

GEOPHYSICAL SURVEY REPORT

STRATASCAN™



Project name:
Henlade, Taunton, Somerset

Client:
Context One Archaeological Services

October 2015

Job ref:
J8311

Report author:
Rebecca Davies BSc (Hons)

GEOPHYSICAL SURVEY REPORT

Project name:

Henlade, Taunton, Somerset

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Context One Archaeological Services (COAS)



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J8311

Techniques:

**Detailed magnetic survey –
Gradiometry**

Survey date:

**27th April - 12th May & 23rd - 25th
September 2015**

Site centred at:

ST 251 235

Post code:

TA3 5AA

Field team:

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1 SUMMARY OF RESULTS

A detailed gradiometry survey was conducted over approximately 57 hectares of agricultural land. A number of features of archaeological origin have been identified and include likely former enclosures and evidence of settlement activity of possible Roman origin. Further linear anomalies and pit features may be archaeological in origin, but may also be related to more recent agricultural activity or be natural. A number of former field boundaries, evidence of ridge and furrow and modern ploughing suggests the site has a more recent agricultural past. The former course of Black Brook has been identified, along with areas of made ground. The remaining features are modern in origin and include underground services, a trackway, land drains, scattered magnetic debris, and magnetic disturbance from nearby ferrous objects.

2 INTRODUCTION

2.1 *Background synopsis*

Stratascan were commissioned to undertake a geophysical survey of an area outlined for the development of the Junction 25 Business Park. This survey forms part of an archaeological investigation being undertaken by COAS.

2.2 *Site location*

The site is located to the east of Taunton, Somerset at OS ref. ST 251 235, with the village of Henlade situated to the south-east of the site. The M5 motorway runs along the western boundary of the site, Haydon Lane to the south and agricultural land to the north and east.

2.3 *Description of site*

The survey area is approximately 57 hectares of mostly flat, mixed arable and pastoral farmland. The site is largely unobstructed, with an area of farm buildings in the north and a small area of rough pasture in Field 6 that could not be surveyed.

2.4 *Geology and soils*

The underlying geology across the north of the site comprises mudstone and halite-stone of Mercia Mudstone Group, while the geology across the south comprises mudstone of Branscombe Mudstone Formation (British Geological Survey website). Drift geology of Alluvium is recorded across the majority of the site, with no superficial deposits recorded across Fields 1, 2, 6 and the southern part of Field 7 (British Geological Survey website).

The overlying soils are known as Compton which are typical pelo-alluvial gley soils. These consist of stoneless mostly reddish clayey soils affected by groundwater (Soil Survey of England and Wales, Sheet 5 South West England).

2.5 **Site history and archaeological potential**

A search of Somerset Historic Environment Record (Somerset County Council, 2015) within a 1km radius of the site has identified a number of Roman remains in close proximity to the site. A Roman settlement (PRN 43671), to the south of the site, was identified during a trial excavation (PRN 28552). The settlement included a number of timber structures and a curving boundary ditch containing large quantities of animal bone and Roman pottery. A Roman coin hoard has also been discovered to the south of the site, comprising over 400 coins. Two pits and two skeletons were also discovered in this area. To the north of the site, in an investigation prior to the construction of the Park and Ride facility, a ditch containing Roman pottery was discovered (PRN 14359). It can therefore be determined that the site has a high potential for Roman remains.

2.6 **Survey objectives**

The objective of the survey was to locate any features of possible archaeological origin in order that they may be assessed prior to development.

2.7 **Survey methods**

This report and all fieldwork have been conducted in accordance with both the English Heritage guidelines outlined in the document: *Geophysical Survey in Archaeological Field Evaluation, 2008* and with the Chartered Institute for Archaeologists document *Standard and Guidance for Archaeological Geophysical Survey*.

Due to the high potential for Roman remains, detailed magnetic survey (gradiometry) was used as an efficient and effective method of locating archaeological anomalies. More information regarding this technique is included in Appendix A.

2.8 **Processing, presentation and interpretation of results**

2.8.1 **Processing**

Processing is performed using specialist software. This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'flattening' the background levels with respect to adjacent traverses and adjacent grids. Once the basic processing has flattened the background it is then possible to carry out further processing which may include low pass filtering to reduce 'noise' in the data and hence emphasise the archaeological or man-made anomalies.

The following schedule shows the basic processing carried out on all minimally processed gradiometer data used in this report:

1. *Destripe* (Removes striping effects caused by zero-point discrepancies between different sensors and walking directions)
2. *Destagger* (Removes zigzag effects caused by inconsistent walking speeds on sloping, uneven or overgrown terrain)

2.8.2 Presentation of results and interpretation

The presentation of the data for each site involves a print-out of the minimally processed data both as a greyscale plot and a colour plot showing extreme magnetic values. Magnetic anomalies have been identified and plotted onto the 'Abstraction and Interpretation of Anomalies' drawing for the site.

3 RESULTS

The detailed magnetic gradiometer survey conducted at Henlade, Taunton has identified a number of anomalies that have been characterised as being either of a *probable* or *possible* archaeological origin.

The difference between *probable* and *possible* archaeological origin is a confidence rating. Features identified within the dataset that form recognisable archaeological patterns or seem to be related to a deliberate historical act have been interpreted as being of a probable archaeological origin.

Features of possible archaeological origin tend to be more amorphous anomalies which may have similar magnetic attributes in terms of strength or polarity but are difficult to classify as being archaeological or natural.

The following list of numbered anomalies refers to numerical labels on the interpretation plots.

3.1 Probable Archaeology

- 1-5 A number of positive linear and rectilinear anomalies in Fields 7, 8, 11 and 13. These are indicative of former cut features of archaeological origin and are likely to be related to former enclosures.
- 6 Two positive area anomalies in Field 13. These are indicative of former cut features of archaeological origin and are likely to be related to Anomaly 1.

3.2 Possible Archaeology

- 7 A positive linear anomaly in the west of the site (Field 5). This is indicative of a former cut feature of possible archaeological or natural origin and is associated with Anomaly 10.

- 8 Negative anomalies in the west of the site (Field 5). These are indicative of former banks and may be of archaeological or natural origin associated with Anomaly 7.
- 9 A number of positive linear anomalies in Fields 3, 8, 10, 14 & 15. These are indicative of former cut features of possible archaeological or agricultural origin.
- 10 A number of small discrete positive anomalies in Fields 12 & 14. These are indicative of small former cut features, such as backfilled pits and may be archaeological or natural in origin.
- 11 A negative linear anomaly in the east of the site (Field 14). This is indicative of a former bank or earthwork of possible archaeological or agricultural origin.

3.3 *Medieval/Post-Medieval Agriculture*

- 12-14 A number of positive linear anomalies in Fields 1, 5 & 7. These are related to former field boundaries present on available mapping. Anomaly 12 is visible from 1888 to 1905, Anomaly 13 from 1888 to 1970 and Anomaly 14 from 1888 to 1983.
- 15-23 A number of positive linear anomalies across the site. These are likely to be related to former field boundaries that are not present on available mapping.
- 24 Widely spaced parallel linear anomalies in Fields 4 & 12. These are related to ridge and furrow cultivation.
- 25 A number of closely spaced parallel linear anomalies. These are related to modern agricultural activity, such as ploughing.

3.4 *Other Anomalies*

- 26 A curvilinear anomaly made up of strong magnetic debris in the west of the site (Fields 3, 4 & 5). This is related to the former course of 'Black Brook' visible on available historic mapping.
- 27 An area of magnetic disturbance in the south of the site (Field 1). This is related to a track-way that is visible on aerial photography of the site.
- 28 Areas of amorphous magnetic variation across the site. These are likely to be natural, i.e. geological in origin. The sinuous anomalies in Fields 3 & 4 are thought to be related to palaeochannels.
- 29 Areas of scattered magnetic debris in Fields 7, 12 & 13. These are likely to be modern in origin.

- 30 Areas of strong magnetic debris across Fields 2 and 6. This is likely to be modern in origin.
- 31 A number of strong bipolar linear anomalies in Fields 3, 3 & 5. These are related to modern underground services, such as pipes or cables.
- 32 A number of weak bipolar linear anomalies in Field 3. These are likely to be related to land drains.
- 33 Areas of magnetic disturbance are the result of substantial nearby ferrous metal objects such as fences and underground services. These effects can mask weaker archaeological anomalies, but on this site have not affected a significant proportion of the area.
- 34 A number of magnetic 'spikes' (strong focussed values with associated antipolar response) indicate ferrous metal objects. These are likely to be modern rubbish.

4 DATA APPRAISAL & CONFIDENCE ASSESSMENT

Mudstone geologies can give variable results for gradiometer survey, and alluvial deposits have the potential to mask weaker archaeological anomalies. The data across the site is fairly uniform in appearance, however archaeological anomalies and former field boundaries have been identified by weak responses. This would suggest that the survey has been partially effective, and it is possible that weaker features are masked by the alluvium.

5 CONCLUSION

The survey at Henlade, Taunton has identified a number of features of probable archaeological origin. Former enclosures and evidence of settlement activity has been identified. Due to the close proximity of a known Roman settlement, it is likely that the features identified on the site are contemporary with the Roman activity. Further linear anomalies may be of archaeological origin, though may also be related to more recent agricultural activity. A number of possible pits have been detected, and may be archaeological in origin, however they could equally be natural. A number of former field boundaries, evidence of ridge and furrow cultivation and modern ploughing indicate that the site has been used for agricultural purposes since the medieval period. The former course of Black Brook has been identified, having been infilled and re-directed during the construction of the M5 motorway.

The remaining features are modern in origin and include a trackway, scattered magnetic debris, areas of made ground, underground services, land drains, disturbance from nearby ferrous metal objects, and magnetic spikes that are likely to be modern rubbish.

6 REFERENCES

British Geological Survey South Sheet, 1977. *Geological Survey Ten Mile Map, South Sheet First Edition (Quaternary)*. Institute of Geological Sciences.

British Geological Survey, 2001. *Geological Survey Ten Mile Map, South Sheet, Fourth Edition (Solid)*. British Geological Society.

British Geological Survey, n.d., *website*:
(<http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps>) Geology of Britain viewer.

Chartered Institute For Archaeologists. *Standard and Guidance for Archaeological Geophysical Survey*.
<http://www.archaeologists.net/sites/default/files/nodefiles/Geophysics2010.pdf>

English Heritage, 2008. *Geophysical Survey in Archaeological Field Evaluation*.

Soil Survey of England and Wales, 1983. *Soils of England and Wales, Sheet 5 South West England*.

Somerset County Council, 2015. *Historic Environment Record [online]* Available through:
www.heritagegateway.org.uk [Accessed 09/10/15]

APPENDIX A – METHODOLOGY & SURVEY EQUIPMENT

Grid locations

The location of the survey grids has been plotted together with the referencing information. Grids were set out using a Leica 705auto Total Station and referenced to suitable topographic features around the perimeter of the site or a Leica Smart Rover RTK GPS.

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. A SmartNet RTK GPS uses Ordnance Survey's network of over 100 fixed base stations to give an accuracy of around 0.01m.

Survey equipment and gradiometer configuration

Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.2 nanoTeslas (nT) in an overall field strength of 48,000nT, can be accurately detected using an appropriate instrument.

The mapping of the anomaly in a systematic manner will allow an estimate of the type of material present beneath the surface. Strong magnetic anomalies will be generated by buried iron-based objects or by kilns or hearths. More subtle anomalies such as pits and ditches can be seen if they contain more humic material which is normally rich in magnetic iron oxides when compared with the subsoil.

