



**Archaeological geophysical survey
at Diss Road, Botesdale
Suffolk
August 2015**

Event No: ESF23224

HER No: BOT 035

Report No: 15/155

Author: John Walford

Illustrator: John Walford



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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1-221759	
Project name	Archaeological geophysical survey at Diss Road, Botesdale, Suffolk	
Short description	MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Diss Road, Botesdale, Suffolk. The survey detected two possible ditches of unknown date and a concentration of ferrous debris that comprises the backfill of a pond or small quarry pit. A shallow depression, perhaps indicating another small quarry pit, was observed to lie slightly beyond the south-western boundary of the survey area.	
Project type	Geophysical survey	
Site status	None	
Previous work	None	
Current land use	Arable	
Future work	Unknown	
Monument type/ period	Undated ditches, quarry pit or pond	
Significant finds	None	
PROJECT LOCATION		
County	Suffolk	
Site address	Diss Road, Botesdale	
Study area	c 3.3ha	
OS Easting & Northing	TM 053 762	
Height OD	c 45m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Suffolk County Council	
Project design originator	MOLA Northampton	
Director/Supervisor	John Walford	
Project Manager	John Walford	
Sponsor or funding body	Bidwells	
PROJECT DATE		
Start date	20 August 2015	
End date	21 August 2015	
ARCHIVES	Location	Content
Physical	N/A	
Paper	ESF23224	Site survey records
Digital	MOLA Northampton	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey at Diss Road, Botesdale, Suffolk, August 2015	
Serial title & volume	MOLA Northampton Reports 15/155	
Author(s)	John Walford	
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Archaeological geophysical survey at Diss Road, Botesdale, Suffolk August 2015

ABSTRACT

MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Diss Road, Botesdale, Suffolk. The survey detected two possible ditches of unknown date and a concentration of ferrous debris that comprises the backfill of a pond or small quarry pit. A shallow depression, perhaps indicating another small quarry pit, was observed to lie slightly beyond the south-western boundary of the survey area.

1 INTRODUCTION

MOLA was commissioned by Bidwells to conduct a geophysical survey on c 3.3ha of land to the south of Diss Road, Botesdale, Suffolk (NGR TM 053 462; Fig 1). The purpose of the survey was to identify and map any archaeological remains which might be affected by a proposed development scheme. The fieldwork was undertaken from 20th to 21st August 2015 and has been recorded with the Suffolk Historic Environment Record as record number BOT 035 and event number ESF23224.

2 BACKGROUND

2.1 Topography and geology

The survey area comprises the north-eastern half of an arable field on the eastern edge of Botesdale, south of Diss Road (Fig 1). It stands at an elevation of c 45m aOD on a gentle, north-east facing slope.

The solid geology of the survey area is mapped as chalk. This is overlain by Lowestoft Diamicton on the higher part of the site and Kesgrave Gravels on the lower ground towards Diss Road (BGS 2015).

2.2 Historical and archaeological background

The survey area lies outside of the historic core of Botesdale and is depicted on the first edition Ordnance Survey map (1886) as undeveloped agricultural land with a small hollow (a pond or quarry pit?) near its northern boundary. The nearest extant feature of historic interest is a late 18th-century toll house which stands almost immediately north of the area, on the northern side of Diss Road. There is also a possible former quarry pit located c 50m south-west of the survey area. This is indicated by a broad, rounded depression in the field surface, as plotted on Figure 2.

The Suffolk Historic Environment Record notes several archaeological sites and findspots within 1km of the survey area. Artefacts of various periods, including Neolithic flint, Roman pottery and Saxon urns, have been found at Back Hills, c 450m west of the area and a Roman kiln was found at Gashouse Lane, c 500m to the south-west. There is also the site of a 17th-century brick and tile works c 800m to the south-east of the survey area, close to Lodge Farm.

A full archaeological assessment of the survey area is currently in preparation, and will supersede the brief summary presented here (Crothers forthcoming).

3 METHODOLOGY

The magnetometer 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).

A network of 30m grid squares was established across the field to be surveyed. These were set out with a tape measure and optical square and were tied in to the Ordnance Survey National Grid by means of 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. All fieldwork methods complied with the guidelines issued by Historic England and by the Chartered Institute for Archaeologists (HE 2015; ClfA 2014).

