



**Archaeological geophysical survey at
Old Tiffield Road
Towcester
Northamptonshire
February 2022**

Report No. 22/015

HER Event No. ENN110515

Author: Adam Meadows

Illustrators: Adam Meadows and Carla Ardis



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Project Manager: John Walford

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Project: Towcester, Old Tiffield Road		OASIS No: molanort1-504570	
ACTIVITY TYPE			
Project/Activity type	Geophysical survey		
Reason for investigation	Planning: Between application and determination		
Development type	Non-residential development		
Planning reference ID	WNS/2021/2003/MAF		
PROJECT LOCATION			
National grid ref	SP 692 497		
Site name	Old Tiffield Road, Towcester		
REVIEWERS/ ADMIN			
HER for project	Northamptonshire (HER No. ENN110515)		
National organisation	Historic England		
WORK UNDERTAKEN			
Methodological summary	Magnetometer survey with a cart-mounted array of Bartington Grad-01-100L fluxgate gradiometers		
Previous work?	None	Future works?	Yes
Dates - Start date:	03-02-22	End date:	03-02-22
GEOPHYSICS			
Geology	Whitby Mudstone. No drift geology recorded		
Land use (i.e. arable)	Grassland - undifferentiated		
Size of survey area	c0.7ha		
Survey type	Magnetometer survey		
Instrumentation	Bartington Grad-01-1000L	Fluxgate – Multiple sensor	
Configuration	Pushed cart survey (6-probe array)		
Spatial resolution	Traverse spacing	0.8m	Reading interval 0.225m
Resolution (data values)	1nT		
BIBLIOGRAPHY			
Title	Archaeological geophysical survey at Old Tiffield Road, Towcester, Northamptonshire, February 2022		
Author(s)	John Walford		
Publisher / place / date	MOLA Northampton / Northampton / 2022		
Report number	22/015		
Report release delay?	6 months		
PEOPLE			
Organisation	MOLA		
Project manager	John Walford		
Project supervisor	Adam Meadows		
Funding body	RPS Group		
KEYWORDS			
Monuments found/ date	Undated ditch Medieval ridge and furrow		
RESULTS			
Description of outcomes	The survey detected a weak linear anomaly alongside two discrete anomalies that may prove to have archaeological origins, perhaps representing a ditch and two pits. Surviving medieval ridge and furrow cultivation was observed and detected over much of the northern portion of site, with patches of disturbed ground found along the southern half.		

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Archaeological geophysical survey at Old Tiffield Road, Towcester Northamptonshire February 2022

ABSTRACT

MOLA (Museum of London Archaeology) was commissioned to undertake a geophysical survey on scrub land located at the end of Old Tiffield Road, on the northern side of Towcester, Northamptonshire. The survey detected a weak linear anomaly alongside two discrete anomalies that may prove to have archaeological origins perhaps representing a ditch and two pits. Surviving medieval ridge and furrow cultivation was observed and detected over much of the northern portion of site, with patches of disturbed ground found along the southern half.

1 INTRODUCTION

MOLA (Museum of London Archaeology) was commissioned by RPS Group to undertake a magnetometer survey on land located at the end of Old Tiffield Road, to the north of Towcester, Northamptonshire (NGR SP 692 497) (Fig 1). The purpose of the survey was to investigate whether the site contained any archaeological remains which might be affected by a proposed development scheme.

The survey was conducted on 3rd February 2022. The survey methodology complied with a generic Written Scheme of Investigation (WSI) for surveys in Northamptonshire (Walford 2019) and with Chartered Institute for Archaeologists and European Archaeological Council guidelines (ClfA 2014 and Schmidt *et al* 2015). The work has been recorded by the Northamptonshire Historic Environment Record (NHER) under the event number ENN110515.

2 BACKGROUND

2.1 Location, geology and topography

The site is positioned at the northern end of Old Tiffield Road. Triangular in form, it is bounded by the tree-lined A43 to the north and west, a tree-lined stream with modern houses beyond to the east and a road lined with industrial units to the south. The ground conditions were that of recently mown waste ground that had been previously subject to geological test pitting.

