GEOPHYSICAL SURVEY REPORT

BURSTEAD SOLAR FARM AND BATTERY STORAGE 'FREE GO'

LAND SOUTH AND EAST OF GREAT BURSTEAD, BILLERICAY, ESSEX

SEPTEMBER 2022

Geophysical Survey Report

of

Burstead Solar Farm and Battery Storage, Billericay, Essex

For

Landgage Heritage

On Behalf of

Enso Green Holdings J Limited

Magnitude Surveys Ref: MSTQ1118

September 2022

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Abstract

Magnitude Surveys was commissioned to assess the subsurface archaeological potential of approximately 96.2ha area of land south and east of Burstead, Billericary, Essex. A fluxgate gradiometer survey was successfully completed across the survey area. No anomalies suggestive of significant archaeological features were identified. The geophysical survey has primarily identified anomalies related to the agricultural use of the landscape, including former mapped and unmapped field boundaries, a possible infilled pond, drains and agricultural trends which likely correspond with modern ploughing. Natural variations in the background have also been detected. Anomalies of an undetermined origin have been identified which may have resulted from natural processes or agricultural or modern activities, although an archaeological origin cannot be excluded entirely. Some of these may relate to unrecorded extraction of the local clay, silt, sand and gravel deposits. The impact of modern activity is limited to broad ferrous anomalies produced by telegraph poles, underground services and wire fences.

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1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by Landgage Heritage, on behalf of Enso Green Holdings J Limited, to undertake a geophysical survey over approximately 96.2ha area of land south and east of Burstead, Billericary, Essex (TQ 6813 9199).

1.2. The geophysical survey comprised quad-towed, cart-mounted and hand-carried Global Navigation Satellite System (GNSS) -positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David *et al*., 2008).

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David *et al*., 2008), the Chartered Institute for Archaeologists (CIfA, 2020) and the European Archaeological Council (Schmidt *et al.,* 2015).

1.4. It was conducted in line with a Witten Scheme of Investigation produced by MS (Adams 2021).

1.5. The initial survey commenced on 15/12/2021 and took 11 days to complete with a return visit on the 30/08/22.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society for Archaeological Prospection).

2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CifA and is the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CifA Geophysics Special Interest Group); Dr Paul Johnson has a PhD in archaeology from the University of Southampton, is a Fellow of the Society of Antiquaries of London, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.

2.3. All MS managers, field and office staff have degree qualifications relevant to archaeology or geophysics and/or field experience.

3. Objectives

3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The survey area was located approximately 1km east and west of South Green (Figure 1). Gradiometer survey was undertaken across five fields under arable cultivation. The survey area was bordered by housing and a golf course to the west by other agricultural fields in all other directions (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The survey area consisted of harvested oil seed rape.	Area 1, in the northeast, was surrounded by hedges on all sides.
2	The survey area consisted of a winter wheat crop field which sloped down from north to south.	Area 2, in the southwest, was surrounded by a farm track to the north and east and by a hedge and ditch to the south and west.
3	The survey area consisted of a winter wheat crop field which sloped down from west.	Area 3, in the southwest, was surrounded by a farm track to the east and south and by hedge to the west. The field continued to the north of the survey area.
4	The survey area consisted of a winter wheat field which sloped down from west to east.	Area 4, in the southwest, was surrounded by hedges to the north and east, with the field continuing to the south and west of the survey area.
5	The survey area consisted of a winter wheat field sloping down from west to east.	Area 5, in the southwest, was bordered by hedges to the north, east and west. The field continued to the south. A ditch ran along its eastern border. The western corner of the field could not be surveyed due to flooded land.
6	The survey area consisted of flat arable land.	Area 6, in the northeast, was bordered by a road to the west and a small drainage ditch in all other directions. Building rubble was scattered in the centre of the survey area.

4.3. The underlying geology is mostly comprised of clay, silt and sand from the London Clay Formation. Small patches of clay, silt and sand from the Claygate Member are recorded in the west of Area 5 and in the north of Area 1. No superficial deposits are recorded for the majority of the survey area; however, bands of head deposits made of clay, silt, sand and gravel are recorded across Area 6 and in the southeast of Area 1, in the east and west of Area 3, in the east and south of Area 4 and in the west of Area 2. Alluvial deposits are also recorded in the centre and south of Area 1 and an area of undifferentiated river terrace deposits comprising sand and gravel is recorded in the west of Area 3 (British Geological Survey, 2022).

4.4. Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils are present across the majority of the survey area. However, in the south of Area 1, slightly acid loamy and clayey soils with impeded drainage are recorded (Soilscapes, 2022).

5. Archaeological Background

5.1. A review of the available evidence in and around the study site has been has been produced and provided by Landgage Heritage (Winterburn, 2022).

5.2. *Low/General potential for settlement and finds relating to Prehistoric human activity of a local significance.*

5.3. *General potential for finds of Romano-British date, and low potential for buried archaeological remains relating to Romano-British settlement across the study site. Finds dating to the Romano-British period would be of a local significance; archaeological remnants of Romano-British settlement would be of a local or regional significance dependent upon the extent and preservation.*

5.4. *There is a known potential for the study site to contain previously mapped and unmapped, field boundaries which would date to the Medieval to Post-Medieval period. The mapped boundaries are thought to be in areas: 2, 3, 4, and 6. The unmapped within areas: 3 and 6. The study site has a low potential for archaeological remnants relating to Medieval settlement. The archaeological remnants of previously unmapped field boundaries would be of a local significance and the previously mapped field boundaries would be of a local/limited dependent upon preservation.*

5.5. *There is also a moderate potential for the study site to contain archaeological evidence of extraction activities, as evidenced in the geophysical survey of areas 3, 4, and 5; and lidar analysis suggests the same of the aspect area 1 that was not subject to geophysical survey. There is a low potential for the study site to contain buried remnants of settlements relating to the Post-Medieval period.*

5.6. *The identified impact could be mitigated by a programme of archaeological works, which would be targeted to record any archaeological remains which may be affected by the cable trenches, or proposed structures within the study site prior to their construction.*

6. Methodology

6.1. Data Collection

6.1.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.1.2. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.3. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval

Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m

6.1.4. The magnetic data were collected using MS' bespoke quad-towed cart system and hand-carried GNSS-positioned system.

6.1.4.1. MS' cart and hand-carried system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna Real Time Kinematic (RTK) Global Positioning System (GPS) outputting in National Marine Electronic Association (NMEA) mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.1.4.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

6.1.4.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2. Data Processing

6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.*, 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen *et al*. (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3. Data Visualisation and Interpretation

6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figures 11 & 13). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.

6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historical maps, LiDAR data, and soil and geology maps. Google Earth (2022) was also consulted, to compare the results with recent land use.

6.3.3. Geodetic position of results – All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively. Figures are provided with raster and vector data projected against vector mapping provided by the client.

7. Results

7.1. Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible, an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports, as well as reports from further work, in order to constantly improve our knowledge and service.

7.2. Discussion

7.2.1. The geophysical results are presented in combination with historical maps and satellite imagery (Figures 4, 6, 8 & 10).

7.2.2. A fluxgate gradiometer survey was successfully carried out over 96.2ha area of land south and east of Burstead, Billericary, Essex . The gradiometer survey has responded well to the environment of the survey area. However, modern activity has produced broad ferrous anomalies around buried services in the east of the survey area, as well as magnetic disturbance around telegraph poles in the centre of the survey area and along wire fences at field edges (Figures 4, 6, 8 & 10). No anomalies that can confidently be interpreted as archaeological in origin were detected (Figures 4, 6, 8 & 10).

7.2.3. The survey has primarily detected evidence of agricultural activity. This includes former mapped field boundaries, detected across Areas 1, 2, 3, 4 and 6 and visible on 1870s Composite OS map (Figures 4, 6, 8 & 10). Possible unmapped field boundaries have also been identified within Areas 3 and 6 (Figures 4 & 10). Several drainage features as well as agricultural trends have also been identified across most of the survey area, with the latter corresponding with modern ploughing (Figures 4, 6, 8 & 10).

7.2.4. Bands of natural variations in the background have been detected across the western portion of the survey area (Areas 2, 3, 4 & 5) (Figures 6 & 8). These have been interpreted as relating to transportation of unconsolidated material down slope which has produced braids and bands of more positively enhanced sediments.

7.2.5. Anomalies of undetermined origin have also been identified throughout the survey area (Figures 4, 6, 8 & 10). Based on their morphology and overall layout, the anomalies detected in Areas 3, 4 & 5 may relate to unrecorded extraction activity. No nearby extraction activity has been identified on available historic mapping; however, the local geology of clay, silt, sand and gravels indicates that extraction can be expected. With regards to the other anomalies undetermined in origin, these are considered likely to relate to agricultural, modern and/or natural features; an archaeological origin cannot however be entirely excluded.

