

An archaeological magnetometer survey

Land at Blakemore Farm, Harberton, TQ9 6DN

Centred on NGR: 276981, 060155

Report: 1810BLA-R

Mark Edwards BA

09 December 2018

Substrata Ltd
Langstrath
Goodleigh
Barnstaple
Devon EX32 7LZ
Tel: 01271 342721
Email: geophysics@substrata.co.uk
Web: substrata.co.uk

Client
AC Archaeology Ltd
4 Halthaies Workshops
Bradninch
Nr Exeter
Devon EX5 4QL
Tel: 01392 882410

Contents

1. Introduction	1
2. Client	1
3. Copyright	1
4. Survey type and location	1
5. Summary	1
6. Standards	2
7. Aims and objectives	2
8. Methodology	2
9. Survey Area	2
10. Archaeological background	3
11. Results	4
12. Discussion	4
13. Conclusions	5
14. Disclaimer	5
15. Archive	5
16. Acknowledgements	6
17. Bibliography	6
Appendix 1 Figures	7
Appendix 2 Tables	14
Appendix 3 Project archive contents	19

Figures

Figure 1: location map	8
Figure 2: survey interpretation	9
Figure 3: shade plot of processed data	10
Figure 4: shade plot of minimally processed data	11
Figure 5: grid plan and location	12

Tables

Table 1: data analysis	14
Table 2: methodology information	15
Table 3: processed data metadata	16
Table 4: minimally processed data metadata	17

1 Introduction

This report presents the results of an archaeological magnetometer survey at the proposed development site listed in Section 4.

The survey was commissioned by AC Archaeology Ltd on behalf of clients in advance of a planning application. The commissioning of this report was in keeping with the National Planning Policy Framework, Chapter 16, Paragraph 189 (Ministry of Housing, Communities & Local Government, 2018). The survey and report were completed in compliance with a Survey Method Statement (Substrata Ltd, 2018).

2 Client

AC Archaeology Ltd, 4 Halthaies Workshops, Bradninch Nr Exeter, Devon EX5 4QL

3 Copyright

Substrata Ltd shall retain full copyright as defined in the Copyright, Designs and Patents Act 1988 with all rights reserved, excepting that it hereby provides an exclusive licence to the Client for the use of the report by the Client in all matters directly relating to the project. This report or sections thereof may be freely copied for planning, development control, education and research purposes without recourse to the Copyright owner subject to all due and appropriate acknowledgements being provided. This report contains material that is non-Substrata Ltd copyright or the intellectual property of third parties. Such material is labelled with the appropriate copyright and is non-transferrable by Substrata Ltd.

© Substrata Ltd 2018

4 Survey type and location

4.1 Survey

Method:	shallow depth magnetometer survey
Instrument:	twin-sensor fluxgate gradiometer
Date:	26 October 2018
Area:	1.7ha
Investigation level:	Level 2 (prospection and delineation)
Survey resolution:	1m by 0.25m

4.2 Location

Name:	Land at Blakemore Farm, Harberton
Town:	Harberton
Civil Parish:	Harberton
District:	South Hams
County:	Devon
Nearest Postcode:	TQ9 6GH
Survey centre NGR:	SX 7694 6014(point)
Survey centre NGR (E/N):	276940,060140(point)
Historic environment designation:	None
OASIS ID:	substrat1-336291

5 Summary

A magnetometer survey was selected to provide a relatively fast and cost-effective evaluation of any buried archaeology across the Survey Area (see Section 14). The magnetic anomaly groups pertaining to potential buried archaeology were georeferenced to the Ordnance Survey National Grid, mapped, characterised and assigned with an appropriate degree of certainty in conformance with the survey aims and objectives set out in Section 7.

The differences in magnetic responses across the Survey Area were sufficient to be able to differentiate between anomalies representing possible buried archaeology and background magnetic responses.

Fourty four magnetic anomaly groups were characterised as reflecting potential buried archaeology, of which, eight groups may represent former field boundaries with the same trends as recorded and known boundaries on historic maps, eight groups may represent possible un-recorded field boundaries/ Devon banks. Six groups may represent land drains or ditches. Three groups probably represent disturbed ground and modern fill associated with agricultural activities. Two groups may represent former walls or Stoney material. Seventeen groups may represent fragments of linear, irregular and curvilinear deposits such as ditches or phases of former field boundaries.

6 Standards

The standards that were used to complete this survey are defined by the Chartered Institute for Archaeologists (2014b) and the Europae Archaeologiae Consilium (undated). The codes of approved practice to be followed are those of the Chartered Institute for Archaeologists (2014) and Archaeology Data Service (undated).

7 Survey aims and objectives

7.1 Aims

1. Within the framework set out in Chartered Institute for Archaeologists (2014b) and Europae Archaeologiae Consilium (undated), complete an archaeological geophysical survey and report which will, as far as possible, establish the presence or absence, extent and character of any buried archaeology within the survey area.
2. Provide sufficient information on the nature of any archaeological remains to facilitate the assessment of their interest prior to the determination of the planning application.

7.2 Objectives

1. Complete a magnetometer survey across the Survey Area.
2. Identify any magnetic anomalies that may be related to buried archaeology.
3. Within the limits of the technique and dataset, archaeologically characterise any such anomalies or patterns of anomalies.
4. Accurately record the location of the identified anomalies.
5. Produce a report based on the survey that is sufficiently detailed to inform any subsequent development on the survey area about the location and possible archaeological character of the recorded anomalies.

