Wessex Archaeology

De Warenne Academy, Conisbrough, South Yorkshire

Geophysical Survey

Ref: 78440.01

July 2011

DE WARENNE ACADEMY
CONISBROUGH
SOUTH YORKSHIRE

Detailed Gradiometer Survey Report

Prepared for:

Wates Construction
West Court
196 Gelderd Road
Wortley
Leeds
LS12 6DB

by

Wessex Archaeology
Unit R6, Riverside Block
Sheaf Bank Business Park
Prospect Road
Sheffield
S2 3EN

Ref: 78440.01

July 2011

© Wessex Archaeology Limited 2011
Wessex Archaeology Limited is a Registered Charity No.287786

DISCLAIMER

THE MATERIAL CONTAINED IN THIS REPORT WAS DESIGNED AS AN INTEGRAL PART OF A REPORT TO AN INDIVIDUAL CLIENT AND WAS PREPARED SOLELY FOR THE BENEFIT OF THAT CLIENT. THE MATERIAL CONTAINED IN THIS REPORT DOES NOT NECESSARILY STAND ON ITS OWN AND IS NOT INTENDED TO NOR SHOULD IT BE RELIED UPON BY ANY THIRD PARTY. TO THE FULLEST EXTENT PERMITTED BY LAW WESSEX ARCHAEOLOGY WILL NOT BE LIABLE BY REASON OF BREACH OF CONTRACT NEGLIGENCE OR OTHERWISE FOR ANY LOSS OR DAMAGE (WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OCCASIONED TO ANY PERSON ACTING OR OMITTING TO ACT OR REFRAINING FROM ACTING IN RELIANCE UPON THE MATERIAL CONTAINED IN THIS REPORT ARISING FROM OR CONNECTED WITH ANY ERROR OR OMISSION IN THE MATERIAL CONTAINED IN THE REPORT. LOSS OR DAMAGE AS REFERRED TO ABOVE SHALL BE DEEMED TO INCLUDE, BUT IS NOT LIMITED TO, ANY LOSS OF PROFITS OR ANTICIPATED PROFITS DAMAGE TO REPUTATION OR GOODWILL LOSS OF BUSINESS OR ANTICIPATED BUSINESS DAMAGES COSTS EXPENSES INCURRED OR PAYABLE TO ANY THIRD PARTY (IN ALL CASES WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OR ANY OTHER DIRECT INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE

QUALITY ASSURANCE

SITE CODE	**78440**	**ACCESSION CODE**		**CLIENT CODE**	
PLANNING APPLICATION REF.		**NGR**	**SK 506 989**		

VERSION	STATUS*	PREPARED BY	APPROVED BY	APPROVER'S SIGNATURE	DATE	FILE
01	E	BCU	PAB/RO'N		04/07/11	\\SHEFFIELD\WESSEX\PROJECTS\78440 (DE WARENNE ACADEMY, CONISBROUGH)\GEOPHYSICS\REPORT\78440_GEOPHYSICS.DOC

I= Internal Draft E= External Draft F= Final

DE WARENNE ACADEMY
CONISBROUGH
SOUTH YORKSHIRE

Detailed Gradiometer Survey Report

CONTENTS

FIGURES

DE WARENNE ACADEMY

CONISBROUGH

SOUTH YORKSHIRE

Detailed Gradiometer Survey Report

Summary

Wates Construction commissioned Wessex Archaeology to undertake a detailed gradiometer survey on land adjacent to the De Warenne Academy ahead of proposed redevelopment. In total, 5.2ha was suitable for geophysical survey and the Site, approximately centred on OS NGR SK 506 989, is located 7.7km from the town of Doncaster.

The geophysical survey follows an earlier Desk-Based Assessment (DBA) of the site and surrounding area (Faber Maunsell AECOM, 2008), which identified thirty eight archaeological sites within 1km of the Academy and one within the geophysical survey area.

The proximity of the site to the Grade I listed site of Conisbrough Castle and previous archaeological investigations in the Wellgate area, presents the possibility of pre-1850 archaeological remains. In the 20th century, the site was used for allotments, and when the school was built in the 1920s, the land eventually became used as a sports field.

Extensive regions of magnetic disturbance are seen within the dataset across the Site. Where the effects of this disturbance are not so pronounced, it has been possible to identify a number of linear anomalies of probable and possible archaeological interest.