7.3. Interpretation

7.3.1. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Data Artefact –** Data artefacts usually occur in conjunction with anomalies with strong magnetic signals due to the way in which the sensors respond to very strong point sources. They are usually visible as minor ‘streaking’ following the line of data collection. While these artefacts can be reduced in post-processing through data filtering, this would risk removing ‘real’ anomalies. These artefacts are therefore indicated as necessary in order to preserve the data as ‘minimally processed’.

7.3.1.3. **Ferrous (Spike) –** Discrete dipolar anomalies are likely to be the result of isolated pieces of modern ferrous debris on or near the ground surface.

7.3.1.4. **Ferrous/Debris (Spread) –** A ferrous/debris spread refers to a concentration of multiple discrete, dipolar anomalies usually resulting from highly magnetic material such as rubble containing ceramic building materials and ferrous rubbish.

7.3.1.5. **Magnetic Disturbance –** The strong anomalies produced by extant metallic structures, typically including fencing, pylons, vehicles and service pipes, have been classified as ‘Magnetic Disturbance’. These magnetic ‘haloes’ will obscure weaker anomalies relating to nearby features, should they be present, often over a greater footprint than the structure causing them.

7.3.1.6. **Undetermined –** Anomalies are classified as Undetermined when the origin of the geophysical anomaly is ambiguous and there is no supporting contextual evidence to justify a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally distinct from those caused by ferrous sources.

7.3.2. Magnetic Results - Specific Anomalies

7.3.2.1. **Agricultural (Strong, Weak and Spread) –** Across Areas 1, 2, 3 and 4, linear anomalies exhibiting positive magnetic signals which range from weak to strong have been identified (Figures 11, 12, 23, 24, 29, 30, 32 & 33). These anomalies correspond with former field boundaries recorded on 1870s OS maps (Figures 4, 6, 8 & 10). Some of these anomalies show strongly enhanced positive signals (in the east of Area 6 and centre of Area 3, Figures 17 & 23), while others are weak or very weak in signal (north of Area 6 and Area 2, Figures 17 & 32). In the centre and west of Area 3, some of these linear anomalies have a dipolar signal which suggests either that these boundaries may have been later reutilised as drains or that they may have been backfilled with mixed material with ferrous content (Figures 26 & 28). Further linear anomalies which do not correspond with any mapped field division but are similar in layout and signal to the mapped boundaries have also been identified. These have been interpreted as unrecorded field boundaries and have been detected across Areas 6 ([**6a**, **6b**]) and 3 ([**3c**]) (Figures 20, 21, 26 & 27). Concentrations of discrete positive and dipolar anomalies identified at the intersections of some of the old field boundaries in Area 3 have been categorised as "Agricultural (Spread)" and interpreted as material related to the field boundaries and ploughed out or disturbed (Figures 26 & 27). Anomalies possibly relating to a mapped infilled pond [**3a**] have also been detected in Area 3 (Figures 26 & 27).

7.3.2.2. **Agricultural (Trend) –** Parallel, weak and positively enhanced linear anomalies have been detected crossing Areas 1, 2 and 3 (Figures 26, 27, 32 & 33). The orientation of these anomalies corresponds with that of modern ploughing as visible on satellite imagery and they are therefore believed to be related to such activity.

7.3.2.3. **Drainage Feature –** Multiple linear anomalies have been detected throughout Areas 1, 2, 3, 4, 5 and 6 and have interpreted as drainage features (Figures 21, 27, 30 & 33). While some show a strong positive magnetic signal (East of Area 1 and Areas 2, 4, 5 and in the north of Area 6; Figures 20, 21, 26, 27, 29, 30, 32 & 33) which is suggestive of cut drains, others show a dipolar signal which is typical of ceramic drains (Areas 3, 4 and in the south of Area 6 and west of Area 1; Figures 19, 20, 21, 26, 27, 28, 29, 30 & 31).

7.3.2.4. **Natural (Weak) –** Anomalies likely corresponding to changes in the superficial geological background have been identified throughout Areas 2, 3, 4 and 5 and particularly stand out in the Total Field data (Figures 5, 7, 9, 26, 27, 29, 30, 32). These appear in the form of broad bands orientated down slope; they have therefore been interpreted as associated with the topology of the survey area and as having resulted from transportation of unconsolidated deposits downhill.

7.3.2.5. **Undetermined (Weak & Strong) –** Anomalies of an undetermined origin have been identified across Areas 1, 2, 3, 4, 5 and 6 (Figures 27, 30 & 33). These have been classified as such as they lack any distinctive morphology or pattern which would allow for a more confident interpretation. The majority of them are likely to be the result of geological processes, modern or agricultural activities, although an archaeological origin cannot be entirely ruled out. Given the signal and layout of anomalies [**3d**, **4a**, **5a** & **5b**] and considering the local geology of clay, silt, sand and gravels, these anomalies may be related to previously unrecorded extraction activities (Figures 26, 27, 28, 29, 30 & 31).

8. Conclusions

8.1. A Fluxgate gradiometer was successfully completed over approximately 68.3ha area of land south and east of Burstead, Billericary, Essex. An additional approximately 27.9ha will be surveyed at a later date.

8.2. The geophysical survey detected a range of anomalies of agricultural, natural and undetermined origins. Modern interference is present in the form of broad ferrous anomalies caused by telegraph poles and buried services.

8.3. Anomalies relating to the agricultural use of the survey area has been identified, comprising mapped and unmapped field boundaries, drainage systems and agricultural trends caused by modern ploughing. A possible infilled pond visible on historical mapping has also been detected.

8.4. Natural variations within the geological background have been identified and attributed to the movement of sediments down the slopes present in the survey area.

8.5. Several anomalies have been categorised as 'Undetermined'. These vary in magnetic signal and shape, but none have any distinctive form or pattern which could be more confidently attributed to an archaeological origin. Nevertheless, an archaeological origin cannot be ruled out.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

10. Copyright

10.1. Copyright and intellectual property pertaining to all reports, figures and datasets produced by Magnitude Services Ltd is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

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12. Project Metadata

MS Job Code	MSTQ1118
Project Name	Burstead Solar Farm and Battery Storage
Client	Landgage Heritage
Client's Client	Enso Green Holdings J Limited
Grid Reference	TQ 6813 9199
Survey Techniques	Magnetometry
Survey Size (ha)	96.2ha (Magnetometry)
Survey Dates	2021-11-15 to 2021-11-19, 2021-12-13 to 2021-12-17
Project Lead	Leigh A. Garst BFA MSc
Project Officer	Leigh A. Garst BFA MSc
HER Event No	N/A
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.4

13. Document History

Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	FC, IT	LG	17 December 2021
0.2	Second draft for Project Lead to Review after comments on Figures	IC	LG/FPC	23 December 2021
0.3	Draft following Client's Client Comments	FC	LAG	02 March 2022
0.4	Draft Following Completion of Remaining Survey Area	LAG	FPC	13 September 2022

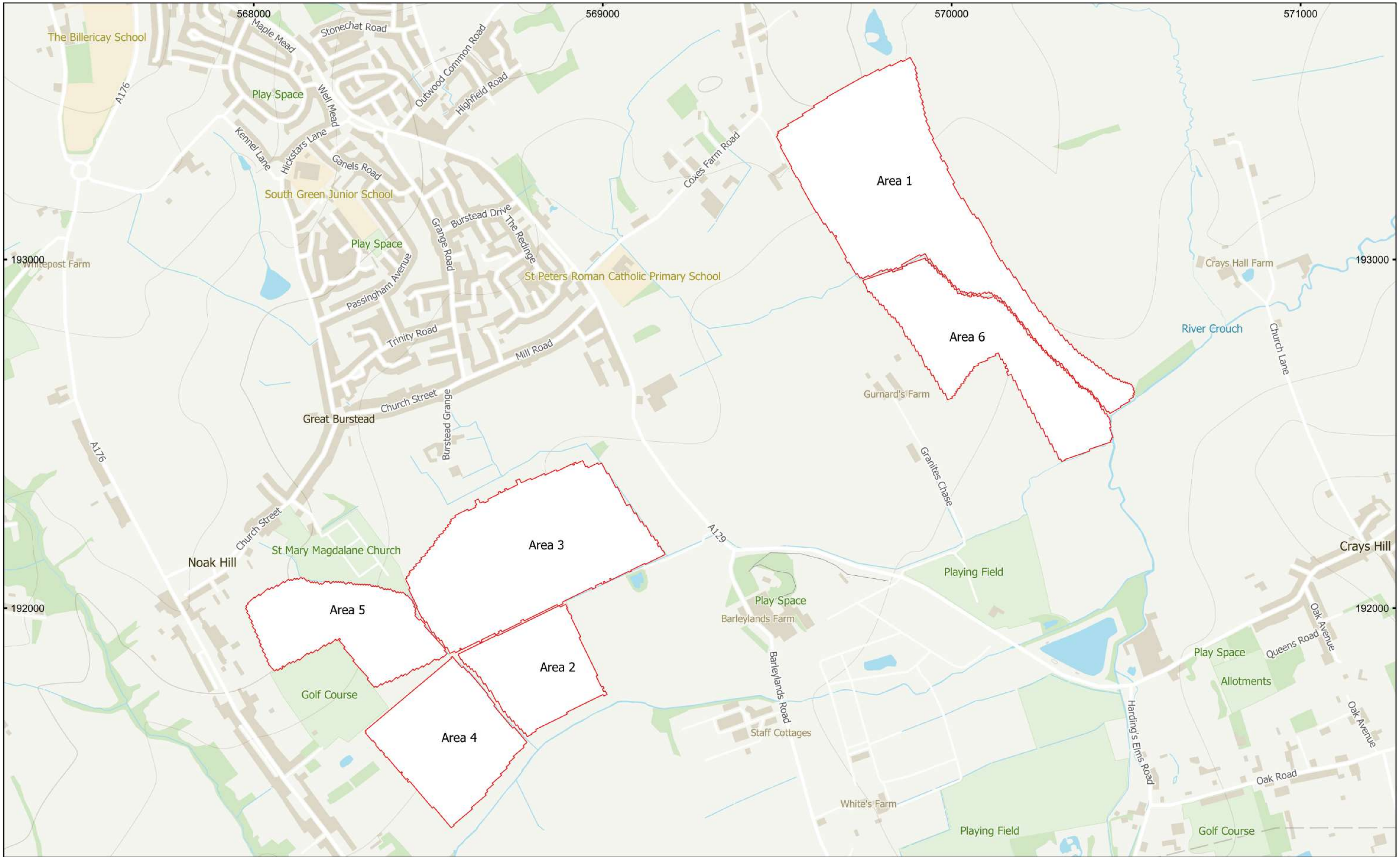
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 1 - Site Location
1:25,000 @ A4