The survey data was processed using Geoplot 3.00v software. The striping was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed where necessary. The processed data is presented in this report as a greyscale plot (range +4nT to -4nT / black to white), rotated and scaled for display against the Ordnance Survey base mapping (Fig 2). An interpretative plot is provided as Figure 3 and a plot of the unprocessed data as Figure 4.

4 SURVEY RESULTS

Two fragmentary, magnetically positive linear anomalies have been detected in the south-western part of the survey area. Each of these is aligned approximately north-west to south-east, although their alignments are not precisely parallel. The longer and more distinct of the two anomalies is likely to represent an infilled ditch, and the other may perhaps have a similar origin. There is no firm basis on which to date either feature, although the fact that no field boundary appears in this area on any of the available historic mapping suggests that a recent date (nineteenth to twentieth century) is unlikely.

At the northern edge of the survey area there is a large and very intense positive anomaly surrounded by a broad negative halo. Anomalies such as this typically represent ponds or small quarry pits backfilled, in part, with scrap iron, brick rubble or other magnetic debris. In this case, the anomaly coincides with a small hollow depicted on the first edition Ordnance Survey map (1886), the location of which might suggest a gravel pit dug to provide stone for the adjacent road.

To the west of the possible quarry pit, along the edge of the survey area, there is a series of positive and negative magnetic halos arising from the fences and other modern structures in the adjacent gardens. The survey has also detected many small pieces of ferrous debris (*eg* horseshoes, plough fittings, *etc*) scattered across the survey area, each one being represented by a small but intense dipolar magnetic anomaly.

Closely spaced pairs of very weak negative linear anomalies cross the survey area from north-east to south west. These represent modern agricultural 'tramlines', where the soil has been compacted by the repeated passage of tractors through the crop. A single negative linear anomaly which follows the same alignment near the southern edge of the survey area probably marks the modern edge of cultivation.

Various positive anomalies of rounded or amorphous form have been detected across the survey area. These could, in principle, represent soil-filled pits or hollows in the surface of the natural geology. However, the more common cause of such anomalies is

compositional variations within the geology itself. Similarly, the ill-defined positive curvilinear trend at the northern end of the survey area is most likely to represent a small erosional channel or a seam of magnetically enhanced geological sediment.

5 CONCLUSION

The survey has detected a few features of potentially minor archaeological interest. These comprise a small quarry pit and one, or perhaps two, undated lengths of ditch. Another possible quarry pit, indicated by a shallow depression, has been observed to lie slightly beyond the south-western boundary of the survey area.

Although these results do not indicate any substantial archaeological remains within the survey area, it is important to note that no geophysical survey can reliably detect all types of archaeological feature. Small and relatively ephemeral remains such as inhumations and post-built timber structures can be particularly difficult targets, and other features can evade detection under certain conditions (HE 2015, 14-15). Consequently, whilst the results of this survey may be regarded as useful indication of the archaeological potential of the area, it should not be assumed that every feature of archaeological interest will necessarily have been detected.

