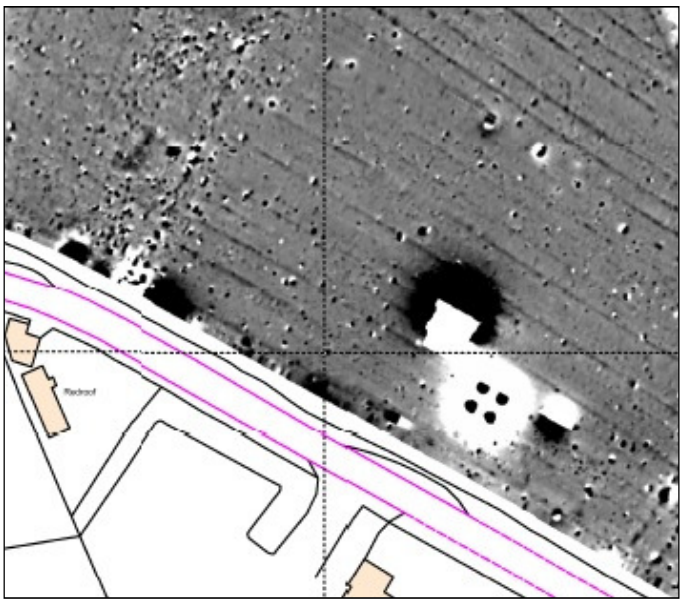


Archaeological geophysical survey north of Desford Road, Enderby, Leicestershire July 2017

Accession number: X.A79.2017

Report No: 17/90

Author: John Walford

Illustrator: John Walford

Project Manager: John Walford
Accession number X.A79.2017
NGR: SK 527 003

MOLA
Kent House
30, Billing Road
Northampton
NN1 5DQ, 01604 809 800
www.mola.org.uk
sparry@mola.org.uk

Archaeological geophysical survey north of Desford Road, Enderby, Leicestershire

July 2017

Accession number: X.A79.2017

Report No: 17/90

Quality control and sign off**:**

Issue No.	Date approved:	Checked by:	Verified and approved by:	Reason for Issue:
1	25/07/17	Rob Atkins	Mark Holmes	Client approval

Author: John Walford

Illustrator: John Walford

MOLA
Kent House
30, Billing Road
Northampton
NN1 5DQ
01604 809 800
www.mola.org.uk
sparry@mola.org.uk

STAFF

Project Manager:	John Walford MSc
Fieldwork:	Graham Arkley MSc
	Kevin van Buuren MSc
Text:	John Walford
Illustrations:	John Walford

OASIS REPORT

PROJECT DETAILS	**Oasis No. molanort1-291196**	
Project name	Archaeological geophysical survey north of Desford Road, Enderby, Leicestershire	
Short description	MOLA (Museum of London Archaeology) was commissioned to undertake an archaeological geophysical survey of *c* 3ha of land north of Desford Road, Enderby, Leicestershire. The only definite archaeological anomalies detected were those relating to medieval or early post-medieval ridge and furrow cultivation. A few other anomalies were detected which could, in principle, represent archaeological features, but they are too weak, fragmentary and dispersed for such an interpretation to be confidently proposed.	
Project type	Geophysical survey	
Site status	None	
Previous work	None known	
Current land use	Turf farm	
Future work	Not known	
Monument type/ period	Medieval ridge and furrow	
Significant finds	None	
PROJECT LOCATION		
County	Leicestershire	
Site address	Desford Road, Enderby	
Study area	*c* 3ha	
OS Easting & Northing	SK 527 003	
Height OD	*c* 95 - 100m aOD	
PROJECT CREATORS		
Organisation	MOLA	
Project brief originator	Statera Energy Ltd	
Project design originator	MOLA	
Director/Supervisor	Graham Arkley	
Project Manager	John Walford	
Sponsor or funding body	Statera Energy Ltd	
PROJECT DATE		
Start date	11th July 2017	
End date	11th July 2017	
ARCHIVES	Location	Content
Physical	N/A	
Paper	MOLA Northampton	Site survey records
Digital		Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey north of Desford Road, Enderby, Leicestershire, July 2017	
Serial title & volume	MOLA Northampton Reports 17/90	
Author(s)	John Walford	
Page numbers	4	
Date	25 July 2017	

Contents

Figures

Archaeological geophysical survey north of Desford Road, Enderby Leicestershire July 2017

ABSTRACT

MOLA (Museum of London Archaeology) was commissioned to undertake an archaeological geophysical survey of c 3ha of land north of Desford Road, Enderby, Leicestershire. The only definite archaeological anomalies detected were those relating to medieval or early post-medieval ridge and furrow cultivation. A few other anomalies were detected which could, in principle, represent archaeological features, but they are too weak, fragmentary and dispersed for such an interpretation to be confidently proposed.

