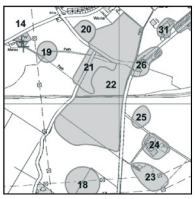
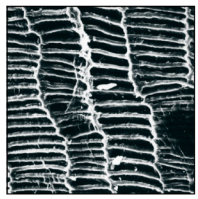
TMTK/01










LAND AT TOTHILL STREET, MINSTER IN THANET, KENT

GEOPHYSICAL SURVEY

commissioned by Archaeology Collective

May 2017

HEADLAND ARCHAEOLOGY

REGISTERED ORGANISATION CIfA

LAND AT TOTHILL STREET, MINSTER IN THANET, KENT

GEOPHYSICAL SURVEY

commissioned by Archaeology Collective

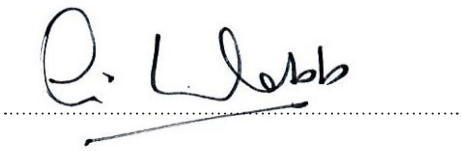
May 2017

project info

HA JOB NO.	TMTK/01
NGR	TR 3075 6545
PARISH	Minster
LOCAL AUTHORITY	Kent
OASIS REF.	headland5-284195

project team

PROJECT MANAGER	Alistair Webb
AUTHOR	David Harrison
FIELDWORK	Charlotte Palmer, Joe Turner
GRAPHICS	Caroline Norrman, David Harrison
APPROVED BY	Alistair Webb – Project Manager



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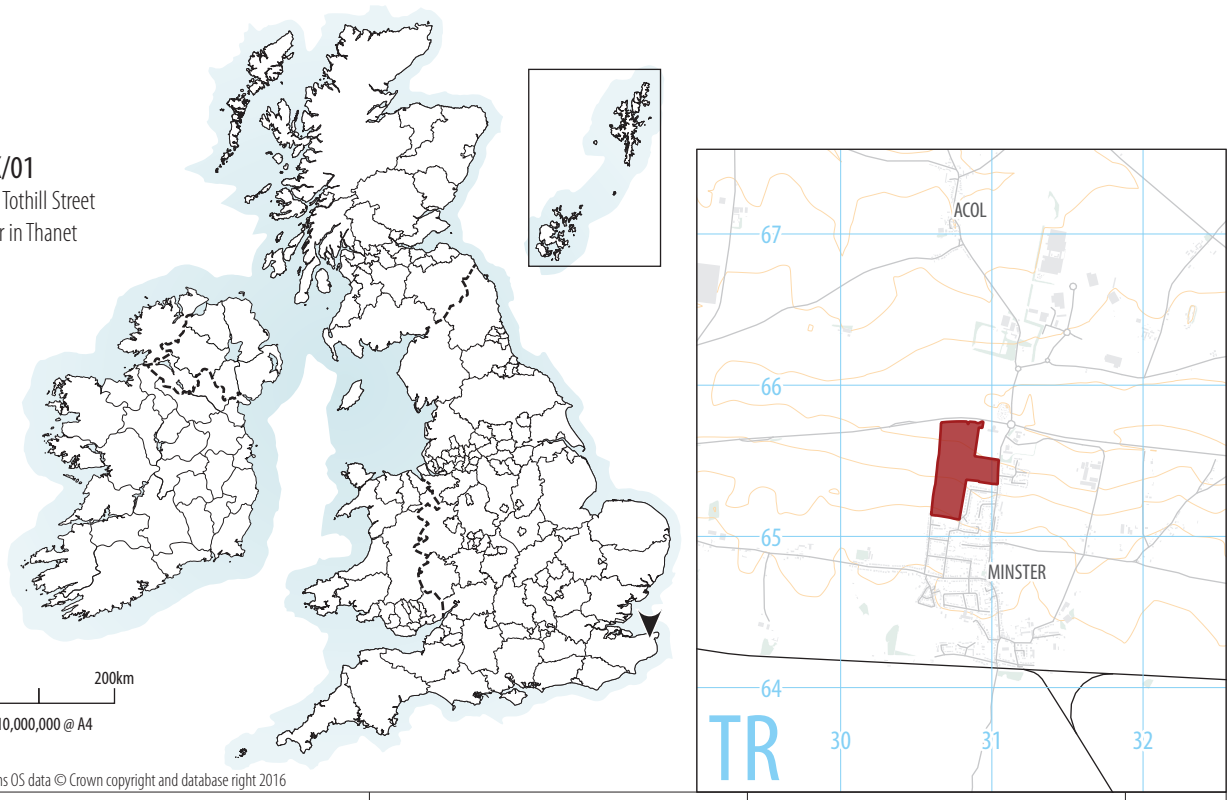
PROJECT SUMMARY

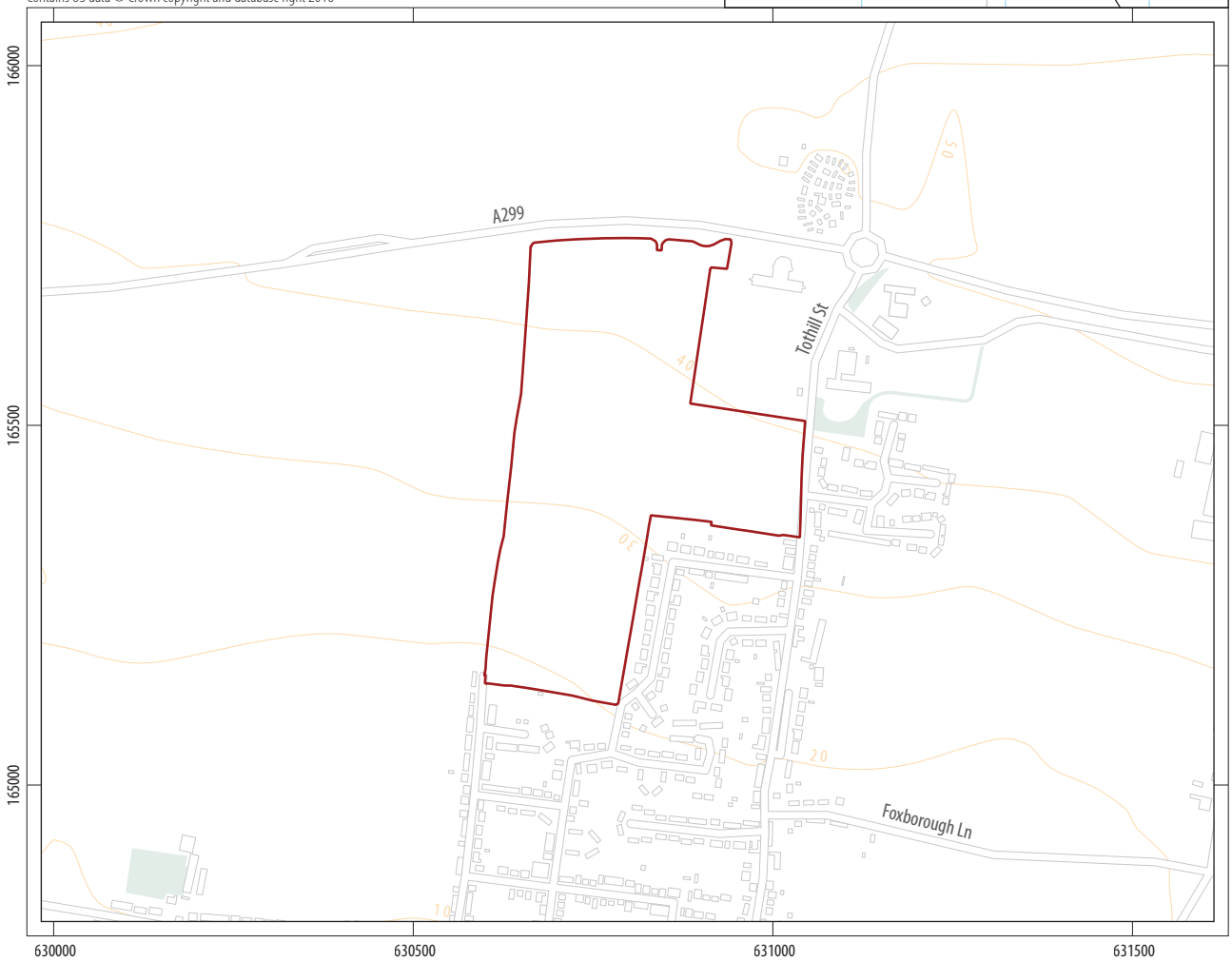
Headland Archaeology (UK) Ltd undertook a geophysical (magnetometer) survey, covering 17 hectares, on land west of Tothill Street, Minster in Thanet, to inform future archaeological strategy in advance of a proposed residential development. The proposed development is located on a prominent chalk escarpment upon which multi-period remains (prehistoric – Saxon) have been revealed from extensive cropmarks and subsequently confirmed by extensive archaeological investigations. The survey has confirmed and enhanced the cropmark data by identifying, and accurately locating, five ring-ditches (probable round-barrows), a trackway, an area of possible roadside settlement activity and five enclosures. Based on the results and interpretation of the geophysical survey the archaeological potential in the north of the site is assessed as moderate to high, and locally very high in the vicinity of the identified anomalies. Fewer anomalies of archaeological potential have been identified on the lower-lying slope in the south and here, the archaeological potential is generally assessed as moderate, but locally high.

