



Northamptonshire County Council

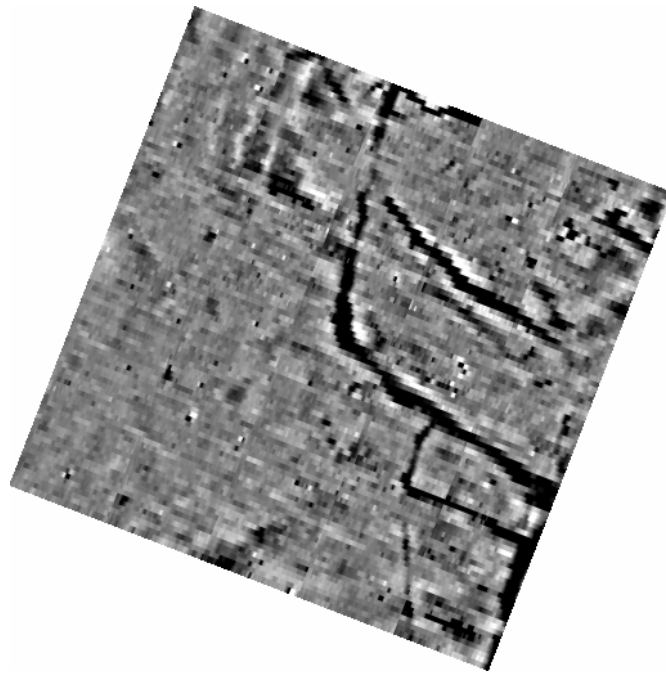
# Northamptonshire Archaeology

An Archaeological Geophysical Survey

at Winwick Warren

Northamptonshire

September 2009



John Walford  
September 2009

Report 09/130

## Northamptonshire Archaeology

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Northamptonshire  
County Council



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**QUALITY CONTROL**

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Verified by	Adrian Butler	<i>AB</i>	2/10/2009
Checked and Approved by	Andy Chapman	<i>AC</i>	2/10/2009

**OASIS REPORT FORM**

<b>PROJECT DETAILS</b>		
Project name	Archaeological Geophysical Survey at Winwick Warren, Northamptonshire	
Short description	Northamptonshire Archaeology was commissioned by Entec UK, on behalf of E.ON Climate and Renewables, to conduct an archaeological geophysical survey of a proposed wind farm site at Winwick Warren, Northamptonshire (centred on NGR SP 640 746). Magnetic gradiometer survey was performed on six one-hectare sample blocks, coinciding with the proposed turbine locations. A seventh area was unavailable for survey. Substantial archaeological features, comprising ditched enclosures of probable Iron Age or Romano-British date, were identified in two areas. Ridge and furrow of probable medieval date was also present.	
Project type	Geophysical survey	
Site status	None	
Previous work	Unknown	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	Probable Iron Age to Romano-British Enclosures; Medieval Ridge and Furrow	
Significant finds	None	
<b>PROJECT LOCATION</b>		
County	Northamptonshire	
Site address	Winwick Warren	
Study area	6ha	
OS Easting & Northing	Centred on SP 640 746	
Height OD	circa 160-185m AOD	
<b>PROJECT CREATORS</b>		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Entec UK	
Project Design originator	NA	
Director/Supervisor	Paul Clements and James Ladocha	
Project Manager	Adrian Butler	
Sponsor or funding body	Entec UK, on behalf of E.ON Climate and Renewables	
<b>PROJECT DATE</b>		
Start date	28 <sup>th</sup> September 2009	
End date	30 <sup>th</sup> September 2009	
<b>ARCHIVES</b>	<b>Location</b>	<b>Content</b>
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
<b>BIBLIOGRAPHY</b>		
Title	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey at Winwick Warren, Northamptonshire	
Serial title & volume	Northamptonshire Archaeology Reports 09/130	
Author(s)	John Walford	
Page numbers	5	
Date	2/10/2009	

