had buried a large amount of concrete. The only strong magnetic disturbances in area 4 are near the gate.

Areas 5-6

Area 5 consists of wide unfenced grass verges to either side of the new farm track. For convenience the track was included in the survey. (It produced strong magnetic anomalies as indicated by cross hatching.)

The survey has clearly detected the road surface, and two pipes which continue across area 7. Some magnetic anomalies in area 5 are indicated in red, and may represent a continuation of activity discussed in area 7.

Area 6 includes a group of pens immediately to the south of the farm. Three were large enough to survey. These were an enclosure (6A) to the west of the new farm track, surrounded by a high metal fence and containing small metal shelters; a discreet grassy area (6B) with a pond for geese; and a free-range chicken run (6C). This contained huts, ponds, and recently planted trees. A chicken wire fence enclosed areas 6b and 6c.

The readings in all three pens were disturbed by the fencing and other ferrous objects. A magnetically disturbed area in the southern part of 6A is probably therefore of modern origin (although similar disturbances in another context could potentially be caused by ancient industrial debris). There were other strong disturbances to the north of 6b and in 6c.

Area 7

This is an arable field separated from the animal pens by a series of ponds, and adjacent to the main road, the A40, to the south. The field has been used to grow bio-fuels and contains an assortment of crops including tussocks of tall grass plants (believed to be Reed Canary Grass) and trees. Some areas of the field were consequently not surveyable.

Findings in these fields (in addition to two pipes) include an unusual number of small strong

magnetic anomalies, which have been outlined in red. These appear to form particularly distinct clusters around C and D. There is also a strong increase in magnetic susceptibility readings towards the southern edge of the field, and taking in the cluster at D.

These findings may be open to more than one interpretation, and further investigation may be required finally to establish their significance. Most of the magnetic anomalies are smaller than would be expected for such clearly archaeological features as silted pits or hearths (which might be present at a metal working site). They are weaker than the stronger magnetic dipoles (as shown in blue) which are caused by ferrous objects, and which are relatively infrequent in this part of the site.

One possible explanation for clusters of small magnetic anomalies is that they could be of geological origin, and represent individual magnetic stones in the soil. These effects are common on boulder clay or gravel soils, but it is not clear that such deposits are present here. The increase in magnetic susceptibility values could be consistent with either a geological or an archaeological explanation. If the magnetic anomalies are of archaeological origin, then they could perhaps indicate a scatter of pieces of slag or burnt clay in the vicinity of a metal smelting or working site, although the main centre of such activity would not appear to lie within area 7. Alternatively, the magnetic anomalies could indicate a scatter of modern debris.

Areas 8-9

Area 8 is a grass verge along the east side of the farm road, much of which is used to store bales and farm vehicles. Two areas were clear enough to be surveyed. Both of these areas produced very strong readings, and high magnetic susceptibility values. Both the proximity to the road, and the fact that these disturbances are contained by the road and the eastern boundary of field 8, suggest that these effects are recent. They perhaps indicate a modern surface beneath the verge, rather than the presence of ancient industrial debris.

Area 9 is pasture to the west of the farm road. It includes a narrow strip of land between a field boundary and the road, which was interrupted by telegraph poles. The northern end of the field adjoins the farm and contains modern debris and metal troughs. The suggested former field boundary (A) continues here from area 1.

The part of the field nearest to the farm is strongly disturbed. It is probable, given the proximity to the farm, that these disturbances are more likely to be of recent origin, rather than representing a Roman metal working site. The absence of any strong susceptibility enhancement also suggests there is unlikely to be a concentration here of ancient industrial debris.

Conclusions

The survey has detected numerous magnetic disturbances, including some for which a potential archaeological explanation cannot be wholly excluded on the survey evidence alone.

Parts of the survey have been affected by the close proximity of farm buildings, access

roads, the disused railway line, animal pens, etc. It is possible therefore that any archaeological features present within these areas (particularly areas 6, 8 and 9) could be obscured by recent disturbances. Much of the remainder of the survey area is not excessively disturbed, and the possibility remains that archaeological features could be detected, if any are present.

The potentially most significant findings are the clusters of magnetic anomalies (around C and D) in the southern part of area 7, and extending into area 5. These are located within an area of raised magnetic susceptibility readings, which could be of either natural or archaeological origin. This combination of characteristics does not occur elsewhere within the survey. It appears unlikely that there is a dense focus of archaeological activity within the survey area, but further investigation could determine whether or not these findings relate to the presence of a Roman industrial site nearby.

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12 December 2008

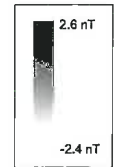
The fieldwork and data processing for this project were done by P. Cottrell and F. Prince.

The background mapping for the geophysical survey plane is based on a site survey by A D Homer Ltd, Pershore.

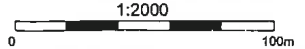


Limit of evaluation area

Figure 2



Land at Hildersley, Ross-on-Wye
Geophysical Survey 2008
Figure 1: Location of Magnetometer Survey
(with greyscale plot)

