

Water Eaton

PR6a : Land East of Oxford Road

Environmental Statement Appendix 11.2:
Archaeological Geophysical Survey

Bellway


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LAND



*Christ Church
Oxford*

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WYAS
**Archaeological
Services**

The North Oxford Site (East)
Cotteslowe
Oxfordshire

Geophysical Survey

Report no. 3153
June 2018 - Finalised July 2020

Clients: Christ Church, Exeter and
Merton Colleges and University of Oxford
Estates



The North Oxford Site (East)

Cotteslowe

Oxfordshire

Geophysical Survey

Summary

A geophysical (magnetometer) survey, covering approximately 50 hectares was undertaken on agricultural land to the east of Oxford Road, north of Cotteslowe, Oxfordshire. Anomalies of archaeological origin have been identified including round barrows, and a 'D' shaped anomaly. Responses associated with a possible archaeological origin have also been recorded such as a linear ditch which may indicate a prehistoric route way. Former field boundaries have been recorded which correspond to historical mapping. Agricultural trends of both modern ploughing and medieval ridge and furrow can be seen throughout, along with modern services and areas of disturbance. Therefore based on this survey the archaeological potential of the southern part of the survey area is deemed to be high and low elsewhere.



Report Information

Clients: Christ Church, Exeter and Merton Colleges and University of Oxford Estates
 Report Type: Geophysical Survey
 Location: Cutteslowe
 County: Oxfordshire
 Grid Reference: SP 505112
 Period(s) of activity: Prehistoric
 Report Number: 3153
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 Date of fieldwork: January - February 2018
 Date of report: June 2018 – Finalised July 2020
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1 Introduction

Archaeological Services WYAS (ASWYAS) were commissioned by the Environmental Dimension Partnership Ltd (EDP), on behalf of their clients; Christ Church, Exeter and Merton Colleges and University of Oxford Estates to undertake a geophysical (magnetometer) survey on land known as The North Oxford Site, Cutteslowe. The survey was carried out in line with current best practice (CIfA 2014; David *et al.* 2008). The survey was carried out between the 22nd January and the 1st February 2018 to provide additional information on the archaeological resource of the area.

Site location, topography and land-use

The development area consists of approximately 50ha and consists of seven arable fields. The survey areas are bound to the west by Oxford Road, to the south by a sports club and further arable fields, to the east by arable fields and to the north by Oxford Parkway railway station and car park. The site is located to the north of Cutteslowe, approximately 4km to the north of Oxford (see Fig. 1) and centred on SP 505 112 with level topography. The height above Ordnance Datum (aOD) is between 55m in the south to 60m in the north.

Soils and geology

The underlying bedrock belongs to the Oxford Clay Formation and West Walton formation (undifferentiated) – mudstone. These formed approximately 157 to 166 million years ago in the Jurassic Period. Superficial deposits have been recorded in the southern part of the site as belonging to the Wolvercote sand and gravel member (BGS 2018). The soils are recorded as being slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey (CSAI 2018).

2 Archaeological Background

The following background focusses on the site and its immediate surroundings. The site, situated to the north of Oxford, spans an area within the civil parish of Gosford and Water Eaton on its western side and within the Oxford suburb of Cutteslowe on its eastern side. Both represent former manorial estates. The element ‘-low’ within the place name of Cutteslowe may suggest the location of a burial mound (Cameron 1996).

The presence of an early prehistoric landscape is supported by numerous findspots recorded within the area, including Palaeolithic handaxes and flakes, a possible Mesolithic mace head and Neolithic find spots including one just south of the site area, on either side of Banbury Road - HER no. 6163 - a fragment of a Neolithic Adze-Blade, found just east of Banbury Rd / north of Hayward Rd.

Within the site, the field to the east of Oxford/Banbury Road and to the north-west of St. Frideswides Farm, includes two ‘tumuli’ recorded and remaining depicted on current Ordnance Survey mapping. They are recorded as Bronze Age Round Barrows on the Oxfordshire HER (no. 1324). Additional round barrow remains are also recorded through documentary records in the field to the west of Banbury Rd (HER ref. MOX5209).

The wider landscape features Iron Age and Roman settlement activity suggested by finds and cropmark evidence. In addition to the concentration of Roman activity further south towards Oxford, the farmstead site of St. Frideswides, which lies just beyond the site area, has also yielded limited Roman pottery.

The area around St. Frideswides Farm to the east of the site, includes the earthwork remains of Cuttleslowe Deserted Medieval Village (Oxfordshire HER no. 1094). The village is thought to have been deserted at some point between 1350 and 1450, and has been the subject of various surveys including fieldwalking, geophysics and archaeological evaluation.

An assessment of readily available cartographic sources has indicated that the majority of the site has remained in agricultural use since at least the mid-19th century, with the North Oxford Golf Course located to the west of the site established in the early 20th century.

3 Aims and Methodology

The main aim of the geophysical survey was to provide sufficient information to enable an assessment to be made of the impact of development on potential sub-surface archaeological remains and for further evaluation or mitigation proposals, if appropriate, to be recommended. To achieve this aim, a magnetometer survey covering all amenable parts of the PDA was undertaken (see Fig. 2).

The general objectives of the geophysical survey were:

- to provide information about the nature and possible interpretation of any magnetic anomalies identified;
- to therefore determine the presence/absence and extent of any buried archaeological features; and
- to prepare a report summarising the results of the survey.