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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY AT WINWICK WARREN,  
NORTHAMPTONSHIRE  
SEPTEMBER 2009**

*ABSTRACT*

*Northamptonshire Archaeology was commissioned by Entec UK, on behalf of E.ON Climate and Renewables, to conduct an archaeological geophysical survey of a proposed wind farm site at Winwick Warren, Northamptonshire (centred on NGR SP 640 746). Magnetic gradiometer survey was performed on six one-hectare sample blocks, coinciding with proposed turbine locations. A seventh area was unavailable for survey. Substantial archaeological features, comprising ditched enclosures of probable Iron Age or Romano-British date, were identified in two areas. Ridge and furrow of probable medieval date was also present.*

**1 INTRODUCTION**

Northamptonshire Archaeology was commissioned by Entec UK, on behalf of E.ON Climate and Renewables, to conduct an archaeological geophysical survey of a proposed wind farm site at Winwick Warren, Northamptonshire. Magnetic gradiometer survey was performed on six one-hectare sample blocks, coinciding with the proposed turbine locations. A seventh sample area was not investigated as it was being ploughed at the time of the survey.

**2 TOPOGRAPHY AND GEOLOGY**

The site lies mostly between the 160m and 185m contours and has a complex undulating topography. It is underlain by a layer of Boulder Clay beneath which Upper Lias deposits and the ferruginous Northamptonshire Sand occur (BGS 1990).

**3 ARCHAEOLOGICAL BACKGROUND**

Little prior information exists about the archaeology of the proposed development area. The HER records only a possible rabbit warren and some ridge and furrow, mostly associated with the shrunken medieval village of Winwick. Much of this ridge and furrow has been flattened by subsequent ploughing. Cropmarks of enclosures of indeterminate prehistoric or Roman date have been observed slightly further afield, but none lies closer than a kilometre to the area under study.

## 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).

Each survey area comprised a square block, 100m across, the corners of which were located by means of a Leica System 1200 dGPS. A tape measure and optical square were then used to divide each block into 20m grid squares, which formed the basic units of survey. The gradiometers were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 1600 measurements per grid.

All fieldwork methods complied with the guidelines issued by English Heritage, and by the Institute for Archaeology (EH 2008; Gaffney, Gater and Ovendon 2002).

The survey data was processed using Geoplot 3.00u 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 greyscale plots (scale +3nT to -3nT black ~ white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). Interpretative plots have been produced and are shown overlain onto the data in Figure 3.

## 5 SURVEY RESULTS

### Area 1 (Figs 2 & 3)

The western half of this area contains a set of parallel linear anomalies, oriented approximately north-east to south-west. These indicate the presence of ridge and furrow of a former field system of probable medieval date. The furrows butt perpendicularly against two other linear anomalies which probably mark plough headlands. A third such linear anomaly lies parallel with the putative headlands but is over-run by the furrows. This cannot be securely interpreted but might indicate the position of a former headland, across which the ploughing has subsequently encroached.

A large but relatively weak dipolar anomaly, with an associated positive 'tail', seems likely to be of geological origin. There are also several ferrous anomalies in the data, indicating isolated pieces of ferrous debris. A much larger ferrous anomaly has caused the intense negative halo at the north eastern edge of the survey area.

**Area 2** (Figs 2 & 3)

This area contains an extensive spread of strong and amorphous magnetic anomalies. These are of the type that is conventionally described as 'geological', although their precise origin remains poorly understood. They are overlain by a set of parallel, east-west aligned, linear anomalies indicating the presence of ridge and furrow. One other linear anomaly lies on a north-south alignment and is tentatively interpreted as a ditch of indeterminate date.

**Area 3** (Figs 2 & 3)

Very little was detected in this area. Two weakly alternating linear anomalies are likely to indicate field drains, and there is a patch of enhanced magnetic noise which may suggest a spread of ceramic material or small items of ferrous debris.