Towards the northeastern corner of the Site, a network of rectilinear anomalies may represent a series of enclosures or field systems. Further linear anomalies are seen across the northern and northwestern portions of the survey area, although the extent of magnetic disturbance has masked any possible associations between these responses. The archaeological site identified by the DBA was not positively identified by the geophysical survey, although it is possible that any magnetic response associated with it has been masked by the widespread magnetic noise.

Coherent ferrous anomalies caused by existing sports equipment, such as goalposts, are seen across the survey area. Rectilinear modern services are considered to be associated with the former allotments at the Site and may have provided water. Extended regions of magnetic disturbance may relate to former terracing or levelling.

DE WARENNE ACADEMY

CONISBROUGH

SOUTH YORKSHIRE

Detailed Gradiometer Survey Report

Acknowledgements

The detailed gradiometer survey was commissioned by Wates Construction. The assistance of David Lingard is gratefully appreciated in this respect.

The fieldwork was directed by Chris Sykes and assisted by Phil Roberts. Ben Urmston processed and interpreted the geophysical data in addition to writing this report. The geophysical work was quality controlled by Dr. Paul Baggaley. Illustrations were prepared by Chris Swales. The project was managed on behalf of Wessex Archaeology by Richard O'Neill.

DE WARENNE ACADEMY

CONISBROUGH

SOUTH YORKSHIRE

Detailed Gradiometer Survey Report

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Wates Construction, hereafter 'the Client', to undertake a detailed gradiometer survey on playing fields adjacent to the De Warenne Academy, Conisbrough, South Yorkshire, hereafter 'the Site' (**Figure 1**).

1.1.2 The aim of the project was to establish the presence/absence, extent and character of detectable archaeological remains within the survey areas. The work was requested by Andy Lines of the South Yorkshire Archaeology Service (SYAS), advisors to the local planning authority.

1.1.3 This report presents a brief description of the methodology followed, the detailed survey results and the archaeological interpretation of the geophysical data.

1.2 Survey areas

1.2.1 The Site is located in Conisbrough, approximately 7.7 km south-west of Doncaster, South Yorkshire, and occupies a prominent position, on a north-facing slope, overlooking the River Don. The survey area is a playing field associated with De Warenne Academy (**Figure 1**).

1.2.2 The Site is bounded by North Cliff Road to the south-west and allotment gardens to the east. To the north is an outcrop of limestone rock, the remains of the disused North Cliff Quarry. Metal fencing, which bounds the playing fields, cuts through the east and north of the Site. To the north and west are areas of scrubland traversed by public footpaths.

1.2.3 The underlying geology of the area is that of glaciofluvial and alluvial deposits overlying the Brotherton Formation and Pennine Upper Coal Measures (British Geological Survey). Soils in such geological settings have been shown to produce magnetic contrasts suitable for the detection of archaeological remains through survey with the Bartington Grad 601-2 gradiometer.

1.3 Archaeological and Historical Background

1.3.1 A previous desk-based study (Faber Maunsell AECOM 2008) outlined the extent of archaeological potential in this area. A summary of the findings is provided below.

Prehistoric and Roman periods

1.3.2 Prehistoric activity is limited to find spots of flint artefacts, such as flakes and scrapers. Roman period activity is represented by find spots of coins, a coin hoard and a Romano-British pennanular brooch. In addition to these findspots, finds of flint and residual Roman pottery were recovered from archaeological excavations in the Wellgate area, c. 350m to the south-east of the Site, close to a spring line in the Lower Magnesian Limestone (O'Neill 2004).

Post-Roman and Saxon periods

1.3.3 Place name evidence suggests that the name Conisbrough is derived from the Old Norse Cunugesburh, which may have replaced the Old English 'cyning', ''king', meaning a defended burh, or stronghold, of the King. The place name is first recorded in the will of Wulfric Spott of 1002-1004, the only surviving pre-Conquest document for South Yorkshire. At the time of the Domesday Survey the fee of Conisbrough was the most considerable estate in South Yorkshire and had previously been held by King Harold. In previous centuries it is thought that the estate had belonged to the kings of Northumbria on their border with Mercia.

1.3.4 Church of St Peter, a Grade I Listed Building at the historic core of Conisbrough village, is believed to be 8th century in origin. Its size and design suggest a major minster church in the Northumbrian tradition, a royal foundation for the southern part of the Northumbrian kingdom (Buckland *et al* forthcoming). An Anglo-Saxon burial is believed to be located underneath a Norman tomb in the church, where an Anglo-Saxon cross fragment has also been found. The Church of St Peter was later remodelled in the 12th, 14th and 15th centuries.