The site elevation is fairly level, lying c90m above Ordnance Datum and falling slightly to the east to where the stream currently runs.

The recorded bedrock geology comprises Whitby Mudstone Formation rocks of the Jurassic period, overlain in part to the north by superficial deposits of Oadby Member Diamicton of the Quaternary period (BGS 2022).

2.2 Historical and archaeological background

The NHER notes that the survey area is located in an area of preserved medieval ridge and furrow cultivation, as recorded during the Open Fields Project in 2001 (HER No.6048/0/7 - MNN132472). No records exist to suggest that archaeological fieldwork has previously taken place in this area.

A find spot for a prehistoric stone axe is recorded in the modern housing estate located immediately east of the survey area. The axe, which was recovered in 1992, is described as being in very good condition, and composed of a fine-grained metamorphic rock, possibly jadeite (6043/0/0).

Archaeological works located in proximity to the Bell Plantation, c400m west of the survey area, uncovered a boundary ditch of late Iron Age to early Roman date (ENN109463). Trial trench evaluations conducted to the north and east of this farm have uncovered two potential Iron Age settlement zones (ENN110242, ENN110513, Wolf 2021).

There is an abundance of Roman features in proximity to the survey area, as Towcester was the site of the Roman town *Lactodurum* and the A5 broadly follows the course of the Roman road Watling Street.

Several small-scale pieces of work have occurred near to the A43 and A5 junction, comprising watching briefs and localised trenching jobs. These works, completed in 1986, 1988 and 1990, are thought to have identified the location of a northern suburb of the Roman town, with buildings lining the eastern frontage of Watling Street, boundary ditches running in parallel with the road creating plots and evidence of industry and metalworking recovered (726/20).

Within 100m south-west of the survey area a watching brief was conducted by Northamptonshire Archaeology in 2003 at the Tove Valley Business Park. Here three pits and several heavily truncated ditches were unearthed, containing pottery dating between the 2nd to 4th centuries. This site is thought to represent part of a minor settlement or the periphery of *Lactodurum* (726/20/6, Chapman 2004).

Eleven Roman potsherds have been found close to the A5 at Bell Plantation, to the west of the survey area (726/0/0, MNN37001). Unstratified Roman coins dating from the 3rd and 4th century were recovered to the south-east of Bell Plantation, by the A43 and A5 roundabout (726/0/0, MNN19079). Further Roman pottery, including a complete vessel was recovered in the 1940s with an approximate location given c300m north-west of the survey area (5480/0/0).

As previously stated, the NHER records medieval ridge and furrow cultivation in the survey area. These earthworks survive on the surface, indicating the land was used exclusively for agricultural purposes and any structures or other features of this age are unlikely to be present.

The route of the mid 19th-century Stratford-upon-Avon and Midland Junction Railway lies directly adjacent to the northern edge of the survey area. The surviving bank is now lined with trees, with the A43 running in parallel just to the north.

3 METHODOLOGY

The magnetometer survey was undertaken with a Bartington magnetometer cart. This is a two-wheeled, lightweight sensor platform designed to be pushed by hand. It incorporates a bank of six vertically mounted Bartington Grad-01-1000L magnetic sensor tubes, spaced at sub-metre intervals along a bar aligned crossways to the direction of travel. It also incorporates a Leica Geosystems Viva GPS antenna mounted on the central axis, 1.02m astern of the sensors. The magnetic sensors each output data at a rate of eight readings per second and the GPS antenna outputs NMEA format data (GGA messages) at a rate of one position per second. These data streams are compiled into a single raw data file by MultiGrad601 logging software.