**Area 4** (Fig 1)

This area was being ploughed at the time of the survey; hence no fieldwork was undertaken here.

**Area 5** (Figs 4 & 5)

This area contains extensive positive magnetic anomalies, apparently representing parts of several conjoined ditched enclosures of sub-rectangular form. They cannot be precisely dated, but such enclosures are most typically associated with the Iron Age and Romano-British periods. Two localised positive anomalies have been tentatively interpreted as pits. Other anomalies are of more amorphous form and cannot be interpreted with confidence.

Three parallel, north-east to south-west aligned, linear anomalies at the north-western corner of the area are thought likely to indicate further ridge and furrow cultivation. Weaker and much more tightly spaced linears (not marked on the interpretation plot), oriented south-east to north-west, are probably the product of modern ploughing.

**Area 6** (Figs 4 & 5)

Three linear anomalies in this area probably represent ditches of indeterminate age. Parallel linear anomalies, typical of ridge and furrow, are once again present. There is also a band of geological disturbance which trends north to south and incorporates several subdued, non-ferrous, dipolar anomalies. This feature coincides with a pronounced topographic ridge (pers obs).

**Area 7** (Figs 4 & 5)

The data from this area is quite confused, containing a dense tangle of strong anomalies and associated halos. Two broad positive linear anomalies were detected, aligned approximately east to west. Further, less well defined, linear anomalies spring off perpendicularly from these and two more east-west anomalies lie to the south. The general layout would be consistent with a track and adjacent field enclosures of Iron Age or Romano-British date.

The whole of area 7 also contains ridge and furrow, which runs on an east-north-east to west-south-west alignment and overlies the earlier archaeological remains.

**6 CONCLUSION**

The survey has demonstrated that enclosures of probable Iron Age or Romano-British date occur in Areas 5 and 7. Less significant archaeological remains, comprising isolated and undated sections of ditch, have been identified in Areas 2 and 6. Ridge and furrow cultivation of probable medieval date is widespread, being present in every area except Area 3. Like the undated ditches, this is of relatively slight archaeological interest.

It is notable that the enclosures in Areas 5 and 7 lie on the same eastward facing slope, overlooking a small stream. Area 6, in which relatively little was found, lies on the other side of a ridge, and faces west. It is thus provisionally suggested that the stream may have been a focus for activity and that archaeological remains may extend alongside it between the areas investigated.