8 Methodology

The magnetometer survey was undertaken in accordance a Survey Method Statement (Substrata Ltd, 2018) using the standards specified in Section 6 to achieve the aims and objectives set out in Section 7. The survey method was selected to provide a relatively fast and cost-effective evaluation of any buried archaeology across the Survey Area (see Section 14).

Data processing was undertaken using appropriate software (Table 2), with all anomalies being digitised and geo-referenced. The final report (this document) includes a graphical and textual account of the techniques undertaken, the data obtained and an archaeological interpretation of that data and conclusions about any likely archaeology. The survey and report conform to the Chartered Institute for Archaeologists standard for geophysical survey (Chartered Institute for Archaeologists, 2014b) and Europae Archaeologiae Consilium (undated).

9 Survey Area

9.1 Location and description

The Survey Area comprises one field on the eastern side of Blakemore farm(Figure 1). The survey area is bound to the north by a hedge and bank, beyond is a lane. To the west lies a fence with barns beyond, the eastern and southern boundaries border pastureland. The Survey Area slopes from approximately 88m aOD on the southern side to approximately 75m aOD at the lowest point on the northern side. The field was under grass at the time of the survey.

9.2 Geology and sub-surface deposits

The solid geology across the site is Middle Devonian Slates. Sedimentary Bedrock formed approximately 383 to 393 million years ago in the Devonian Period. Local environment previously dominated by open seas with pelagite deposits. (British Geological Survey, undated).

9.3 Soils

Freely draining slightly acid but base-rich soils (LandIS, undated).

10 Archaeological background

10.1 Historic landscape characterisation

‘Modern enclosures’

These modern fields have been created out of probable medieval enclosures. The sinuous medieval boundaries survive in places (Devon County Council, undated)

‘Former orchards’

This area was once an orchard planted with fruit trees, but these have been lost in the C20th (Devon County Council, undated)

10.2 Summary of the archaeological background

This section summarises heritage assets that are thought relevant to the survey data analysis and is not designed to be a comprehensive description of the archaeological background.

The Devon County Council Historic Environment Record was examined via the Heritage Gateway (Historic England, undated) to gain an appreciation of historic assets pertinent to the geophysical survey data within approximately 500m of the survey area perimeter. Whilst providing a useful context for the data analysis, this source is not comprehensive and publication of the information in commercial reports is not permitted.

There are no designated or undesignated heritage assets within the Survey Area.

11 Results

11.1 Scope and definitions

This survey was designed to record magnetic anomalies. A magnetic anomaly is a local variation in the Earth's magnetic field. Such variations can result from differences in the magnetic properties of the underlying solid geology, superficial geology and other near-surface deposits including those altered and created by past human activities. Near-surface artefacts can also create magnetic anomalies.

The dimensions of magnetic anomalies mapped as representing potential buried archaeology do not represent the dimensions of any associated archaeology.

The analysis presented below identifies and characterises anomalies and anomaly groups that may relate to buried archaeology.

11.2 Analysis

Figure 2 shows the interpretation of the survey data and includes the anomaly groups identified as possibly relating to buried archaeology along with their identifying numbers. Table 1 is an extract of the detailed analysis of the survey data sourced from the attribute tables of the GIS project provided in the project archive.

Figure 2 and Table 1 comprise the analysis of the survey data.

Figure 3 is a plot of the processed data as specified in Table 3. Figure 4 is a plot of minimally processed data as specified in Table 4. Figure 6 shows the location of the survey grid and grid data files.

12 Discussion

12.1 General points

Scope

Not all anomalies or anomaly groups identified in Table 1 are necessarily discussed below. All identified anomaly groups are recorded in the GIS project held in the survey archive.

Data collection

Data collection along the survey area edges was restricted as shown in the figures due to the presence magnetic materials within and adjacent to the plot boundaries. Strong magnetic responses mapped close to the boundaries are likely to relate to the magnetic materials except where otherwise indicated in Figure 2 and Table 1.

Anomaly characterisation

There are a number of anomaly groups that could be interpreted as relating to large postholes or pits although most will have natural origins. Anomalies of this sort are mapped as potential archaeology when they are well defined in the data, associated with other significant anomaly groups or otherwise formed recognisable patterns as listed in Table 1.

Anomalies thought to relate to natural features and recent man-made objects such as manholes, water management equipment, drains, cables and other services are only mapped where they comprise significant magnetic responses across the dataset that need clarification.

Numerous dipole magnetic anomalies are present within the dataset. These are likely to represent recent ferrous objects. They are only mapped if they could influence the analysis of anomaly groups thought to have an archaeological origin.

Data trends

12.2 Data relating to historic maps and other records

Magnetic anomaly groups **3, 6, 13, 20, 23, 24, 26, and 27** may represent former field boundaries recorded on historic maps from the tithe map onwards.

12.3 Data with no previous archaeological provenance

Anomaly groups **4, 7, 8, 9, 12, 19** may represent either a ditch or possible land drain. Groups **13, 14, 15, 16, 28** may represent a Devon bank as they have similar characteristics, groups **3, 11, 18** and **2**. Groups **29, 31** and **49** likely represent disturbed ground with stoney and ferrous material, although some maybe natural banding. Groups **1** and **22** may represent the remains of a wall or stoney material.

The remaining anomaly groups mapped as representing archaeological features **33, 34, 35, 44, 42, 39, 40, 37, 36, 45, (irregular) 4, 46,47,48** (curvilinear) may represent fragments of linear, irregular and curvilinear deposits such as ditches or phases of former field boundaries, natural origin for the anomaly group cannot be ruled out due to its position.

