

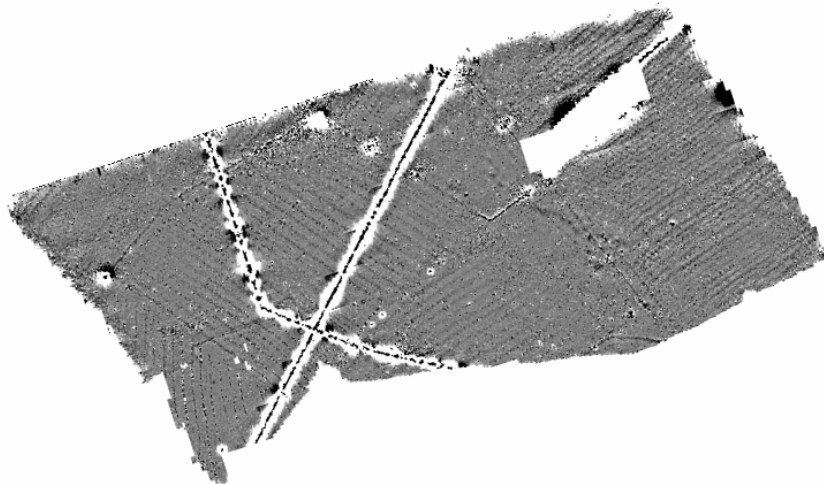


Northamptonshire
County Council

Northamptonshire Archaeology

Archaeological Geophysical Survey at
Sketchley Brook, Hinckley, Leicestershire

January 2009



Adrian Butler

January 2009

Report 09/14

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QUALITY CONTROL

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Approved by	WA Boismier	<i>Bill Boismier</i>	29/01/09

OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey at Sketchley Brook, Hinckley, Leicestershire	
Short description (250 words maximum)	Northamptonshire Archaeology (NA) was commissioned by Under Construction Archaeology, to conduct geophysical surveys as part of an archaeological evaluation adjacent to Sketchley Brook, Burbage, Hinckley, Leicestershire. Three fields were successfully surveyed by gradiometer, revealing a former landscape of enclosed ridge and furrow fields in the large western field. A small group of ditches and a pit detected may constitute evidence of earlier archaeology in that area. To the east a recreation ground was prospected revealing many modern features, but the survey also identified the likely route of the underground channelling of the Sketchley Brook to the north-east.	
Project type (eg DBA, evaluation etc)	Geophysical Survey	
Site status (none, NT, SAM etc)	None	
Previous work (SMR numbers etc)	UCA 2008 <i>Sketchley Brook, Hinckley Redevelopment Scheme, Desk-Based Assessment</i> , Under Construction Archaeology, GLD/01	
Current Land use	Mixed, arable and recreation ground	
Future work (yes, no, unknown)	Unknown	
Monument type/ period	Ridge and furrow, ditches	
Significant finds (artefact type and period)	None	
PROJECT LOCATION		
County	Leicestershire	
Site address		
Study area (sq.m or ha)	19.9ha	
OS Easting & Northing	SP 560 893	
Height OD	c135-145m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Historic & Natural Environment Team, Leicestershire County Council	
Project Design originator	Under Construction Archaeology	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler, Northamptonshire Archaeology	
Sponsor or funding body	Goodman Developments Ltd	
PROJECT DATE		
Start date	12 January 2009	
End date	25 January 2009	
ARCHIVES		
	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical	n/a	
Paper	NA	Site survey records
Digital	NA	Geophysical data, GIS mapping
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Archaeological Geophysical Survey at Sketchley Brook, Hinckley, Leicestershire	
Serial title & volume	NA Reports 09/14	
Author(s)	Adrian Butler	
Page Numbers	6	
Date	28 January 2009	

Contents

1	INTRODUCTION	1
2	ARCHAEOLOGICAL BACKGROUND	1
3	TOPOGRAPHY AND GEOLOGY	2
4	METHODOLOGY	3
5	GEOPHYSICAL SURVEY RESULTS	4
6	CONCLUSION	5
	BIBLIOGRAPHY	6