Magnetometer survey

The site grid was laid out using a Trimble VRS differential Global Positioning System (Trimble R6 model). The survey was undertaken using Bartington Grad601 magnetic gradiometers. These were employed taking readings at 0.25m intervals on zig-zag traverses 1.0m apart within 30m by 30m grids, so that 3600 readings were recorded in each grid. These readings were stored in the memory of the instrument and later downloaded to computer for processing and interpretation. Geoplot 3 (Geoscan Research) software was used to process and present the data. Further details are given in Appendix 1.

Reporting

A general site location plan, incorporating the 1:50000 Ordnance Survey (OS) mapping, is shown in Figure 1. Figure 2 displays an overview of the processed magnetometer data at a scale of 1:7500 with Figure 3 showing the interpretation at the same scale. The minimally processed data, together with interpretations of the survey results are presented in Figures 4 to 21 inclusive at a scale of 1:1250.

Technical information on the equipment used, data processing and survey methodologies are given in Appendix 1. Technical information on locating the survey area is provided in Appendix 2. Appendix 3 describes the composition and location of the archive. A copy of the completed OASIS form is included in Appendix 4.

The survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David *et al.* 2008) and by the Chartered Institute for Archaeologists (CIfA 2014). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

The figures in this report have been produced following analysis of the data in processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

4 Results and Discussion (see Figures 4 to xx)

Ferrous anomalies

Ferrous anomalies, as individual 'spikes', or as large discrete areas are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris or material is common on rural sites, often being present as a consequence of manuring or tipping/infilling. There is no

obvious pattern or clustering to their distribution in this survey to suggest anything other than a random background scatter of ferrous debris in the plough-soil.

Magnetic disturbance along the limits of the survey areas are caused by metal fencing within the boundaries. There is an increased amount of small scale ferrous responses in the northernmost field, this is likely to be down to different manuring techniques used by the land owners. Service pipes have been recorded in Areas 2 and 3 in which the pipe in the latter area also corresponds to a former field boundary (OM 2018).

Agricultural anomalies

Former field boundaries have been recorded and they correspond to the first edition Ordnance Survey mapping dating from 1876 (OM 2018).

Probable medieval ridge and furrow cultivation can be seen in areas 2, 4 and 5 along with modern ploughing which has been recorded throughout. A number of field drains are also visible with Areas 4, 5 and 6.

Geological anomalies

The survey has detected a number of low magnitude anomalies that have been interpreted as geological in origin. It is thought that the responses have been detected because of the variation in the composition and depth of the deposits of superficial material in which they derive and also topographical variations.

The geological anomalies are particularly prevalent in the east of Area 6, the topography of the field is likely to have played a part here as there is a slight slope down from west to east towards the field boundary.

Possible archaeological anomalies

A curving linear ditch and trends (**P1**) in Area 4 have been categorised as having a possible archaeological origin. The ditch is magnetically strong and has a magnetic signature that is akin to archaeological features, however the responses correspond to a footpath marked on old mapping from 1876 to 1955 (OM 2018). This feature lies to the immediate north of several ring ditches (see below) and it may be a prehistoric route way that has been reused through time to the modern era.

Two curvi-linear responses (**P2**) (Area 2) are magnetically weak but can just be seen above the magnetic background. These anomalies are approximately located in the vicinity of the two Bronze Age round barrows, mentioned in the Archaeological Background and appear on Ordnance Survey mapping. It is clear that the ploughing within the vicinity, has been on at least two different alignments and may have either masked the full extent of the barrows or have truncated them.

Further curvi-linear responses (**P3**) in Area 6 have been recorded immediately to the south and southwest of a strong archaeological response (**A4**) (see below). These are also magnetically weak and must therefore be viewed with caution.

Archaeological anomalies

A definite ring ditch (**A1**) has been located in Area 4, to the south of the possible prehistoric ditch. It measures approximately 16m in diameter. Another ring ditch (**A2**) can be seen to the northeast of **A1**. The magnetic response shows only part of the feature, measuring approximately 14m in diameter, there also appears to be a central ditch. A cluster of anomalies (**A3**), to the southwest of **A1** may suggest at least another two ring ditches.

Located in the northeast of Area 6 a 'D' shaped anomaly (**A4**) can be seen. The feature measures approximately 27m east-west and 24m at its widest point, north-south.

5 Conclusions

The magnetic survey has detected anomalies of a definite archaeological origin consisting of ring ditches and a 'D' shaped response. Possible archaeological remains have also been identified including a possible prehistoric route way, which also corresponds to a track shown on the first edition OS mapping and also curvi-linear trends, some of which are likely to represent Bronze Age round barrows. There is evidence of former field boundaries, medieval ridge and furrow cultivation, modern ploughing and field drains.

Geological responses, modern services, areas of magnetic disturbance and isolated ferrous anomalies have also been recorded throughout. Therefore, based on the results from this survey the archaeological potential of the site is considered to be high.