1.3.5 The Wellgate excavations, to the north of the church, revealed a massive oak-planked structure and associated wooden structures interpreted as a possible stock pond for fish, dated by radiocarbon and dendrochronology to the 6th and 7th century (O'Neill 2004; Buckland *et al* forthcoming).

Medieval period

1.3.6 Following the Conquest possession of the Conisbrough estate was passed to William de Warenne. De Warenne commissioned a motte and bailey castle to the north-east of the Church. Archaeological investigations on the site of the Castle have thus far failed to produce any evidence for pre-Norman activity. In the 12th century a large stone keep was added and the stone walls soon after. The Castle had fallen into disrepair by the end of the medieval period. The castle lies 600m east of the Site and is a Grade I listed building and a Scheduled Ancient Monument.

1.3.7 The excavations in Wellgate revealed the cutting of a large ditch, through the earlier 6th to 7th century pond structure, possibly related to a deer park established shortly after the Conquest and associated with the Castle (O'Neill 2004; Buckland *et al* forthcoming). Possible property boundaries and features containing ceramics of 12th-14th century date were also found, to the north-west of the church, indicating domestic medieval activity in the vicinity

of the spring line and Church (O'Neill 2004). A late medieval well-housing is also located above the spring line in the Wellgate area, and is a Grade II listed structure.

Post-Medieval and Modern periods

1.3.8 A number of post-medieval sites are recorded in the vicinity of the Site, mostly buildings, seven of which are listed. Other sites relate to the industrial growth of the area, including the Doncaster and Swinton railway, opened in the early 19th century, and the Kilner Brother glassworks.

1.3.9 Mining was one of the most important industries in the area and the former North Cliff Quarry is located immediately north of the Site's school playing fields. The quarry was operational in the 19th century but is shown as disused by the time of 1902 Ordnance Survey mapping.

1.3.10 Ordnance Survey mapping indicates the current Site was occupied by fields in the mid 19th century, and by the time of 1930 mapping the fields were in use as allotments. The school (known as Northcliffe School) was open in 1929, and the playing and sports field have been in use since approximately 1966, when the allotments were disbanded.

1.3.11 The Desk-Based assessment identified circular features of unknown date, along the southern boundary of the playing field, from an aerial photograph.

1.4 Copyright

1.4.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

2 METHODOLOGY

2.1 Introduction

2.1.1 A geophysical specification was prepared by Wessex Archaeology to investigate the Site. The methodology consisted of detailed gradiometer survey conducted using Bartington Grad 601-2 dual gradiometer systems. The survey was conducted in accordance with English Heritage guidelines *Geophysical Survey in Archaeological Field Evaluation* (2008).

2.1.2 The geophysical survey was conducted by Wessex Archaeology's in-house geophysics team on 28th and 29th June 2011. Conditions for survey were good; the surface was uneven, covered in short grass, used for football and other athletic activities.

2.2 Method

2.2.1 Individual survey grid nodes were established at 30m x 30m intervals using a Leica Viva RTK GNSS system, which is precise to within 0.05m and therefore exceeds English Heritage recommendations.

2.2.2 The detailed gradiometer survey was conducted using Bartington Grad 601-2 gradiometer systems over 30m x 30m grids with a sample interval of 0.25m along transects spaced 1m apart with an effective sensitivity of 0.03nT. This sample density is the level required for geophysical evaluation by EH (2008) and results in 3600 logged values per whole grid. Data were collected in the zigzag manner.

2.2.3 Data from the survey was subject to minimal data correction processes. These comprise a zero mean traverse function (±5nT thresholds) applied to correct for any variation between the two Bartington sensors used, and a de-step function to account for variations in traverse position due to varying ground cover and topography. These two steps were applied to all survey areas, with no interpolation applied. The data were displayed at -4nT to +6nT for the greyscale image and ±50nT for the XY trace plots.

2.2.4 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 1**.

3 RESULTS AND INTERPRETATION

3.1 Introduction

3.1.1 The geophysical survey identified a number of anomalies of definite and possible archaeological origins. Results are presented as a series of greyscale, XY trace plots and interpretation diagrams over the Site at a scale of 1:1250 (**Figures 2** and **3**).

3.1.2 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous/burnt or fired objects, and areas of general increased magnetic response (**Figure 4**). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.

3.1.3 Numerous ferrous anomalies are visible throughout the detailed survey dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.