13 Conclusions

The differences in magnetic responses across the Survey Area were sufficient to be able to differentiate between anomalies representing possible buried archaeology and background magnetic responses.

Fourty four magnetic anomaly groups were characterised as reflecting potential buried archaeology, of which, eight groups **3, 6, 13, 20, 23, 24, 26** and **27** may represent former field boundaries with the same trends as recorded and known boundaries on historic maps, eight groups **2, 11, 13, 14, 15, 16, 18** and **28** may represent possible un-recorded field boundaries/ Devon banks. Six groups may represent land drains or ditches. Three groups **29, 31, 49** probably represent disturbed ground and modern fill associated with agricultural activities although due to their position in the land natural banding cannot be rules out. Two groups may represent former walls or Stoney material. Seventeen groups **5, 10 17, 33, 34, 35, 44, 42, 39, 40, 37, 36, 45, 5, 46,47,48** may represent fragments of linear, irregular and curvilinear deposits such as ditches or phases of former field boundaries.

14 Disclaimer

The description and discussion of the results presented in this report are the authors', based on their interpretation of the survey data. Every effort has been made to provide accurate descriptions and interpretations of the geophysical data set. The nature of archaeological geophysical surveying is such that interpretations based on geophysical data, while informative, can only be provisional. Geophysical surveys are a cost-effective early step in the multi-phase process that is archaeology.

15 Archive

- 15.1 Online Access to the Index of archaeological investigationS (OASIS)
substrat1-336291The OASIS entry has been completed and the boundary file and report uploaded with six months delay in publication.
- 15.2 Substrata Limited archive
A full archive of this survey will be held by Substrata Limited on cloud and local hard drive storage as specified in Appendix 3.
- 15.3 Archaeological Data Service (ADS)
Depending on local authority policy, an archive may be deposited with the ADS as specified in Appendix 3.
- 15.4 Historic Environment Record (HER)
Subject to any contractual requirements on confidentiality, a PDF or printed copy of the report will be submitted to the appropriate HER within six months of completion.

16 Acknowledgements

Substrata would like to thank John Valentin of AC Archaeology Ltd for commissioning us to complete this survey.

17 Bibliography

Archaeology Data Service (undated) *Archaeology Data Service/Digital Antiquity Guides to Good Practice: Geophysical Data in Archaeology*. 2nd Edition. Available at: http://guides.archaeologydataservice.ac.uk/g2gp/Geophysics_Toc (Accessed 5 Oct. 2018).

British Geological Survey (undated) *Geology of Britain viewer, 1:50000 scale data*. Available at: http://www.bgs.ac.uk/discovering_Geology/geologyOfBritain/viewer.html (Accessed 19 Oct. 2018).

Chartered Institute for Archaeologists (2014) *Code of conduct*. Available at: <https://www.archaeologists.net/sites/default/files/CodesofConduct.pdf> (Accessed 5 Oct. 2018).

Chartered Institute for Archaeologists (2014b) *Standard and guidance archaeological geophysical survey*. Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GGeophysics_2.pdf (Accessed 5 Oct. 2018).

Clark, A. (2000) *Seeing Beneath the Soil, Prospecting methods in archaeology*. London: Routledge.

Cotswold Archaeology (2018) *Land off Bloody Corner, Northam, Devon, Heritage Desk-Based Assessment*. Unpublished report 18030, project 882283.

Devon County Council (undated) *Historic environment*. Available at: <https://new.devon.gov.uk/historicenvironment/> (Accessed 22 Oct. 2018).

Europae Archaeologiae Consilium (undated) *EAC Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider*. EAC Guidelines 2. Available at:

http://old.european-archaeological-council.org/files/eac_guidelines_2_final.pdf (Accessed 5 Oct. 2018).

Historic England (undated) *Heritage Gateway*. Available at: <http://www.heritagegateway.org.uk/Gateway/> (Accessed 19 Oct. 2018).

LandIS (undated) *Cranfield Soils and Agrifood Institute Soilscales*. Available at: <http://www.landis.org.uk/soilscales/> (Accessed 19 Oct. 2018).

Ministry of Housing, Communities & Local Government (2018) *National Planning Policy Framework*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf (Accessed 5 Oct. 2018).

Old-Maps (undated) *old-maps.co.uk*. Available at: <https://www.old-maps.co.uk/#/> (Accessed 19 Oct. 2018).

Appendix 1 Figures

General Guidance

The anomalies represented in the survey plots provided in this appendix are magnetic anomalies. The apparent size of such anomalies and anomaly patterns are unlikely to correspond exactly with the dimensions of any associated archaeological features .

A rough rule for interpreting magnetic anomalies is that the width of an anomaly at half its maximum reading is equal to the width of the buried feature, or its depth if this is greater (Clark, 2000: 83). Caution must be applied when using this rule as it depends on the anomalies being clearly identifiable and distinct from adjacent anomalies. In northern latitudes the position of the maximum of a magnetic anomaly will be displaced slightly to the south of any associated physical feature.