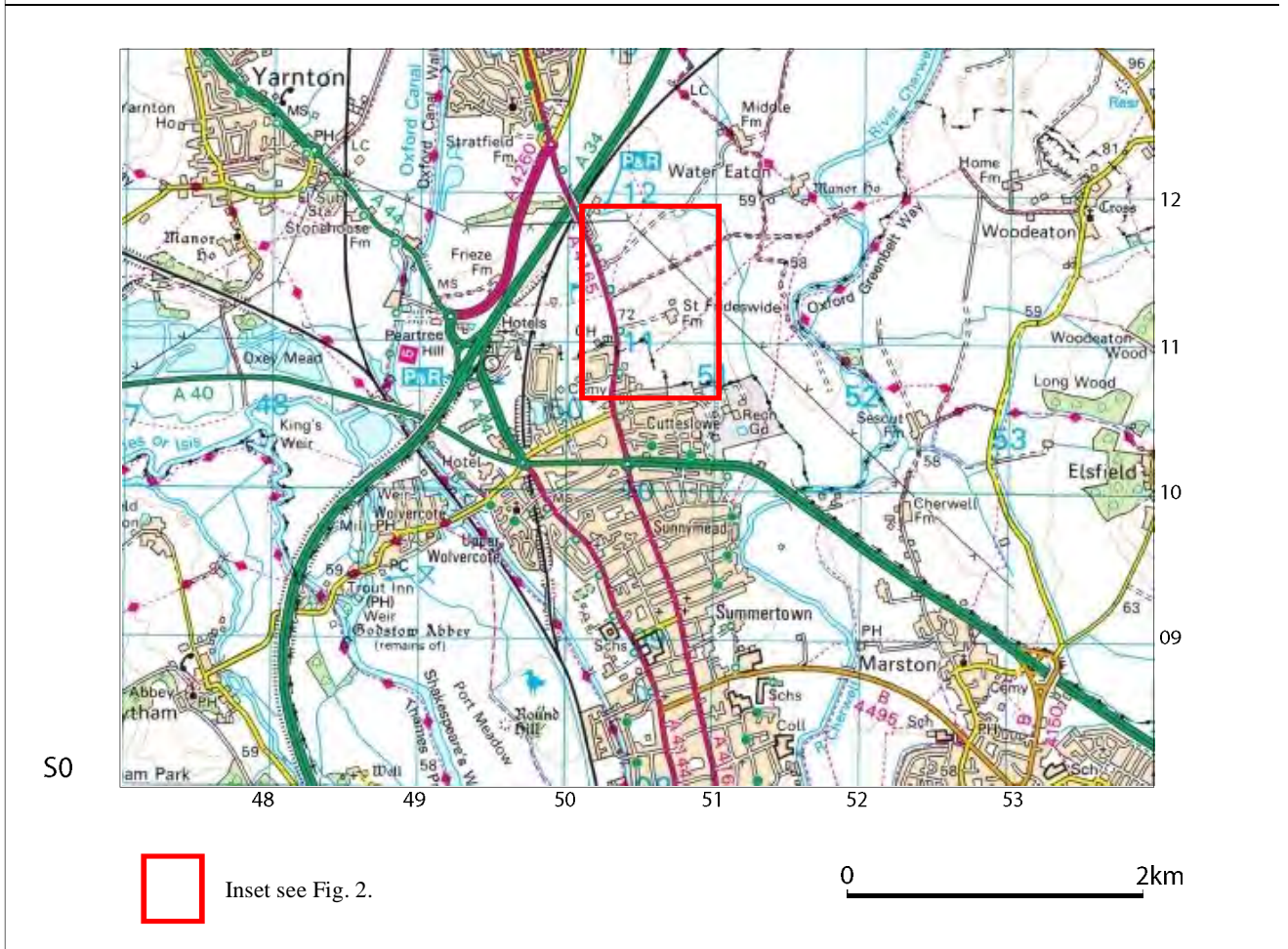
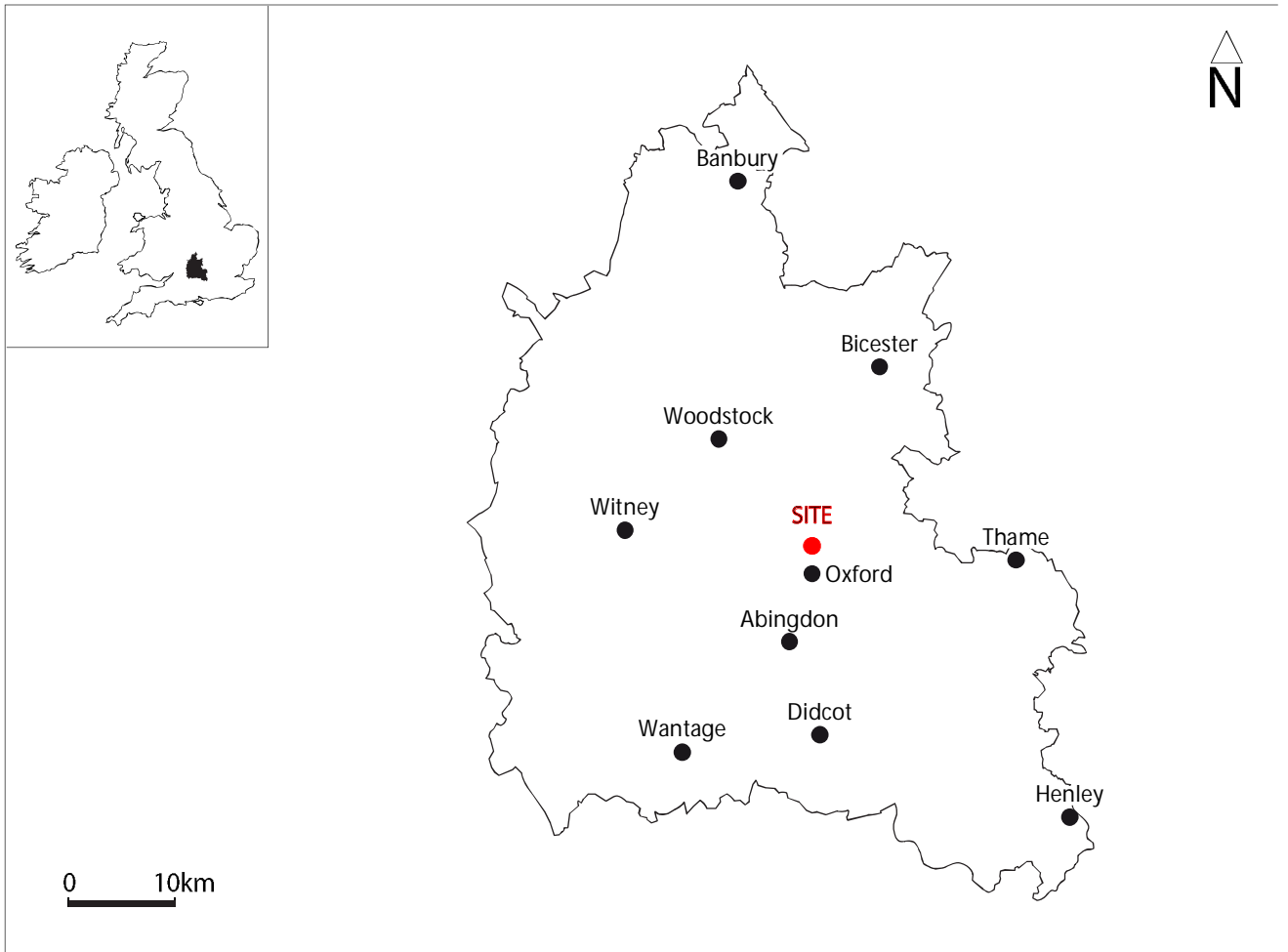














