VALE CEMETERY AND CREMATORIUM EXTENSION, LUTON

ARCHAEOLOGICAL FIELD EVALUATION

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Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

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Structure of this Report

Section 1 serves as an introduction to the site, describing its location, archaeological background and the aims of the project. The methodology and results of the fieldwalking survey are discussed in section 2. Section 3 summarises the methodology and results of the geophysical survey. The methodology and results of the trial trenching are discussed in section 4. Section 5 provides a synthesis of the results, and states their significance within the surrounding landscape. Section 6 is a bibliography.

Appendix 1 contains all trench summary information. Appendix 2 contains finds information for the field walking survey and trial trenching. Appendix 3 contains the full geophysical survey report. All figures are bound at the back of this report.

Key Terms

Throughout this document the following terms or abbreviations are used:

Albion	Albion Archaeology
Client	Luton Borough Council
Client's Consultant	Bertram Sheppard Ltd
Fieldwalking or Field Artefact Collection	Collection of archaeologically significant artefacts from the existing ground surface.
HER	Historic Environment Record
IFA	Institute of Field Archaeologists
MAP II	Management of Archaeological Projects. English Heritage 1991
PD	Project Design
WYAS	West Yorkshire Archaeological Services WYAS (geophysics sub-contractors)
The site	The proposed *c*.4ha cemetery extension

Non-Technical Summary

In March and April 2005 Albion Archaeology undertook non-intrusive archaeological field evaluation (fieldwalking and geophysical survey) and trial trenching on land at Butterfield Green, near Luton, Bedfordshire. The work was occasioned by a proposed extension to the Vale Cemetery and Crematorium.

The c.4ha proposed cemetery extension lies on the north-eastern fringes of Luton, centred at TL 1060 2466. It is bounded to the east by the existing cemetery and to the west by Butterfield Green Road, which leads to the rural hamlet of Butterfield Green. To the north it is bounded by the wider Butterfield development area (still under arable cultivation at the time of the fieldwork).

The Butterfield development area is set within a landscape that contains a variety of evidence for prehistoric, Roman and medieval occupation. The Icknield Way and the Edeway run to the north of the proposed development and a number of early prehistoric ritual and burial monuments are present on the chalk downland. The area also demonstrates significant medieval activity in the form of manors and associated earthworks.

The evaluation demonstrated the presence of Iron Age, Roman and medieval remains within the proposed development area. On the evidence of the trial trenching, the western part of the site has the highest archaeological potential, a conclusion supported by the distribution of artefacts recovered during fieldwalking.

Artefacts recovered from the fills of ditches representing field systems, hint at likely settlement activity to the west of the development area. This is particularly the case for the early middle Iron Age and medieval periods, the remains of which are likely to be of regional significance.

Although the geophysical survey demonstrated limited archaeological potential throughout the entire site, both the trial trenching and fieldwalking suggested that the eastern part of the site is unlikely to contain significant archaeological remains.

1. INTRODUCTION

1.1 Project Background

In March 2003 outline planning permission (00/573/OUT) was granted for an extension to the Vale Cemetery and Crematorium in Luton. The site lies close to Butterfield Green and is in an area which is being developed as a university campus, an innovation centre and technology village.

A condition has been attached to the planning permission, requiring the implementation of a programme of archaeological investigation. As the local planning authority's archaeological adviser, Bedfordshire County Council's Archaeological Officer (BCC's AO) issued a brief (BCC 2003a), outlining a three-staged approach to the programme of archaeological work:

- Stage I – archaeological field evaluation comprising fieldwalking, geophysics and trial trenching.
- Stage II – appraisal of the results of the archaeological field evaluation.
- Stage III – implementation of an agreed programme of archaeological investigation and recording (if required, following completion of Stage II).

BCC's AO also issued a brief for the Stage I archaeological field evaluation (BCC 2003b). In February 2005, Albion Archaeology was commissioned by Luton Borough Council's consultant, Bertram Sheppard Ltd to undertake all elements of the archaeological field evaluation. A project design was written on the basis of the brief (Albion Archaeology 2005).

1.2 Site Location and Description

The *c*.4ha proposed cemetery extension lies on the north-eastern fringes of Luton, centred at TL 1060 2466 (Figure 1). It is bounded to the east by the existing cemetery and to the west by Butterfield Green Road, which leads to the rural hamlet of Butterfield Green. To the north it is bounded by the wider Butterfield development area (still under arable cultivation at the time of the fieldwork).

At the time of the archaeological field evaluation, the land was under arable cultivation. It formed the southern end of a large field, extending northwards to Whitehill Cottages.

The site lies within a wider landscape of gently rolling, chalk downs. The land surface slopes down gradually from north to south, at a height of *c*.165mOD. Within the Butterfield area as a whole, soils are characterised by gleyed brown earth with flints (Batcombe Association) and chalky loam (Coombe Association).

1.3 Archaeological Background

The proximity of the site to the Icknield Way and the Edeway to the north of Butterfield sets it within a landscape that contains a variety of evidence for the prehistoric, Roman, medieval and post-medieval periods.

This section reviews the available archaeological evidence for land within a study area *c*.500m radius around NGR TL 1060 2466. This data was obtained from Bedfordshire's Historic Environment Record (HER).

1.3.1 Prehistoric (before AD43)

Several ditches two pits and a gully of probable late prehistoric date were identified *c*.430m to the north-east of the site in advance of construction of the spine road and early phases of the Butterfield area development (Carew 2004). These coincide with a known flint scatter, containing both Neolithic and Bronze Age material (HER 15847). A geophysical survey conducted within this area also confirmed the presence of likely archaeological features (NA 2004).

Further cropmarks east of the Vale Cemetery (*c*.300m east of the proposed extension) have unfortunately been built over but could have dated to a similar period (HER12419).

Land east and west of Whitehill Farm (*c*.700m north of the site) has produced significant flint scatters dating to the Mesolithic, Neolithic and Bronze Age (HER 15527 and 15526).

An Iron Age gold stater was found in 1949 at Canon Lane *c*.400m south of the site.

1.3.2 Roman (AD43 – *c.* AD450)

Some 200m to the north of the proposed cemetery extension, a dense scatter of Roman pottery and tile was identified during fieldwalking (HER15528, Hudspith 1993). This scatter is probably indicative of a nearby settlement site.

A double ditched cropmark (HER 3424) exists *c*.400m to the north-west of the site. It is possible that this could be of Roman date; similar cropmarks also existing further to the south-west (HER 12418).

1.3.3 Anglo-Saxon (*c.* AD450-AD1066)

No known sites of Saxon date exist within the study area. However, given the extensive nearby medieval settlement it is likely that earlier Saxon remains could be encountered.

It has been suggested that triangular greens may have Anglo-Saxon origins (Taylor 1988). Although this hypothesis is largely based on research within Cambridgeshire, similar greens around Butterfield, and Luton as a whole, could be of this date.

1.3.4 Medieval (AD1066-AD1550)

A number of medieval sites are located within the study area. They are relatively evenly distributed settlements within close proximity to each other. The evidence takes the form of earthworks, greens, farms and pottery scatters.

A total of three medieval greens exist within the vicinity of the proposed cemetery extension. The first is associated with the shrunken medieval settlement of

Butterfield Green (HER 12399) itself. A medieval pottery scatter adjacent to this area further indicates likely settlement activity (HER15226). A second green, known as Swifts Green (HER12401), exists *c*.250m south of the site. The northern fringe of the medieval settlement of Stopsley lies *c*.500m south of the site (HER17100). It also has a triangular green (HER12400).

Other sites include Manor Farm (formerly known as Hayes Farm after its medieval owners the de la Haye family (HER10816)) on the opposite side of Butterfield Green Road. Its origins are in the 12th century and it is likely that the earlier farmhouse stood in the orchard between the present farmhouse and the eastern pond *c*.250m west of the proposed cemetery extension (Dyer 1998). Earthworks to the south-west of the farm on the existing playing fields are likely to be related (HER3341).

Earthworks are evident in the vicinity of Whitehill Farm (*c*.900m to the north of the cemetery extension). Aerial photographs and pottery scatters suggest these remains represent narrow linear field systems of likely medieval date.

1.3.5 Post-medieval (AD1550-AD1900)

The existing Manor Farm (*c*.30m to the west of the proposed cemetery extension) was built in 1870, replacing an earlier building. Much of its surrounding land was used for agriculture during this period. The tithe map of 1844 indicates that much of the land around the farm was worked in long narrow strips (Dyer 1998).

A post-medieval water cistern was discovered nearby (*c*.100m south of the proposed cemetery extension) during construction of a car park adjacent to Butterfield Green Road (HER14069). It is likely to have dated to the early 19th century and been used for agricultural purposes. A dove house (HER12358) is known to have existed *c*.200m south of the proposed cemetery extension.

1.3.6 Modern (AD1900-present)

Manor Farm has grown considerably during this period with modern farming methods leading to the removal of many of the post-medieval field boundaries. Land use has changed to the west with the expansion of nearby Stopsley in Luton and to the east with the creation of the Vale Cemetery.

1.4 Methodologies

The Project Design (Albion Archaeology 2005) outlined three stages of works; utilising non-intrusive and intrusive evaluation techniques. These comprised fieldwalking, geophysical survey and trial trenching.

1.5 Professional Standards

Throughout the project the standards set out in the following documents were adhered to:

- Albion Archaeology's *Procedures Manual: Volume 1 Fieldwork* (2nd ed, 2001).
- IFA's *Codes of Conduct* and *Standards and Guidance for Archaeological Field Evaluation*;

- English Heritage's *Geophysical Survey in Archaeological Field Evaluation* (1995).
- IFA *Guidelines for Finds Work* (2000)
- English Heritage's *The Management of Archaeological Projects* (1991)
- Bedford Museum (1998) *Preparing Archaeological Archives for Deposition in Registered Museums in Bedfordshire*

2. FIELDWALKING

2.1 Introduction

Fieldwalking was undertaken in March 2005, as the first part of the evaluation. It is a survey technique involving the systematic recovery of artefacts from the ground surface. The distribution of artefacts, especially the identification of concentrations, may indicate the location of past human activity.

Given suitable conditions (including soil, weathering, crop growth and light), artefacts can be seen within ploughed soil. They are present because cultivation over buried archaeological features/deposits results in the movement of artefacts into the overlying plough soil.

The purpose of the fieldwalking was to systematically collect artefacts from the surface of the development area. The survey sought to identify significant clusters of artefacts, indicative of past human occupation or other activity. The fieldwalking was carried out by experienced Albion Archaeology staff. The single significant concentration of artefacts was targeted during the detailed geophysical survey (Section 3.0).

2.2 Method Statement

The *c*.4ha development area was walked on 17th March 2005. At the time of walking weather conditions were dry and bright. Ground cover consisted of a thin crop and a weathered harrowed surface, providing ideal conditions for this type of survey.

Collection units comprised 20m wide transects marked with different coloured flags. This enabled clearly visible, coloured transects to be walked by individuals who collected artefactual material from a 2.0m wide strip.

Findspots were then located on the Ordnance Survey National Grid using differential GPS survey equipment. This was undertaken in order to ensure that artefact concentrations could be accurately located in any subsequent stages of evaluation.

2.3 Results

A summary of the results of the survey is presented below; detailed information on all the artefacts recovered is contained in Appendix 2.

The field artefact collection produced a range of artefacts including flint, pottery, building materials, glass etc. The distribution of these artefacts is illustrated in Figure 2. The most significant concentration was a dispersed cluster of medieval sherds in the western half of the site, next to the Butterfield Green Road.

It also demonstrated the presence of finds typical of agricultural activity, such as post-medieval ceramic building material, slag and modern pottery. Such material has probably accumulated on the field as a result of night soiling or manuring

3. GEOPHYSICAL SURVEY

3.1 Introduction

Changes in magnetic responses below the ploughsoil can indicate variations in the subsoil/geology some of which may be associated with buried archaeological features. The means by which these variations are identified and located is known as a geophysical survey. Geophysical surveys are particularly effective in locating ditches and large pits, but cannot always locate smaller features such as postholes and small pits. This means that the absence of evidence provided by a geophysical survey cannot be taken as a categorical indication of the absence of archaeological features.

3.2 Method Statement

A specialist contractor, West Yorkshire Archaeological Services (WYAS), undertook the geophysical survey. This was carried out in two stages:

3.2.1 Stage 1

The first stage of work involved the use of magnetic susceptibility as a method for the *scanning* of the study area. This stage of works is designed to pick up anomalies worthy of more detailed attention in the following *detailed survey* (Stage 2).

The scanning survey was undertaken on 29th March 2005 and covered an area of approximately 4.5 hectares.

3.2.2 Stage 2

This stage consisted of a detailed geophysical survey on the 30th March 2005. A total of 1.5ha (40%) of the site was subject to detailed geophysical survey. The limited results of the fieldwalking meant that the location of detailed survey was based primarily on the scanning (Stage 1).

3.3 Results

Areas of enhanced magnetic response were located within Stage 1. Further detailed survey in Stage 2 indicated these anomalies were likely to be geological rather than archaeological in origin. The failure to locate archaeological anomalies may have been due to the geologically enhanced areas masking archaeological features that may have given weaker responses.

4. TRIAL TRENCHING

4.1 Aims and Method Statement

The trench plan (Figure 3) was discussed with, and approved by, BCC's AO prior to any trial trenching taking place. Some changes were made to the original trench plan, due to the existence of live overhead services within the development area. The trial trenching took place between 18th April and 16th May 2005.

The trenches were designed to:

- determine the location, extent, nature and date of any archaeological features or deposits that were present.
- obtain information on the integrity and state of preservation of any archaeological features or deposits that were present.
- test anomalies, blank areas and potential areas of archaeological interest identified during the non-intrusive stages (geophysical survey and fieldwalking) of the evaluation.

The location of all trenches was marked out on the ground in advance of machine excavation using differential GPS survey equipment. Topsoil and modern overburden were mechanically removed by a tracked excavator, fitted with a toothless ditching bucket and operating under close archaeological supervision. These deposits were removed down to the top of the archaeological deposits, or undisturbed geological deposits, whichever was encountered first. The spoil heaps were scanned for artefacts.

The bases and sections of all trenches were cleaned by hand. The deposits and any potential archaeological features were noted, cleaned, excavated by hand and recorded using Albion Archaeology's *pro forma* sheets. The trenches were subsequently drawn, and photographed as appropriate. All deposits were recorded using a unique recording number sequence commencing at 100 for Trench 1, 200 for Trench 2 etc.

The trenches were inspected on two occasions by BCC's AO prior to being backfilled.