British Grid
 centre X: 277104.58 m, centre Y: 60056.19 m

Geophysical survey: Copyright Substrata Limited.
 Base map: Ordnance Survey (c) Crown Copyright 2018.
 All rights reserved. Licence number 100053143

Scale: 1:8000 @ A3. Spatial Units: Meter. Do not scale off this drawing

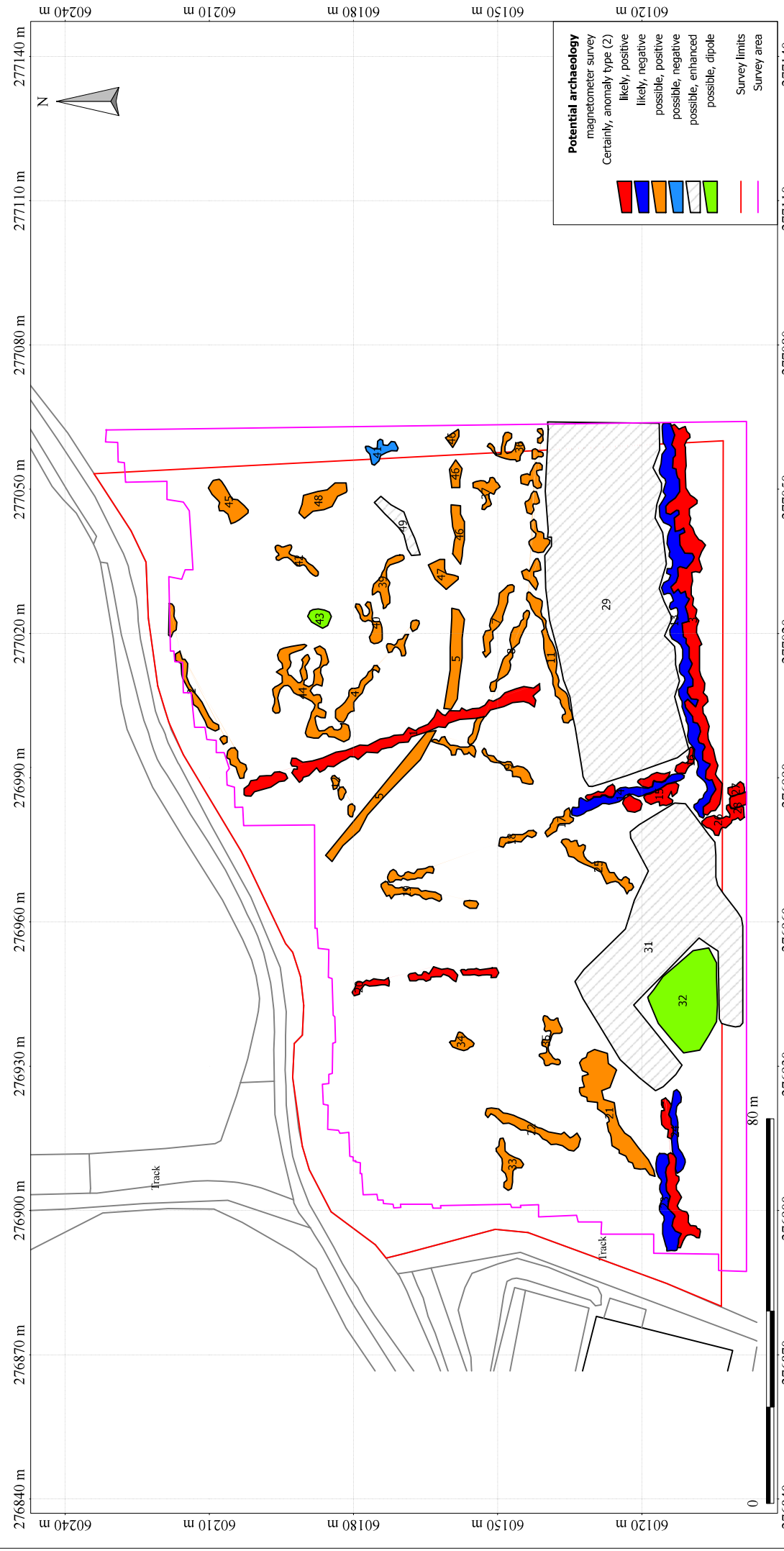
Notes:

1. All interpretations are provisional and represent potential archaeological deposits.
2. 'Anomaly type' is a description of the magnetic anomaly. See the report text or GIS for an archaeological characterisation.
3. Anomalies designated "likely archaeology" have supporting evidence e.g. historical maps and or visible earthworks.
4. Not all instances are mapped.
5. Anomalies likely to represent recent deposits or ground disturbance, or geological and other natural deposits are not mapped unless relevant to potential buried archaeology.

An archaeological magnetometer survey
 Land at Blakemore Farm, Harberton, TQ9 6DN
 Centred on NGR: 276981, 060155
 Report: 1810BLA-R

Substrata Limited
 Langstrath, Goodleigh
 Barnstaple, Devon EX32 7LZ
 Tel: 07504688135
 markedwards@substrata.co.uk
 Web: substrata.co.uk

Figure 1: survey location plan



Geophysical survey: Copyright Substrata Limited.
 Base map: Ordnance Survey (c) Crown Copyright 2018.
 All rights reserved. Licence number 100053143

