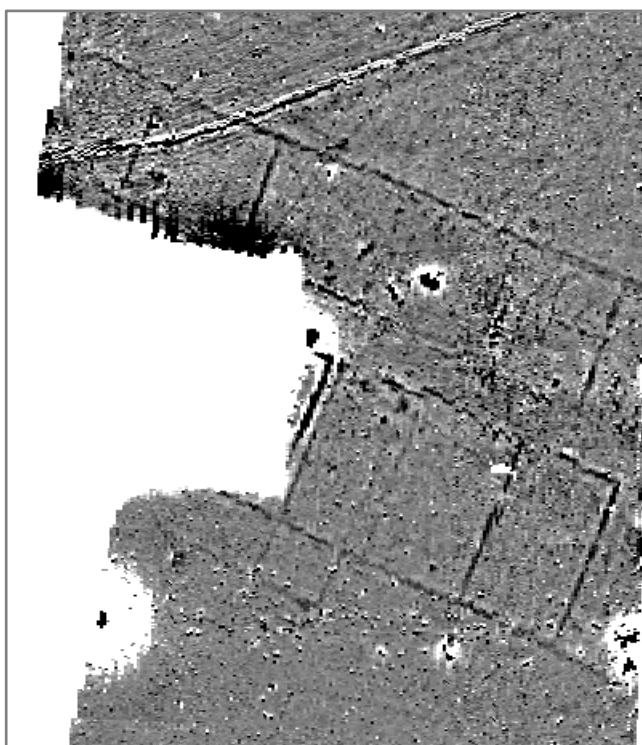




# Northamptonshire Archaeology

## Archaeological Geophysical Survey at Ravenstone Road, Ibstock, Leicestershire



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Report 11/287

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## QUALITY CONTROL

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Approved by	S. Parry	<i>SP</i>	30/12/11

## OASIS REPORT FORM

<b>PROJECT DETAILS</b>		
Project name	Archaeological Geophysical Survey at Ravenstone Road, Ibstock, Leicestershire	
Short description	Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of a proposed development site located to the east of Ravenstone Road, Ibstock, Leicestershire. This survey, which covered an area of c 10 ha, mapped part of a substantial Roman roadside settlement lying along the course of the Via Devana. Several highly magnetic anomalies were detected, and these are thought to indicate the locations of kilns or similar industrial features. Some traces of ridge and furrow were also detected.	
Project type	Geophysical survey	
Site status	None	
Previous work	None known	
Current Land use	Arable and paddocks	
Future work	Unknown	
Monument type/ period	Roman town, Roman road, Roman kilns, Medieval ridge and furrow	
Significant finds		
<b>PROJECT LOCATION</b>		
County	Leicestershire	
Site address	Ravenstone Road, Ibstock	
Study area	c10ha	
OS Easting & Northing	SK 406 113	
Height OD	c 140 m AOD	
<b>PROJECT CREATORS</b>		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	CgMs Consulting Ltd	
Project Design originator	NA	
Director/Supervisor	John Walford	
Project Manager	Adrian Butler	
Sponsor or funding body	CgMs Consulting Ltd	
<b>PROJECT DATE</b>		
Start date	14 December 2011	
End date	30 December 2011	
<b>ARCHIVES</b>	Location	Content
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
<b>BIBLIOGRAPHY</b>	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey at Ravenstone Road, Ibstock, Leicestershire	
Serial title & volume	Northamptonshire Archaeology Reports 11/287	
Author(s)	John Walford	
Page numbers	6	
Date	30 December 2011	

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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY AT  
RAVENSTONE ROAD, IBSTOCK, LEICESTERSHIRE  
DECEMBER 2011**

**ABSTRACT**

*Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of a proposed development site located to the east of Ravenstone Road, Ibstock, Leicestershire. This survey, which covered an area of c 10 ha, mapped part of a substantial Roman roadside settlement lying along the course of the Via Devana. Several highly magnetic anomalies were detected, and these are thought to indicate the locations of kilns or similar industrial features. Some traces of ridge and furrow were also detected.*

**1 INTRODUCTION**

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting to conduct an archaeological geophysical survey in advance of a proposed development at Ravenstone Road, Ibstock, Leicestershire (NGR SK 406 113; Fig 1). The survey area encompassed one arable field (Field 1) and two paddocks (Fields 2 and 3) and was approximately 10 ha in extent. The aim of the survey was to map the Roman remains which were known to exist within the proposed development area, and to determine whether any additional, unknown remains were present.