4.2 Results

Deposits and features of archaeological interest are summarised below in chronological order and by feature type. Further detailed descriptions can be found in Appendix 1.

No archaeological features were encountered in Trenches 9, 11 and 15. Detailed descriptions of the deposits encountered in these trenches are also included in Appendix 1.

4.3 Topsoil, Subsoil and Undisturbed Geological Deposits

Topsoil (100), (200), (300), (400), (500), (600), (700), (800), (900), (1000), (1100), (1200), (1300), (1400), (1500) ranged from 0.20m and 0.30m in depth within the proposed development area.

Subsoil deposits (101), (201), (301), (401), (501), (601), (701), (801), (901), (1001), (1101), (1201), (1301), (1401) (1501) were less uniform and varied from 0.10m to 0.30m deep. These deposits were slightly shallower in the southern part of the site. With the exception of modern feature [503] (Trench 5) all features described below were sealed by subsoil. This stratigraphic position often suggests that features are of considerable antiquity.

The undisturbed geological deposit was a red orange sandy clay with frequent large stones (102), (202), (302), (402), (502), (602), (702), (802), (902), (1002), (1102), (1202), (1302), (1402), (1502).

4.4 Early-Middle Iron Age

4.4.1 Ditches (Figures 3, 4 and 5)

Four ditches [703], [705], [708] and [205] all aligned broadly NNW – SSE produced pottery dating to the early-middle Iron Age. A fifth ditch [203] has been dated to this period on the basis of its stratigraphic relationship to [205] (Figure 6, sections 1 and 2). All five ditches were located in the western part of the development area, *c.*65m east of Butterfield Green Road.

Ditches [205], [705] and [703] were of similar proportions measuring *c.*1.50m in width and 0.35m deep. Ditch [708] was significantly smaller measuring only 0.60m wide and 0.18m deep.

The deposits within these ditches consisted of firm brown silty clay with charcoal flecking. Ditch [705] contained two deposits (706) (707), both of which produced relatively large amounts of early-middle Iron Age pottery (Appendix 2). The deposits within ditches [708] and [712] also contained pottery of this date, albeit in much smaller quantities.

Two of the four excavated segments ([205]/[703], (Figures 3 and 4) appear to have been part of the same ditch alignment. Excavation of ditch [205] revealed the remains of an earlier ditch [203] which may represent an earlier cut of the same linear.

4.5 Late Iron Age

4.5.1 Ditches (Figures 3,4 and 5)

Two ditches [1003], [1005] were recorded in the western part of the development area.

Ditch [1003] was aligned NE – SW and was *c.*2.25m wide and 0.48m deep. It contained a silty clay deposit (1004), from which late Iron Age pottery sherds were recovered (Appendix 2).

Ditch terminal [1005] was much smaller in size measuring 0.75m in width and 0.27m in depth. It contained a deposit (1006) similar in character to (1004), although no dateable artefactual material was recovered. Despite this, a late Iron Age date can be inferred for this feature due to its proximity to ditch [1003] and the notable similarity in the character of deposits within the features. Such similarities and close proximity indicate these features may be part of a contemporary field system.

These ditches were located *c.*20m south of the early-middle Iron Age remains described above (Section 4.5).

4.6 Roman

4.6.1 Ditches (Figures 3, 4 and 5)

Trenches 12 and 13 revealed four ditches of possible Roman date.

Ditches [1206] and [1208] were parallel and aligned ENE to WNW. Ditch [1206] was 0.62m wide and 0.17m deep (Figure 6, section 3); ditch [1208] was 0.33m wide and 0.09m deep. They were approximately 1m apart, perhaps indicating that they originally lay either side of a hedgerow rather than bounding a trackway.

A NNW to SSE aligned ditch in Trench 13 [1303], [1305], [1309] and [1307] was *c.*0.50m wide and 0.25m deep; it terminated within the trench. It is likely that this forms part of the same field boundary as [1206]. The remains of an earlier ditch [1311] were evident within one of the excavated segments.

The fourth ditch [1315] [1317] [1313] was aligned NE to SW and was intersected by the terminal of [1307] which cut through its deposits (1314), (1316) and (1318). It was 0.70m wide and 0.16m deep.

The fills of these ditches (1304), (1306), (1308), (1310), (1312), (1314), (1316) and (1318) consisted of naturally derived clay silts. A small number of Roman pottery sherds were recovered from (1306) and (1308).

It is likely that these ditches represent a field system which has seen at least two phases of modification. Despite being on a similar alignment to medieval ditches immediately to the west and north-west, these features did not produce any medieval artefacts (Section 5.8).

4.7 Medieval

4.7.1 Field systems (Figures 3, 4 and 5)

Field systems of medieval date were encountered in the western and south-western parts of the development area. They were aligned broadly NNW to SSE and WSW to ENE, making them perpendicular to Butterfield Green Road.

The majority of the ditches [211], [603], [607], [803] and [1403] ranged in size from 0.32m to 0.91m wide and 0.13m to 0.27m deep (Figure 6, section 4). Larger

ditches were also evident [605], [712], [1203], ranging in size from 1.40m to 2.2m wide and 0.55m to 0.70m deep (Figure 6, section 5).

The single deposits within most of the ditches consisted of silty clay (212), (604), (606), (713), (608), (804) and (1404). Only ditch [1203] contained two deposits (1204) and (1205).

A substantial amount of late medieval/post-medieval pottery, roof tile and a quantity of animal bone was recovered from deposit (606) within [605] and deposit (1205) within [1203]. A lesser amount of pottery and tile of the same date was recovered from ditch [712] (713). Fragments of roof tile were recovered from [803] (804) (Appendix 2).

A small amount of residual late Bronze Age/early Iron Age pottery and a flint flake were recovered from ditch [603].

4.8 Modern

4.8.1 Plough marks (Figures 3 and 5)

Several NNW - SSE aligned plough marks [1503] and [1505] were recorded in Trench 15. These truncated the undisturbed geological deposit (1502) and are thought to be the result of modern, 'deep' ploughing.

4.8.2 Modern pit (Figures 3 and 5)

A modern pit ([503]) was observed in Trench 5. It truncated subsoil (501) confirming its relatively recent origin.

4.9 Undated

4.9.1 Pits (Figures 3, 4 and 5)

A number of undated pits [103] [303] [807] [809], [811] [813], [1009], [1013] were observed within the development area. These varied in size from 0.30m to 1.00m in diameter and 0.18m to 0.30m in depth.

The deposits contained within these features (104) (304) (808), (810), (812), (814), (1010), (1014) consisted of naturally derived clay silts suggesting that they are likely to be of a natural rather than archaeological origin.

4.9.2 Tree throws and root disturbance (Figure 3, 4 and 5)

Numerous tree throws and areas of root disturbance [207], [209], [213], [305], [403], [405], [407], [505], [507], [609], [611] [710], [805], [1007], [1011] were observed throughout the development area.

These contained naturally derived silt deposits.

5. SYNTHESIS

5.1 Discussion

The evaluation has demonstrated the presence of Iron Age, Roman and medieval remains within the development area. Artefacts recovered during the fieldwalking had indicated that the western part of the site was an area of archaeological potential. This was supported by trial trenching which demonstrated the presence of features within this area, rather than the eastern part of the site.

Ditches [703], [705], [708] and [205] in the western part of the site, dating to the early-middle Iron Age, contained significant amounts of pottery indicating the likely presence of settlement during this period. Intercutting ditches [205] and [203], also suggest that this may have had some longevity. In addition, remains further to the south [1003] and [1005] indicate settlement dating to the later Iron Age, possibly suggesting a shift in settlement.

At least two phases of field systems of likely Roman date [1206], [1208], [1303], [1305], [1309], [1307], [1315], [1317] and [1313] indicate another period of activity on the site. However, a similarity in alignment to medieval field systems to the north-west raises the possibility that the small amounts of Roman pottery from these features might be residual. However, if medieval, it would be expected that these ditches would have contained similar amounts of pottery and tile to those ditches definitely datable to the medieval period.

Medieval ditches in the western part of the site [211], [603], [607], [803], [1403], [605], [712] and [1203], extending at least 125m from Butterfield Green Road, are likely to be field boundaries related to the nearby site of Hayes Manor. They are aligned perpendicular to the road and are comparable to the strip fields indicated on the tithe map of 1844 (Dyer 1998). It is likely that larger ditches [605], [712] and [1203] represent field boundaries separated into smaller strips by smaller gullies [211], [603], [607], [803], [1403].

The quantities of pottery from the ditch fills suggest nearby settlement, perhaps even closer than Hayes Manor. The large quantity of roof tile recovered indicates that building remains may well exist within the development area.

5.2 Summary

The evaluation has demonstrated the presence of archaeological features within the western part of the development area. It has also successfully demonstrated the nature and state of preservation of these deposits.

Multiple period of activity are represented from the early-middle Iron Age and Iron Age periods through to the Roman and medieval periods. Artefacts recovered from the deposits within these features hint at likely settlement activity in the western part of the development area. This is particularly the case for the early-middle Iron Age and medieval periods, the remains of which are likely to be of regional significance. They have the potential to contribute to understanding of the layout of Butterfield Green both during the medieval period and the much earlier Iron Age.

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7. APPENDICES

7.1 Appendix 1 – Trench Summaries

Trench: 1
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.56 m. Max: 0.6 m.
OS Co-ordinates: Ref. 1: TL1045024708 Ref. 2: TL1049524720
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
100	Topsoil	Firm mid brown grey silty clay moderate small stones	☑	☐
101	Subsoil	Firm mid yellow brown silty clay moderate small stones	☑	☐
102	Natural	Firm mid brown orange silty clay frequent small-medium stones	☐	☐
103	**Pit**	**Sub-circular profile: concave base: uneven dimensions: max breadth 2.1m, max depth 0.31m, min length 1.m**	☑	☐
104	Fill	Firm dark orange brown clay silt moderate small stones	☑	☐

Trench: 2

Max Dimensions: Length: 31.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.48 m. Max: 0.62 m.

OS Co-ordinates: Ref. 1: TL1050524703 Ref. 2: TL1057524713

Reason: To assess archaeological potential of area. Due to overhead electrical services this trench was split into two halves, 2A (12m long) and 2B (19m long).

Context:	Type:	Description:	Excavated:	Finds Present:
200	Topsoil	Firm dark brown clay silt occasional small stones	☑	☐
201	Subsoil	Firm mid orange brown silty clay occasional large sand, frequent small stones	☑	☐
202	Natural	Plastic mid orange clay frequent large sand, frequent small-medium stones	☐	☐
203	**Ditch**	**Straight linear NNE-SSW profile: near vertical base: concave dimensions: min breadth 0.26m, max depth 0.28m, min length 1.1m**	☑	☐
204	Fill	Firm mid orange brown silty clay occasional flecks charcoal, occasional small-medium stones	☑	☐
205	**Ditch**	**Straight linear N-S profile: 45 degrees base: concave dimensions: max breadth 1.42m, max depth 0.36m, min length 2.1m**	☑	☐
206	Fill	Friable mid orange brown clay silt occasional flecks charcoal, moderate small-large stones	☑	☐
207	**Treethrow**	**Sub-oval profile: irregular base: uneven dimensions: max breadth 0.39m, max depth 0.27m, min length 1.2m**	☑	☐
208	Fill	Friable mid brown clay silt occasional small-large stones	☑	☐
209	**Treethrow**	**Sub-oval profile: assymetrical base: uneven dimensions: max breadth 1.3m, max depth 0.09m, min length 1.65m**	☑	☐
210	Fill	Friable mid orange brown silty clay moderate small-medium stones	☑	☐
211	**Ditch**	**Straight linear NE-SW profile: concave base: concave dimensions: max breadth 0.32m, max depth 0.2m, min length 5.2m**	☑	☐
212	Fill	Firm mid red brown silty clay moderate small-medium stones	☑	☑
213	**Treethrow**	**Irregular profile: assymetrical base: uneven dimensions: max breadth 0.7m, max depth 0.05m, min length 4.m**	☑	☐
214	Fill	Firm mid orange brown silty clay frequent small stones	☑	☐

Trench: 3
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.49 m. Max: 0.52 m.
OS Co-ordinates: Ref. 1: TL1054324728 Ref. 2: TL1058824740
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
300	Topsoil	Firm dark grey brown silty clay moderate small-medium stones	☑	☐
301	Subsoil	Friable mid orange brown clay silt frequent small-large stones	☑	☐
302	Natural	Plastic mid brown orange clay frequent small-large stones	☐	☐
303	**Ditch**	**Linear N-S profile: concave base: v-shaped dimensions: max breadth 0.32m, max depth 0.16m, min length 1.m**	☑	☐
304	Fill	Firm mid red brown silty clay moderate small-medium stones	☑	☐
305	**Treethrow**	**Sub-oval profile: concave base: uneven dimensions: max breadth 1.8m, max depth 0.05m, min length 1.5m**	☑	☐
306	Fill	Firm mid orange brown clay silt frequent small-medium stones	☑	☐

Trench: 4
Max Dimensions: Length: 30.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.48 m. Max: 0.5 m.
OS Co-ordinates: Ref. 1: TL1060324731 Ref. 2: TL1058624709
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
400	Topsoil	Firm dark brown silty clay occasional small stones	☑	☐
401	Subsoil	Firm mid orange brown silty clay moderate small stones	☑	☑
402	Natural	Plastic mid orange clay frequent small-medium stones	☐	☐
403	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 2.2m, max depth 0.07m, min length 1.5m**	☑	☐
404	Fill	Firm mid orange brown silty clay frequent small stones	☑	☐
405	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 1.35m, max depth 0.05m, min length 1.05m**	☑	☐
406	Fill	Firm mid orange brown silty clay frequent small stones	☑	☐
407	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 1.65m, max depth 0.05m, min length 2.2m**	☑	☐
408	Fill	Firm mid orange brown silty clay frequent small stones	☑	☐

Trench: 5
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.39 m. Max: 0.41 m.
OS Co-ordinates: Ref. 1: TL1063424744 Ref. 2: TL1064424697
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
500	Topsoil	Firm mid grey brown silty clay moderate small stones, occasional medium stones	☑	☐
501	Subsoil	Firm mid grey orange silty clay moderate small stones	☑	☐
502	Natural	Firm mid brown orange silty clay frequent small-medium stones	☐	☐
503	**Pit**	**Circular profile: near vertical base: flat dimensions: max breadth 0.77m, max depth 0.24m, max length 0.9m Modern feature**	☑	☐
504	Fill	Firm dark grey brown silty clay frequent small-medium charcoal, frequent small-large stones	☑	☑
505	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 0.44m, max depth 0.14m, min length 1.3m**	☑	☐
506	Fill	Firm mid orange brown silty clay moderate small-large stones	☑	☐
507	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 0.6m, max depth 0.08m, min length 2.1m**	☑	☐
508	Fill	Friable mid orange brown silty clay moderate small-medium stones	☑	☐