The cart was propelled along straight and parallel traverses across the survey area, with data logging being manually toggled on and off at the start and end of each traverse to avoid the collection of spurious data whilst turning. Traverse ends were marked with ranging poles to aid even coverage, and the evenness of coverage was further checked by monitoring the positional trace plotted in real time by the MultiGrad601 logging software. The average speed of coverage was c1.8m/s, with an effective data resolution thus approximated to better than 0.225m x 0.50m.

The raw survey data was initially processed with MLGrad601 software, which calculated an actual UTM co-ordinate for each data point by interpolating the GPS readings and applying offset corrections based on the array geometry and calculated heading direction. This produced an output file in XYZ format which could be imported into TerraSurveyor software for data visualisation and further processing.

The raw data exhibited minor striping caused by slight mismatches in the calibration of the individual magnetic sensors (Fig 4). This was removed in TerraSurveyor by applying the median de-stripe function to runs of data from each sensor.

The processed survey data is presented in this report as a greyscale raster image (range $\pm 3nT$) which has been rotated and scaled to fit against Ordnance Survey base-mapping (Fig 2). An interpretive overlay is presented over the results at the same scale (Fig 3). A minimally processed data plot is similarly presented at a scale of $\pm 10nT$ (Fig 4).

4 SURVEY RESULTS

A weak positive linear anomaly is present in the western corner of the survey data, oriented approximately north to south. On either end, though not obviously connected, are two small weakly positive anomalies. These anomalies may represent a ditch with a pit located near either end. The age and purpose of these potential features is not known.

The northern part of the data exhibits broad, magnetically positive, linear anomalies running on a roughly east to west alignment, with narrower magnetically negative linear anomalies running in parallel along their southern edges. These positive linear anomalies represent medieval ridge and furrow cultivation that terminate at a break of slope to the east, correlating with a weak negative linear anomaly aligned north to south, which may represent a plough headland.

Most of the southern portion of the site is covered by a dense scattering of magnetic dipoles, often appearing as positive points with negative halos or as blobular anomalies with opposing poles. These are, in the main, likely to represent small, buried ferrous objects, though the large solitary anomaly to the east corresponds to a manhole cover (*pers obs*). The lack of ridge and furrow in this area, as well as the presence of so much ferrous debris, suggests that the ground has been recently disturbed.

5 CONCLUSION

The survey has mapped a few traces of potential archaeology near to the western limit of the survey area, these perhaps comprising a ditch and two pits. There is no indication of the date of these putative features, though it is possible they may be a continuation of the rather fragmentary Roman remains previously identified to the south-west (Chapman 2004).

The remains of medieval ridge and furrow were largely detected in the northern portion of the survey area. The presence of these earthworks implies that this part of the area has seen very little ploughing or other disturbance since the enclosing of the open field systems in the eighteenth or nineteenth century.

The data from the southern portion of site is dominated by abundant ferrous anomalies suggestive of a layer of modern building spoil or hardcore. This correlates well with satellite imagery from 2004, displaying the area as being stripped, at least of vegetation (Google Earth, image dated 19/6/2004). At that time, many of the buildings along Old Tiffield Road were still under construction, so this may have been the site of a compound for these works. This area of site presently lies a fraction higher than the northern portion, and the observed test pit spoil here having a comparatively high sand and gravel content (*pers obs*). This suggests the area may have been raised for the compound rather than being subject to intrusive groundworks to level the area; if so then a natural soil horizon may be preserved below.