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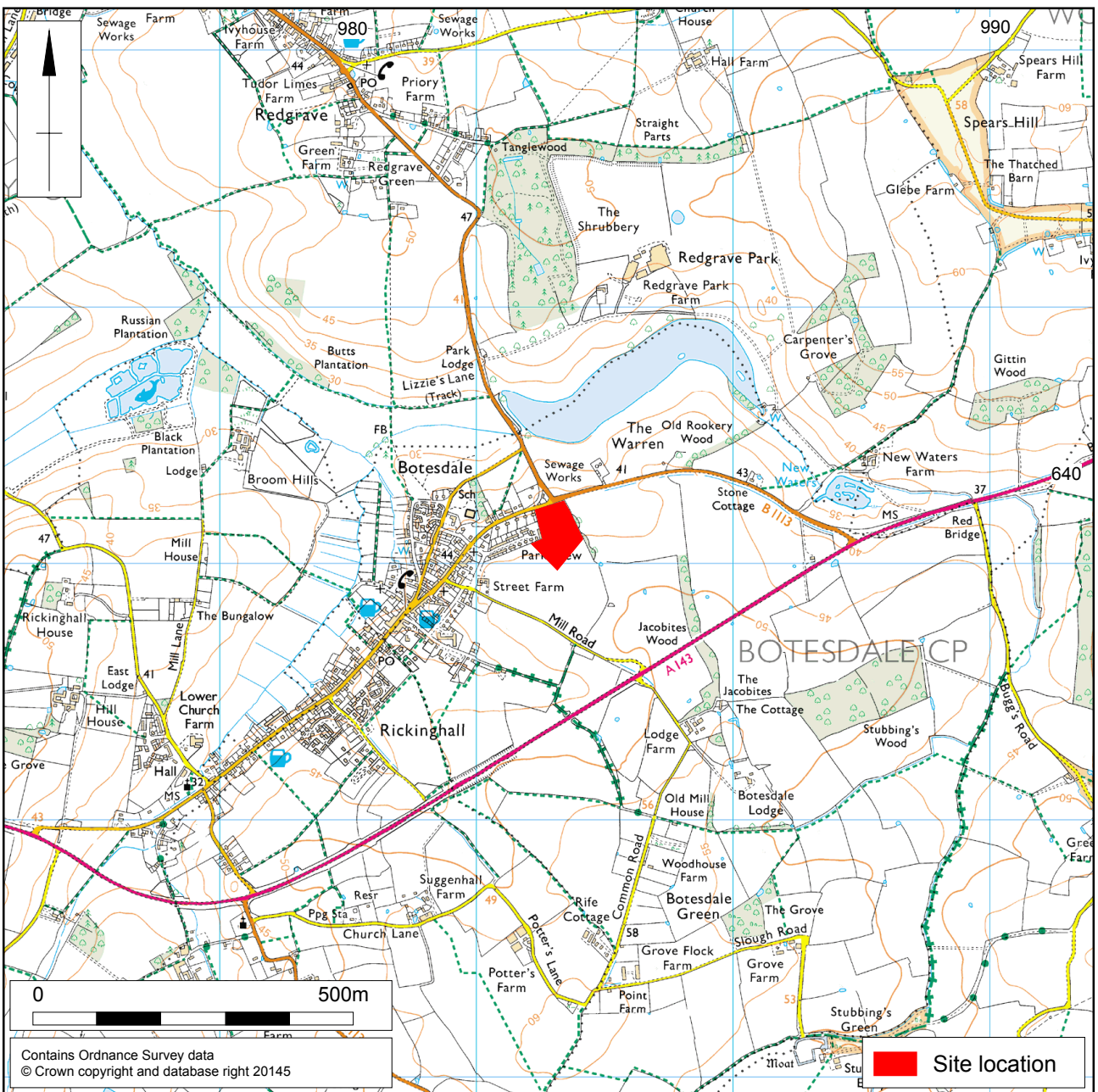
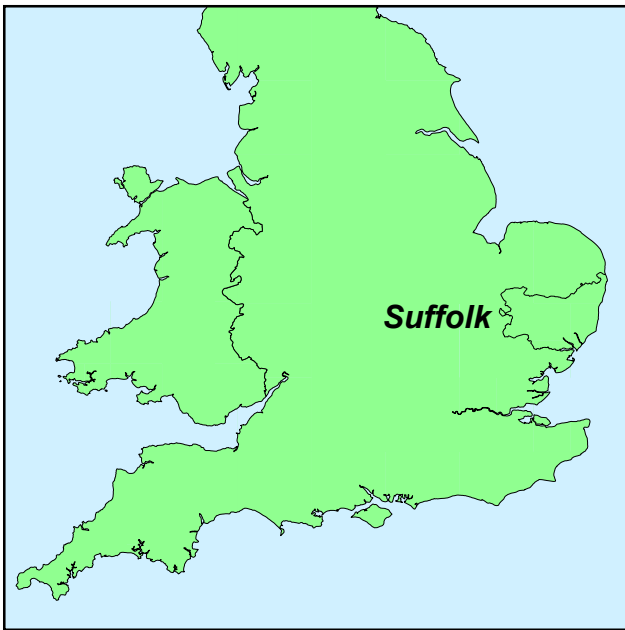
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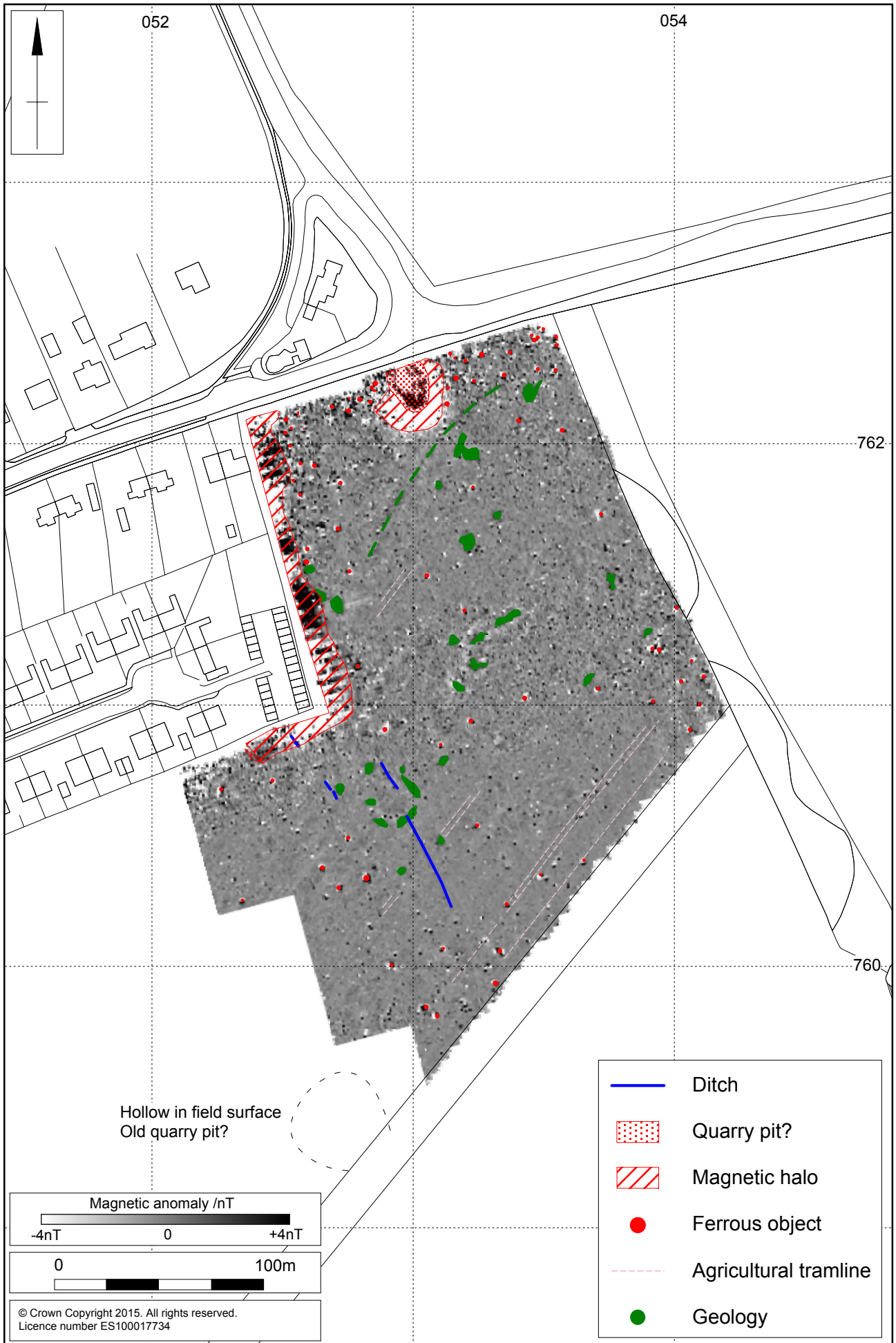
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Scale 1:25,000

Site location Fig 1





1:2000

Magnetometer survey interpretation Fig 3



1:2000

Unprocessed magnetometer data Fig 4



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