Prentice's Farm, Woodham Ferrers, Essex

Geophysical Survey Report

Anglo Renewables

May 2023

Ecus Ltd

Report to: Anglo Renewables

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Originated By:

Dominic Heslam
Project Archaeologist Date: 19/05/2023

Reviewed By:

Alex Schmidt
Project Manager
Date: 22/05/2023

Approved By:

Emily Taylor
Senior Heritage Consultant
Date: 25/05/2023

Prepared by:
Ecus Ltd

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Executive Summary

Ecus Ltd carried out a geophysical survey for Anglo Renewables in April and May 2023. Five agricultural field covering *c.* 33ha were surveyed at Prentice's Farm, *c.* 1. 8 km north east of the village of Woodham Ferrers in Essex.

The survey has yielded good data and identified evidence of probable archaeological activity to the north in Field 1. A substantial ditch and bank enclosure is noted as well several weak anomalies that are likely to indicate internal features. The survey has also identified historical features visible on Ordnance Survey mapping from the 19th century, including former boundaries that are no longer present as well as a former pond.

The remaining anomalies are predominantly modern in origin, pertaining to a system of field drains, small ferrous 'spike' anomalies as well as larger areas of magnetic disturbance caused by extant objects such as peripheral fencing and pylons.

1. Introduction

1.1 Project Background

1.1.1 Ecus Ltd was commissioned by Anglo Renewables to undertake a geophysical survey to inform a forthcoming planning application for a proposed solar farm at Prentice's Farm in Woodham Ferrers, Essex. The Site is centred on National Grid Co-ordinate 581238, 201429 (Figure 1). The survey was carried out in accordance with the written scheme of investigation (ECUS, 2023).

1.2 Location, Topology and Geology

1.2.1 The Site lies within the parish of Stow Maries in the county of Essex. The Site lies *c.* 1.8 km north east of the village of Woodham Ferrers, 600 m south east of Cocks Clark and over 2 km north west of the village of Stow Maries.

1.2.2 The Site is *c.* 33 ha in extent and comprises five fields. The fields are in agricultural use and ponds are present in several locations within the Site. A stream runs east to west through the northern section of the Site. The south east and southern extent of the Site is crossed by overhead cables and an access trackway runs along the south west and western boundaries of the Site. The field boundaries are demarcated by vegetation and mature trees and an area of woodland, known as Great Wood, lies immediately east of the Site.

1.2.3 A Public Right of Way (PRoW) runs through the Site, connecting Cock Clark with Seven Acre Farm and Crows Lane in the south west, and the eastern boundary of the Site is demarcated by a PRoW known as Charity Lane.

1.2.4 The surrounding landscape is characterised by agricultural fields interspersed by isolated farmsteads and areas of woodland, connected by access trackways and PRoWs.

1.2.5 The landscape within the Site is relatively level, lying between 44 m above Ordnance Datum (aOD) in the north to between 50-55 m aOD in the south. The underlying geology of the Site is recorded as London Clay Formation, sedimentary bedrock comprising clay, silt and sand, overlain by superficial deposits comprising Head, Alluvium and Lowestoft-Formation (Diamicton; British Geological Survey 2023).

2. Archaeological and Historical Background

2.1 Introduction

2.1.1 The following summary is based upon the HEDBA written by Ecus Ltd (2023). A 1 km search of the Essex Historic Environment Record (EHER) was conducted of the historical assets in the area surrounding the Site, referred to as the 'study area', as part of the HEDBA.

2.2 Archaeological Investigations

2.2.1 No previous archaeological investigations are known to have been undertaken within the Site.

2.2.2 As detailed in the HEDBA, within the wider environment previous investigations comprised geophysical surveys and a field survey/observations.

2.3 Historic Background and Archaeological Baseline

Prehistoric and Romano-British

2.3.1 There is no record of known prehistoric or Romano-British activity within the Site or study area.

2.3.2 A review of *The Rural Settlement of Roman Britain: an online resource* (Allen *et al* 2016) identified that the nearest record of Romano-British activity as the route of a Roman road over 2 km southeast of the Site.

Early medieval and medieval

2.3.3 No evidence of early medieval activity has been recorded within the study area.

2.3.4 During the medieval period much of the Site formed part of the historic parish of Stow Maries. Stow Maries was documented in the Domesday Survey of 1086 in the hundred of Wibrihtesherne in Essex with a population of 23 households, pasture, and woodland. Stow Maries was held by Tenant-in-Chief Geoffrey de Mandeville.

2.3.5 Evidence of medieval settlement in the study area is represented by two data records on EHER: Birchwood Manor *c.* 860 m northeast of the Site and within closer proximity Wickham's Farm c. 180 m to the north west. Recorded throughout this period under several names, Wycumbys, Wykehams and Wyckombys alias Wykehams, settlement at Wickham's Farm is suggested to have comprised a moated settlement (homestead moat) most likely associated with the family of John (le Fitheler) de Wyco(u)mbe in the fourteenth century. Although parts of the waterfilled moat have since been removed, field survey/observations in 1962 recorded the moat surviving in an incomplete rectangular plan with the northern arm traceable as slight depression.

2.3.6 The EHER data records for the medieval period also document finds recorded on the Portable

Antiquities Scheme. Located *c.* 340 m southeast of the Site the findspot of a medieval cast copper allow circular and domed harness pedant was recorded in 2011 by metal detector. No further findspots are known to have been recorded within the study area.

2.3.7 During this period, the Site is likely to have formed part of a wider agricultural landscape outside the areas of known settlement.

Post-medieval and Twentieth century

2.3.8 EHER data records for the post-medieval period relate to agricultural and industrial activity. In 2015 a geophysical survey was undertaken in advance of renewable energy development. The area for investigation extended up to the eastern boundary of the Site and the geophysical survey recorded various subsurface features and disturbances interpreted to represent post-medieval, and later, drainage and field boundaries. The survey did not record any evidence of archaeological interest. A review of historic mapping confirms these suggestions, with area in agricultural use throughout these periods.

2.3.9 As with the post-medieval period, EHER data records for the twentieth century relate to settlement and occupation. Although no Defence of Britain data is recorded within the Site or study area, Stow Maries First World War (WWI) Aerodrome survives *c.* 570 m southeast of the Site. Designated a Conservation Area, it is a rare example of a well-preserved WWI flight station with original buildings and layout. 24 surviving buildings at the airfield are designated Grade II* Listed and the airfield is of national importance as one of the largest known surviving groups of buildings on an aerodrome which, after being abandoned in 1918, were not adapted for further military use.

2.3.10 Cartographic sources record the Site in use as agricultural fields and woodland during the post-medieval period. Ordnance Survey mapping records the Site in agricultural use and subject to very limited change, except for internal field boundary alterations in the mid to late twentieth century.

Unknown

2.3.11 There are four records on the EHER of unknown origin. Within the closest proximity to the Site this comprises the results of a geophysical survey, interpreted as land drains and former field boundaries, over 190 m south east of the Site. Considered not to be of archaeological interest, a review of historic mapping indicates that this area has been in agricultural use since at least the post-medieval period, and the features are therefore likely to be of post-medieval or later origin.

2.3.12 The three remaining records on the EHER in the study area comprise:

- a moat *c.* 880 m southwest of the Site;

- enclosures visible as cropmarks on aerial photography *c.* 990 m northwest of the Site;
- and an undated isolated ring ditch recorded as a cropmark from aerial photography *c.* 630 m northwest of the Site.

2.4 LiDAR Imagery

2.4.1 Environment Agency LiDAR imagery was obtained and processed in order to determine whether any buried archaeology survives within the Site. The available imagery illustrated the presence of former field boundaries in the north (Field 1) and south east extent (Field 5) of the Site.

2.5 Aerial Photography

2.5.1 Aerial photography held at Historic England was reviewed as part of the HEDBA. The imagery correlated with available Ordnance Survey (OS) mapping and illustrated the historic composition and layout of the Site, recorded the presence of ponds and modern agricultural activity practices. A series of linear features visible on the aerial photographs correlate with the location of former internal field boundaries.

2.5.2 The aerial photography from August 1961 and August 1947 (Table 6) records linear features orientated east to west in Field 3 and north to south in the northern extent of Field 5. Their overall character and appearance, and morphology, correlates with post-medieval ridge and furrow. Such remains are of low to negligible heritage significance. These features were not visible on other aerial photography reviewed.