1 INTRODUCTION

MOLA (Museum of London Archaeology) was commissioned by Statera Energy Ltd to undertake an archaeological geophysical survey on land to the north of the B582 Desford Road, Enderby, Leicestershire (NGR SK 527 003; Fig 1). The purpose of the survey was to identify and map any archaeological remains which may be affected by construction of a proposed electricity substation.

The survey was undertaken on 11th July 2017 and was conducted in a manner which conformed to CIfA and Historic England guidelines for geophysics (CIfA 2014, EH 2008). The Senior Planning Archaeologist for Leicestershire, Teresa Hawtin, was notified of the work, and it has been recorded with Leicestershire Museums Service under accession number X.A79.2017.

2 BACKGROUND

2.1 Topography and geology

The survey area comprises a roughly triangular field, *c* 3ha in extent, located to the north-west of Enderby. It lies on the north side of Desford Road, to the west of Beggar's Lane and north of Redcomb Business Park. At the time of the survey the field was being used to grow turf.

The survey area lies in a gently undulating landscape, occupying a west to north-westerly facing slope at an elevation of 95m to 100m aOD. The geology of this area is mapped as Oadby diamicton (boulder clay) overlying the Edwalton member of the Sidmouth mudstone formation (BGS 2017).

2.2 Historical and archaeological background

There is abundant evidence for Iron Age and Roman activity in the vicinity of the survey area. One concentration of finds, discovered through metal detecting and fieldwalking surveys, indicates an extensive Iron Age and Roman site *c* 400m to the west, south-west of Bilsdon's Hollow (Leicestershire Historic Environment Record MLE 8347 and MLE 17230). The finds from this location include Iron Age coins (MLE 9082) and Roman kiln bars, the latter indicating pottery manufacture (MLE 8773). Other concentrations of Iron Age and Roman finds have been recorded to the north, at Bilsdon's Hollow (MLE 5979),

and to the south, near Cook's Lodge Farm (MLE 9574). Furthermore, cropmark evidence suggests that an Iron Age or Roman enclosure once lay *c* 500m south of the survey area; however this site was probably destroyed by the construction of the M69 Motorway (MLE 237).

Approximately 400m north of the survey area, near Yennard's Farm, there are indistinct earthworks of possible medieval date (MLE 15940). Nothing else of medieval date is recorded close to the survey area.

Historic Ordnance Survey maps show that the survey area was formerly divided into four separate fields, the south-eastern of which was in use as allotments throughout the first half of the 20th-century. These maps also show the area contained a small pond and, more recently, an electricity pylon but neither of these features survive today.

3 METHODOLOGY

This survey was conducted with the MOLA magnetometer cart, which is a two-wheeled, lightweight structure designed to be pushed by hand. It incorporates a bank of six vertically-mounted Bartington Grad601 magnetic sensor tubes, spaced at half-metre intervals along a bar aligned crossways to the direction of travel, and also incorporates a Leica Geosystems Viva GPS antenna mounted on the central axis, 0.5m astern of the sensors. The magnetic sensors each output data at a rate of six readings per second and the GPS antenna outputs NMEA format data (GGA messages) at a rate of one position every second. These data streams are fed into a laptop computer where they are compiled into a single raw data file by MultiGrad601 logging software specifically designed for that purpose.

The cart was pushed along straight and parallel traverses across the survey area, with data logging being manually toggled on and off at the start and end of each traverse to avoid the collection of spurious data whilst turning. Traverse ends were marked with ranging poles to aid even coverage, and the evenness of coverage was further checked by monitoring the positional trace plotted in real time by the MultiGrad601 logging software. The average speed of coverage was *c* 1.5m/s and the effective data resolution thus approximated to 0.25m x 0.50m.

The raw survey data was initially processed with MLGrad601 software, which calculated an actual UTM co-ordinate for each data point by interpolating the GPS readings and applying offset corrections based on the array geometry and calculated heading direction. This produced an output file in XYZ format which could be imported into TerraSurveyor software for data visualisation and further processing.

The raw XYZ data exhibited striping caused by slight mismatches in the calibration of the individual magnetic sensors. This was removed in TerraSurveyor by applying the median de-stripe function to runs of data from each sensor. Once processed the magnetometer data collected during the survey was ouput as greyscale raster plots (range +5nT to -5nT / black to white) which have been rotated and scaled for display against Ordnance Survey Master Map base mapping (Fig 2). An interpretative overlay is presented in Figure 3 and plots of the unprocessed survey data are presented in Figure 4.

4 SURVEY RESULTS

The survey has detected no convincing evidence of archaeological remains (other than ridge and furrow) within the survey area, although there are a few minor anomalies for which an archaeological interpretation can be tentatively suggested. The majority of the detected anomalies relate to more recent features, including a pond, field boundaries and modern ferrous objects.

