Northamptonshire County Council

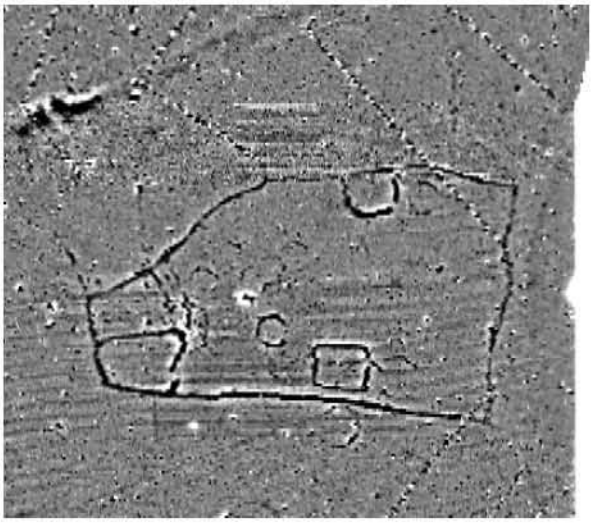
Northamptonshire Archaeology

Archaeological Geophysical Survey

On Land South of Melton Mowbray

Leicestershire

April 2008



Adrian Butler & Ian Fisher

May 2008

Report 08/88

XA58.2008

Northamptonshire Archaeology
2 Bolton House
Wootton Hall Park
Northampton NN4 8BE
t. 01604 700493 f. 01604 702822
e. sparry@northamptonshire.gov.uk
w. www.northantsarchaeology.co.uk

NORTHAMPTONSHIRE COUNTY COUNCIL

NORTHAMPTONSHIRE ARCHAEOLOGY

MAY 2008

ARCHAEOLOGICAL GEOPHYSICAL SURVEY

ON LAND SOUTH OF MELTON MOWBRAY

LEICESTERSHIRE

APRIL 2008

Accession Number: XA58.2008

STAFF

Project Manager	Adrian Butler BSc MA AIFA
Fieldwork	Ian Fisher BSc
	Paul Clements BA
	Tracey Connelly
	Alex El-Abd BA
	James Ladocha BA
Text and illustrations	Adrian Butler
	Ian Fisher

QUALITY CONTROL

	Print name	Signature	Date
Checked by	Pat Chapman		20/05/08
Verified by	Andy Chapman		20/05/08
Approved by	Mark Holmes		21/05/08

OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey on Land South of Melton Mowbray, Melton Mowbray, Leicestershire	
Short description (250 words maximum)	Northamptonshire Archaeology was commissioned by CgMs Consulting on behalf of Pegasus Planning, to undertake a gradiometer survey across a proposed development area to the south of Melton Mowbray, Leicestershire. The survey covered all or part of 15 fields, totalling 53.6ha, identifying two foci of archaeological activity. To the east there was a large sub-rectangular enclosure containing three smaller enclosures and up to seven roundhouses. A further, exterior, circular enclosure was also detected. Three hundred metres to the west, survey identified an extensive system of overlapping ditches forming rectangular and sub-circular enclosures. Between the two foci was an area of possible industrial activity and a putative isolated roundhouse. Gradiometer survey also mapped the medieval ridge and furrow cultivation, and post-medieval field boundaries and land drains.	
Project type	Geophysical Survey	
Site status (none, NT, SAM etc)	Arable land	
Previous work (SMR numbers etc)	DBA (CgMs 2008)	
Current Land use	Arable & Pasture	
Future work	Unknown	
Monument type/ period	IA/Roman settlements	
Significant finds (artefact type and period)	Settlement remains, probably Iron Age / Roman	
PROJECT LOCATION		
County	Leicestershire	
Site address (including postcode)	Melton Mowbray	
Study area (sq.m or ha)	Approx 53.6ha	
OS Easting & Northing	SK 750 172	
Height OD	85-90m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	CgMs Consulting	
Project Design originator	NA	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler (NA)	
Sponsor or funding body	Pegasus Planning	
PROJECT DATE		
Start date	April 2008	
End date	May 2008	
ARCHIVES	**Location (Accession no.) X.A58.2008**	**Content (eg pottery, animal bone etc)**
Paper	NA	Survey notes
Digital	NA	Geophysical data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Archaeological Geophysical Survey on Land South of Melton Mowbray, Melton Mowbray, Leicestershire	
Serial title & volume	NA reports 08/88	
Author(s)	Adrian Butler & Ian Fisher	
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ARCHAEOLOGICAL GEOPHYSICAL SURVEY