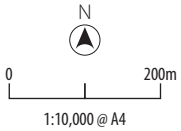
CONTENTS

LIST OF ILLUSTRATIONS

TMTK/01
land at Tothill Street
Minster in Thanet
Kent







KEY
proposed development area

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ILLUS 1 Site location

LAND AT TOTHILL STREET, MINSTER IN THANET, KENT

GEOPHYSICAL SURVEY

1 INTRODUCTION

Headland Archaeology (UK) Ltd was commissioned by Archaeological Collective (The Client), to undertake a geophysical (magnetometer) survey of land west of Tothill Street, Minster in Thanet to inform forthcoming archaeological strategy in advance of a proposed residential development.

The work was undertaken in accordance with a Written Scheme of Investigation (Headland Archaeology 2016), submitted to the Client, and was undertaken in accordance with guidance contained within the National Planning Policy Framework (DCLG 2012). All work was also undertaken in line with current best practice (Chartered Institute for Archaeologists 2014, English Heritage 2008).

The survey was carried out between November 14th and November 17th 2016 in order to provide information on the archaeological potential of the site.

1.1 SITE LOCATION, TOPOGRAPHY AND LAND-USE

The proposed development area (PDA) comprises a single field, centred at TR 3075 6545, to the west of Tothill Street, on the northern periphery of the village of Minster in Thanet (see Illus 1). It is bound to the north by the A299 dual carriageway and to the north-east by Holiday Inn Express Ramsgate-Minster and the adjoining Minster-Thanet cemetery. The eastern boundary is defined in part by Tothill Street and by residential properties fronting onto Fairfield Road and Greenhill Gardens. A pumping station is located at the southern boundary whilst the western boundary follows a farm track, with open farmland beyond.

The PDA is located on the south-facing slope of a prominent east/west chalk escarpment. The ground slopes from 45m above Ordnance Datum (AOD) at the A299 roadside in the north to 21m AOD at the southern boundary, close to the pumping station.

At the time of the survey the PDA was under arable cultivation (see Illus 2).

1.2 GEOLOGY AND SOILS

The underlying bedrock consists of Seaford and Margate chalk (see Illus 4). This is overlain in the south by superficial deposits of Head – clay and silt. No superficial deposits are recorded across the majority of the PDA (NERC 2016).

The soils are classified in the Soilscape 5 and Soilscape 6 associations, characterised as freely draining lime-rich and slightly acid loams (Cranfield University 2016).

2 ARCHAEOLOGICAL BACKGROUND

An Archaeological Desk-Based Assessment (Archaeology Collective 2016) has shown the PDA to have a high potential for the survival of evidence relating to the prehistoric, Roman and Saxon periods, particularly with respect to burial remains.

Four ring-ditches (TR 36 NW 172 / TR 36 NW 174), probable round-barrows, are recorded within the PDA in the Kent Historic Environment Record (HER). A parallel linear cropmark (TR 36 NW 173) which is thought to demarcate the route of a former trackway may be associated with the ring-ditches (see Illus 4).

Roman cremation burials (TR 36 NW 27) are recorded in the modern Minster-Thanet cemetery to the immediate north-east of the PDA with further Roman inhumation and cremation burials known in the surrounding landscape. The DBA states that:

ILLUS 2 Survey area, looking north-east

> 'As burials were prohibited by Roman law within built-up areas it was customary to site cemeteries alongside the roads approaching Roman settlements and towns. As this cemetery lies so close to the line of the present dual carriageway, which itself follows the course of an ancient trackway known as Dunstrete (TR 36 NW 438)… …it can be inferred that Dunstrete is probably a Roman road, possibly on the line of an even earlier route.'

A small Saxon cemetery (TR 36 NW 24) with associated hollow way and large ditch is recorded to the immediate north of the dual carriageway.

The DBA suggests that the PDA has a low archaeological potential for remains of other periods.

Analysis of historical mapping (Old-maps 2016) indicates that the division and layout of land within the PDA has changed with the removal of three former boundaries since the publication of the first edition Ordnance Survey map in 1873.

3 AIMS, METHODOLOGY AND PRESENTATION

The main aim of the geophysical survey was to provide sufficient information to enable an assessment to be made of the impact of any proposed development on any sub-surface archaeological remains, if present.

The general archaeological objectives of the geophysical survey were:

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

3.1 MAGNETOMETER SURVEY

Magnetic survey methods rely on the ability of a variety of instruments to measure very small magnetic fields associated with buried archaeological remains. Features such as a ditch, pit or kiln can act like a small magnet, or series of magnets, that produce distortions (anomalies) in the Earth's magnetic field. In mapping these slight variations, detailed plans of sites can be obtained as buried features often produce reasonably characteristic anomaly shapes and strengths (Gaffney and Gater 2003). Further information on soil magnetism and the interpretation of magnetic anomalies is provided in Appendix 1.

The survey was undertaken using four Bartington Grad601 sensors mounted at 1m intervals (1m traverse interval) onto a rigid carrying frame. The system was programmed to take readings at a frequency of 10Hz (allowing for a 10–15cm sample interval) on roaming traverses

4m apart. These readings were stored on an external weatherproof laptop and later downloaded for processing and interpretation. The system was linked to a Trimble R8s Real Time Kinetic (RTK) differential Global Positioning System (dGPS) outputting in NMEA mode to ensure a high positional accuracy for each data point.

MLGrad601 and MultiGrad601 (Geomar Software Inc.) software was used to collect and export the data. Terrasurveyor V3.0.31.0 (DWConsulting) software was used to process and present the data.

3.2 REPORTING

A general site location plan is shown in Illus 1 at a scale of 1:10,000. Illus 2 is a site condition photograph. Illus 3 is a 1:2,500 scale location plan showing the GPS swath data. Kent HER and geology data (after NERC 2016) is presented as Illus 4 at the same scale. Illus 5 shows the fully processed greyscale data for the whole site and Illus 6 is the accompanying interpretative drawing, both at a scale of 1:2,500.

Detailed data plots of the fully processed data (greyscale), the minimally processed data (XY traceplot), and accompanying interpretative plots of the two sectors into which the site is broken down, are presented at a scale of 1:1,500 in Illus 7 to Illus 12 inclusive.

Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the site archive. Data processing details are presented in Appendix 4. A copy of the OASIS entry (Online Access to the Index of Archaeological Investigations) is reproduced in Appendix 5.

The survey methodology, report and any recommendations comply with the Written Scheme of Investigation (Headland Archaeology 2016) and guidelines outlined by Historic England (English Heritage 2008) and by the Chartered Institute for Archaeologists (CIfA 2014). All illustrations from Ordnance Survey mapping are reproduced with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

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

4 RESULTS AND DISCUSSION

The ground conditions were very good across the PDA and the data quality was correspondingly good throughout. The magnetic background is variable across the majority of the site being characterised by parallel sinuous bands of magnetic enhancement which are thought to be caused by soil-filled solution-hollows and striations in the chalk bedrock. The less-variable background in the south-east of the PDA corresponds to the recorded location of clay and silt superficial deposits.

Against this background numerous anomalies have been. These are discussed below and cross-referenced to specific anomalies on the interpretative drawings, where appropriate.

4.1 FERROUS AND MODERN ANOMALIES

Ferrous anomalies, characterised as individual 'spikes', 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 most sites, often being present as a consequence of manuring or tipping/infilling. There is no apparent clustering to these ferrous anomalies and they are consequently not considered to be of any archaeological significance.