3. Geophysical Survey Methodology

3.1 Timeframes

3.1.1 The geophysical survey commenced in March 2023. Due to weather and soil conditions it was postponed and recommended in April 2023 and was completed in May 2023.

3.2 Methodology

3.2.1 All survey work was completed to appropriate standards, as outlined by existing guidelines (Chartered Institute for Archaeologists (CIfA) 2014a, revised 2021; 2014b, updated 2020; Schmidt et al. 2015).

3.2.2 The gradiometer survey was completed using Bartington Grad601-2 dual magnetic gradiometer systems with data logger. Readings were recorded at a resolution of 0.01nT and data collected with a traverse interval of 1 m and a sample interval of 0.25 m or less if using a cart-based configuration (further details are available in Appendix A).

3.2.3 The survey data was collected either with a cart linked to Real Time Kinematic (RTK) differential GPS equipment or with reference to a site survey grid comprising individual 30 m x 30 m squares. The grid was established using RTK differential GPS equipment and marked out using non-metallic survey markers. All grid nodes were set out with a positional accuracy of at least 0.1 m and could be relocated on the ground by a third party. Sensors were left to acclimatise outdoors for c. 30 minutes prior to balancing at the start of each day's survey.

3.2.4 The processing was undertaken using Terra Surveyor software and consisted of standard processing procedures. Illustrations were created using QGIS software.

3.2.5 Interpretation of identified anomalies was achieved through analysis of anomaly patterning and increases in magnetic response and was aided through examining any available supporting information. The interpretations followed Ecus colour coding and categorisations of anomalies and attempted where possible to suggest the nature of the buried feature.

3.3 Fields

3.3.1 For convenience and ease of managing survey data, the survey area has been divided into Fields 1-5 for the purpose of this report. This correlates with the field numbers referenced in the HEDBA.

4. Mitigation Factors

4.1.1 Field boundaries comprised of hedgerow boundaries, fences and small drainage ditches. At the time of survey, site conditions were suitable for survey. Where necessary, a 2m-buffer was observed along metal fences, farmyard waste, metallic debris, and machine parts. This was done to minimise the effects or magnetic interference on the survey and to help to reduce any masking of potential buried features. One area to the east of Field 2 was omitted due to poor GPS signal close to the trees adjacent to the survey area.

4.1.2 Whilst there are areas of magnetic interference within the data set, this in mainly localised to the southern boundary of the field. The site has otherwise produced good usable data.

4.1.3 The results of a magnetometry survey may not reveal all potential features within a survey area, and geological, agricultural, and modern features may limit the detection of much weaker archaeological responses. On this occasion, the survey has detected a number of anomalies indicating sub-surface features and shows very minimal limitations.

5. Results of Interpretation

5.1.1 Anomalies found within the survey data are listed in Table 1.

Table 1: Survey Anomalies

Anomaly Number	Anomaly Type	Description	Interpretation
1	Possible Archaeology	A large irregular sub-ovular anomaly (c. 200m x 172m) located in the centre of Field 1.	This anomaly likely represents a substantial ditched enclosure. The ditch is indicated by the weakly negative curvilinear anomaly. There are indications of upcast or bank material adjacent to the ditch where a weakly positive response is noted.
2	Possible Archaeology	A small weekly magnetised circular linear response (c. 16m in diameter) in the centre of Field 1.	This anomaly is likely a smaller circular ditched-enclosure and is likely part of the same complex as the larger enclosure due to its position in the centre.
3	Possible Archaeology	A small semi-circular linear anomaly (c. 18m across) in the centre of Field 1.	This anomaly likely represents part of an incomplete circular enclosure.
4	Possible Archaeology	A small linear anomaly (c. 10m x 2.5m) in the centre of Field 1 running SSE – NNW.	This anomaly likely represents a possible ditch feature of uncertain origin.
5	Possible Archaeology	A small linear anomaly (c. 14m x 2.5m) in the centre of Field 1 running SE-NW.	This anomaly likely represents a possible ditch feature also of uncertain origin
6	Possible Archaeology	A small sub-ovular anomaly (c. 15m x 5m) in the northeast of Field 1.	This anomaly represents a possible pit. However, could be natural in origin.

7	Possible Archaeology	A collection of small sub-circular and sub-ovular anomalies (c. > 3m) within Fields 1 and 5.	These anomalies represent possible pits. However, could be natural in origin.
8	Possible Archaeology	A weak linear anomaly (c. 75m) running NW-SE across the north of Field 5.	This represents a possible ditch feature, though precise interpretation is not possible.
9	Possible Archaeology	A weak semi-circular linear anomaly (c. 19m)	This represents a possible ditch feature, though precise interpretation is not possible.
10	Historic field boundary	A linear anomaly (c. 410m x 1.5m) running NW-SE almost centrally across Field 1.	This boundary represents a historic field boundary and is seen in the 1880 OS map and Aerial Photos from 1947.
11	Historic field boundary	A linear anomaly (c. 84m x 1.5m) running NE-SW in the north western corner of Field 1.	This boundary represents a historic field boundary and is seen in the 1880 OS map and Aerial Photos from 1947.
12	Historic field boundary	A linear anomaly (c. 98m x 1.5m) running E-W in the centre of Field 5.	This boundary represents a historic field boundary and is seen in the 1880 OS map and Aerial Photos from 1947.
13	Former field boundary	A linear anomaly (c. 160m x 1.5m) running NE-SW in the centre of Field 5.	This boundary represents a historic field boundary and is seen in the 1880 OS map and Aerial Photos from 1947.
14	Former pond	An irregular shaped anomaly (c. 14m x 16m) within Field 5.	This boundary represents a historic field boundary and is seen in the 1880 OS map.
15	Drainage	Parallel linear anomalies, spaced at 25m to 98m intervals, extending across site, typically running parallel to site boundaries.	These anomalies represent agricultural drainage from historic and modern farming.

16	Lightning Strike	Irregular-shaped anomaly up to 30m wide in the north-west corner of Field 1.	This highly magnetic anomaly is likely to indicate the location of a former lightning strike.
17	Ferrous Disturbances	Irregular shaped anomalies towards the edges of field boundaries (and former field boundaries).	These represent areas ferrous disturbance where survey data has been affected by the presences of extant metal objects.
18	Ferrous Spikes	Small circular anomalies (c. 1m) across the entirety of Field 1.	These anomalies represent small foci of ferrous disturbance and likely indicate small ferrous objects in the topsoil.
19	Geological Variations	Irregular-shaped anomalies up to 75m wide in the northern end of Field 1 and Field 5.	The anomalies represent geological variations.

6. Discussion

6.1.1 The geophysical survey produced usable data of the fields under study. A small amount of geological variation has been identified in the survey results. These are minimal and not thought to have affected the detection of smaller, weaker features.

6.1.2 The survey has produced data of a suitable quality for the detection of magnetic anomalies of archaeological origin. Analysis of this data has identified a substantial ditch and bank enclosure to the north of the survey area in Field 1. The enclosure measures 185 m north west to south east and 128 m north east to the south west. The probable ditch portion measures 3 – 4 m wide and is evidenced by a weakly negative linear anomaly. A weakly positive response is noted running parallel to this, predominantly to on the outside, but occasionally on the inside of the enclosure. This likely indicates a bank of upcast material. Several weak anomalies that are likely to indicate internal features are also noted, although further interpretation is difficult due to the low magnitude response they present.

6.1.3 The survey has also identified historical features visible on OS mapping from the 19th century including former boundaries in Field 1 and Field 5 that are no longer present. A former pond is also noted to the south of Field 5. These anomalies are visible on mapping dating to 1885.

6.1.4 The remaining anomalies are predominantly thought to be modern in origin, pertaining to a system of field drains across all the fields subject to survey. Small ferrous 'spike' anomalies are noted throughout as well as larger areas of magnetic disturbance caused by extant objects such as peripheral fencing and pylons.

7. Storage and curation

7.1.1 The archive will be prepared in accordance with national guidelines (Brown 2011; CIfA 2020b). The integrity of the primary field record will be preserved. Security copies will be maintained where appropriate. Digital records of the geophysical survey will be held by Ecus.