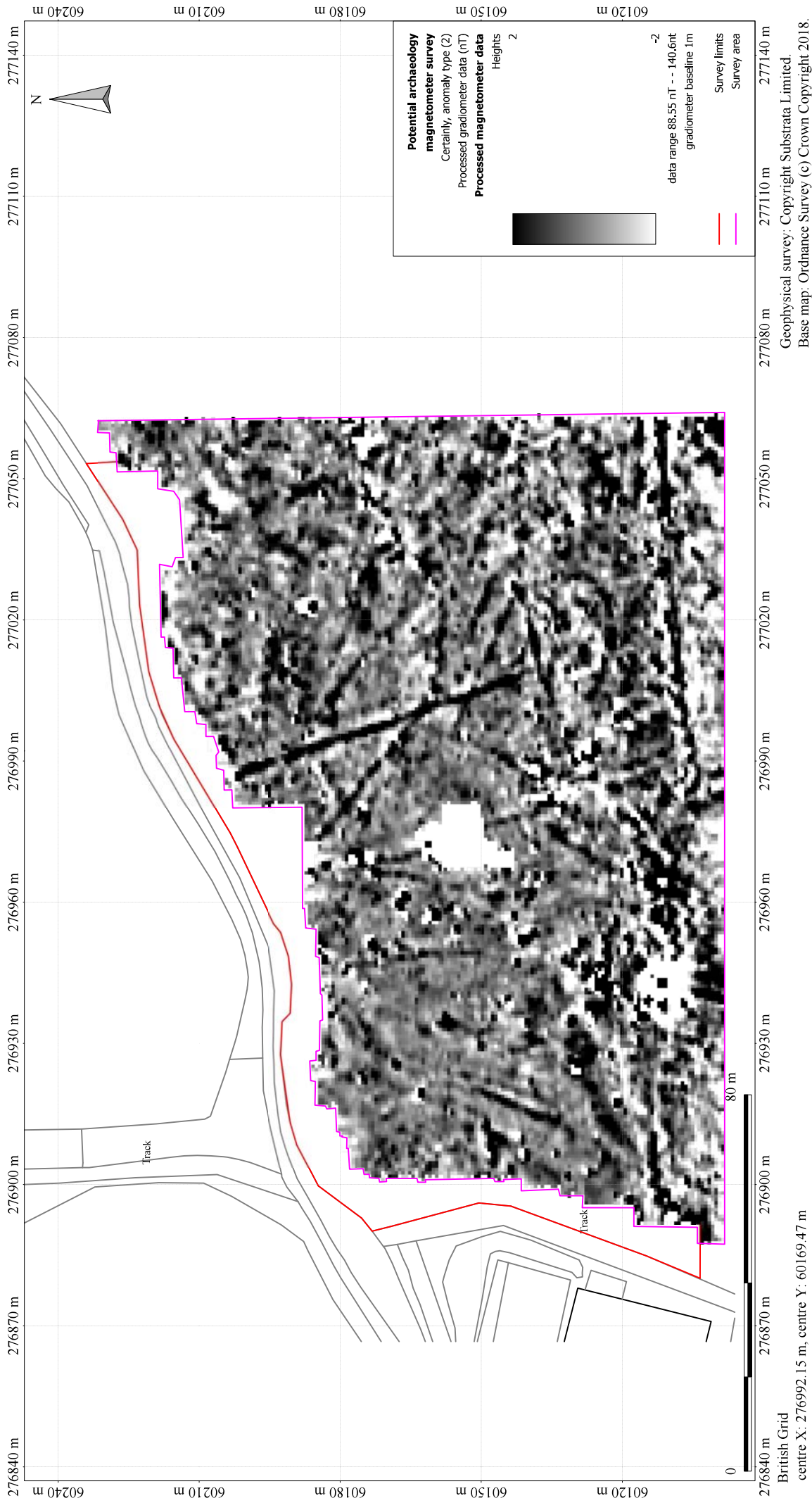
Scale: 1:800 @ A3. Spatial Units: Meter. Do not scale off this drawing

- Notes:
1. All interpretations are provisional and represent potential archaeological deposits.
 2. 'Anomaly type' is a description of the magnetic anomaly. See the report text or GIS for an archaeological characterisation.
 3. Anomalies designated "likely archaeology" have supporting evidence e.g. historical maps and or visible earthworks.
 4. Not all instances are mapped.
 5. Anomalies likely to represent recent deposits or ground disturbance, or geological and other natural deposits are not mapped unless relevant to potential buried archaeology.

An archaeological magnetometer survey
 Land at Blakemore Farm, Harberton, TQ9 6DN
 Centred on NGR: 276981, 060155
 Report: 1810BLA-R

Substrata Limited
 Langstrath, Goodleigh
 Barnstaple, Devon EX32 7LZ
 Tel: 07504688135
 markedwards@substrata.co.uk
 Web: substrata.co.uk