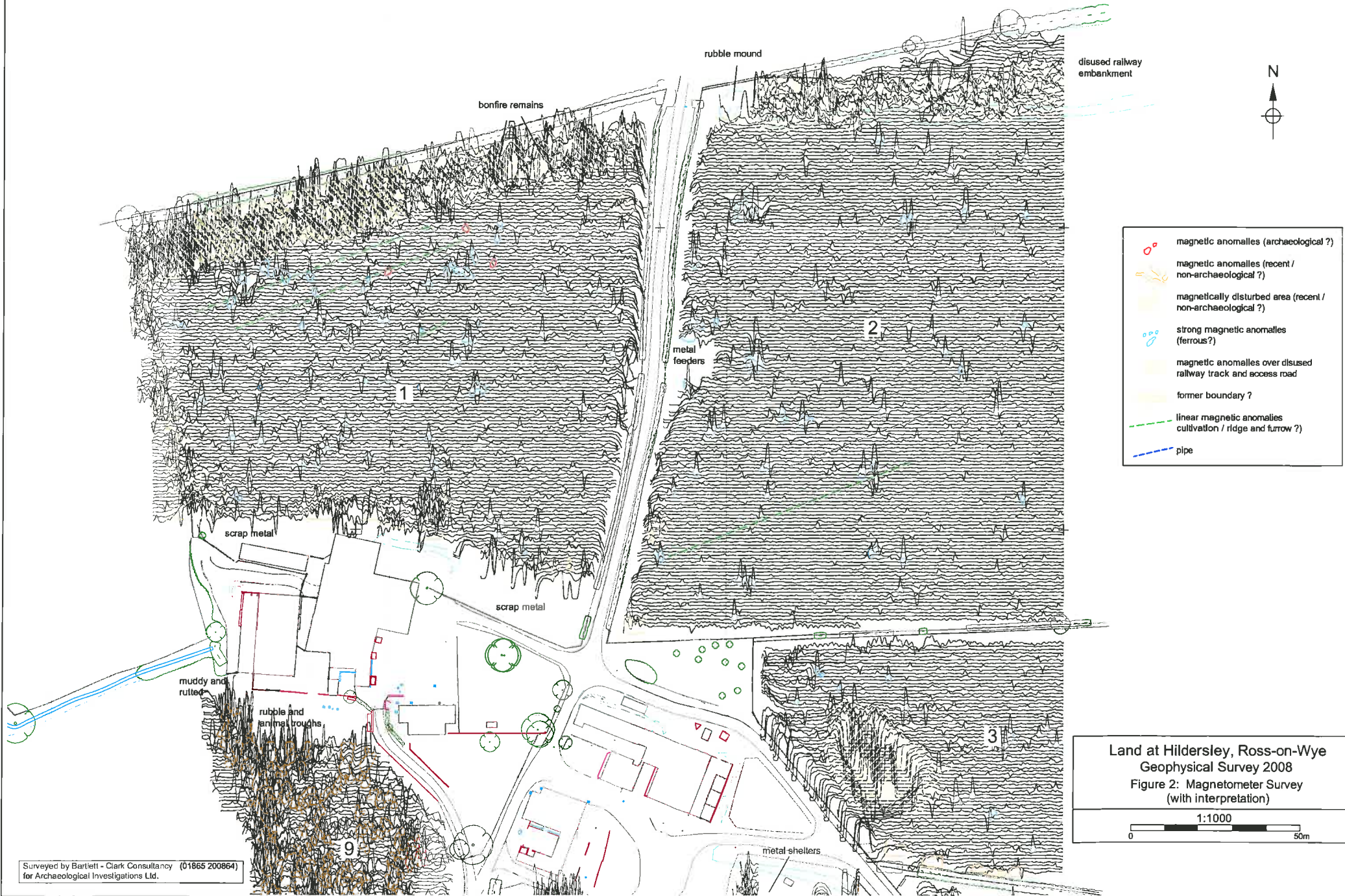


224000N

361500E

Figure 3

The background mapping for the geophysical survey plans is based on a site survey by A D Homer Ltd, Pershore.



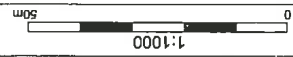
Land at Hildersley, Ross-on-Wye
 Geophysical Survey 2008
 Figure 2: Magnetometer Survey
 (with interpretation)

1:1000
 0 50m

The background mapping for the geophysical survey was based on a site survey by A. Homer Ltd, Perfrom.











- magnetic anomalies (archaeological ?)
- magnetic anomalies (recent / non-archaeological ?)
- magnetically disturbed area (recent / non-archaeological ?)
- strong magnetic anomalies (ferrous ?)
- magnetic anomalies over disused railway track and access road
- former boundary ?
- linear magnetic anomalies
- cultivation / ridge and furrow ?
- pipe

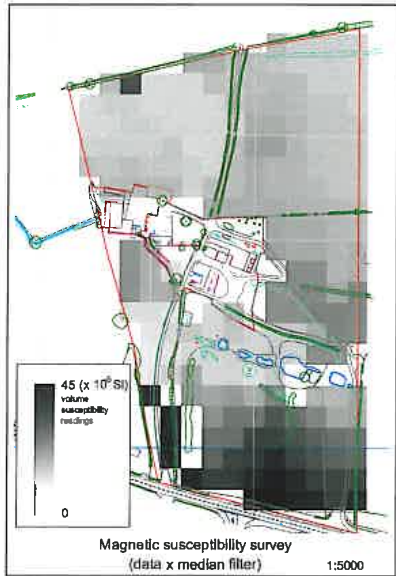


Land at Hilderley, Ross-on-Wye
Geophysical Survey 2008
Figure 3: Magnetometer Survey
(with interpretation)

The background mapping for the geophysical survey plans is based on a site survey by A D Horner Ltd, Pershore.



-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (recent / non-archaeological ?)
-  magnetically disturbed area (recent / non-archaeological ?)
-  strong magnetic anomalies (ferrous?)
-  magnetic anomalies over disused railway track and access road
-  former boundary ?
-  linear magnetic anomalies cultivation / ridge and furrow ?
-  pipe



224000N

361500E

Land at Hildersley, Ross-on-Wye
Geophysical Survey 2008
Figure 4: Summary of findings
(with magnetic susceptibility data)