To illustrate this point, the cutting and subsequent silting or backfilling of a ditch may result in a larger volume of weakly magnetic material being accumulated in the trench compared to the undisturbed subsoil. A weak magnetic anomaly should therefore appear in plan along the line of the ditch.

The magnetic survey was carried out using a dual sensor Grad601-2 Magnetic Gradiometer manufactured by Bartington Instruments Ltd. The instrument consists of two fluxgates very accurately aligned to nullify the effects of the Earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background. The Grad601-2 consists of two high stability fluxgate gradiometers suspended on a single frame. Each gradiometer has a 1m separation between the sensing elements so enhancing the response to weak anomalies.

Sampling interval

Readings were taken at 0.25m centres along traverses 1m apart. This equates to 3600 sampling points in a full 30m x 30m grid.

Depth of scan and resolution

The Grad 601-2 has a typical depth of penetration of 0.5m to 1.0m, though strongly magnetic objects may be visible at greater depths. The collection of data at 0.25m centres provides an optimum methodology for the task balancing cost and time with resolution.

Data capture

The readings are logged consecutively into the data logger which in turn is daily down-loaded into a portable computer whilst on site. At the end of each site survey, data is transferred to the office for processing and presentation.

APPENDIX B – BASIC PRINCIPLES OF MAGNETIC SURVEY

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.

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 and material such as brick and tile may be magnetised through the same process.

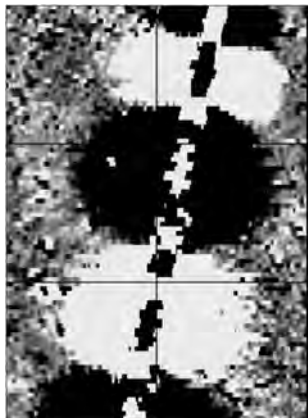
Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement 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 field. The difference between the two sensors will relate to the strength of a magnetic field created by a buried 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, disturbance from modern services etc.

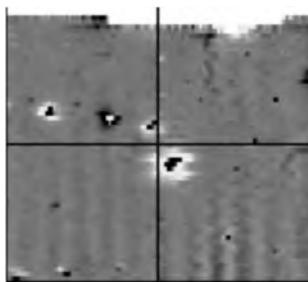
APPENDIX C – GLOSSARY OF MAGNETIC ANOMALIES

Bipolar



A bipolar anomaly is one that is composed of both a positive response and a negative response. It can be made up of any number of positive responses and negative responses. For example a pipeline consisting of alternating positive and negative anomalies is said to be bipolar. See also dipolar which has only one area of each polarity. The interpretation of the anomaly will depend on the magnitude of the magnetic field strength. A weak response may be caused by a clay field drain while a strong response will probably be caused by a metallic service.

Dipolar

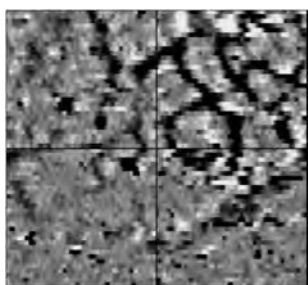


This consists of a single positive anomaly with an associated negative response. There should be no separation between the two polarities of response. These responses will be created by a single feature. The interpretation of the anomaly will depend on the magnitude of the magnetic measurements. A very strong anomaly is likely to be caused by a ferrous object.

Positive anomaly with associated negative response

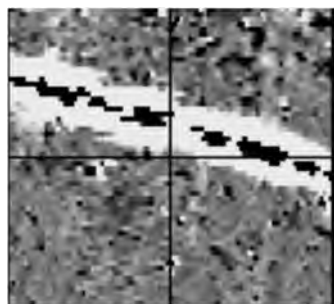
See bipolar and dipolar.

Positive linear



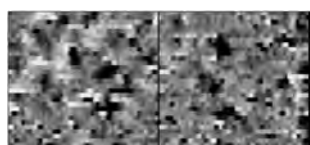
A linear response which is entirely positive in polarity. These are usually related to in-filled cut features where the fill material is magnetically enhanced compared to the surrounding matrix. They can be caused by ditches of an archaeological origin, but also former field boundaries, ploughing activity and some may even have a natural origin.

Positive linear anomaly with associated negative response



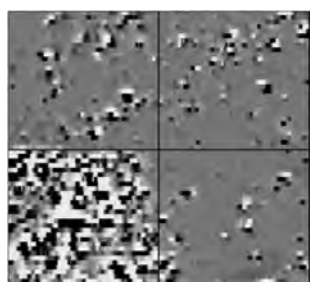
A positive linear anomaly which has a negative anomaly located adjacently. This will be caused by a single feature. In the example shown this is likely to be a single length of wire/cable probably relating to a modern service. Magnetically weaker responses may relate to earthwork style features and field boundaries.

Positive point/area



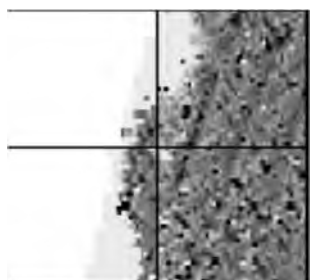
These are generally spatially small responses, perhaps covering just 3 or 4 reading nodes. They are entirely positive in polarity. Similar to positive linear anomalies they are generally caused by in-filled cut features. These include pits of an archaeological origin, possible tree bowls or other naturally occurring depressions in the ground.

Magnetic debris



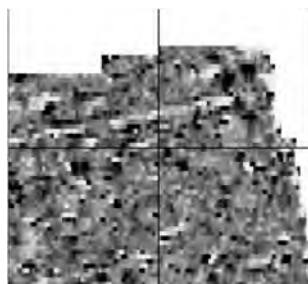
Magnetic debris consists of numerous dipolar responses spread over an area. If the amplitude of response is low ($\pm 3nT$) then the origin is likely to represent general ground disturbance with no clear cause, it may be related to something as simple as an area of dug or mixed earth. A stronger anomaly ($\pm 250nT$) is more indicative of a spread of ferrous debris. Moderately strong anomalies may be the result of a spread of thermoremanent material such as bricks or ash.

Magnetic disturbance



Magnetic disturbance is high amplitude and can be composed of either a bipolar anomaly, or a single polarity response. It is essentially associated with magnetic interference from modern ferrous structures such as fencing, vehicles or buildings, and as a result is commonly found around the perimeter of a site near to boundary fences.

Negative linear

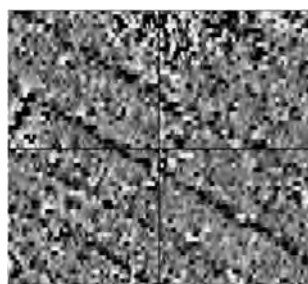


A linear response which is entirely negative in polarity. These are generally caused by earthen banks where material with a lower magnetic magnitude relative to the background top soil is built up. See also ploughing activity.

Negative point/area

Opposite to positive point anomalies these responses may be caused by raised areas or earthen banks. These could be of an archaeological origin or may have a natural origin.

Ploughing activity



Ploughing activity can often be visualised by a series of parallel linear anomalies. These can be of either positive polarity or negative polarity depending on site specifics. It can be difficult to distinguish between ancient ploughing and more modern ploughing. Clues such as the separation of each linear, straightness, strength of response and cross cutting relationships can be used to aid this, although none of these can be guaranteed to differentiate between different phases of activity.

Polarity

Term used to describe the measurement of the magnetic response. An anomaly can have a positive polarity (values above 0nT) and/or a negative polarity (values below 0nT).

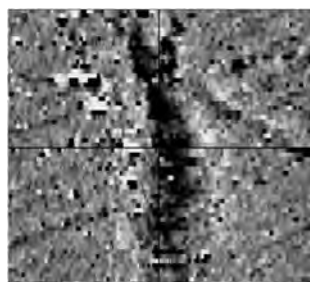
Strength of response

The amplitude of a magnetic response is an important factor in assigning an interpretation to a particular anomaly. For example a positive anomaly covering a 10m² area may have values up to around 3000nT, in which case it is likely to be caused by modern magnetic interference. However, the same size and shaped anomaly but with values up to only 4nT may have a natural origin. Colour plots are used to show the amplitude of response.

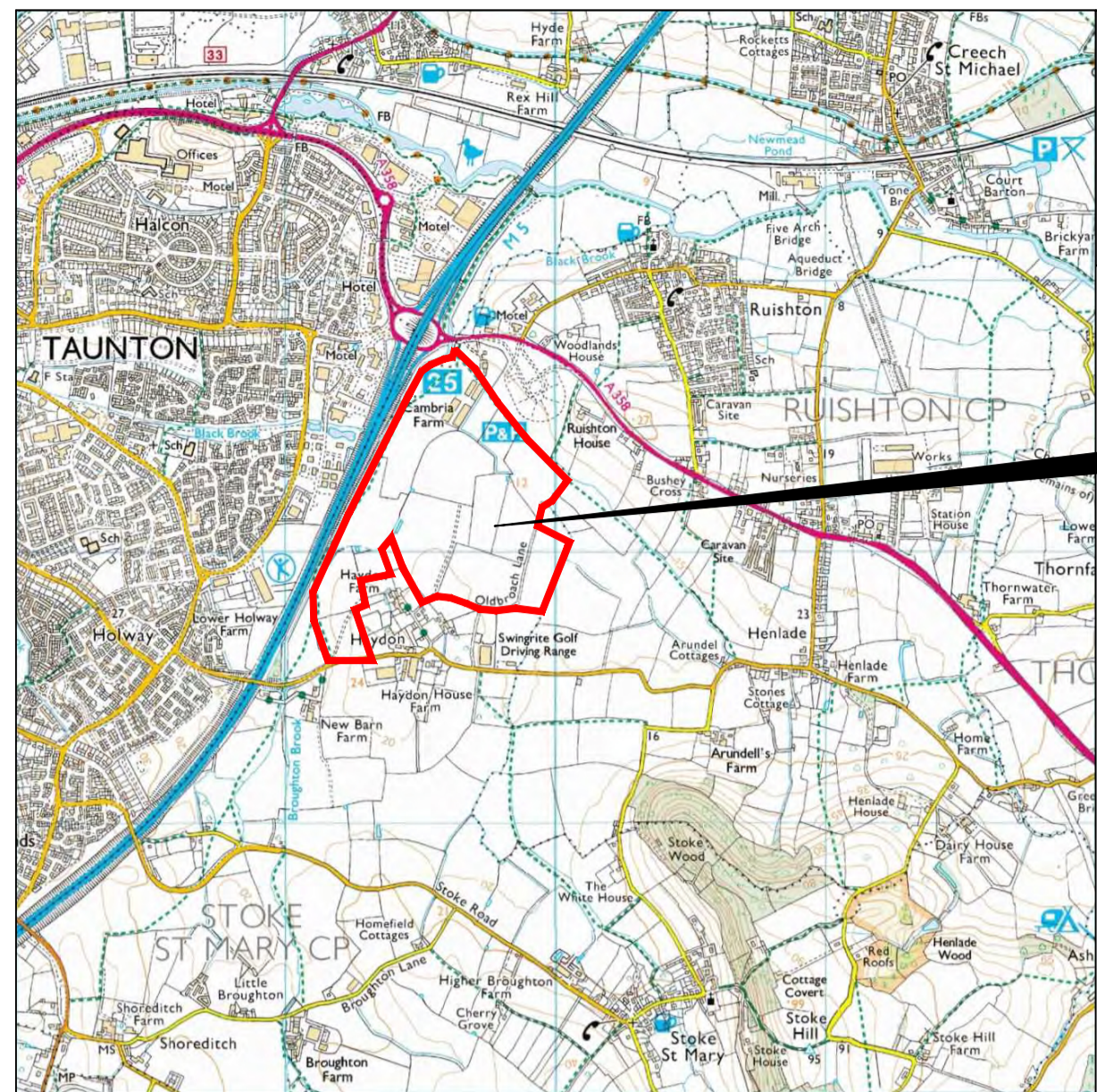
Thermoremanent response

A feature which has been subject to heat may result in it acquiring a magnetic field. This can be anything up to approximately +/-100 nT in value. These features include clay fired drains, brick, bonfires, kilns, hearths and even pottery. If the heat application has occurred in situ (e.g. a kiln) then the response is likely to be bipolar compared to if the heated objects have been disturbed and moved relative to each other, in which case they are more likely to take an irregular form and may display a debris style response (e.g. ash).

