GEOPHYSICAL SURVEY REPORT

Land South of the A507, West of Buntingford - Area 3

Client

Orion Heritage

For

Hallam Land Management Ltd

Survey Report

18790-3

OASIS Ref. No.

sumogeop1-529702

Date

27 November 2024

Survey Report 18790-3: Land South of the A507, West of Buntingford - Area 3

Survey dates	19 September 2024 22-23 October 2024
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Report Date	27 November 2024
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SUMO GeoSurveys is a trading name of SUMO Geophysics Ltd.

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3 SURVEY TECHNIQUE

3.1 Detailed magnetic survey (magnetometry) was chosen as the most efficient and effective method of locating the type of archaeological anomalies which might be expected at this site. All survey techniques followed the guidance set out by CIfA (2020) and the European Archaeology Council (EAC) (2016).

Bartington Cart System Traverse Interval 1.0m Sample Interval 0.125m

The only processes performed on data are the following unless specifically stated otherwise:

Zero Mean Traverse	This process sets the background mean of each traverse within each grid to zero. The operation removes instrument striping effects and edge discontinuities over the whole of the data set.

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4 EXECUTIVE SUMMARY OF RESULTS

4.1 A detailed magnetometer survey was conducted over approximately 11 hectares of land south of the A507, west of Buntingford, Hertfordshire. It has revealed a number of features of archaeological interest, comprising a complex of rectilinear enclosures, ditches, and pits probably indicative of later prehistoric or Romano-British occupation. A small number of possible kilns have also been identified, while additional weaker linear, curvilinear and discrete anomalies have a possible archaeological or uncertain origin. Ridge and furrow is mapped in the eastern part of the site, and a former field boundary has also been detected. An area of natural magnetic variation and modern magnetic disturbance are also visible in the results.

5 INTRODUCTION

5.1 **SUMO GeoSurveys** was commissioned to undertake a geophysical survey of an area outlined for residential development. This survey forms part of an archaeological investigation being undertaken by **Orion Heritage** on behalf of **Hallam Land Management Ltd.**

5.2 Site Details

NGR / Postcode	TL 35274 29369 / SG9 9RH	
Location	The site is located to the west of Buntingford, Hertfordshire, and lies immediately south of the A507, Baldock Road. The A10 forms the eastern boundary of the site, with agricultural fields to the south and west.	
HER	Hertfordshire HER	
OASIS Ref. No.	Sumogeop1-529702	
District	East Hertfordshire	
Parish	Aspenden CP	
Topography	Mostly level	
Land Use	Arable	
Geology (BGS 2024)	Bedrock:	Lewes Nodular Chalk Formation and Seaford Chalk Formation - chalk.
	Superficial:	Lowestoft Formation - diamicton is recorded across the majority of the area, with a small band of Glaciofluvial Deposits, Mid Pleistocene - sand and gravel present over the eastern corner of the site.
Soils (CU 2024)	Soilscape 9: lime-rich loamy and clayey soils with impeded drainage.	
Survey Methods	Magnetometer survey (fluxgate gradiometer)	
Study Area	*c.* 11 ha	

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5.3 ***Archaeological Background*** *(OH 2024)*

5.3.1 An archaeological desk-based assessment for the site determines that it has been subject to minimal past impacts. There have been no previous archaeological investigations within the site and the available evidence indicates that the site is known to have potential to contain finds and features from the prehistoric, Iron Age and Roman periods whilst having a low potential for all other periods.

5.3.2 Within a 1km radius of the site there have been numerous investigations, including desk-based assessment, geophysical surveys, evaluations and excavation. Approximately 50m southeast of the site, a geophysical survey (EHT8013) and evaluation (EHT7912) recorded evidence of a Bronze Age enclosure, Iron Age field system and ditches, a Roman field system and historic strip field boundary ditches, while an evaluation *c.* 145m to the east recorded an undated cremation, a Roman ditch system, early medieval pottery and post-medieval features (EHT7593). Further from the site, an evaluation *c.* 770m to the northeast, recorded Neolithic, Bronze Age and Iron Age activity in the form of ditches, a pit and a tree throw (EHT9167). A geophysical survey (EHT7520), evaluation (EHT7529) and excavation (EHT8058) recorded prehistoric flints, an Iron Age field system and settlement features alongside post-medieval extractive pits.

5.3.3 Three sub-circular pits of unknown date (MHT2259) are recorded on the HER immediately to the east of the site after being observed during construction of the Buntingford by-pass; the pits were charcoal rich and contained animal bone. An evaluation *c.* 140m east recorded undated ditches, post-holes and two pits (MHT11435) and an undated cremation burial is also recorded roughly 130m to the east (MHT30580). Numerous undated cropmarks are recorded within a 1km radius of the site, they include: two parallel ditches and two small maculae (MHT7577), a rectilinear field system (MHT7578), a rectangular enclosure (MHT7576), rectilinear enclosures (MHT4786, MHT17805, MHT13750), curvilinear enclosures (MHT17807) and two ring ditches (MHT10712).