ON LAND SOUTH OF MELTON MOWBRAY

MELTON MOWBRAY, LEICESTERSHIRE

APRIL 2008

Accession Number XA58.2008

ABSTRACT

Northamptonshire Archaeology was commissioned by CgMs Consulting on behalf of Pegasus Planning, to undertake a gradiometer survey across a proposed development area to the south of Melton Mowbray, Leicestershire. The survey covered all or part of 15 fields, totalling 53.6ha, identifying two foci of archaeological activity. To the east there was a large sub-rectangular enclosure containing three smaller enclosures and up to seven roundhouses. A further, exterior, circular enclosure was also detected. Three hundred metres to the west, survey identified an extensive system of overlapping ditches forming rectangular and sub-circular enclosures. Between the two foci was an area of possible industrial activity and a putative isolated roundhouse. Gradiometer survey also mapped the medieval ridge and furrow cultivation, and post-medieval field boundaries and land drains.

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by CgMs Consulting, on behalf of Pegasus Planning, to undertake an archaeological geophysical survey of an area of land south of Melton Mowbray, Leicestershire (NGR SK750172, Fig 1). The survey was required to inform a planning proposal for the development of the site. Works were undertaken according to a specification prepared by Northamptonshire Archaeology (2008).

The objectives of the geophysical survey were to identify the presence or absence of buried archaeological remains within the proposed development area. The magnetometer survey of the 53.6ha area of land was undertaken in April 2008.

2 TOPOGRAPHY AND GEOLOGY

The proposed development site lies approximately two kilometres south of the historic core of Melton Mowbray and immediately north-east of the Second World War aerodrome (of Melton Mowbray). It is located on the northern side of a dry valley between the villages of Burton Lazars to the south east and Eye Kettleby to the west. The development area is roughly rectangular in shape and encompasses all or part of 22 fields of rolling arable and grazing farmland (Fields 1 – 22,

Fig 1).

The proposed development site, at approximately 85-90m AOD, is believed to be underlain by a diamacton clay geology. The soils are of the Hanslope association (SSEW 1983).

3 ARCHAEOLOGICAL BACKGROUND

The archaeological background of the site is described in full in the desk-based-assessment (CgMs 2006).

Worked flint found to the north of the development area (SMR 7079) indicates that the earliest archaeological evidence is Mesolithic in date. This area has previously been developed for housing. Lithic finds on the southern valley side (SMR 7588) indicate a Late Neolithic presence. Bronze Age activity is represented by a barbed and tanged flint arrow head (SMR6385) and on the edge of the development area, a Bronze Age spear (SMR 6386). An Iron Age enclosure (SMR 16034) with possible associated field systems is located to the north of the development area. One sherd of Iron Age pottery (SMR 6513) has been found west of Sandy Lane.

The number of finds dating from the Roman period (SMR 8001, 8003, 3928) within the development area (Field 4) suggests settlement activity. Roman settlements may also lie on the edge of the development area to the north (SMR 5975) and to the south (SMR 6213). The Roman settlements are probably small rural hamlets or farmsteads. The settlements may have focused on Kirby Lane, which has been identified as a Roman road (SMR 5508).

There is evidence of Anglo-Saxon activity from around the Melton Mowbray area. An Anglo-Saxon cemetery has been identified north-east of Aerodrome Farm (SMR6211) and a second possible cemetery in the east of the development area in Field 4 (SMR6212). In the medieval period, the development area lay in farmland between Burton Lazars and Melton Mowbray and within the 'North Field' of Burton's ridge and furrow strip fields. There have been finds suggesting two possible medieval farmsteads, one just north of Kirby Lane (SMR6845), the other west of Sandy Lane (SMR6849).

Parliamentary Enclosure occurred in 1760-61, fossilising the medieval field system under a mix of arable and pasture land. RAF Melton Mowbray was constructed in 1943 on the south-west edge of the development area (SMR 15970).

4 METHODOLOGY

Geophysical survey was carried out in accordance with English Heritage and the Institute of Field Archaeologists Guidelines (EH 1995 & Gaffney, Gater and Ovendon 2002).