Weak background variations

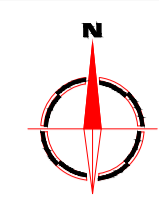


Weakly magnetic wide scale variations within the data can sometimes be seen within sites. These usually have no specific structure but can often appear curvy and sinuous in form. They are likely to be the result of natural features, such as soil creep, dried up (or seasonal) streams. They can also be caused by changes in the underlying geology or soil type which may contain unpredictable distributions of magnetic minerals, and are usually apparent in several locations across a site.



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 Vineyard House
 Upper Hook Road
 Upton Upon Severn
 WR8 0SA
 OS 100km square = ST

Survey area

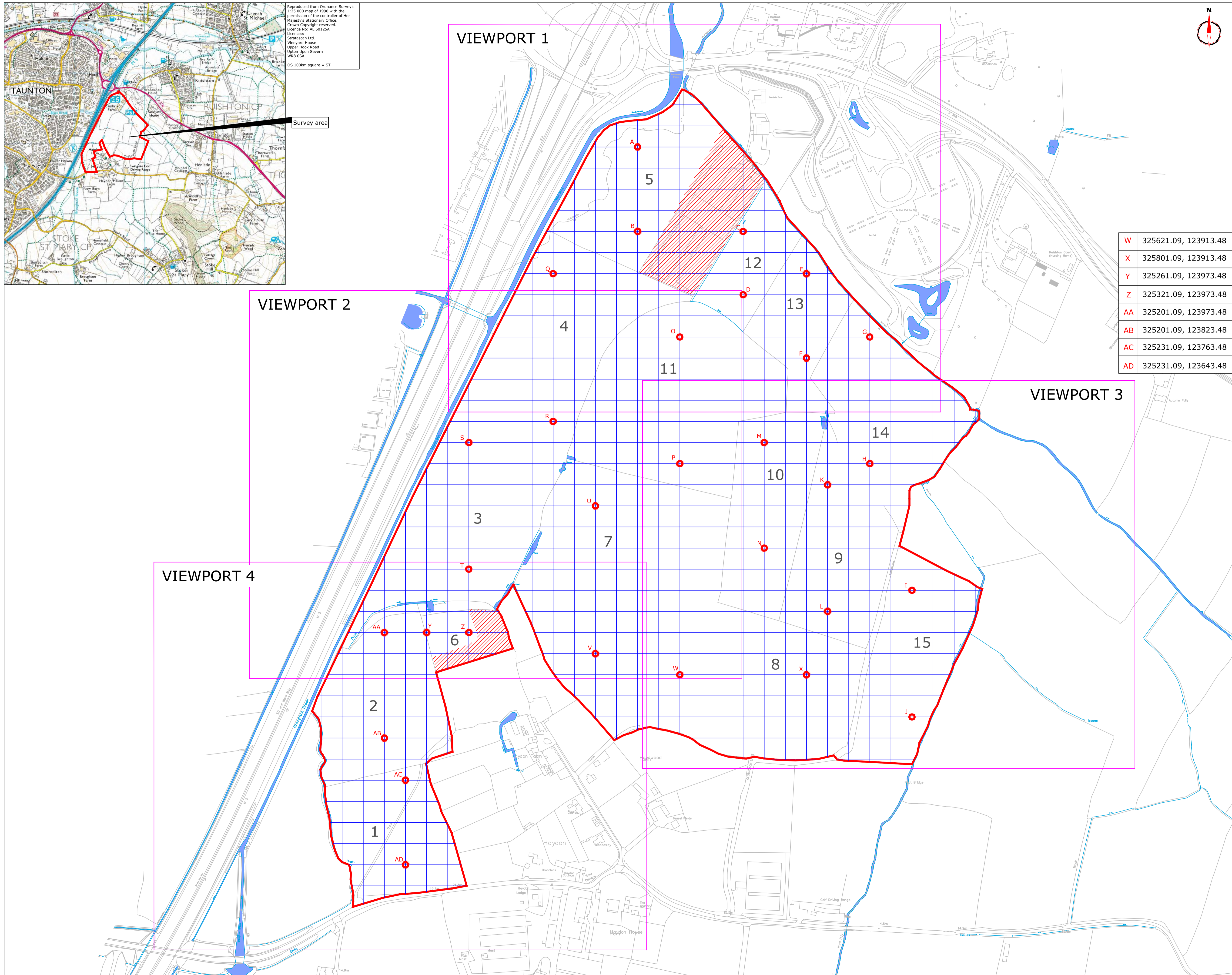


Amendments

Issue No.	Date	Description
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© Stratascan Ltd - 2015		
Site centred on NGR ST 251 235		

Area unsurveyable

OS REFERENCING INFORMATION	
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Y	325261.09, 123973.48
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Job No.	8311	Survey Date	APR 15
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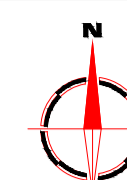
Client
CONTEXT ONE
ARCHAEOLOGICAL SERVICES
 Project Title
GEOPHYSICAL SURVEY -
HENLADE, TAUNTON,
SOMERSET

Subject
SITE LOCATION, SURVEY
AREA & REFERENCING

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GPR ASSOCIATION
SUMO GROUP MEMBER

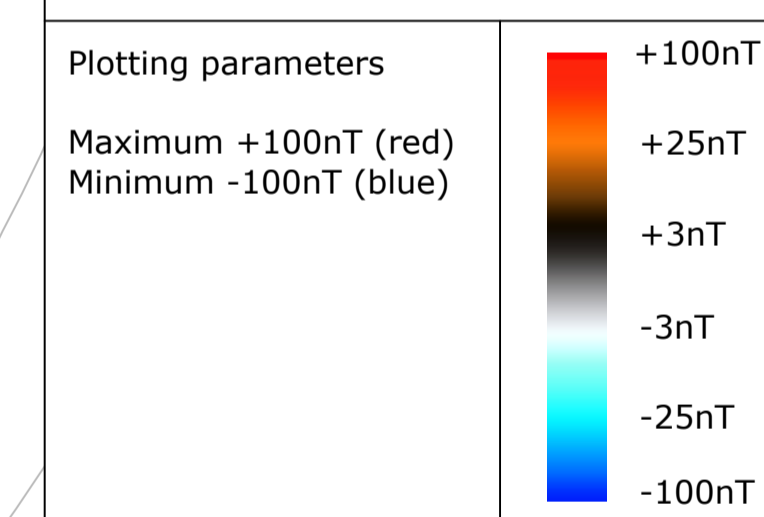
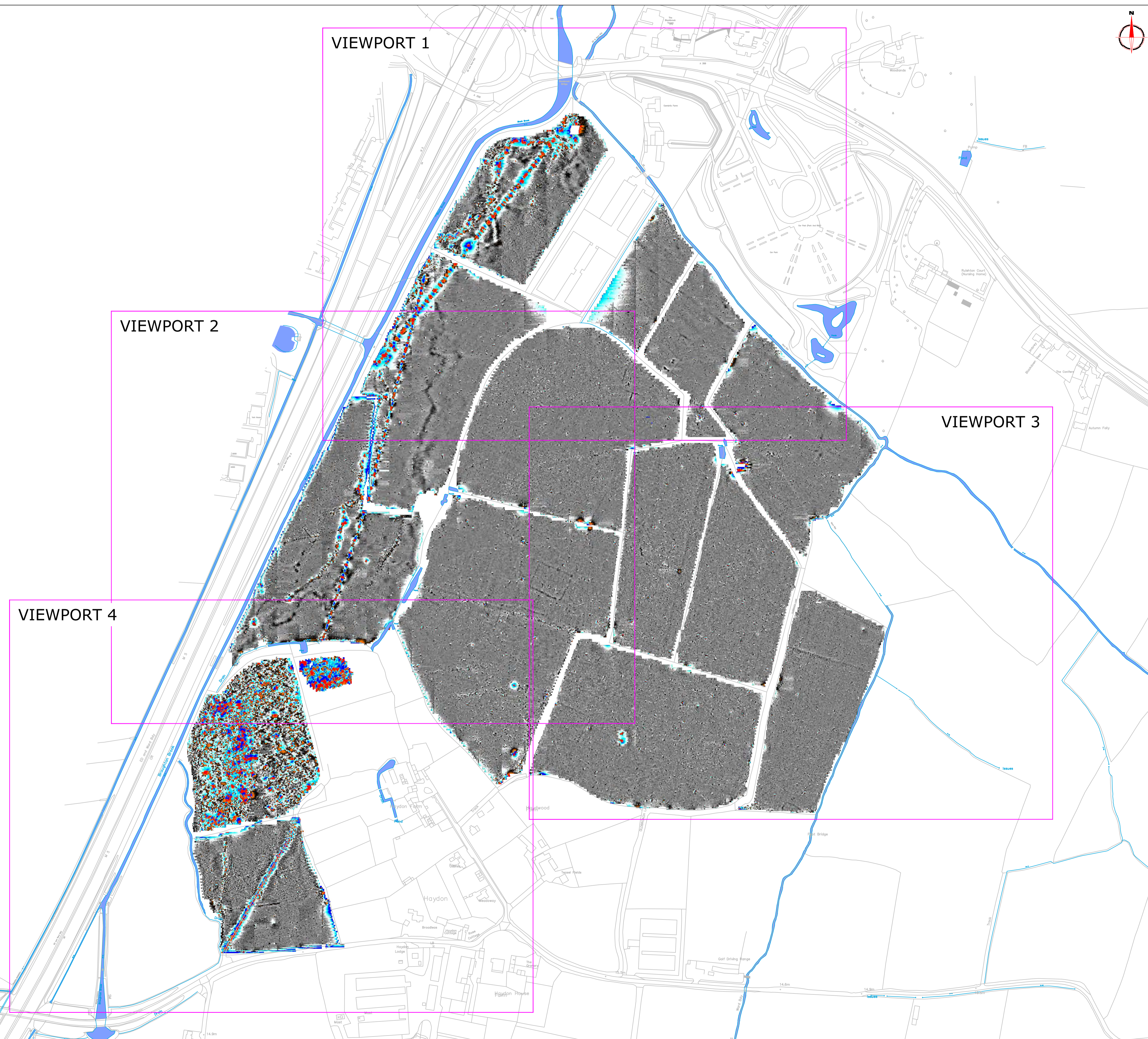
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1:2500	Plot	Checked by	Issue No.
	A1	DGE	01
Date	Drawn by	Figure No.	
JUNE 15	RD	01	