**2 TOPOGRAPHY AND GEOLOGY**

The survey area lies immediately to the north of Ibstock, on the east side of Ravenstone Road. It stands at an approximate elevation of 140m AOD and is mildly undulating in character with an overall slope down to the east.

The solid geology of the survey area is mapped as the Radcliffe member of the Sidmouth Mudstone Formation (formerly known as the Lower Keuper Marl). A capping of glacial till is present in the south of the area (BGS 2011).

### 3 ARCHAEOLOGICAL BACKGROUND

The proposed development area straddles part of a substantial but poorly investigated Roman settlement, which Peter Liddle has classified as a 'small town' (Liddle 2004: 68-9). Cropmarks and fieldwalking evidence suggest that it was linear in plan, and extended for a distance of at least 1km along the line of a Roman road, the *Via Devana* (Fig 2). Piecemeal salvage excavation and watching briefs on the western half of the town, in advance of open-cast mining, have recorded various boundary ditches, structural remains and kilns, but it appears that much else may have been destroyed without adequate record (Lucas 1981, Liddle 2004).

Immediately south-west of the proposed development area lies the Ashby Road site, where Northamptonshire Archaeology undertook a magnetometer survey in 2010 (Fig 2). This survey detected very little of archaeological interest, apart from a single pit and some very slight traces of ridge and furrow cultivation (Butler 2010).

### 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 Fields 1, 2 and 3 into 30m grids, each of which was tied in to the Ordnance Survey National Grid with a Leica Systems 1200 dGPS. The gradiometers were then 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 2011).

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 +/- 4nT black/white. The plot has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 3). An interpretative overlay has been produced and is shown in Figure 4. A plot of the raw (unprocessed) survey data is given in Figure 5.

## **5 SURVEY RESULTS**

### **Field 1 (Figs 3-4)**

The survey results clearly show the Roman road (Via Devana) and settlement, confirming the general impression given by the cropmarks (Fig 2) whilst adding a considerable amount of extra detail. Several outlying features of presumably similar date have also been detected.

The outline of the settlement is indicated by positive linear anomalies, which represent a coherent and well organised pattern of plot boundary ditches. The general plan consists of a central road corridor, approximately 12m wide, flanked by rows of contiguous plots. Those on the north extend back c 40m from the road frontage, whilst those on the south extend back c 55m. A pair of smaller annexes are appended to the rear of the southern row of plots.

Some of the plots contain internal features, represented by discrete positive magnetic anomalies. The weaker of these are likely to represent pits, whereas the larger and more highly magnetic ones most probably represent kilns or other high temperature industrial features. Industrial activity is also suggested by the very strong ditch anomaly which is located immediately to the rear of 67, Ravenstone Road. It is far more magnetic than any comparable anomaly on the site (maximum intensity 23nT), and this suggests that there is an abundance of ceramic material or slag filling the ditch which it represents.

Adjacent to the above mentioned ditch, there is a large ferrous anomaly of uncertain significance. It could represent a piece of modern scrap but, considering its location, it is

also possible that it represents an artefact of archaeological interest or (rather less probably) an iron smelting furnace.

Beyond the main area of settlement, a number of other archaeological anomalies have been detected. To the north there is a linear anomaly, indicating a ditch, and a weak 'L'-shaped anomaly which may represent two sides of a small ditched enclosure. A much stronger linear anomaly which passes through the same area is not archaeological, but instead indicates the line of a modern byway.

To the south of the settlement there is a barely perceptible 'L'-shaped anomaly which may represent part of an enclosure or field boundary. Further to the south and south east are two discrete anomalies which may represent kilns and two others which probably indicate a pit and a trench or short length of ditch.