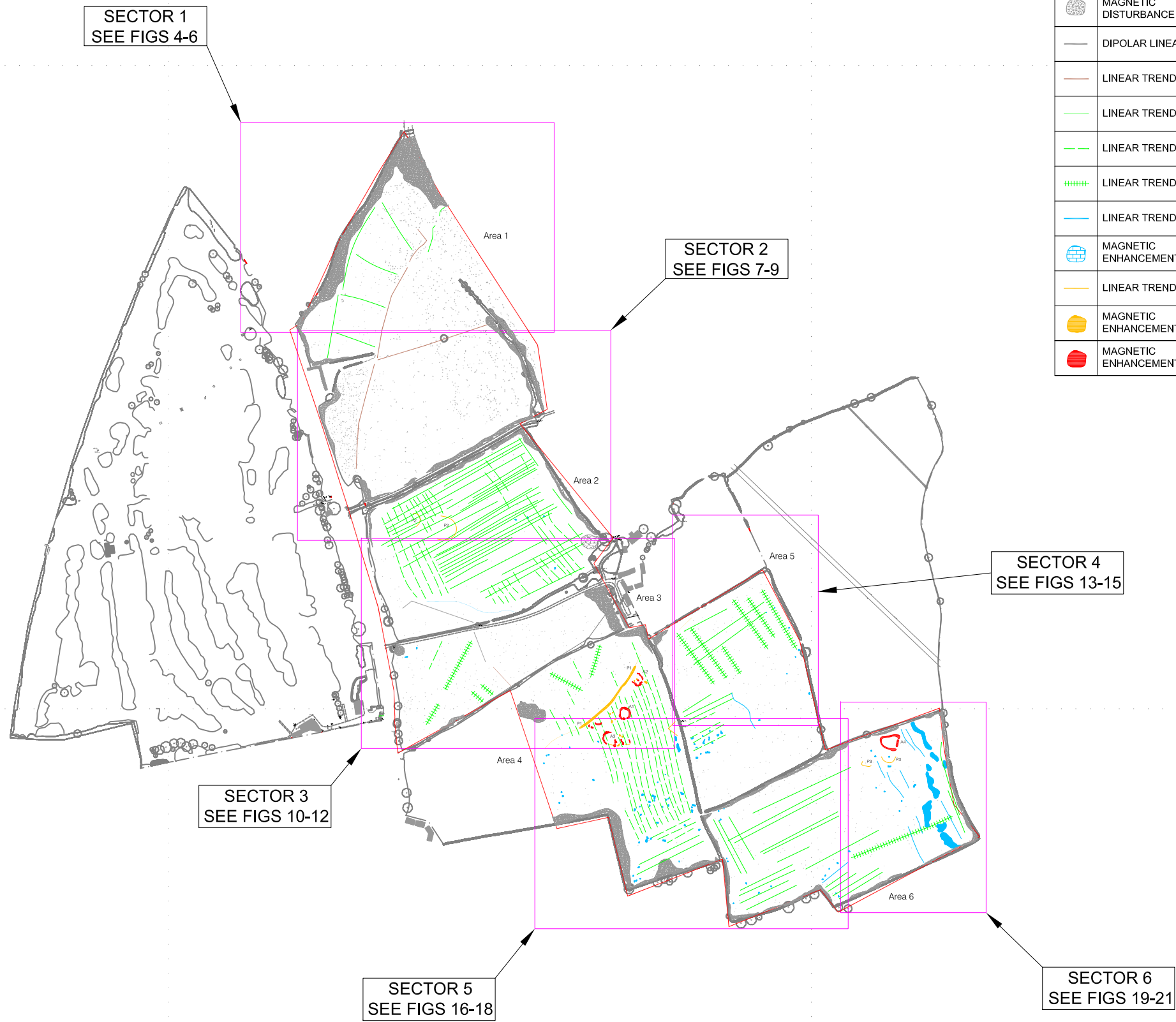


Fig. 1. Site location

PROJECT ID: 6915_NOT18	
	SURVEY AREA
	SECTOR BOUNDARY

TYPE OF ANOMALY		INTERPRETATION
	DIPOLAR ISOLATED	FERROUS MATERIAL
	MAGNETIC DISTURBANCE	FERROUS MATERIAL
	DIPOLAR LINEAR	SERVICE PIPE
	LINEAR TREND	OLD FIELD BOUNDARY
	LINEAR TREND	AGRICULTURAL
	LINEAR TREND	RIDGE AND FURROW
	LINEAR TREND	FIELD DRAIN
	LINEAR TREND	GEOLOGY
	MAGNETIC ENHANCEMENT	GEOLOGY
	LINEAR TREND	ARCHAEOLOGY?
	MAGNETIC ENHANCEMENT	ARCHAEOLOGY? - DITCH