5.3.4 There are no prehistoric or Bronze Age finds or features noted by the HER within the site. An evaluation *c.* 360m east recorded a curving sub-rectangular enclosure of Bronze Age date (MHT31161) along with eight pits of the same date. A multi-period prehistoric site has been identified through an evaluation and excavation roughly 800m northeast (MHT31671), with activity in the form of flints, pottery, a hollow way, a roundhouse, ditches, cremations and post-holes recorded.

5.3.5 Numerous Iron Age and Roman features are recorded within the area surrounding the site, with an Iron Age field system noted *c.* 170m to the east (MHT31162). A ring gully, post-hole and ditch containing pottery is recorded *c.* 400m to the east (MHT30413), with evaluations *c.* 1km to the northeast recording hollow ways containing Iron Age pottery and prehistoric flint flakes.

5.3.6 A Roman field system (MHT18762) is recorded *c.* 115m to the east of the site and the Roman Ermine Street is noted further to the east (*c.* 550m) (MHT9271). The road was a major route that linked London with York, and the HER suggests that Ermine Street may have reutilised an earlier Iron Age transport link.

5.3.7 The medieval period in Hertfordshire was principally characterised through farming activity with associated settlements. The historic core of Buntingford is focused within the Conservation Area *c.* 700m to the east of the site (MHT23), and the survey area was likely located within the rural hinterland to the settlement throughout the medieval period.

5.3.8 Geophysical surveys on fields immediately to the east of the survey area (SUMO 2024-1; SUMO 2024-2) revealed numerous ditches indicative of a field system, enclosures and ring-ditches.

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5.4 *Aims and Objectives*

5.4.1 To locate and characterise any anomalies of possible archaeological interest within the study area.

6 RESULTS

6.1 *Probable / Possible Archaeology*

6.1.1 Numerous ditch-like responses, linear trends and pit-like anomalies have been detected throughout the dataset which have been assigned to the categories of Probable / Possible Archaeology according to the magnetic strengths of the anomalies.

6.1.2 A complex of adjoining rectilinear enclosures [1], covering an area of *c.* 4.7 hectares, can be seen in the results, the core of which appears towards the northwest of the survey area. The enclosures extend beyond the limits of the survey area, with the continuation of the enclosures visible in the results of geophysical survey immediately to the west (SUMO 2024-2). The enclosures contain numerous sub-divisions and internal features including probable ring ditches, smaller enclosures and pits, the combination of which are probably indicative of later prehistoric or Romano-British settlement activity.

6.1.3 Towards the eastern edge of the enclosure complex at [1], a cluster of moderate strength, discrete anomalies [2] have been detected. These could represent storage or refuse pits, with the stronger responses potentially indicating areas of small-scale industry, i.e. kilns. Roughly 130m and 170m south-east, the moderate strength discrete anomalies at [3] and [4] could also represent kilns or industrial activity, while numerous smaller discrete anomalies possibly indicating pits, hearths or ovens.

6.1.4 A series of weak linear, curvilinear and discrete anomalies [5] are mapped on the eastern fringes of the enclosure complex. They appear to form sub-rectangular and sub-circular patterns and could mark the locations of ditches or gullies, with the discrete responses perhaps indicating pits; however, their responses are much weaker than those at [1-4], hence their interpretation as being *Possible Archaeology*.

6.2 *Ridge and Furrow*

6.2.1 Widely spaced, parallel, linear anomalies can be seen in the east of the area and are thought to be indicative of former ridge and furrow cultivation.

6.3 *Uncertain*

6.3.1 Numerous weak linear and curvilinear trends are visible in the magnetic data, along with several small discrete anomalies. They have been assigned to the category of *Uncertain* as they generally lack the defined morphology of anomalies that would usually be interpreted as having an archaeological origin. They are probably due to a combination of geological variations / weathering of the underling geology or are a product of agricultural processes. However, the proximity of a complex series of enclosures, pit-like anomalies and settlement evidence within the site, and later prehistoric, Iron Age and Roman activity within the surrounding area suggests that an archaeological explanation cannot be entirely ruled out, and they could indicate ditches, gullies or pits.

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6.4 *Former Field Boundary – Corroborated*

6.4.1 A linear anomaly [6] has been mapped in the east of the site and it corresponds with the line of a former field boundary that can be seen on historic OS maps dating from 1892 (Fig. 05).

6.5 *Natural / Geological / Pedological*

6.5.1 An amorphous band of enhanced magnetic response has been detected and it is likely to be of natural origin, reflecting localised variations in the underlying chalk geology or superficial deposits.

6.6 *Ferrous / Magnetic Disturbance*

6.6.1 An area of magnetic disturbance is visible in the east of the area is seemingly bound by the line of a former field boundary (see 6.3.1 above). The disturbance is likely to have a modern origin and could be a result of material dumped as part of the construction of the roundabout at the junction between the A10 and Baldock Bypass (A507) or have alternative modern origins.