Figures

Fig 1	Site Location	1:20,000
Fig 2	Detailed gradiometer survey results Fields 1 and 2	1:2,500
Fig 3	Detailed gradiometer survey interpretation Fields 1 and 2	1:2,500
Fig 4	Detailed gradiometer survey results Field 4	1:2,500
Fig 5	Detailed gradiometer survey interpretation Field 4	1:2,500

**ARCHAEOLOGICAL GEOPHYSICAL SURVEY AT
SKETCHLEY BROOK, HINCKLEY, LEICESTERSHIRE
JANUARY 2009**

ABSTRACT

Northamptonshire Archaeology (NA) was commissioned by Under Construction Archaeology, to conduct geophysical surveys as part of an archaeological evaluation adjacent to Sketchley Brook, Burbage, Hinckley, Leicestershire. Three fields, 19.9ha in area, were successfully surveyed by gradiometer, revealing a former landscape of enclosed ridge and furrow fields in the large western field. A small group of ditches and a pit detected may constitute evidence of earlier archaeology in that area. To the east a recreation ground was prospected revealing many modern features, but the survey also identified the likely route of the underground channelling of the Sketchley Brook to the north-east.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by Under Construction Archaeology, on behalf of Goodman Developments Ltd, to conduct geophysical surveys as part of an archaeological evaluation adjacent to Sketchley Brook, Burbage, Hinckley, Leicestershire (NGR SP 416 927; Fig 1). The survey investigated three areas totalling 19.9ha, composed of a large area of arable land to the west and a smaller recreation ground to the east.

The survey was carried out in January 2009, when conditions were very wet and therefore less than ideal for survey.

2 ARCHAEOLOGICAL BACKGROUND

A desk-based assessment of the site has noted that no archaeological remains have been discovered within the proposed development area (UCA 2008). The Leicestershire Historic Environment Record indicates that finds of all periods have been discovered in the local area. A Neolithic polished stone axe head (MLE7236) was recovered to the south-west of the site and Middle Bronze Age spearhead (MLE6351) to the east. A settlement site of Middle Iron Age date was excavated by NA, south of Coventry Road 500m west of Field 1 (Chapman 2004).

The Watling Street Roman Road (MLE1388) is situated approximately 300m south of the site, ditches, postholes and a cobbled surface were found 200m south-west of Field 1 (MLE9164). Romano-British period features were also found at the Coventry Road Iron Age settlement

MLE8919). No finds of Anglo-Saxon date have been made in the area, although Hinckley is known to be pre-conquest in settlement origin (UCA 2008, 12). Locally, Sketchley (MLE2847) is a medieval settlement with a 13th-century chapel (MLE2835). Ridge and furrow cultivation remains are known from the area of Field 1 (UCA 2008, 12-13). The open fields are known to have been subject to enclosure in 1759.

The Ashby de-la-Zouch canal, bordering the west of Field 1, was constructed in the early 18th century. Hinckley's hosiery industry developed during the post-medieval period and by the mid-18th century had become a local centre. The 19th century saw the construction of the London and Western Railway through Hinckley in 1864 and development of Hinckley Sewage Works to the south of Sketchley Brook (UCA 2008, 14).

Dye Works were erected adjacent to the west of the B4109 Rugby Road in the late 19th and early 20th centuries. These expanded through the 1920s to form a large complex, now much demolished (UCA 2008, 15).

3 TOPOGRAPHY AND GEOLOGY

The proposed development is divided into four areas immediately adjacent to the south of the main railway line through the town of Hinckley (Fig 1). The line divides Hinckley from its southern suburb village of Burbage and the satellite hamlet of Sketchley to the south-west. Sketchley Brook runs approximately 320m south of the railway, on a north-north-east to south-south-west orientation.