A number of short, weakly positive linear anomalies have been detected in the northern half of the survey area. Whilst these could, in principle, represent small ditches or gullies, they are so slight, so dispersed, and so incoherently arranged that it is hard to have any confidence that they are actually of archaeological significance. Similarly, two small positive anomalies in the western end of the field could represent pits but would be equally likely to have a non-archaeological cause.

Near the western end of the survey area, alongside the Desford Road frontage, there is a moderately intense (*c* 20nT) positive anomaly which differs in character from the magnetic halos elsewhere around the edges of the survey area. When viewed in detail (Fig 2 inset) it can be seen to comprise a strong outer anomaly around a weaker core. The intensity of the anomaly would be consistent with the presence of ceramic material or burnt soil and its shape is suggestive of a small structure. For these reasons an interpretation as a small kiln or similar feature is tentatively proposed.

Approximately 30m north-east of the previous anomaly, there is a more weakly positive anomaly with an irregular, elongated form. This most probably represents a small quarry pit, perhaps post-medieval in date.

The parallel linear anomalies which extend across the majority of the survey area appear to have a dual origin. Many of them, particularly in the central part of the area, have subtle 'reversed-S' curves which are highly characteristic of medieval to early post-medieval ridge and furrow cultivation. However, those in the west of the area run straight and their northern ends connect with a perpendicular header in a manner which is more reminiscent of a network of field drains. The most likely explanation is that the anomalies all represent field drains, but that the drains in the central area were laid when the ridge and furrow still survived as earthworks and were therefore inserted along the bases of the furrows, following their curves.

The boundary between the north-south aligned drains in the west of the survey area and the east-west aligned drains in its centre correlates with the position of one of the former field boundaries depicted on historic Ordnance Survey maps of the area. A linear scatter of small dipolar anomalies along this line is typical of the magnetic response from an old field boundary, representing various pieces of scrap metal dumped at the edge of the field or incorporated into the backfill of the ditch. Another old boundary, which crossed the central part of the survey area, is likewise represented by a loose alignment of magnetic dipoles.

To the east of the central area, where the survey area narrows abruptly, there are two parallel linear anomalies aligned north-eastwards, perpendicular to Desford Road. These also have the character and appearance of old field boundary anomalies, with distinct alignments of magnetic dipoles, although neither correlates exactly with any of the historic boundaries mapped by the Ordnance Survey. In the same vicinity there is a large, amorphous positive anomaly with a negative halo. This matches with the mapped location of a former pond, and the nature of the anomaly would be consistent with the inclusion of scrap metal along with other materials in the pond's backfill.

A large and very intense anomaly with the appearance of a button, comprising a negative halo around four positive cores, occurs almost centrally in the southern half of the survey area. This undoubtedly represents the buried footings of the former electricity pylon, with each core relating to a stub of metal from one of the four legs. To either side of it are other intense anomalies, which are halos from a parked vehicle and a metal sign standing in the field.

Small dipolar anomalies are widespread across the survey area. These are indicative of buried ferrous objects, most of which will probably be insignificant pieces of agricultural debris (eg horseshoes). There are also various small magnetic halos at the edges of the data: these will have been caused by the adjacent wire fences.

5 CONCLUSION

The survey has detected no features of definite archaeological interest apart from some medieval or early post-medieval ridge and furrow. However there are some widely dispersed anomalies which could conceivably represent two pits and some short lengths of ditch. There is also one anomaly which is suggested, with low confidence, to represent a kiln.