N

0 0.5 1 km

Site Boundary

magnitude surveys



MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 2 - Location of Survey Areas
1:10,000 @ A3
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Survey Extent

N

0 250 500 750 m

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Figure 3 - Magnetic Total Field (Lower Sensor) (Overview) (Areas 1 & 6)
1:3,000 @ A3

48,998 nT 49,003

N

0 50 100 150 m

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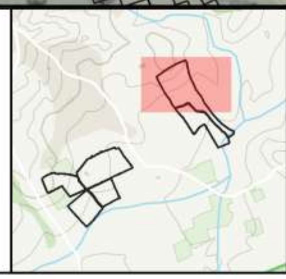

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 4 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Areas 1 & 6)
1:3,000 @ A3

Agricultural (Strong)
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Weak)
Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

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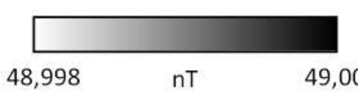
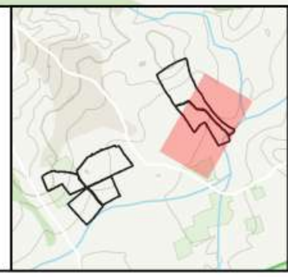
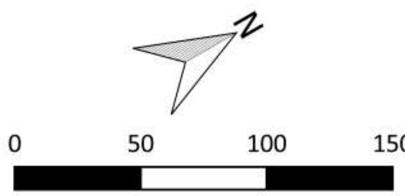
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 5 - Magnetic Total Field (Lower Sensor) (Overview) (Area 4)
1:3,000 @ A3







magnitude surveys

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 6 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Area 4)
1:3,000 @ A3

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 7 - Magnetic Total Field (Lower Sensor) (Overview) (Areas 2 & 4)
1:3,000 @ A3

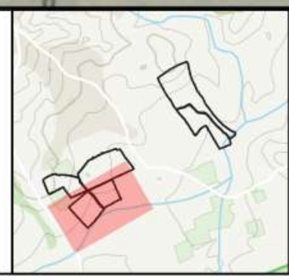
48,998 nT 49,003

0 50 100 150 m

magnitude surveys

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 8 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Areas 2 & 4)
1:3,000 @ A3

Agricultural (Spread)
Agricultural (Strong)
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Natural (Weak)
Undetermined (Strong)
Undetermined (Weak)
Agricultural (Trend)
Undetermined (Trend)
Drainage Feature
Ferrous (Spike)



N

0 50 100 150 m

magnitude surveys

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 9 - Magnetic Total Field (Lower Sensor) (Overview) (Area 3)
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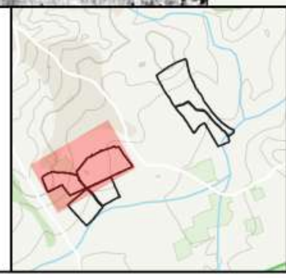
48,998 nT 49,003



N

0 50 100 150 m

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MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 10 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Area 3)
1:3,000 @ A3
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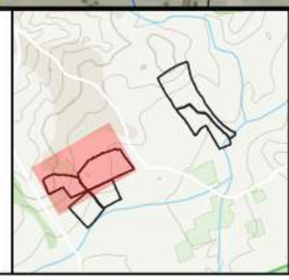
Contains historical mapping © CLS Data 2022: Ordnance Survey, 6" 2nd edition c. 1882-1913
Contains Satellite Imagery © Bing Satellite 2021

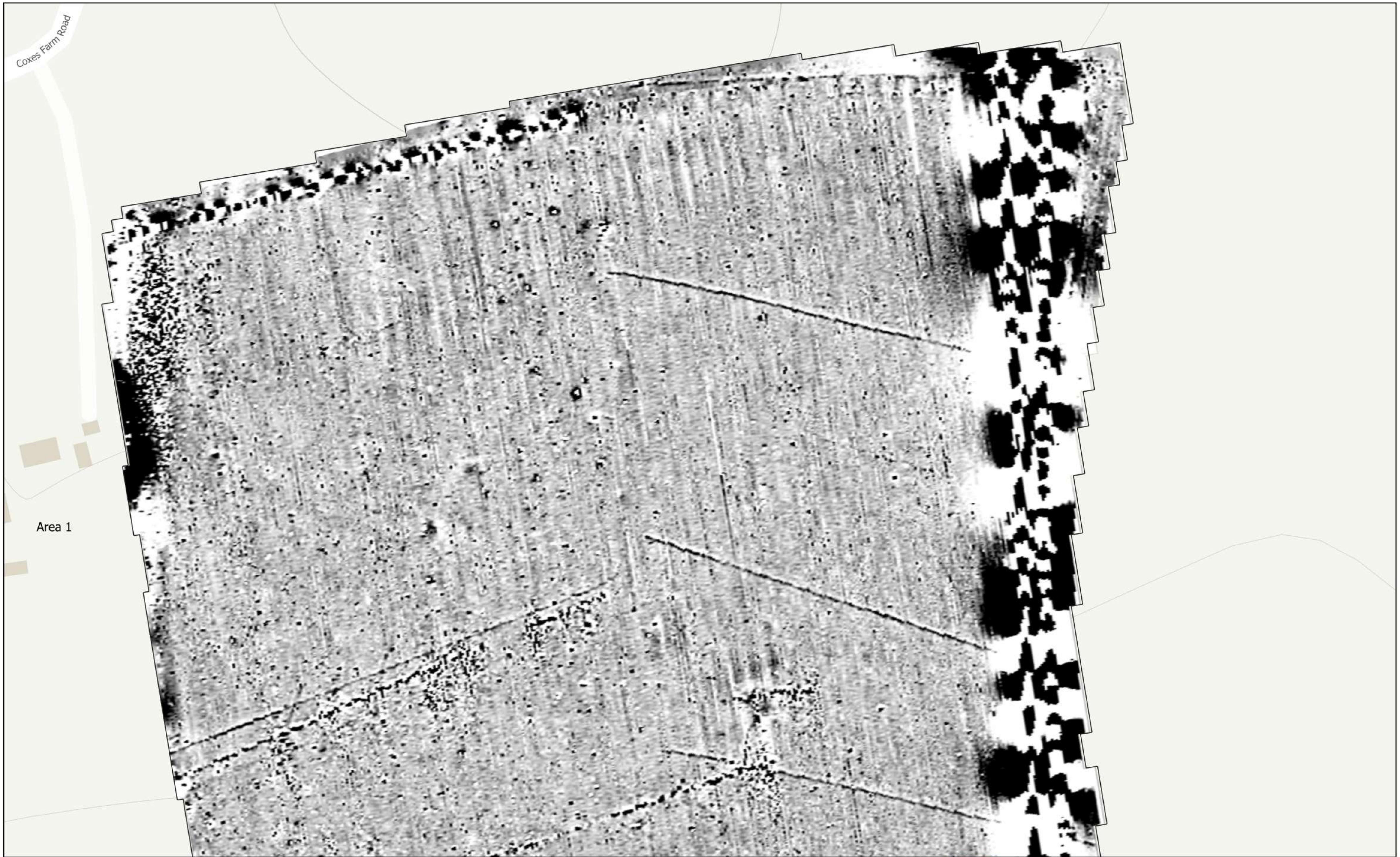
Agricultural (Spread)
Agricultural (Strong)
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Natural (Weak)
Undetermined (Strong)
Undetermined (Weak)
Agricultural (Trend)
Ferrous (Trend)
Drainage Feature
Ferrous (Spike)