Three high magnitude dipolar linear anomalies (**SP1** – **SP3** see Illus 6–12) at the northern and southern edges of the PDA locate buried service pipes. Magnetic data in the vicinity of the buried pipes is dominated by high-magnitude magnetic disturbance which may mask or obscure any anomalies of low magnitude, if present, within the affected area.

Two large ferrous 'spikes' (**TP1** and **TP2** see Illus 6 and Illus 10–12) within the centre of the PDA locate wooden telegraph poles.

Magnetic disturbance around the field edges is due to ferrous material within or close to the adjacent field boundaries. Disturbance of this nature is common on most sites and is of no archaeological interest.

4.2 GEOLOGICAL ANOMALIES

The data set is characterised by numerous, parallel sinuous anomalies which are caused by soil-filled solution hollows and striations in the chalk bedrock. Low background variation in the south-east of the PDA corresponds to the recorded location of a Head (clay and silt) superficial deposit (see Illus 4). A broad band of low magnitude variation (**GV** see Illus 6 and Illus 10–12) corresponds closely to the alignment of this deposit and is of natural origin.

4.3 AGRICULTURAL ANOMALIES

Two former field boundaries (**FB1** and **FB2** see Illus 6–12) have been detected as linear anomalies on an east/west alignment. The anomalies correspond to former field boundaries which are shown on the first edition Ordnance Survey map (1873) and are caused by soil-filled ditches. A third north/south aligned boundary has not been detected by the survey. Assuming that the former boundary comprised of a ditch, as opposed to a hedge/wall/fence, it is possible that the former boundary has been entirely removed by subsequent cultivation.

Faint parallel linear trends are identified aligned both north/south and east/west and are caused by modern cultivation.

4.4 ARCHAEOLOGICAL AND POSSIBLE ARCHAEOLOGICAL ANOMALIES

Five clear ring-ditches, probable round-barrows (**RB1**–**5** see Illus 6–12; see Table 1) have been identified by the survey, four of which correspond closely to the HER and cropmark data (TR 36 NW 172 / TR 36 NW 174).

RING-DITCH	DIAMETER	LOCATION (CENTRE)
RB1	11.5	TR 3069 6562
RB2	20m	TR 3077 6561
RB3	20m	TR 3067 6551
RB4	8m	TR 3073 6555
RB5	19m	TR 3070 6532

TABLE 1 Ring-ditch data

Discrete anomalies have been identified within the interior of **RB2** and **RB3**, perhaps being due to pits. **RB4** is not recorded in the Kent HER and is notably smaller and is lower in magnitude than the other ring-ditches.

RB1–**4** are located either side of north-west/south-east aligned parallel linear anomalies (TR1 see Illus 6–12) which correspond to the cropmark data (TR 36 NW 173) and are thought to be caused by soil-filled ditches flanking either side of a buried trackway. The apparent irregularity of the flanking ditches may be due to different phases of road/track construction.

The present A299 dual carriageway, 200m north of **TR1**, is believed to follow the route of an ancient trackway, known as Dunstrete, which is thought to have Roman or earlier origins. It is possible, therefore, that the identified anomalies locate this route.

A cluster of high magnitude anomalies, thought to be due to soil-filled pits and archaeological spreads, has been identified mainly on the north-eastern side of **TR1**, immediately south of Minster-Thanet cemetery and close to the recorded location of Roman cremation burials (TR 36 NW 27). A rectilinear anomaly at this corner of the field is thought to be due to a soil-filled ditch and may form the south-western corner of an enclosure (**E1** see Illus 6–9). A curving anomaly within the interior of the enclosure may be due to an internal feature. Together, these anomalies are suggestive of roadside settlement activity.

Within the north of the PDA a faint and fragmented linear anomaly (**D1** see Illus 6–9) is identified aligned north-west/south-east and apparently appended to the north of **TR1**. The anomaly is thought to be due to a soil-filled ditch, perhaps a former boundary feature. Several high magnitude anomalies of archaeological potential have been identified immediately west of this ditch, together forming a broad area of possible archaeological activity (**AA** see Illus 6–9). No clear archaeological pattern is discernible within this area although the anomalies are thought to be due to soil-filled pits, some of which are notably rectangular in form.

West of this cluster, a faint rectilinear trend locates a possible enclosure (**E2** see Illus 6–9). Several high magnitude anomalies are identified within the interior including two clear high-magnitude rectangular anomalies, probably due to soil-filled pits (**P1** and **P2** see Illus 6–9). A D-shaped enclosure (**E3** see Illus 6–9) is appended to the northern edge.

Anomalies suggestive of two further ditched enclosures (E4 and **E5** see Illus 6 and Illus 10–12) have been identified in the south-west corner of the PDA. No obvious internal anomalies have been identified although several discrete areas of magnetic enhancement are ascribed a possible archaeological origin, perhaps being due to pits.

Within the centre of the PDA an isolated high magnitude circular anomaly (**P3** see Illus 6–12) probably locates a large soil-filled pit.

5 CONCLUSION

The geophysical survey has successfully evaluated the survey area confirming and enhancing the cropmark data and providing evidence for five probable round-barrows, a trackway, an area of possible roadside settlement and five enclosures. The anomaly types are indicative of multi-period activity (Prehistoric – Roman), a pattern repeated in the wider landscape.

The survey has demonstrated an increased frequency of archaeological anomalies within the more elevated northern part of the site. Here, the archaeological potential is assessed as moderate to high, and locally very high in the vicinity of the identified anomalies. Magnetic disturbance from two service pipes at the northern site boundary, dominates the magnetic dataset. It is possible that this disturbance could mask the responses from other currently unidentified archaeological remains.

Fewer anomalies of archaeological potential have been identified on the lower-lying slope in the south and here, the archaeological potential is generally assessed as moderate, but locally high.

6 REFERENCES

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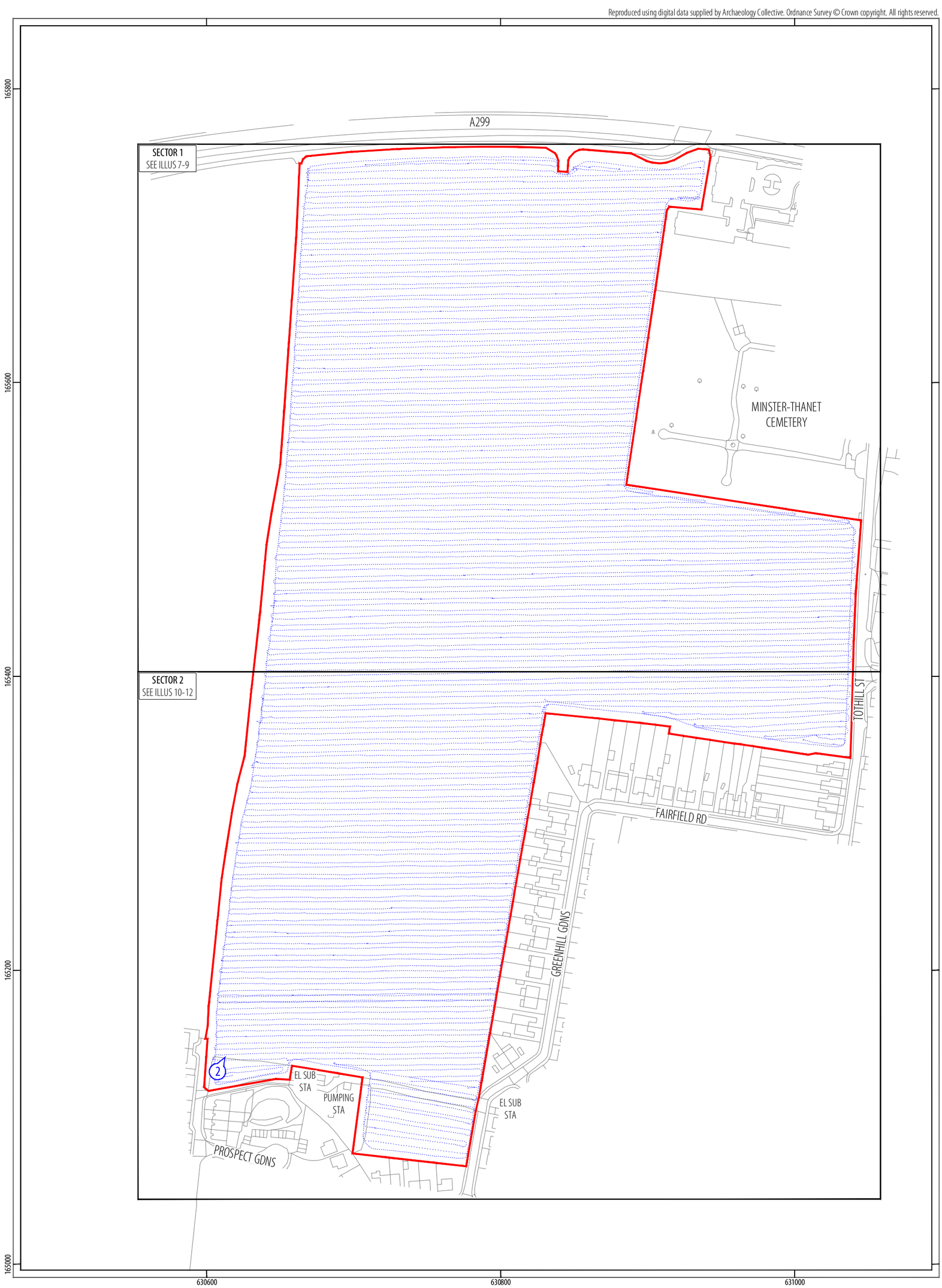