Figure 2: survey interpretation



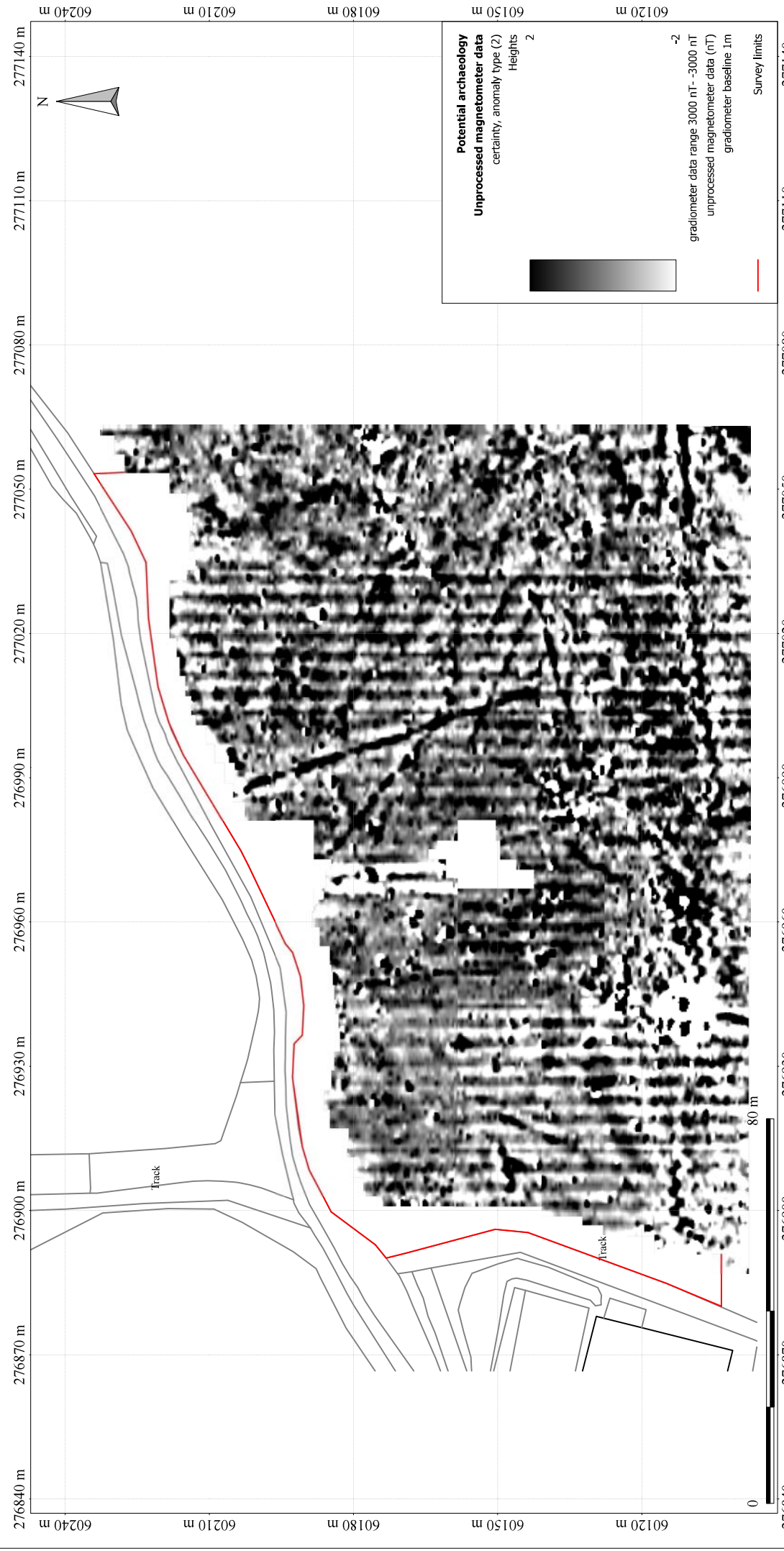
Notes:

1. All interpretations are provisional and represent potential archaeological deposits.
2. 'Anomaly type' is a description of the magnetic anomaly. See the report text or GIS for an archaeological characterisation.
3. Anomalies designated "likely archaeology" have supporting evidence e.g. historical maps and/or visible earthworks.
4. Not all instances are mapped.
5. Anomalies likely to represent recent deposits or ground disturbance, or geological and other natural deposits are not mapped unless relevant to potential buried archaeology.

An archaeological magnetometer survey
 Land at Blakemore Farm, Harberton, TQ9 6DN
 Centred on NGR: 276981, 060155
 Report: 1810BLA-R

Substrata Limited
 Langstrath, Goodleigh
 Barnstaple, Devon EX32 7LZ
 Tel: 07504688135
 markedwards@substrata.co.uk
 Web: substrata.co.uk

Figure 3: Processed magnetometer data



British Grid
 centre X: 276992.15 m, centre Y: 60169.47 m

Scale: 1:800 @ A3. Spatial Units: Meter. Do not scale off this drawing

Geophysical survey: Copyright Substrata Limited.
 Base map: Ordnance Survey (c) Crown Copyright 2018.
 All rights reserved. Licence number 100053143

Notes:

1. All interpretations are provisional and represent potential archaeological deposits.
2. 'Anomaly type' is a description of the magnetic anomaly. See the report text or GIS for an archaeological characterisation.
3. Anomalies designated "likely archaeology" have supporting evidence e.g. historical maps and/or visible earthworks.
4. Not all instances are mapped.
5. Anomalies likely to represent recent deposits or ground disturbance, or geological and other natural deposits are not mapped unless relevant to potential buried archaeology.

An archaeological magnetometer survey
 Land at Blakemore Farm, Harberton, TQ9 6DN
 Centred on NGR: 276981, 060155
 Report: 1810BLA-R

Substrata Limited
 Langstrath, Goodleigh
 Barnstaple, Devon EX32 7LZ
 Tel: 07504688135
 markedwards@substrata.co.uk
 Web: substrata.co.uk

