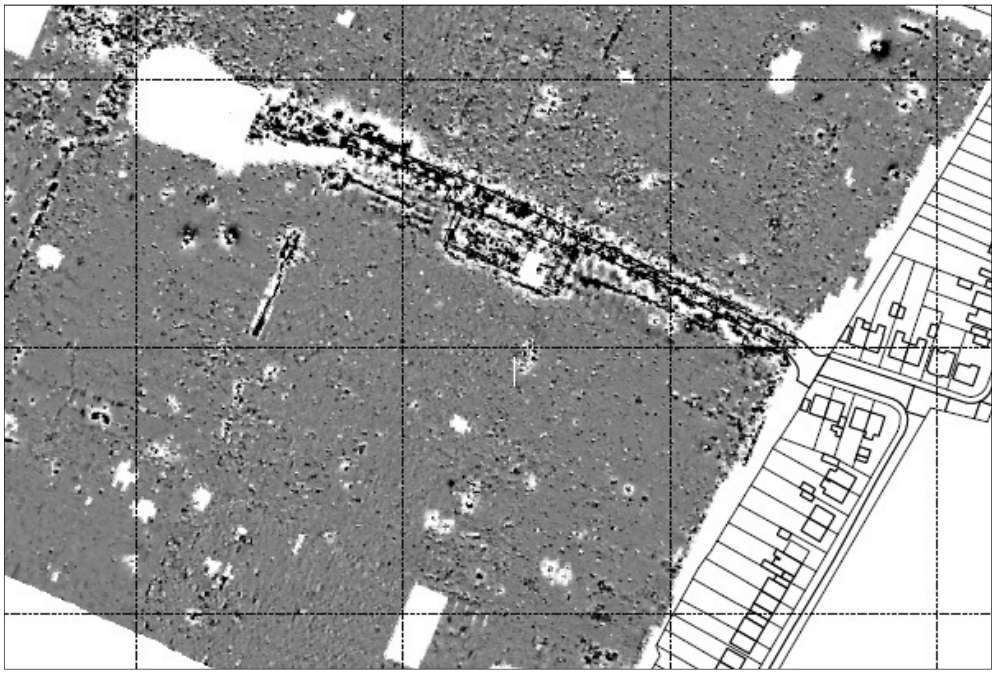

Archaeological geophysical survey of Blackbird Road Playing Fields Beaumont Leys Leicester June 2015

Accession No. A11.2015

Report No. 15/108

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Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	01/07/2015	Pat Chapman	-	Mark Holmes	Client approval

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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1-216396	
Project name	Archaeological geophysical survey of Blackbird Road Playing Fields, Beaumont Leys, Leicester	
Short description	MOLA Northampton was commissioned to carry out a detailed magnetometer survey of Blackbird Road Playing Fields, Beaumont Leys, Leicester. The survey identified two possible ditches, an undated pond and slight traces of medieval ridge and furrow cultivation. A variety of modern features, many relating to use of the area as a playing field, were also identified.	
Project type	Geophysical survey	
Site status	None	
Previous work	Desk-based assessment (Jones 2006)	
Current land use	Playing field	
Future work	Unknown	
Monument type/ period	Undated ditches, undated pond, medieval ridge and furrow	
Significant finds	None	
PROJECT LOCATION		
County	Leicestershire	
Site address	Blackbird Road, Beaumont Leys	
Study area	*c* 14ha	
OS Easting & Northing	SK 574 067	
Height OD	*c* 88 m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Leicester Archaeological Planning Officer	
Project design originator	MOLA Northampton	
Director/Supervisor	Olly Dindol	
Project Manager	John Walford	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	8 June 2015	
End date	11 June 2015	
ARCHIVES	Location	Content
Physical	N/A	
Paper	A11.2015	Site survey records
Digital	MOLA Northampton	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey of Blackbird Road Playing Fields, Beaumont Leys, Leicester, June 2015	
Serial title & volume	MOLA Northampton Reports 15/108	
Author(s)	Olly Dindol and John Walford	
Page numbers	4	
Date	1 July 2015	

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Archaeological geophysical survey of Blackbird Road Playing Fields Beaumont Leys, Leicester June 2015

ABSTRACT

MOLA Northampton was commissioned to carry out a detailed magnetometer survey of Blackbird Road Playing Fields, Beaumont Leys, Leicester. The survey identified two possible ditches, an undated pond and slight traces of medieval ridge and furrow cultivation. A variety of modern features, many relating to use of the area as a playing field, were also identified.

1 INTRODUCTION

MOLA Northampton was commissioned by CgMs Consulting to carry out a magnetometer survey of *c* 14ha of land at Blackbird Road, Beaumont Leys, Leicester. The aim of this survey was to identify any potential archaeological remains within the proposed development area. The fieldwork was undertaken from 8 – 11 June 2015 and covered *c* 10.5ha of land, the remainder being overgrown and unsuitable for survey.

