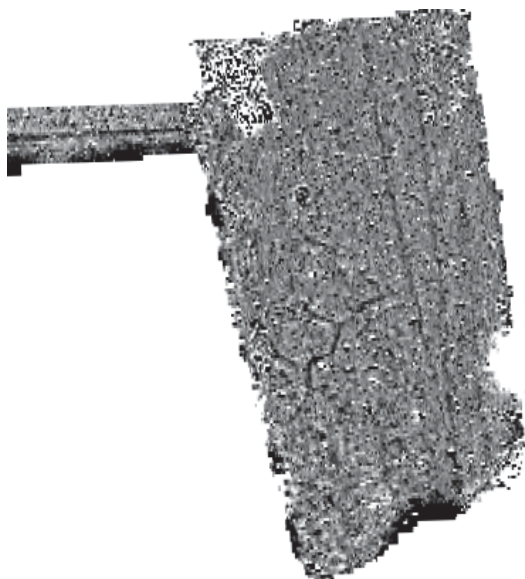




Northamptonshire Archaeology

Archaeological geophysical survey of land north of
Peacock Lane, Holt, Norfolk
January 2013



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Report 13/22

January 2013



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QUALITY CONTROL

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Checked by	Pat Chapman		30/01/2013
Verified by	Mark Holmes		30/01/2013
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OASIS REPORT FORM

PROJECT DETAILS		OASIS No: 141893
Project name	Archaeological geophysical survey of land north of Peacock Lane, Holt, Norfolk.	
Short description	Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of a proposed development area north of Peacock Lane, Holt, Norfolk. The survey detected some anomalies which are likely to represent ice-wedge polygons. Other anomalies may represent changing field boundaries. Magnetic noise in the south-east corner of the survey area may relate to a large watering hole depicted on the tithe map of 1839.	
Project type	Geophysical survey	
Site status	None	
Previous work	None known	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	Uncertain	
Significant finds		
PROJECT LOCATION		
County	Norfolk	
Site address	Lane End Farm, Peacock Lane, Holt	
Study area	c 3.2ha	
OS grid reference	TG 0786 3917	
Height OD	c 60m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	CgMs Consulting	
Project Design originator	NA	
Director/Supervisor	Chris Chinnock	
Project Manager	Mark Holmes	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	15 January 2013	
End date	28 January 2013	
ARCHIVES	Location	Content
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey of land north of Peacock Lane, Holt, Norfolk, January 2013	
Serial title & volume	Northamptonshire Archaeology Reports 13/22	
Author(s)	Chris Chinnock and John Walford	
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ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF LAND NORTH OF PEACOCK LANE, HOLT, NORFOLK JANUARY 2013

ABSTRACT

Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of a proposed development area north of Peacock Lane, Holt, Norfolk. The survey detected some anomalies which are likely to represent ice-wedge polygons. Other anomalies may represent changing field boundaries. Magnetic noise in the south-east corner of the survey area may relate to a large watering hole depicted on the tithe map of 1839.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting to conduct a geophysical survey in advance of a proposed development on land to the north of Peacock Lane, Holt, Norfolk (NGR TG 0786 3917; Fig 1). The aim of the survey was to investigate whether there were any archaeological remains present which might be affected by the proposed development.

The fieldwork was conducted on 15-16th January 2013 and comprised the detailed magnetometer survey of c 3.2ha of land.

2 TOPOGRAPHY AND GEOLOGY

The proposed development area consists of two arable fields located at the end of Peacock Lane, on the northern edge of Holt (Fig 1). The larger, western, field is irregularly-shaped, and is separated from the smaller, eastern, field by a large drainage ditch extending northwards from the end of Peacock Lane. These fields stand at an elevation of c 60m aOD and slope gently down towards the east.

The solid geology of the area is made up of Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation and Culver Chalk Formation. The

superficial deposits are described as Briton's Lane Sand and Gravel Member (BGS 2012). Thick snow prevented observation of soil type on site though the Historic Environment Assessment (HMAP 2011) notes a higher clay content than expected, given the sand and gravel deposits typical for the rest of the area.

3 ARCHAEOLOGICAL BACKGROUND

Holt was in existence before the Norman Conquest and at this time was part of the Royal demesne of Edward the Confessor. By the late 11th century it had a market and five mills and had strong links with the port at Cley. A large fire in 1708 destroyed much of the town: consequently, few of its historic buildings pre-date the 18th century rebuilding (HMAP 2011, 15-16).

