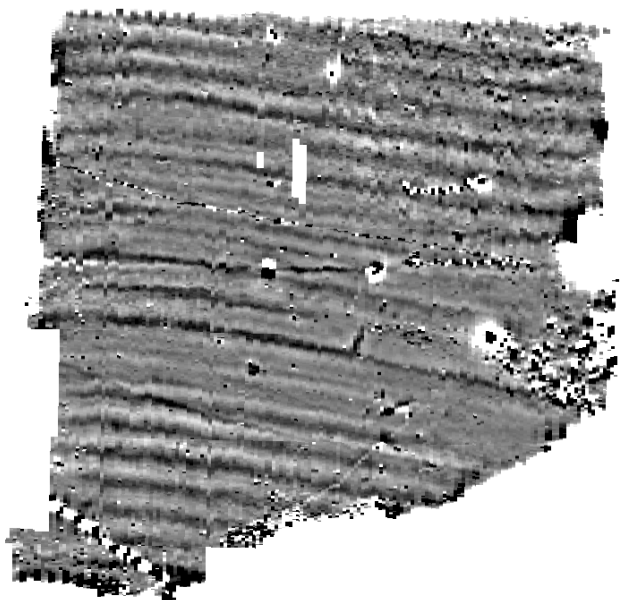




Northamptonshire Archaeology

Archaeological Geophysical Survey of Land off
Waters Lane, Middleton Cheney, Northamptonshire
November 2011



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Report 11/237

November 2011



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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey of land off Waters Lane, Middleton Cheney, Northamptonshire, November 2011	
Short description	Northamptonshire Archaeology was commissioned to carry out magnetometer survey in advance of a proposed development scheme at Waters Lane, Middleton Cheney, Northamptonshire. An area of c 2.4ha was subject to detailed magnetometer survey. This revealed at least two ditches and a possible pit of apparently pre-medieval date. There is evidence that these features have been intersected by ridge and furrow cultivation of probable medieval origin. Pipelines and other likely modern features were also mapped.	
Project type	Geophysical survey	
Site status	None	
Previous work	Desk-Based Assessment (Flitcroft 2011)	
Current Land use	Pasture	
Future work	Unknown	
Monument type/ period	Undated ditches and pit, medieval or later ridge and furrow	
Significant finds		
PROJECT LOCATION		
County	Northampton	
Site address	Waters Lane, Middleton Cheney	
Study area	c 2.4ha	
OS Easting & Northing	SP 505 420	
Height OD	c 130m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	CgMs Ltd	
Project Design originator	NA	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler	
Sponsor or funding body	CgMs Ltd.	
PROJECT DATE		
Start date	4 November 2011	
End date	11 November 2011	
ARCHIVES		
	Location	Content
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey of land off Waters Lane, Middleton Cheney, Northamptonshire, November 2011	
Serial title & volume	Northamptonshire Archaeology Reports 11/237	
Author(s)	Adrian Butler	
Page numbers	5	
Date	14 November 2011	

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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF
LAND OFF WATERS LANE, MIDDLETON CHENEY, NORTHAMPTON
NOVEMBER 2011**

ABSTRACT

Northamptonshire Archaeology was commissioned to carry out magnetometer survey in advance of a proposed development scheme at Waters Lane, Northamptonshire. An area of c 2.4ha was subject to detailed magnetometer survey. This revealed at least two ditches and a possible pit of apparently pre-medieval date. There is evidence that these features have been intersected by ridge and furrow cultivation of probable medieval origin. Pipelines and other likely modern features were also mapped.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by CgMs Ltd to carry out detailed geophysical survey by magnetic gradiometer, on land west of Waters Lane, Middleton Cheney, Northamptonshire. The survey area consisted of a pasture field, c 2.4ha in extent, centred at NGR SP 505 420 (Fig 1). The aim of the survey was to determine whether the site contained archaeological remains which could be damaged or destroyed by the proposed development.

2 TOPOGRAPHY AND GEOLOGY

The survey area comprises a single pasture field on the eastern side of Middleton Cheney. It stands at an elevation of c 130m AOD and is broadly level with only a slight slope down to the east.

The underlying geology consists of strata belonging to the Lias group. Lias silts occur in the south-west, whilst the remainder of the site is underlain by the Marlstone Rock Bed (BGS 2011).