The fieldwork was conducted over three weeks in April 2008. Fields 6, 8, 9 and 19 were not surveyed due to the presence of both horses and modern disturbance. Fields 18 and 21 were not surveyable due to the height of the oilseed rape crop.

Detailed Magnetometer Survey

All detailed magnetometer survey was undertaken using Bartington Grad601-2 fluxgate gradiometers. The Grad601-2 is constructed as a dual-sensor instrument with two vertical gradiometers separated on a yoke to enable two lines of survey to be recorded in tandem.

The areas were sub-divided into 30m x 30m grid-squares. These were laid out manually, using tapes and an optical square. The survey consisted of 651 whole and partial 30m x 30m grid-squares. Each grid square was traversed at rapid walking pace in zigzag traverses spaced at 1m intervals and data recorded every 0.25m along these.

The data was analysed using Geoplot 3.00u software. Low (negative) magnetism is shown as white and high (positive) magnetism as black in the resultant greyscale plots. To avoid the introduction processing of errors, minimal manipulation was carried out on the data. The 'Zero Mean Traverse' function was applied in order to bring the average level of each data line into a balanced zero.

The processed data is presented here in the form of a greyscale georectified to the Ordnance Survey base (-3nT / +3nT scale; Fig 2). It was considered that other plotting regimes, such as 'stacked trace', would be uninformative over an area of this size (53.6ha, approximately 2.15 million readings). Interpretative plots have been generated from the results (Figs 3 to 8), with a large scale plot in Figure 9. These figures are referred to directly in the following section.

5 SURVEY RESULTS

Detailed Survey (Figs 2 to 9)

Data plots of the entire survey have been presented on an overall plot at scale 1:10,000 (Fig 2) which enables an appreciation of the results in their landscape context. The more detailed plots at

1:2500 scale (Figs 3 – 8) are more appropriate for close examination

Field 1 (Figs 3 & 4)

A 9.5ha block was surveyed in the east of the development area. The survey identified a single possible archaeological anomaly located in the centre of the field. The positive anomaly was of an ovoid shape, possibly indicating an infilled hollow, such as a pond. Three linear anomalies were detected orientated north to south in the centre of the field. These anomalies probably represent geological features.

The survey detected medieval ridge and furrow cultivation orientated east to west across the entire field. The survey also mapped a ferrous pipeline, located on the south east corner of the field, and ferrous debris scattered across the field.

Field 2 (Figs 3 & 4)

An area of 5.7ha was surveyed. Positive magnetic anomalies central to the field may indicate archaeological features, but are of such an irregular form as to be undiagnostic. Medieval ridge and furrow was recorded, orientated east to west, of which three in the north of the field contained ceramic field drains. Ferrous debris was recorded scattered across the field.

Field 3 (Figs 3 & 4)

A survey block of 2.8ha was surveyed and revealed a 'herring-bone' network of likely field drains and remnants of ridge and furrow over much of the field. On the western edge of the field a ferrous pipeline was identified orientated north to south extending into Field 4 and turning west to Field 5.

Field 4 (Figs 3, 4 & 9)

A survey over 7.6ha was carried out in this field. The putative remains of a building, represented by positive and negative magnetic anomalies, were located in the north-west of Field 4, coincident with a structure marked on the 1905 and 1938 Ordnance Survey mapping (www.old-maps.co.uk accessed 12/05/08). A zone of mixed readings, indicating probable brick waste, was found to emanate from the structure and along Kirby Lane. 'Herring-bone' field drain networks were detected in the south of the field and in the north where their centre line apparently ran along a possible geological anomaly of unknown type.

In the centre of Field 4 was a large, 70m x 40m, sub-rectangular ditched enclosure, containing a further three internal ditched enclosures (Fig 9: A-C). Enclosure A lies at the west end of the large enclosure and has an eastern entrance. Positive magnetic anomalies curving away north from A,

may indicate that ditches isolated the west end of the large enclosure. The second sub-rectangular enclosure, B, abutted the northern side of the large enclosure. Feature B may have an entrance in the south-east corner. A rectangular enclosure, C, lay to the south and has an eastern entrance.