proposed development area
GPS swaths
location and direction of ILLUS 2

N
0 50m
scale 1:2,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

CLIENT Archaeology Collective

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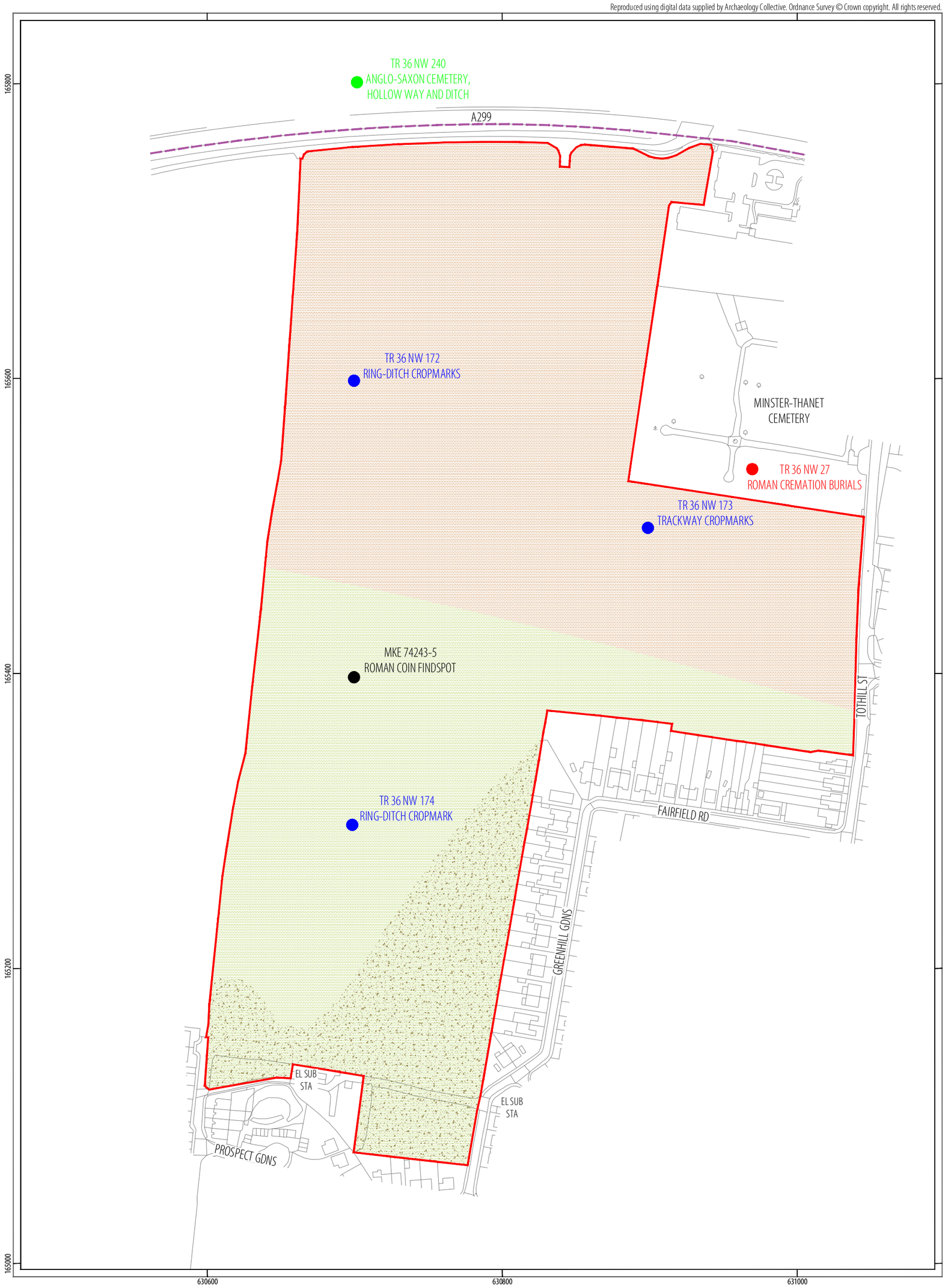
ILLUS 3 Survey location showing GPS swaths



proposed development area

MONUMENT
- Prehistoric
- Roman
- Saxon
- Undated
- Linear

BEDROCK GEOLOGY
- Margate Chalk Member
- Seaford Chalk Formation

SUPERFICIAL GEOLOGY
- Head 1 - clay and silt

N

0 50m

scale 1:2,500 @ A3

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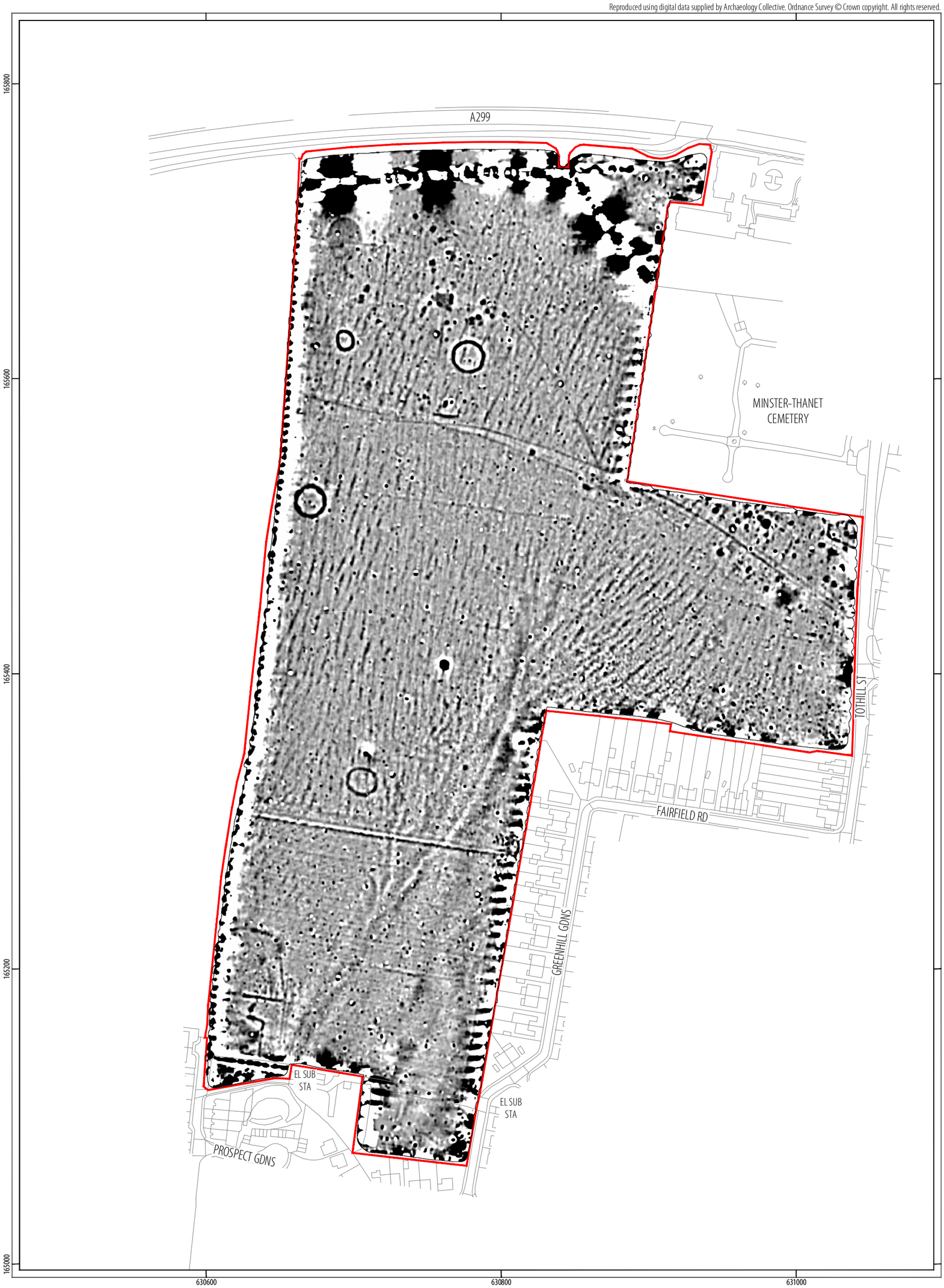
ILLUS 4 Survey location showing Kent HER and geology data