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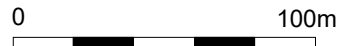
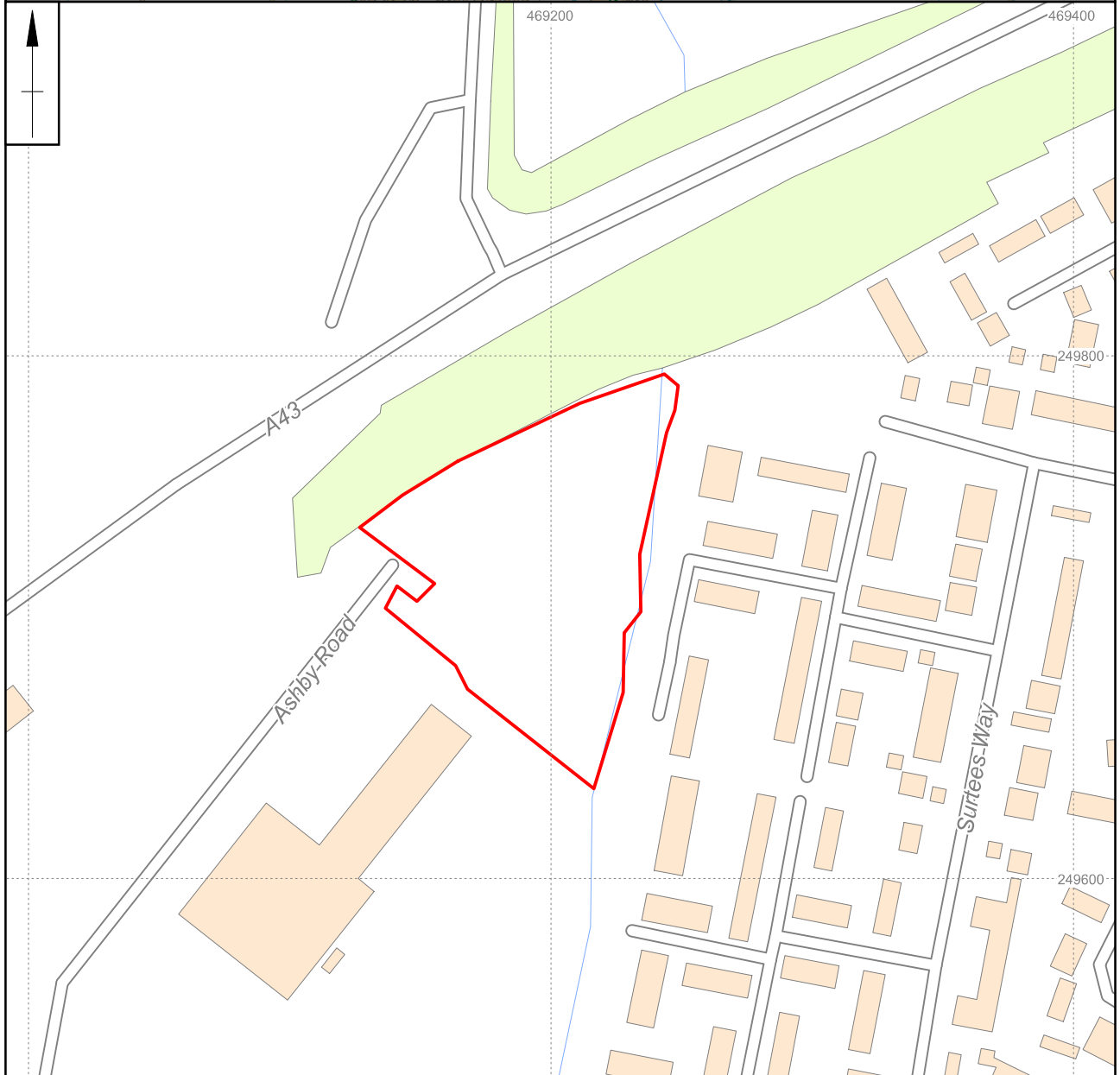
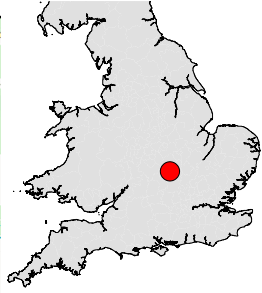
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MOLA