At least seven, 10m diameter penannular positive anomalies indicated roundhouses in the western half of the large enclosure, between enclosures A and C. Three sets of anomalies appear to represent a trio of contiguous circular features, possibly roundhouses (Fig 3: D). The most southerly of the three also includes an intensely magnetic anomaly which could indicate an industrial feature such as an oven or kiln. A semicircular feature was identified, possibly cut by enclosure A and its associated ditches. This may represent the remains of a larger, 15m diameter enclosure or roundhouse. A further internal roundhouse may be situated to the east of enclosure B.

Several more anomalies lay outside the large enclosure. Immediately south was a penannular ditch, 15m diameter. Twenty metres further to the south a curving ditch anomaly lacked any diagnostic form. The western boundary ditch of the large enclosure extended to the north and south for a short distance

The archaeological features of probable Iron Age or early Roman date, were overlain by medieval ridge and furrow cultivation, orientated east to west. A ferrous pipeline, orientated north – south, was detected along the western side of Field 4, entering Field 3 to the south.

Field 5 (Figs 5 & 6)

A total of 9.3ha were surveyed in Field 5. A ferrous pipeline was detected parallel to the southern boundary of the field, apparently having crossed Sandy Lane from Field 3 in the east and running into Field 7 to the west. Survey results along the western side of Field 5 adjacent to the stream, indicate alluvial and likely palaeochannel deposits. Chains of dipolar anomalies orientated east to west across the north and south of the field indicate likely field drains, discharging into the stream. Ridge and furrow cultivation was mapped aligned north – south in the north of Field 5 changing east – west further south.

A penannular positive anomaly detected in the south-west of Field 5 may reflect a prehistoric roundhouse feature. Three areas of noisy, highly variable, magnetic data were detected within the centre third of the field. Of these the westernmost, adjacent to the stream, probably indicates brick rubble dumped on an area of perpetually wet ground. The pair of highly variable magnetic area anomalies in the middle of the field contain readings that indicate a ferrous component. Whilst the northern anomaly is likely to be a product of dumping of material, the more southerly of these

anomalies is of a form that could reflect industrial activity such as iron smelting or smithing.

Fields 7, 10 and 11 (Figs 5, 6 and 9)

The three fields surveyed totalled 6.5ha, Fields 7 and 10 sloping downwards from Field 11 to the north-east and north. A focus of archaeological features was situated towards the point where the fields meet on a plateau. Positive magnetic anomalies indicated a dense palimpsest of linear ditches, sub-rectangular and sub-circular enclosures, and small pits. It would appear that the data indicates stratified archaeological deposits of intercutting features. A noticeable pattern is that the anomalies orientated in an arc from north to east, the features following the contour of the hill.

Ridge and furrow cultivation was detected in all three fields and was most pronounced in Field 7. The northern and eastern boundaries of Field 7 was a brook. Subdued magnetic data from a corridor to the west of the watercourse indicates probable alluvial cover. Anomalies from a ferrous pipeline were identified in the south-east of the survey area. A zone of noisy magnetic readings in the north-east may represent dumping of magnetic hardcore to firm the ground adjacent to the stream. Similar anomalies were located in the north-west and south-west corners of Field 10 respectively and are also believed to represent buried rubble debris.

Field 13 (Figs 7 & 8)

A single field of area of 2.8ha was surveyed. Ridge and furrow cultivation aligned north – south dominated the results. Little else was located other than some noisy data in the north-west, likely to indicate buried brick rubble. No archaeological anomalies were indicated.

Fields 14 – 17 (Figs 7 & 8)

Four fields were surveyed around a Council Depot. Fields 14 (0.4ha) and 15 (0.75ha) were found to contain ridge and furrow orientated north – south and little else. Strong magnetic effects from the depot's fence affected the data in Field 16 (0.24ha) to the point that little else was discernible. Survey of Field 17 (0.64ha) indicated a high degree of magnetic variability, such as that from brick rubble and ferrous waste. An east – west anomaly in the south was a reaction to a short length of steel fence.

Field 20 (Figs 7 & 8)

Survey of this field encompassed 4.3ha. The entire survey area was subject to considerable magnetic noise, reflecting a layer of probable demolition waste as detailed above (Field 17). Even so, the image was of sufficient translucence to discern east – west orientated ridge and furrow. A positive linear anomaly, parallel with the furrows through the centre of the field, matches well with

a field boundary marked on both the 1905 and 1938 Ordnance Survey mapping (www.old-maps.co.uk accessed 12/05/08). This would suggest that the deposition occurred in the second half of the 20th century. No other features could be identified in the data.