2 BACKGROUND

2.1 Topography and geology

The survey area comprises one grass field situated in the north-west of Leicester (NGR SK 574 067 (Fig 1)). The field is bounded to the south, north and east by residential areas and to the west by Beaumont Leys School. At the time of the survey the southern and north-western portions of the survey area were overgrown, as were some smaller areas around a former building and tennis courts.

The survey area lies on a north-west facing slope, rising from 84m aOD to 88m aOD. The bedrock geology of the area, as recorded by the British Geological Survey, is composed of Branscombe mudstone. The overlying superficial geology is recorded as poorly sorted Oadby Member sands (BGS 2015).

2.2 Historical and archaeological background

The survey area has been the subject of a desk-based assessment (Jones 2006). This noted that a number of individual finds of Prehistoric and Roman date have been recorded from the vicinity of the area, although none are known from within its boundaries. It also noted that the area was a part of a medieval deer park owned by Leicester Abbey, and that part of the park pale survives as an earthwork. The abbey itself was founded in 1143, and its remains lie *c* 700m to the east of the survey area.

The first edition Ordnance Survey map (1888) depicts the survey area prior to the encroachment of modern housing. The main feature of note is a set of earthworks, comprising a pond flanked by long mounds, which stood close to the south-west of the

area (Jones 2006, fig 2). The same map also marks the site of 'St John's Stone', lying *c* 400m to the east of the survey area. This monument is apparently no longer extant.

3 METHODOLOGY

The magnetometer survey was conducted with Bartington Grad 601-2 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). All fieldwork methods complied with the guidelines issued by Historic England and by the Chartered Institute for Archaeologists and with the method statement for this project (HE 2015; CIfA 2014; MOLA 2015).

A network of 30m grid squares was established across the field. It was set out by tape measure and optical square and was tied in to the Ordnance Survey National Grid by measurement with a Leica Viva RTK GPS. 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.

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 de-staggering of the data was performed as necessary. Rippling caused by machine error was removed using a combination of the 'Periodic Defect' and 'Spectrum' functions. The processed data is presented in this report in the form of two grey-tone plots, one at a scale of +/- 8nT black/white and another at a scale of +/- 75nT. The plots have been scaled, rotated and resampled (geo-rectified) for display against the Ordnance Survey base mapping (Figs 2 - 3). An interpretative overlay is shown in Figure 4 and a plot of the unprocessed data is presented in Figure 5.

4 SURVEY RESULTS

The survey results are dominated by magnetic anomalies relating to the recent use of the land as playing fields. A very prominent band of magnetic disturbance has been detected across the centre of the survey area, indicating the location of former buildings and an access road, and there are many other anomalies relating to drains and sports infrastructure. Only a few possible archaeological anomalies have been detected, and these are mostly quite weak and inconspicuous.

A very weak L-shaped linear anomaly with a rounded corner has been detected close to the centre of the survey area, just south of the former access road. It possibly represents the corner of a ditch and, because it lies askew to the modern landscape and the medieval ridge and furrow (see below), it may be of relatively early date. Similar arguments can be applied to the weak linear anomaly which runs south-eastwards from near the north-western corner of the survey area, intersecting obliquely with the ridge and furrow. This may also represent a ditch, although an interpretation as a modern drain or service trench cannot be entirely ruled out.

A series of very weak parallel linear anomalies, often amounting to little more than vaguely-defined trends, cross the survey area from north-west to south-east. The widespread presence and regular spacing of these is consistent with ridge and furrow cultivation of medieval to early post-medieval date. The weakness of the anomalies could be due to severe truncation of the furrows but more probably reflects the presence of magnetically unfavourable soils with poorly-developed magnetic contrasts between the topsoil and subsoil.

A large anomaly, comprising an area of intense magnetic noise, is situated in the south-western corner of the survey area. Its location coincides with the former pond which is depicted on the first edition Ordnance Survey map along with a pair of flanking earthworks (Jones 2006, fig 2). The intensity of the noise indicates that the backfill material includes scrap metal or other highly magnetic debris. The flanking earthworks have not been detected but this may not be significant as levelled earthworks do not usually constitute good targets for magnetic survey.

A number of small anomalies of moderate magnetic intensity (20 - 90nT) are distributed across the survey area. Their intensities would be consistent, broadly speaking, with the presence of burnt soil, ceramic debris, clinker or deeply buried iron objects. However, the anomalies vary considerably in terms of their shape and character and it is likely they arise from a range of different causative features. Some might have an archaeological origin, although a modern origin would be more probable in most cases. Due to this uncertainty, they are categories as 'indeterminate' on the interpretation plot (Fig 4).