The earliest detailed map of the site is the tithe map of 1839. Subsequent maps show that the site has remained as arable farmland since this date (HMAP 2011, 17-18). Nearby Historic Environment Records indicate mostly chance finds of single items ranging from prehistory through to the Anglo-Saxon period. Possible Bronze Age trackways and other earthworks are present 400m to the north and two ring ditches are located roughly 600m to the west of the site (HMAP 2011, 13).

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).

An independent system of 30m grids was established in each of the fields to be surveyed. The grids were established with a tape measure and optical square and tied in to the Ordnance Survey National Grid by measurements to current field boundaries and other fixed points in the landscape. 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 English Heritage and by the Institute for Archaeologists (EH 2008; IfA 2011) and with the written scheme of investigation for the project (NA 2012).

The survey data were largely processed using Geoplot 3.00v software. Most of the striping was removed using the 'Zero Mean Traverse' function but some areas had to be de-striped separately, using a spreadsheet based routine, in order to preserve linear anomalies lying parallel to the traverse direction. Destaggering of the data was performed where necessary.

The processed data is presented in this report in the form of grey-tone plots at a scale of +/- 4nT black/white. These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative overlay is shown in Figure 3, and plots of the unprocessed survey data and repeated survey grids are presented in Figure 4.

5 SURVEY RESULTS

5.1 The western field

Towards the centre of this field, the survey has detected a group of positive linear anomalies forming a cellular pattern of loosely hexagonal form. A geological interpretation is more likely, as hexagonal patterning is a common characteristic of periglacial ice-wedge polygons.

In the eastern part of the field, there are two positive linear anomalies which extend from north to south, almost parallel with the drain to the east. These are of uncertain origin, but perhaps represent the boundaries of former strip fields. Alternatively, they could represent field drains or other recent agricultural features. A similar interpretation applies to the two linear anomalies which are aligned from east to west along the north-western 'panhandle' of this field.

Large areas of magnetic disturbance, representing buried ferrous material and other modern debris, can be seen across the field. The area to the north relates to material on the surface of the field. The intense anomaly to the far west of the field represents a concrete base housing pipeline access points. The area to the south-east, however, may relate to a backfilled watering hole/pond depicted on the tithe map (1839) and the

first edition 1889 Ordnance Survey map. The ferrous halos around the field margins arise from fences and other adjacent structures.

5.2 The eastern field

Two positive linear anomalies, aligned along the long axis of this field, resemble the linear anomalies found in the western field and are likely to be of similar agricultural origin. The magnetic noise to the south represents a scatter of debris from a recently demolished building, and the halos along the eastern edge of the field probably arise from an adjacent fence.

6 CONCLUSION

The survey has detected a few anomalies which are likely to represent ice-wedge polygons. Other linear anomalies may indicate former strip fields, or more recent agricultural features. Some small areas of modern disturbance are also present.