Field 22 (Figs 7 & 8)

An area of 2.9ha was surveyed adjacent to the northern end of the former RAF Melton Mowbray runway. The western half of the area revealed what is assumed to be north-east aligned medieval ridge and furrow cultivation, but is of particularly high magnetic enhancement when compared to the north-south furrows detected in the east. Several groups of dipolar anomalies were detected in Field 22 suggesting dumps of iron debris around the area. Similarly, noisy data in the east of the area indicates more iron and brick rubble. A ferrous pipeline passes through the eastern area. Curving positive anomalies in the north-east of the survey area may reflect a single ditched feature. Considering the inclusion of ferrous anomalies and the previous usage of the land as an airbase, the feature could date anywhere from prehistory to the mid-20th century.

6 CONCLUSIONS

The detailed gradiometer survey identified two foci of archaeological activity, essentially flanking the east and west sides of Sandy Lane. To the east (Field 4) a 70m x 40m sub rectangular enclosure was located containing four smaller rectangular enclosures and at least seven roundhouses. A further, exterior, circular enclosure was also detected. Combined with the evidence from surface finds (SMR 8001, 8003; CgMs 2008, 15), there can be little doubt that these features comprise a late prehistoric / early Roman settlement.

Three hundred metres to the west of the first site, the survey identified an extensive system of overlapping ditches and rectangular and ovoid enclosures in Fields 7, 10 and 11. That the features apparently continue further south in Fields 7 and 11 suggests that they may be part of a larger site which extends outside the development area. The plan form may suggest an Iron Age origin with occupation continuing into the Roman period. Between the two foci, in Field 7, was an area of possible industrial activity and a putative isolated round-house close to the course of a stream. Gradiometer survey also mapped the extensive medieval ridge and furrow cultivation, post-medieval field boundaries and land drains across the entire survey area.

BIBLIOGRAPHY

CgMs 2006 *Archaeology Desk Based Assessment of Land at Melton South, Melton Mowbray, Leics*

EH 1995 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage, Research and Professional Services Guideline, **1**

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

NA 2008 *Melton Mowbray South, Leicestershire, Geophysical Survey Methods Statement.*

SSEW 1983 *Soils of England and Wales, Sheet 3 Midland and Western England*, Lawes Agricultural Trust

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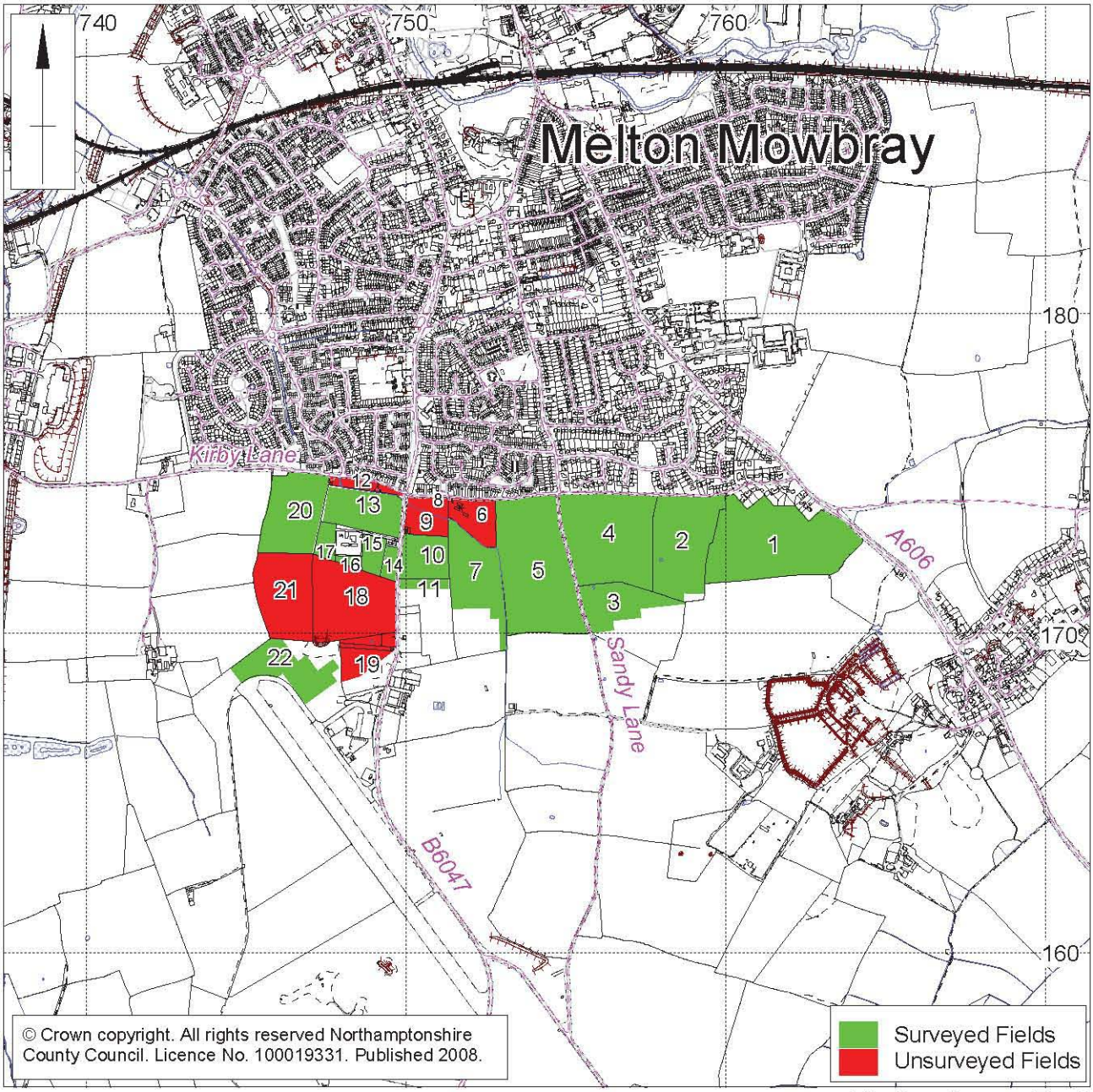