A set of weak linear anomalies of alternating polarity, diagnostic of field drains, have been detected in the south-western part of the survey area. Four broadly-spaced linear anomalies in the northern survey area are more tentatively interpreted as field drains based on their regular spacing and parallel alignments perpendicular to the northern field boundary.

The band of intense magnetic disturbance across the centre of the survey area consists of several intermingled anomalies, as can be seen in Figure 3. These comprise a linear anomaly of alternating polarity, a number of short curvilinear and linear anomalies which form the outline of a structure and two linear anomalies one of which has a circular terminal. Densely clustered magnetic dipoles ('magnetic noise') are also present.

Intense linear anomalies of alternating polarity are characteristic of modern pipelines, although generally the associated halos of such anomalies are sharp and well defined as opposed to the scrappy halo present here. Probably, in this case, the form of the anomaly is confused by the magnetic noise arising from the hardcore of the former access road which followed much the same line.

Historic Ordnance Survey maps show that the aforementioned short linear and curvilinear anomalies represent the outline of a former school pavilion dating to the 1950s. The cause of the two associated linear anomalies extending to the east and west is unknown, although given their location and alignment they are more likely to represent modern features than archaeological ones.

Just south of the former access road, the survey has detected a small group of short parallel linear anomalies which probably represent the artificial surfaces of a former set of cricket nets. Further south there is a linear anomaly with a rectangular terminal at its northern end which represents a long-jump track and pit, and further west there is an elongated, hairpin-shaped linear anomaly that corresponds to a feature shown projecting from the edge of the tennis courts on the 1956 edition of the Ordnance Survey map (Jones 2006, fig 5).

Various discrete dipolar anomalies have been detected across the survey area. They are generally of ferrous origin and, where they occur in regularly spaced pairs, it is a reasonable supposition that they could represent the metal sockets for goalposts. One triangular group of three dipoles also occurs, slightly west of the long-jump pit, and this resembles the response that sometimes arises from the anchor points for a radio mast or other wire-braced structure.

Areas of magnetic noise are also widespread across the survey area, representing spreads of magnetic debris (hardcore and scrap metal). Such spreads can constitute demolition rubble, layers of made ground, accumulations of dumped rubbish and various other modern deposits.

5 CONCLUSION

The survey has detected only a few minor archaeological features, comprising two possible ditches, a former pond and traces of medieval to early post-medieval ridge and furrow cultivation. The majority of the survey results relate instead to modern features, including a former building, goalposts and a long-jump pit.

A notable aspect of the survey results is the extreme weakness of the anomalies that represent the ridge and furrow and the possible ditches. This may indicate that the geology and soils of the proposed development area are unfavourable for magnetic survey and have not supported the development of clear magnetic contrasts between all man-made features and the natural substrate. Such a limitation will apply especially to cut archaeological features backfilled with soil, and less so to modern features which owe their magnetic signature to the presence of iron, brick and other highly magnetic materials.