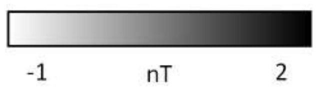
N

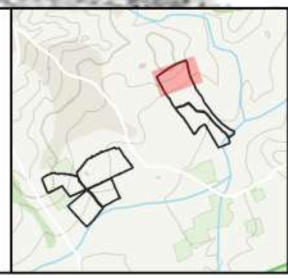
0 50 100 150 m

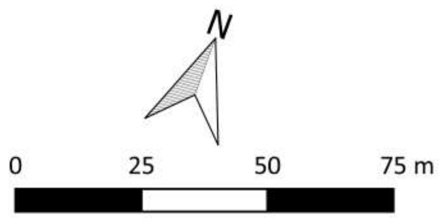
magnitude surveys



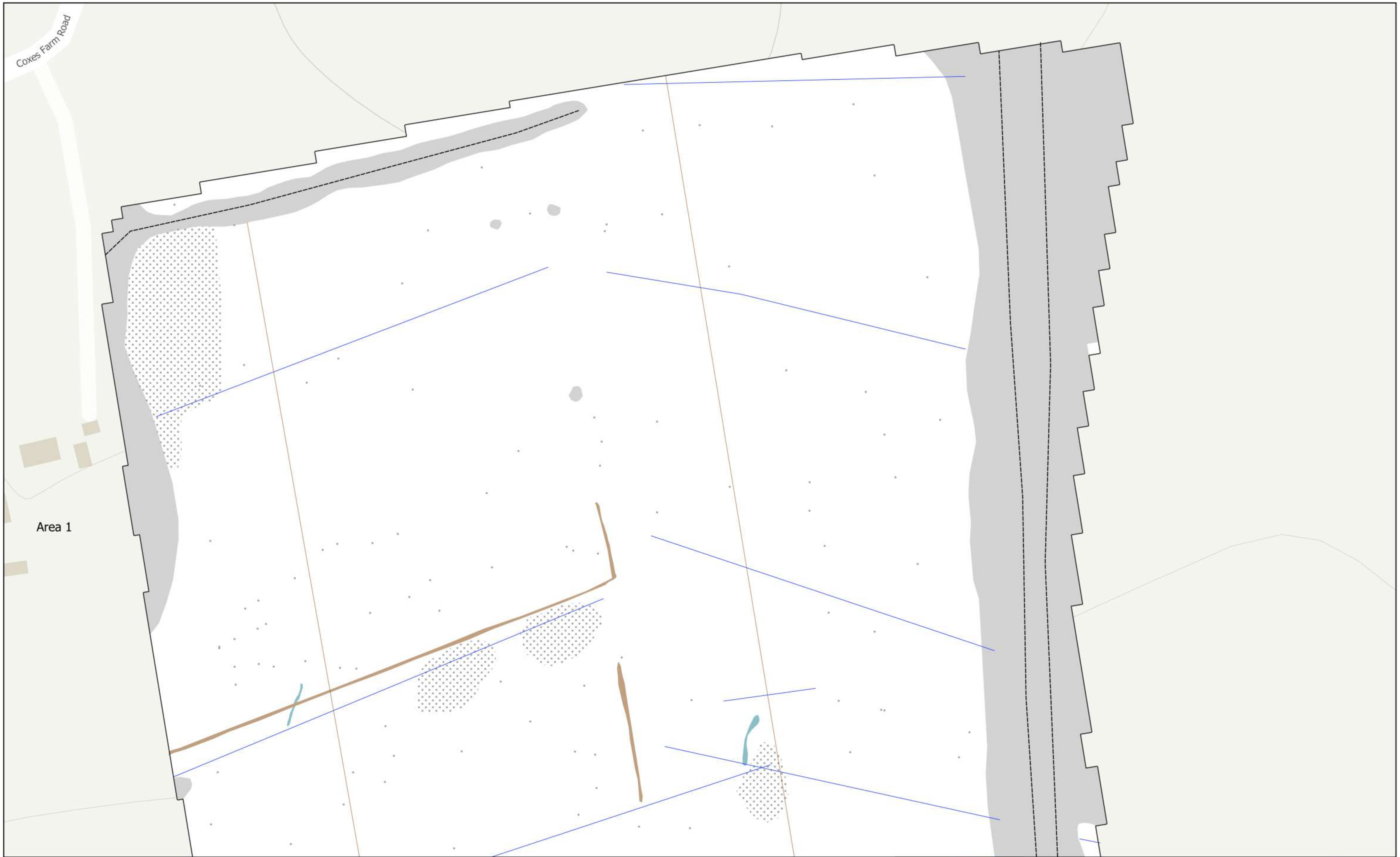
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 11 - Magnetic Gradient (Area 1)
1:1,500 @ A3





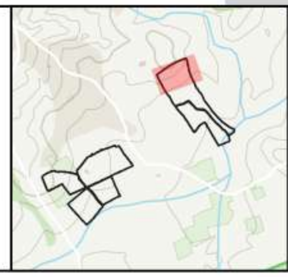


magnitude surveys



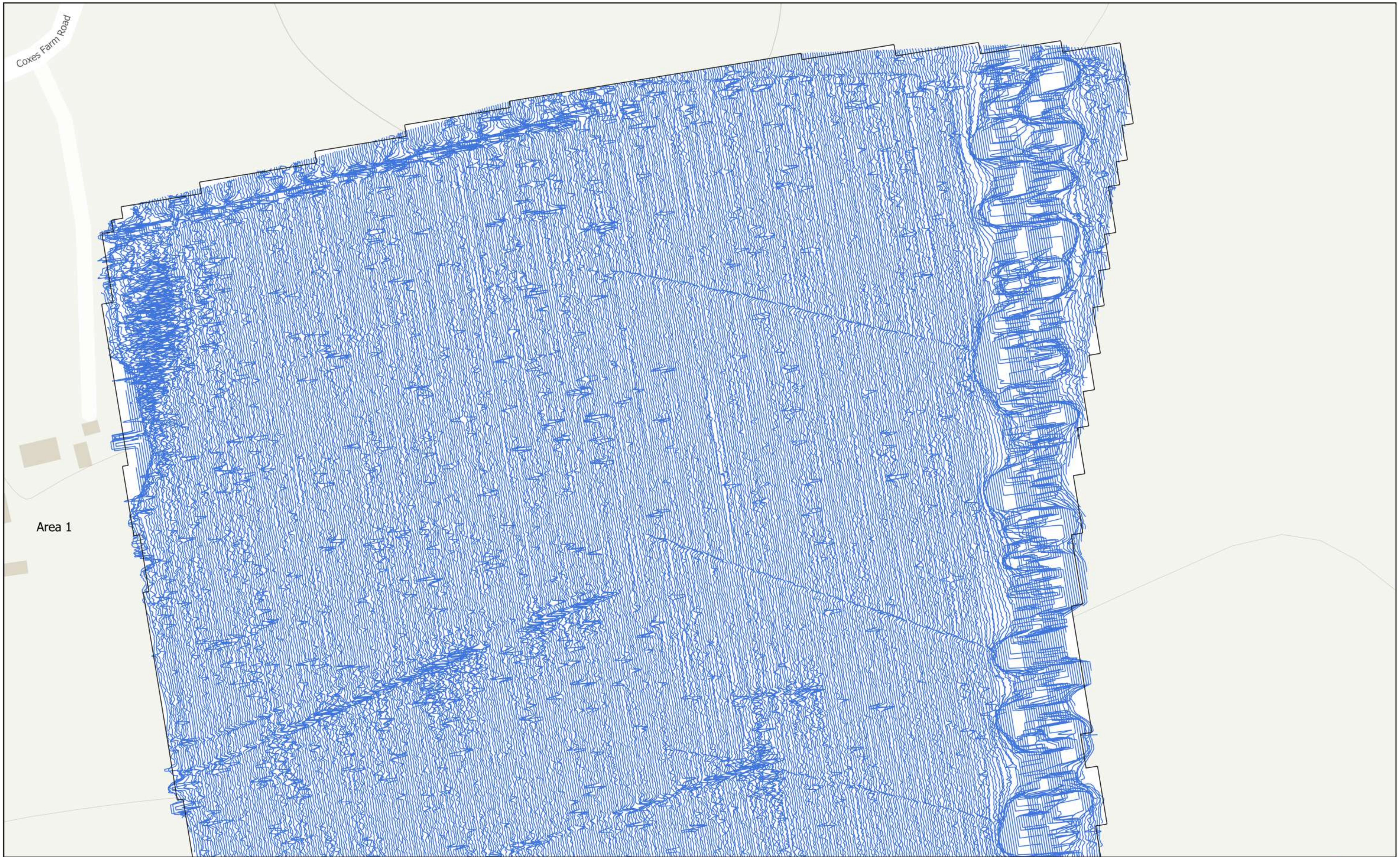
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 12 - Magnetic Interpretation (Area 1)
1:1,500 @ A3