7.1.2 An OASIS form has been created on the results of the works under the reference number (enter number). Following approval, a pdf version of this final report will be submitted within three months to the Archaeology Data Service via the OASIS form.

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FIGURES

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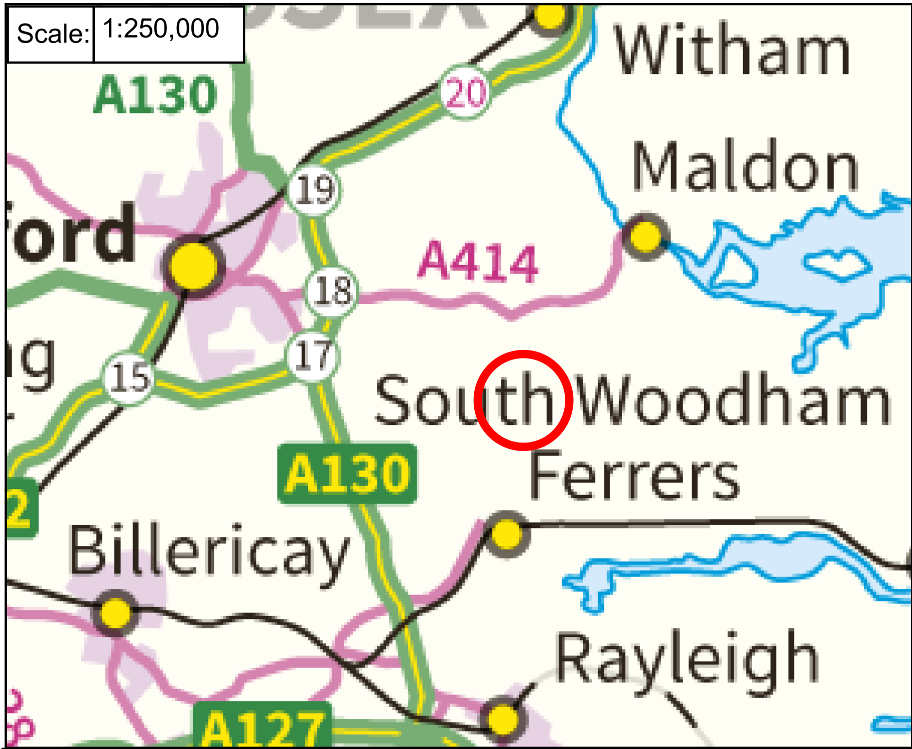

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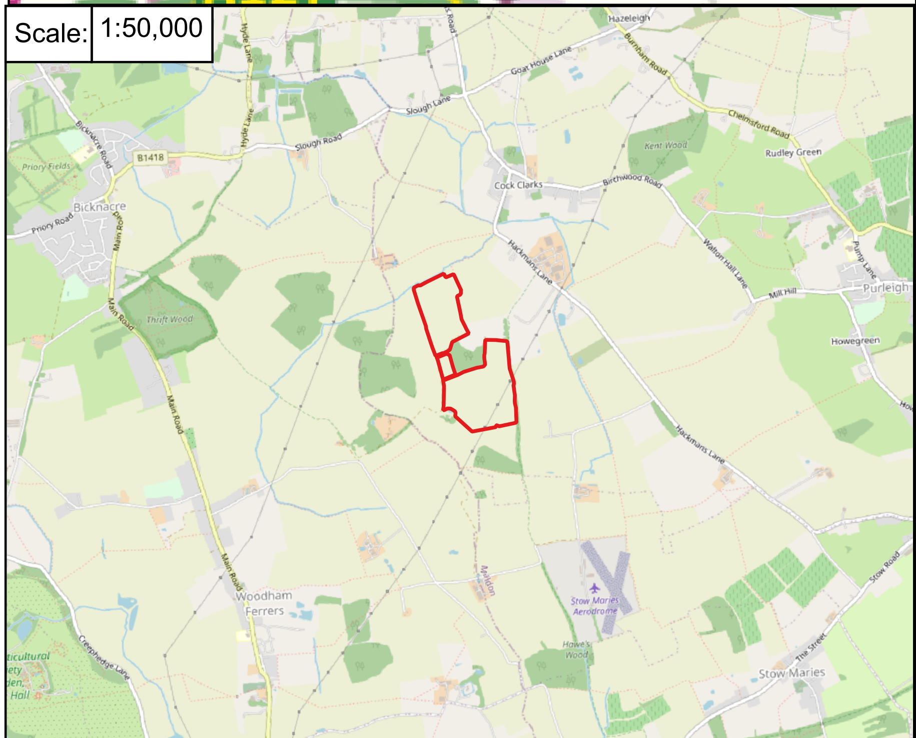

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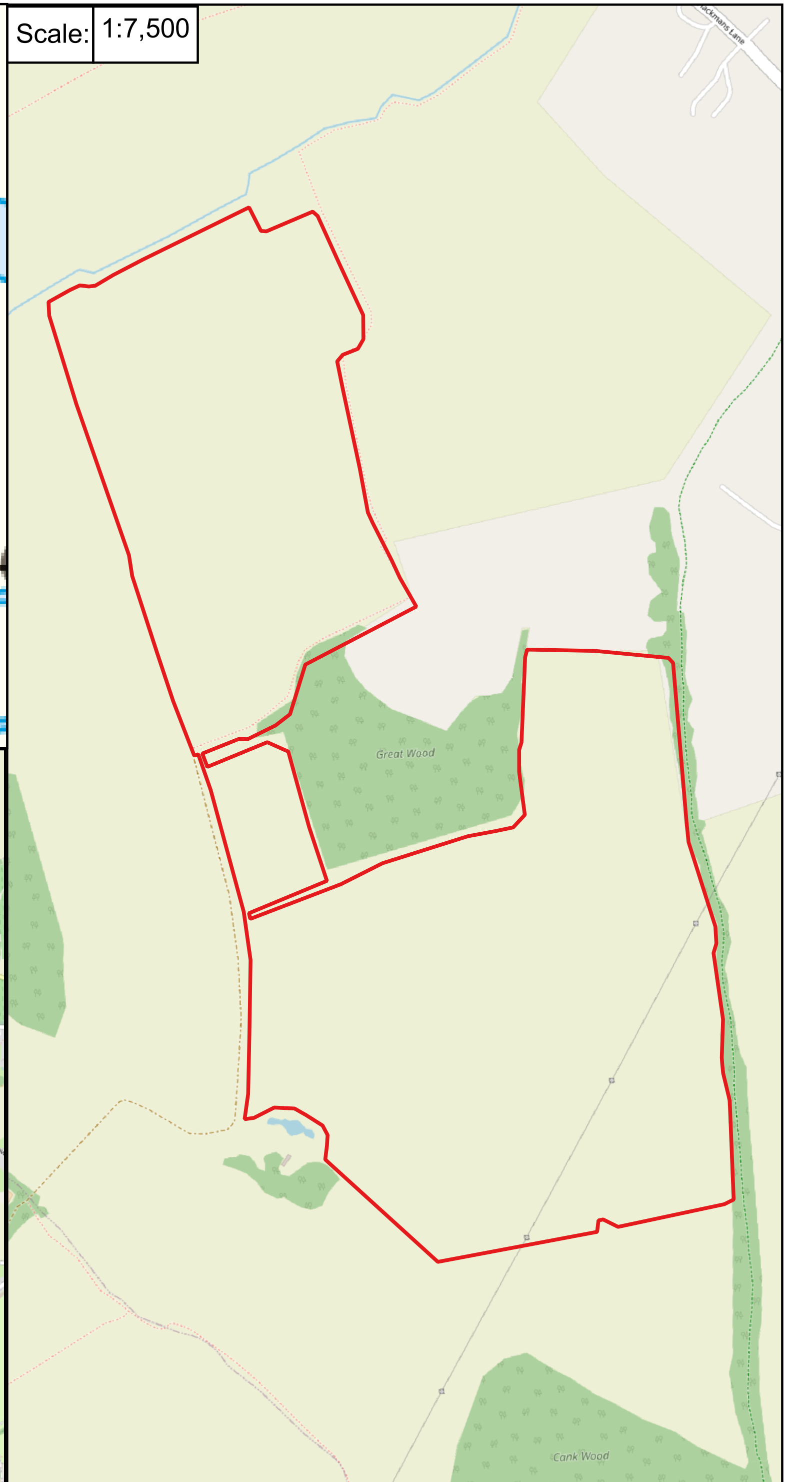