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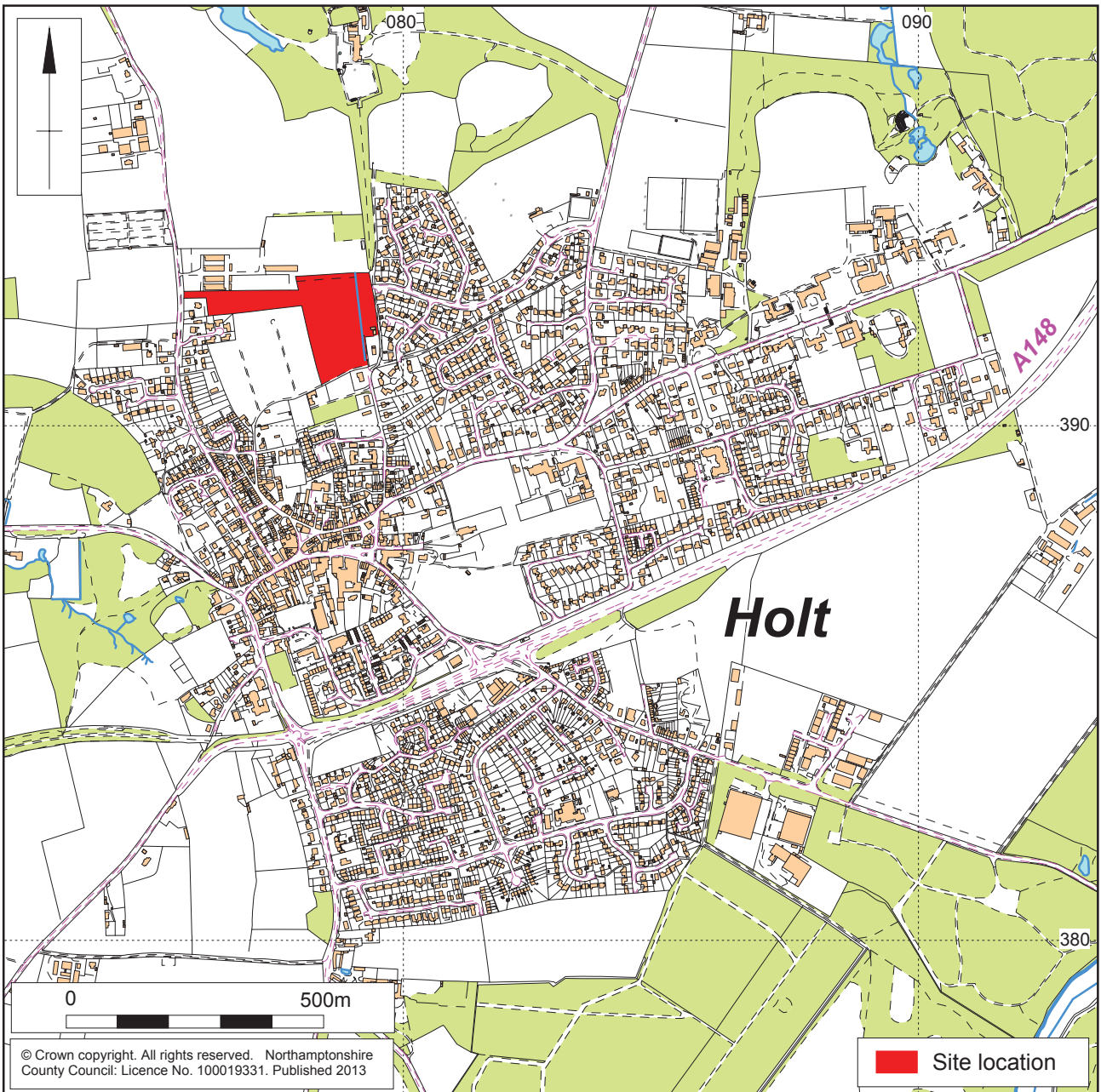
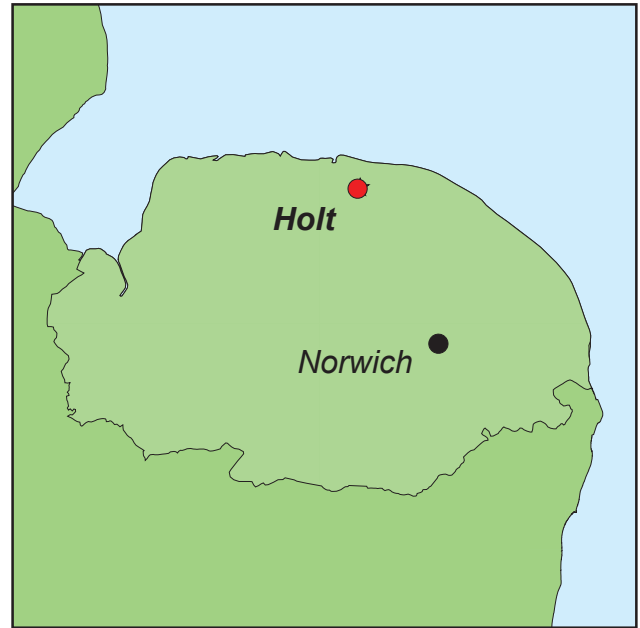
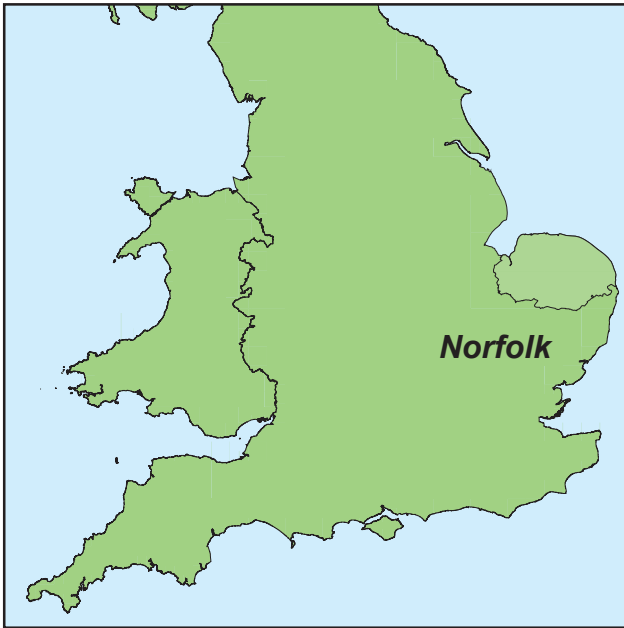
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IfA 2011 *Standard and Guidance for Archaeological Geophysical Survey*, Institute for Archaeologists