6.6.2 Ferrous responses close to boundaries are due to adjacent fences and gates. Smaller scale ferrous anomalies ("iron spikes") are present throughout the data and are characteristic of small pieces of ferrous debris (or brick / tile) in the topsoil; they are commonly assigned a modern origin. Only the most prominent of these are highlighted on the interpretation diagram.

7 DATA APPRAISAL & CONFIDENCE ASSESSMENT

7.1 Historic England Table 4 (EH 2008) states that the typical magnetic response on the local soils / geology is variable. The results from this survey indicate the presence of linear, curvilinear and discrete anomalies of probable and possible archaeological interest, and it is noted that geophysical survey on fields immediately to the west detected numerous features of archaeological origin. Consequently, there is no *a priori* reason why archaeological features would not have been detected, should they be present.

8 CONCLUSION

8.1 The magnetometer survey has identified a complex of probable later prehistoric or Romano-British settlement activity, covering some *c.* 4.7 hectares, and extending beyond the survey area to the west and south. The complex comprises rectilinear enclosures with internal features including smaller enclosures, ring ditches and pits. A ~~n~~umber of moderate strength discrete responses are thought to indicate areas of small-scale industrial activity, i.e. kilns. Weaker linear and curvilinear trends have a possible archaeological explanation, while other linear, and discrete responses have an uncertain origin. Ridge and furrow is visible in the results, along with a former field boundary and an area of natural magnetic variation. Strong magnetic disturbance is mapped in the east of the site and could represent an area of made ground or disturbance associated with the construction of the adjacent road and roundabout.

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9 REFERENCES

BGS 2024 *Geology of Britain Viewer,* British Geological Survey, website: (http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps)

CIfA 2020 *Standard and Guidance for Archaeological Geophysical Survey.* 2014 amended 2020. CIfA Guidance note. Chartered Institute for Archaeologists, Reading https://www.archaeologists.net/sites/default/files/CIfAS%26GGeophysics_3.pdf

CU 2024 *The Soils Guide*. www.landis.org.uk. Cranfield University, UK. website: http://mapapps2.bgs.ac.uk/ukso/home.html

EAC 2016 *EAC Guidelines for the Use of Geophysics in Archaeology,* European Archaeological Council, Guidelines 2.

EH 2008 *Geophysical Survey in Archaeological Field Evaluation.* English Heritage, Swindon (now withdrawn, but used for evaluating suitability of soil types)

OH 2024 *Land South of A507 and West of A10, Buntingford - Archaeological Desk-Based Assessment.* Orion Heritage; unpublished report.

SUMO 2024-1 *Geophysical Survey Report - Land South of the A507, West of Buntingford - Area 1.* SUMO GeoSurveys; unpublished report.

SUMO 2024-2 *Geophysical Survey Report - Land South of the A507, West of Buntingford - Area 2.* SUMO GeoSurveys; unpublished report.