Key

Site Boundary

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Prentice's Farm, Woodham Ferrers, Essex - Geophysical Survey

Figure 1: Site Location

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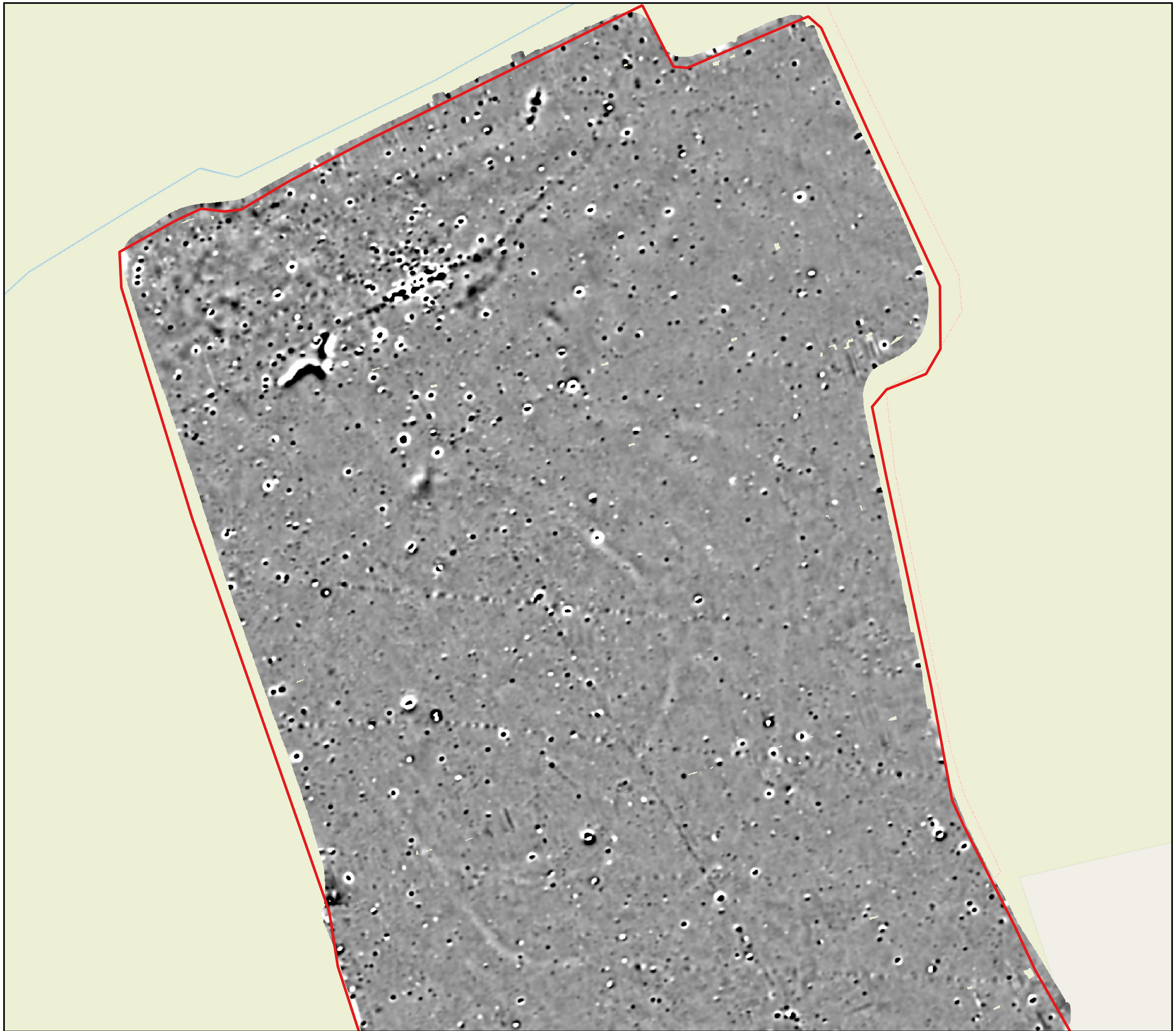

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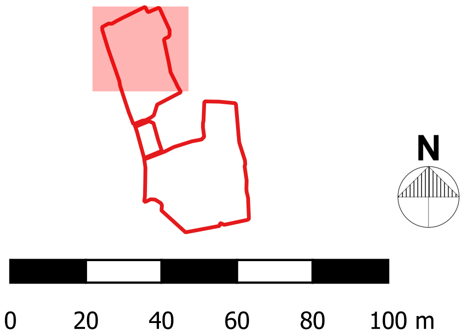

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Figure 2: Greyscale North (Field 1)

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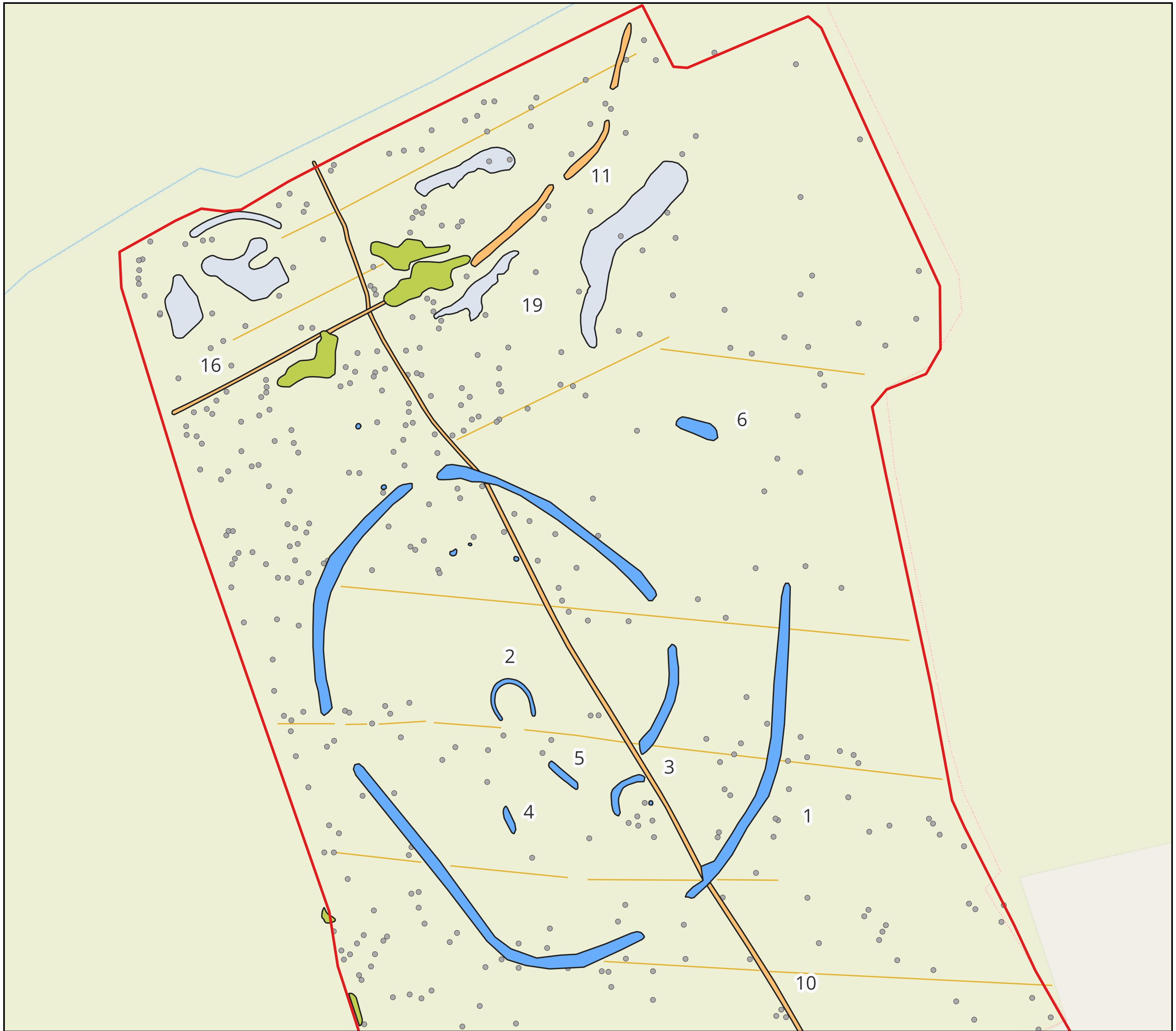