Scale 1:20,000 @ A4

Site location Fig 1

Scale 1:10,000 @ A4

Detailed Gradiometer Survey Results Fig 2

Scale 1:2500 @ A3

Detailed Survey Results Fields 1, 2, 3 & 4 Fig 3

Scale 1:2500 @ A3

Detailed Gradiometer Survey Interpretation Fields 1, 2, 3 & 4 Fig 4

749
751
753
755
757
174
172
170
Field 5
Field 10
Field 11
Field 7
B5047
Pond
Anomalies / nT
-3.0
+3.0
N

Scale 1:2500 @ A3

Detailed Survey Results Fields 5, 7, 10 & 11 Fig 5

749
751
753
755
757
174
172
170
Field 5
Field 10
Field 11
Field 7
B6047
Archaeology?
Ferrous Pipe & Debris
Ceramic Debris
Field Drains
Ridge & Furrow
Geology
N

Scale 1:2500 @ A3

Detailed Survey Interpretation Fields 5, 7, 10 & 11 Fig 6

745
747
749
176
Field 5
Field 20
Field 13
174
Field 15
Field 17
Field 16
172
Field 14
170
Pond
B 6047
168
Field 22
Anomalies / nT
-3.0
+3.0
N

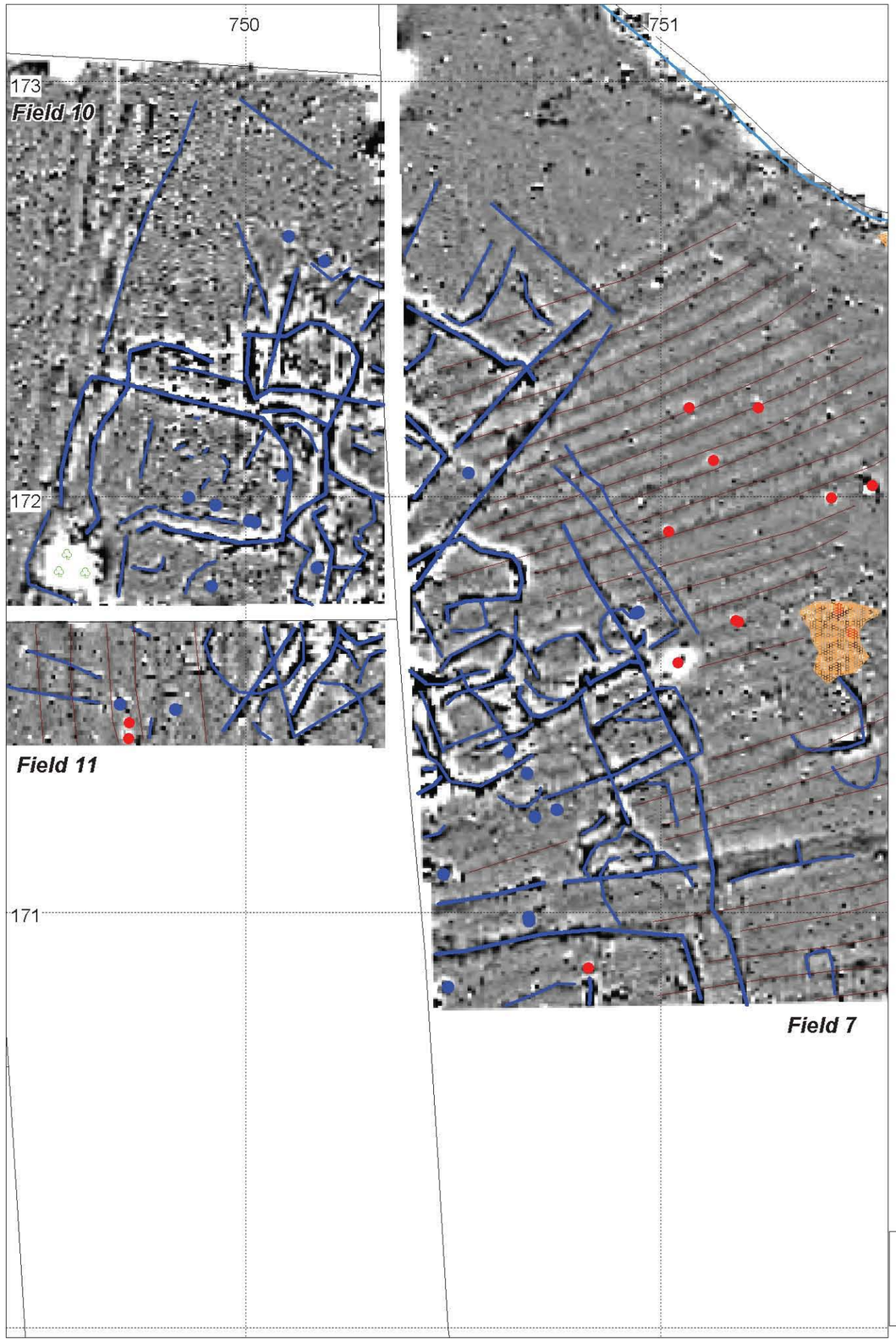
Scale 1:2500 @A3

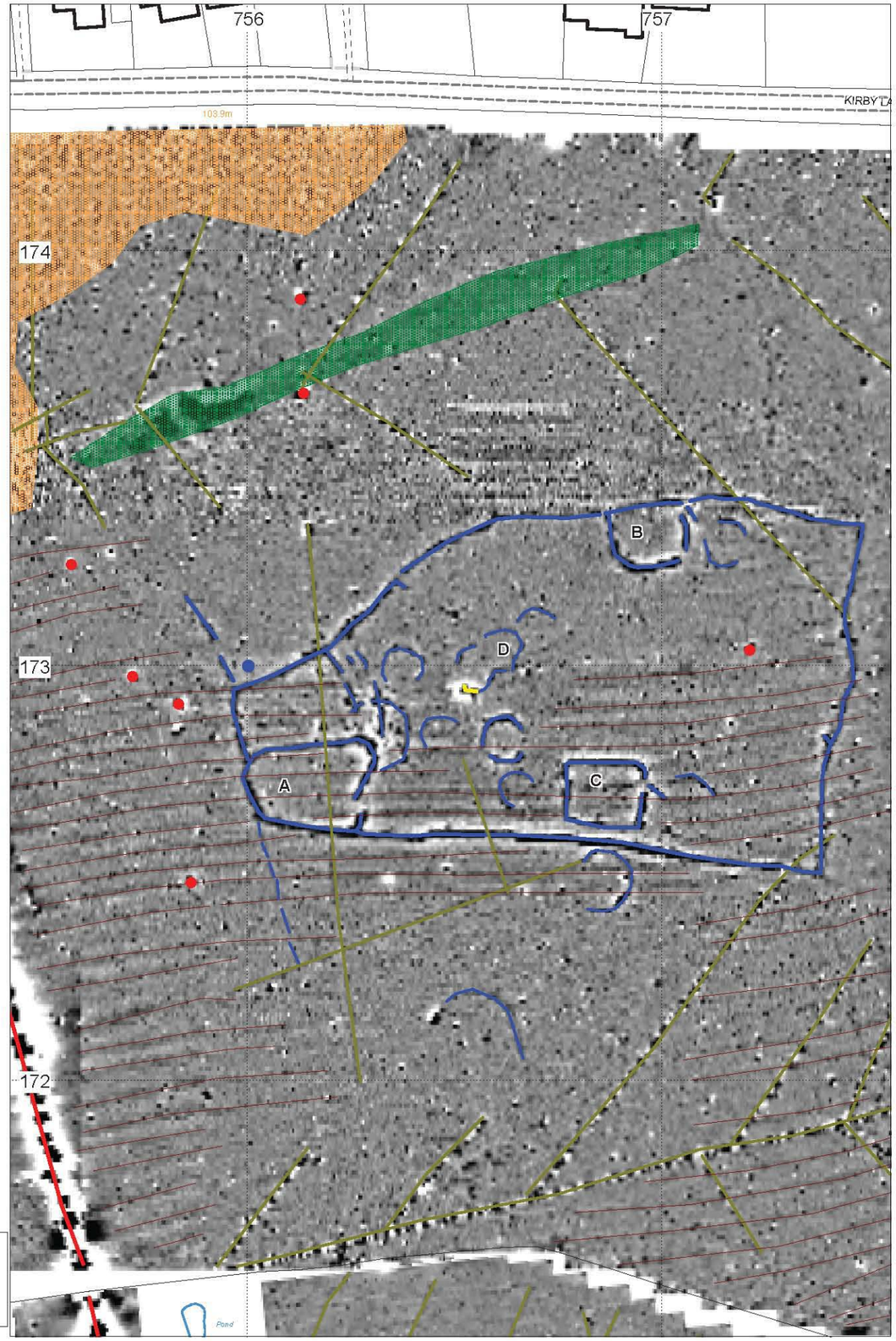
Detailed Survey Results Fields 13, 14, 15, 16, 17, 20 & 22 Fig 7