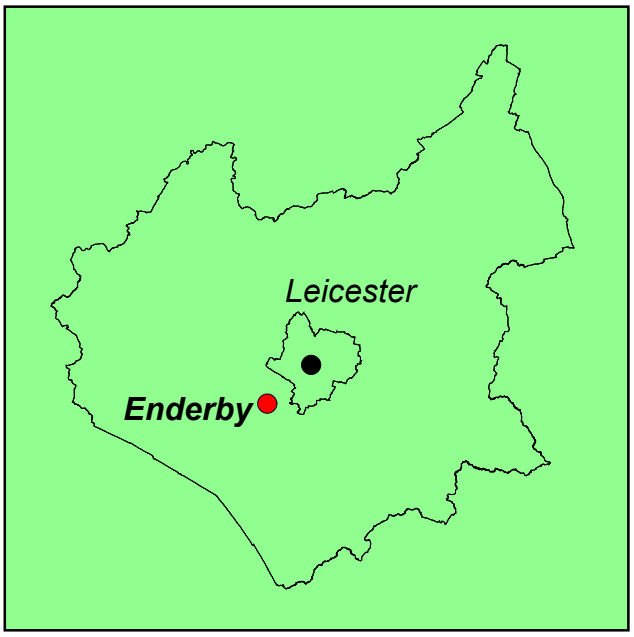
BIBLIOGRAPHY

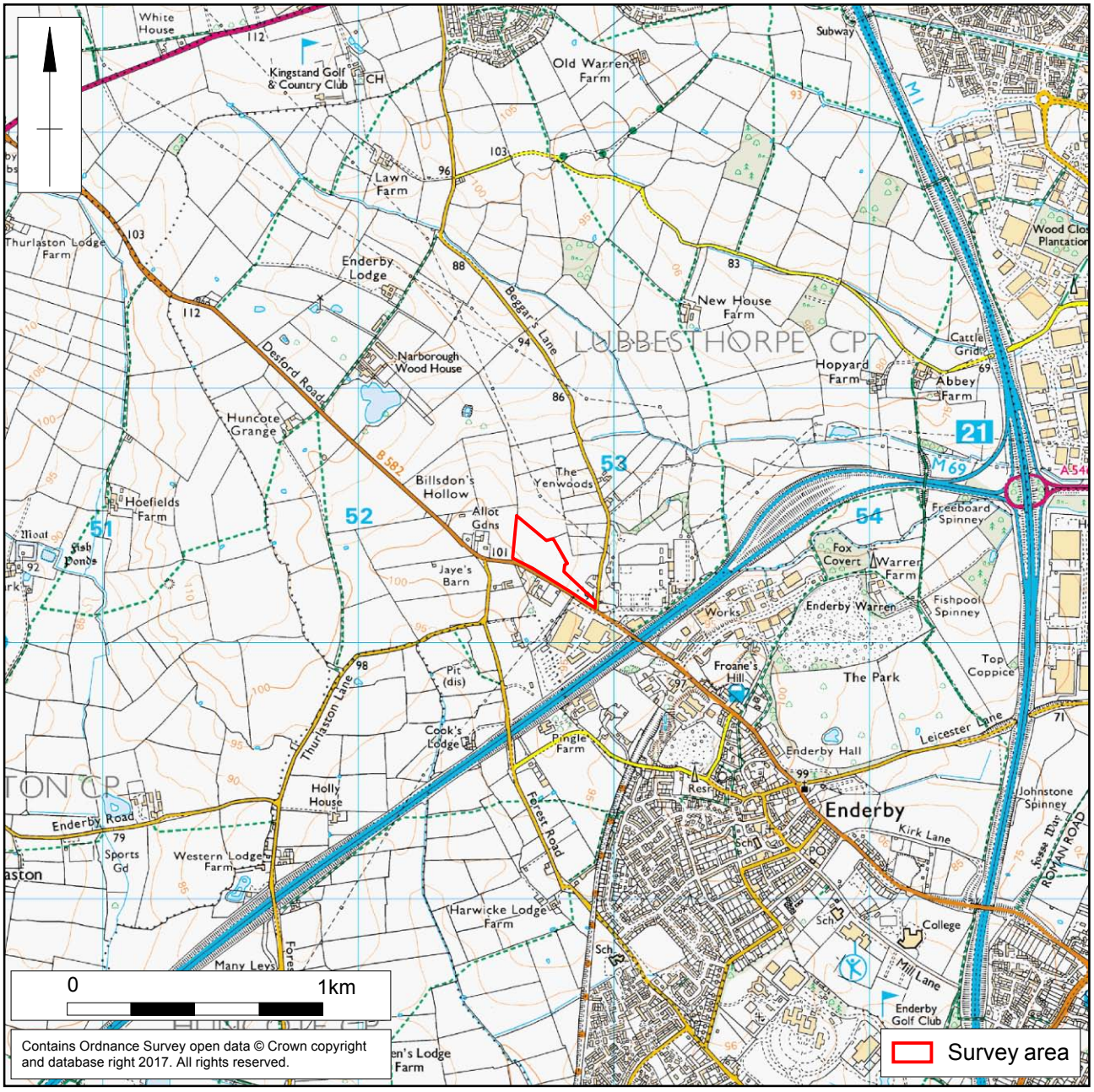
BGS 2017 *Geology of Britain Viewer*, http://mapapps.bgs.ac.uk/geologyofbritain/home.html, British Geological Survey, consulted July 2017

CIfA 2014 *Standard and Guidance for Archaeological Geophysical Survey*, Chartered Institute for Archaeologists

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

MOLA
25th July 2017





Scale 1:25,000

Site location Fig 1

Scale 1:2000

Magnetometer survey results Fig 2

Scale 1:2000

Magnetometer survey interpretation

Fig 3

Scale 1:2000

Unprocessed magnetometer data Fig 4

MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 809 800
www.mola.org.uk
sparry@mola.org.uk