	MAGNETIC ENHANCEMENT	ARCHAEOLOGY - DITCH



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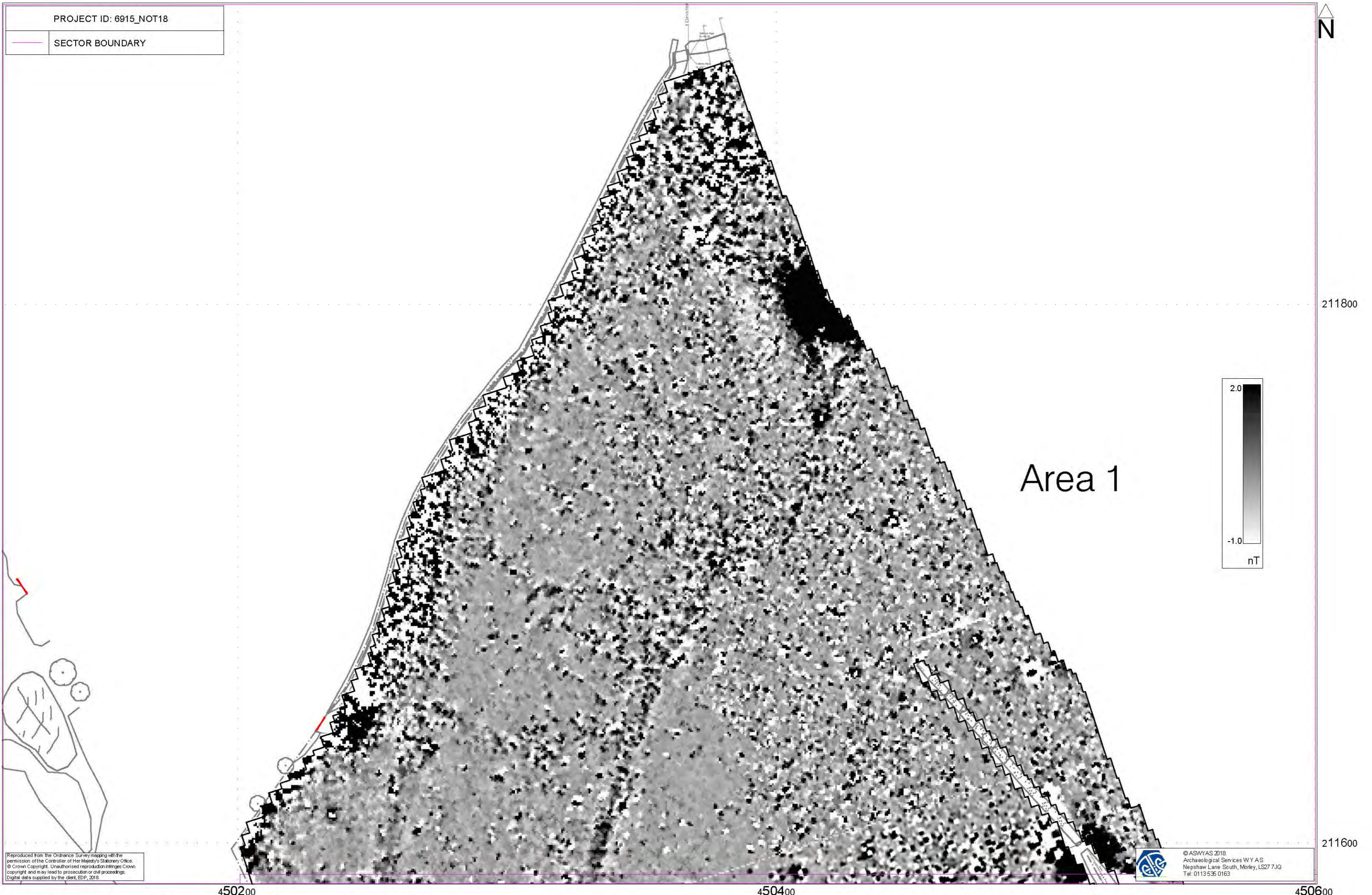


Fig. 4. Processed greyscale magnetometer data; Sector 1 (1:1250 @ A3)

0 50m

PROJECT ID: 6915_NOT18

SECTOR BOUNDARY



15.0 nT/cm

211800

Area 1

211600



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450200

450400

450600

0 50m

Fig. 5. XY trace plot of minimally processed magnetometer data; Sector 1 (1:1250 @ A3)