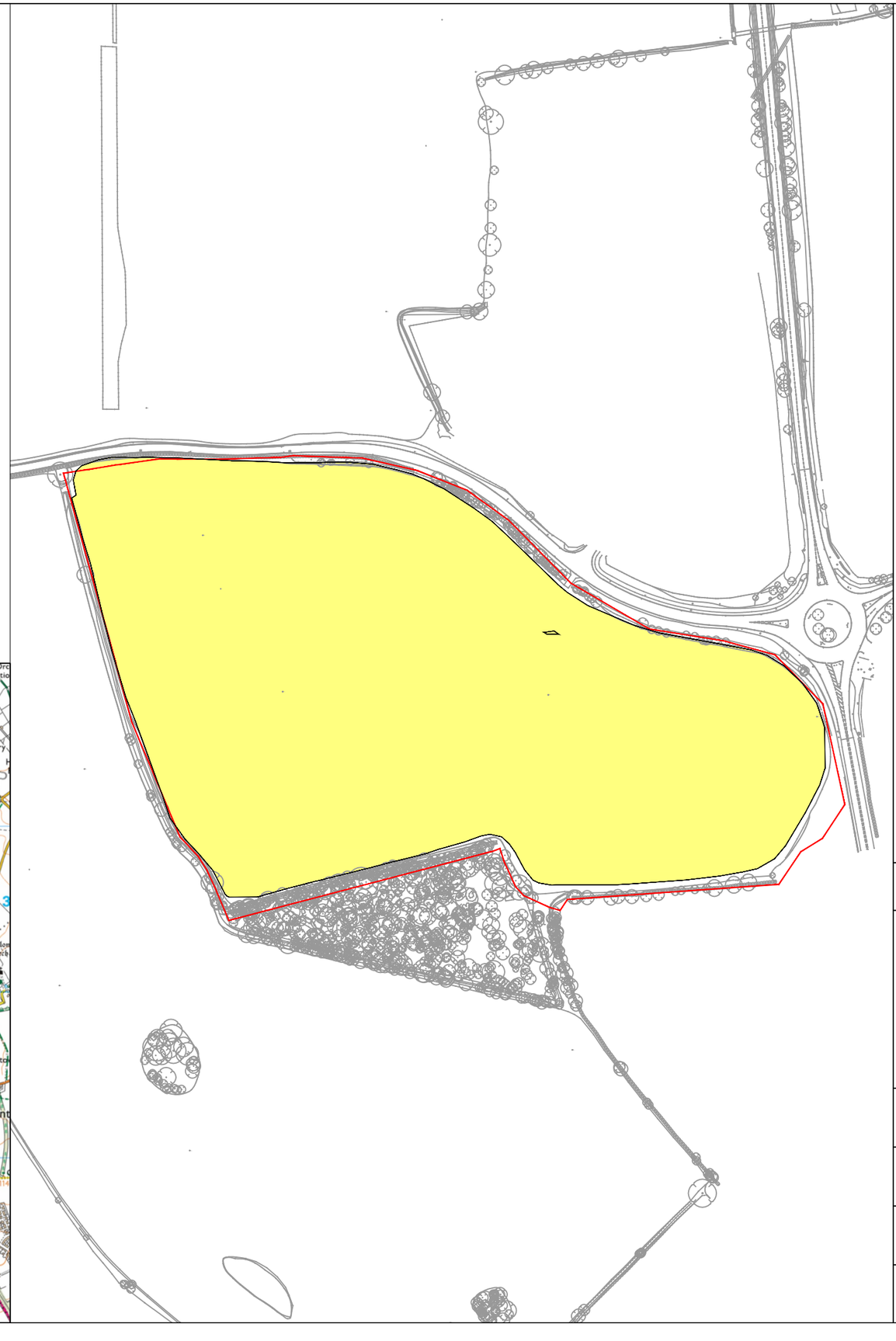
10 ARCHIVE

10.1 The minimally processed data, data images, XY traces and a copy of this report are stored in **SUMO GeoSurveys'** digital archive, on an internal RAID configured NAS drive in the Midlands Office. These data are also backed up to the Cloud for off-site storage**.**

10.2 The Grey Literature will be archived with OASIS and the relevant HER within a period of 12 months.

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Survey Area

sumo GeoSurveys

Title:
Site Location

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 3

Scale:
NOT TO SCALE

Fig No:
01



N

+2nT

-1nT

sumo GeoSurveys

Title:
Magnetometer Survey - Greyscale Plot

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 3

Scale:
0 metres 90
1:1800 @ A3

Fig No:
02

N

+100nT

-100nT

sumo GeoSurveys

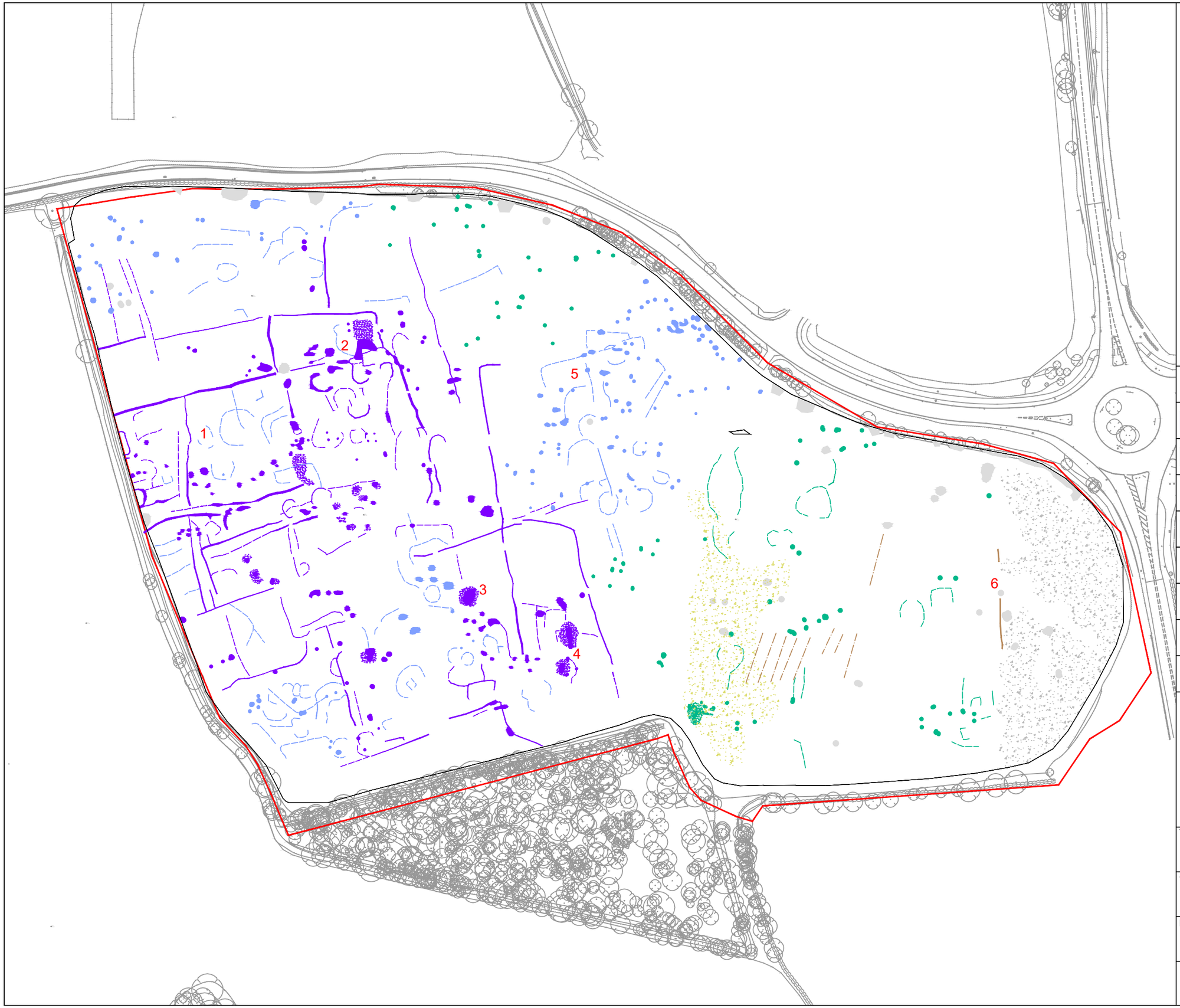
Title:
Magnetometer Survey - Colour Plot