Trench: 6
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.51 m. Max: 0.53 m.
OS Co-ordinates: Ref. 1: TL1047124668 Ref. 2: TL1049124624
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
600	Topsoil	Firm dark brown silty clay moderate small stones	☑	☐
601	Subsoil	Firm mid orange brown silty clay frequent small stones	☑	☐
602	Natural	Firm light brown orange clay moderate large sand, frequent small-medium stones	☐	☐
603	**Ditch**	**Straight linear NW-SE profile: near vertical base: v-shaped dimensions: max breadth 0.91m, max depth 0.24m, min length 2.1m**	☑	☐
604	Fill	Friable mid yellow brown silty clay occasional small-large stones	☑	☑
605	**Ditch**	**Straight linear E-W profile: convex base: v-shaped dimensions: max breadth 1.82m, max depth 0.68m, min length 2.1m**	☑	☐
606	Fill	Plastic mid orange brown silty clay frequent small-medium stones	☑	☑
607	**Ditch**	**Straight linear E-W profile: 45 degrees base: flat dimensions: max breadth 0.5m, max depth 0.13m, min length 2.1m**	☑	☐
608	Fill	Plastic mid orange brown silty clay frequent small stones	☑	☐
609	**Treethrow**	**Irregular profile: concave base: uneven dimensions: max breadth 0.97m, max depth 0.11m, min length 1.22m**	☑	☐
610	Fill	Friable mid orange brown clay silt frequent small stones	☑	☐
611	**Treethrow**	**Irregular profile: concave base: uneven dimensions: max breadth 0.64m, max depth 0.06m, max length 0.66m**	☑	☐
612	Fill	Firm mid orange brown clay silt frequent small stones	☑	☐

Trench: 7
Max Dimensions: **Length:** 50.00 m. **Width:** 2.10 m. **Depth to Archaeology Min:** 0.4 m. **Max:** 0.48 m.
OS Co-ordinates: **Ref. 1:** TL1048224673 **Ref. 2:** TL1053224675
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
700	Topsoil	Friable dark grey brown silty clay occasional large stones	☑	☐
701	Subsoil	Friable mid orange brown silty clay moderate small-medium stones	☑	☐
702	Natural	Firm mid brown orange silty clay frequent small-medium stones	☐	☐
703	**Ditch**	**Straight linear NNW-SSE profile: concave base: concave dimensions: max breadth 1.51m, max depth 0.35m, max length 2.1m**	☑	☐
704	Fill	Firm mid orange brown silty clay moderate small-large stones	☑	☐
705	**Ditch**	**Straight linear NNW-SSE profile: concave base: concave dimensions: max breadth 1.53m, max depth 0.38m, min length 2.1m**	☑	☐
706	Fill	Firm mid brown silty clay occasional flecks charcoal, moderate small-medium stones	☑	☑
707	Fill	Firm mid orange brown silty clay occasional small stones	☑	☑
708	**Ditch**	**Straight linear NW-SE profile: 45 degrees base: concave dimensions: max breadth 0.6m, max depth 0.18m, min length 2.9m**	☑	☐
709	Fill	Friable mid orange brown clay silt moderate small-medium stones	☑	☑
710	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 1.9m, max depth 0.17m, min length 1.1m**	☑	☐
711	Fill	Friable mid orange brown clay silt moderate small-medium stones	☑	☐
712	**Ditch**	**Straight linear NW-SE profile: concave base: concave dimensions: max breadth 1.4m, max depth 0.55m, min length 2.8m**	☑	☐
713	Fill	Firm mid orange brown silty clay occasional small-large stones	☑	☑

Trench: 8
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.38 m. Max: 0.41 m.
OS Co-ordinates: Ref. 1: TL1055924654 Ref. 2: TL1058724700
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
800	Topsoil	Firm dark grey brown silty clay occasional flecks charcoal, occasional small stones	☑	☐
801	Subsoil	Friable mid orange brown clay silt moderate small-medium stones	☑	☐
802	Natural	Plastic mid yellow orange silty clay frequent small-medium stones	☐	☐
803	**Ditch**	**Linear E-W profile: concave base: uneven dimensions: max breadth 0.75m, max depth 0.23m, min length 3.75m**	☑	☐
804	Fill	Friable mid orange brown clay silt occasional small ceramic building material, moderate small-medium stones	☑	☑
805	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 0.5m, max depth 0.18m, max length 1.4m**	☑	☐
806	Fill	Friable mid orange brown silty clay occasional small-medium stones	☑	☐
807	**Pit**	**Sub-oval NE-SW profile: convex base: v-shaped dimensions: min breadth 0.6m, max depth 0.18m, max length 0.98m**	☑	☐
808	Fill	Firm dark orange brown clay silt moderate small stones	☑	☐
809	**Pit**	**Sub-oval NE-SW profile: concave base: concave dimensions: max breadth 1.15m, max depth 0.36m, min length 1.5m**	☑	☐
810	Fill	Firm mid orange brown silty clay moderate small stones Unclear relationship with features [809], [811] and [813].	☑	☐
811	**Pit**	**Sub-circular N-S profile: concave base: uneven dimensions: max breadth 1.08m, max depth 0.32m, min length 1.08m**	☑	☐
812	Fill	Firm mid orange brown silty clay moderate small stones Unclear relationship with features [809], [811] and [813].	☑	☐
813	**Ditch**	**Linear N-S profile: 45 degrees base: concave dimensions: max breadth 1.2m, max breadth 0.16m, min length 0.8m**	☑	☐
814	Fill	Firm mid orange brown silty clay moderate small stones Unclear relationship with features [809], [811] and [813].	☑	☐

Trench: 9
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.43 m. Max: 0.44 m.
OS Co-ordinates: Ref. 1: TL1060924685 Ref. 2: TL1065424625
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
900	Topsoil	Friable dark grey brown silty clay occasional small stones	☑	☐
901	Subsoil	Firm mid orange brown sandy silt occasional small-medium stones	☑	☐
902	Natural	Firm mid brown orange silty clay moderate large sand, frequent small-medium stones	☐	☐

Trench: 10
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.42 m. Max: 0.43 m.
OS Co-ordinates: Ref. 1: TL1051024648 Ref. 2: TL1055324625
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
1000	Topsoil	Friable dark grey brown silty clay moderate small-large stones	☑	☐
1001	Subsoil	Firm mid orange brown silty clay moderate small-large stones	☑	☐
1002	Natural	Firm mid red orange silty clay frequent small-large stones	☐	☐
1003	**Ditch**	**Straight linear NE-SW profile: convex base: v-shaped dimensions: max breadth 2.25m, max depth 0.48m, min length 2.2m**	☑	☐
1004	Fill	Firm mid orange brown silty clay moderate small stones	☑	☑
1005	**Ditch**	**Linear NW-SE profile: convex base: flat dimensions: max breadth 0.75m, max depth 0.27m, max length 2.m**	☑	☐
1006	Fill	Firm light orange brown clay silt moderate small stones	☑	☐
1007	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: max breadth 0.85m, max depth 0.18m, max length 1.2m**	☑	☐
1008	Fill	Friable light orange brown clay silt frequent small stones	☑	☐
1009	**Pit**	**Sub-circular profile: concave base: v-shaped dimensions: max breadth 0.75m, max depth 0.23m, max length 0.65m**	☑	☐
1010	Fill	Firm mid orange brown clay silt frequent small stones	☑	☐
1011	**Treethrow**	**Irregular profile: irregular base: uneven dimensions: min breadth 0.7m, max depth 0.13m, min length 0.8m**	☑	☐
1012	Fill	Friable light orange brown clay silt frequent small stones	☑	☐
1013	**Pit**	**Circular profile: assymetrical base: uneven dimensions: max breadth 1.85m, max depth 0.31m, min length 0.8m**	☑	☐
1014	Fill	Firm dark orange brown silty clay frequent small-medium stones	☑	☐

Trench: 11
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.42 m. Max: 0.43 m.
OS Co-ordinates: Ref. 1: TL1061024630 Ref. 2: TL1065824640
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
1100	Topsoil	Friable dark grey brown silty clay occasional small-large stones	☑	☐
1101	Subsoil	Friable mid brown orange clay silt moderate small-medium stones	☑	☐
1102	Natural	Plastic mid orange brown silty clay occasional large sand, frequent small-large stones	☐	☐

Trench: 12
Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.43 m. Max: 0.45 m.
OS Co-ordinates: Ref. 1: TL1055824593 Ref. 2: TL1051024599
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
1200	Natural	Friable dark grey brown silty clay occasional small-large stones	☑	☐
1201	Subsoil	Firm mid brown silty clay moderate small-large stones	☑	☐
1202	Natural	Firm mid brown orange silty clay frequent small-large stones	☐	☐
1203	**Ditch**	**Straight linear NNW-SSE profile: assymetrical base: uneven dimensions: max breadth 2.2m, max depth 0.7m, max length 2.1m**	☑	☐
1204	Fill	Friable mid yellow brown clay silt frequent small-medium chalk, frequent small stones	☑	☑
1205	Fill	Firm mid orange brown silty clay occasional small chalk, frequent small-medium stones	☑	☑
1206	**Ditch**	**Straight linear NE-SW profile: 45 degrees base: v-shaped dimensions: max breadth 0.62m, max depth 0.17m, min length 6.m**	☑	☐
1207	Fill	Firm mid orange brown silty clay moderate small stones	☑	☐
1208	**Ditch**	**Straight linear NE-SW profile: concave base: v-shaped dimensions: max breadth 0.33m, max depth 0.09m, min length 4.5m**	☑	☐
1209	Fill	Firm mid orange brown silty clay moderate small stones	☑	☐

Trench: 13
Max Dimensions: Length: 30.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.43 m. Max: 0.48 m.
OS Co-ordinates: Ref. 1: TL1057924628 Ref. 2: TL1058524599
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
1300	Topsoil	Friable dark brown silty clay occasional small stones	☑	☐
1301	Subsoil	Firm light yellow brown silty clay moderate small stones	☑	☐
1302	Natural	Plastic mid red orange clay frequent medium sand, frequent small-medium stones	☐	☐
1303	**Ditch**	**Straight linear N-S profile: convex base: v-shaped dimensions: max breadth 0.47m, max depth 0.27m, min length 1.m**	☑	☐
1304	Fill	Firm mid orange grey clay silt moderate small-medium stones	☑	☐
1305	**Ditch**	**Straight linear N-S profile: concave base: flat dimensions: max breadth 0.59m, max depth 0.21m, min length 1.m**	☑	☐
1306	Fill	Firm mid orange grey clay silt moderate small-medium stones	☑	☑
1307	**Ditch**	**Straight linear N-S profile: convex base: flat dimensions: max breadth 0.4m, max depth 0.13m, min length 1.m**	☑	☐
1308	Fill	Firm mid orange grey clay silt moderate small-medium stones	☑	☑
1309	**General Number**	**Straight linear N-S dimensions: max breadth 0.59m, max length 22.5m**	☐	☐
1310	General Number	Firm mid orange grey clay silt moderate small-medium stones	☐	☐
1311	**Ditch**	**Linear NNE-SSW profile: 45 degrees base: v-shaped dimensions: max breadth 0.5m, max depth 0.35m, min length 1.8m**	☑	☐
1312	Fill	Firm mid orange brown clay silt moderate small-medium stones	☑	☐
1313	**Ditch**	**Linear NE-SW profile: assymetrical base: flat dimensions: max breadth 0.65m, max depth 0.15m, min length 1.m**	☑	☐
1314	Fill	Firm mid orange brown clay silt moderate small-medium stones	☑	☐
1315	**Ditch**	**Linear NE-SW profile: assymetrical base: flat dimensions: max breadth 0.7m, max depth 0.16m, min length 1.1m**	☑	☐
1316	Fill	Firm mid orange brown clay silt moderate small-medium stones	☑	☐
1317	**General Number**	**Linear NE-SW dimensions: max breadth 0.7m, min length 2.8m**	☐	☐
1318	General Number	Firm mid orange brown clay silt moderate small-medium stones	☐	☐

Trench: 14

Max Dimensions: Length: 50.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.26 m. Max: 0.5 m.

OS Co-ordinates: Ref. 1: TL1056724561 Ref. 2: TL1064124597

Reason: To assess archaeological potential of area. Due to the presence of overhead services this trench had to be split into two halves, 14a (10m long) and 14b (40m long).

Context:	Type:	Description:	Excavated:	Finds Present:
1400	Topsoil	Friable dark brown silty clay occasional small stones	☑	☐
1401	Subsoil	Firm light orange brown silty clay moderate small stones	☑	☐
1402	Natural	Plastic mid red orange clay moderate large sand, frequent small-large stones	☐	☐
1403	**Ditch**	**Straight linear NW-SE profile: stepped base: v-shaped dimensions: max breadth 0.62m, max depth 0.27m, min length 3.m**	☑	☐
1404	Fill	Firm dark orange brown silty clay moderate small stones	☑	☑

Trench: 15
Max Dimensions: Length: 30.00 m. Width: 2.10 m. Depth to Archaeology Min: 0.43 m. Max: 0.51 m.
OS Co-ordinates: Ref. 1: TL1064124612 Ref. 2: TL1066724598
Reason: To assess archaeological potential of area.

Context:	Type:	Description:	Excavated:	Finds Present:
1500	Topsoil	Friable dark brown clay silt occasional small stones	☑	☐
1501	Subsoil	Firm light orange brown silty clay occasional small stones	☑	☐
1502	Natural	Plastic mid red orange clay moderate large sand, frequent small-large stones	☐	☐
1503	**Modern disturbance**	**Linear N-S profile: irregular base: v-shaped dimensions: max breadth 0.08m, max depth 0.02m, min length 3.5m Plough scar**	☑	☐
1504	Modern disturbance	Firm dark orange brown silty clay moderate small stones	☑	☐
1505	**Modern disturbance**	**Linear E-W profile: irregular base: v-shaped dimensions: max breadth 0.1m, max depth 0.04m, min length 1.m Plough scar**	☑	☐
1506	Modern disturbance	Firm dark orange brown clay silt moderate small stones	☑	☐

7.2 Appendix 2 – Artefact Summary

7.2.1 Fieldwalking

7.2.1.1 Introduction

All material considered to be artefactual was retrieved. Finds were cleaned, weighed and quantified by type and date. The resulting information was entered onto an Access database which was used for plotting the survey results as dot-density distributions (Figure 2).