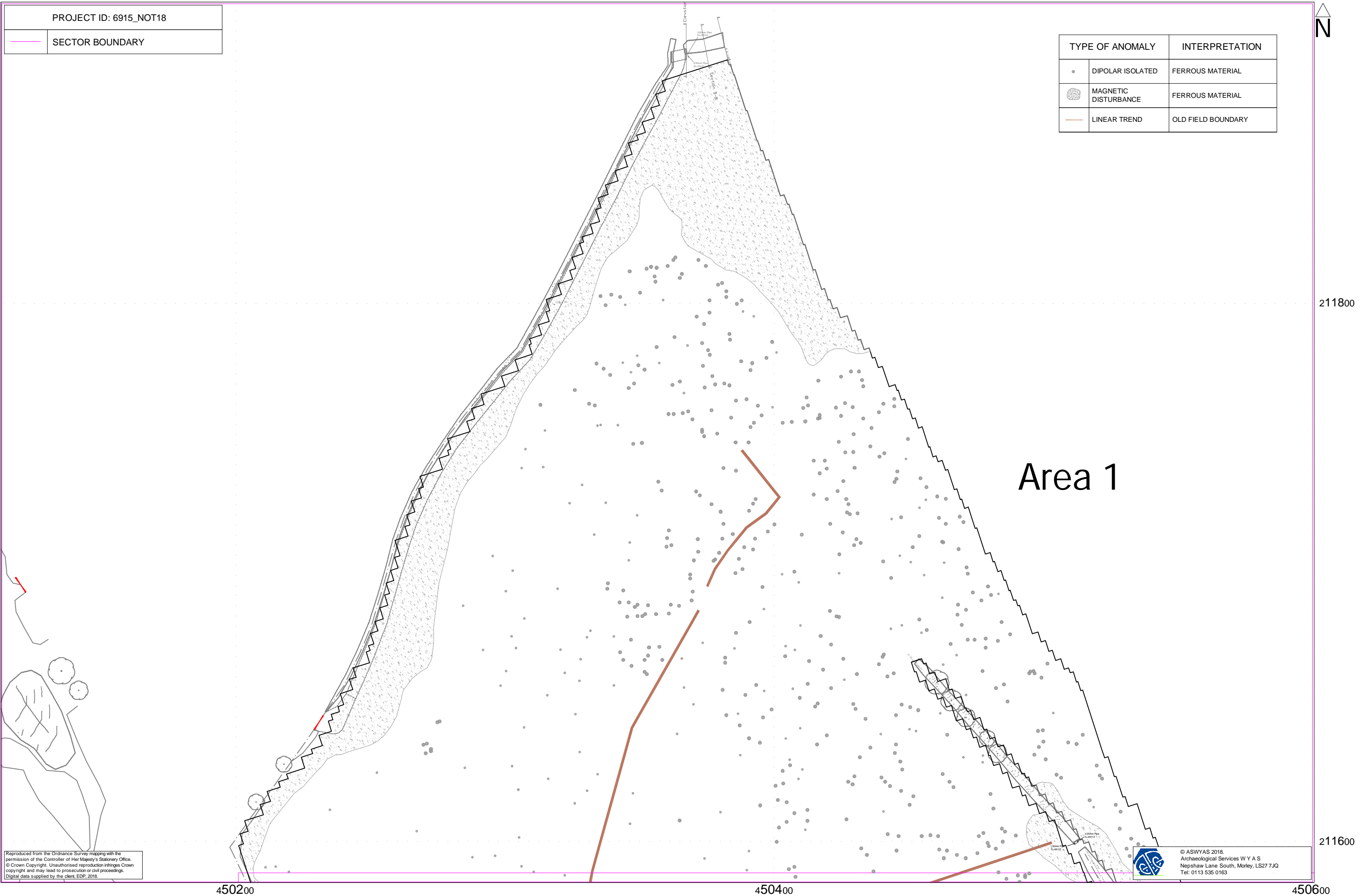


Fig. 6. Interpretation of magnetometer data; Sector 1 (1:1250 @ A3)