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 3

Scale:
0 metres 90
1:1800 @ A3

Fig No:
03



N

KEY

	Probable archaeology (discrete anomaly / trend / increased response)
	Possible archaeology (discrete anomaly / trend / increased response)
	Ridge and furrow
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous

sumo GeoSurveys

Title:
Magnetometer Survey - Interpretation

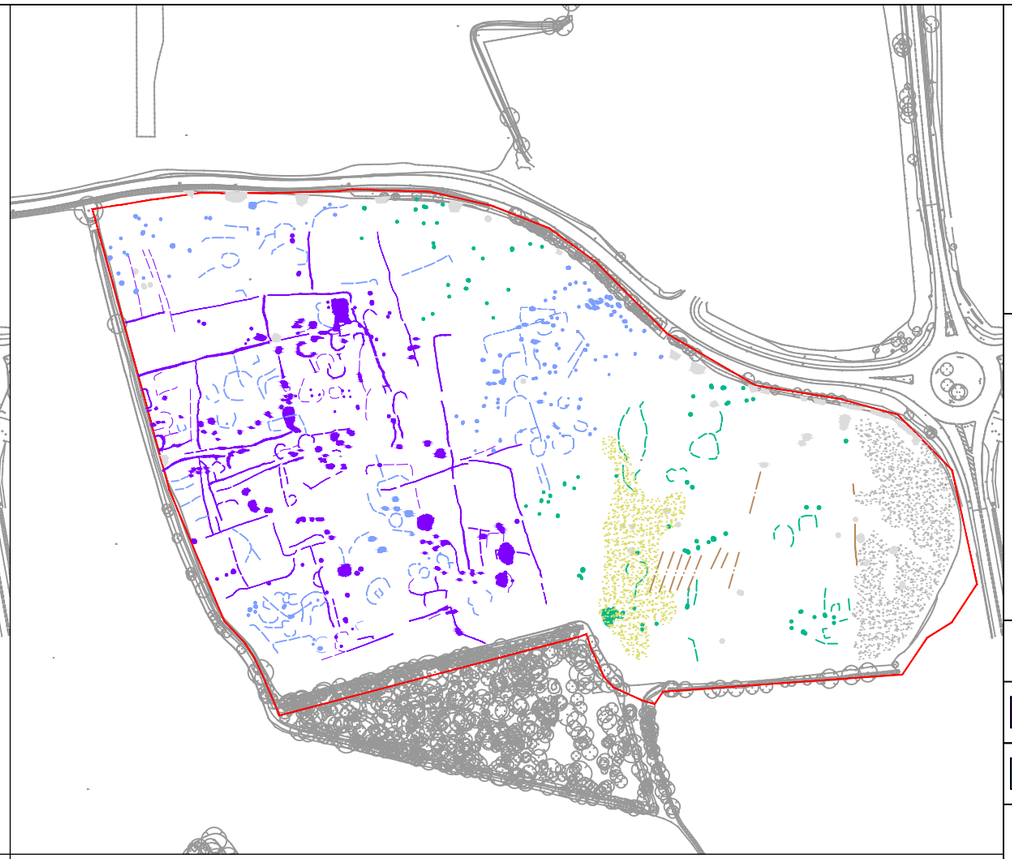
Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 3