3.2 Detailed Survey Results and Interpretation

3.2.1 Linear and discrete anomalies **4000** and **4001**, at the western extent of the survey area, may be archaeological in origin, although their function is unclear. Magnetic disturbance has limited the visible plan extents, however.

3.2.2 Further linear and curvilinear anomalies **4002** and **4003** are of possible archaeological interest. Magnetic disturbance may have masked the full extent of these anomalies.

3.2.3 Linear anomaly **4004** is consistent with a ditch and may form part of an enclosure or field system. Its weak contrast with the magnetic background makes its interpretation less certain, however.

3.2.4 Rectilinear anomalies **4005** are probably archaeological in origin and are consistent with enclosures or field systems. A linear band of increased magnetic response immediately west of **4005**, and sharing a similar orientation, may indicate a former boundary.

3.2.5 Linear anomaly **4006** is consistent with a ditch. The relative proximity of **4006** to **4005** suggests that these anomalies may be related, although **4006** is oriented differently.

3.2.6 Little coherency can be seen within the distribution of magnetic disturbance, seen throughout the dataset as ferrous responses. It is likely that many of the stronger ferrous anomalies are the result of extant or recent sports equipment; for instance, anomalies **4007** and **4008** relate to existing goalposts and **4009** coincides with a probable long jump pit. Further anomalies can be seen arranged into rows and may relate to sports equipment or the former use of the site as allotments.

3.2.7 Linear anomalies consistent with modern services have been indicated in the interpretation, e.g. adjacent to **4002**, **4007** and **4008**, and at **4010** and **4011**. It is possible that these are associated with the former allotments and may have fed former water standpipes, for instance.

3.2.8 Elsewhere, numerous linear and curvilinear trends can be seen. Whilst some of these may be archaeological in origin, it is difficult to discriminate these against others that are simply chance alignments, particularly given the magnetic disturbance seen throughout the dataset.

4 CONCLUSION

4.1 Introduction

4.1.1 The geophysical survey has been successful in detecting anomalies of probable and possible archaeological interest (**Figure 4**) and can therefore be considered to have fulfilled the aims as set out in the geophysical specification.

4.1.2 The magnetic background over the entire Site was significantly disturbed by the presence of modern services, extant sports equipment and remnants of other activities undertaken at the Site relating to its use as allotments and latterly as a sports field. Weaker anomalies produced by archaeological features will have been masked by the magnetic disturbance.

4.2 Geophysical Survey Results

4.2.1 Whilst extensive magnetic disturbance is seen throughout the dataset, anomalies of possible and probable archaeological interest have been detected in regions less affected by modern intrusion.

4.2.2 A complex of rectilinear anomalies near the northeastern extent of the Site may relate to former enclosures or field systems. Further linear anomalies on varying alignments can be seen across the northern and western regions of the survey area.

4.2.3 It is possible that these anomalies are associated with one another. However, there are only limited 'windows' of quiet magnetic background where archaeological interpretation is possible, making wider associations tentative at best.

4.2.4 A number of coherent ferrous anomalies relate to extant and former sports equipment. Several rectilinear services are thought to be associated with the former allotments at the Site, and may represent water pipes.

4.2.5 There are several extended regions of magnetic disturbance within the dataset, particularly towards the northwestern and southeastern extents of the Site, which may be a result of terracing or levelling associated with the establishment of the allotments or sports field. Given the prevalence of mining locally (Faber Maunsell 2008), it is also possible that the magnetic disturbance is associated with mine workings, upcast or backfill.

4.2.6 Two known archaeological sites are identified in the DBA (*ibid*); only one of these, an undated circular cropmark, lies within the current survey area but has not been positively identified through the geophysical survey.

4.2.7 It is possible that archaeological deposits exist *in situ* with the Site. It has not been possible to assess fully the nature and survival of any such remains, and the degree of modern intrusion suggests that they will have undergone some, if not significant, truncation.

5 REFERENCES

Buckland, P.C., Hey, D., O'Neill, R. and Tyers, I., forthcoming. *The Conisbrough Estate and the southern boundary of Northumbria. Environmental and archaeological evidence from an early seventh century structure and the later deer park boundary at Conisbrough, South Yorkshire*.

Faber Maunsell AECOM, 2008. *Doncaster Building Schools for the Future: Northcliffe School Archaeological Desk-Based Assessment*. Unpublished Faber Maunsell AECOM report.

English Heritage, 2008, *Geophysical Survey in Archaeological Field Evaluation*. Research and Professional Service Guideline No 1, 2nd edition.