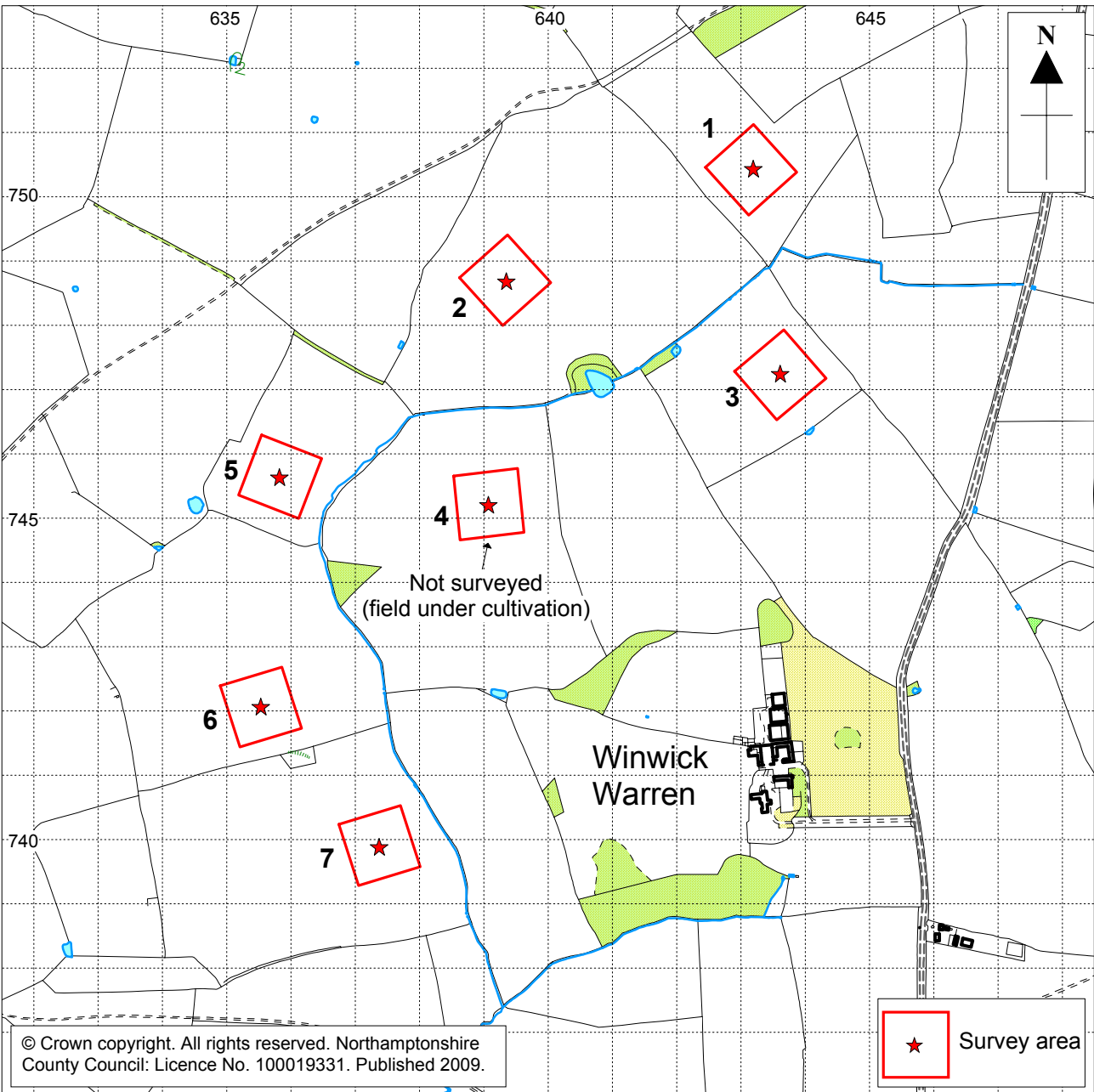
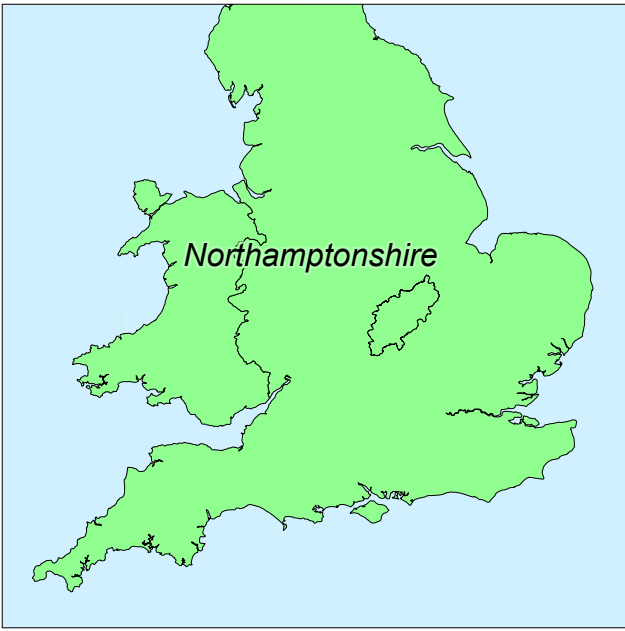
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Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**