On the western side of the field, very close to the hedgeline, is a massive ferrous anomaly with a 30m diameter halo. An ill-defined scatter of smaller ferrous anomalies extends almost due east from this, towards two further large anomalies on the eastern side of the field. It is likely that this scatter represents an accumulation of modern scrap along a former field boundary. For the most part, the anomalies will relate to small and insignificant objects (horseshoes, tractor parts, etc) but the western anomaly clearly indicates a much more substantial object. It is unlikely be of direct archaeological significance, but it should be considered as a possible obstruction to trial trenching or other groundworks.

Other ferrous anomalies and halos occur along the southern field boundary, where two sets of concrete lined manhole shafts indicate the presence of buried services.

### **Field 2 (Figs 3-4)**

The settlement detected in Field 1 extends into the northernmost part of Field 2, where a small group of positive anomalies represent part of a rectilinear enclosure. Further anomalies, which extend from north to south through this field, probably represent traces of ridge and furrow cultivation of medieval or later date. The ferrous halo which lies against the western hedgeline indicates the presence of an iron gate.



**Field 3 (Figs 3-4)**

Of the various linear anomalies detected in this field there is one, lying close to the eastern hedgeline, which may represent a length of ditch. Most of the remainder probably represent an area of ridge and furrow cultivation which trends approximately north-west to south-east.

The conspicuous linear anomaly which bisects the field from east to west coincides with the line of a small, well-defined, and fairly recent-looking ridge (*pers obs*). This may mark the course of a former field boundary. A much weaker anomaly which extends northwards from this feature is presumed to be of similar recent origin.

The ferrous halos which fringe the south-western edge of this field indicate the presence of iron railings and a water trough.

## **6 CONCLUSION**

The survey has successfully mapped an area of Roman settlement, comprising a regularly laid out set of plots arrayed along either side of a road. The plots are delineated by boundary ditches, and several contain internal features such as pits and kilns. There is no clear evidence for wall footings or other structural remains but such features are difficult targets for magnetometry (EH 2008: 14) and their absence may prove to be more apparent than real.

Several outlying features have been detected, but most of these are represented by such weak and fragmentary magnetic anomalies that their full significance and extent cannot be determined. This is a fairly common difficulty with magnetic survey, as the magnetic susceptibility of soil is often found to decrease away from core areas of habitation and industrial activity. This can result in archaeological features having little, if any, magnetic contrast with the undisturbed natural (Gaffney and Gater 2003, 126).

Apart from those remains mentioned above, the only other features of archaeological interest are the traces of ridge and furrow in Fields 2 and 3. The remaining anomalies detected by the survey all relate to modern features and, apart from one unusually large ferrous anomaly, are of very little significance.

## BIBLIOGRAPHY

Bartington, G, and Chapman, C, 2003 A high-stability fluxgate magnetic gradiometer for shallow geophysical survey applications, *Archaeological Prospection*, **11**, 19-34

BGS 2011, *Geology of Britain Viewer*, [http://maps.bgs.ac.uk/geologyviewer\\_google/googleviewer.html](http://maps.bgs.ac.uk/geologyviewer_google/googleviewer.html), consulted 29/12/2011

Butler, A, 2010 Archaeological Geophysical Survey at Ashby Road, Ibstock, Leicestershire, Northamptonshire Archaeology, report **10/27**