proposed development area

nT
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N
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Land at Tothill Street
Minster in Thanet
Kent

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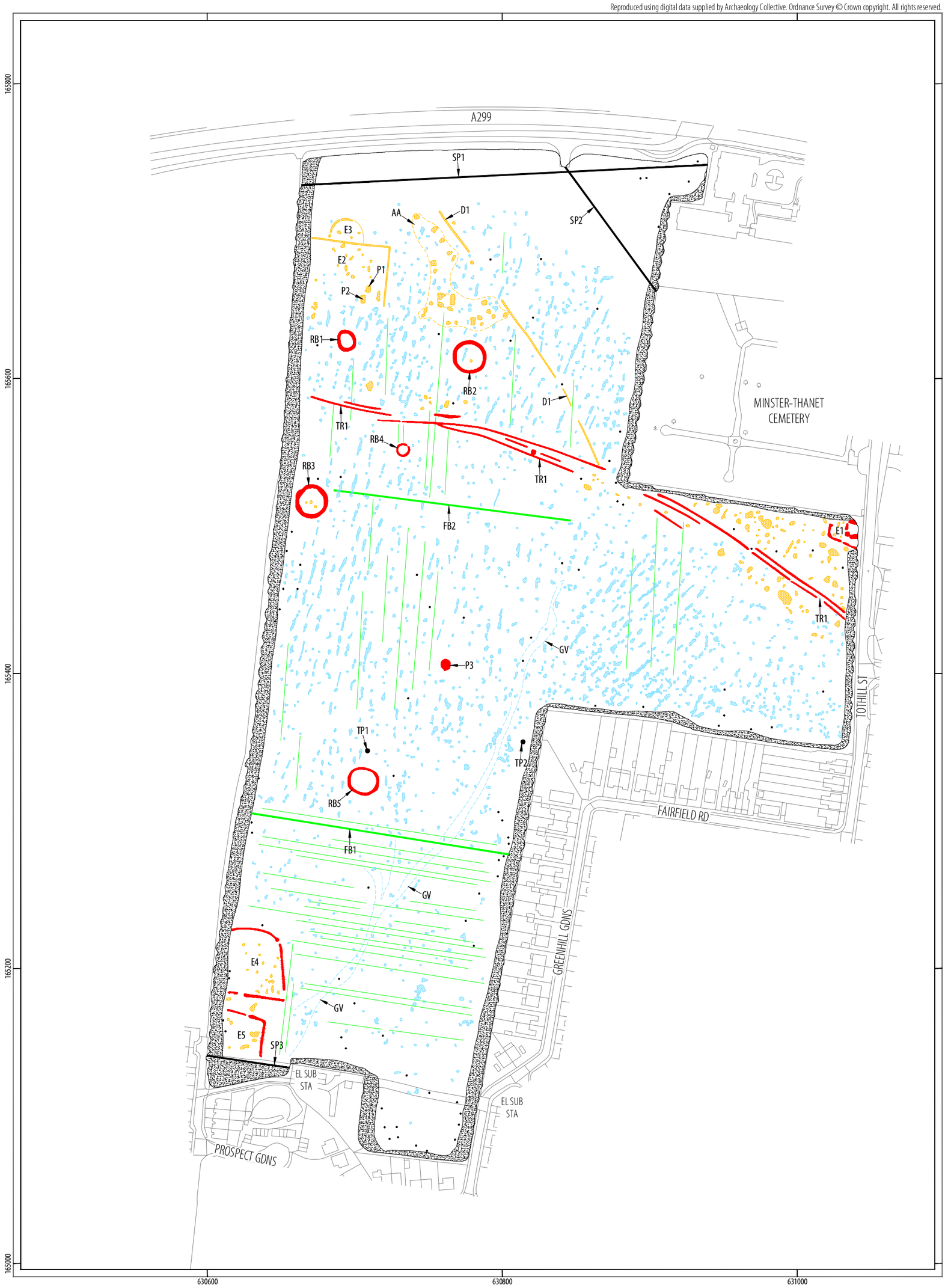
ILLUS 5 Overall processed greyscale magnetometer data



TYPE OF ANOMALY	INTERPRETATION
dipolar isolated	ferrous material
magnetic disturbance	ferrous material
dipolar linear	service pipe
linear trend	agricultural
linear	former field boundary
linear trend	geological variation

TYPE OF ANOMALY	INTERPRETATION
magnetic enhancement	geology
linear trend	archaeology?
magnetic enhancement	archaeology?
magnetic enhancement	archaeology

ABBREVIATIONS

AA	archaeological activity?	P	pit
D	ditch	RB	round-barrow
E	enclosure	SP	service pipe
FB	former boundary	TP	telegraph pole
GV	geological variation	TR	trackway

N

0 50m

scale 1:2,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

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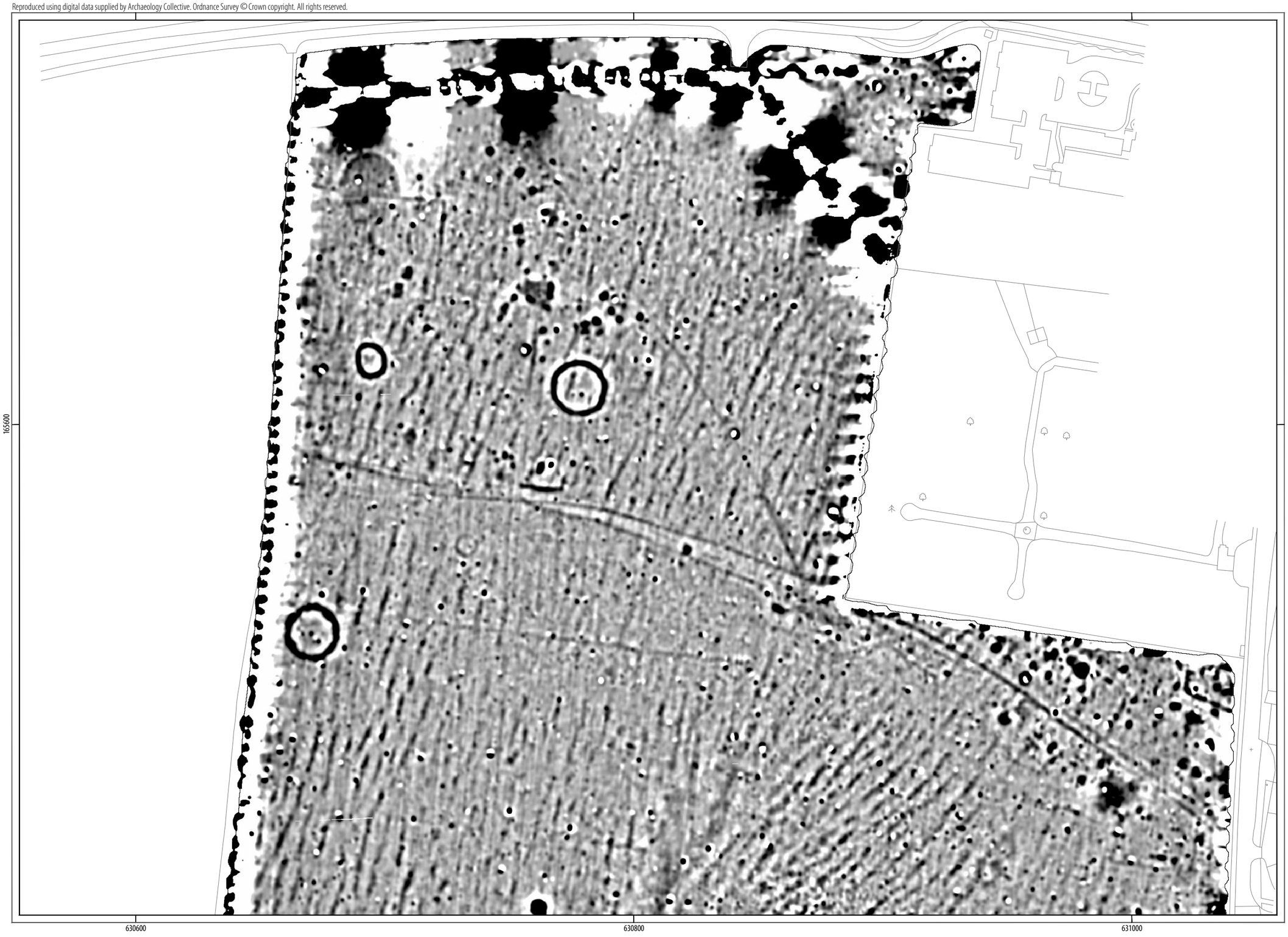
ILLUS 6 Overall interpretation of magnetometer data