7.2.1.2 Pottery

Ten pottery sherds weighing 54g were recovered, ranging in date from the early medieval to post-medieval periods (Table 1). All sherds are too small (average sherd weight 5g) to allow vessel form to be identified. For a plough zone assemblage, the incidence of abrasion is fairly low, although this may in part be due to the hard-fired and robust nature of most fabric types.

Bag No.	Period	Fabric type	Common name	Sherd No.	Weight (g)
2	Post-medieval	Type P01	Fine glazed red earthenware	1	18
8	Late medieval	Type E03	Smooth oxidised ware	1	2
9	Medieval	Type C75	Micaceous	1	4
12	Post-medieval	Type P30	Staffordshire slipware	1	1
21	Post-medieval	Type P06	Fine slip-decorated earthenware	1	9
26	Medieval	Type C60	Hertfordshire-type greyware	1	3
28	Medieval	Type C04	Coarse sand	1	5
29	Early medieval	Type C59A	Coarse sand	1	3
30	Post-medieval	Type P01	Fine glazed red earthenware	1	6
32	Early medieval	Type C59A	Coarse sand	1	3

Table 1: Pottery by type and quantity

Medieval pottery: 6 sherds (20g).
The earliest pottery is of 12th-13th century date and comprises two coarse sand tempered sherds. Three sandy sherds are broadly datable from the 12th-14th centuries. A single sherd of late medieval smooth oxidised ware was also identified. All are undiagnostic and moderately abraded.

Post-medieval pottery: 4 sherds (34g).
Post-medieval pottery comprises local glazed earthenwares and a sherd of Staffordshire slipware, of 17th-18th century date.

7.2.1.3 Flint

Seven pieces of worked flint (55g) and two pieces of unmodified burnt flint (70g) were identified (Table 2). The former are all waste flakes, fashioned from poor quality raw material. Most have sustained edge damage characteristic of a plough-zone assemblage.

Bag No.	Type	Frag. No.	Weight (g)
3	Patinated flake or blade	1	2
5	Flake	1	21
10	Flake	1	2
11	Flake	1	13
13	Broken flake	1	2
14	Unworked burnt flint	1	26
16	Unworked burnt flint	1	44
27	Flake	1	8
33	Flake	1	7

Table 2: Flint by type and quantity

7.2.1.4 Other Finds

The range of material type and quantity recovered is shown below (Table 3). The brick and tile fragments and clay pipe stem are of post-medieval date, and the tinned copper alloy button of 19th century origin. The pieces of ferrous slag are undatable, but given their provenance, are likely to be of post-medieval or later date.

Bag No.	Find type	Quantity	Weight (g)
6	Roof tile fragment	1	22
15	Tinned copper alloy button	1	3
17	Ferrous slag	1	44
19	Clay pipe stem	1	4
23	Brick or tile fragment	1	12
24	Brick fragments	2	150
34	Ferrous slag	1	280

Table 3: Other finds by type and quantity

7.2.2 Trial trenching

7.2.2.1 Introduction

The evaluation produced an artefact assemblage comprising mainly pottery and ceramic roof tile, the majority associated with features in Trench 7 (Table 4). The material was scanned to ascertain the nature, condition and, where possible, date range of the artefact types present. No finds were recovered from Trenches 1, 3, 9, 11 or 15.

Tr.	Feature	Type	Context	Spotdate*	Pottery	Other finds
2	211	Ditch	212	Medieval	1:5	
4	401	Alluvium	401	Late medieval/post-med	1:4	
5	503	Pit	504	-		Burnt flint (1031g); burnt stone (261g)
6	603	Ditch	604	Late Bronze Age/early Iron Age	1:1	Flint flake (5g)
	605	Ditch	606	Late medieval/post-med	13:87	Roof tile (399g), animal bone (7g)
7	705	Ditch	706	Early to middle Iron Age	45:335	
	705	Ditch	707	Early to middle Iron Age	7:15	
	708	Ditch	709	Early to middle Iron Age	2:24	
	712	Ditch	713	Late medieval/post-med	1:4	Roof tile (117g)
8	803	Ditch	804	Late medieval/post-med		Roof tile (101g)
10	1003	Ditch	1004	Late Iron Age	7:15	
12	1203	Ditch	1204	Late medieval/post-med		Roof tile (324g)
	1203	Ditch	1205	Late medieval/post-med	15:81	Roof tile (1323g), animal bone (9g); fe nail (4g)
13	1305	Ditch	1306	Roman	1:5	
	1307	Ditch	1308	Roman	3:118	
14	1403	Ditch	1404	Medieval	2:33	
				Total	99:727	

* - spotdate based on date of latest artefact in context
(sherd/frag count:weight in grammes)

Table 4: Artefact summary by trench and context

7.2.2.2 Pottery

Ninety-nine pottery sherds, weighing 727g were recovered. These were examined by context and quantified using minimum sherd count and weight. Sherds are generally small (average weight 7g) and exhibit variable degrees of abrasion. Nineteen fabric types were identified using common names and type codes in accordance with the Bedfordshire Ceramic Type Series, held by Albion Archaeology. Fabrics are listed below (Table 5) in chronological order.

Fabric type	Common name	Sherd No.	Context/Sherd No.
Late Bronze Age/early Iron Age			
Type F01C	Flint and quartz	**3**	(604):1, (1004):1, (1205):1
Early to middle Iron Age			
Type F17	Grog	**7**	(706):7
Type F19	Sand and organic	**9**	(706):9
Type F28	Fine sand	**26**	(706):18, (707):7, (709):1
Type F29	Coarse sand	**12**	(706):11, (709):1
Late Iron Age			
Type F09	Sand and grog	**5**	(1004):5
Roman			
Type R06B	Coarse greyware	**1**	(1308):1
Type R14	Sandy	**1**	(1306):1
Type R19	*Amphorae*	**2**	(1308):2
Medieval			
Type C	Non-specific medieval wares	**1**	(606):1
Type C03	Fine sandy	**2**	(1205):2
Type C05	Sandy (red margins)	**2**	(1205):2
Type C53	Sandy (pasty)	**8**	(606):6, (713):1, (1205):1
Type C60	Hertfordshire-type greyware	**2**	(1205):2
Type C63	Flint	**2**	(1404):2
Type C71	Sandy (buff-grey cored)	**1**	(212):1
Type E01	Late medieval reduced	**12**	(606):5, (1205):7
Type E03	Late medieval smooth	**2**	(401):1, (606):1
UNID	Unidentified ware	**1**	(1004):1

Table 5: Pottery Type Series

Although small, the pottery assemblage displays a wide date range, spanning the late Bronze Age/early Iron Age to the late medieval periods. The former is represented by three small and abraded flint and sand tempered body sherds (6g), recovered from ditches [603], [1003] and [1203], Trenches 6, 10 and 12 respectively.

Ditches [705] and [708], Trench 7, yielded fifty-four sherds (374g) of early to middle Iron Age pottery. Sherds are generally abraded, although a number of vessels are represented by more than one sherd. Fabric types are predominantly sand tempered, reflecting the exploitation of local geology. Both coarse and fineware vessels are present, the latter including a vessel with stabbed decoration on the rim and shoulder. Late Iron Age pottery is represented by five undiagnostic grog and sand tempered sherds (6g), recovered from ditch [1003], Trench 10.

The incidence of Roman pottery is restricted to Trench 13. The fill of ditches [1305] and [1307] contained two undiagnostic sherds (6g) of sand tempered coarseware, and two abraded sherds (117g) of a large storage vessel (*amphora)*.

Pottery datable to the medieval period occurred in six of the ten trenches which contained artefacts. Ditches [211], [605], [712], [1203] and [1403] yielded eighteen sand tempered sherds (131g) of probable local manufacture, datable to

the 12th-14th centuries. They are comparable with those recovered during fieldwalking. Diagnostic forms include a square rim jar and bowl.
Pottery of 14th-15th century date comprises twelve undiagnostic sherds (66g) of late medieval, sand tempered reduced ware, recovered from ditches [605], Trench 6, and [1203], Trench 12. Alluvium (401) and ditch [605], Trenches 4 and 6 respectively, yielded two undiagnostic sherds (14g) of smooth oxidised ware.

7.2.2.3 Other Finds

Ceramic roof tile
Thirty-two oxidised sand tempered fragments of late medieval/post-medieval flat roof tile, weighing 2.2kg were recovered from ditches [605], [803], [1203] and [712]. Pieces range in thickness between 13-16mm, and the presence of round holes on some fragments indicates the use of wooden pegs as a means of attachment. Ditch [712] also contained two abraded, residual *tegulae* fragments (66g), datable to the Roman period.

Flint
The fill of ditch [603], Trench 6, contained a crudely fashioned flint flake (5g). The object is made from poor quality raw material and is quite worn.

7.2.2.4 Ecofacts

Animal bone
The faunal assemblage comprises three long bone fragments (9g), recovered from ditches [605] and [1203] (one and two fragments respectively). All are abraded and undiagnostic of species.

Environmental samples
A ten litre sample was taken from the fill of pit [503] for the extraction of charred plant remains and/or artefacts, and was processed by bulk flotation in a peroxide solution. A flot was taken on a 300 micron meshed sieve, and the residues were passed through a 5.6mm, 2.0mm and 1.0mm sieve stack. The 5.6mm residues were sorted for artefacts, while the 2.0mm and 1.0mm residues were retained unsorted.

The flot contains abundant charcoal, although this is too fragmentary to be useful for dating. No other ecofacts were observed in the flot. All residues comprise large quantities of burnt flint, including over 3.3kg recovered from the 5.6mm residue. The sample has no potential for further analysis.

7.3 Appendix 3 – Full Geophysical Survey Report

Vale Cemetery Extension

Butterfield

Luton

Bedfordshire

Geophysical Survey

Contents

Summary

A geophysical (magnetometer) survey comprising magnetic scanning followed by selected detailed survey was carried out at the proposed site of a cemetery extension at Butterfield, north-east of Luton. Areas of enhanced magnetic response were identified during the scanning phase and subsequently confirmed by the detailed survey. The broad and discontinuous nature of these anomalies suggests the cause is more likely to be geological rather than archaeological. These areas of natural magnetic enhancement are relatively strong and therefore potentially could mask weaker responses from underlying archaeological features. However, no anomalies of a probable archaeological nature have been identified.

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Archaeological Services WYAS

PO Box 30, Nepshaw Lane South, Morley, Leeds LS27 0UG

1. Introduction and Archaeological Background

1.1 Archaeological Services WYAS was commissioned to carry out a geophysical (magnetometer) survey adjacent to Vale Cemetery, Butterfield on the north-eastern periphery of Luton (see Fig. 1), by Drew Shotliff of Albion Archaeology, on behalf of Bertram Sheppard Ltd for their client Luton Borough Council. The survey formed part of a tiered scheme of archaeological investigation that will use the results from a prior programme of fieldwalking and those from the geophysical survey to determine the location and scope of a scheme of trial excavation.

1.2 The survey covered an area of approximately 4 hectares, centred at TL 1060 2466, to the north and west of Vale Cemetery (see Fig. 2). Planning permission has already been granted (Planning Permission 00/573/OUT) for the site to be used to extend the limits of the cemetery. Butterfield Green Road forms the western site boundary with open arable fields, earmarked for future development as part of the wider Butterfield development, continuing to the north. The fieldwork was carried out on March 29th and 30th 2005 at which time the site was under arable cultivation and conditions ideal for survey. Consequently no problems were encountered during the fieldwork.

1.3 Topographically the site is generally flat at approximately 165 metres Above Ordnance Datum (AOD) and is situated within gently rolling chalk downs, although there is a slight slope from north to south. On the Soil Survey of England and Wales map sheet for Eastern England the soils are classified in the Batcombe soil association comprising plateau drift and clay-with-flints over Cretaceous Chalk. These soils are described as fine silty over clayey and fine loamy over clayey soils.

1.4 The Butterfield area and the site in general is set within an extensive archaeological landscape that includes evidence for prehistoric and Roman occupation as well as later medieval settlement, the nearest example being at Butterfield Green. Significantly a dense scatter of Roman pottery and tile, probably indicative of a nearby settlement, has been identified 0.2km to the north of the present evaluation area.

1.5 Several ditches, two pits and a gully, all of probable late prehistoric date, were identified during trial trenching (Carew 2004) undertaken in advance of the construction of the road infrastructure for the Butterfield development area approximately 0.4km to the north-east. None of the archaeological features corresponded with the magnetic anomalies identified during the preliminary geophysical survey (Brown and Butler 2004). These features were aceramic, although several flints (probably residual) were recovered. The ditches were interpreted as probably representing a field system. Several anomalies interpreted as potentially archaeological (and targeted by the trial trenching) did not manifest as archaeological features and it was concluded that the observed magnetic anomalies were due to variations within the natural geology rather than by archaeological features.

1.6 More recently a geophysical survey undertaken by Archaeological Services WYAS (see Fig. 2), immediately adjacent to the new Butterfield spinal access road, identified broad and extensive areas of magnetic enhancement

throughout the survey area. These anomalies were interpreted as being caused by underlying geological or pedological variation, rather than by archaeological or modern activity (Harrison 2004).

1.7 A programme of fieldwalking, undertaken by Albion Archaeology prior to the commencement of this geophysical survey, has not identified any significant clusters of finds, although there was a general background scatter of medieval pottery and flints (Pixley pers. com.).

2. Methodology and Presentation

2.1 The general objectives of the geophysical evaluation were:

- to identify any areas of archaeological potential
- to establish the extent of any areas of archaeological potential
- to determine the nature of any archaeological magnetic anomalies.

2.2 It was determined that magnetic scanning, undertaken using Geoscan FM36 fluxgate gradiometers, across the whole of the 4 hectare site, would be the most effective method of achieving the first objective. Scanning is particularly useful as a means of rapidly identifying areas of archaeological potential so that limited detailed survey can be focussed to best effect.

2.3 Magnetic scanning requires the operator to visually identify anomalous responses on the instrument display panel whilst covering the site in widely spaced traverses, typically 10m apart. The instrument logger is not used and there is therefore no data collection. Once anomalous responses are identified they are marked in the field with bamboo canes and approximately located on a base plan. The disadvantages of magnetic scanning are that features that produce weak anomalies (less than 2nT) are unlikely to stand out from the magnetic background and so will be difficult to identify. The relatively coarse sampling interval also means that discrete features, or linear features that are parallel or broadly oblique to the direction of traverse, may not be detected. The drawbacks mentioned above mean that 'negative' results from magnetic scanning should always be checked by an agreed amount of detailed survey.

2.4 The second and third objectives would be achieved by carrying out selected detailed survey encompassing areas of potential highlighted by the scanning and by the earlier fieldwalking survey.