Institute for Archaeology, 2010. *Draft Standard and Guidance for Archaeological Geophysical Survey*.

O'Neill, R. 2004. *Final report of Archaeological Investigations at Wellgate (Areas A-C) Conisbrough, South Yorkshire*. Unpublished ARCUS report 670c.6.

APPENDIX 1: SURVEY EQUIPMENT AND DATA PROCESSING

Survey Methods and Equipment

The magnetic data for this project was acquired using a Bartington 601-2 dual magnetic gradiometer system. This instrument has two sensor assemblies fixed horizontally 1m apart allowing two traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 1m separation, and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.

The gradiometers have an effective resolution of 0.03nT over a ±100nT range, and measurements from each sensor are logged at intervals of 0.25m. All of the data are stored on an integrated data logger for subsequent post-processing and analysis.

Wessex Archaeology undertakes two types of magnetic surveys: scanning and detail. Both types depend upon the establishment of an accurate 20m or 30m site grid, which is achieved using a Leica Viva RTK GNSS instrument and then extended using tapes. The Leica Viva system receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02m in real-time and therefore exceed the level of accuracy recommended by English Heritage (2008) for geophysical surveys.

Scanning surveys consist of recording data at 0.25m intervals along transects spaced 10m apart, acquiring a minimum of 80 data points per transect. Due to the relatively coarse transect interval, scanning surveys should only be expected to detect extended regions of archaeological anomalies, when there is a greater likelihood of distinguishing such responses from the background magnetic field.

The detail surveys consist of 20m x 20m or 30m x 30m grids, and data are collected at 0.25m intervals along traverses spaced 1m apart. These strategies give 1600 or 3600 measurements per 20m or 30m grid respectively, and are the recommended methodologies for archaeological surveys of this type (English Heritage, 2008).

Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. In this case, data were collected at 0.125m intervals along traverses spaced 0.25m apart, resulting in 28800 readings per 30m grid, exceeding that recommended by English Heritage (2008) for characterisation surveys.

Post-Processing

The magnetic data collected during the detail survey are downloaded from the Bartington system for processing and analysis using both commercial and in-house software. This software allows for both the data and the images to be processed in order to enhance the results for analysis; however, it should be noted that minimal data processing is conducted so as not to distort the anomalies.

As the scanning data are not as closely distributed as with detailed survey, they are georeferenced using the GPS information and interpolated to highlight similar anomalies in adjacent transects. Directional trends may be removed before interpolation to produce more easily understood images.

Typical data and image processing steps may include:

- Destripe – Applying a zero mean traverse in order to remove differences caused by directional effects inherent in the magnetometer;
- Destagger – Shifting each traverse longitudinally by a number of readings. This corrects for operator errors and is used to enhance linear features;
- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data)

Typical displays of the data used during processing and analysis:

- XY Plot – Presents the data as a trace or graph line for each traverse. Each traverse is displaced down the image to produce a stacked profile effect. This type of image is useful as it shows the full range of individual anomalies.
- Greyscale – Presents the data in plan view using a greyscale to indicate the relative strength of the signal at each measurement point. These plots can be produced in colour to highlight certain features but generally greyscale plots are used during analysis of the data.

APPENDIX 2: GEOPHYSICAL INTERPRETATION

The interpretation methodology used by Wessex Archaeology separates the anomalies into two main categories: archaeological and unidentified responses.