-1.0 nT 2.0

N

0 50m

scale 1:1,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

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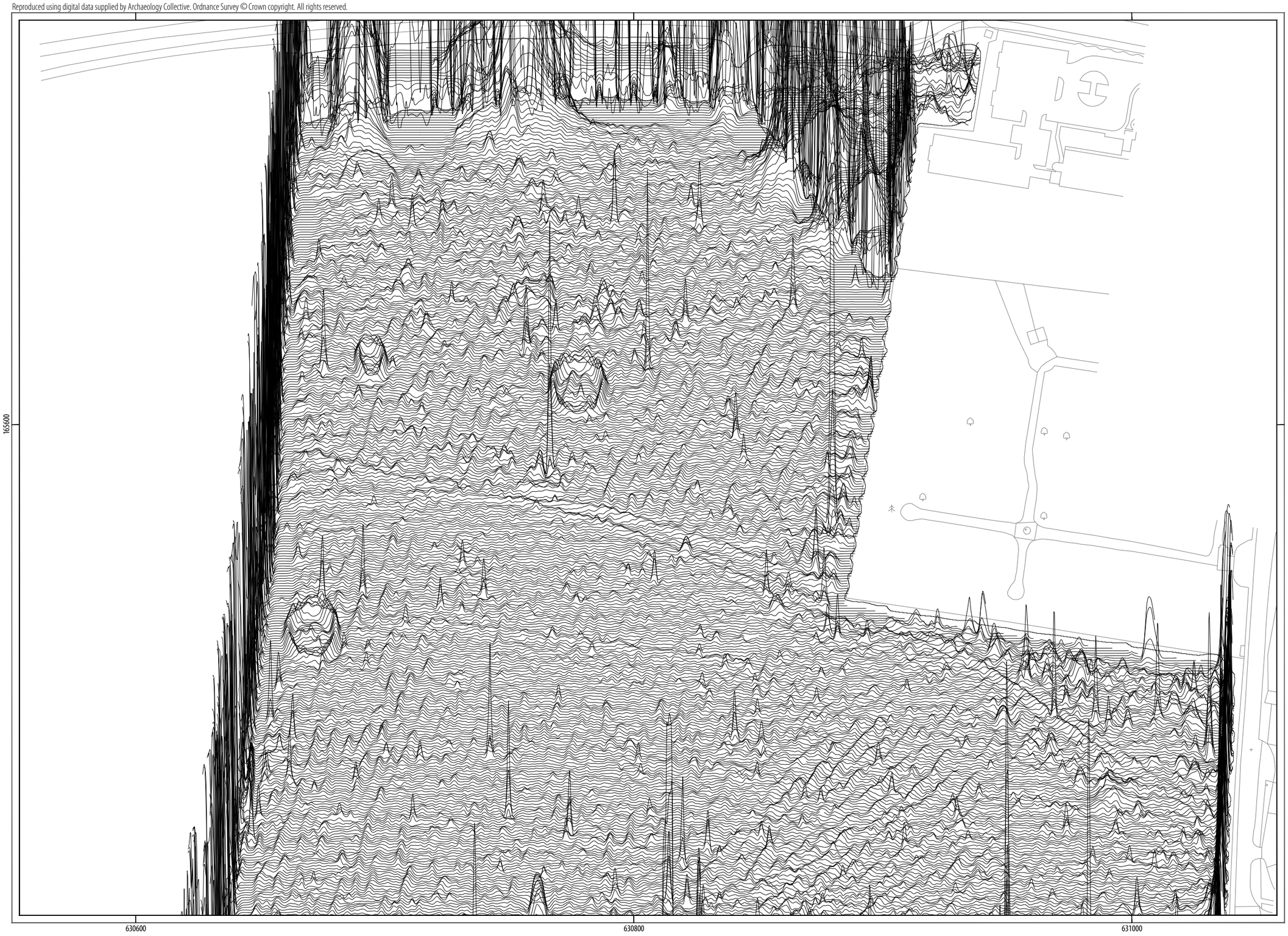
ILLUS 7 Processed greyscale magnetometer data; Sector 1



17.5nT/cm

N

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scale 1:1,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

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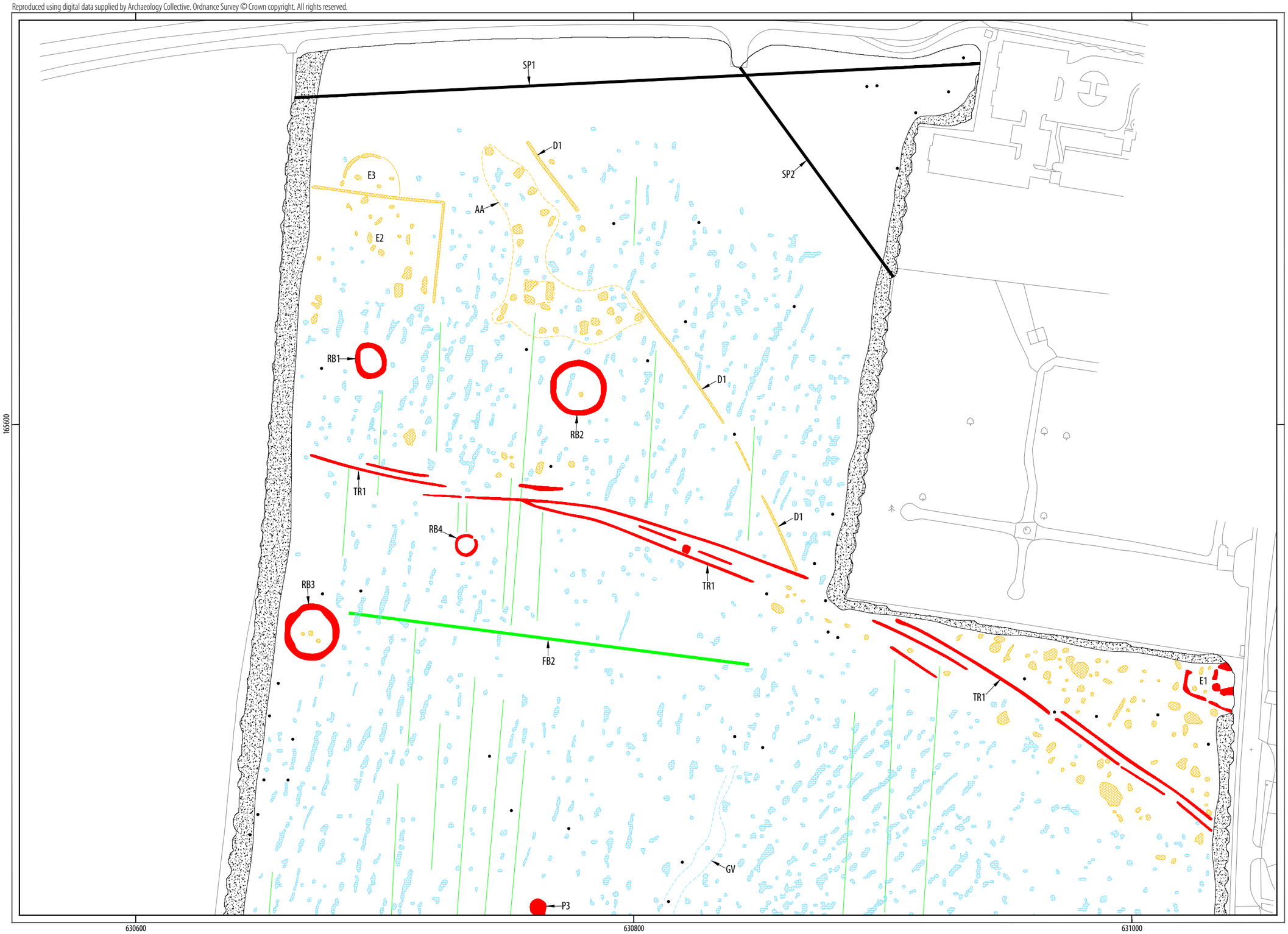
ILLUS 8 XY trace plot of minimally processed magnetometer data; Sector 1