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★ Survey area

Scale 1:10,000

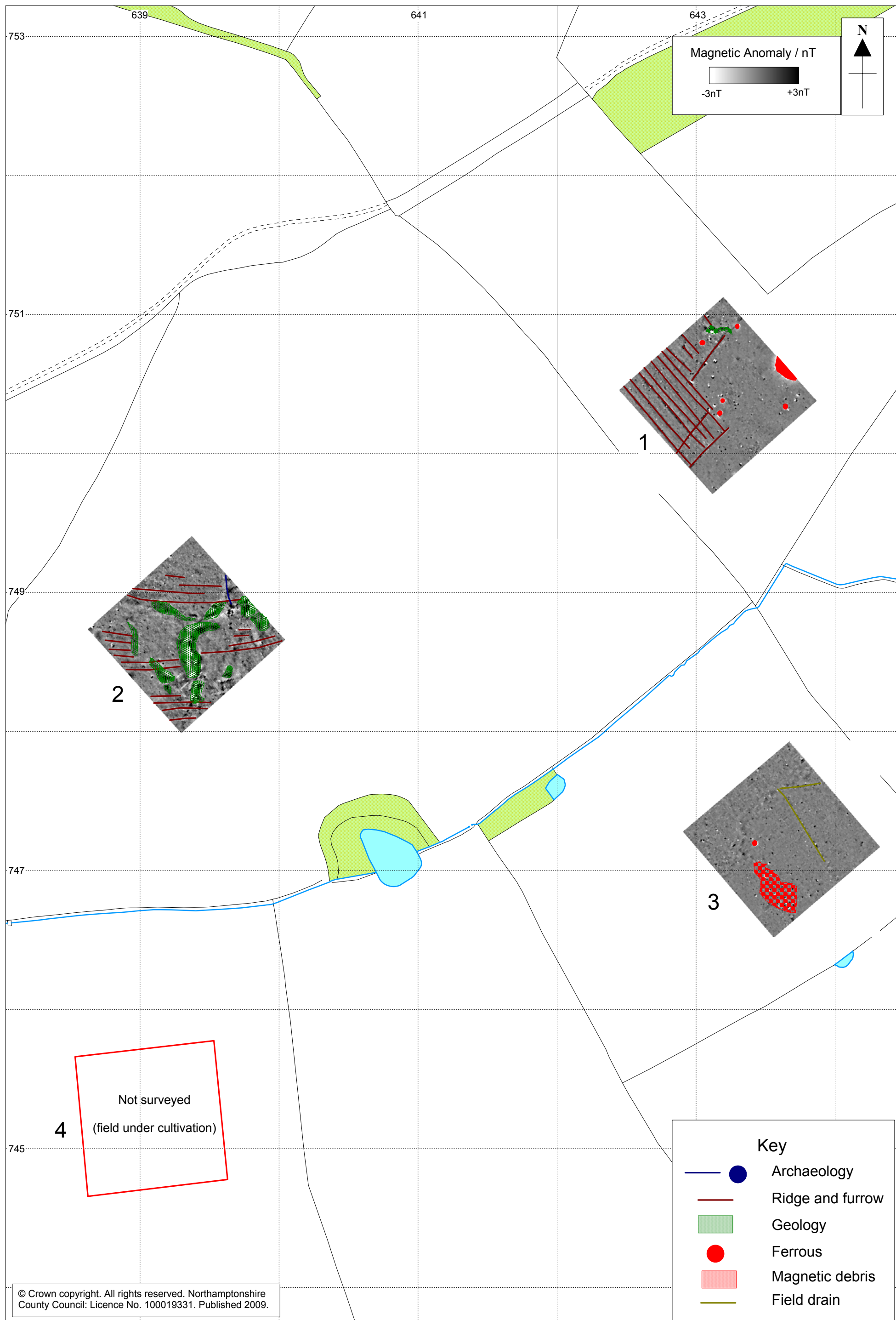
Site Location Fig 1