The western, larger, portion of the site (Field 1) is situated in arable fields north of a sewage works, at the eastern bank of the Ashby-de-la-Zouch canal and west of demolished industrial works. There is a gentle slope downwards to the south-west. Jericho Farm is located within the arable field. A sewage treatment works is situated immediately south of the Brook. Field 2 is a smaller field adjacent to the east of Field 1. Field 3 was found to be rutted, undulating and covered in undergrowth and therefore not surveyable. The seeded, earthen ground surface in Fields 1 and 2 were soft and slippery. Areas adjacent to Sketchley Brook in Fields 1 and 2 were too wet for survey.

The eastern area (Field 4), situated to the east of the B4109 Rugby Road, is currently a recreation ground, surrounded by residential housing to the north-east, east and south. Sketchley Brook has been channelled into a culvert under the industrial works and Rugby Road (UCA 2008, 6), and appears to cross the recreation ground as a linear earthwork. Numerous iron service-covers dot

the area and a playground is located on the eastern side. The ground surface comprised short grass, made spongy by rain which also left surface water.

The proposed development lies over a drift geology substrate of Glaciolacustrine deposits of clay and silt with alluvium close to the brook. A deposit of Till intrudes into the area on the eastern side of Jericho Farm (BGS Sheet 169). Fields 1 to 3 lie between 95m – 100m aOD and Field 4 at approximately 100m aOD.

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).

The corner points of each survey area were set out with a Leica System-1200 differential GPS. These areas were then subdivided into 30m grid squares by means of tape measure and optical square. The instruments 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 3600 measurements per grid. 16ha of survey were carried out in Field 1, 1.25ha in Field 2 and 2.65ha were possible in Field 4.

All fieldwork was carried out in accordance with the project Method Statement (NA 2008) and with regard to the geophysical survey guidelines issued by English Heritage and by the Institute of Field Archaeologists (EH 2008 & Gaffney, Gater and Ovendon 2002).

The data was processed using Geoplot 3.00u software. The 'Zero Mean Traverse' function was used to remove slight striping effects and bring the entire data-set to a consistent average of zero nanoTesla. Destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of greyscale plots (scale +3.0nT to -3.0nT black to white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 2 and 4). Interpretation plots have been overlaid onto the greyscales (Figs 3 and 5). Stacked trace plots have not been included as it was considered that they would be illegible at printing scales and uninformative to the non-specialist reader.

5 GEOPHYSICAL SURVEY RESULTS

Field 1 (Figs 2 & 3)

Positive linear magnetic anomalies orientated north-east to south-west and north-west to south-east were detected across Field 1. The rough parallelogram shapes match precisely with field boundaries on Parish of Hinckley map 1818 and Ordnance Survey mapping from 1888 to 1984 (UCA 2008). Regular bands of positive readings within and approximately aligned with the former fields indicate medieval ridge and furrow cultivation, presumably subject to enclosure in the late 18th or early 19th centuries.

Several intensely magnetic responses indicating ferrous debris were recorded along and at the corner of the former boundaries. Areas of dipolar (mixed positive / negative signal) were detected at three points along former boundaries north-west of Jericho Farm. These are likely to indicate the thermoremanent magnetisation of ceramic materials such as brick and tile from demolished structures. A broad, weakly positive and sinuous anomalies detected south of Jericho Farm are likely to reflect a change in the drift geology.

A pair of intensely magnetic, north-east to south-west and north-west to south-east, linear anomalies indicating ferrous pipelines were detected within Field 1. Several positive linear anomalies possibly reflecting buried ditches, were detected orientated roughly south-west to north-east where the two pipes cross. It is possible that a small ditched enclosure has been partially obscured by the western pipe. A similar, though curving, ditch-type anomaly was also located on the southern edge of the survey, approximately 150m south of Jericho Farm. A discrete positive anomaly immediately north of the ditch may indicate one or a close pair of possible pits.

Field 2 (Figs 2 & 3)

Prospection of this field is dominated by two ferrous pipelines, one north to south, the other north-west to south-east across the area. Ridge and furrow linear anomalies can be discerned between the pipes, aligned to the eastern field boundary.