TYPE OF ANOMALY	INTERPRETATION
dipolar isolated	ferrous material
magnetic disturbance	ferrous material
dipolar linear	service pipe
linear trend	agricultural
linear	former field boundary
linear trend	geological variation
magnetic enhancement	geology
linear trend	archaeology?
magnetic enhancement	archaeology?
magnetic enhancement	archaeology

ABBREVIATIONS

AA archaeological activity?	**P** pit
D ditch	**RB** round-barrow
E enclosure	**SP** service pipe
FB former boundary	**TR** trackway
GV geological variation	

N

0 50m

scale 1:1,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

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ILLUS 9 Interpretation of magnetometer data; Sector 1

nT
-1.0 2.0

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0 50m
scale 1:1,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

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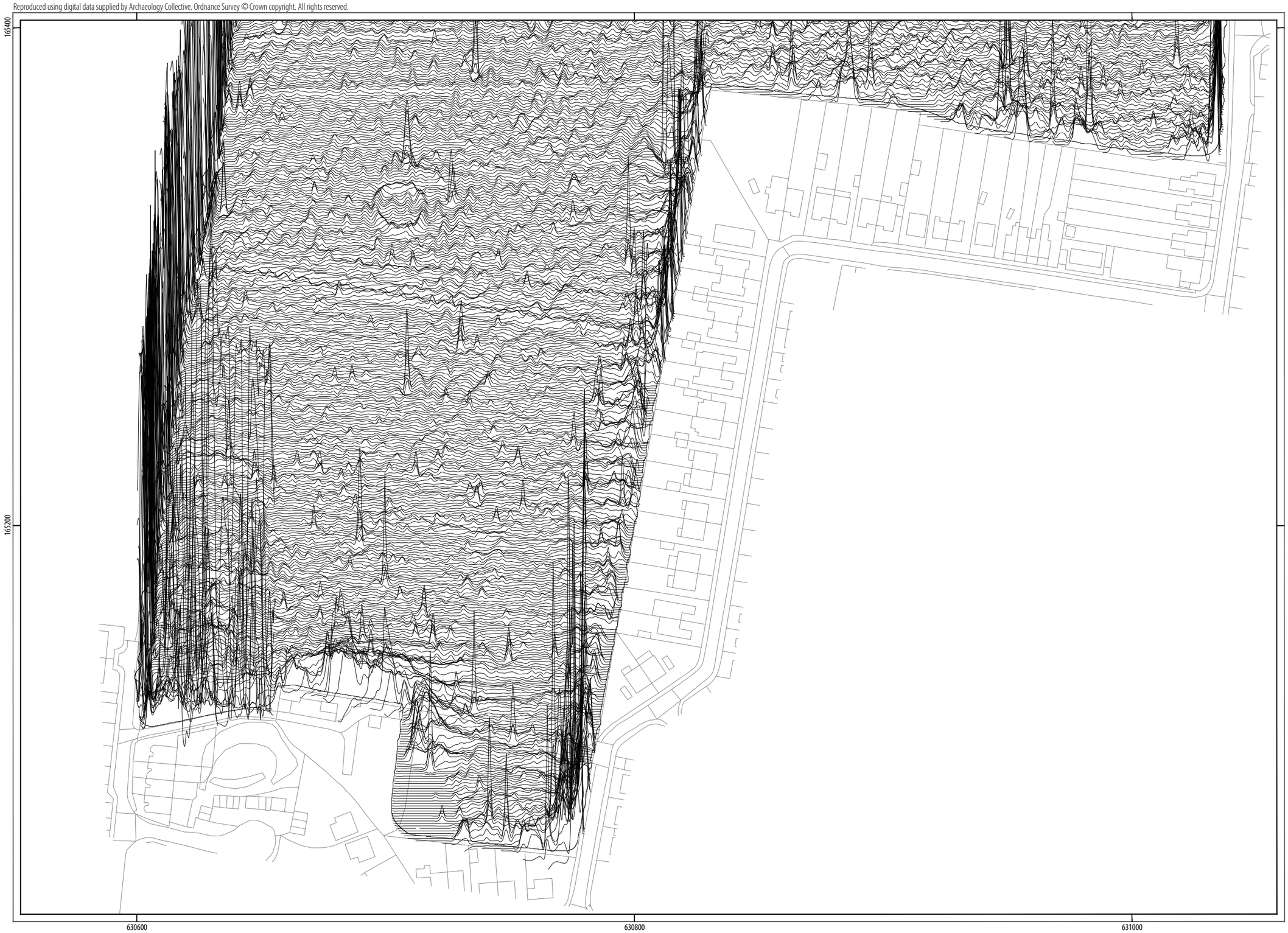
ILLUS 10 Processed greyscale magnetometer data; Sector 2



17.5nT/cm

N

0 50m

scale 1:1,500 @ A3

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Land at Tothill Street
Minster in Thanet
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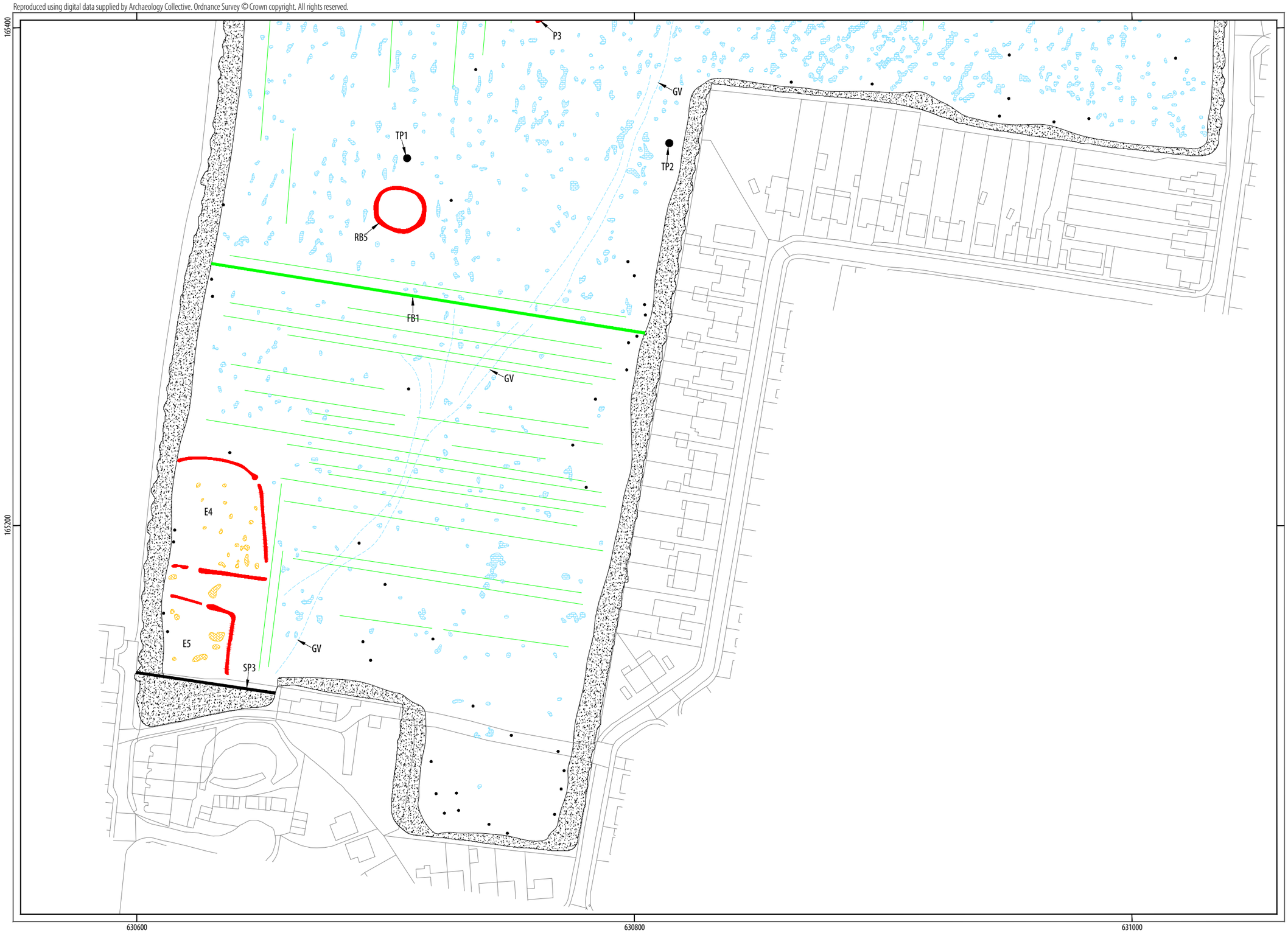
ILLUS 11 XY trace plot of minimally processed magnetometer data; Sector 2