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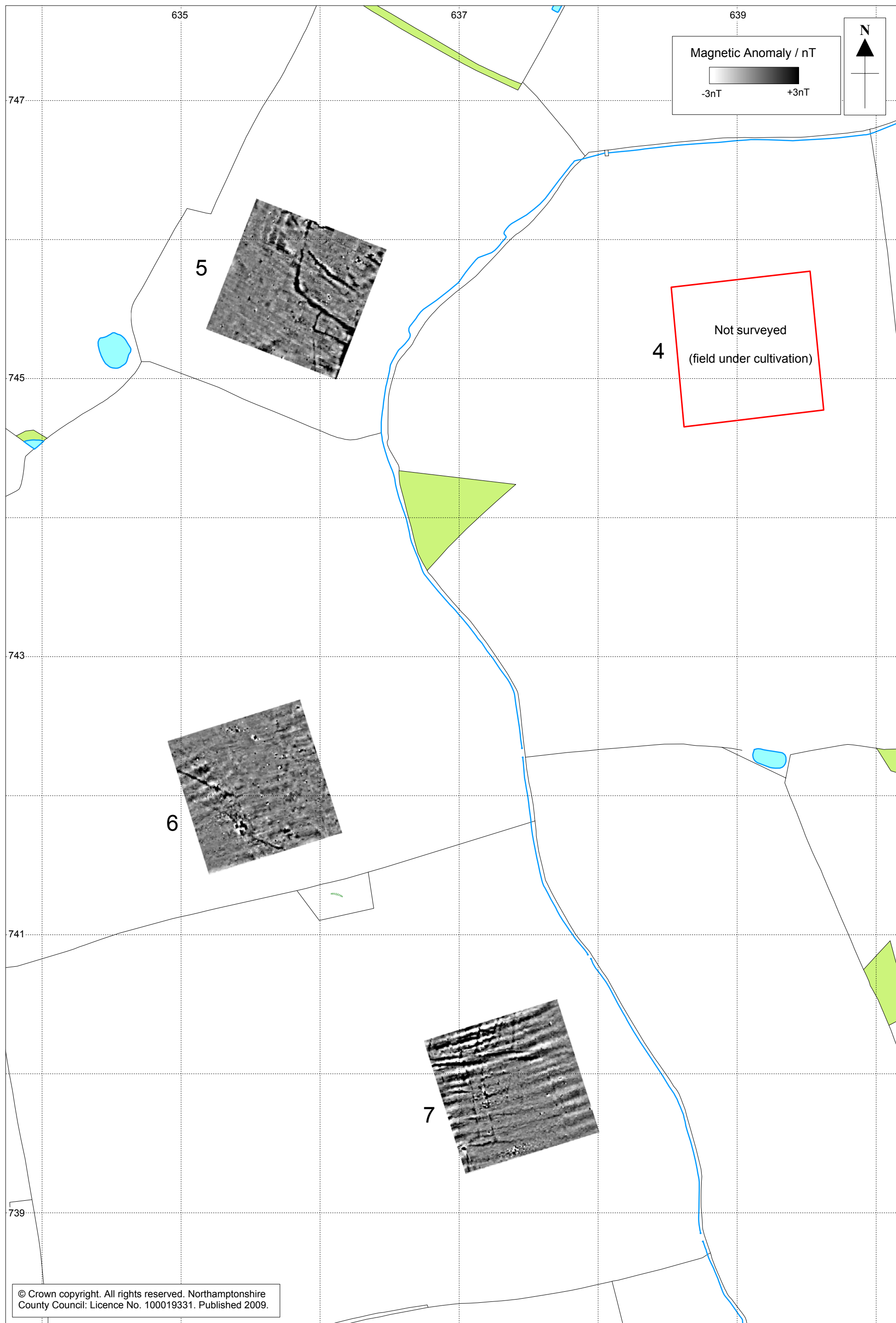
Survey Results (Areas 1-3) Fig 2