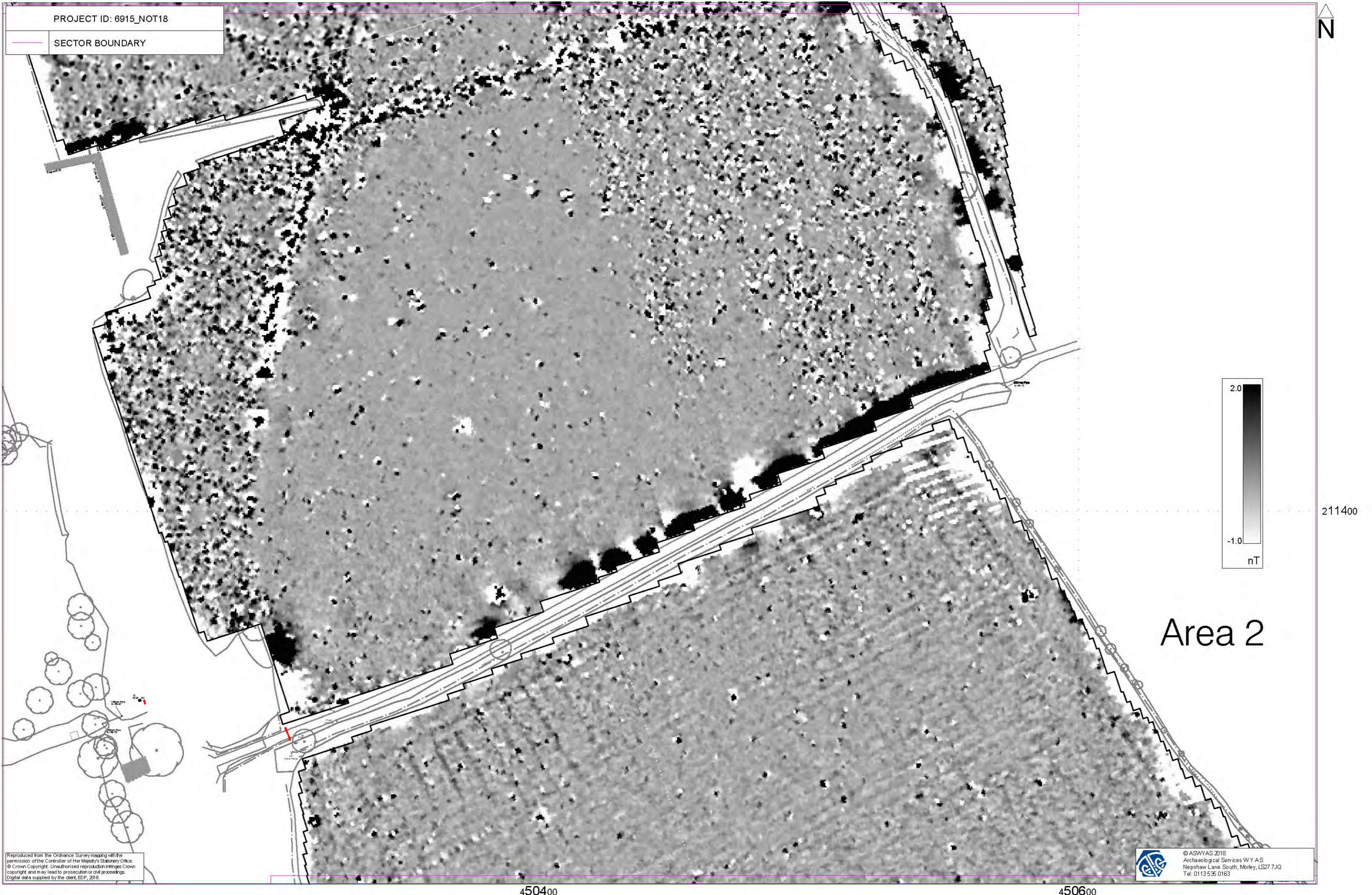


Fig. 7. Processed greyscale magnetometer data; Sector 2 (1:1250 @ A3)

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SECTOR BOUNDARY



15.0 nT/cm

Area 2

211400

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450400

450600

Fig. 8. XY trace plot of minimally processed magnetometer data; Sector 2 (1:1250 @ A3)