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Scale 1:12,500

Site location Fig 1



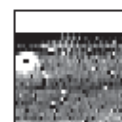
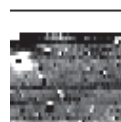
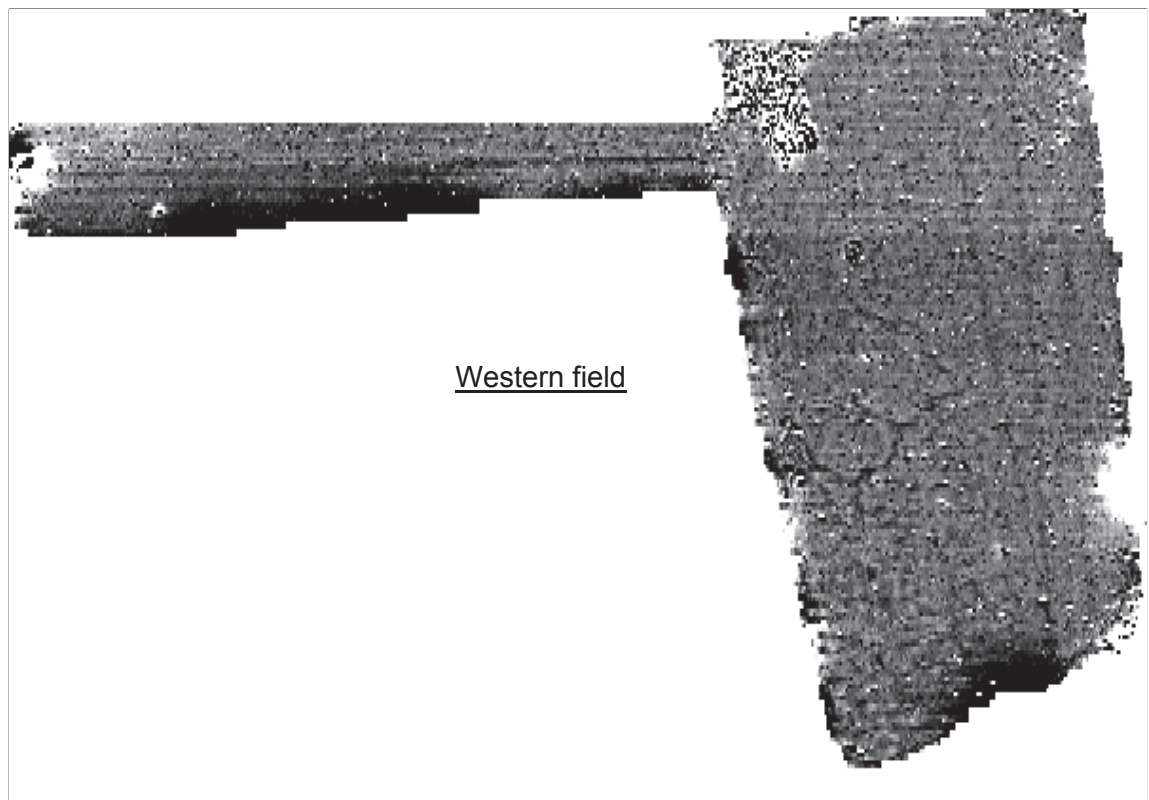
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Magnetometer survey results Fig 2

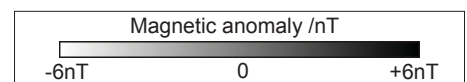
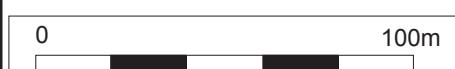


1:2500 (A4)

Magnetometer survey interpretation Fig 3



Repeated survey grids





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