Figure 4: unprocessed magnetometer data

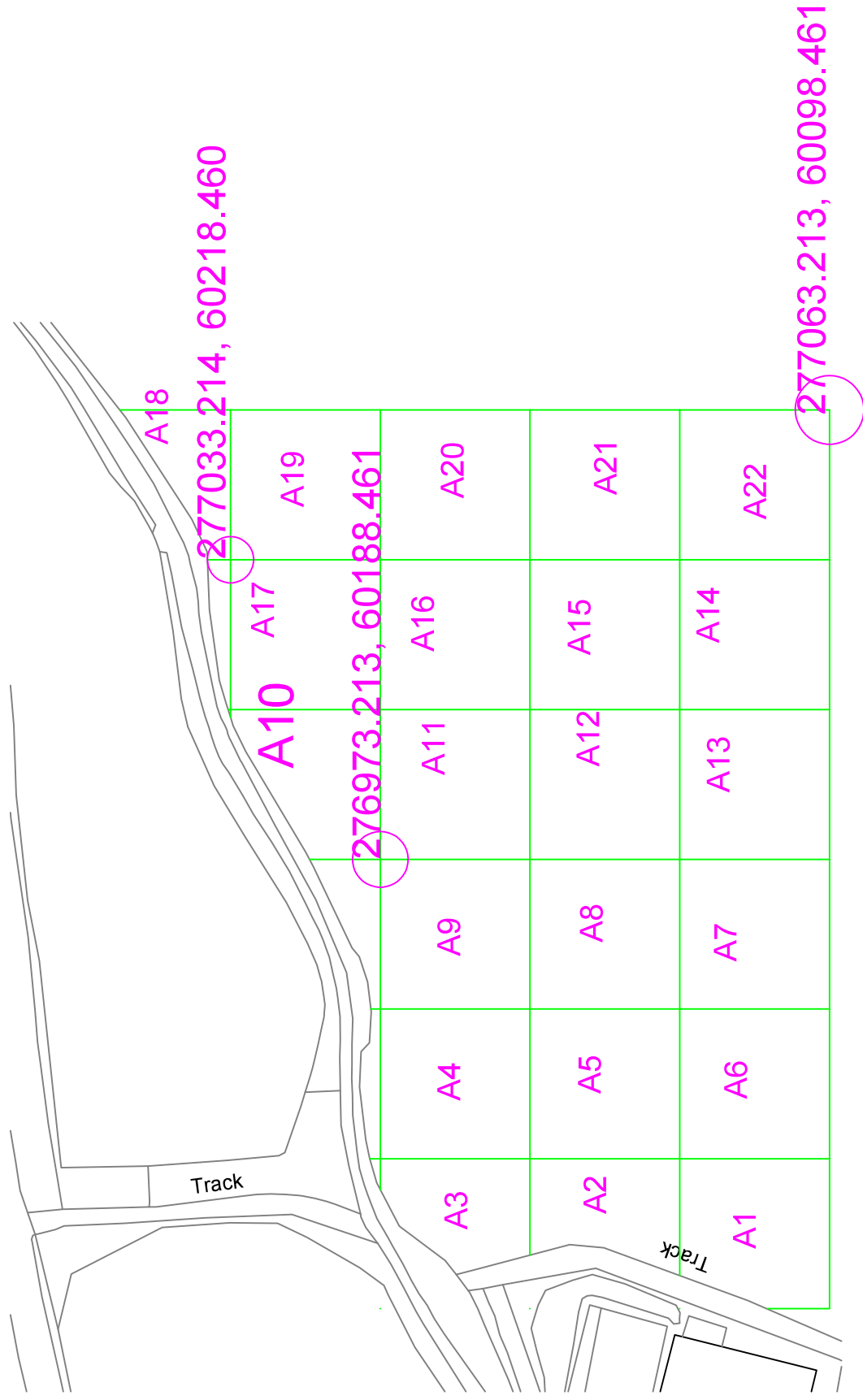


Figure 5: grid numbers and control points

Appendix 2 Tables

anomaly group	associated anomaly groups	anomaly characterisation certainty & class	anomaly form	additional archaeological characterisation	comments	supporting evidence
1	11	likely, positive	linear	possible wall		
2		possible, positive	curvilinear	former field boundary	follows line of road	
3		likely, positive	linear	former field boundary	follows field boundary on OS 1st edition	OS 1:2500 1853-1904
22		possible, positive	linear	possible wall		
26	27,28	likely, positive	linear	Devon hedgebank	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
21		possible, positive	irregular			
17		possible, positive	irregular			
7		possible, positive	linear	ditch or drain	part of grip drainage?	
25		possible, positive	linear			
13	3	likely, negative	linear	Devon hedgebank	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
24	6,23	likely, negative	linear	Devon hedgebank	perpendicular to 3 and parallel to 1	OS 1:2500 1853-1904
14	15,16	likely, negative	linear	Devon hedgebank	possible grip drain	
4		possible, positive	disrupted linear	ditch or drain	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
19		possible, positive	disrupted linear	ditch or drain		
20		likely, positive	disrupted linear	former field boundary		
12		possible, positive	disrupted linear	ditch or drain		
8	9	possible, positive	disrupted linear	ditch or drain	part of grip drainage?	
9		possible, positive	disrupted linear	ditch or drain	part of grip drainage?	
15	14,16	likely, positive	disrupted linear	Devon hedgebank	perpendicular to 3 and parallel to 1	
16	14,15	likely, positive	disrupted linear	Devon hedgebank	perpendicular to 3 and parallel to 1	
27	26,28	likely, positive	linear	Devon hedgebank	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
28	26,27	likely, positive	linear	Devon hedgebank		
11	1	possible, positive	disrupted linear	former field boundary		
18	14,15,16	possible, positive	linear	former field boundary	possible continuation of 15/16/17	
23	6	likely, negative	linear	Devon hedgebank	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
6	23,24	likely, negative	disrupted linear	Devon hedgebank	inline with boundary on OS 1st edition	OS 1:2500 1853-1904
29		possible, enhanced	enclosure	disturbed ground with some ferrous material		
31		possible, enhanced	irregular	disturbed ground with some ferrous material		
32		possible, dipole	irregular	ferrous material associated with farm activities		
33		possible, positive	irregular			
34		possible, positive	irregular			
35		possible, positive	irregular			
44		possible, positive	irregular			
42		possible, positive	irregular			
39		possible, positive	irregular			
40		possible, positive	irregular			