2.5 Detailed survey employs the use of a sample trigger to automatically take readings at predetermined points, typically at 0.5m or 0.25m intervals, on zig-zag traverses 1m apart. These readings are stored in the memory of the instrument and are later dumped to computer for processing and interpretation. Detailed survey therefore allows the visualisation of weaker anomalies that may not have been identified during the magnetic scanning.

2.6 In this case no significant artefact clusters were identified by the fieldwalking and consequently the blocks of detailed survey were located based solely on the results of the scanning. Six blocks, each 60m by 40m (1.5 hectares) were surveyed, a total of 40% of the overall site area.

2.7 The survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David 1995) and by the IFA

(Gaffney, Gater and Ovenden 2002). All figures reproduced from Ordnance Survey mapping are done so with the permission of the controller of Her Majesty's Stationery Office. © Crown copyright.

2.8 A general site location plan, incorporating the 1:50000 Ordnance Survey mapping, is shown in Figure 1. Figure 2 is a more detailed site location plan, showing the processed greyscale gradiometer data, superimposed onto a digital base map supplied by the client, at a scale of 1:5000. The processed data is displayed in greyscale format, at a scale of 1:500, in Figures 3 and 6 with an accompanying interpretation shown at the same scale in Figures 4 and 7. Figures 5 and 8 show the unprocessed ('raw') data in X-Y trace plot format, also at a scale of 1:500.

2.9 Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the 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 most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

3. Results and Discussion

Magnetometer Scanning

3.1 Overall the magnetic susceptibility of the site was fairly high fluctuating between +/-1 nT although relatively few 'iron spike' responses were identified during the scanning.

3.2 Areas of magnetic enhancement of varying extent were identified across the whole survey area, the most extensive of which were in the central and western parts of the site. These responses were generally in excess of 5nT in strength but appeared to be discontinuous in nature. No other anomalies or areas of archaeological potential were identified during the scanning.

3.3 Although these areas of enhanced magnetic response were considered likely to be geological in nature four of the six blocks were positioned to further evaluate the nature of these anomalies. Blocks 1, 2, 3 and 4 all contained at least one area of magnetic enhancement located during the scanning. Blocks 5 and 6 were positioned randomly to give a good overall coverage of the site.

Detailed Survey

3.4 Isolated dipolar anomalies ('iron spikes' - see Appendix 1) have been identified at only a few locations within the survey area. These 'iron spike' anomalies are caused by ferrous objects or other magnetic material on the ground surface or contained within the upper soil horizons. Although archaeological artefacts may cause these anomalies they are more often caused by modern cultural debris that has been introduced into the topsoil usually as a consequence of manuring.

3.5 Apart from 'iron spike' anomalies only areas of magnetic enhancement have been located. In most of the blocks they are fairly strong positive, broad and discontinuous responses interpreted as being indicative of underlying geological or pedological variations. Previous magnetometer surveys carried out by both Archaeological Services WYAS and Northamptonshire Archaeology in the immediate vicinity have also found areas of magnetic enhancement similar in strength and character to those located during this survey. Although an archaeological origin should not be completely dismissed, it is considered much more likely that the observed anomalies are due to variations in the natural geology.

3.6 Although both the soils and geology are uniform across the whole of the site the trial trenching undertaken following the first geophysical survey (Carew 2004) revealed that the clay natural varied in colour between 'white' and 'dark red' with a varying frequency of flint inclusions. The 'white' comprised very light grey silty clay with moderate flint inclusions while the patches of darker red silty clay contained very frequent flints. It is considered possible that the red colouration of the clay is indicative of the presence of iron compounds and that consequently this could be the cause of the areas of stronger magnetic response.

4. Conclusions

4.1 No anomalies of probable archaeological potential have been identified during the current survey with the only anomalies identified interpreted as having a natural origin. However, it should be noted that the strength of the identified geological anomalies are such that it is considered possible that the potentially weaker magnetic responses from an infilled archaeological feature may not be discerned against such a strong background. Consequently the absence of any potentially archaeological anomalies should not be assumed to indicate the absence of any such features on this site, particularly as archaeological features have been found on an adjacent site that were not identified by magnetometer survey.

The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains.

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Acknowledgements

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Appendices

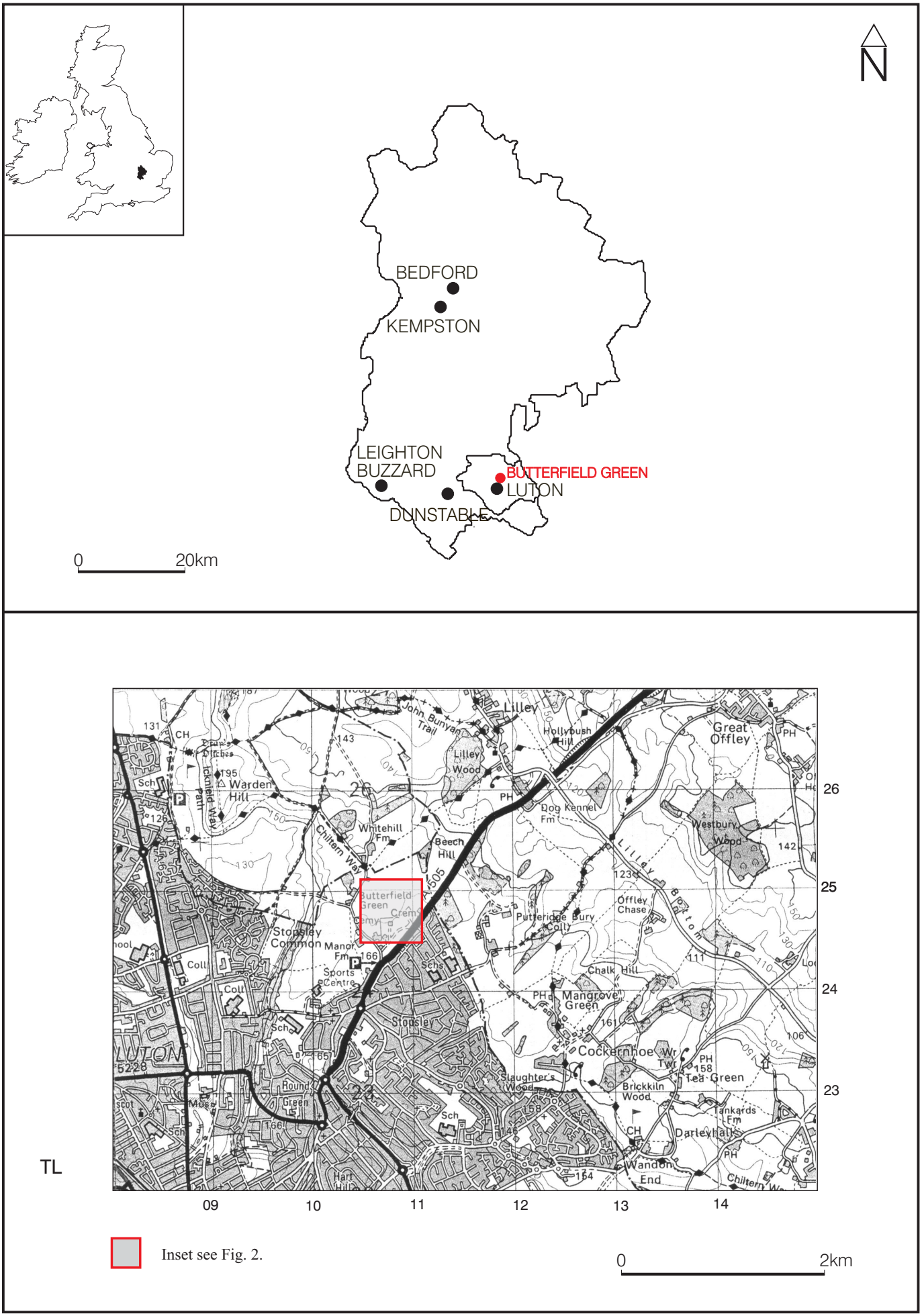

Fig. 1. Site location

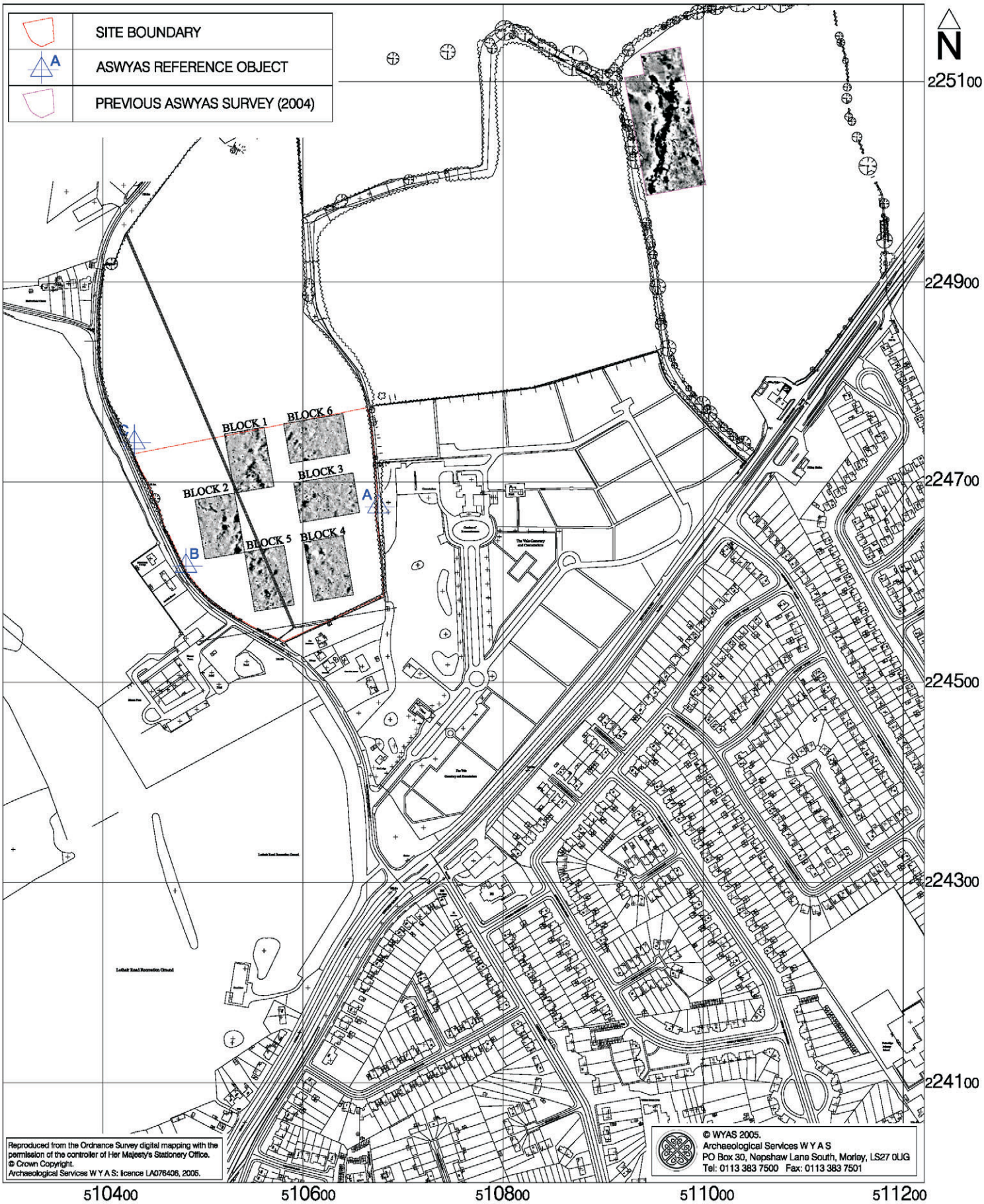

Fig. 2. Site location showing greyscale magnetometer data and previous ASWYAS geophysical survey

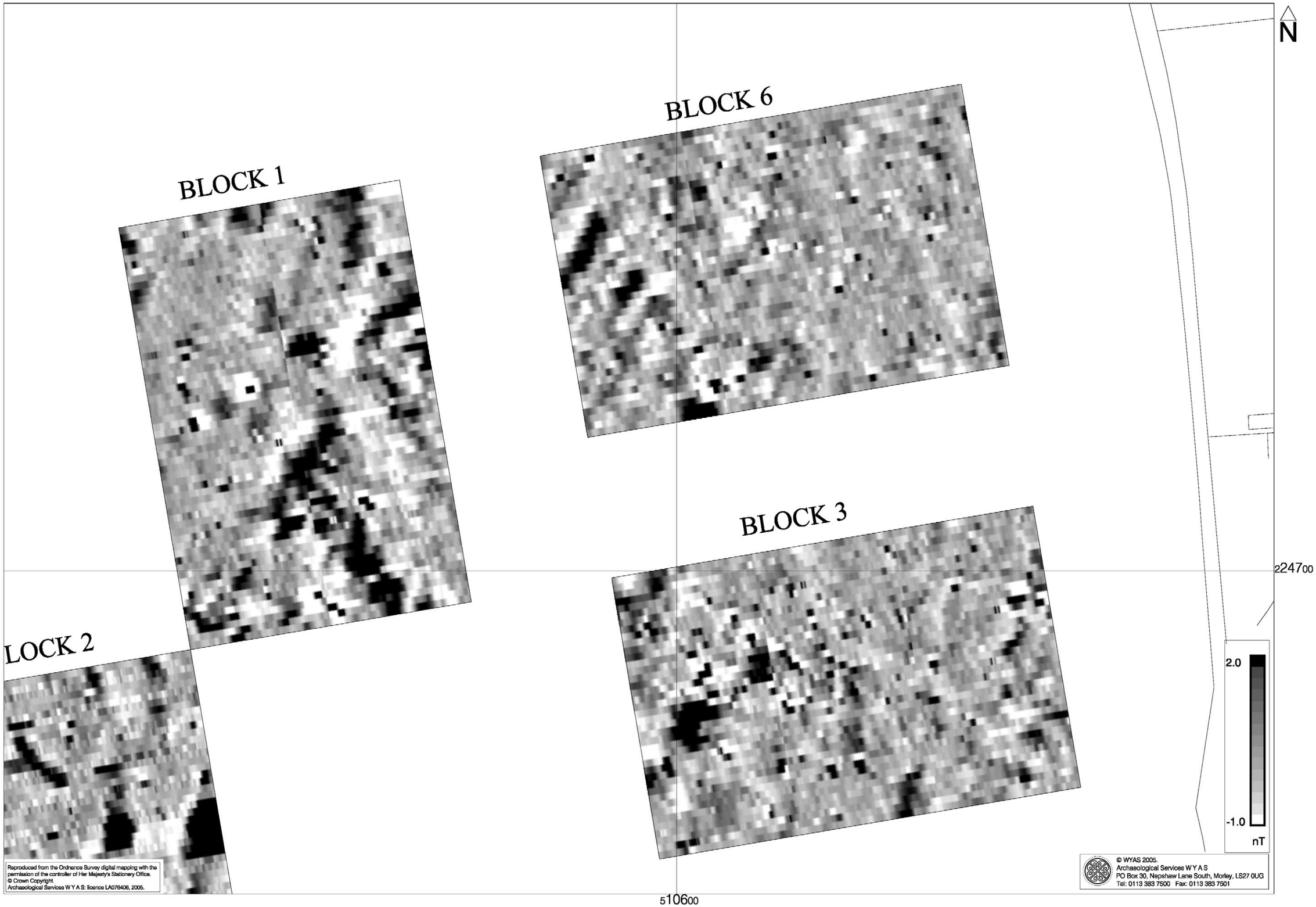

Fig. 3. Greyscale plot of magnetometer data; Blocks 1, 3 and 6

TYPE OF ANOMALY		INTERPRETATION
●	DIPOLAR ISOLATED	FERROUS MATERIAL
▒	AREA OF MAGNETIC ENHANCEMENT	GEOLOGICAL?