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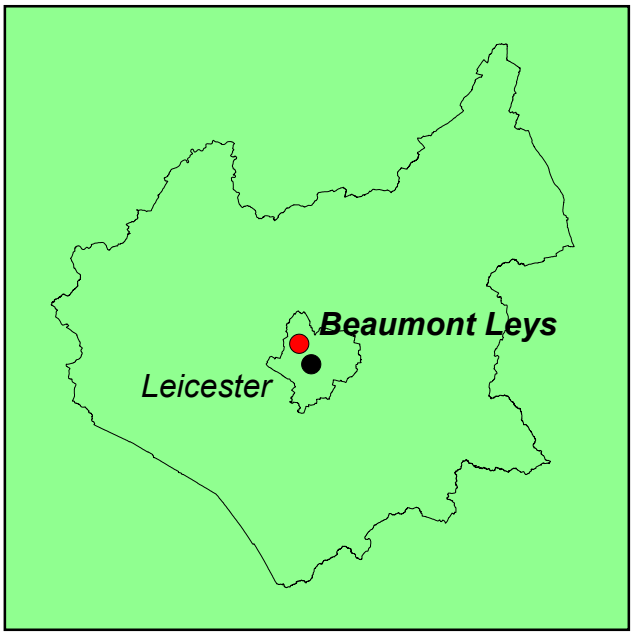
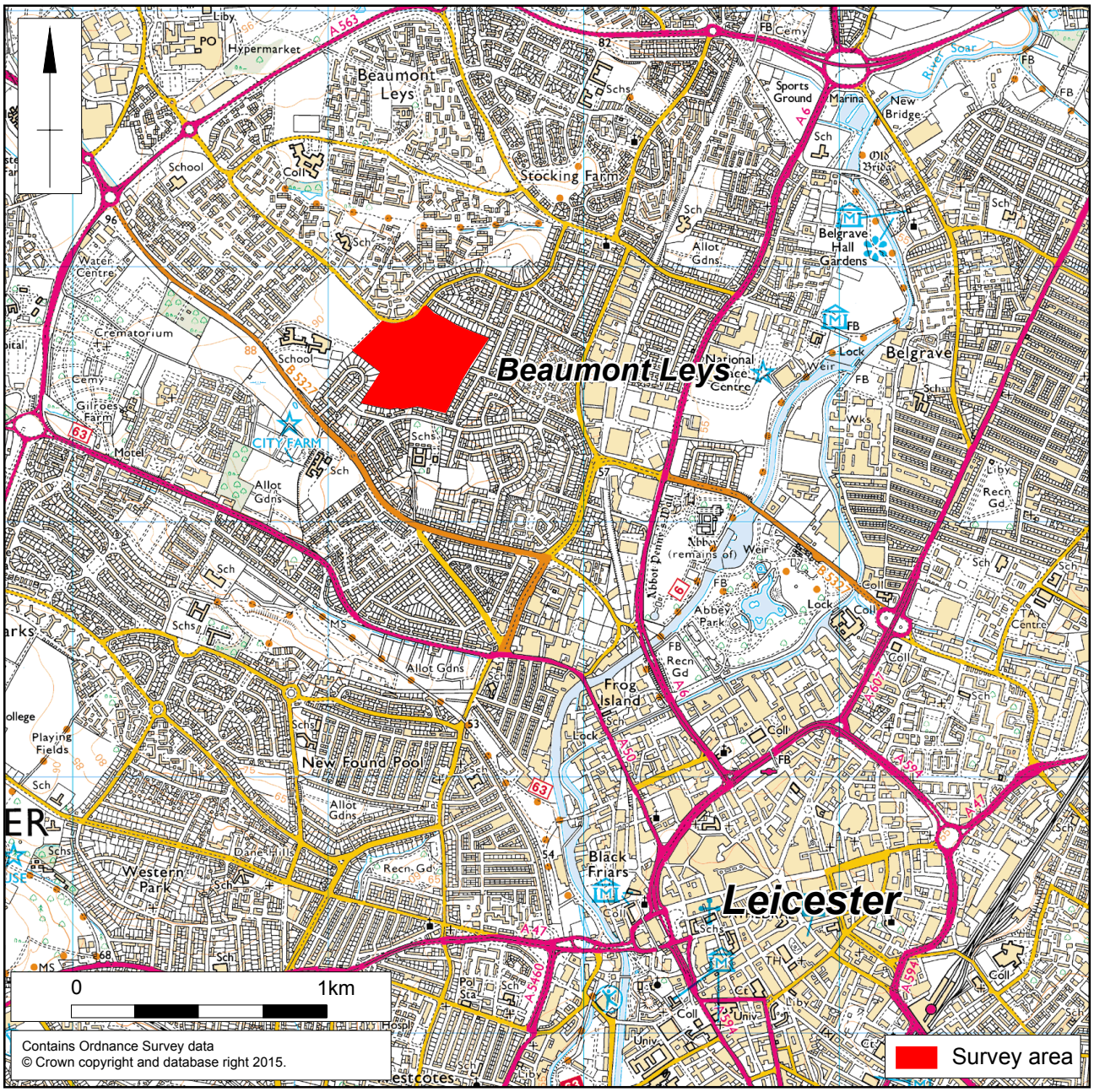
MOLA
1 July 2015





Scale 1:25,000

Site location Fig 1

570

572

574

576

068

066

064

OVERGROWN

FORMER
BUILDING

OVERGROWN

Magnetic anomaly /nT

-8nT 0 +8nT

0 100m

Scale 1:2000

Magnetometer survey results Fig 2

570
572
574
576
068
066
064
OVERGROWN
FORMER
BUILDING
OVERGROWN
Magnetic anomaly /nT
-75nT 0 +75nT
0 100m

Scale 1:2000

Magnetometer survey results (+/-75nT) Fig 3

570
572
574
576
068
066

OVERGROWN

FORMER
BUILDING

OVERGROWN

Archaeology?
Old pond
Ridge and furrow
Indeterminate
Building foundations
Drains?
Sports infrastructure
Pipeline
Ferrous object
Magnetic debris

Magnetic anomaly /nT
-8nT 0 +8nT

0 100m

Scale 1:2000

Magnetometer survey interpretation Fig 4

570
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574
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068
066
064
OVERGROWN
FORMER
BUILDING
OVERGROWN
Magnetic anomaly /nT
-8nT 0 +8nT
0 100m

Scale 1:2000

Magnetometer survey raw data Fig 5

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