3 ARCHAEOLOGICAL BACKGROUND

A desk-based assessment carried out by CgMs Consulting (Flitcroft 2011) indicated little archaeological activity within the proposed development site. There are no prehistoric sites within 500m of this area, although there is a possible Bronze Age barrow (HER184) 800m to the east and a settlement site of Iron Age or Romano-British date (HER191) also 800m to the east.

Anglo-Saxon burials had been interred within the Bronze Age barrow (HER184), but any other Saxon remains would likely lie within the medieval core of Middleton Cheney. Aerial photographs show ridge and furrow of the medieval field cultivation system aligned east to west within the proposed development area, and relict ridge and furrow earthworks (HER6415/0/6) lie immediately north of the site. The site therefore lay within the medieval open fields, which were later enclosed in the 18th century and continued to be used for agricultural purposes.

There is the moderate possibility of prehistoric features within the site, particularly those of the later Iron Age and into the Roman, due to the exploitation of clay-based soils at that time. From the medieval period onwards, however, the area was continually used agriculturally so it is unlikely that any non-agricultural features would be present from the medieval period onwards.

4 METHODOLOGY

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

A tape measure and optical square were used to divide the survey area into a grid of 30m squares, and this grid was tied in to the Ordnance Survey National Grid with a Leica Systems 1200 dGPS. The gradiometers were carried at a brisk but steady pace through each grid square, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per square.

All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; IfA forthcoming).

The survey data was processed using Geoplot 3.00v software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of a grey-tone plot, at a scale of +/- 10nT black/white. The plot has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative overlay has been produced and is shown in Figure 3. A plot of the minimally processed 'raw' survey data is given in Figure 4.

5 SURVEY RESULTS

The most striking aspect of the magnetometer survey results from Middleton Cheney are the repeated parallel positive and negative anomalies aligned approximately east to west across the field (Figs 2 & 3). These are likely to reflect denuded medieval ridge and furrow ploughing with a furrow - furrow width of c 7m.

A chain of alternating highly positive and negative magnetic anomalies recorded orientated north-west to south-east through the south of the survey area is likely to reflect a ferrous pipeline, possibly connected to the housing to the west and south. An area of noisy magnetic responses, probably indicating a dump of ferrous and ceramic (i.e brick) material, was detected adjacent to the south-eastern boundary of the field. Orientated north-east from this area, survey recorded a linear negative magnetic anomaly. Such anomalies may represent features such as plastic pipes, which have little intrinsic magnetism and are generally filled with gas or water. In this case, that explanation is persuasive as there is a ferrous anomaly approximately 2/3 north-east along the pipe, putatively a steel joint or valve.

Within the centre of the southern half of the field a linear positive anomaly, possibly a buried ditch, was detected on a south-east to north-west orientation. To the north of this, a likely pit (c 3m diameter), was represented by a large, discrete positive magnetic anomaly. Where a furrow anomaly intersects the pit a slight extension of the higher

readings to the east suggests that magnetically enhanced material from the pit has been dragged by the plough, obviously more recently in history. The second furrow to the north is shadowed by a more highly magnetic linear anomaly along the western half, turning sharply to the north at the eastern end. As with the pit feature, this probable ditch may have enhanced the remainder of the fill of the furrow to the east through plough dragging action.

To the north again, survey located a linear positive magnetic anomaly aligned west to east. This feature was punctuated at two points by large ferrous anomalies, and at the eastern end a linear anomaly representing a ferrous pipe (see above) extended eastward. As a group, this feature suggests an iron pipe in the east of the survey area converting to non-ferrous utility for the remainder of its run. The other possibility is that the remaining iron pipe has been removed, leaving a trench behind.

A line of magnetic dipoles (paired positive/negative anomalies) situated south-east to north-west across the field from the eastern boundary is likely to reflect a partially metalled track that crosses the area. Several larger ferrous anomalies and a short iron pipe are situated in the northern half of the field. A large area of magnetic noise – ferrous and ceramic debris – was located adjacent to the eastern boundary on Waters Lane.

6 CONCLUSION

The survey has located at least two ditches and a possible pit of apparently pre-medieval date. There is evidence that these features have been intersected by ridge and furrow cultivation of probable medieval origin. Pipelines and other likely modern features were mapped.