BLOCK 1

BLOCK 6

BLOCK 3

LOCK 2

N

2247 00

5106 00

0 25m

Fig. 4. Interpretation plot of magnetometer data; Blocks 1, 3 and 6

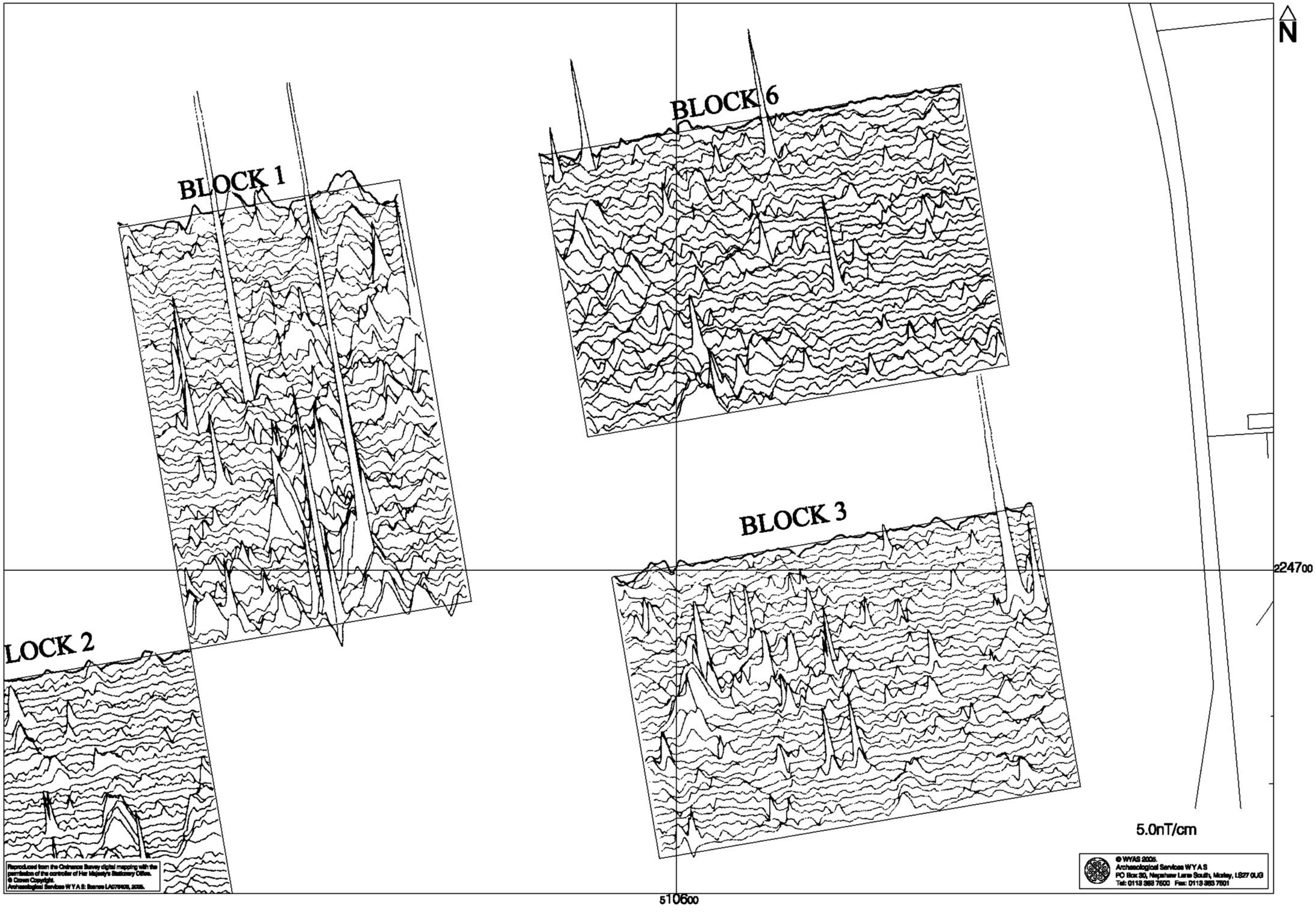

Fig. 5. XY trace plot of magnetometer data; Blocks 1, 3 and 6

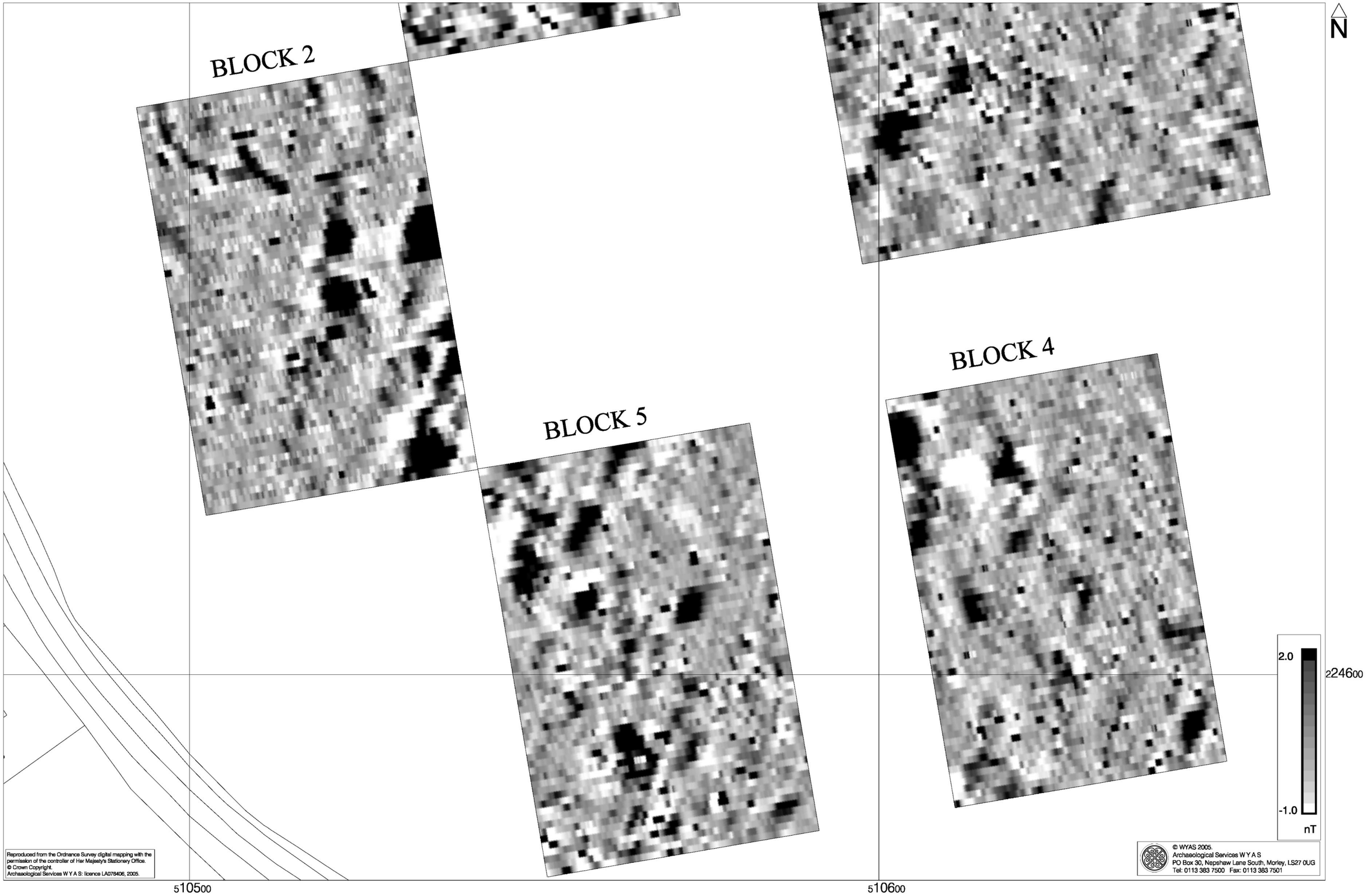

Fig. 6. Greyscale plot of magnetometer data; Blocks 2, 5 and 4

TYPE OF ANOMALY		INTERPRETATION
●	DIPOLAR ISOLATED	FERROUS MATERIAL
▬	AREA OF MAGNETIC ENHANCEMENT	GEOLOGICAL?

BLOCK 2

BLOCK 5

BLOCK 4

N

2246 00

Swedish Houses

2

1

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Archaeological Services W Y A S
PO Box 30, Nepshaw Lane South, Morley, LS27 0UG
Tel: 0113 383 7500 Fax: 0113 383 7501

5105 00

5106 00

0 25m

Fig. 7. Interpretation plot of magnetometer data; Blocks 2, 4 and 5

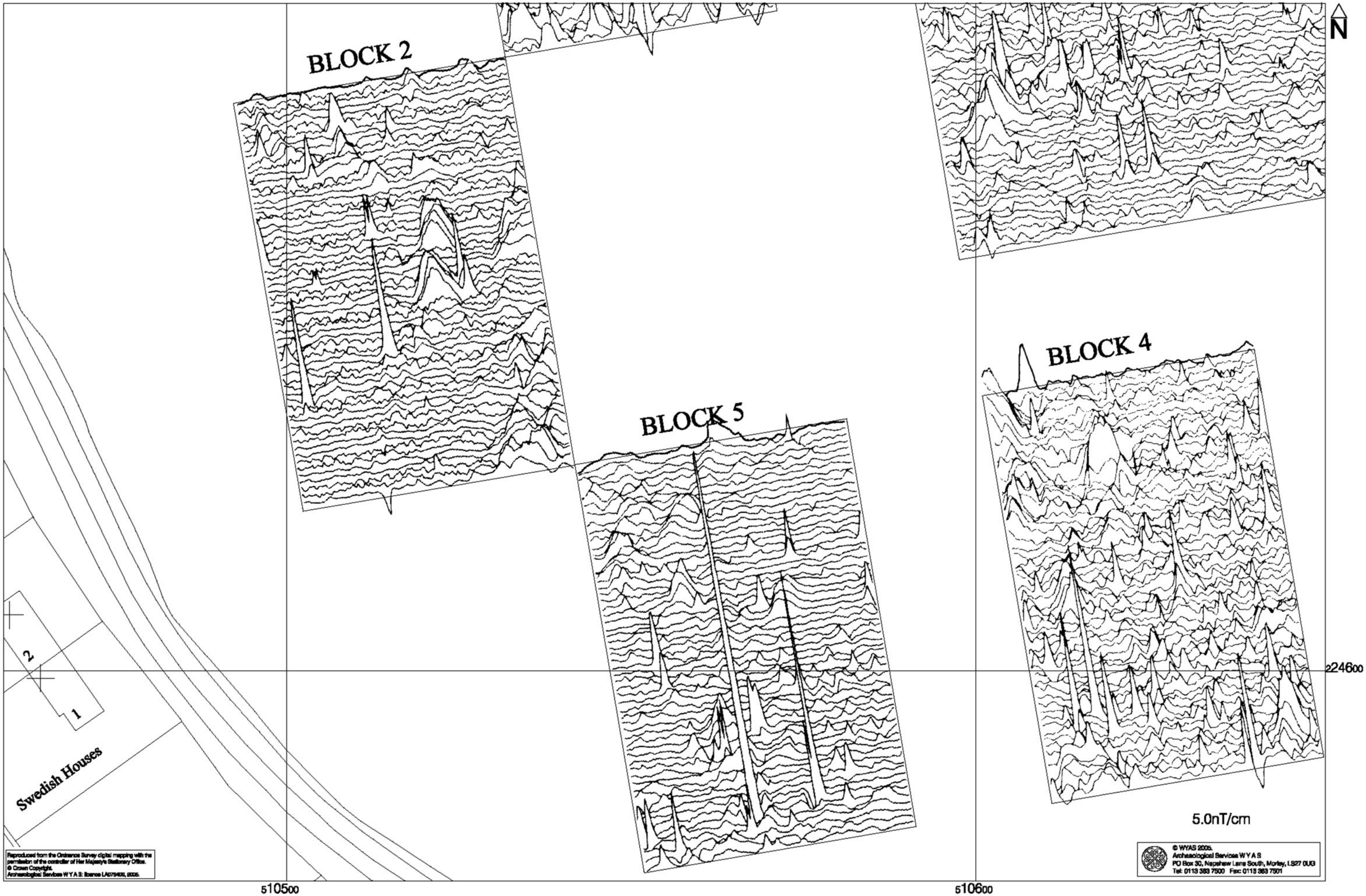


Fig. 8. XY trace plot of magnetometer data; Blocks 2, 4 and 5

Appendix 1

Magnetic Survey: Technical Information

Magnetic Susceptibility and Soil Magnetism

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haemetite. These minerals have a weak, measurable magnetic property termed magnetic susceptibility. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms so that by measuring the magnetic susceptibility of the topsoil, areas where human occupation or settlement has occurred can be identified by virtue of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently comes to fill features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is the contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of topsoils, subsoils and rocks into which these features have been cut, which causes the most recognisable responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or the bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. Less magnetic material such as masonry or plastic service pipes that intrude into the topsoil may give a negative magnetic response relative to the background level.

