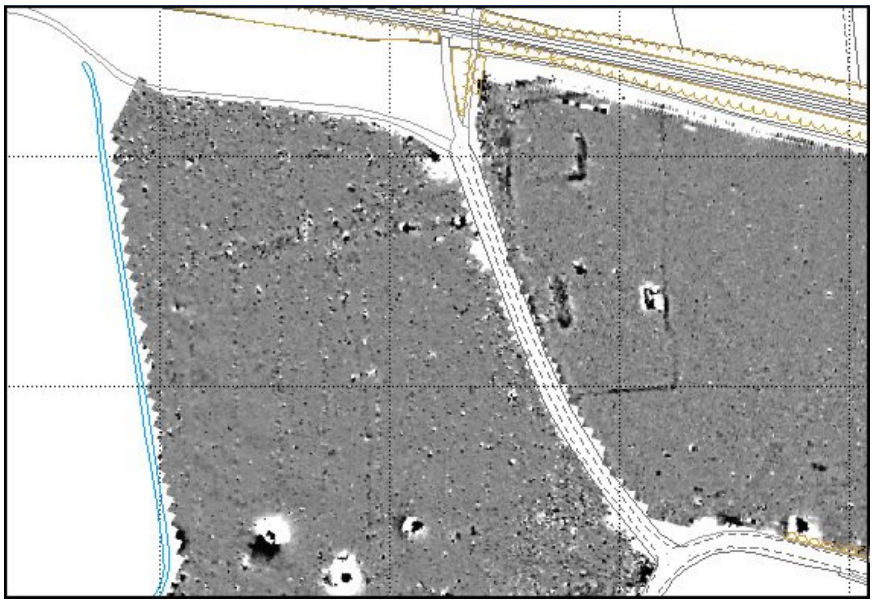

Archaeological geophysical survey on land at School Road, Elmswell Suffolk October 2014

Report No. 14/242

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Illustrator: John Walford

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Archaeological geophysical survey on land at School Road, Elmswell Suffolk November 2014

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1	4/12/2014	-	-	Steve Parry	Client approval

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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1-198920	
Project name	Archaeological geophysical survey on land at School Road, Elmswell, Suffolk	
Short description	MOLA was commissioned to carry out a detailed magnetometer survey on land near School Road, Elmswell, Suffolk. The survey identified a large sub-rectangular enclosure containing a possible kiln or brick-built structure and two possible quarry pits. Although the enclosure correlates with a field depicted on the 1842 tithe map of Elmswell, it may be a feature of earlier origin fossilized into the 19th-century landscape.	
Project type	Geophysical survey	
Site status	None	
Previous work	Archaeological desk-based assessment (Gailey 2014)	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	Medieval to post medieval enclosure, possible quarry pits and kiln	
Significant finds	None	
PROJECT LOCATION		
County	Suffolk	
Site address	School Land, Elmswell	
Study area	15.33ha	
OS Easting & Northing	TL 983 638	
Height OD	*c* 59m - 68m AOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	No formal brief provided to contractor	
Project design originator	MOLA Northampton	
Director/Supervisor	Adam Meadows	
Project Manager	John Walford	
Sponsor or funding body	CgMs Consulting on behalf of Gladman Developments Ltd	
PROJECT DATE		
Start date	27 October 2014	
End date	30 October 2014	
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 on land at School Road, Elmswell, Suffolk, October 2014.	
Serial title & volume	MOLA Northampton Reports 14/242	
Author(s)	Adam Meadows	
Page numbers	5	
Date	4 December 2014	

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Archaeological geophysical survey on land at School Road, Elmswell, Suffolk October 2014

ABSTRACT

MOLA was commissioned to carry out a detailed magnetometer survey on land near School Road, Elmswell, Suffolk. The survey identified a large sub-rectangular enclosure containing a possible kiln or brick-built structure and two possible quarry pits. Although the enclosure correlates with a field depicted on the 1842 tithe map of Elmswell, it may be a feature of earlier origin fossilized into the 19th-century landscape.

1 INTRODUCTION

MOLA was commissioned by CgMs Consulting on behalf of Gladman Developments Ltd to conduct a detailed magnetometer survey on land at School Road, Elmswell, Suffolk (NGR TL 983 638; Fig 1). The purpose of this survey was to ascertain the presence of any below ground archaeology. It was undertaken between the 27th and 30th October 2014, and covered an area of approximately 15 hectares.

2 BACKGROUND

2.1 Location and geology

The survey area consists of two arable fields located to the north-west of Elmswell in Suffolk, approximately 10km east of Bury St Edmunds. The larger, western field lies between a dyke and School Road, with the Church of St John the Divine standing immediately beyond its southern boundary. It is separated from the smaller, north-eastern field by Parnell Lane, which leads north from School Road towards Elmswell Hall. The northern edges of both fields are defined by a railway embankment.

At the time of the survey, both fields were covered by a low crop. A small area at the southern end of the larger field was overgrown, and thus unsuitable for survey. An area to the north of the same field, between a farm track and the railway, was also overgrown and unsurveyable (Fig 2).