Field 4 (Figs 4 & 5)

This field contained high levels of magnetic disturbance, probably due to its use as a recreation ground, and the likelihood that the ground was both graded and built up to provide a relatively level surface. Numerous iron service-covers and sports installations (goalpost, basketball hoops) were located around the area, and the playground in the south-east of the field proved unsurveyable. Evidence for landscaping of the field is indicated by the relative clarity of magnetic

background in the north becoming more highly disturbed towards the south.

The southern half of Field 4 is traversed west-south-west to east-north-east by anomalies likely to reflect the Sketchley Brook conduit (see above, Sect.3). A ferrous pipeline leads from the Rugby Road to a service cover (also highly magnetic). A set of goalposts and a basketball hoop created large magnetic anomalies close to the playground.

A ferrous pipeline was detected orientated approximately west to east across the centre of Field 4. A service cover is indicated by a highly magnetic anomaly where the pipe bends. Further ferrous goal posts presented anomalies to the south of the central pipeline. The third ferrous pipeline on the site leads north from the central pipe, apparently passing under more ferrous goalposts. To the west, six ferrous anomalies of unknown provenance form a fairly regular pattern. A positive linear magnetic anomaly, possibly reflecting a ditch, was detected in the north of Field 4, orientated north-west to south-east on the east of the nearby pipe.

6 CONCLUSION

Survey of Fields 1 and 2 was successful in detecting medieval and post-medieval field systems. Three areas of thermoremanent anomalies were located in Field 1, representing ceramic building waste from demolished structures, probably post-medieval barns.

Ditch anomalies were identified in the west and south-east of Field 1. In the west, the ditches define a roughly triangular shape, putatively representing an enclosure obscured by a later pipeline. Two outlying ditches were also located. In the south-east of Field 1 a curving ditch was located on the edge of the survey. A large pit was also discovered north of the ditch. A small area of geological variation near to Jericho Farm and a pair of ferrous pipelines in each field were the only other features of note in Fields 1 and 2.

Field 4 was obviously highly affected by conversion into a suburban recreation ground. Cut-and-cover landscaping may be visible in the data as is the subterranean Sketchley Brook culvert, a playground and three ferrous pipes. More ferrous anomalies were caused by goal mouths and service covers, and unknown iron features in the north. A single ditch anomaly was also detected in the north of Field 4.

Only several features of archaeological interest were revealed by the gradiometer survey. It is worth noting, especially when features are discovered in relative isolation, that small features below the sampling interval (0.25m x 1.0m) such as postholes, and other features with a low level

of magnetic enhancement, may not be identified by such a survey. Geophysical survey should therefore always be followed up with an intrusive investigation to verify and expand upon the results.