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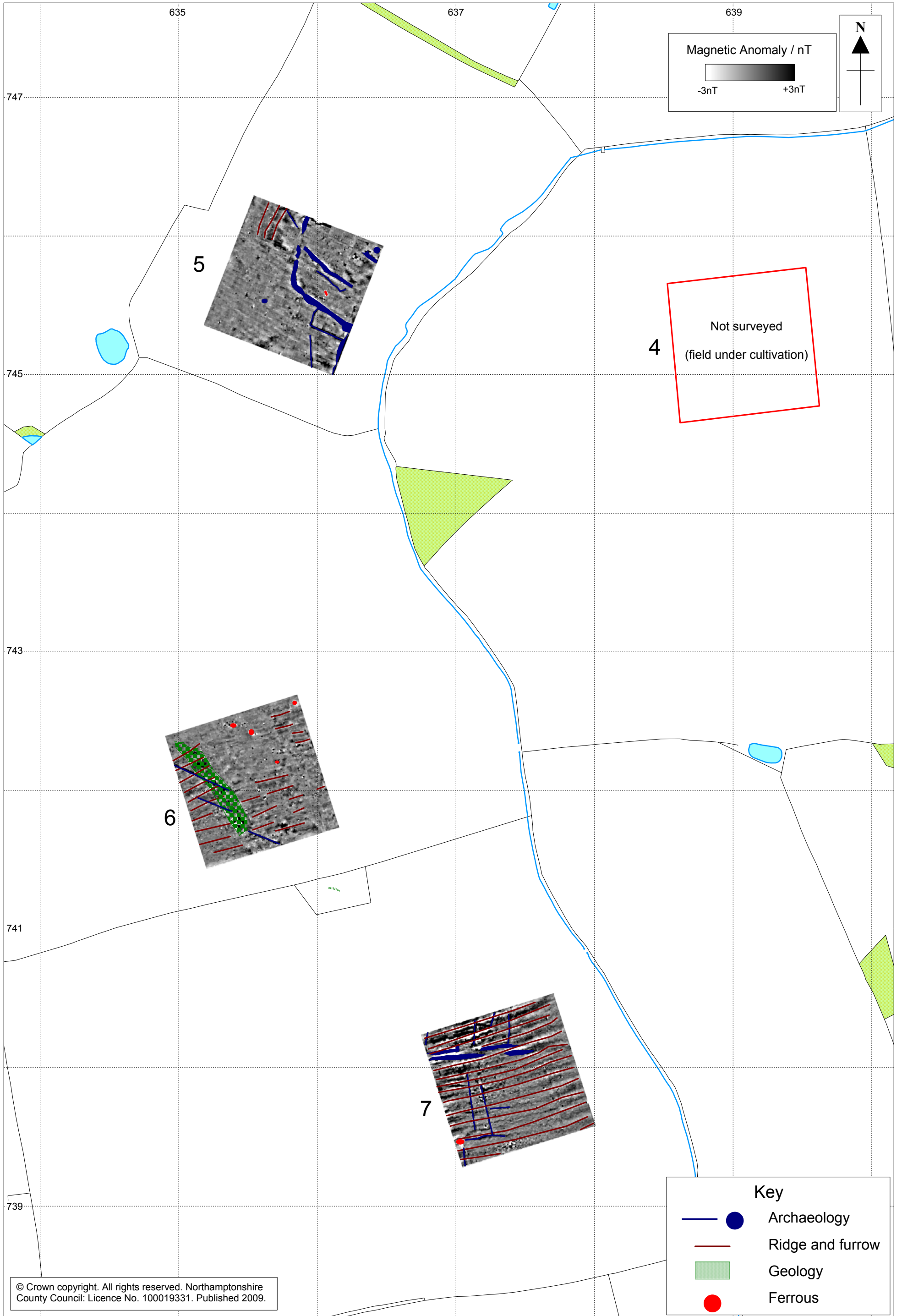
Interpretation of Survey Results (Areas 1-3) Fig 3



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Survey Results (Areas 5-7) Fig 4