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

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Job No.	8311	Survey Date	APR 15
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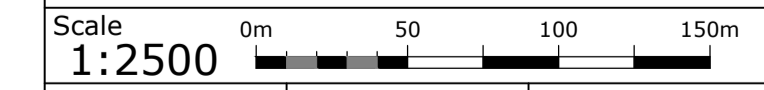
Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

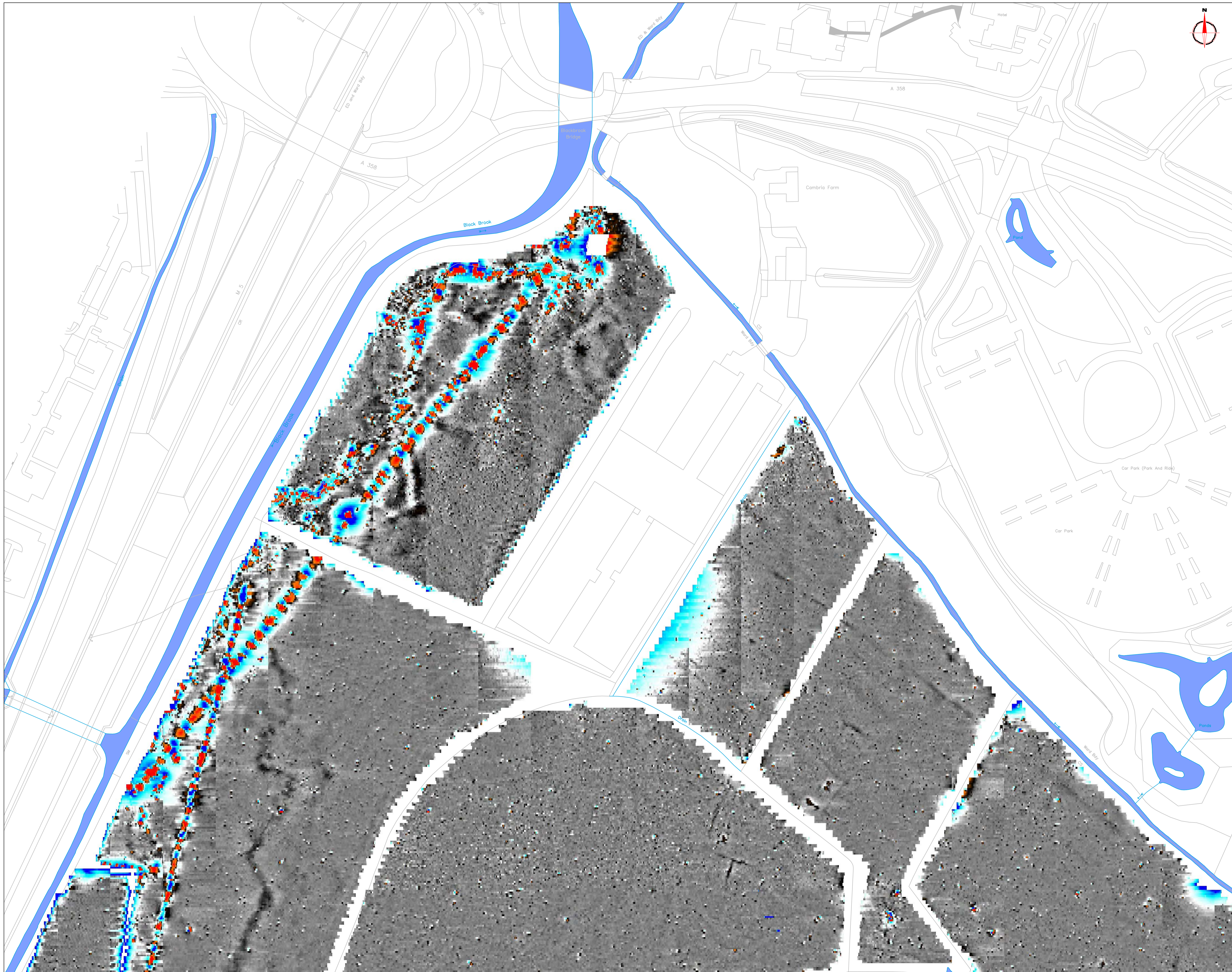
Subject
**COLOUR PLOT OF GRADIOMETER
DATA SHOWING EXTREME
VALUES - OVERVIEW**

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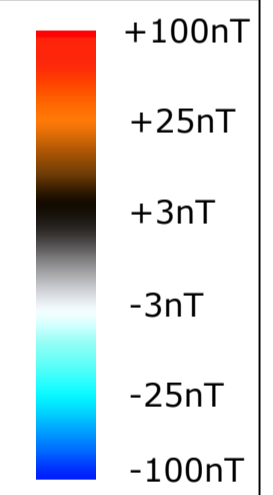
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Date	JUNE 15	Drawn by	RD	Figure No.	02



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)



Job No. 8311 Survey Date APR 15

Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

Subject
**COLOUR PLOT OF
GRADIOMETER DATA
SHOWING EXTREME VALUES -
VIEWPORT 1**

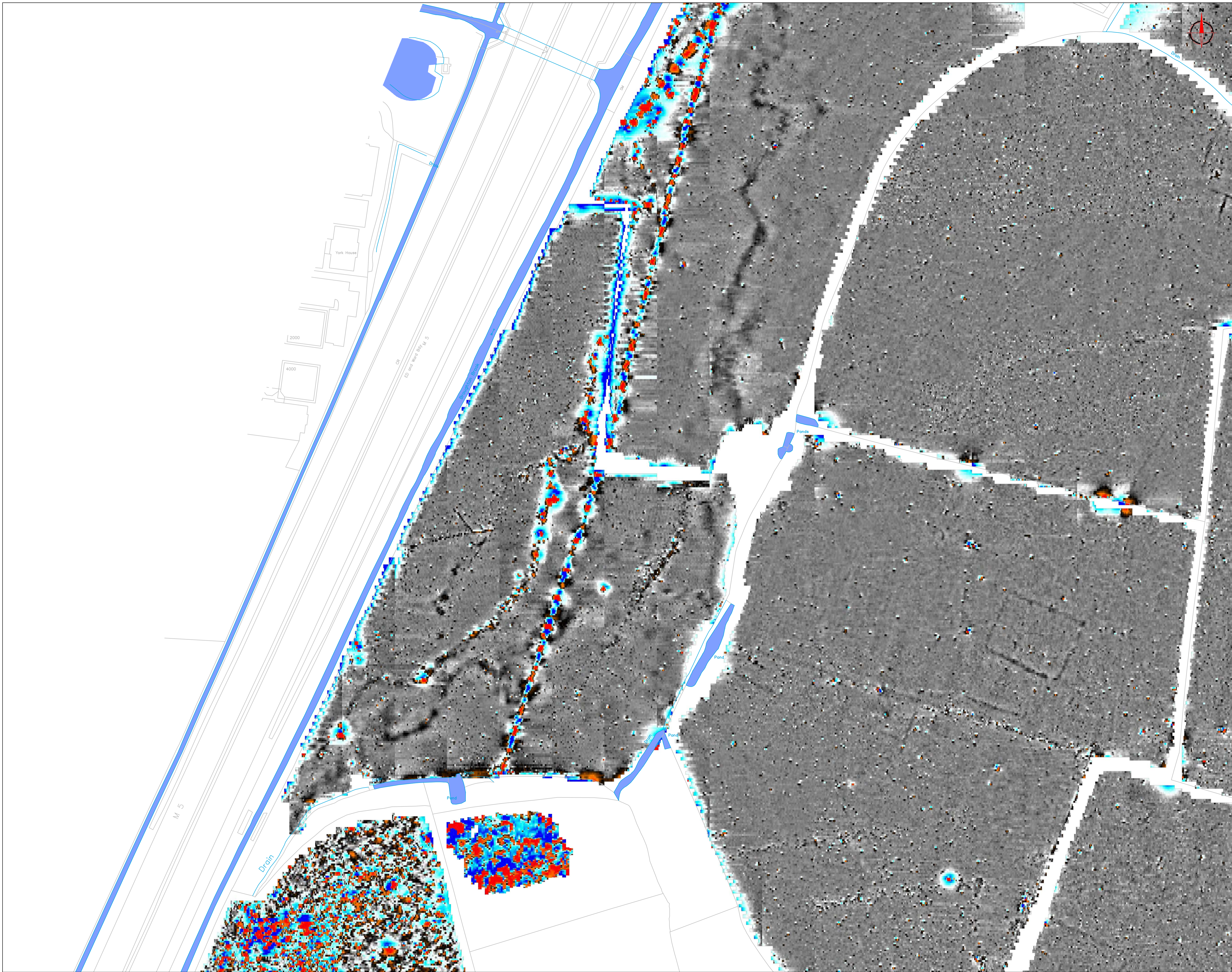
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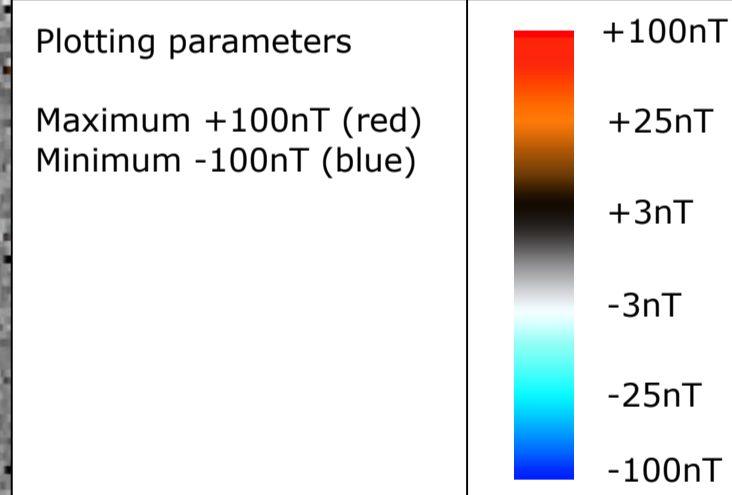
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Plot A1	Checked by DGE	Issue No. 01
Date JUNE 15	Drawn by RD	Figure No. 03



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

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Job No. 8311 Survey Date APR 15

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CONTEXT ONE
ARCHAEOLOGICAL SERVICES