BIBLIOGRAPHY

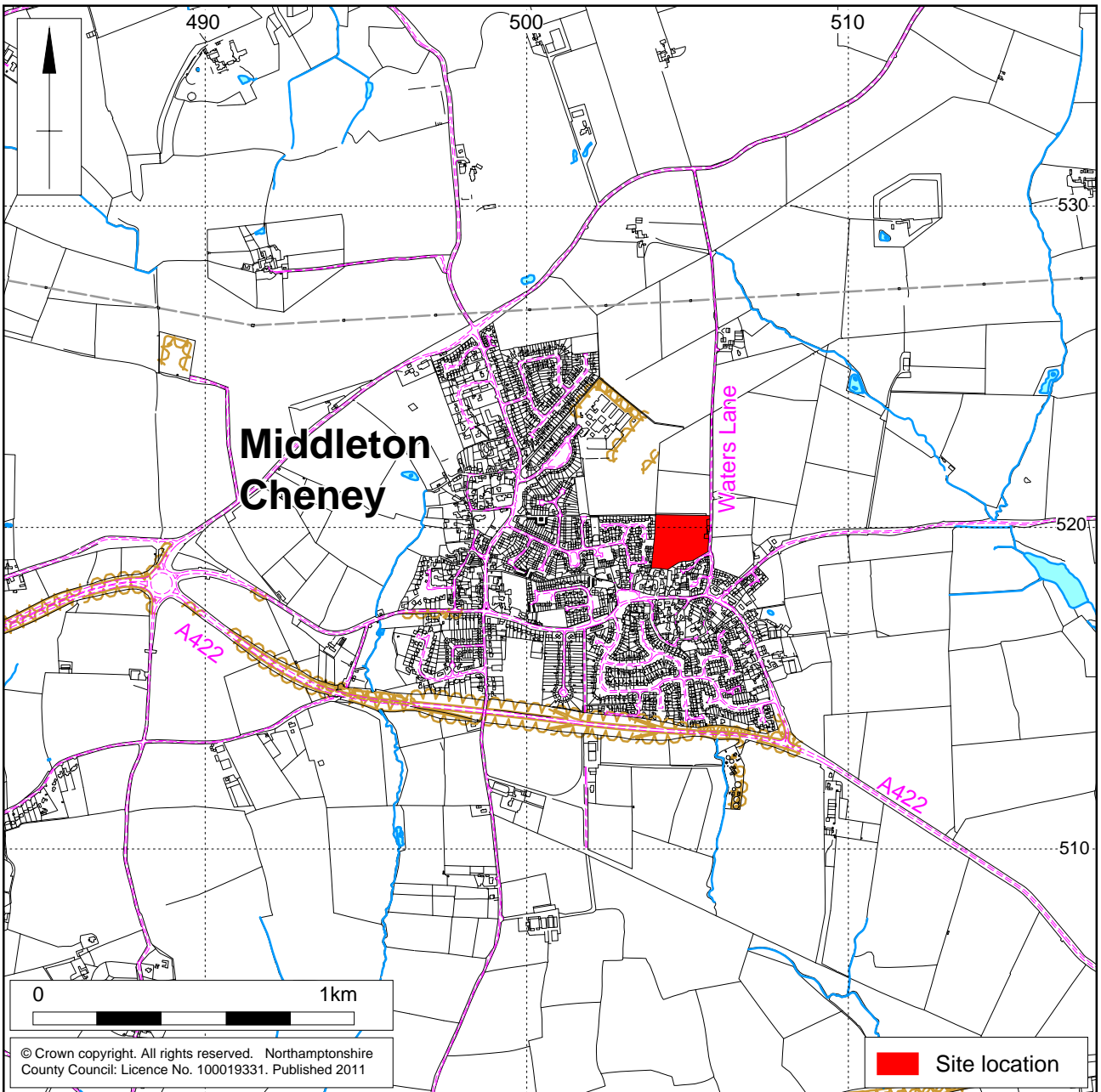
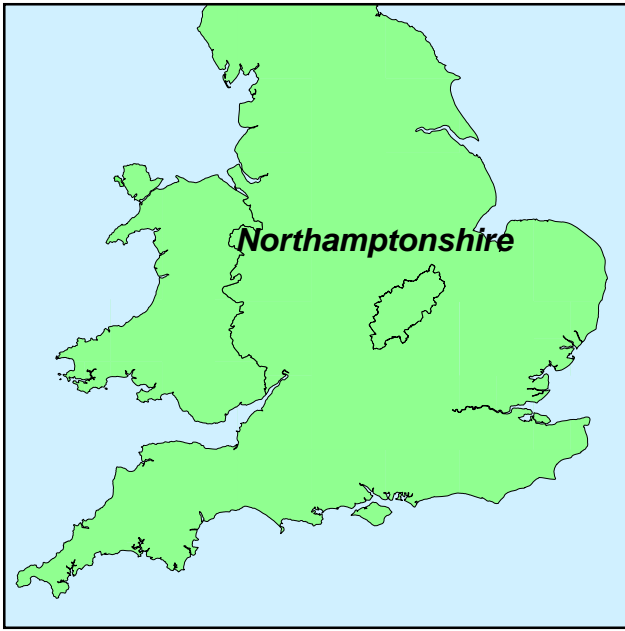
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