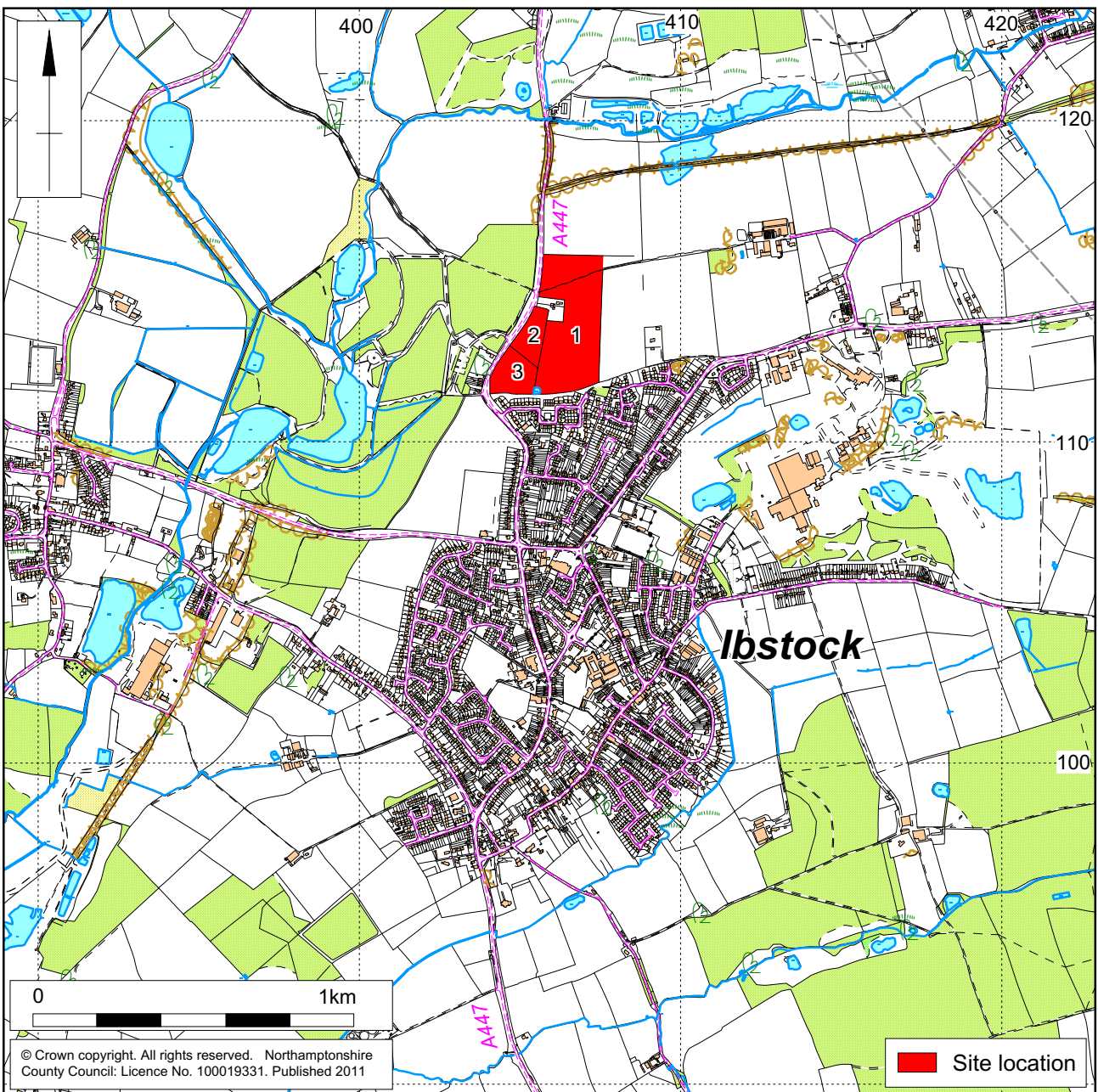
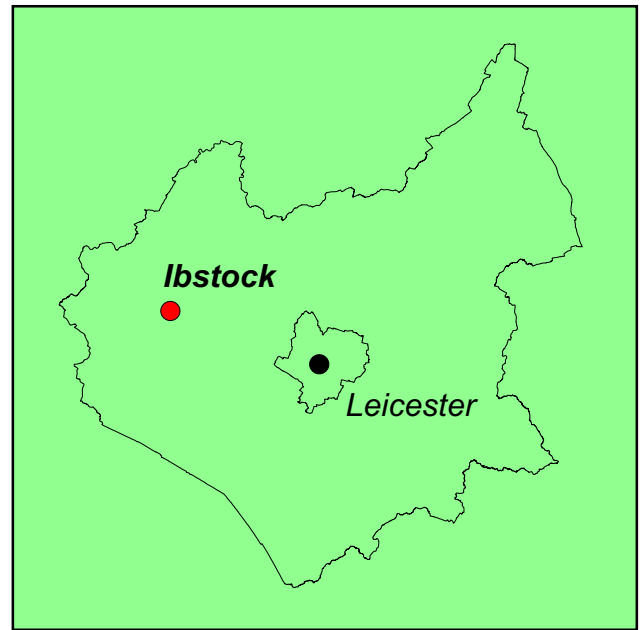