February 2021



 Site location

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Scale 1: 1000

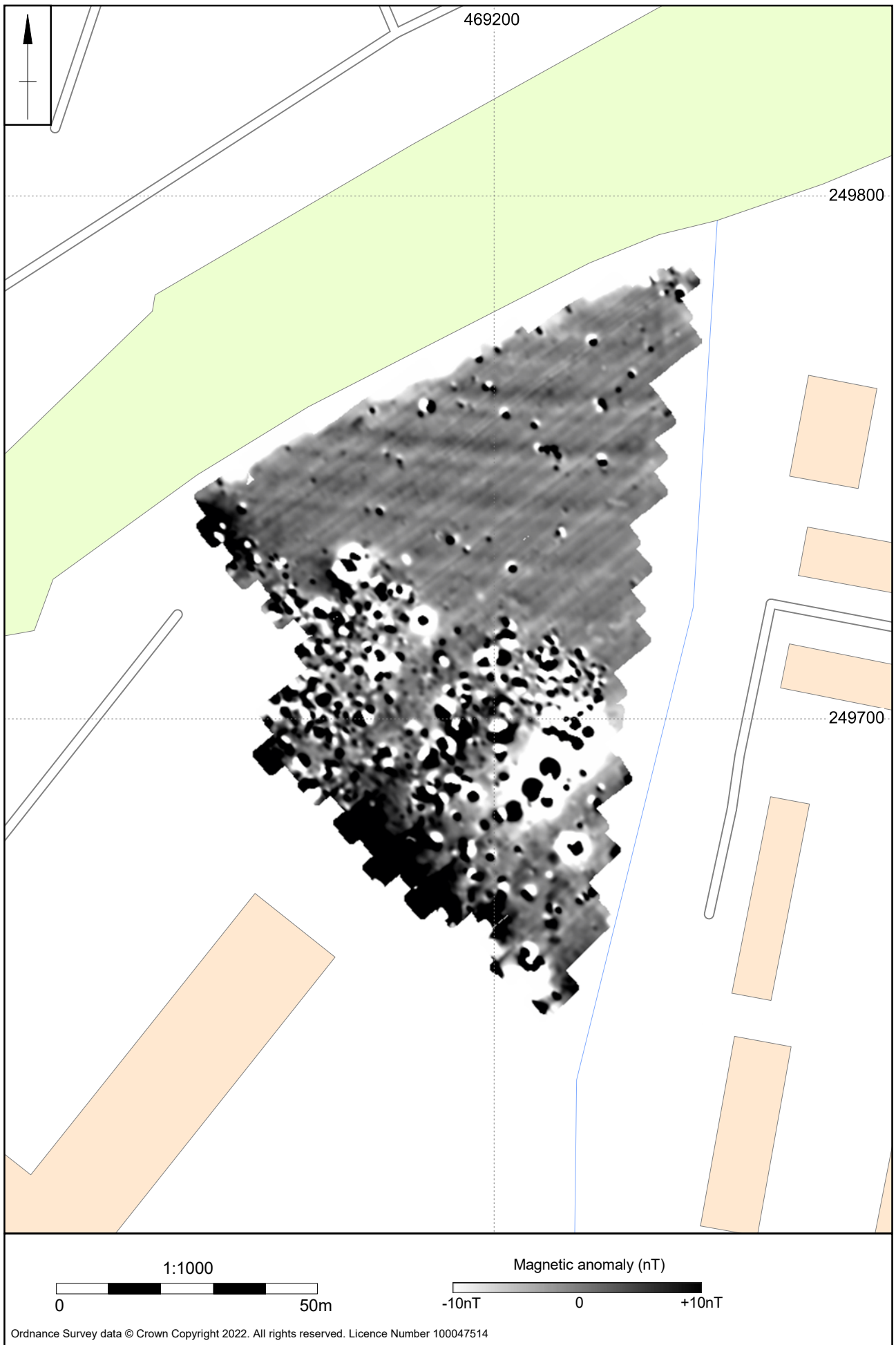
Processed magnetometer data Fig 2

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Scale 1: 1000

Magnetometer survey data interpretation Fig 3



Scale 1: 1000

Unprocessed magnetometer data Fig 4



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