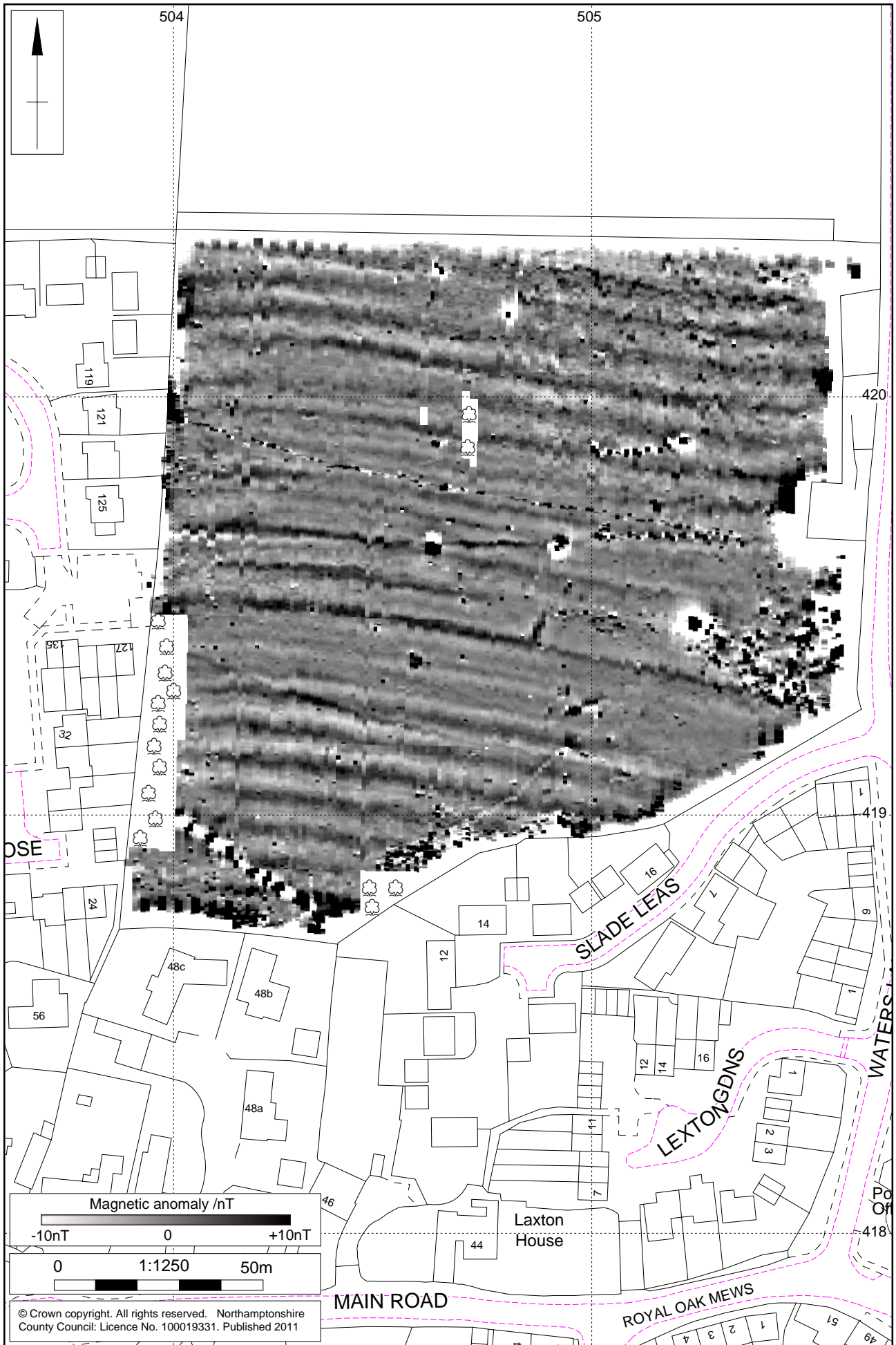
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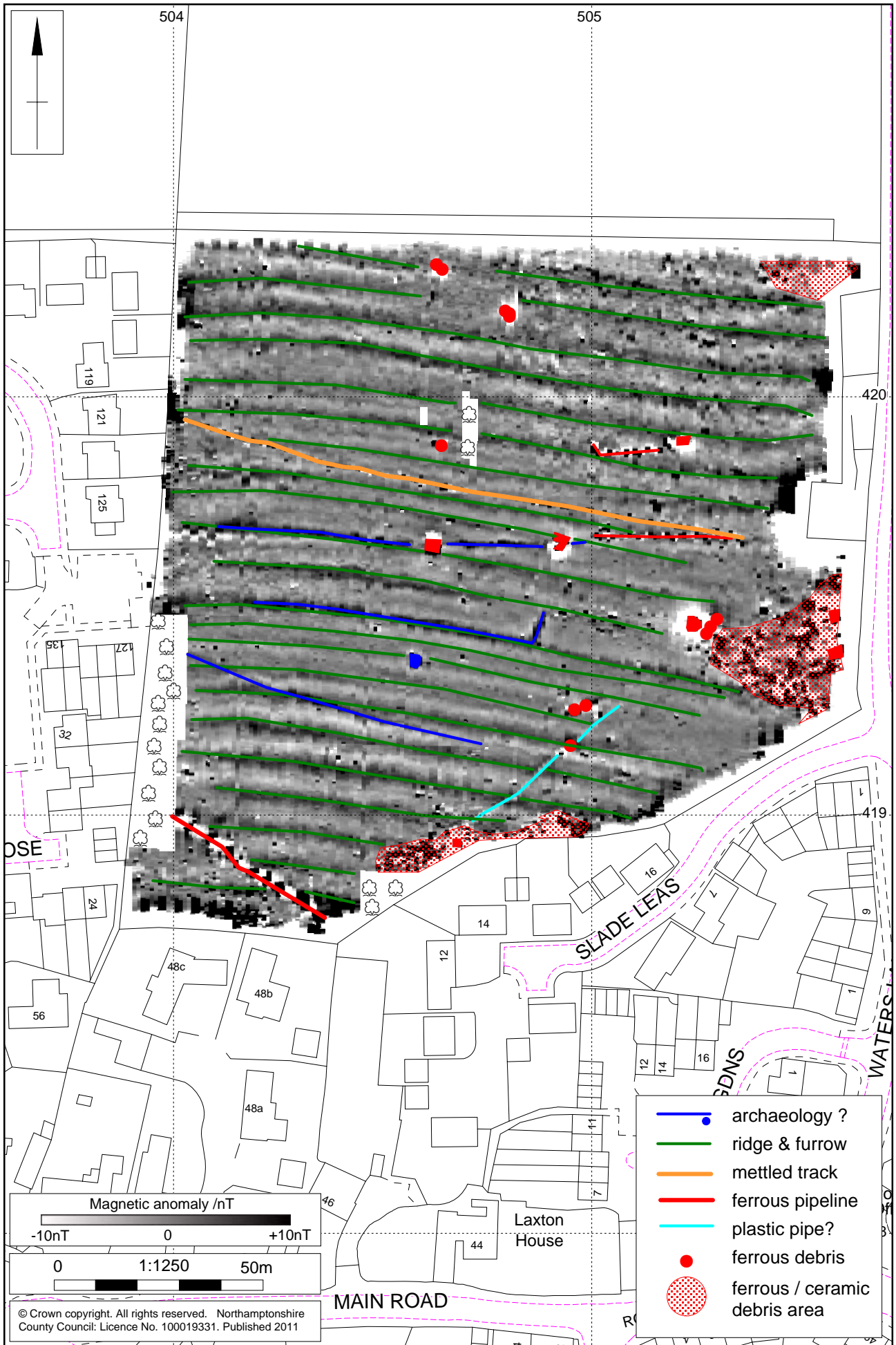
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Scale 1:20,000

Site location Fig 1







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