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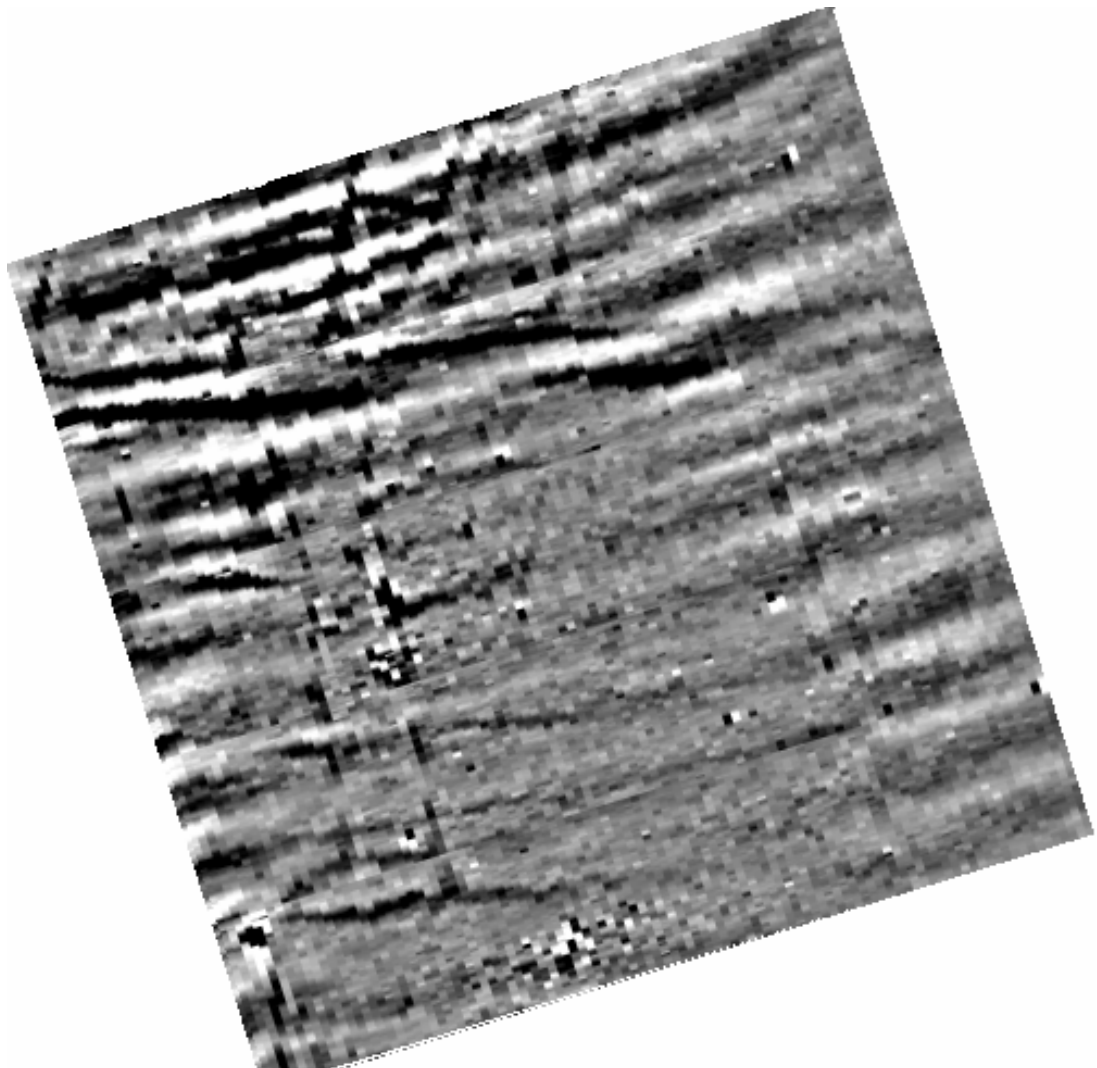
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Interpretation of Survey Results (Areas 5-7) Fig 5



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