Scale:
0 metres 90
1:1800 @ A3

Fig No:
04





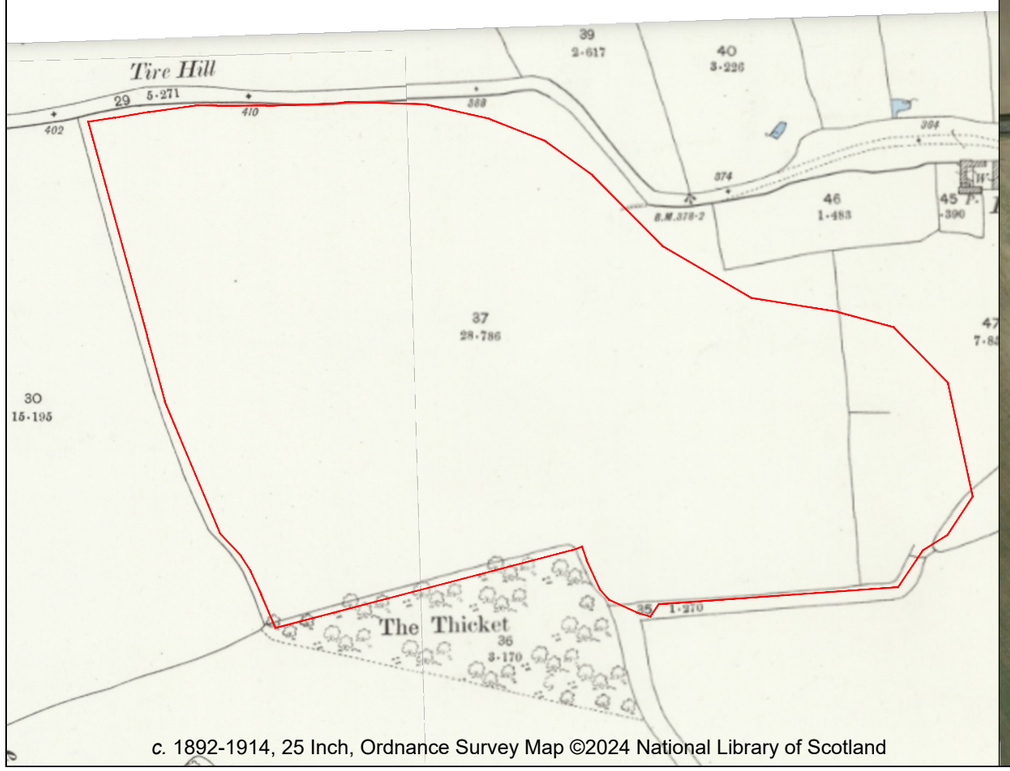
N

+2nT

-1nT

KEY

	Probable archaeology (discrete anomaly / trend / increased response)
	Possible archaeology (discrete anomaly / trend / increased response)
	Ridge and furrow
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



c. 1892-1914, 25 Inch, Ordnance Survey Map ©2024 National Library of Scotland



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Title:
Greyscale Plot / Interpretation / *c.* 1892-1914 Ordnance Survey Map / 2018 Aerial Image

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 1

Scale:
NOT TO SCALE

Fig No:
05



N

+10nT

-10nT

sumo GeoSurveys

Title:
Minimally Processed Data - Greyscale Plot

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 1

Scale:
0 metres 90
1:1800 @ A3

Fig No:
06

N

sumo GeoSurveys

Title:
XY Trace Plot (clipped at +/-15nT)

Client:
Orion Heritage

Project:
SUMO-18790: Land South of the A507, West of Buntingford - Area 1

Scale:
0 metres 90
1:1800 @ A3

Fig No:
07

Appendix A - Technical Information: Magnetometer Survey Method

Grid Positioning

For hand held gradiometers the location of the survey grids has been plotted together with the referencing information. Grids were set out using a Trimble R8 Real Time Kinematic (RTK) VRS Now GNSS GPS system.

An RTK GPS (Real-time Kinematic Global Positioning System) can locate a point on the ground to a far greater accuracy than a standard GPS unit. A standard GPS suffers from errors created by satellite orbit errors, clock errors and atmospheric interference, resulting in an accuracy of 5m-10m. An RTK system uses a single base station receiver and a number of mobile units. The base station re-broadcasts the phase of the carrier it measured, and the mobile units compare their own phase measurements with those they received from the base station. This results in an accuracy of around 0.01m.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1.0m	0.25m
Magnetometer	Bartington Cart System	1.0m	0.125m

Instrumentation:

Bartington instruments operate in a gradiometer configuration which comprises fluxgate sensors mounted horizontally, set 1.0m apart. The fluxgate gradiometer suppresses any diurnal or regional effects. The instruments are carried, or cart mounted, with the bottom sensor approximately 0.1-0.3m from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is measured in nanoTesla (nT). The sensitivity of the instrument can be adjusted; for most archaeological surveys the most sensitive range (0.1nT) is used. Generally, features up to 1m deep may be detected by this method, though strongly magnetic objects may be visible at greater depths.

Bartington Grad 601-2

Hand-Held: Data will be collected using a Bartington Grad 601-2. The instrument consists of two paired sensors and readings are logged at 0.25m centres along traverses 1.0m apart across 30m grids. The collection of data at 0.25m centres provides an appropriate methodology balancing cost and time with resolution as per Historic England guidelines

Bartington Cart System

Data will be collected using a cart carrying four paired Bartington magnetic sensors. Each data point is geographically referenced using an on-board Trimble RTK survey grade GPS system. Readings will be taken at 0.125m centres along traverses 1.0m apart.