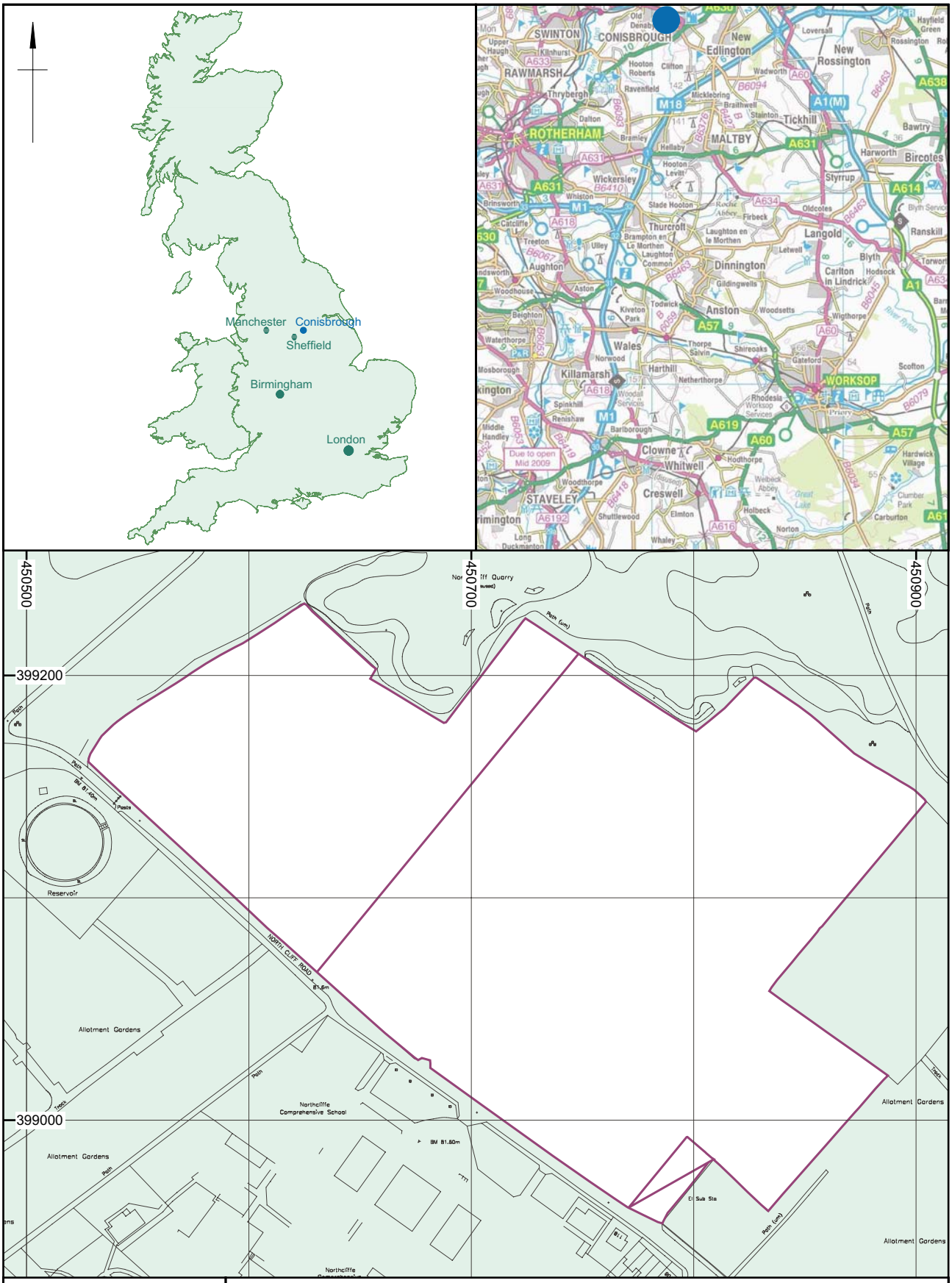
The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided into three groups, implying a decreasing level of confidence:

- Archaeology – used when there is a clear geophysical response and anthropogenic pattern.
- Probable archaeology – used for features which give a clear response but which form incomplete patterns.
- Possible archaeology – used for features which give a response but which form no discernable pattern or trend.

The unidentified category is used for features when the form, nature and pattern of the anomaly are not sufficient to warrant a classification as an archaeological feature. This category is further sub-divided into:

- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies.
- Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin.

Finally, services such as water pipes are marked where they have been identified.