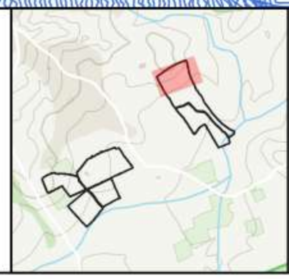
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Weak)
Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

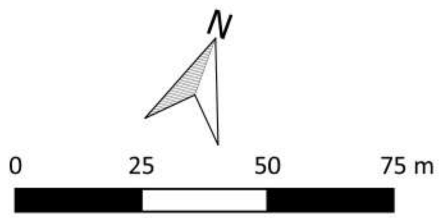


N
0 25 50 75 m

magnitude surveys



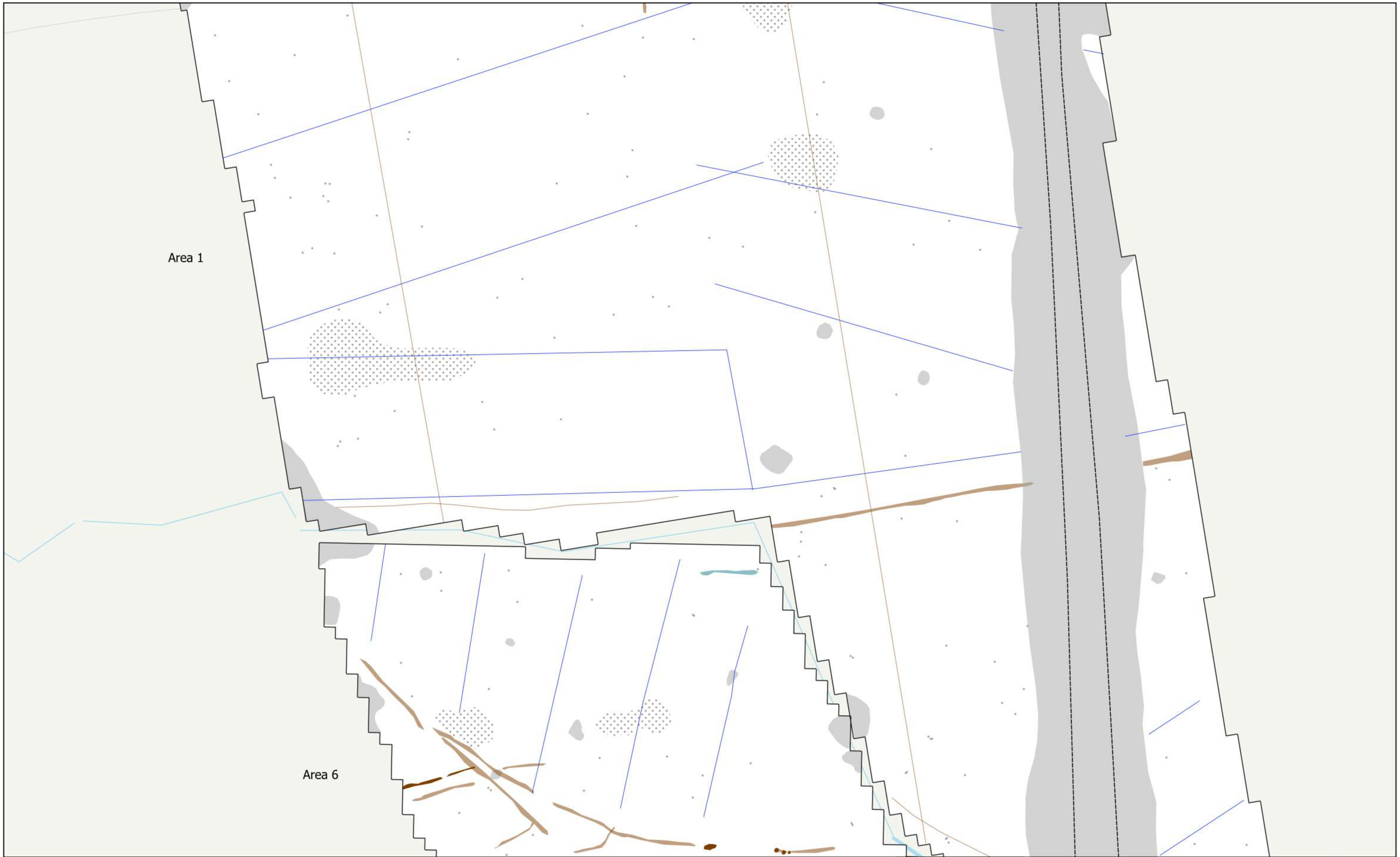




MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 13 - XY Trace Plot (Area 1)
90nT/cm at 1:1,500 @ A3

magnitude surveys

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 14 - Magnetic Gradient (Areas 1 & 6)
1:1,500 @ A3



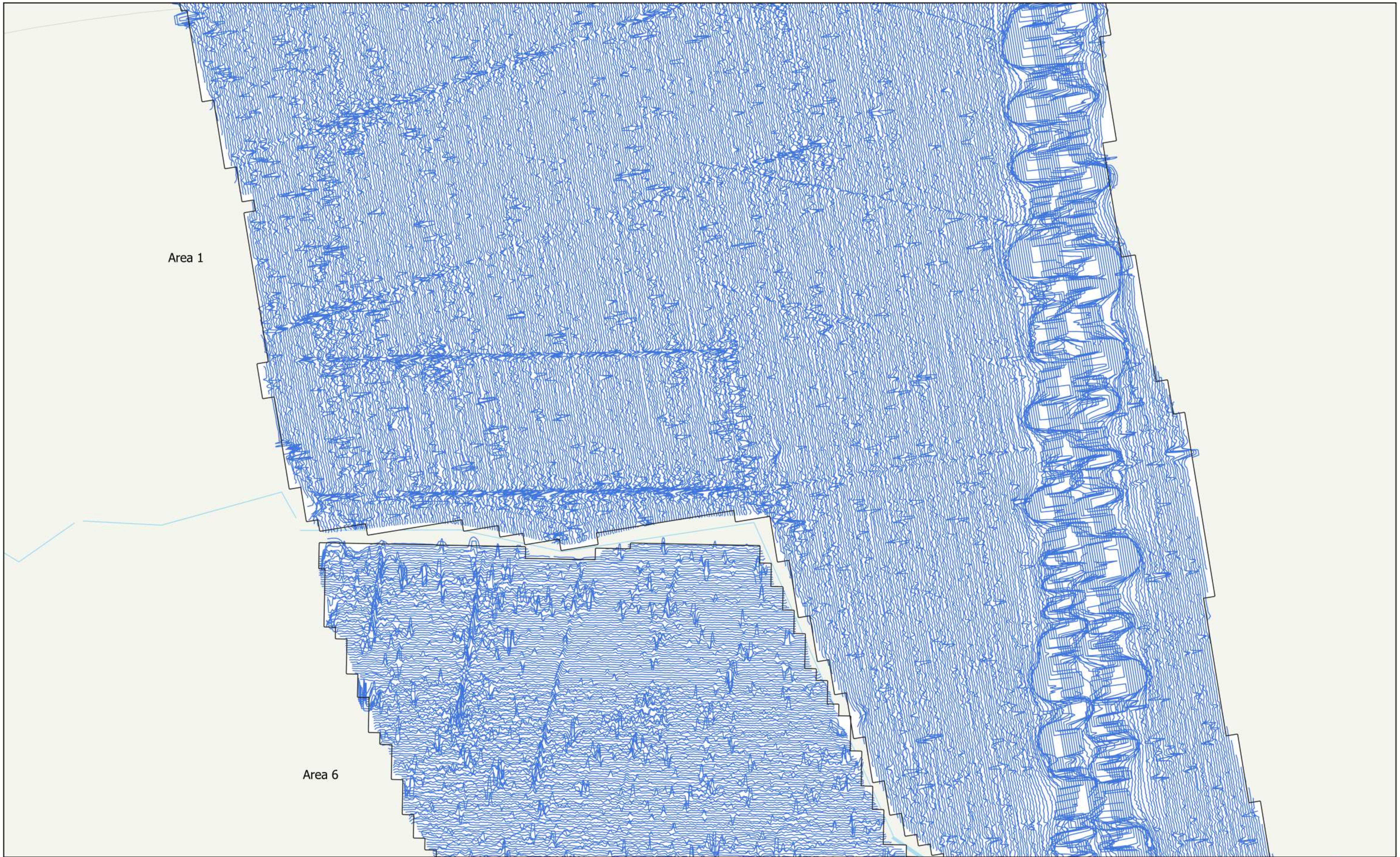
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 15 - Magnetic Interpretation (Areas 1 & 6)
1:1,500 @ A3