Data Processing

Zero Mean Traverse	This process sets the background mean of each traverse within each grid to zero. The operation removes striping effects and edge discontinuities over the whole of the data set.
Step Correction (De-stagger)	When gradiometer data are collected in 'zig-zag' fashion, stepping errors can sometimes arise. These occur because of a slight difference in the speed of walking on the forward and reverse traverses. The result is a staggered effect in the data, which is particularly noticeable on linear anomalies. This process corrects these errors.

Display

Greyscale/ Colourscale Plot	This format divides a given range of readings into a set number of classes. Each class is represented by a specific shade of grey, the intensity increasing with value. All values above the given range are allocated the same shade (maximum intensity); similarly, all values below the given range are represented by the minimum intensity shade. Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. The assigned range (plotting levels) can be adjusted to emphasise different anomalies in the data-set.

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Interpretation Categories

In certain circumstances (usually when there is corroborative evidence from desk-based or excavation data) very specific interpretations can be assigned to magnetic anomalies (for example, *Roman Road, Wall,* etc.) and where appropriate, such interpretations will be applied. The list below outlines the generic categories commonly used in the interpretation of the results.

Archaeology / Probable Archaeology	This term is used when the form, nature and pattern of the responses are clearly or very probably archaeological and /or if corroborative evidence is available. These anomalies, whilst considered anthropogenic, could be of any age.
Possible Archaeology	These anomalies exhibit either weak signal strength and / or poor definition, or form incomplete archaeological patterns, thereby reducing the level of confidence in the interpretation. Although the archaeological interpretation is favoured, they may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.
Industrial / Burnt-Fired	Strong magnetic anomalies that, due to their shape and form or the context in which they are found, suggest the presence of kilns, ovens, corn dryers, metal-working areas or hearths. It should be noted that in many instances modern ferrous material can produce similar magnetic anomalies.
Former Field Boundary (probable & possible)	Anomalies that correspond to former boundaries indicated on historic mapping, or which are clearly a continuation of existing land divisions. Possible denotes less confidence where the anomaly may not be shown on historic mapping but nevertheless the anomaly displays all the characteristics of a field boundary.
Ridge & Furrow	Parallel linear anomalies whose broad spacing suggests ridge and furrow cultivation. In some cases, the response may be the result of more recent agricultural activity.
Agriculture (ploughing)	Parallel linear anomalies or trends with a narrower spacing, sometimes aligned with existing boundaries, indicating more recent cultivation regimes.
Land Drain	Weakly magnetic linear anomalies, quite often appearing in series forming parallel and herringbone patterns. Smaller drains may lead and empty into larger diameter pipes, which in turn usually lead to local streams and ponds. These are indicative of clay fired land drains.
Natural	These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions.
Magnetic Disturbance	Broad zones of strong dipolar anomalies, commonly found in places where modern ferrous or fired materials (e.g. brick rubble) are present.
Service	Magnetically strong anomalies, usually forming linear features are indicative of ferrous pipes/cables. Sometimes other materials (e.g. pvc) or the fill of the trench can cause weaker magnetic responses which can be identified from their uniform linearity.
Ferrous	This type of response is associated with ferrous material and may result from small items in the topsoil, larger buried objects such as pipes, or above ground features such as fence lines or pylons. Ferrous responses are usually regarded as modern. Individual burnt stones, fired bricks or igneous rocks can produce responses similar to ferrous material.
Uncertain Origin	Anomalies which stand out from the background magnetic variation, yet whose form and lack of patterning gives little clue as to their origin. Often the characteristics and distribution of the responses straddle the categories of *Possible Archaeology* / *Natural* or (in the case of linear responses) *Possible Archaeology* / *Agriculture*; occasionally they are simply of an unusual form.

Where appropriate some anomalies will be further classified according to their form (positive or negative) and relative strength and coherence (trend: weak and poorly defined).

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Appendix B - Technical Information: Magnetic Theory

Detailed magnetic survey can be used to effectively define areas of past human activity by mapping spatial variation and contrast in the magnetic properties of soil, subsoil and bedrock. Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.1 nanoTeslas (nT) in an overall field strength of 48,000 (nT), can be accurately detected.

Weakly magnetic iron minerals are always present within the soil and areas of enhancement relate to increases in *magnetic susceptibility* and permanently magnetised *thermoremanent* material.

Magnetic susceptibility relates to the induced magnetism of a material when in the presence of a magnetic field. This magnetism can be considered as effectively permanent as it exists within the Earth's magnetic field. Magnetic susceptibility can become enhanced due to burning and complex biological or fermentation processes.

Thermoremanence is a permanent magnetism acquired by iron minerals that, after heating to a specific temperature known as the Curie Point, are effectively demagnetised followed by re-magnetisation by the Earth's magnetic field on cooling. Thermoremanent archaeological features can include hearths and kilns; material such as brick and tile may be magnetised through the same process.

Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement allowing assessment and characterisation of subsurface features. Material such as subsoil and non-magnetic bedrock used to create former earthworks and walls may be mapped as areas of lower enhancement compared to surrounding soils.

Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same field but is also more affected by any localised buried feature. The difference between the two sensors will relate to the strength of a magnetic field created by this feature, if no field is present the difference will be close to zero as the magnetic field measured by both sensors will be the same.

Factors affecting the magnetic survey may include soil type, local geology, previous human activity and disturbance from modern services.

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Appendix C - OASIS Summary Sheet

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OASIS Summary for sumogeop1-529702

OASIS ID (UID)	sumogeop1-529702
Project Name	Magnetometry Survey at Land South of the A507, West of Buntingford - Area 3
Sitename	Land South of the A507, West of Buntingford - Area 3
Sitecode	18790-3
Project Identifier(s)	18790-3
Activity type	Magnetometry Survey, MAGNETOMETRY SURVEY
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	SUMO Geophysics Ltd.
Project Dates	18-Sep-2024 - 18-Oct-2024
Location	Land South of the A507, West of Buntingford - Area 3 NGR : TL 35274 29369 LL : 51.9463776141924, -0.033252317257155 12 Fig : 535274,229369
Administrative Areas	Country : England County/Local Authority : Hertfordshire Local Authority District : East Hertfordshire Parish : Aspenden
Project Methodology	Detailed magnetic survey (magnetometry) was chosen as the most efficient and effective method of locating the type of archaeological anomalies which might be expected at this site. All survey techniques followed the guidance set out by CIfA (2020) and the European Archaeology Council (EAC) (2016). Bartington Cart SystemTraverse Interval 1.0mSample Interval 0.125m
Project Results	A detailed magnetometer survey was conducted over approximately 11 hectares of land south of the A507, west of Buntingford, Hertfordshire. It has revealed a number of features of archaeological interest, comprising a complex of rectilinear enclosures, ditches, and pits probably indicative of later prehistoric or Romano-British occupation. A small number of possible kilns have also been identified, while additional weaker linear, curvilinear and discrete anomalies have a possible archaeological or uncertain origin. Ridge and furrow is mapped in the eastern part of the site, and a former field boundary has also been detected. An area of natural magnetic variation and modern magnetic disturbance are also visible in the results.
Keywords	Rectilinear Enclosure - None - FISH Thesaurus of Monument Types Multiple Ditch System - None - FISH Thesaurus of Monument Types Kiln - None - FISH Thesaurus of Monument Types Field Boundary - POST MEDIEVAL - FISH Thesaurus of Monument Types Ridge And Furrow - POST MEDIEVAL - FISH Thesaurus of Monument Types
Funder	Private or public corporation Orion Heritage
HER	Hertfordshire HER - unRev - STANDARD

Person Responsible for work	Rebecca Fradgley
HER Identifiers	
Archives	

Report generated on: 20 Nov 2024, 16:02

Appendix D – Data Management Plan & Archive Selection Strategy

Data Management Plan

Project ID / OASIS ID

SUMO-18790-3 / sumogeop1-529702

Project Name

Land South of the A507, West of Buntingford - Area 3

Project Description

Detailed magnetic survey over approximately 11 hectares of land west of Buntingford, Hertfordshire.

Client

Orion Heritage

Project Manager

Rebecca Fradgley

Field Leader

Simon Lobel

Date DMP created

20/11/2024

Date DMP last updated

20/11/2024

Version

1

Technique - data

Detailed magnetic survey.

Manual – cart - other

ATV Cart system

Documentation and metadata

All documentation and data produced are stored on SUMO servers in a specific job file.

Data storage, access and back-up

- SUMO Secure server during the project life set up in a RAID configuration (a RAID configuration incorporates a level of data redundancy meaning if a single hard drive in fails data can still be restored).
- Snap shots of the data will be made at several intervals during the day to allow data to be restored for up to 30 days if changed / deleted.
- Once the final report has been completed data will be moved onto NAS drive set up in a RAID configuration.
- All data is backed up to an off-site location (Cloud storage).

Archive Selection Strategy

Digital Data

Selection

It is proposed that only the final version of all born digital documents (reports, images and CAD files) will be selected for inclusion in the Preserved Archive. All raw and processed survey data will be included in the preserved archive. Below is what will constitute the selected archive:

- Raw data in XYZ format .csv and .png plus .pgw world file
- Processed data as .png plus .pgw world file
- Final survey report .pdf
- CAD and Vector graphics (interpretations) in .dwg format

De-selected digital data

The de-selected material will be retained on the SUMO Secure server and Cloud storage.

Documents

Not applicable – no archive

Materials

Not applicable – no archive



- Archaeological Geophysics
- Engineering Geophysics
- Measured Building Services
- Utility and Topographic Services
- Aerial Surveys
- Rail Surveys

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