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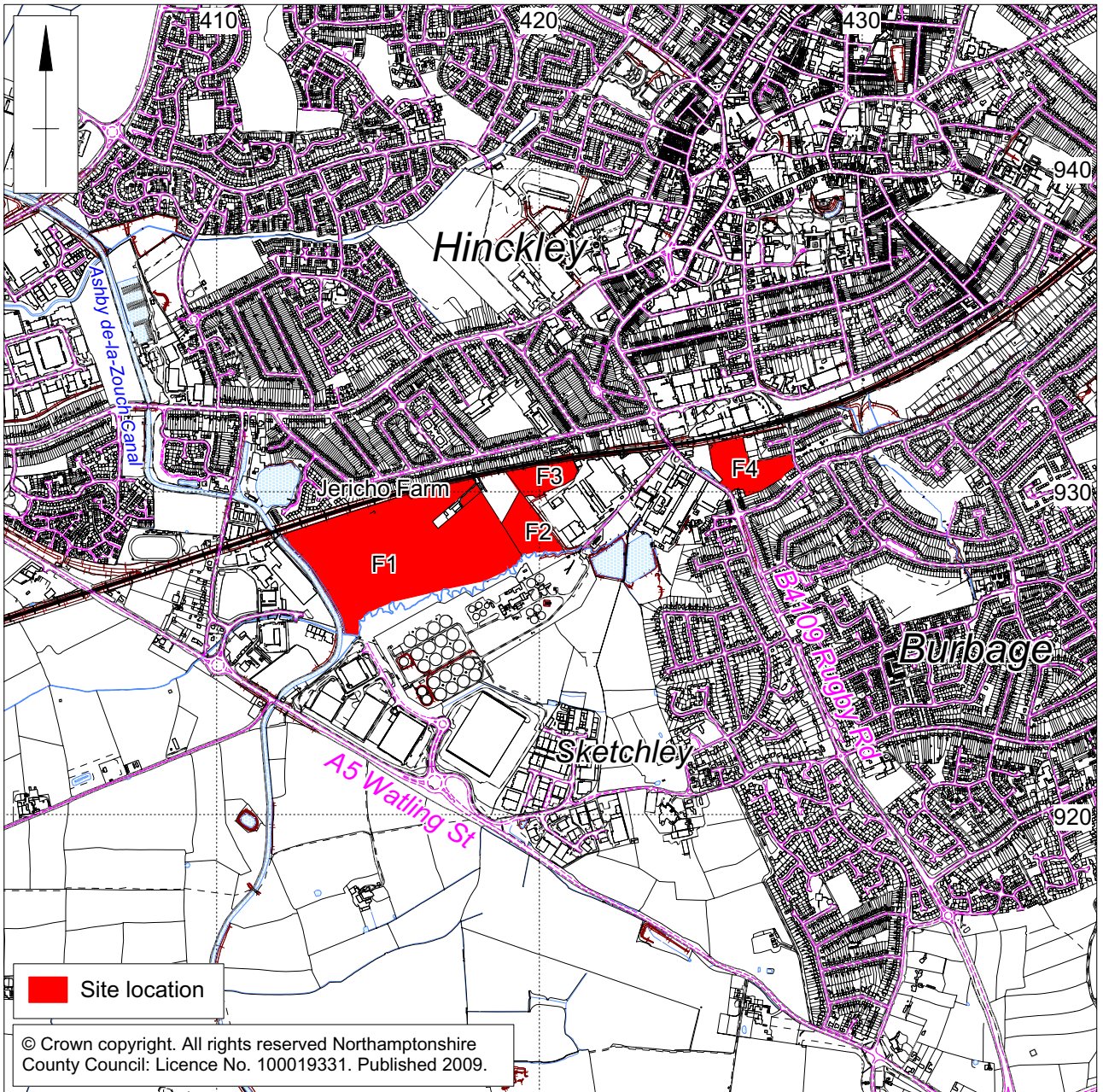
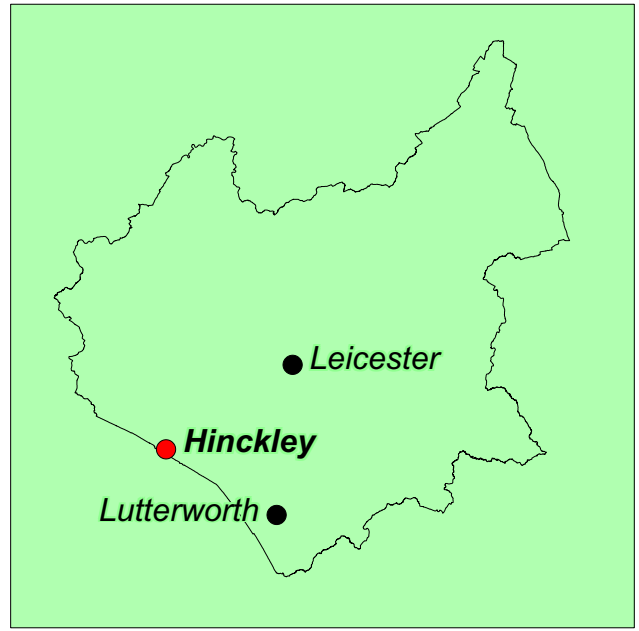
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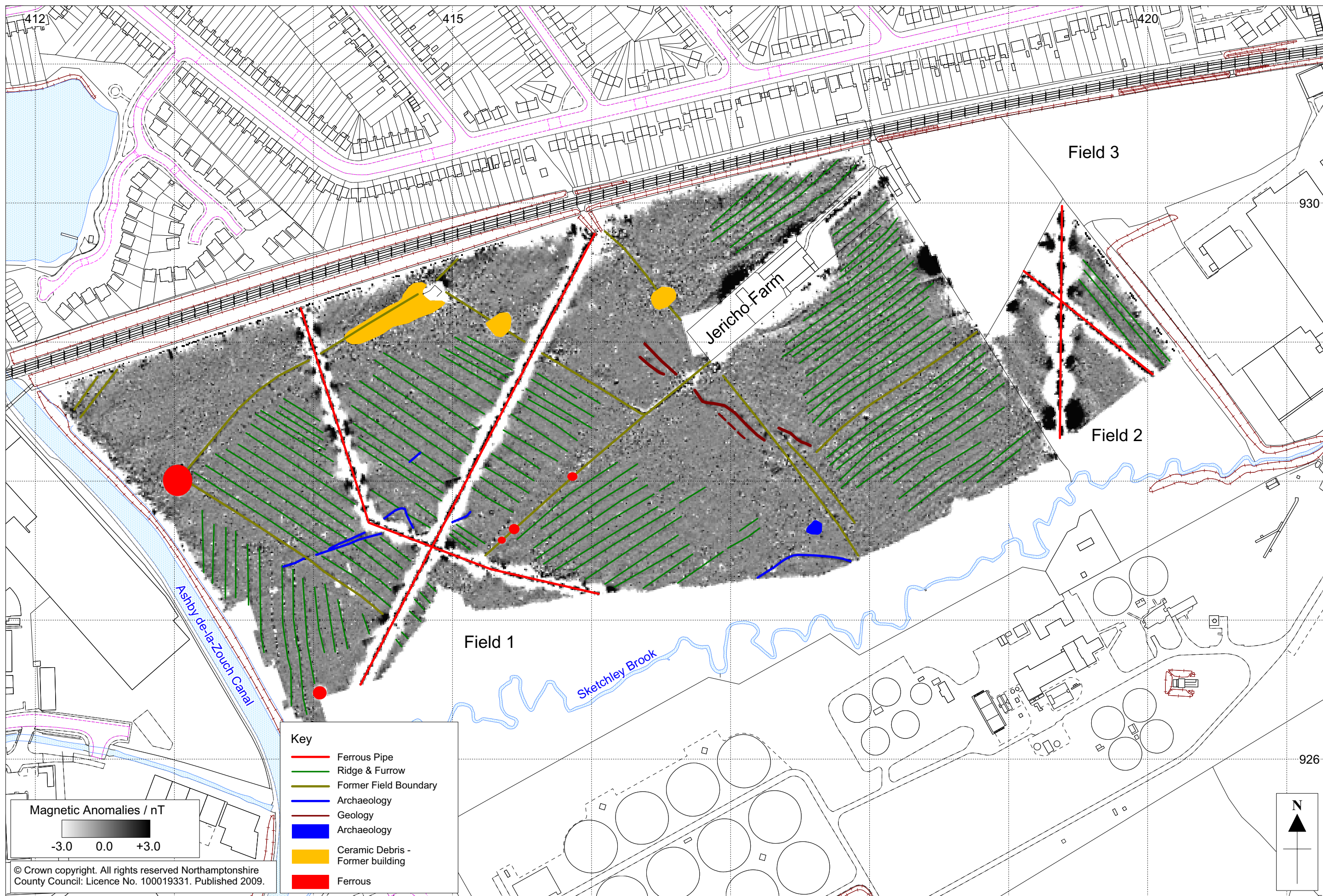
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Scale 1:20,000

Site location Fig 1





Scale 1:2500 @ A3

Detailed gradiometer survey interpretation Fields 1 and 2 Fig 3



Scale 1:2500 @ A4

Detailed gradiometer survey results Field 4 Fig 4





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