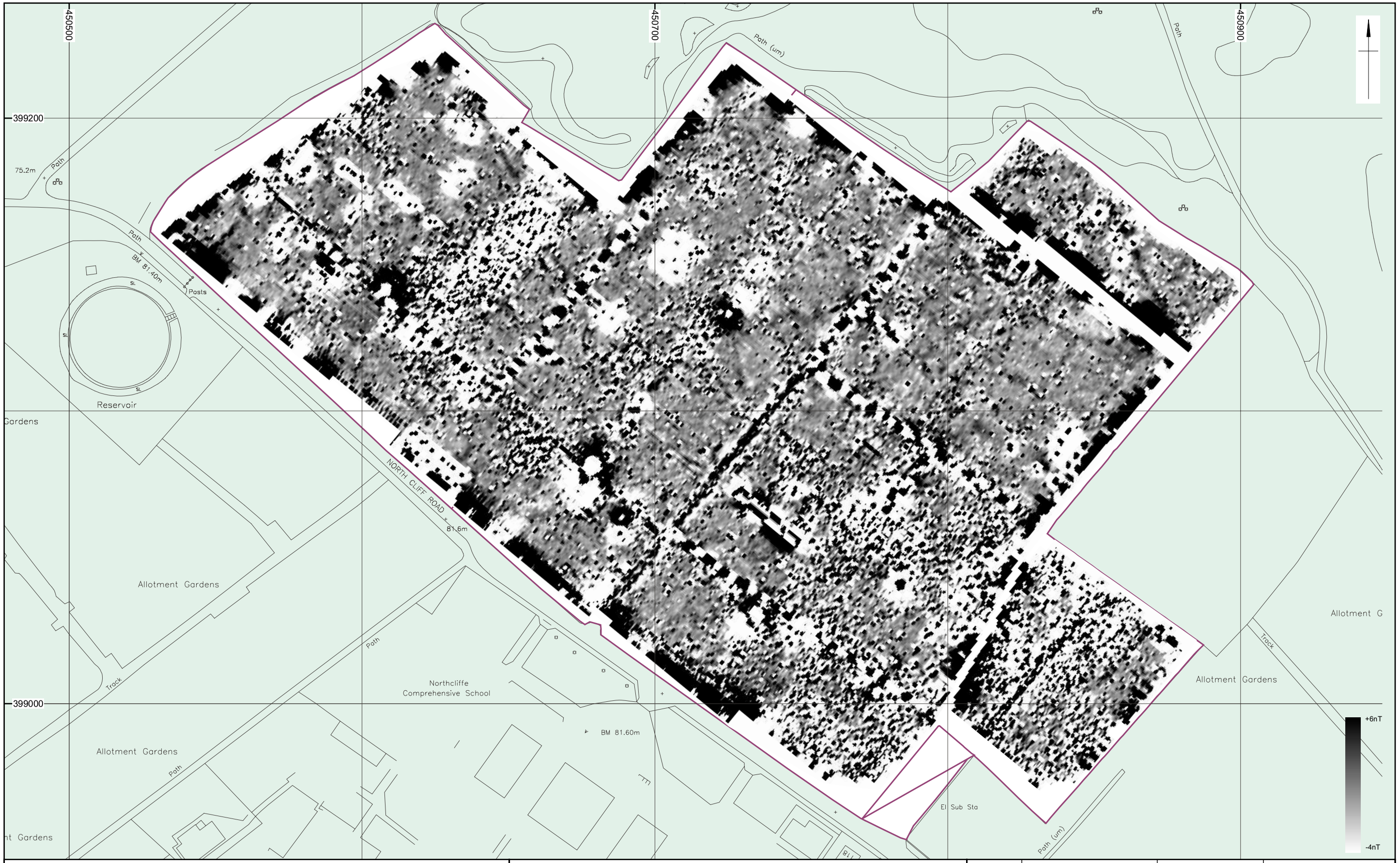
Digital data reproduced from Ordnance Survey data © Crown Copyright 2010 All rights reserved. Reference Number: 100020449.
Contains Ordnance Survey data © Crown Copyright and database right 2010
Digital Map Data © (2005) XYZ Digital Map Company
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date:	05/07/2011	Revision Number:	0
Scale:	Main graphic - 1:2500 @ A4	Illustrator:	CS
Path:	Y:\Projects\78440_De Warenne Academy\Drawing Office\Data in\AutoCAD\78440_Geophysics.dwg		