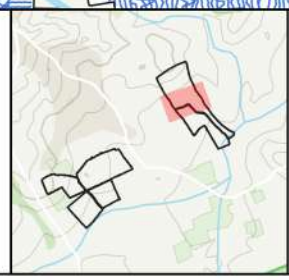
Agricultural (Strong)
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Strong)
Undetermined (Weak)
Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

N

0 25 50 75 m

magnitude surveys



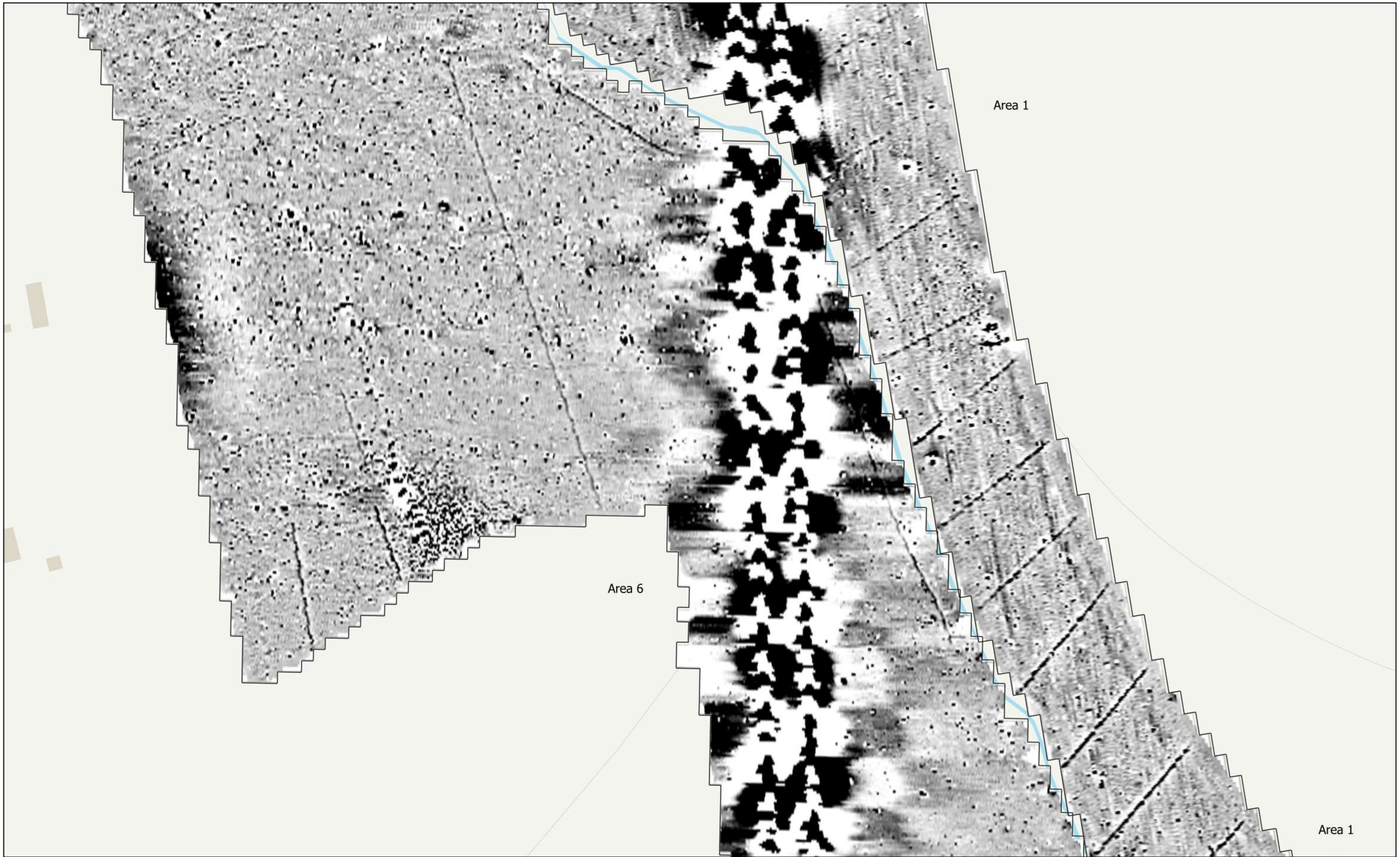


N

0 25 50 75 m

magnitude surveys

MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 16 - XY Trace Plot (Areas 1 & 6)
90nT/cm at 1:1,500 @ A3



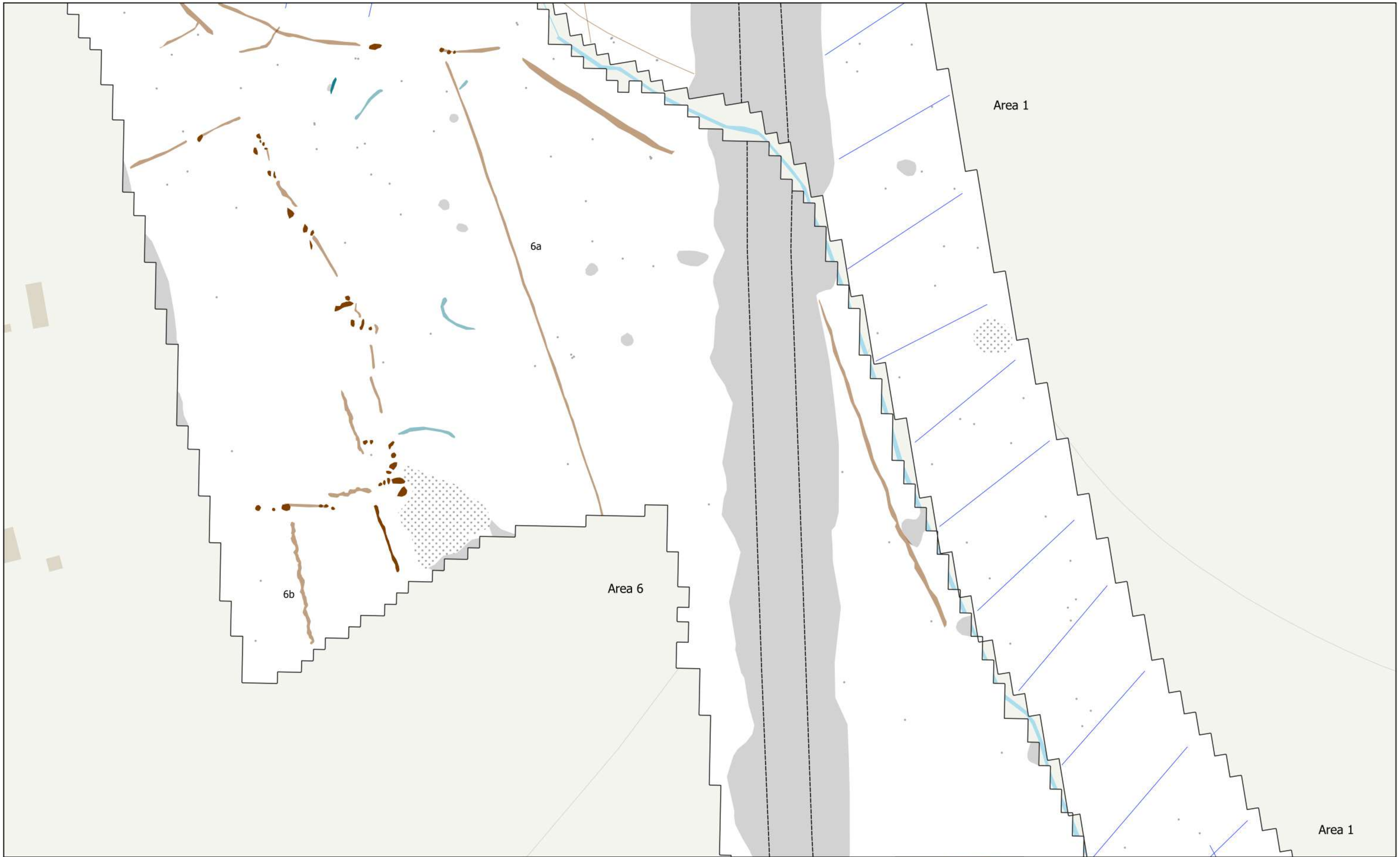
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 17 - Magnetic Gradient (Area 6)
1:1,500 @ A3