Project Title
GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET

Subject
COLOUR PLOT OF
GRADIOMETER DATA
SHOWING EXTREME VALUES -
VIEWPORT 2

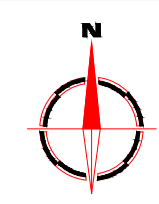
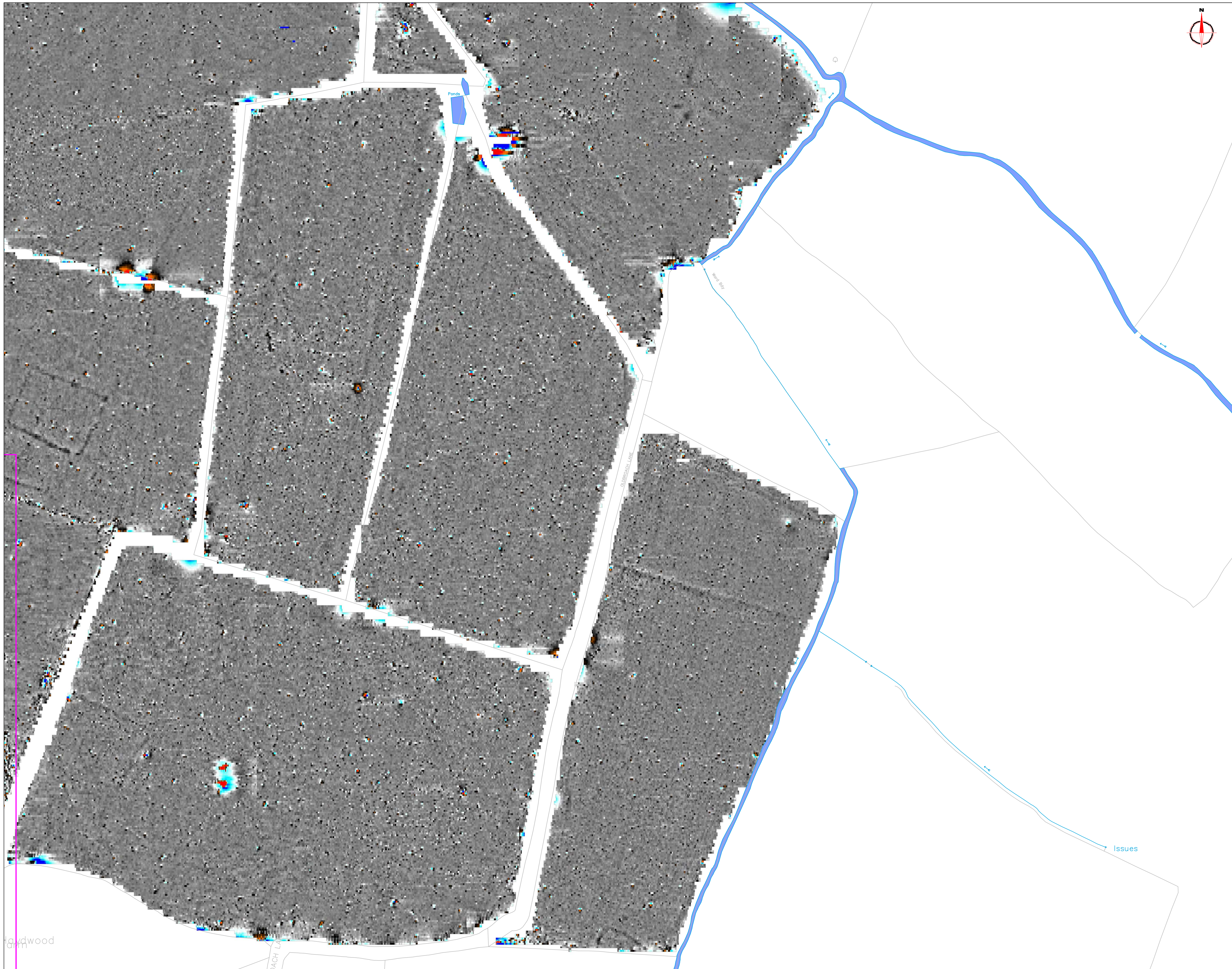
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Scale 0m 10 20 30 40 50 60m
 1:1000

Plot A1	Checked by DGE	Issue No. 01
Date JUNE 15	Drawn by RD	Figure No. 04



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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Plotting parameters	
Maximum +100nT (red)	
Minimum -100nT (blue)	

Job No.	8311	Survey Date	APR 15
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Client
CONTEXT ONE
ARCHAEOLOGICAL SERVICES

Project Title
GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET

Subject
COLOUR PLOT OF
GRADIOMETER DATA
SHOWING EXTREME VALUES -
VIEWPORT 3

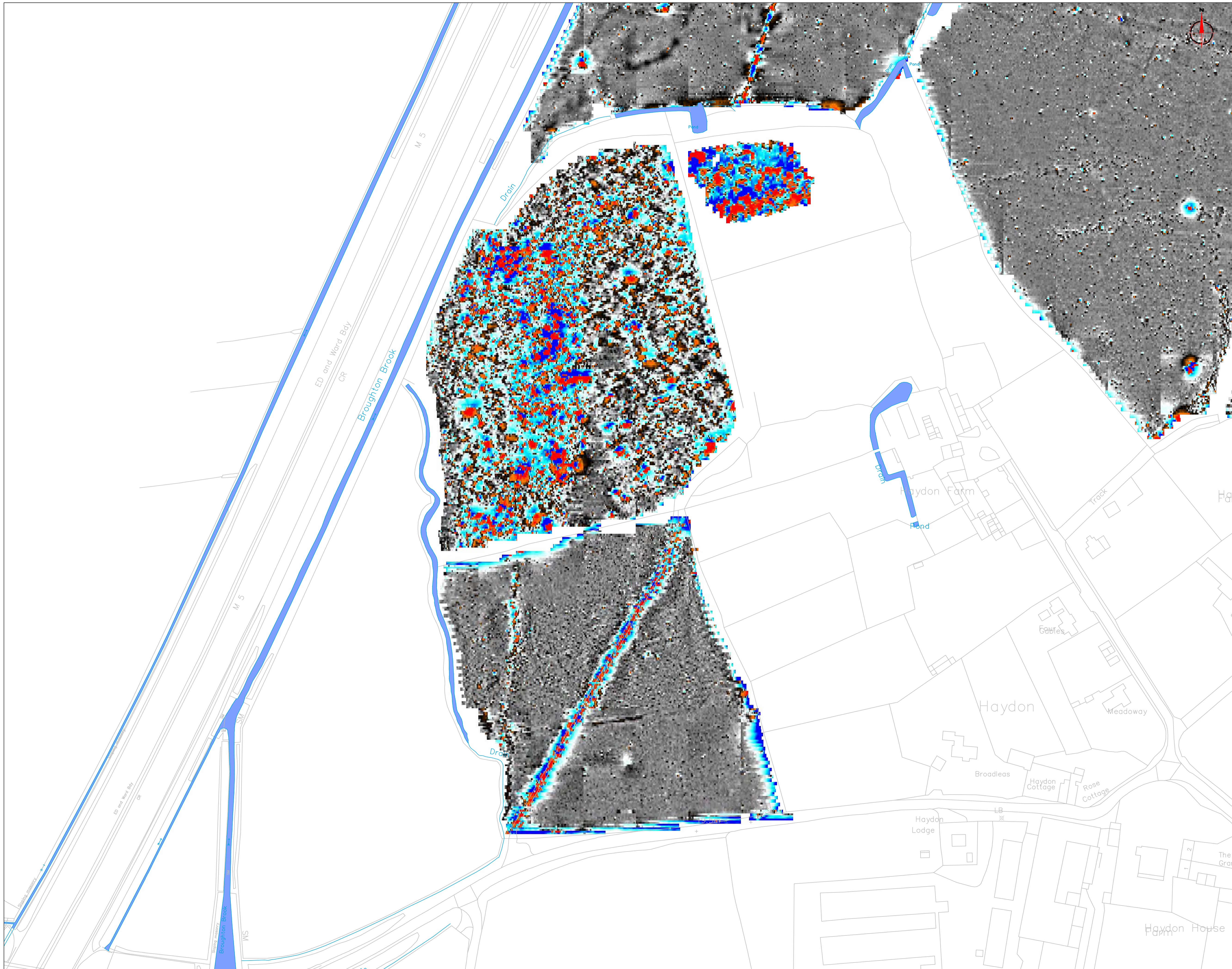
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Scale 0m 10 20 30 40 50 60m
1:1000

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	05



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

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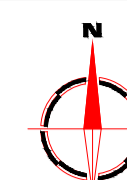


Job No.	8311	Survey Date	APR 15
Client	CONTEXT ONE ARCHAEOLOGICAL SERVICES		
Project Title	GEOPHYSICAL SURVEY - HENLADE, TAUNTON, SOMERSET		
Subject	COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 4		

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Scale	0m 10 20 30 40 50 60m		
1:1000	Plot	Checked by	Issue No.
	A1	DGE	01
Date	Drawn by	Figure No.	
JUNE 15	RD	06	



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

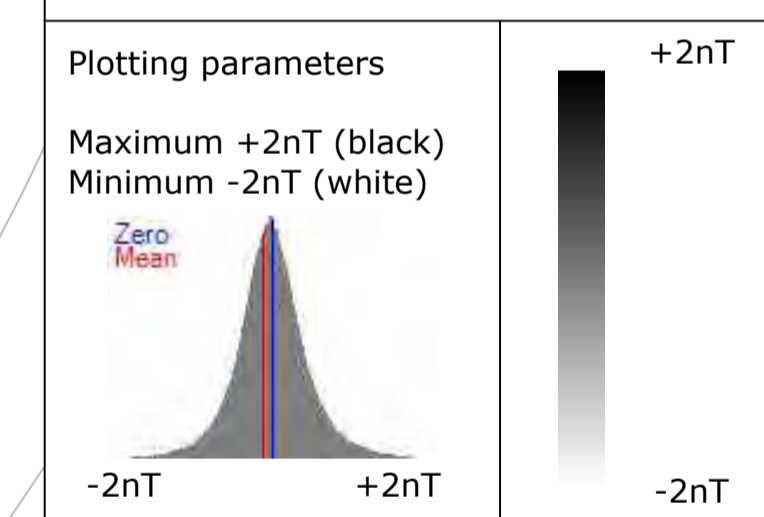
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VIEWPORT 1

VIEWPORT 2

VIEWPORT 3

VIEWPORT 4



Job No.	8311	Survey Date	APR 15
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Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