Wessex Archaeology

Site location

Figure 1



Wessex Archaeology

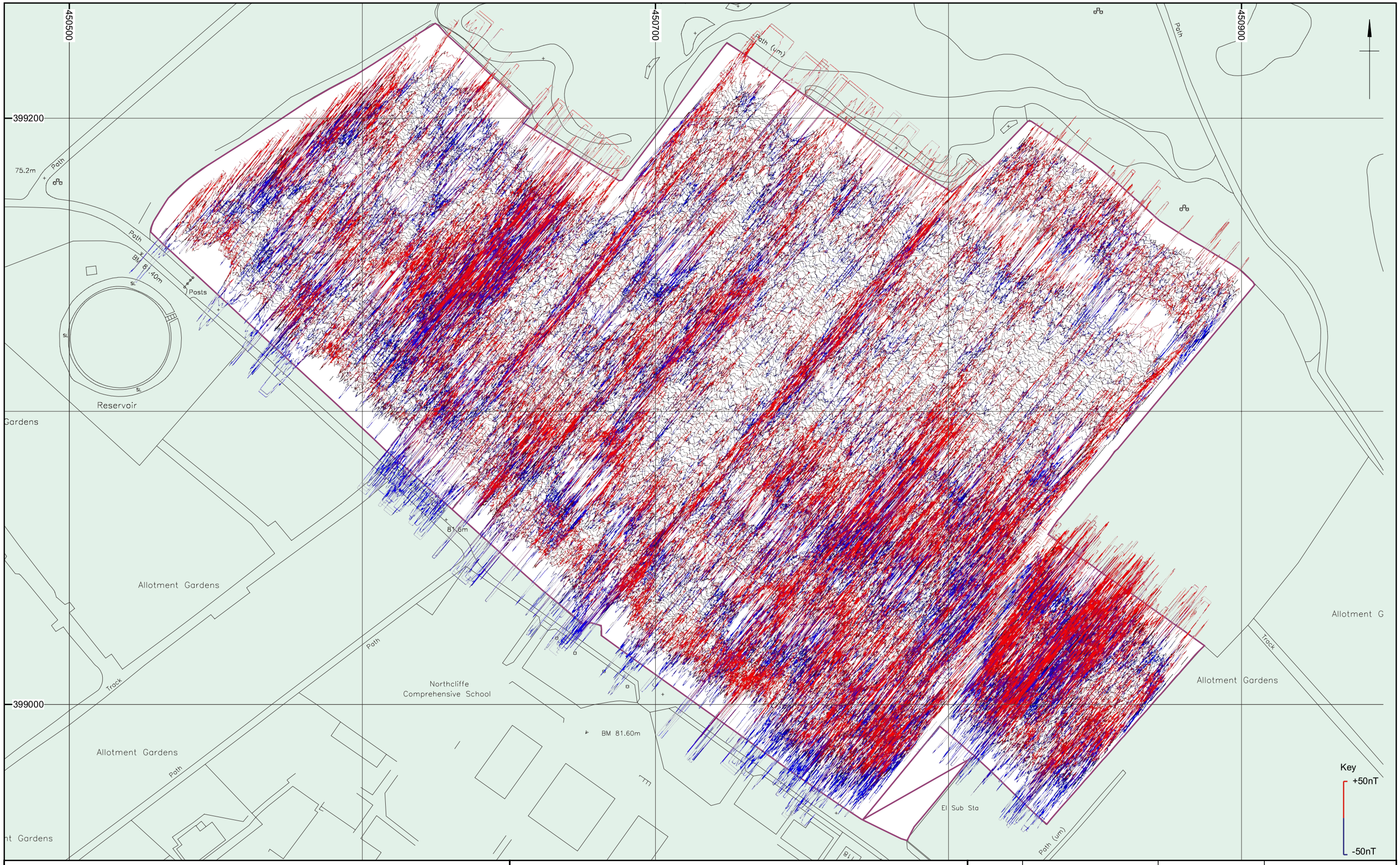
Survey extents

Digital data reproduced from Ordnance Survey data © Crown Copyright 2010 All rights reserved. Reference Number: 100020449.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date:	05/07/2011	Revision Number:	0
Scale:	1:1250 @ A3	Illustrator:	CS
Path:	Y:\Projects\78440_De Warenne Academy\Drawing Office\Data in\AutoCAD\78440_Geophysics.dwg		

Greyscale plot

Figure 2



Wessex Archaeology

Survey extents

Digital data reproduced from Ordnance Survey data © Crown Copyright 2010 All rights reserved. Reference Number: 100020449.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date:	05/07/2011	Revision Number:	0
Scale:	1:1250 @ A3	Illustrator:	CS
Path:	Y:\Projects\78440_De Warenne Academy\Drawing Office\Data in\AutoCAD\78440_Geophysics.dwg		

XY Trace

Figure 3

Wessex Archaeology

Digital data reproduced from Ordnance Survey data © Crown Copyright 2010 All rights reserved. Reference Number: 100020449.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Survey extents | Probable archaeology | Possible archaeology | Trend
Increased magnetic response | Ferrous | Modern service

Date:	05/07/2011	Revision Number:	0
Scale:	1:1250 @ A3	Illustrator:	CS
Path:	Y:\Projects\78440_De Warenne Academy\Drawing Office\Data in\AutoCAD\78440_Geophysics.dwg		

Interpretation

Figure 4

WESSEX ARCHAEOLOGY LIMITED.
Registered Head Office: Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB.
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk
Regional offices in **Edinburgh**, **Rochester** and **Sheffield**
For more information visit **www.wessexarch.co.uk**

Registered Charity No. 287786. A company with limited liability registered in England No. 1712772.