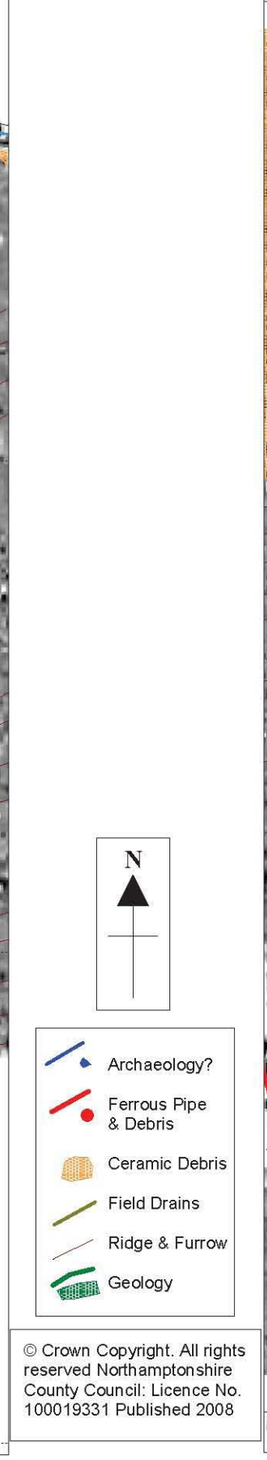
745
747
749
176
174
172
170
168
Field 5
Field 20
Field 13
Field 15
Field 17
Field 16
Field 14
Field 22
B 6047
Pond
BM 104.52m
Archaeology?
Ferrous Pipe & Debris
Ceramic Debris
Field Drains
Ridge & Furrow
Geology
N

Scale 1:2500 @ A3

Detailed Survey Interpretation Fields 13, 14, 15, 16, 17, 20 & 22 Fig 8







Detailed Survey Interpretation Fields 7, 10 & 11

Scale 1:1250 @ A3

Detailed Survey Interpretation Field 4 Fig 9