Key

Site Boundary

Ferrous Disturbance

Possible Archaeology

Ferrous Spike

Field Drain

Former Field Boundary

Geology

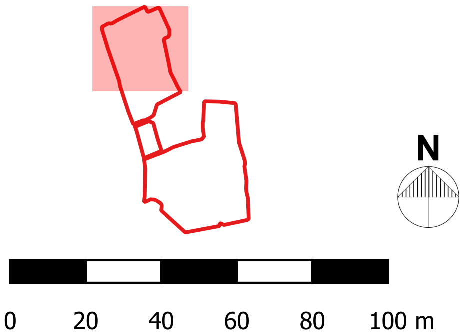

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Figure 3: Interpretation North (Field 1)

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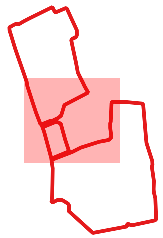
Key

Site Boundary



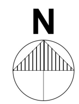


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Figure 4: Greyscale Central (Field 1, 2, 3, 5)

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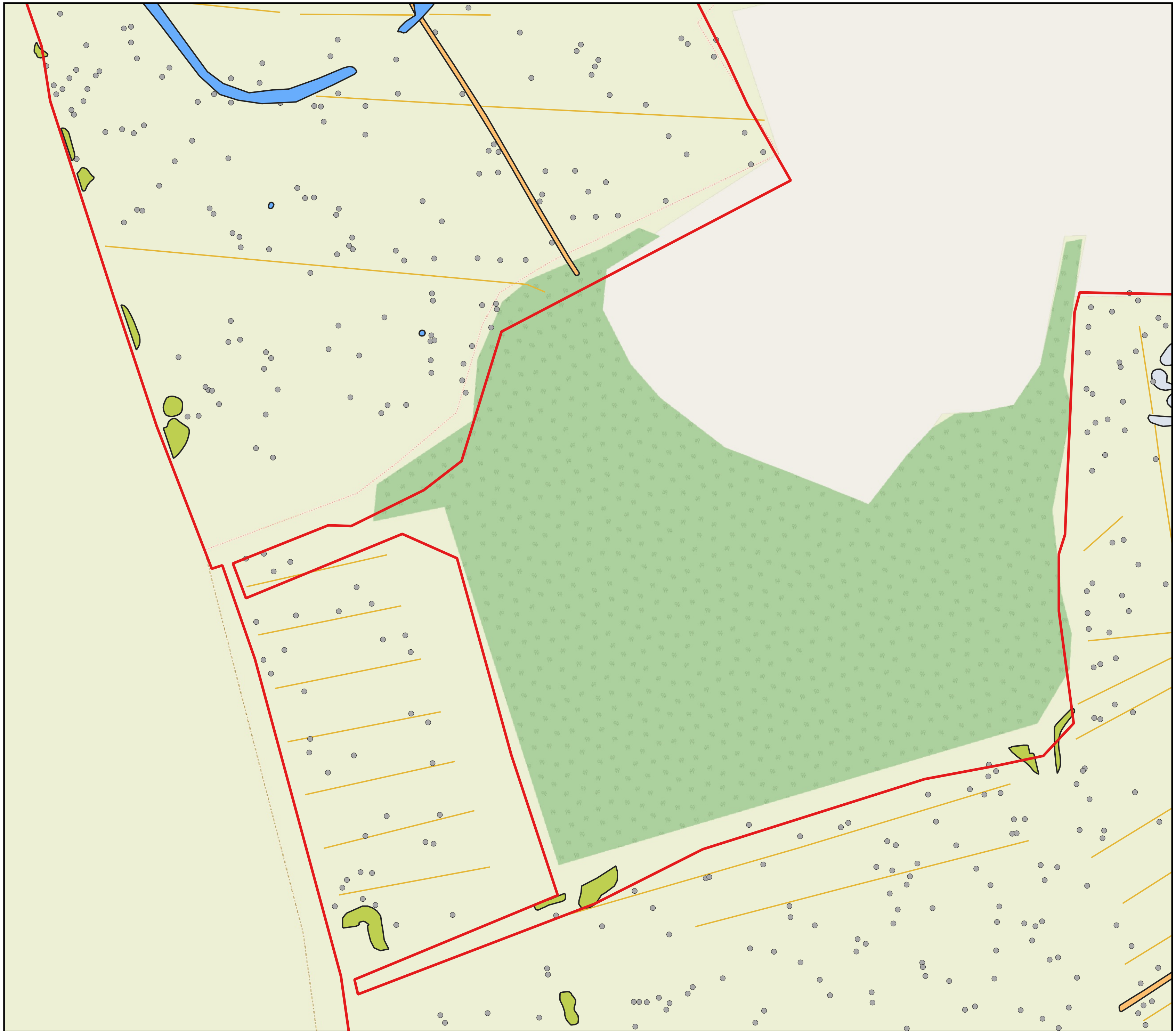

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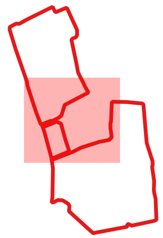
Key

- Site Boundary
- Ferrous Disturbance
- Possible Archaeology
- Ferrous Spike
- Field Drain
- Former Field Boundary
- Geology



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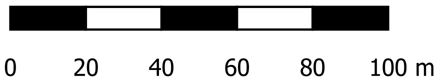

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Figure 5: Interpretation Central (Field 1, 2, 3, 5)

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Key

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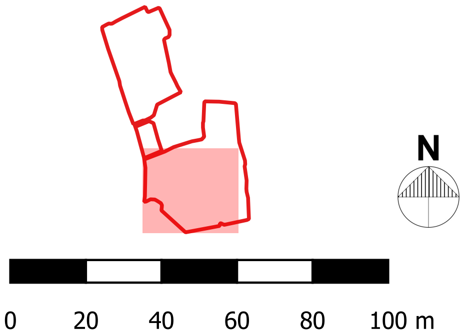

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Figure 6: Greyscale South (Field 2, 3, 4, 5)