TYPE OF ANOMALY	INTERPRETATION
dipolar isolated	ferrous material
magnetic disturbance	ferrous material
dipolar linear	service pipe
linear trend	ridge and furrow
linear trend	agricultural
linear trend	field drain
linear	former field boundary
linear	geology
magnetic enhancement	geology
linear trend	archaeology?
magnetic enhancement	archaeology?
magnetic enhancement	archaeology

ABBREVIATIONS

E enclosure	**RB** round-barrow
FB former boundary	**SP** service pipe
GV geological variation	**TP** telegraph pole
P pit	

N

0 50m

scale 1:1,500 @ A3

PROJECT TMTK/01
Land at Tothill Street
Minster in Thanet
Kent

CLIENT Archaeology Collective

HEADLAND ARCHAEOLOGY

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ILLUS 12 Interpretation of magnetometer data; Sector 2

7 APPENDICES

APPENDIX 1 MAGNETOMETER SURVEY

Magnetic susceptibility and soil magnetism

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haematite. These minerals have a weak, measurable magnetic property termed magnetic susceptibility. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms so that by measuring the magnetic susceptibility of the topsoil, areas where human occupation or settlement has occurred can be identified by virtue of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently comes to fill features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is the contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of topsoils, subsoils and rocks into which these features have been cut, which causes the most recognisable responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or the bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected.

The magnetic susceptibility of a soil can also be enhanced by the application of heat. This effect can lead to the detection of features such as hearths, kilns or areas of burning.

Types of magnetic anomaly

In the majority of instances anomalies are termed 'positive'. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as 'negative' anomalies that, conversely, means that the response is negative relative to the mean magnetic background.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories that are used in the graphical interpretation of the magnetic data:

Isolated dipolar anomalies (iron spikes) These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

Areas of magnetic disturbance These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

Linear trend This is usually a weak or broad linear anomaly of unknown cause or date. These anomalies are often caused by agricultural activity, either ploughing or land drains being a common cause.

Areas of magnetic enhancement/positive isolated anomalies Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response (sometimes only visible on an XY trace plot) on two or three successive traverses. In neither instance is there the intense dipolar response characteristic exhibited by an area of magnetic disturbance or of an 'iron spike' anomaly (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post-holes or by kilns. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

Linear and curvilinear anomalies Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

APPENDIX 2 SURVEY LOCATION INFORMATION

An initial survey base station was established using a Trimble VRS differential Global Positioning System (dGPS). The magnetometer data was georeferenced using a Trimble RTK differential Global Positioning System (Trimble R8s model).

Temporary sight markers were laid out using a Trimble VRS differential Global Positioning System (Trimble R8s model) to guide the operator and ensure full coverage. The accuracy of this dGPS equipment is better than 0.01m.

The survey data were then super-imposed onto a base map provided by the client to produce the displayed block locations. However, it should be noted that Ordnance Survey positional accuracy for digital map data has an error of 0.5m for urban and floodplain areas, 1.0m for rural areas and 2.5m for mountain and moorland areas. This potential error must be considered if coordinates are measured off hard copies of the mapping rather than using the digital coordinates.

Headland Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party.

APPENDIX 3 GEOPHYSICAL SURVEY ARCHIVE

The geophysical archive comprises an archive disk containing the raw data in XYZ format, a raster image of each greyscale plot with associate world file, and a PDF of the report.

The project will be archived in-house in accordance with recent good practice guidelines (http://guides.archaeologydataservice.ac.uk/g2gp/Geophysics_3). The data will be stored in an indexed archive and migrated to new formats when necessary.

APPENDIX 4 DATA PROCESSING

The gradiometer data has been presented in this report in processed greyscale and minimally processed XY trace plot format.

Data collected using RTK GPS-based methods cannot be produced without minimal processing of the data. The minimally processed data has been interpolated to project the data onto a regular grid and de-striped to correct for slight variations in instrument calibration drift and any other artificial data.

A high pass filter has been applied to the greyscale plots to remove low frequency anomalies (relating to survey tracks and modern agricultural features) in order to maximise the clarity and interpretability of the archaeological anomalies.

The data has also been clipped to remove extreme values and to improve data contrast.

APPENDIX 5 OASIS DATA COLLECTION FORM: ENGLAND

OASIS ID: headland5-284195

PROJECT DETAILS	
Project name	Land at Tothill Street, Minster in Thanet, Kent
Short description of the project	Headland Archaeology (UK) Ltd undertook a geophysical (magnetometer) survey, covering 17 hectares, on land west of Tothill Street, Minster in Thanet, to inform future archaeological strategy in advance of a proposed residential development. The proposed development is located on a prominent chalk escarpment upon which multi-period remains (prehistoric - Saxon) have been revealed from extensive cropmarks and subsequently confirmed by extensive archaeological investigations. The survey has confirmed and enhanced the cropmark data by identifying, and accurately locating, five ring-ditches (probable round-barrows), a trackway, an area of possible roadside settlement activity and five enclosures. Based on the results and interpretation of the geophysical survey the archaeological potential in the north of the site is assessed as moderate to high, and locally very high in the vicinity of the identified anomalies. Fewer anomalies of archaeological potential have been identified on the lower-lying slope in the south and here, the archaeological potential is generally assessed as moderate, but locally high.
Project dates	Start: 14-11-2017 End: 17-11-2017
Previous/future work	Not known / Not known
Any associated project reference codes	TMTK - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 4 - Character Undetermined
Monument type	N/A None
Monument type	N/A None
Significant Finds	N/A None
Significant Finds	N/A None
Methods & techniques	"Geophysical Survey"
Development type	Housing estate
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application
Solid geology (other)	Seaford and Margate chalk
Drift geology (other)	Head – clay and silt
Techniques	Magnetometry

PROJECT LOCATION	
Country	England
Site location	KENT THANET MINSTER LAND AT TOTHILL STREET, MINSTER IN THANET
Study area	17 Hectares
Site coordinates	TR 3075 6545 51.340575642624 1.313508348144 51 20 26 N 001 18 48 E Polygon

PROJECT CREATORS	
Name of Organisation	Headland Archaeology
Project brief originator	Archaeology Collective
Project design originator	Headland Archaeology

Project director/manager	Webb, A.
Project supervisor	Turner, J
Type of sponsor/funding body	Developer

PROJECT ARCHIVES	
Physical Archive Exists?	No
Digital Archive recipient	In house
Digital Contents	"other"
Digital Media available	"Geophysics"
Paper Archive Exists?	No

PROJECT BIBLIOGRAPHY 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Land at Tothill Street, Minster in Thanet, Kent: Geophysical Survey
Author(s)/Editor(s)	Harrison, D.
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