Subject
**PLOT OF MINIMALLY
PROCESSED GRADIOMETER
DATA - OVERVIEW**

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Scale 0m 50 100 150m
1:2500

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	07



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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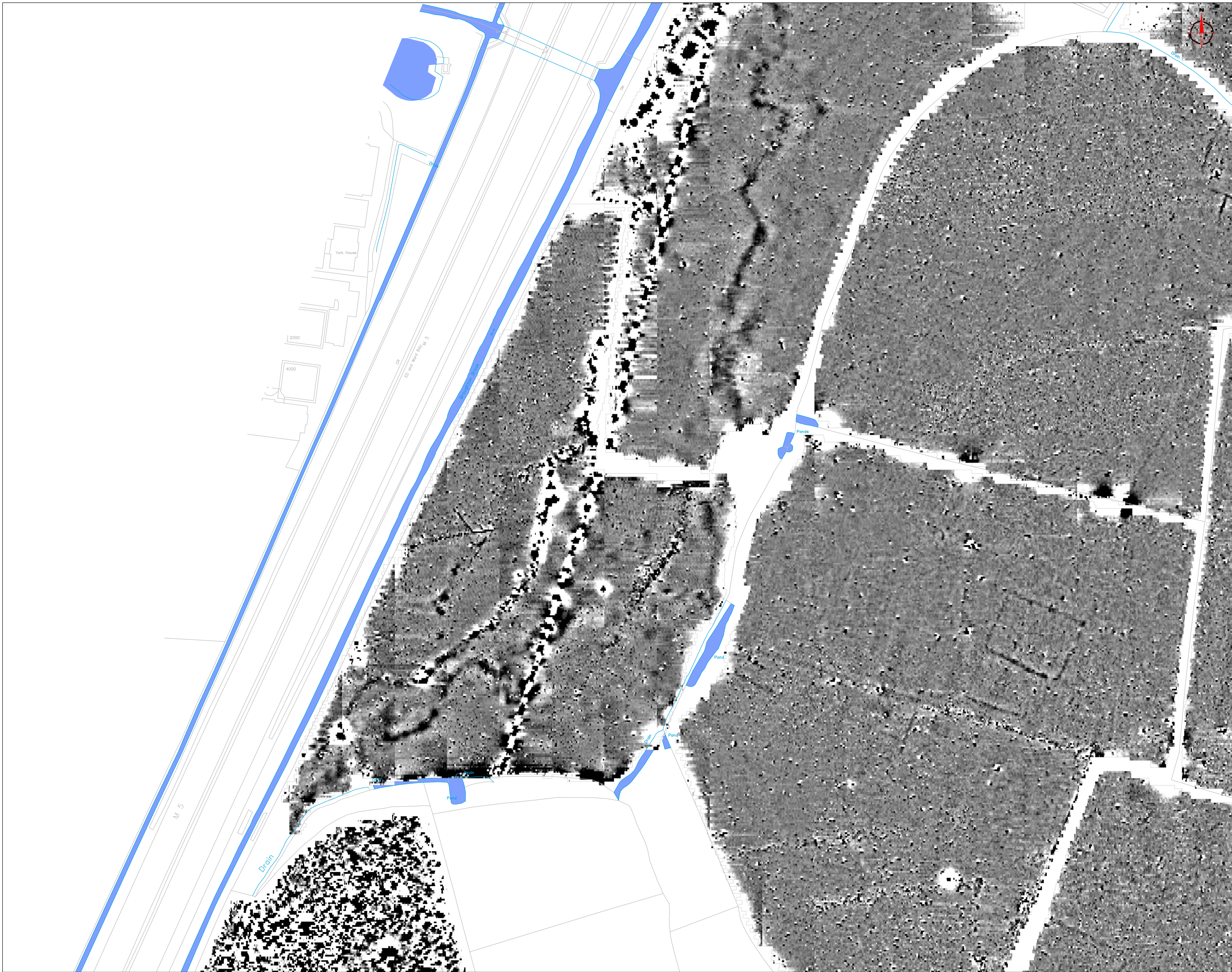
Job No.	8311	Survey Date	APR 15
Client	CONTEXT ONE ARCHAEOLOGICAL SERVICES		
Project Title	GEOPHYSICAL SURVEY - HENLADE, TAUNTON, SOMERSET		
Subject	PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 1		

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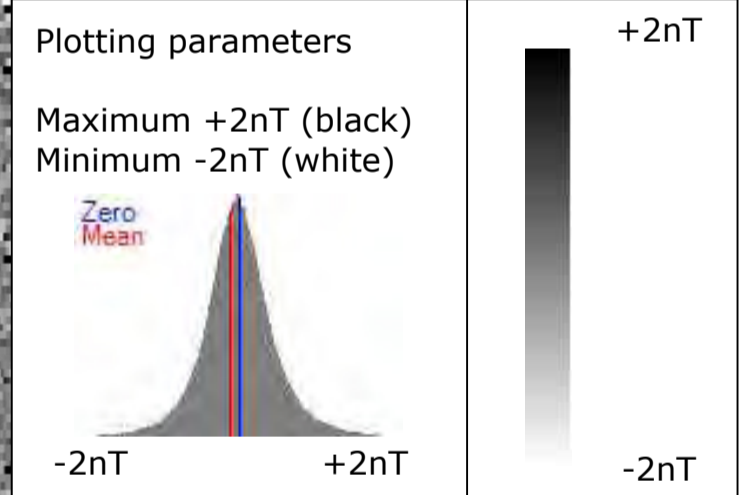


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1:1000			
Plot	A1	Checked by	DGE
Date	JUNE 15	Issue No.	01
		Figure No.	08



Amendments		
Issue No.	Date	Description
-	-	-
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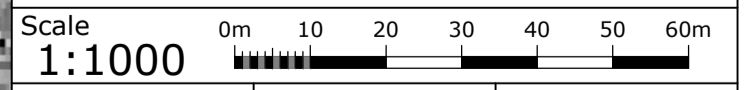
Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

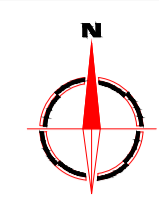
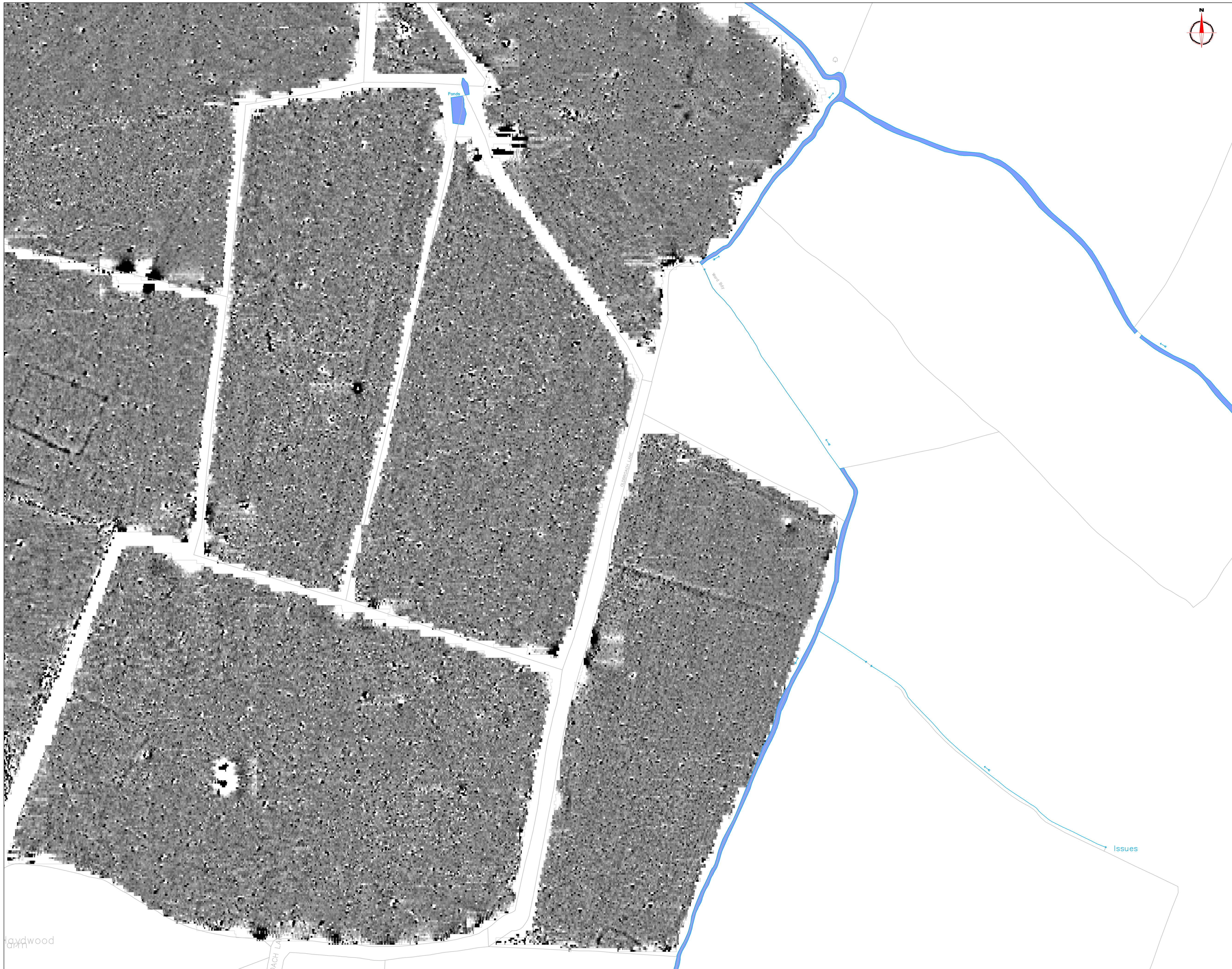
Subject
**PLOT OF MINIMALLY
PROCESSED GRADIOMETER
DATA - VIEWPORT 2**

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AND ENGINEERING

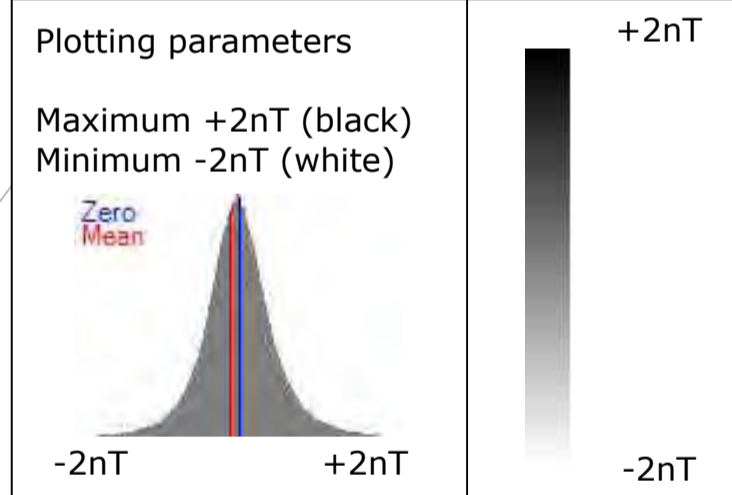
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Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	09



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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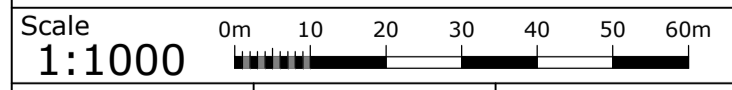
Job No.	8311	Survey Date	APR 15
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Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

Subject
**PLOT OF MINIMALLY
PROCESSED GRADIOMETER
DATA - VIEWPORT 3**

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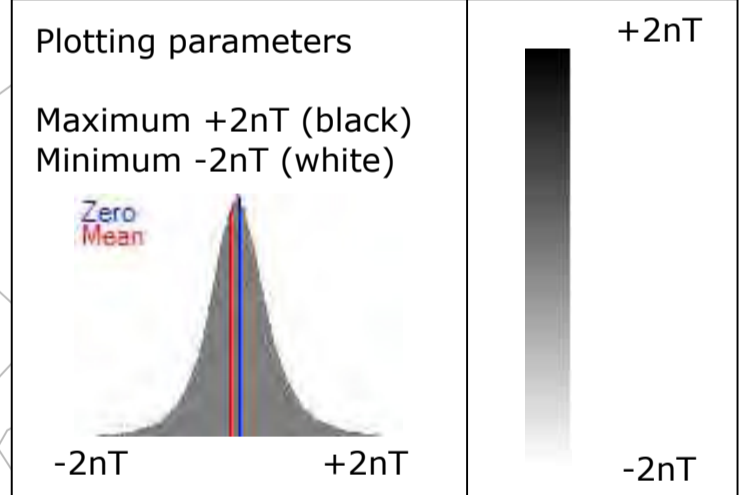


Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	10

laydwood



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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Client
**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

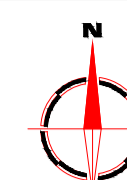
Subject
**PLOT OF MINIMALLY
PROCESSED GRADIOMETER
DATA - VIEWPORT 4**

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Scale	0m 10 20 30 40 50 60m		
Plot	A1	Checked by	DGE
Date	JUNE 15	Drawn by	RD
Issue No.	01	Figure No.	11



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

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PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

POSSIBLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - possible cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - possible bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

- Linear anomaly - probably related to pipe, cable or other modern service
- Linear anomaly - possibly related to land drain
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Magnetic disturbance related to trackway visible on aerial photography
- Magnetic debris and disturbance related to former water-course
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	8311	Survey Date	APR 15
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Client