-1 nT 2

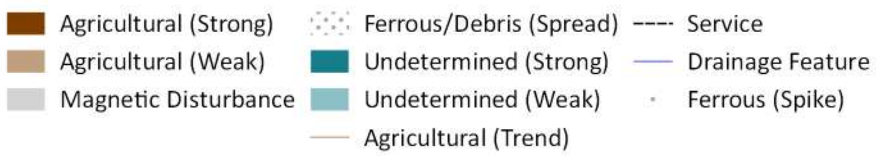
N

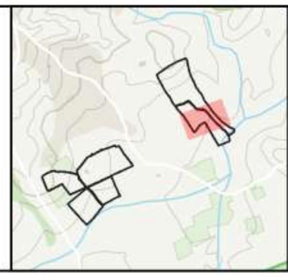
0 25 50 75 m

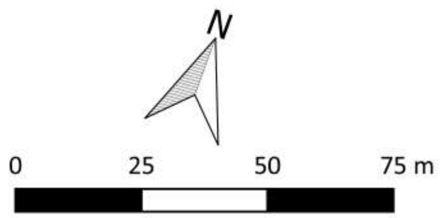
magnitude surveys



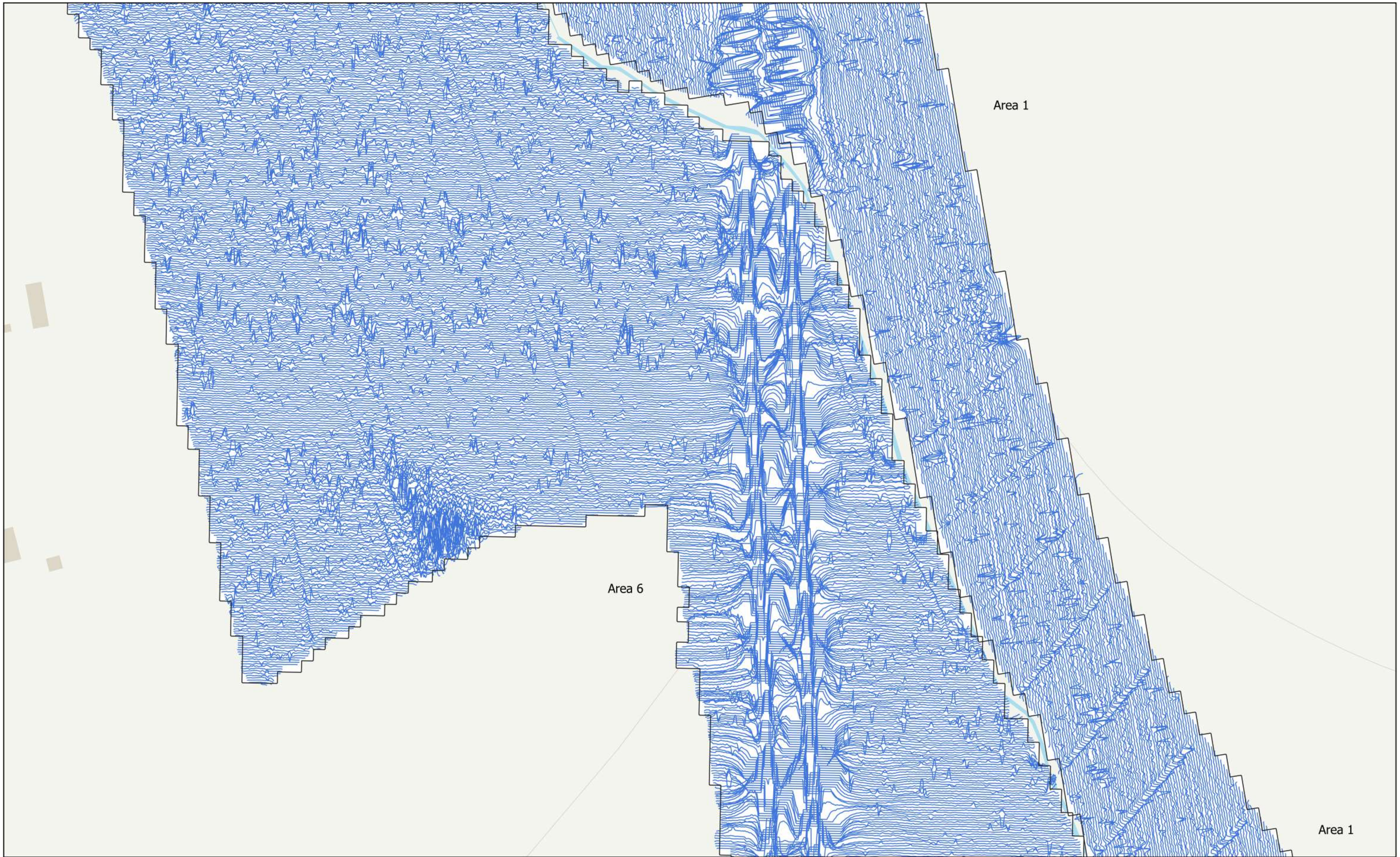
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 18 - Magnetic Interpretation (Area 6)
1:1,500 @ A3



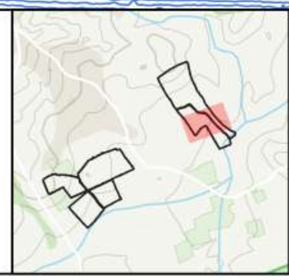


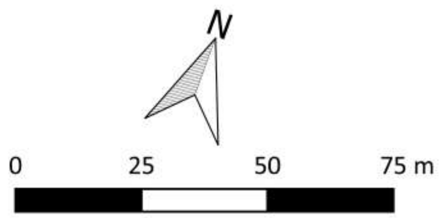


magnitude surveys

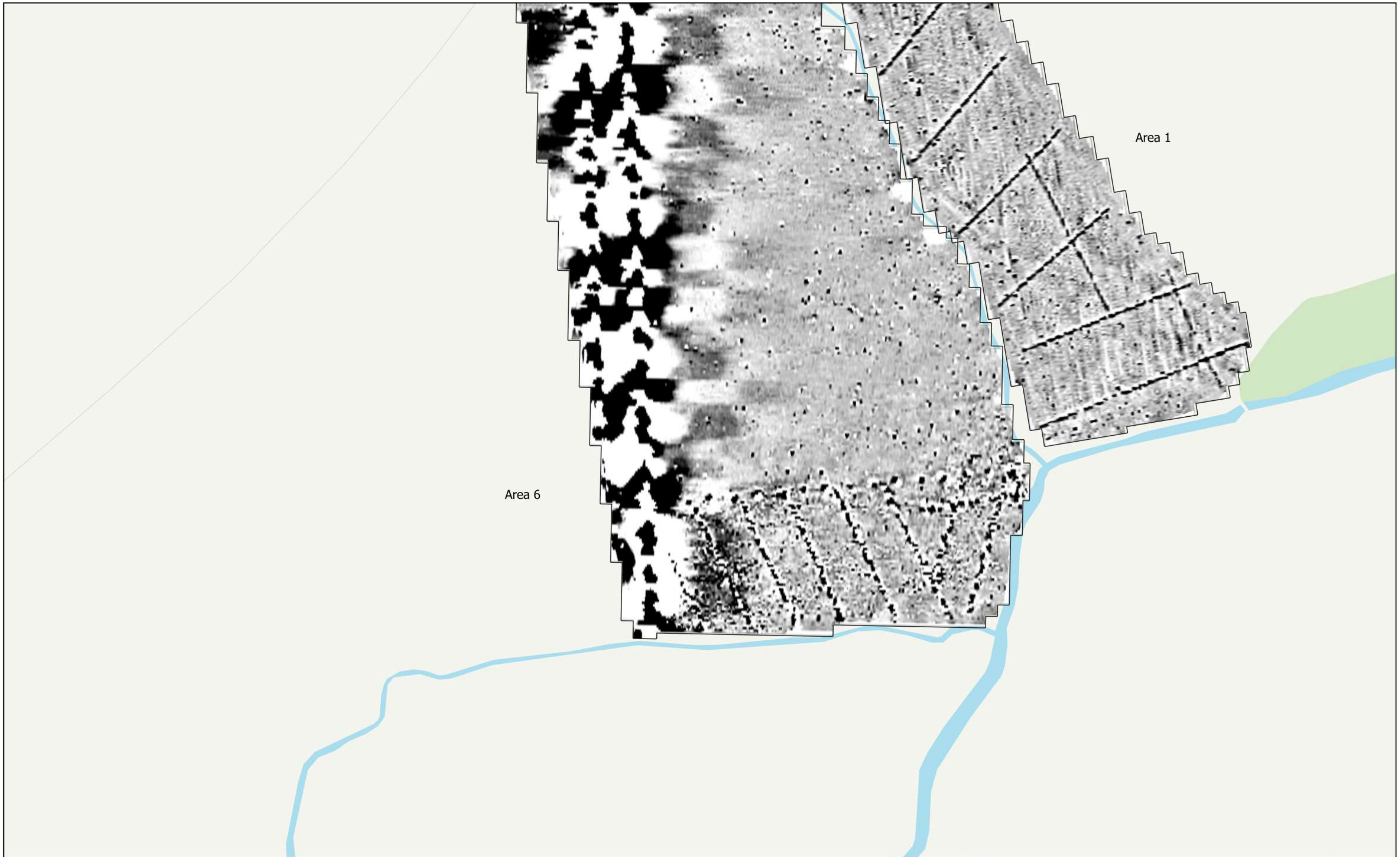


MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 19 - XY Trace Plot (Area 6)
90nT/cm at 1:1,500 @ A3



