



**Archaeological Geophysical Survey
of the Former Coalite Works
Bolsover, Derbyshire
January 2014**

Report No. 14/16

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Illustrators: Simon Markus and John Walford



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Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	28/01/14	Pat Chapman	Mark Holmes	Andy Chapman	Draft for client review

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FORMER COALITE WORKS, BOLSOVER

OASIS REPORT FORM

PROJECT DETAILS		Molanort1 - 169711
Project name	Archaeological Geophysical Survey on land at the Former Coalite Works, Bolsover, Derbyshire	
Short description	Northamptonshire Archaeology, now operating as MOLA, was commissioned to carry out a magnetometer survey on approximately 13 hectares of land on the north-eastern edge of Bolsover, Derbyshire. The survey identified archaeological features comprising a large rectangular enclosure and parts of a trackway and field system. These probably all date to the Iron Age or Roman periods. Furrows of the historic ridge and furrow field system were also detected.	
Project type	Geophysical survey	
Site status	None	
Previous work	Unknown	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	None	
Significant finds	None	
PROJECT LOCATION		
County	Derbyshire	
Site address	Chesterfield Road, Bolsover	
Study area	13ha	
OS Easting & Northing	445661 371227	
Height OD	70m – 80m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (now operating as MOLA)	
Project brief originator	CgMs Consulting	
Project Design originator	NA	
Director/Supervisor	Simon Markus	
Project Manager	Mark Holmes	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	08 January 2014	
End date	14 January 2014	
ARCHIVES	Location	Content
Physical	N/A	
Paper	MOLA	Site survey records
Digital	MOLA	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey on land at the Former Coalite Works, Bolsover, Derbyshire, January 2014	
Serial title & volume	MOLA Northampton Reports 14/16	
Author(s)	Simon Markus	
Page numbers	3	
Date	28/01/2014	

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ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF THE FORMER COALITE WORKS, BOLSOVER, DERBYSHIRE

ABSTRACT

Northamptonshire Archaeology, now operating as MOLA, was commissioned to carry out a magnetometer survey on approximately 13 hectares of land on the north-eastern edge of Bolsover, Derbyshire. The survey identified archaeological features comprising a large rectangular enclosure and parts of a trackway and field system. These probably all date to the Iron Age or Roman periods. Furrows of the historic ridge and furrow field system were also detected.

1 INTRODUCTION

Northamptonshire Archaeology, now operating as MOLA, was commissioned by CgMs Consulting to carry out an archaeological geophysical survey on approximately 13 hectares of land on the north-eastern edge of Bolsover, Derbyshire (NGR: 445661 371227; Fig 1). The fieldwork comprised a detailed magnetometer survey of the site and was carried out in January 2014.

2 TOPOGRAPHY AND GEOLOGY

The survey area comprised a wedge-shaped arable field, bounded by the River Doe Lea to the north-east, Chesterfield Road (A632) to the south, and the former coalite works to the west. The land stands at an elevation of between 70m and 80m aOD. The solid geology of the survey area comprises mudstone, sandstone and silts of the Pennine Coal Measures (BGS 2013).

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

A small range of Mesolithic, Neolithic, and Bronze Age flint tools have been found around Hilltop and Sherwood Lodge (north end of the town), and these represent the earliest known human occupation within the town of Bolsover, though they likely represent temporary camp sites (Beresford 2013).

It has been argued that the town of Bolsover originated as a defensive hillfort in the Iron Age, however, evidence for this is sparse. Late Iron Age/Early Roman remains are noted in Hilltop and Sherwood Lodge, becoming more prevalent into the Roman period, but no evidence of Iron Age defences has been discovered (Beresford 2010, 2013).

Bolsover is first documented in the *Domesday Book* (AD 1086) where it is listed as 'Belesovre', and is ascribed to the Saxon lord Leofric prior to the Norman conquest (AD 1066). Very little is known of this Saxon settlement (Beresford 2013).

The medieval town and castle of Bolsover has its origins in the 11th century under William Peveral, who also owned land in Castleton. The town developed in three phases, extending further south of the castle between the 11th and 13th centuries. Nothing remains standing of these early developments, with the exception of the church of St Mary and St Lawrence, which contains evidence of Norman construction and may have replaced an earlier Saxon church (Beresford 2013).

The Bolsover Colliery Company began mining in Bolsover in 1889, and in 1947 the industry was nationalised and the mine continued working. It was finally closed in 1993.

The historic maps of the surveyed area show that it has undergone relatively few changes since the late 19th century, with only minor changes to field boundaries being apparent.

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 survey area was divided into a grid of 147 whole and partial 30m x 30m squares which were established by means of a tape measure and optical square. The locations of key points within this grid were subsequently recorded with a Leica System 1200 dGPS.

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 grid.

All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (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 a greyscale plot (scale +/- 6nT black/white), which has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative overlay has also been produced (Fig 3).

5 SURVEY RESULTS

On the western edge of the survey area lies a large rectilinear ditched enclosure, measuring 100m north-south and in excess of 60m east-west (Figs 2 and 3). The western extent is unknown as the enclosure continues beyond the edge of the survey area. There appear to be two entranceways into the enclosure; a large main entrance in the centre of the eastern boundary, and a smaller entrance/causeway in the southern boundary. Within the enclosure there are a small number of positive anomalies, representing two large pits near its northern edge, and one small linear ditch, possibly an internal partition, in its south-western corner.

Attached to the southern side of this enclosure, is a curvilinear anomaly defining a rounded enclosure approximately 40m wide. It encompasses one positive linear anomaly representing a ditch, possibly an internal partition, aligned north-west to south-east.