The magnetic susceptibility of a soil can also be enhanced by the application of heat. This effect can lead to the detection of features such as hearths, kilns or areas of burning.

Types of Magnetic Anomaly

In the majority of instances anomalies are termed ***'positive'***. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as ***'negative'*** anomalies that, conversely, means that the response is negative relative to the mean magnetic background. Such negative anomalies are often very faint and are commonly caused by modern, non-ferrous, features such as plastic water pipes. Infilled natural features may also appear as negative anomalies on some geological substrates.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies that are interpreted as modern in origin may be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories which are used in the graphical interpretation of the magnetic data:

Isolated dipolar anomalies (iron spikes)

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

Areas of magnetic disturbance

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

Linear trend

This is usually a weak or broad linear anomaly of unknown cause or date. An agricultural origin, either ploughing or land drains is a common cause.

Areas of magnetic enhancement/positive isolated anomalies

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response (sometimes only visible on an X–Y trace plot) on two or three successive traverses. In neither instance is there the intense dipolar response characteristic exhibited by an area of magnetic disturbance or of an 'iron spike' anomaly (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post-holes or by kilns. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

Linear and curvilinear anomalies

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

Methodology: Magnetic Susceptibility Survey

There are two methods of measuring the magnetic susceptibility of a soil sample. The first involves the measurement of a given volume of soil, which will include any air and moisture that lies within the sample, and is termed volume specific susceptibility. This method results in a bulk value that it not necessarily fully representative of the constituent components of the sample. The second technique overcomes this potential problem by taking into account both the volume and mass of a sample and is termed mass specific susceptibility. However, mass specific readings cannot be taken in the field where the bulk properties of a soil are usually unknown and so volume

specific readings must be taken. Whilst these values are not fully representative they do allow general comparisons across a site and give a broad indication of susceptibility changes. This is usually enough to assess the susceptibility of a site and evaluate whether enhancement has occurred.

Methodology: Gradiometer Survey

There are two main methods of using the fluxgate gradiometer for commercial evaluations. The first of these is referred to as ***magnetic scanning*** and requires the operator to visually identify anomalous responses on the instrument display panel whilst covering the site in widely spaced traverses, typically 10m apart. The instrument logger is not used and there is therefore no data collection. Once anomalous responses are identified they are marked in the field with bamboo canes and approximately located on a base plan. This method is usually employed as a means of selecting areas for detailed survey when only a percentage sample of the whole site is to be subject to detailed survey.

The disadvantages of magnetic scanning are that features that produce weak anomalies (less than 2nT) are unlikely to stand out from the magnetic background and so will be difficult to detect. The coarse sampling interval means that discrete features or linear features that are parallel or broadly oblique to the direction of traverse may not be detected. If linear features are suspected in a site then the traverse direction should be perpendicular (or as close as is possible within the physical constraints of the site) to the orientation of the suspected features. The possible drawbacks mentioned above mean that negative results from magnetic scanning should **always** be checked with at least a sample detailed magnetic survey (see below).

The second method is referred to as ***detailed survey*** and employs the use of a sample trigger to automatically take readings at predetermined points, typically at 0.5m or 0.25m intervals, on zig-zag traverses 1m apart. These readings are stored in the memory of the instrument and are later dumped to computer for processing and interpretation. Detailed survey allows the visualisation of weaker anomalies that may not have been detected by magnetic scanning.

During this survey a Bartington Grad601 magnetic field gradiometer was used. Readings were taken, on the 0.1nT range, at 0.25m intervals on zig-zag traverses 1m apart within 20m by 20m square grids. The instrument was checked for electronic and mechanical drift at a common point and calibrated as necessary. The drift from zero was not logged.

Data Processing and Presentation

The detailed gradiometer data has been presented in this report in X-Y trace and greyscale formats. In the former format the data shown is ‘raw’ with no processing other than grid biasing having been done. The data in the greyscale images has been selectively filtered.

An X-Y plot presents the data logged on each traverse as a single line with each successive traverse incremented on the Y-axis to produce a ‘stacked’ plot. A hidden line algorithm has been employed to block out lines behind major

'spikes' and the data has been clipped at 10nT. The main advantage of this display option is that the full range of data can be viewed, dependent on the clip, so that the 'shape' of individual anomalies can be discerned and potentially archaeological anomalies differentiated from 'iron spikes'. Geoplot 3 software was used to create the X-Y trace plots.

Geoplot 3 software was used to interpolate the data so that 1600 readings were obtained for each 20m by 20m grid. The same program was used to produce the greyscale images. All greyscale plots are displayed in the range –1nT to 2nT, unless otherwise stated, using a linear incremental scale.

Appendix 2

Survey Location Information

A Trimble Geodimeter 600s total station theodolite was used to lay-out and tie-in the survey grid. Temporary reference points (survey marker stakes) were left in place for accurate geo-referencing and the grids tied-in relative to these markers and to field boundaries. The survey grids were then superimposed onto an Ordnance Survey map base supplied by the client as a best fit to produce the grid locations and the co-ordinates listed below. Overall there was a good correlation between the local survey and the digital map base and it is estimated that the average 'best fit' error is better than ±1.5m. However, it should be noted that Ordnance Survey 1:2500 Superplan mapping has an error of ±1.9m at 95% confidence. These potential errors must be considered if distances are measured off, or if the tie in survey is used in GPS systems, for relocation purposes.

The locations of the temporary reference points are shown on Figure 2 and the Ordnance Survey grid co-ordinates tabulated below.

Station	Easting	Northing
A	510675.38	224675.28
B	510483.18	224615.94
C	510431.67	224675.28

Archaeological Services WYAS cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party or for the removal of any of the survey reference points.

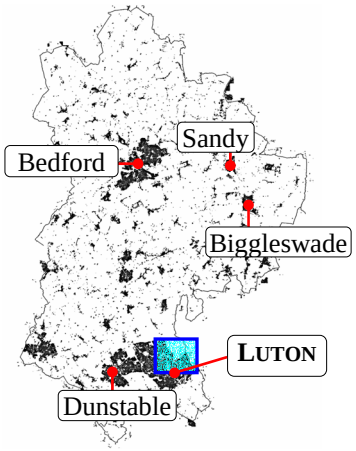
Appendix 3

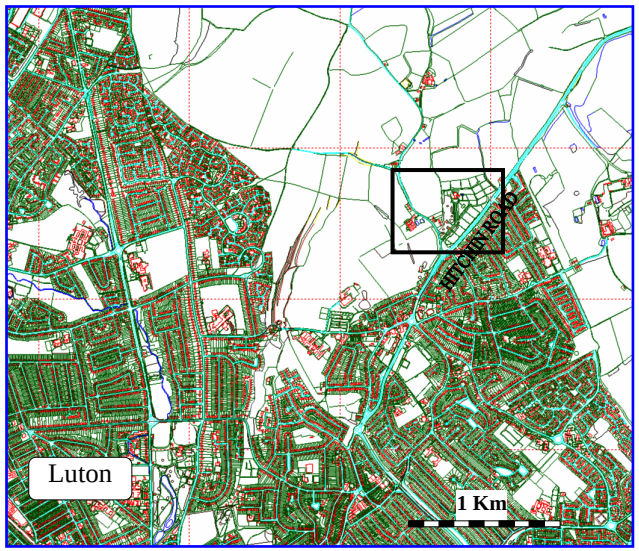
Geophysical Archive

The geophysical archive comprises:-

- an archive disk containing compressed (WinZip 8) files of the raw data, report text (Word 2000), and graphics files (CorelDraw6 and AutoCAD 2000) files.
- a full copy of the report

At present the archive is held by Archaeological Services WYAS although it is anticipated that it may eventually be lodged with the Archaeology Data Service (ADS). Brief details may also be forwarded for inclusion on the English Heritage Geophysical Survey Database after the contents of the report are deemed to be in the public domain (i.e. available for consultation in the relevant Sites and Monument Record Office).





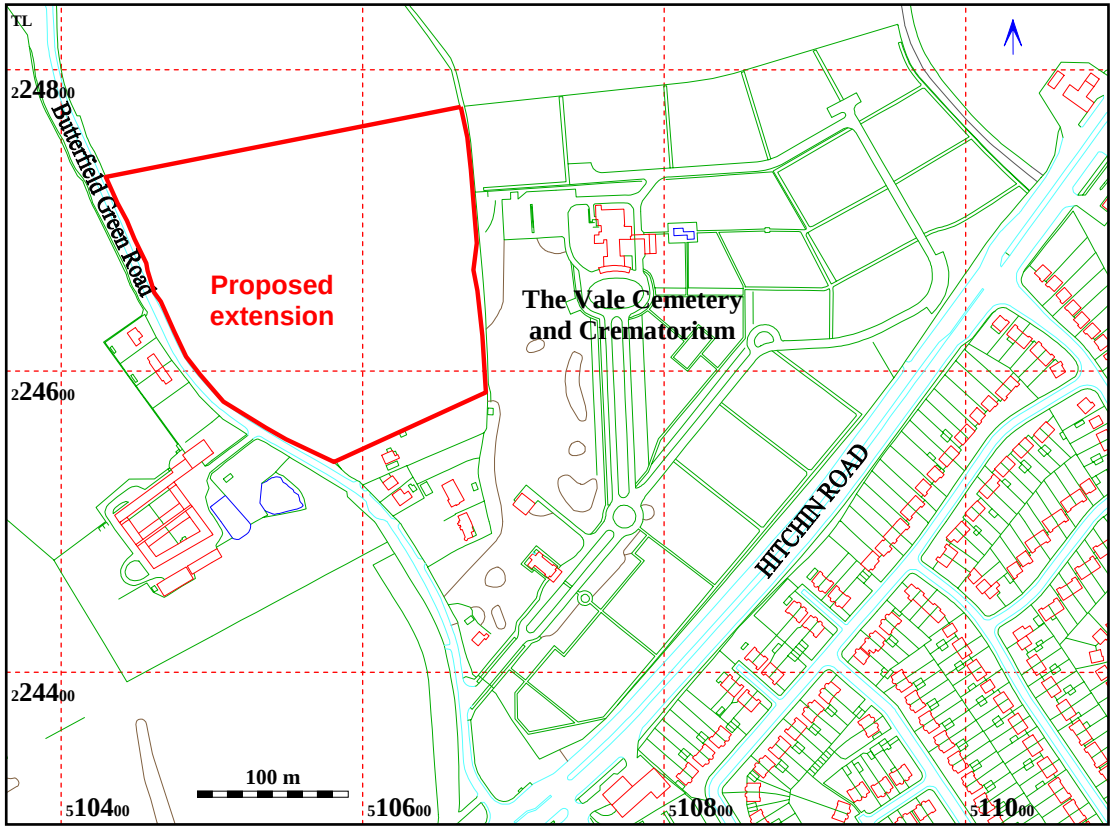


Figure 1: Site location map

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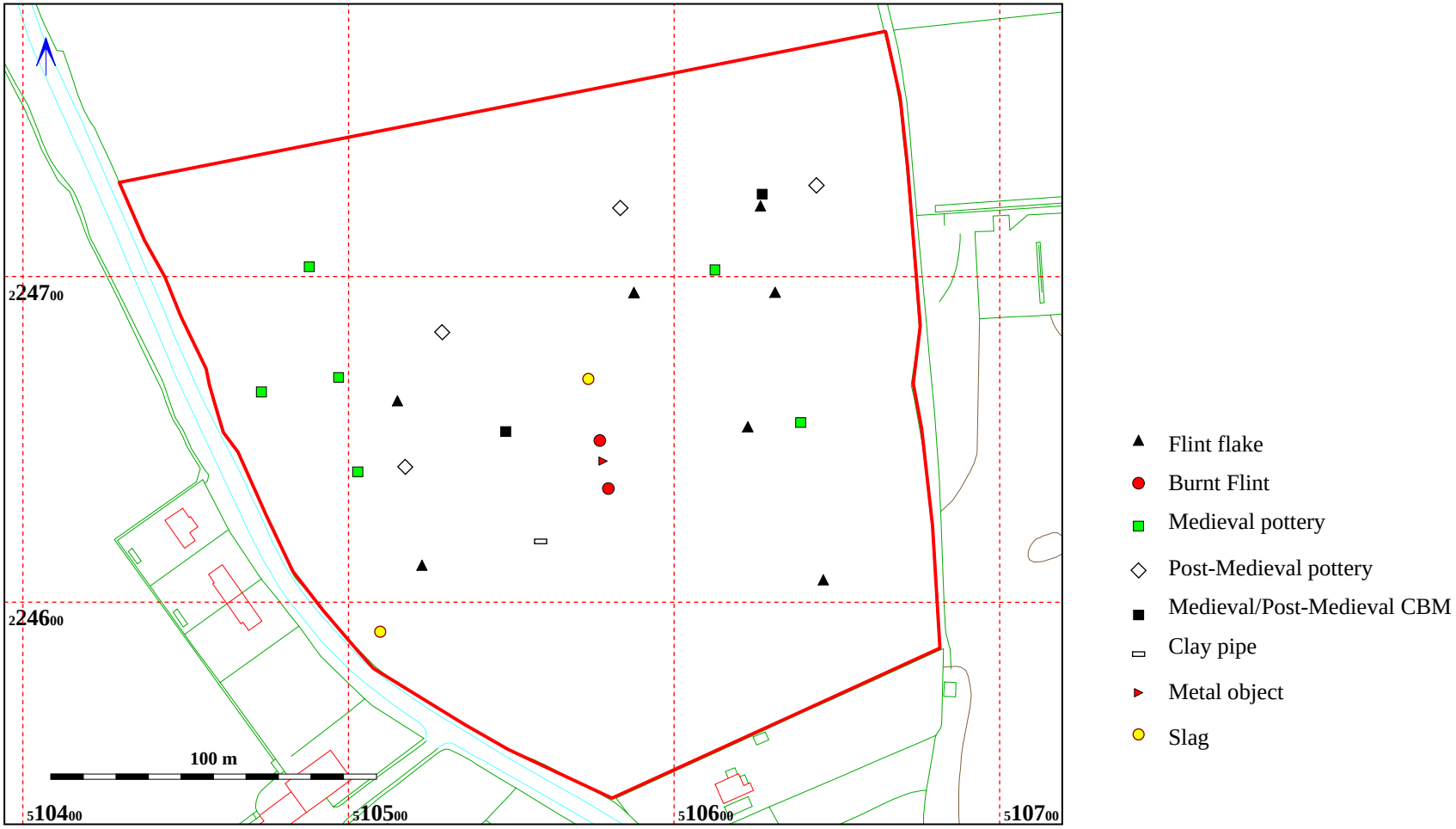