CONTEXT ONE
ARCHAEOLOGICAL SERVICES

Project Title
GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET

Subject
ABSTRACTION AND
INTERPRETATION OF
GRADIOMETER ANOMALIES -
OVERVIEW

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GPR ASSOCIATION

SUMO GROUP MEMBER

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ISO 18001 certified

Scale 1:2500

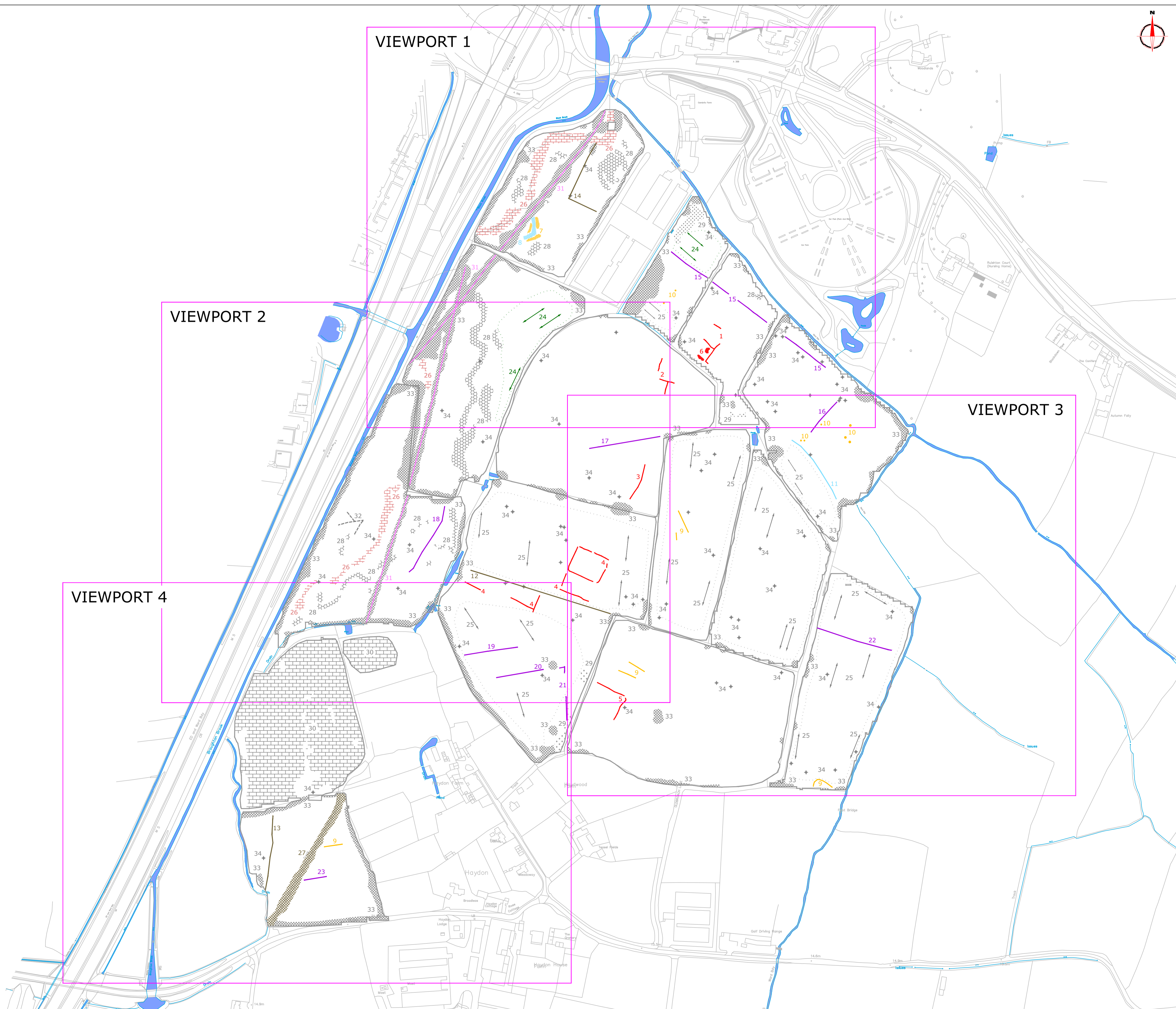
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Date	JUNE 15	Drawn by	RD	Figure No.	12

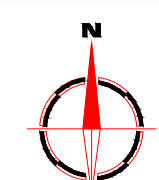
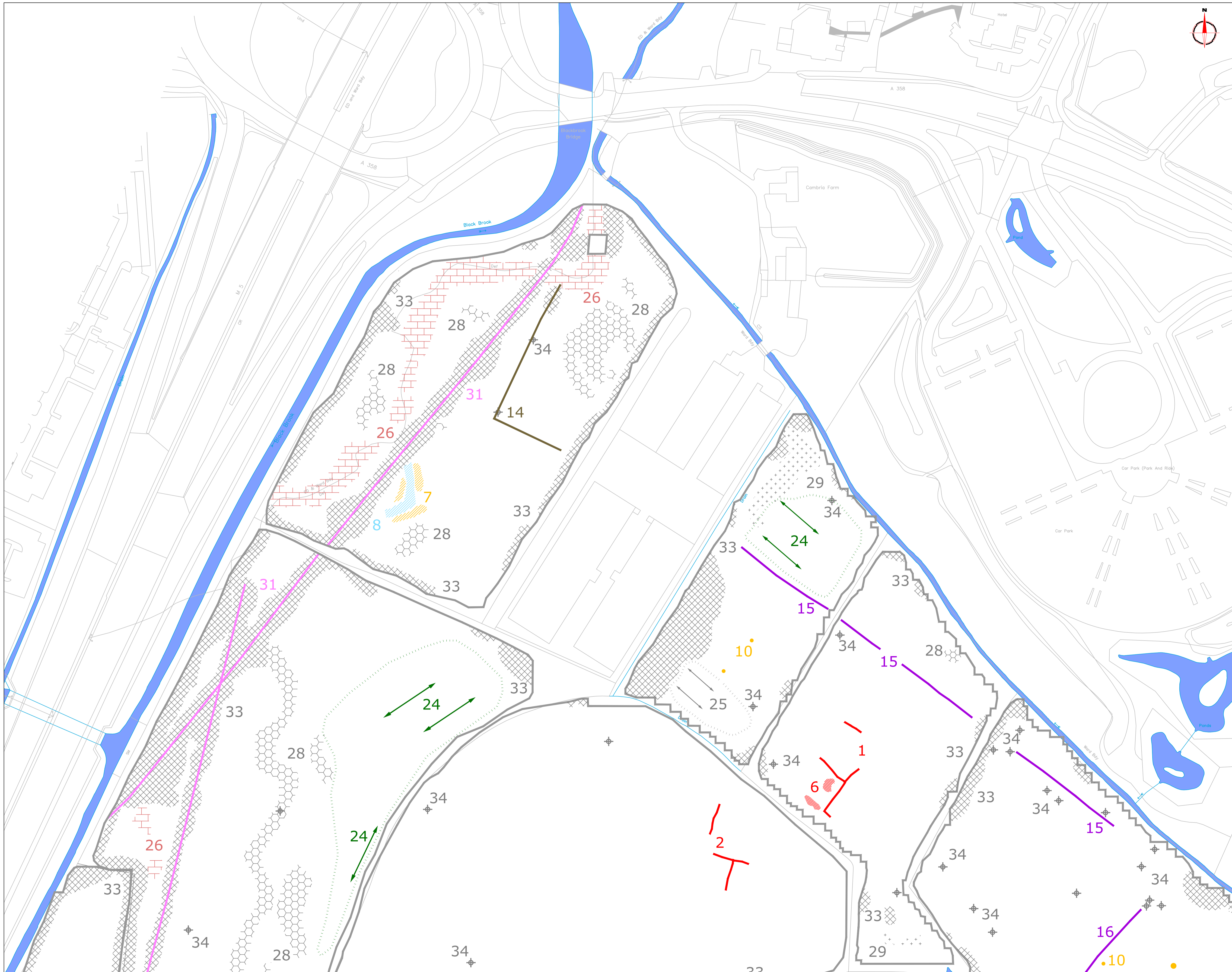
VIEWPORT 1

VIEWPORT 2

VIEWPORT 3

VIEWPORT 4





Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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PROBABLE ARCHAEOLOGY	
	Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
	Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

POSSIBLE ARCHAEOLOGY	
	Positive anomaly / weak positive anomaly - possible cut feature of archaeological origin
	Negative anomaly / weak negative anomaly - possible bank or earthwork of archaeological origin

MIEVAL/POST-MIEVAL AGRICULTURE	
	Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
	Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
	Linear anomaly - probably related to a former field boundary not present on available mapping
	Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES	
	Linear anomaly - probably related to pipe, cable or other modern service
	Linear anomaly - possibly related to land drain
	Magnetic disturbance associated with nearby metal object such as service or field boundary
	Magnetic disturbance related to trackway visible on aerial photography
	Magnetic debris and disturbance related to former water-course
	Strong magnetic debris - possible disturbed or made ground
	Scattered magnetic debris
	Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
	Magnetic spike - probable ferrous object

Job No.	8311	Survey Date	APR 15
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Client

**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title
**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

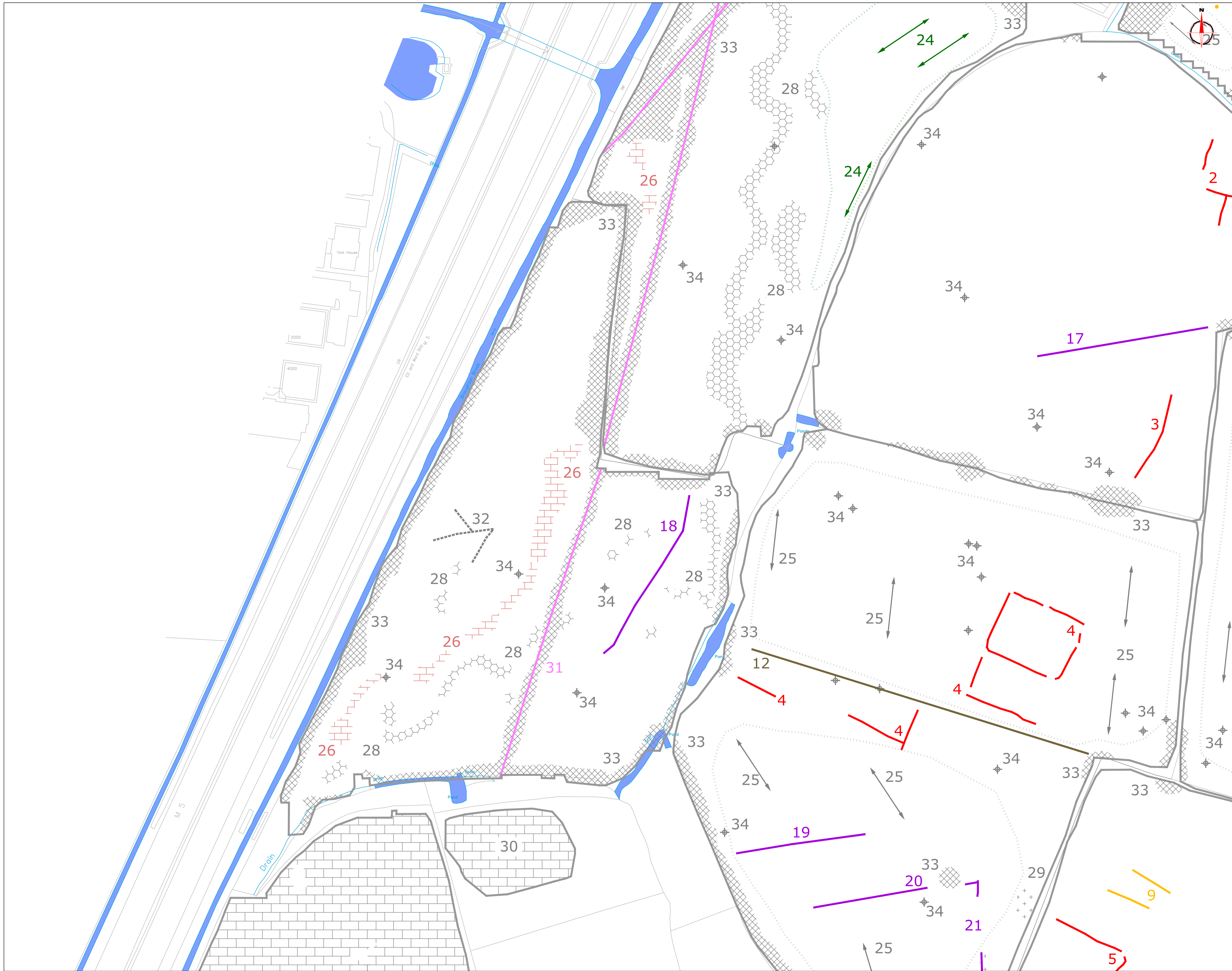
Subject
**ABSTRACTION AND
INTERPRETATION OF
GRADIOMETER ANOMALIES -
VIEWPORT 1**