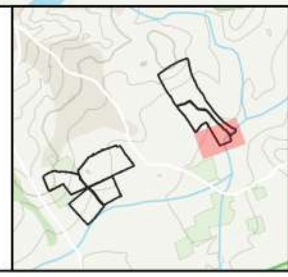


magnitude surveys



MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 20 - Magnetic Gradient (Area 6)
1:1,500 @ A3

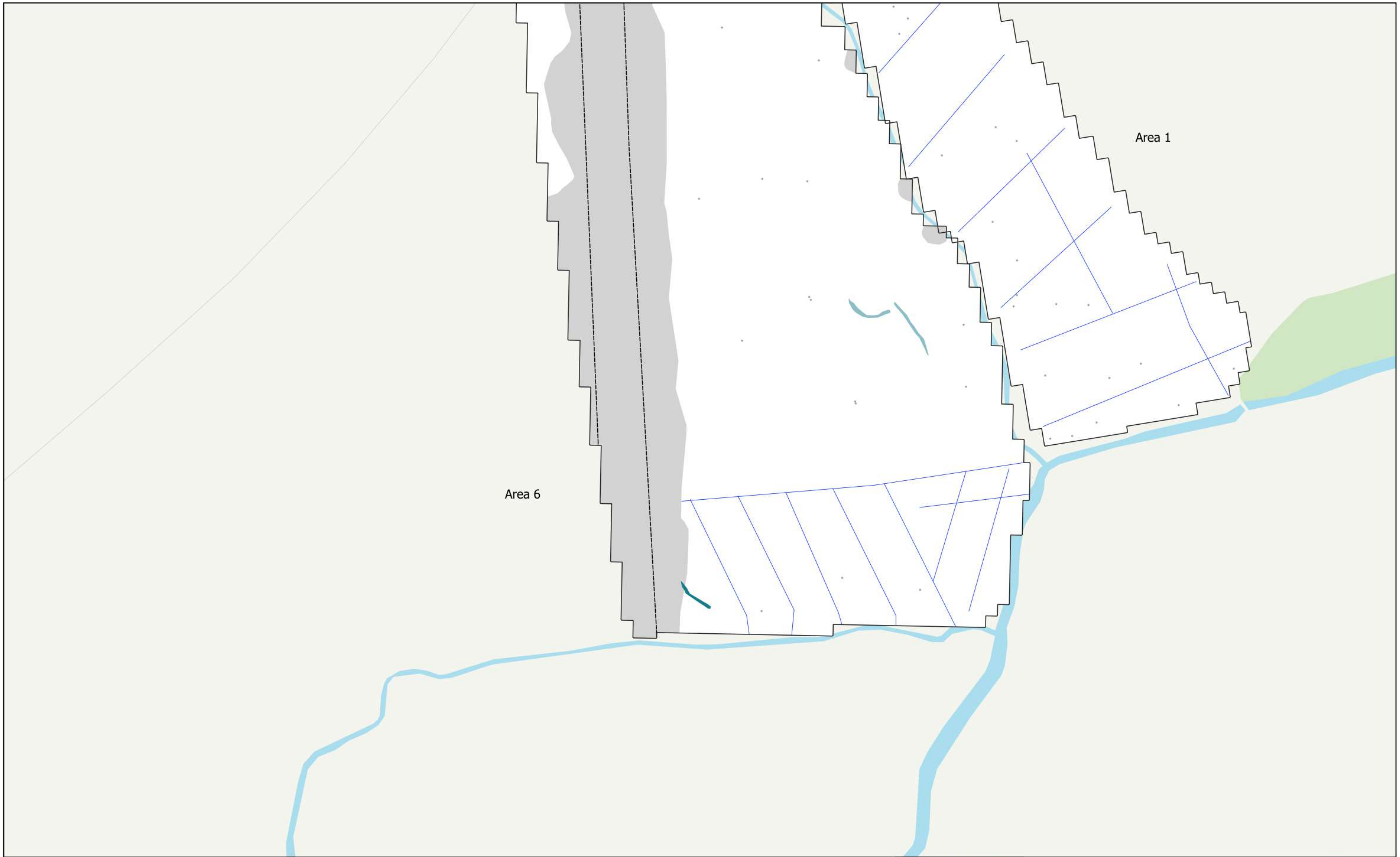
-1 nT 2



N

0 25 50 75 m

magnitude surveys



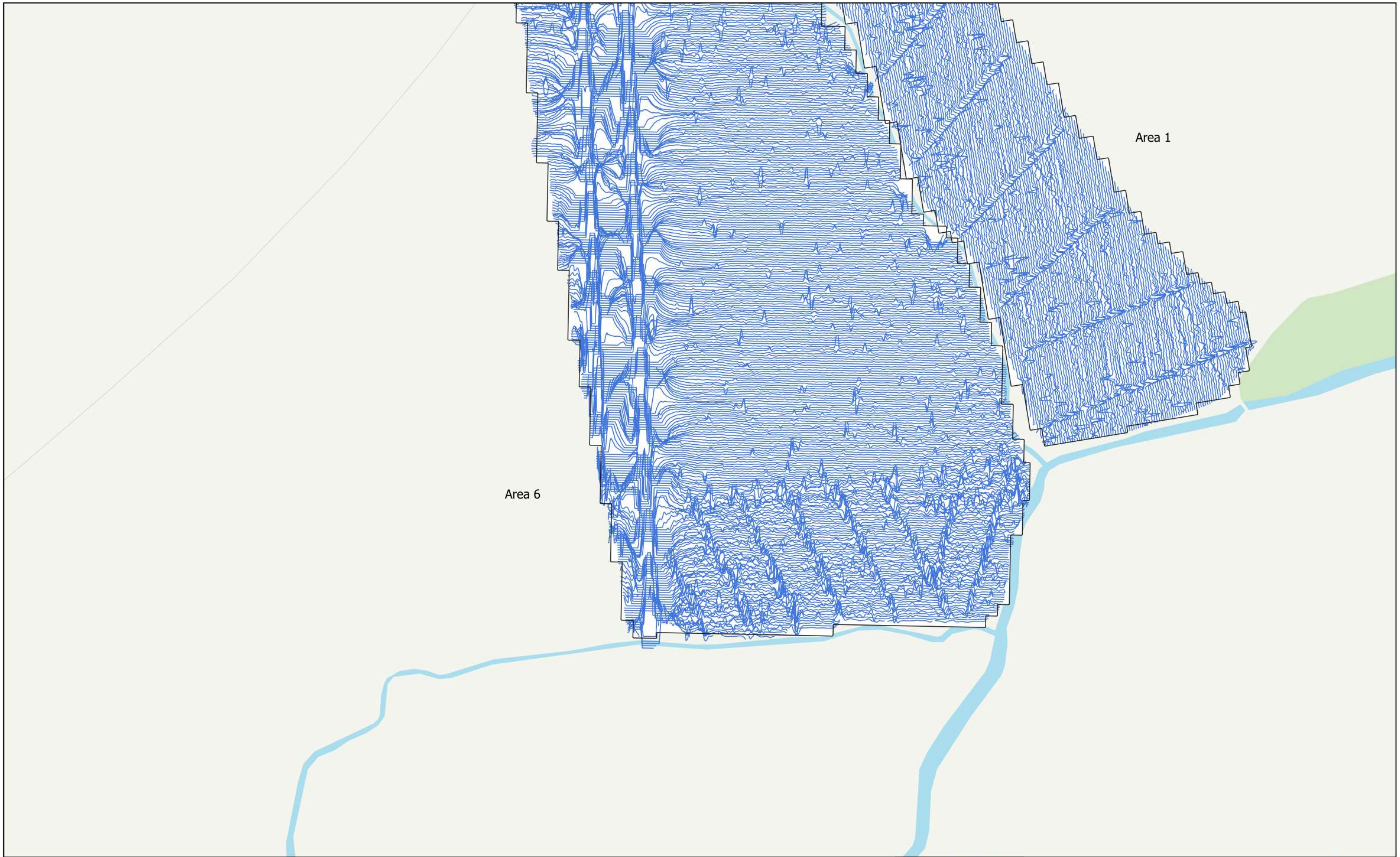
MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 21 - Magnetic Interpretation (Area 6)
1:1,500 @ A3

Agricultural (Strong)
Agricultural (Weak)
Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Strong)
Undetermined (Weak)
Service
Drainage Feature
Ferrous (Spike)

N

0 25 50 75 m

magnitude surveys



MSTQ1118 - Burstead Solar Farm and Battery Storage
Figure 22 - XY Trace Plot (Area 6)
90nT/cm at 1:1,500 @ A3

magnitude surveys