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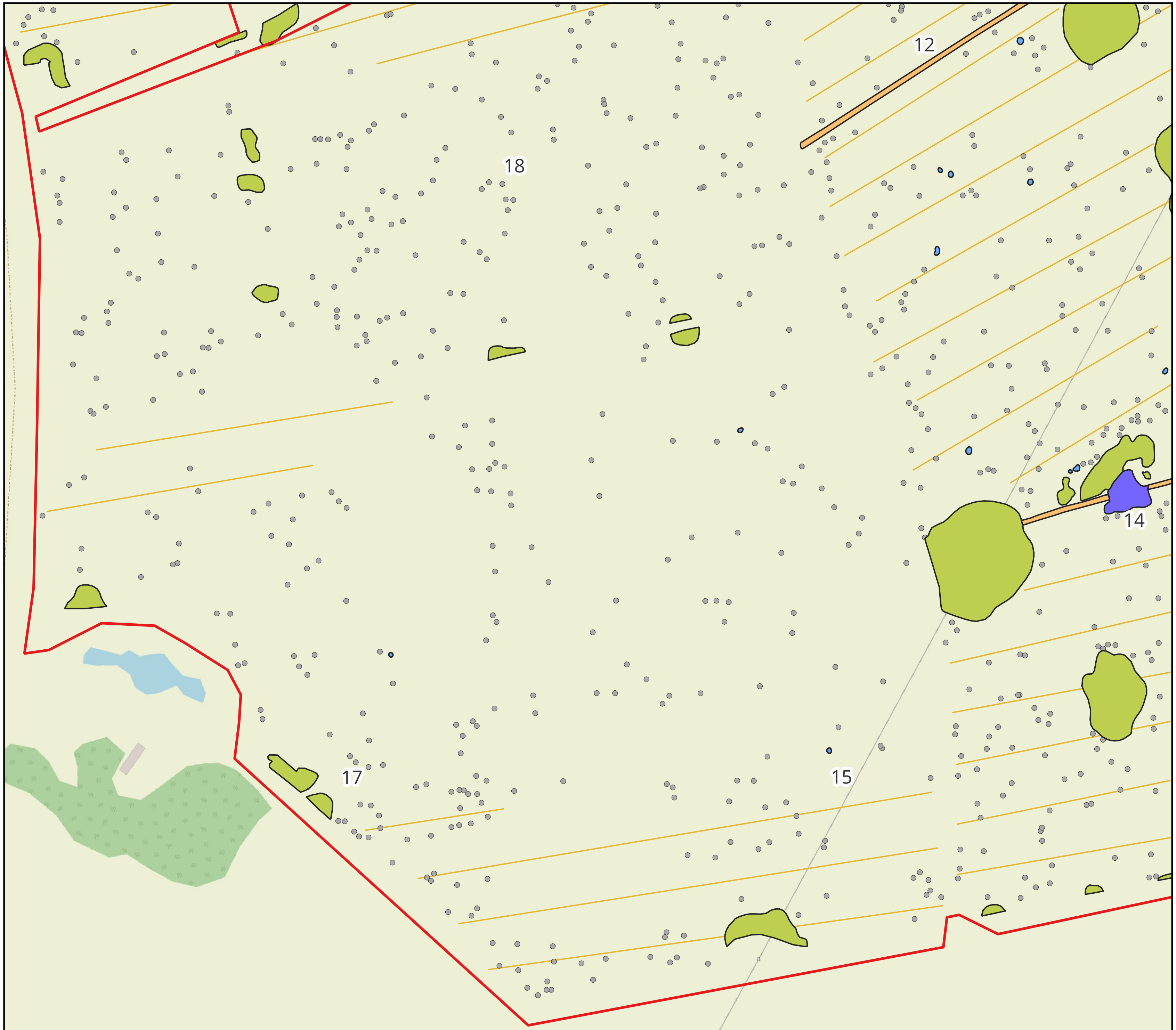

Key

Site Boundary
Ferrous Disturbance
Possible Archaeology
Ferrous Spike
Field Drain
Former Field Boundary
Former Pond

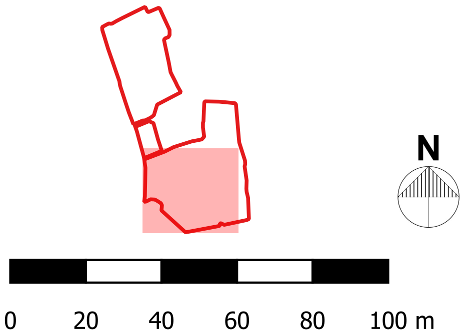

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Figure 7: Interpretation South (Field 2, 3, 4, 5)

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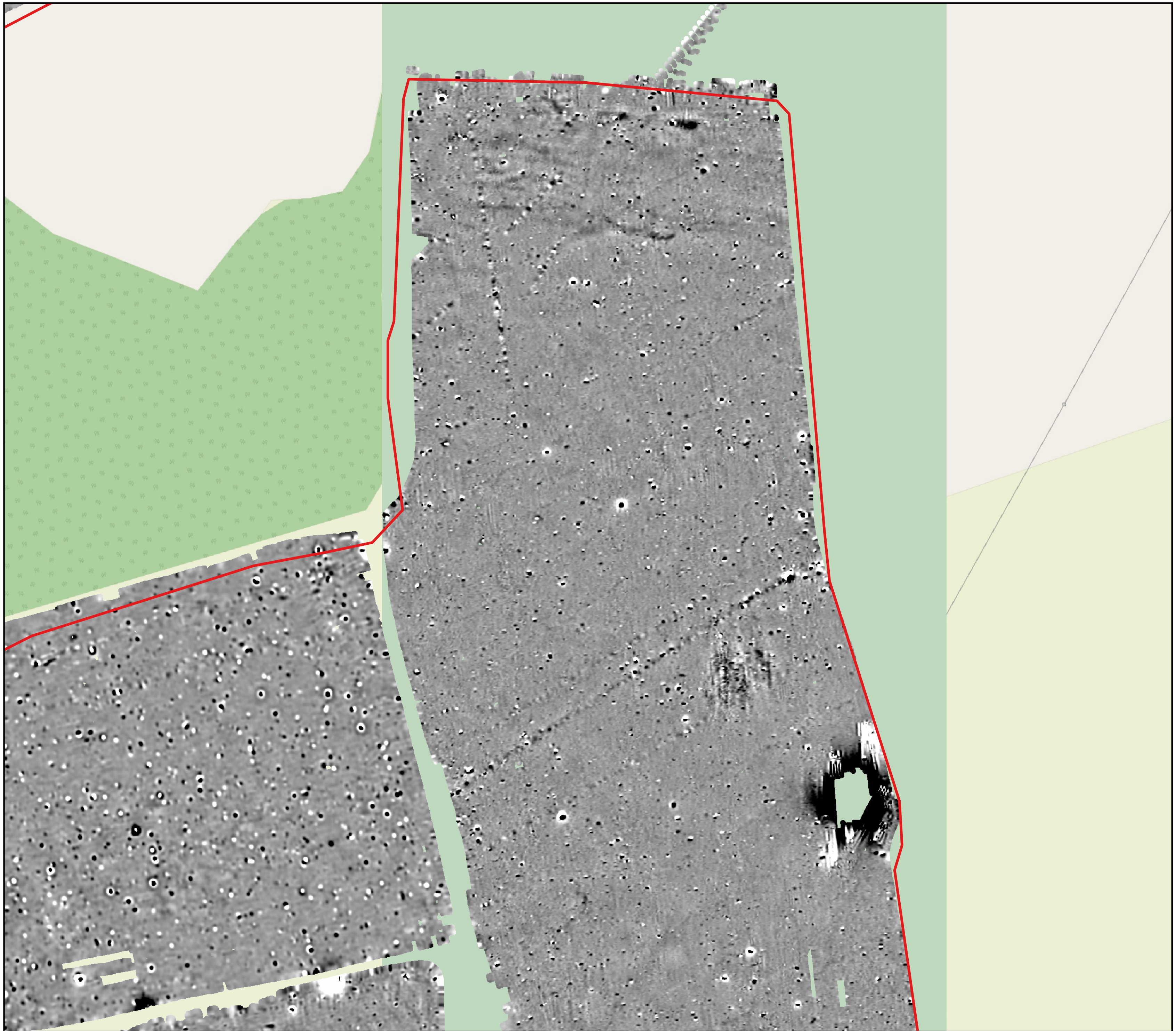

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Key

Site Boundary

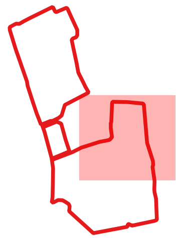

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Figure 8: Greyscale East (Field 3, 4, 5)

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Key

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Possible Archaeology

Ferrous Spike

Field Drain

Possible archaeology

Geology

Former Field Boundary

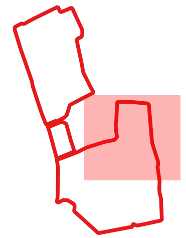

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Figure 9: Interpretation East (Field 3, 4, 5)