Table 2: data analysis

<p>Grid <i>Method of Fixing:</i> DGPS set-out using pre-planned survey grids and Ordnance Survey coordinates. <i>Composition:</i> 30m by 30m grids <i>Recording:</i> Geo-referenced and recorded using digital map tiles. <i>DGPS used:</i> Spectra Precision PM5V2 GPS with external antenna and survey pole and DigiTerra Explorer 7 as the survey control program.</p>	
<p>Equipment <i>Instrument:</i> Bartington Instruments grad601-2 <i>Firmware:</i> version 6.1</p>	<p>Data Capture <i>Sample Interval:</i> 0.25m <i>Traverse Interval:</i> 1 metre <i>Traverse Method:</i> zigzag <i>Traverse Orientation:</i> GN</p>
<p>Data Processing, Analysis and Presentation Software IntelliCAD 8.4 DW Consulting TerraSurveyor3 Manifold System 8 GIS Microsoft Corp. Office 365: Excel, Publisher, Word Adobe Systems Inc Adobe Acrobat 9 Pro Extended</p>	

Table 2: methodology information

Instrument Type:	Bartington Grad 610
Units:	nT
Direction of 1st Traverse:	0 deg
Collection Method:	ZigZag
Sensors:	2 @ 0.00 m spacing.
Dummy Value:	32702
Dimensions	
Composite Size (readings):	1200 x 360
Survey Size (meters):	150 m x 180 m
Grid Size:	30 m x 30 m
X Interval:	0.125 m (surveyed @ 0.25 m)
Y Interval:	0.5 m (surveyed @ 1 m)
Stats	
Max:	88.55
Min:	-140.60
Std Dev:	4.47
Mean:	0.13
Median:	0.02
Composite Area:	2.7 ha
Surveyed Area:	1.6578 ha
PROGRAM	
Name:	TerraSurveyor
Processes:	8
1	Base Layer
2	Clip at 1.00 SD
3	DeStripe Median Traverse: Grids: All
4	De Stagger: Grids: a14.xgd Mode: Both By: -1 intervals
5	De Stagger: Grids: a1.xgd Mode: Both By: -1 intervals
6	De Stagger: Grids: a16.xgd Mode: Both By: -1 intervals
7	De Stagger: Grids: a5.xgd Mode: Both By: -1 intervals
8	Interpolate: X & Y Doubled.
Note: Input to the GIS results in slight changes to the stats shown above. The data stored in the archives (Appendix 3) will have the above metadata and the values quoted in the report figures will be those quoted in this metadata table.	

Table 3: processed data metadata

Description:	
Instrument Type:	Bartington Grad 610
Units:	nT
Direction of 1st Traverse:	0 deg
Collection Method:	ZigZag
Sensors:	2 @ 0.00 m spacing.
Dummy Value:	32702
Dimensions	
Composite Size (readings):	600 x 180
Survey Size (meters):	150 m x 180 m
Grid Size:	30 m x 30 m
X Interval:	0.25 m
Y Interval:	1 m
Stats	
Max:	3005.70
Min:	-3000.00
Std Dev:	63.46
Mean:	0.62
Median:	0.00
Composite Area:	2.7 ha
Surveyed Area:	1.6579 ha
PROGRAM	
Name:	TerraSurveyor
Version:	3.0.25.1

Table 4: minimally processed data metadata

Appendix 3 Project archive contents

A3.1 Substrata Limited archive

A full archive of this survey will be held by Substrata Limited on cloud and local hard drive storage as follows:

Report:	Adobe PDF (.pdf), Microsoft Publisher (.pub)
Raw grid data files:	DW Consulting TerraSurveyor 3 (.xgd) and CSV (.xyz)
Raw data composite files:	CSV (.xyz)
Minimally processed data composite files:	DW Consulting TerraSurveyor 3 (.xgd) and CSV (.xyz)
Final data processing composite files:	DW Consulting TerraSurveyor 3 (.xgd) and CSV (.xyz)
GIS project:	GIS project Manifold 8 (.map)
Survey interpretation:	ESRI shape files
AutoCAD version of the survey interpretation: (if generated)	AutoCAD (.dwg)
All project working files:	IntelliCAD 8.4 Microsoft Corp. Office 365: Excel, Publisher, Word Adobe Systems Inc Adobe Acrobat 9 Pro Extended

A3.2 Online Access to the Index of archaeological investigationS (OASIS)

Metadata:	online form
Georeferenced survey boundary file:	ESRI shape file
Report:	Adobe PDF (.pdf)

A3.3 Archaeological Data Service

Depending on local authority policy, an archive may be deposited with the ADS as follows:

Raw data composite file:	CSV (xyz)
Processed data plot:	rendered images in TIFF format
Survey grid plot:	image in TIFF format
Details of data processing:	image in TIFF format
Interpretation plot:	rendered images in TIFF format
Metadata:	Microsoft Excel format

A3.4 Historic Environment Record (HER)

Subject to any contractual requirements on confidentiality, a PDF copy of the report will be submitted to the appropriate HER within 6 months of the completion of this report via the OASIS process or by other means, depending on the relevant HER process.