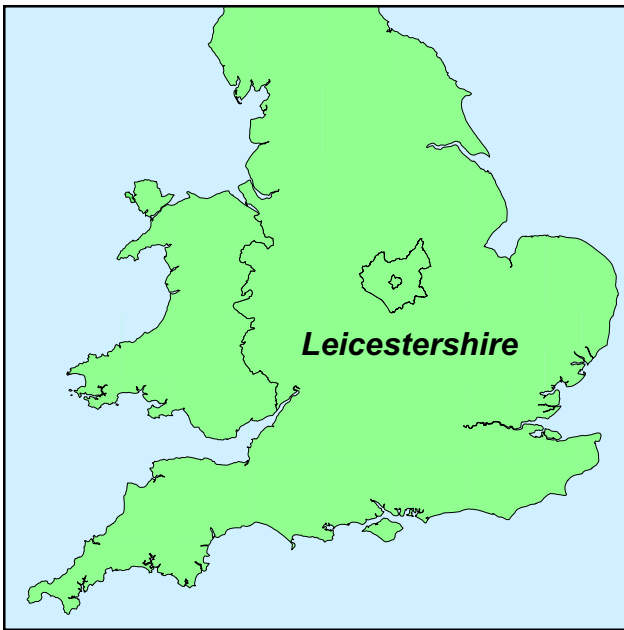
EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage

Gaffney, C, and Gater, J, 2003, *Revealing the buried past: Geophysics for archaeologists*, Tempus Publishing

IfA 2011 *Standard and Guidance for Archaeological Geophysical Survey*, Institute for Archaeologists

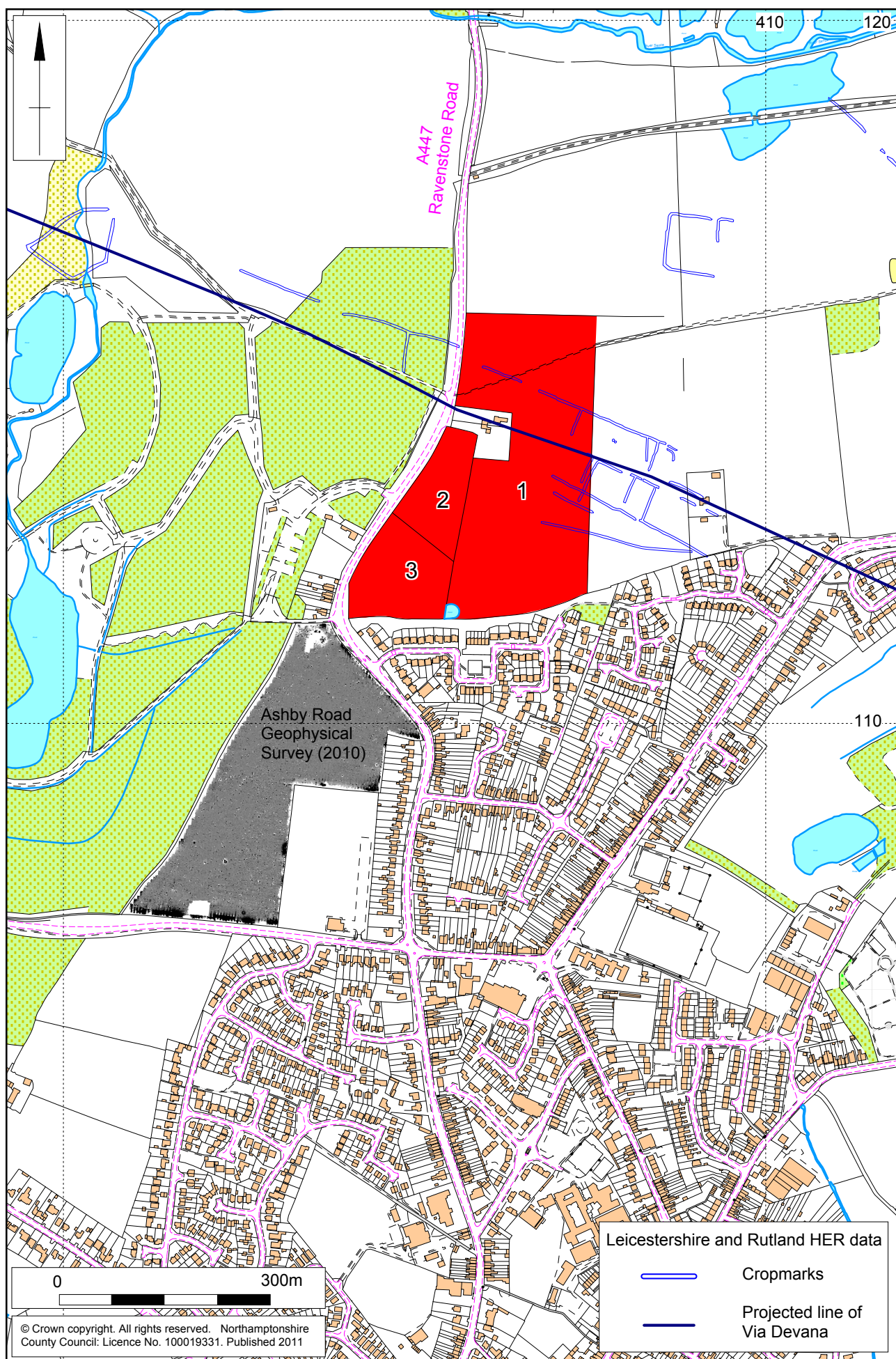
Liddle, P, 2004 Roman small towns in Leicestershire and Rutland, in P Bowman and P Liddle, (eds) 2004, *Leicestershire Landscapes*, Leicestershire Museums Archaeological Fieldwork Group, Monograph **1**, 63-70