0 50m

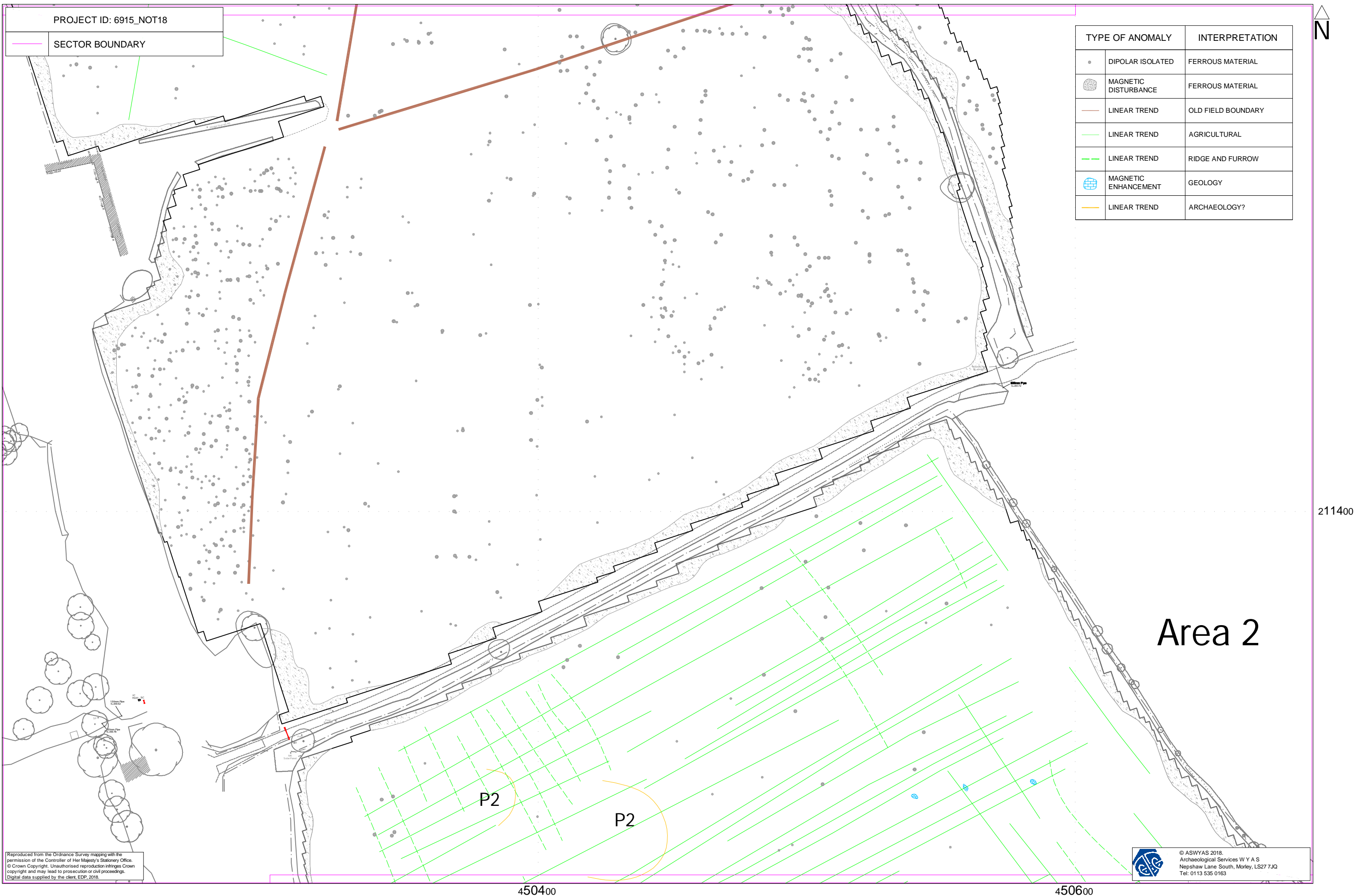
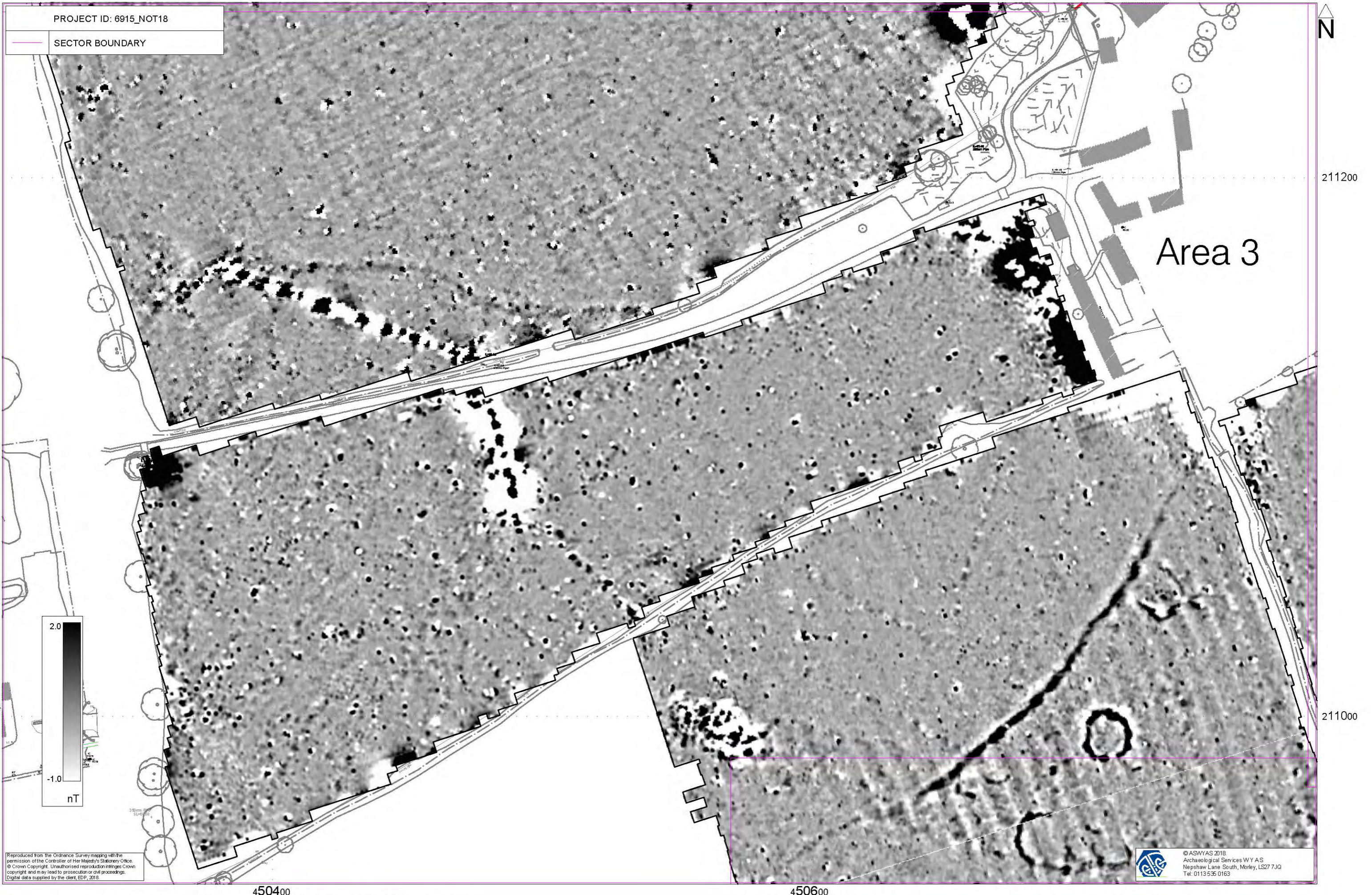


Fig. 9. Interpretation of magnetometer data; Sector 2 (1:1250 @ A3)



PROJECT ID: 6915_NOT18

SECTOR BOUNDARY



211200

Area 3

211000

2.0

-1.0

nT

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450400

450600

Fig. 10. Processed greyscale magnetometer data; Sector 3 (1:1250 @A3)

0 50m