Figure 2: Fieldwalking results

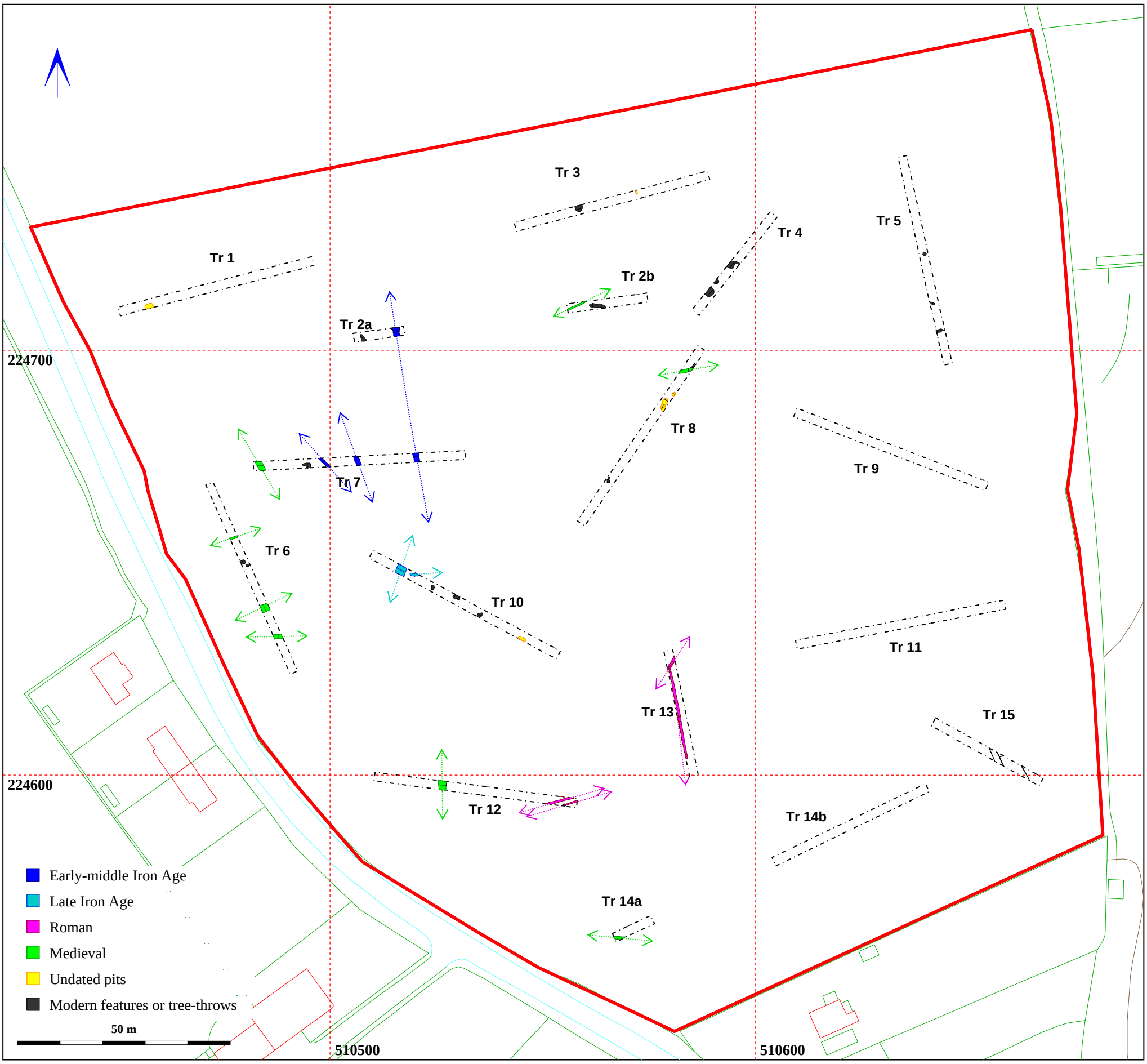


Figure 3: Phased all features plan

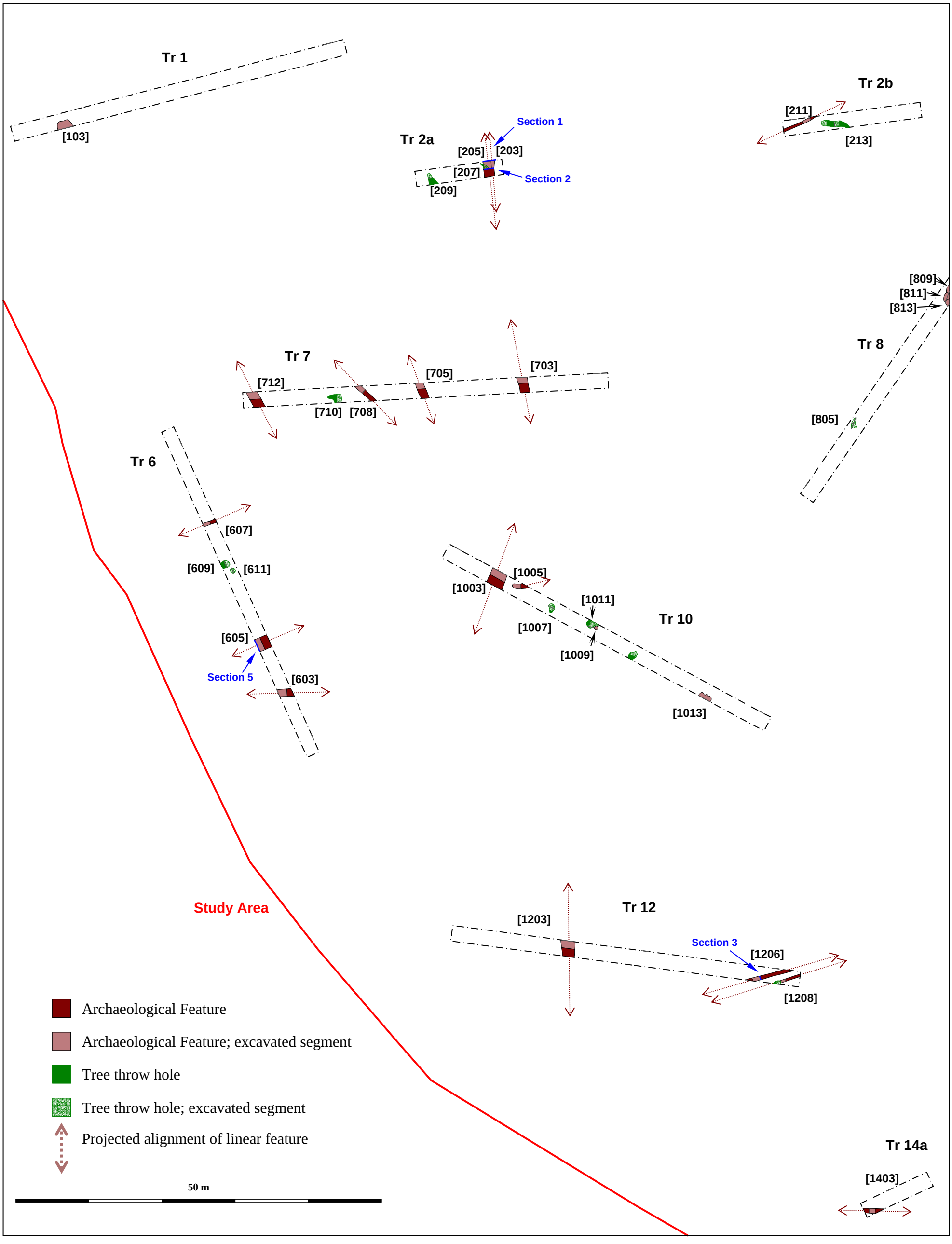


Figure 4: West half of site: All features

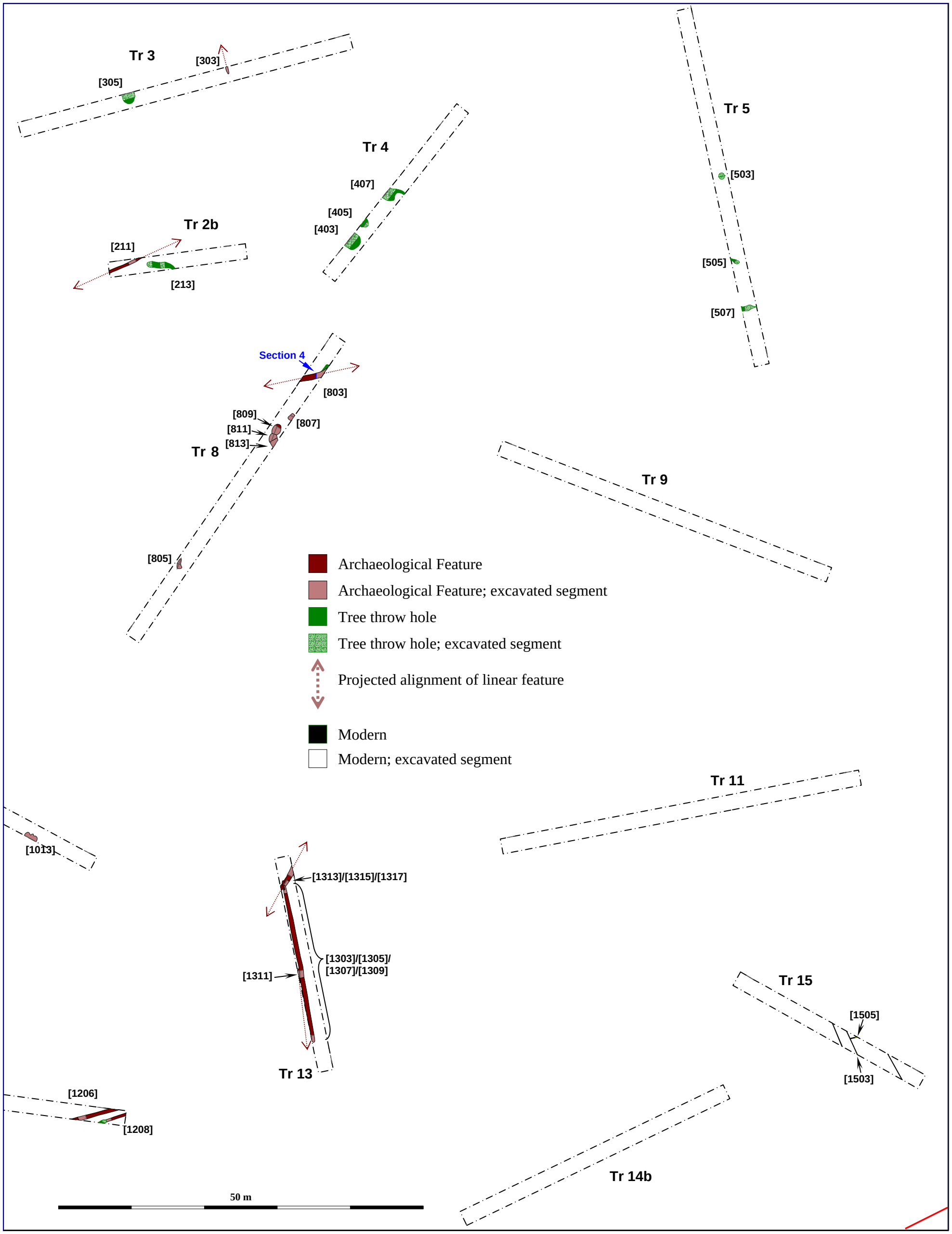
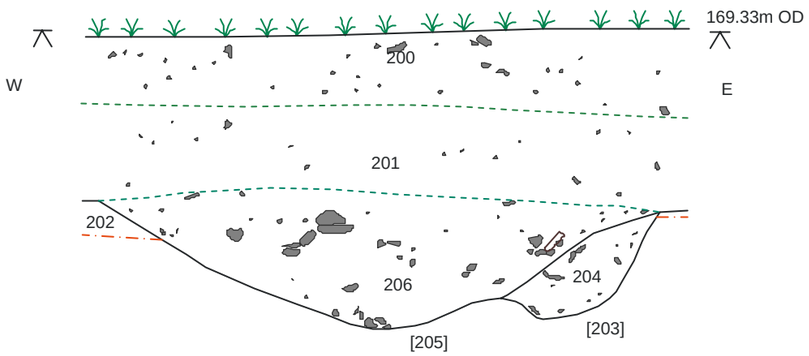
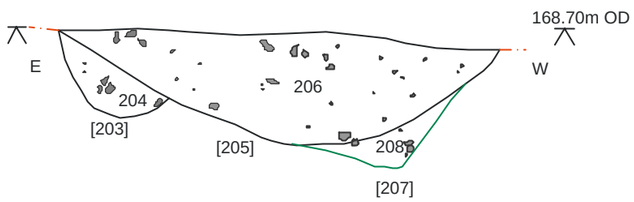


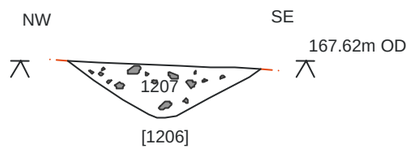
Figure 5: East half of site; All features



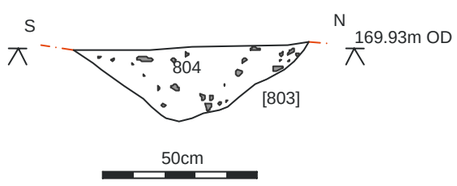
Section 1



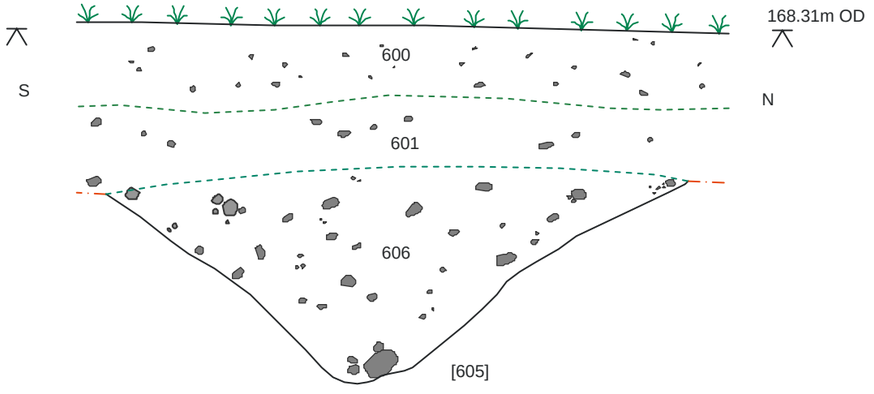
Section 2



Section 3



Section 4



Section 5

Figure 6: Selected sections