Lucas, JN, 1981 A Romano-British settlement at Ravenstone, *Transactions of the Leicestershire Archaeological and Historical Society*, **56**, 104-7



Scale 1:20,000

Site Location Fig 1



Scale 1:7,500

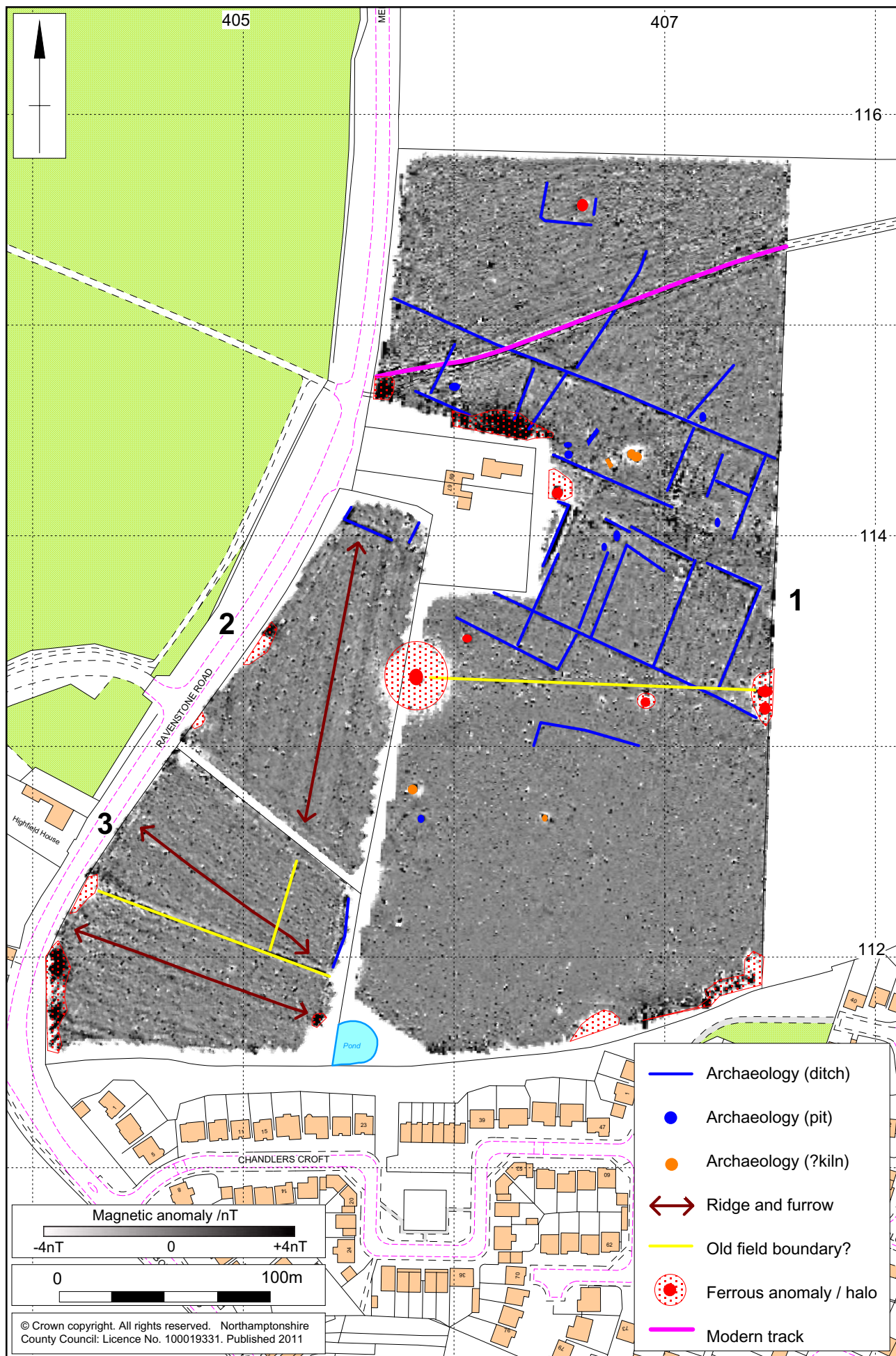
Archaeological Background Information Fig 2





Scale 1:2,500

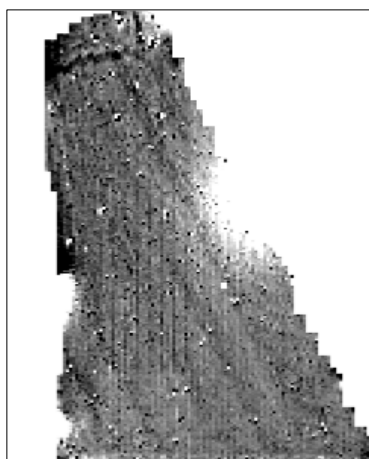
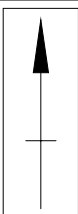
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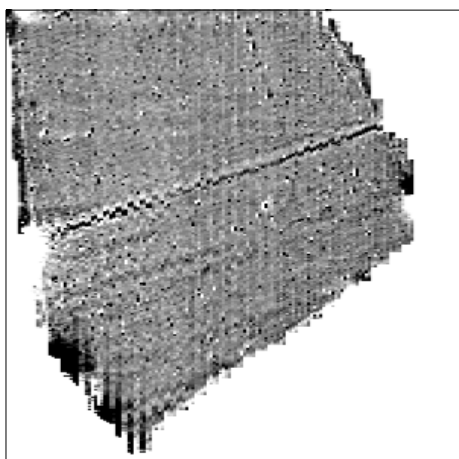
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Magnetometer Survey Interpretation Fig 4





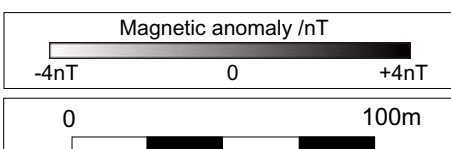
Field 2



Field 3



Field 1



Scale 1:2,500

Raw Survey Data Fig 5



Northamptonshire County Council

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