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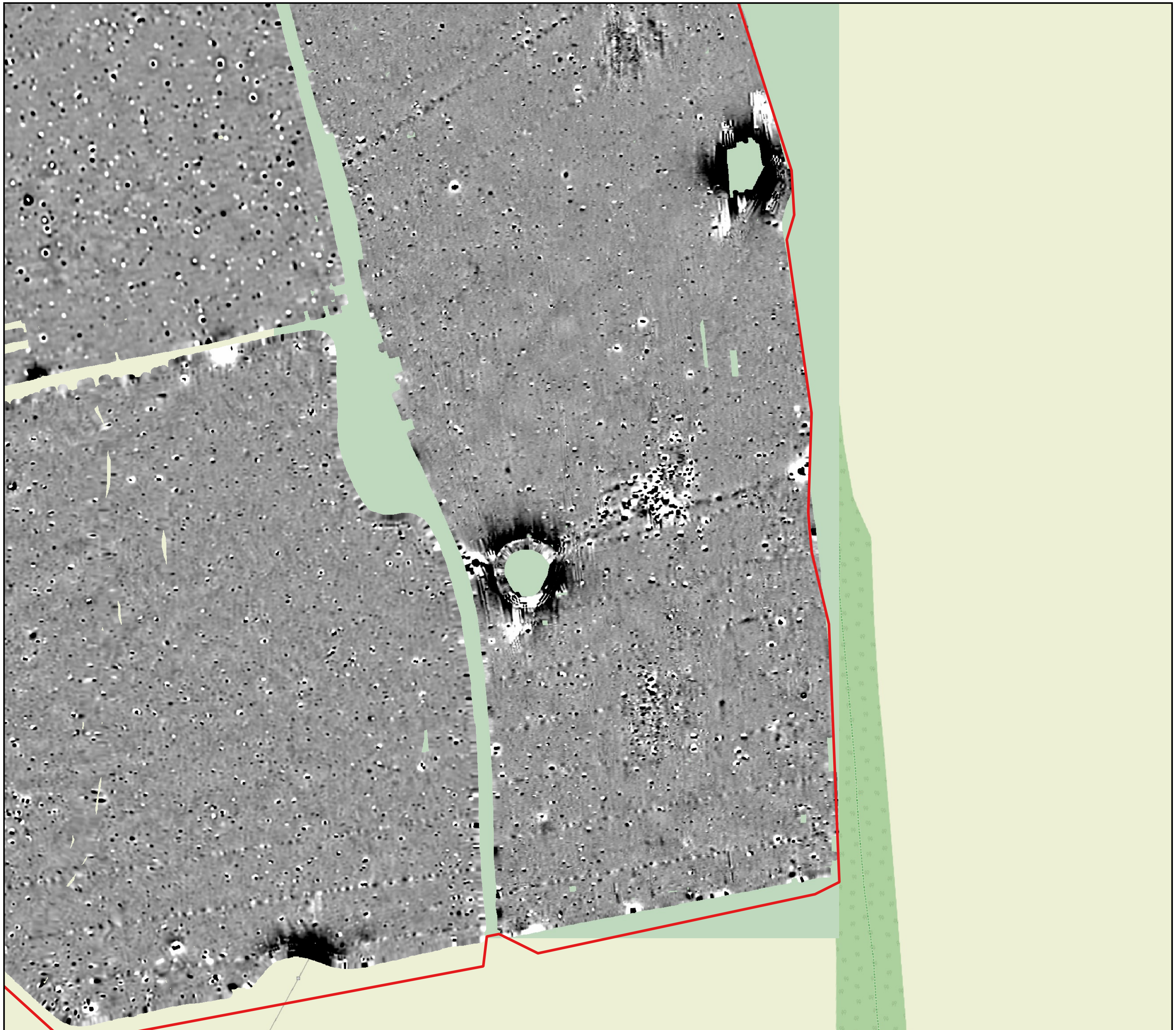
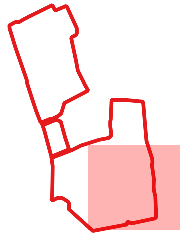


Key

Site Boundary



N

0 20 40 60 80 100 m

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Figure 10: Greyscale South East (Field 3, 4, 5)

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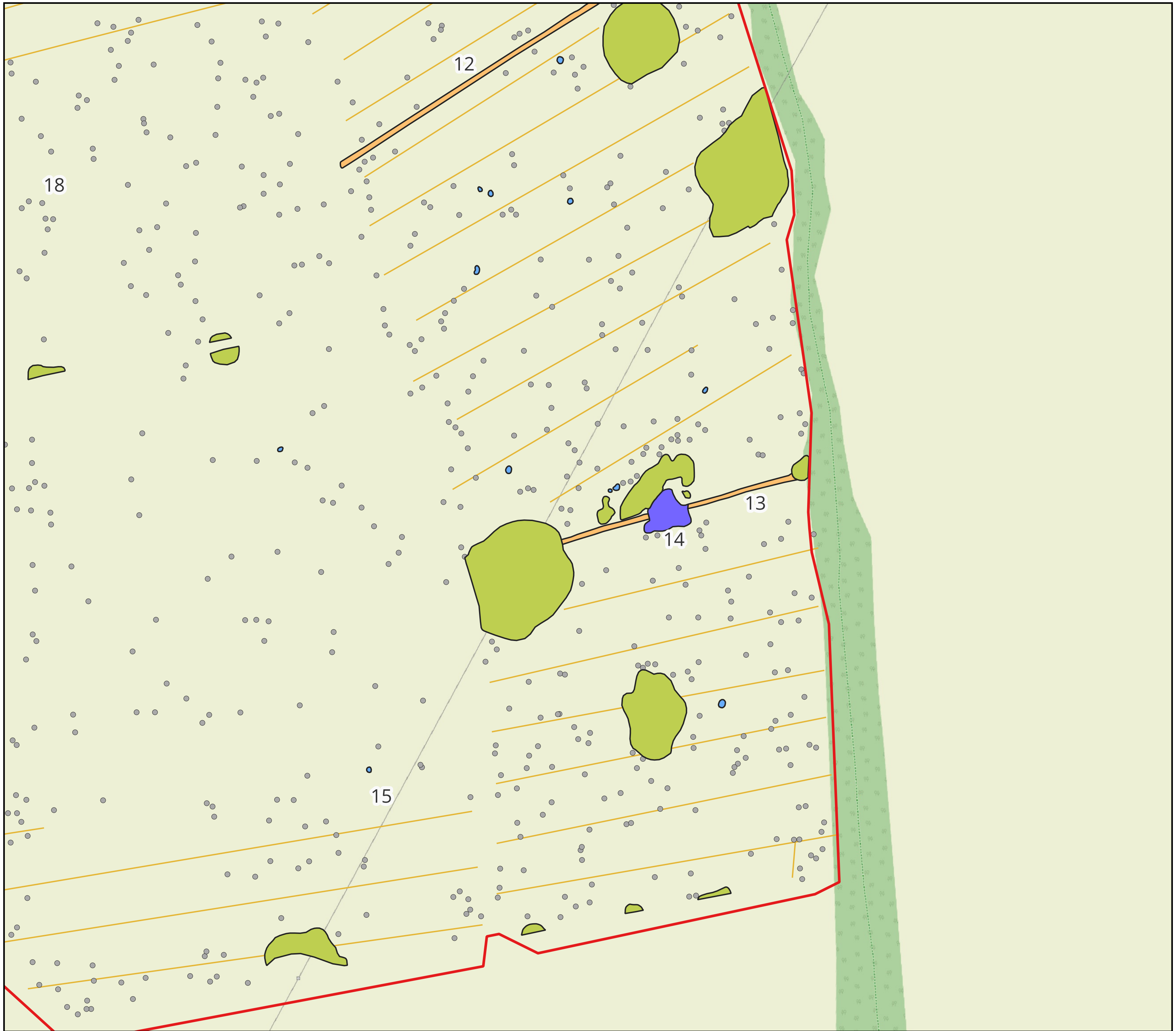

Key

Site Boundary	
Ferrous Disturbance	
Possible Archaeology	
Ferrous Spike	
Field Drain	
Former Field Boundary	
Former Pond	

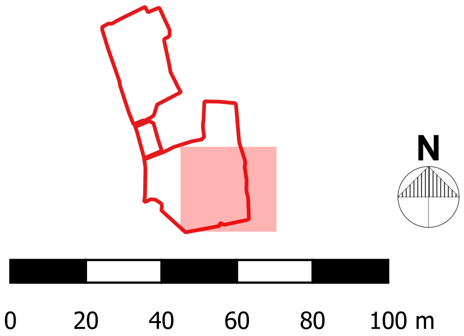

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Figure 11: Interpretation South East (Field 3, 4, 5)

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Appendix 1: Technical Information

Gradiometer Survey

Magnetic surveys measure distortions in the earth's magnetic field caused by small magnetic fields associated with buried features (Gaffney and Gater 2003, 36) that have either remnant or induced magnetic properties (Aspinal et al. 2008, 21–26). Human activity and inhabitation often alter the magnetic properties of materials (Aspinal et al. 2008, 21) resulting in the ability for numerous archaeological features to be detected through magnetic surveys. Intensive burning or heating can result in materials attaining a thermoremanent magnetisation; examples of which include kilns, ovens, heaths and brick structures (Aspinal et al. 2008, 27; Gaffney and Gater, 2003, 37). When topsoil rich with iron oxides, fills a man-made depression in the subsoil, it creates an infilled feature, such as a pit or ditch, with a higher magnetic susceptibility compared to the surrounding soil (Aspinal et al. 2008, 37–41; Gaffney and Gater 2003, 22– 26). Magnetic surveys can also detect features with a lower magnetically susceptibility than the surrounding soil, an example of which is a stone wall.