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Scale	0m 10 20 30 40 50 60m		
1:1000			

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	13



Amendments		
Issue No.	Date	Description
-	-	-
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PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

POSSIBLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - possible cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - possible bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

- Linear anomaly - probably related to pipe, cable or other modern service
- Linear anomaly - possibly related to land drain
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Magnetic disturbance related to trackway visible on aerial photography
- Magnetic debris and disturbance related to former water-course
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	8311	Survey Date	APR 15
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Client
CONTEXT ONE ARCHAEOLOGICAL SERVICES

Project Title
GEOPHYSICAL SURVEY - HENLADE, TAUNTON, SOMERSET

Subject
ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 2

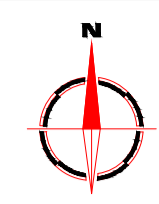
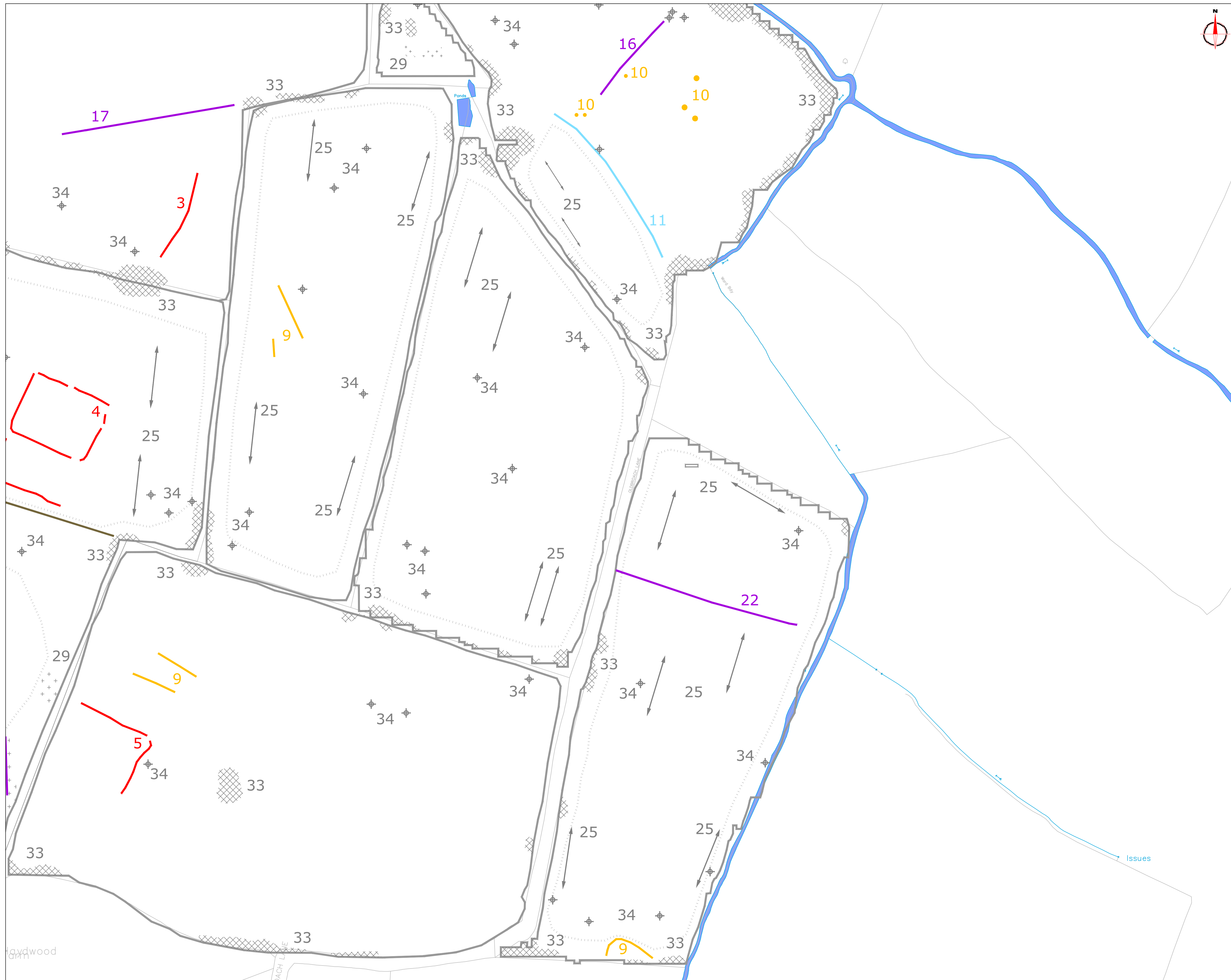
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Scale 0m 10 20 30 40 50 60m
1:1000

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	14



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

POSSIBLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - possible cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - possible bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

- Linear anomaly - probably related to pipe, cable or other modern service
- Linear anomaly - possibly related to land drain
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Magnetic disturbance related to trackway visible on aerial photography
- Magnetic debris and disturbance related to former water-course
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	8311	Survey Date	APR 15
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Client

CONTEXT ONE
ARCHAEOLOGICAL SERVICES

Project Title

GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET

Subject

ABSTRACTION AND
INTERPRETATION OF
GRADIOMETER ANOMALIES -
VIEWPORT 3

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 AND ENGINEERING

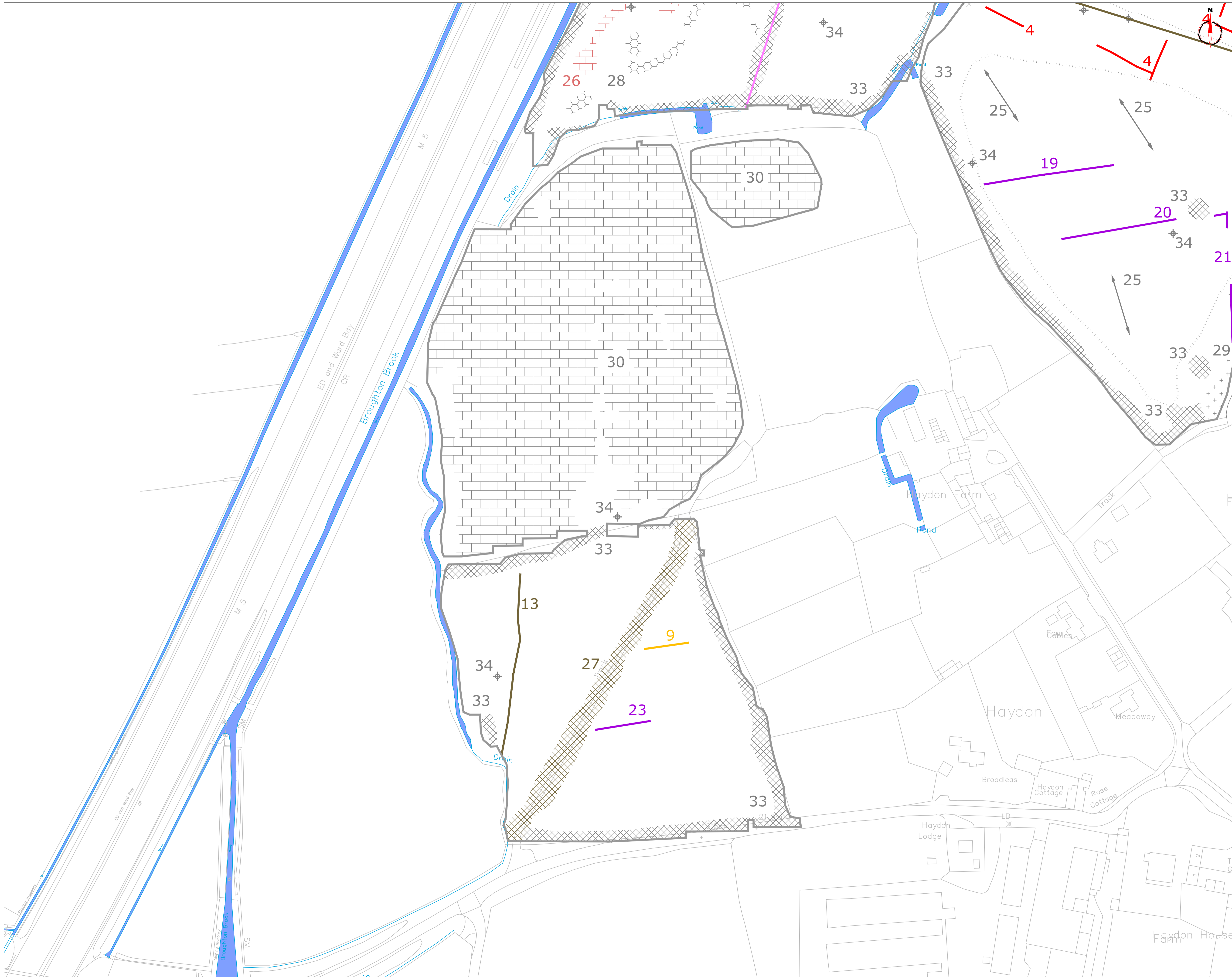
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Scale 0m 10 20 30 40 50 60m
 1:1000

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	15



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-
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PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

POSSIBLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - possible cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - possible bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
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OTHER ANOMALIES

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- Magnetic disturbance related to trackway visible on aerial photography
- Magnetic debris and disturbance related to former water-course
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	8311	Survey Date	APR 15
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Client

**CONTEXT ONE
ARCHAEOLOGICAL SERVICES**

Project Title

**GEOPHYSICAL SURVEY -
HENLADE, TAUNTON, SOMERSET**

Subject

**ABSTRACTION AND
INTERPRETATION OF
GRADIOMETER ANOMALIES -
VIEWPORT 4**

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GPR ASSOCIATION

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Scale 1:1000
0m 10 20 30 40 50 60m

Plot	A1	Checked by	DGE	Issue No.	01
Date	JUNE 15	Drawn by	RD	Figure No.	16

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