There are further linear positive anomalies in the north-west, north, south east, and centre of the survey area, perhaps forming part of field enclosures. In the north-western

and south-eastern corners of the site are sub-circular anomalies relating to pit-like features. All of these features possibly relate to the Iron Age or Roman period.

Towards the centre of the site are a series of parallel linear positive anomalies, aligned east-west, between 30m and 70m long, possibly indicating trackways. These do not appear to lead to the enclosure so may be from a different period.

Numerous parallel linear features are present, aligned east to west on the western side of the field, and north-east to south-west on the eastern side of the field. These represent remnant furrows of medieval ridge and furrow cultivation. A further series of linear anomalies on the eastern side of the field correspond with field boundaries noted on Ordnance Survey maps from the late 19th century.

A number of small, very intense positive anomalies were detected across the field, with a concentration of these on the eastern side of the survey area. These likely relate to ferrous objects, with the three large central anomalies coinciding with telegraph poles. Two intensely magnetic linear anomalies which run along the southern field boundary and turn north close to the eastern boundary relate to underground services.

There are large areas of irregular magnetic disturbance across the field, likely relating to the varied nature of underlying substrata, with mudstone, siltstone, and sandstone outcrops converging within the survey area.

6 CONCLUSION

The survey has detected archaeological features across much of the survey area. These features comprise parts of a large ditched enclosure and a smaller rounded enclosure, together with linear ditches defining elements of a probable trackway and field system. The morphology of these features would be consistent with an Iron Age or Roman date.

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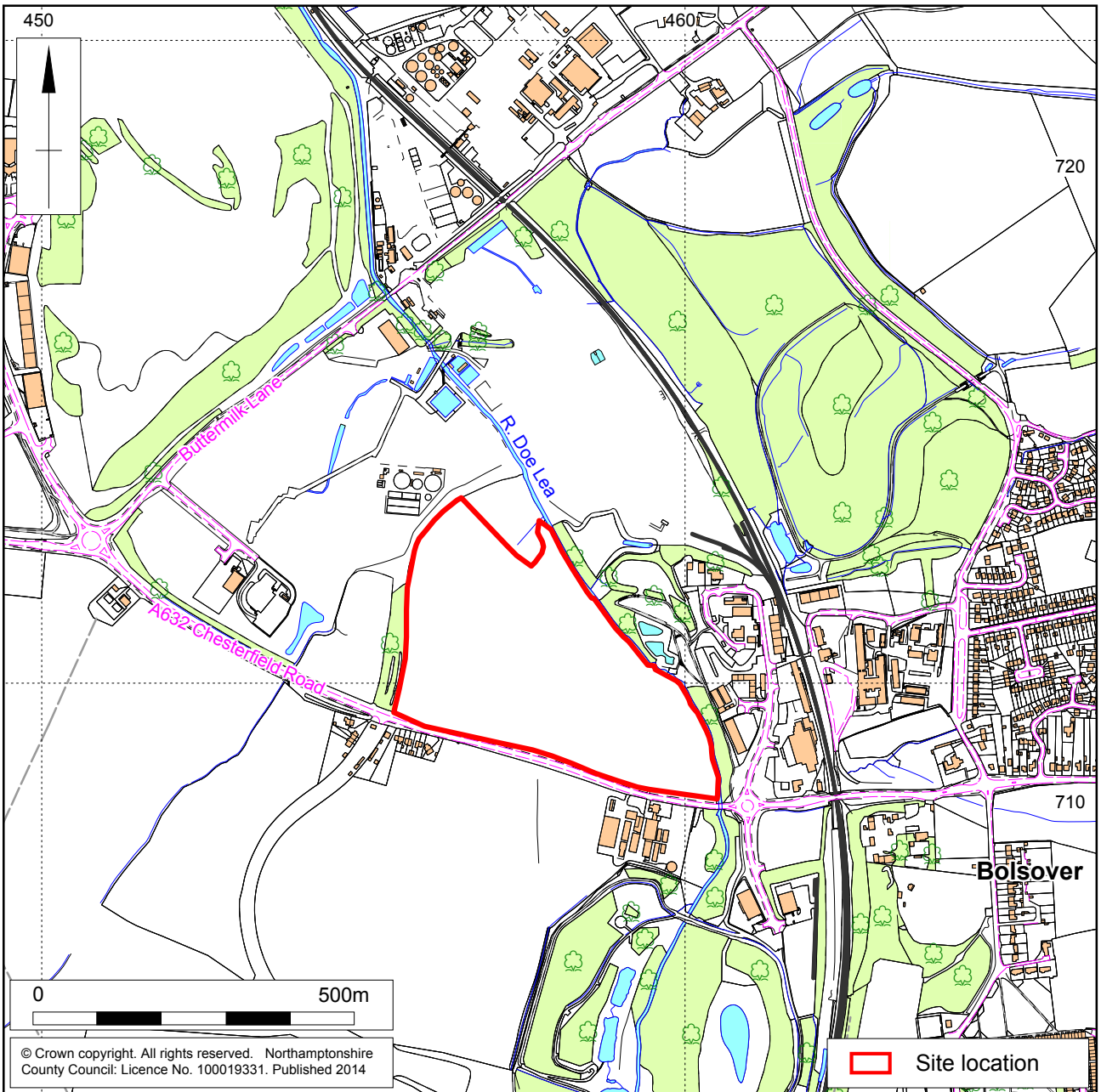
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Scale 1:10,000

Site location Fig 1



Scale 1:2500

Magnetometer survey results Fig 2



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