Limitations

Poor results can be due to several factors including short lived archaeological occupation/use or sites with minimal cut or built features. Results can also be limited in areas with soils naturally deficient in iron compounds or in areas with soils overlying naturally magnetic geology, which will produce strong responses masking archaeological features.

Overlying layers, such as demolition rubble or layers of made ground, can hide any earlier archaeological features. The presence of above ground structures and underground services containing ferrous material can distort or mask nearby features.

Particularly uneven or steep ground can increase the processing required or distort results beyond the capabilities of processing. It is also possible in areas containing dramatic topographical changes that natural weathering, such as hill wash, often in combination with intensive modern ploughing, will reduce the topsoil on slopes and towards the peaks of hills and possibly destroy or truncate potential archaeological features. Conversely features at the bottom of slopes may be covered by a greater layer of topsoil and so if buried features are present, they appear faint within the results, if at all.

Over processing of data can also obscure or remove features, especially if there are on the same orientation as the direction of data collection. Consequently, where possible, attempts are made to ensure data is not collected on the same orientation as known potential features and that data quality is sufficient to minimise the required data processing.

Instrumentation

The data will be collected using Bartington Grad 601-2 fluxgate gradiometers, either in a cart configuration with four sensors arranged at one metre intervals or as handheld pairs of sensors. The Bartington 601-2 is a single axis, vertical component fluxgate gradiometer comprising a data logger battery cassette and two sensors. The sensors are Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying frame; each sensor contains two fluxgate magnetometers with 1m vertical separation.

The difference in the magnetic field between the two fluxgates in each sensor is measured in nanoTesla (nT). NAA gradiometer data is recorded with a range of ±100nT, which equates to a resolution of 0.01nT. It should be noted that the actual resolution is limited to 0.03nT because of internal instrumental noise (Bartington Instruments Ltd, n.d., 23).

The gradiometer records two lines of data on each traverse, the grids are walked in a zig-zag pattern amounting to 15 traverses per 30m grid. The gradiometers are calibrated at the start of every day and recalibrated whenever necessary.

Appendix 2: Data Visualisation Information

The data was used to produce a series of images to demonstrate the results of surveys, detailed below:

- Greyscale/colour scale plot – This visualised the results as a shaded drawing with highest readings showing as black, running through different shades to lowest showing as white; and
- Interpreted plot – Through detailed analysis, anomalies have been interpreted and possible features identified. Interpretation drawings are used to show potential features and to reinforce and clarify the written interpretation of the data. Anomalies have been characterised using the terminology detailed in the following section and have been assigned colour coding, which is outlined in keys on figures associated with this report.

Magnetic Anomalies and Terminology

Table 2: Lexicon of Terminology

Terminology	Detail
Anomaly	Any outstanding high or low readings forming a particular shape or covering a specific area with the survey results.
Feature	A man-made or naturally created object or material that has been detected through investigation works and has sufficient characteristics or supporting evidence for positive identification.
Magnetic susceptibility	The ability of a buried feature to be magnetically induced when a magnetic field is applied.
Magnetic response	The strength of the changes in magnetic values caused by a buried feature with either a greater or lesser ability to be magnetised compared with the soil around it. Anomalies are considered to either have strong/weak or positive/negative responses. The strength of magnetic response (along with patterning) can be essential in determining the nature of an anomaly, but it should be noted that the size or strength of the magnetic response does not correlate

	with the size of the buried feature.
Patterning of an anomaly	The shape or form of an individual anomaly.
Thermoremanence	The affect caused when a material has been magnetically altered through a process of heating. Thermoremanent magnetisation occurs when an object or material is heated passed the Curie Point and acquires a permanent magnetisation that is associated with the magnetic field that they cooled within (Gaffney and Gater 2003, 37).

Different anomalies can represent different features created by human occupation, agricultural or modern activity, or natural pedological or geological changes in the substrata. Anomalies interpreted as 'greater' are considered more likely to be of the interpreted characterisation; whereas a 'lesser' categorisation represents a more tentative interpretation applied to those anomalies with weaker increases in magnetic response or if the anomaly has incomplete patterning or irregular form. The strength and size of anomalies can vary depending on the magnetic properties of the feature, the magnetic susceptibility of the soil, the depth at which the feature is buried, and the state of preservation.

Table 3: Characterisation of anomalies

Characterisation	**Detail**
Archaeology and Probable archaeology	Linear anomalies with a positive or negative magnetic responses and composed of a patterning or shape that is suggestive of a buried archaeological feature. These are often indicative of structural remains or infilled features such as ditches. The strength of anomaly signal can be suggestive of the properties of the feature. Negative linear anomalies represent upstanding or infilled features that are less magnetically susceptible than background readings, for example structures or ditches composed of a non-igneous stone material. Bipolar linear anomalies considered to be of an archaeological nature are indicative of material with a high magnetic susceptibility, such as a brick wall. Isolated anomalies

	or anomalies with a more amorphous form possibly represent infilled features or thermomagnetic features such as areas of heating/burning of an archaeological origin. Unless associated with conclusively identified archaeological remains, such as linear anomalies, absolute identification of positive responses can be problematic as it is often not possible to decipher if they are of an archaeological, modern, or agricultural origin. Consequently, isolated positive responses are not shown within the interpretation unless composed of a broad form or belonging to a series of isolated positive responses. Bipolar responses considered likely to be of an archaeological origin are also interpreted as isolated anomaly (archaeology). These are considered to relate to material with a very strong magnetic susceptibility or thermoremanent magnetisation.
Possible archaeology	Weak and diffuse anomalies with an uncertain origin are denoted by trends. It is possible that these belong to archaeological features but given their weak signatures or incomplete patterning it is equally plausible that they relate to agricultural features or natural soil formations.
Recorded field boundary	Linear anomalies, either with positive or negative magnetic responses, that correspond with the location of field boundaries recorded on historic maps, Aerial photos or LiDAR coverage of the site.
Ridge and furrow	Broadly spaced linear anomalies that are likely to be indicative of earlier forms of agriculture, such as ridge and furrow. These often correspond with the location of earthworks visible on the ground or identified on aerial photos or LiDAR survey coverage.
Masking anomalies	

Strongly magnetic bipolar or dipolar Service	Positive anomalies with associated negative 'halo' (bipolar) denote features with a strong magnetic response are likely to be of a modern origin. Isolated bipolar responses of a modern nature are likely to relate to buried ferrous material or objects, such as metallic agricultural debris. If a trend is noted in the alignment or spacing of isolated bipolar responses, it is possible that they are indicative of ferrous fittings or connectors used on buried non-magnetic buried utilities
Magnetic interference	Areas of magnetic disturbance, often along the edges of survey areas are caused by standing metal structures such as fencing and buildings. Also, areas of increased magnetic response denote areas of disturbance containing a high concentration of dipolar or bipolar responses. These are generally considered to be caused by modern debris in the topsoil, although it is possible that the disturbance is in part also caused by isolated archaeological material or geological or pedological changes in the substrata.
Modern Agriculture	
Ploughing trend, land drain	Ploughing trend tends to be regularly spaced linear anomalies, often with a narrower spacing, that conform with ploughing regime at the time of survey, or a recent regime recorded on aerial photos of the site. The response and distribution of land drains varies depending on the composition of the land drain and associated ditch or channel. Consequently, land drains can be composed of weak / strong positive / negative magnetic responses and are identified as a product of either their variance in magnetic values or positioning compared with regularly spaced linear anomalies considered to relate to modern ploughing. Land drains can be located within former agricultural regimes

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