The survey area lies on a west-facing slope between the 70m and 50m contour lines. The western field slopes down quite steeply towards the base of a small, southward-draining stream valley. It is bisected by a small tributary valley which, historic maps show, was formerly occupied by a spring-fed pond and an area of marshy ground (Gailey 2014, figs 3-6). The north-eastern field is more level, and occupies part of the low plateau on which the village of Elmswell lies.

The geology of the survey area consists of Crag deposits overlain by glacial clays sands and gravels on the upper slopes and head and alluvium on the lower slopes along the stream valley (BGS 2014).

2.2 Historical and archaeological background

The survey area has been the subject of a recent desk-based assessment (Gailey 2014), which notes the discovery of various metal-detector finds within the site boundary, and the presence of several historic buildings and other archaeological features nearby.

Prehistoric finds from the survey area comprise a Bronze Age spear tip, an Iron Age coin and a possible Iron Age brooch (Suffolk HER nos. ELW014 & ELW023. Further prehistoric evidence comes from *c* 50m south east of the area, where archaeological monitoring of a site at Church Road lead to the discovery of a late Bronze Age or Early Iron Age cremation burial (ELW028).

A number of Roman finds are recorded from the western field. These include potsherds and a bronze ring (EWL001), as well as brooches and tweezers from near the centre of the field (EWL014) and coins and another brooch from its southern end (EWL023). Further evidence of Roman occupation is provided by a 2nd to 4th century pottery kiln located approximately 200m to the east of the survey area (EWL003).

The southern expanse of the western field has also produced Anglo-Saxon finds including brooches, a stirrup terminal, a ring, a coin and fragments of other metalwork (EWL023 EWL010 and EWL014). Also, around 150m south-east of the survey area, a mount for a hanging bowl was found suggesting that an early Saxon cemetery might be nearby (EWL025). This concentration of finds to the southern portion of the western field could indicate that the historic settlement of Elmswell was originally focused around the church of St John the Divine.

The survey area is surrounded by a number of historic buildings. Immediately to its south stands the Grade II* listed medieval church of St John the Divine and, adjacent to the church, a Grade II listed terrace of almshouses dating from 1614 (List Entry Nos. 1032468 & 1181926). To the north of the area, at a distance of *c* 100m, stands the late 16th-century Elmswell Hall (List Entry No. 1032472). This occupies the site of an earlier medieval grange of Bury St Edmunds Abbey, the moat of which partially survives as an earthwork (Gailey 2014, 12).

The 1842 tithe map of Elmswell shows the survey area and its environs in detail. A building is depicted at the northern end of the area, in a field called Dovehouse Pightle, and a pond is depicted at the centre of what is now the large western field. Various former field boundaries are also depicted, and the layout of the moat and buildings at Elmswell Hall can be clearly seen. Historic editions of the Ordnance Survey map show how this landscape subsequently changed with the coming of the railway and the gradual amalgamation of fields. They also show evidence for some small-scale gravel extraction at the southern end of the survey area in the late 19th and early 20th centuries (Gailey 2014, figs 3 to 6 & appendix 2).

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).

An independent network of 30m grid squares was established across each of the two fields to be surveyed. The grids 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 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 square. All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; IfA 2011).

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 in the form of greyscale plots at a range of +4nT (black) to -4nT (white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2) and are shown with an interpretative overlay in Figure 3. The unprocessed survey data is presented separately in Figure 4.

4 SURVEY RESULTS

4.1 Archaeological features

The survey has detected a set of weak positive linear anomalies which define a large sub-rectangular ditched enclosure in the north-eastern field, immediately east of Parnell Lane. Its form and position correspond to field named 'Dovehouse Pightle' on the 1842 tithe apportionment of Elmswell (Gailey 2014, fig 3 & appendix 2). However, the fact that the enclosure has a much clearer magnetic signature than any of the other 19th-century fields (see below) suggests that it may be an earlier feature that became fossilized in the 19th-century landscape.

At the northern edge of the enclosure there are two parallel linear anomalies which would correspond well with a short spur of trackway depicted on the tithe map. However, the survey has not detected the building which the map depicts at the northern end of the field. It may be that this building is too close to the railway embankment to be detected, or it could be that it was a timber structure which has left relatively ephemeral (and magnetically invisible) sub-surface remains.

Within the enclosure there are two broad elongated positive anomalies, each around 20m long and 4m wide. One is straight, but the other has a right angled projection to the west, forming an 'L' shape. The most plausible interpretation would be that both anomalies represent quarry pits or other large cut features. A comparable but much weaker anomaly located to the south west could represent a third such feature, but is perhaps more likely to have a geological origin.

Also within the enclosure there is a sub-rectangular positive anomaly, *c* 8m x 3m across, with a pronounced negative halo. Its typical intensity is around 10nT, but at its southern end it attains a maximum intensity of around 50nT. Such values are suggestive of ceramic material or burnt soil and, combined with the regular form of the anomaly, imply the presence of a kiln or a set of brick foundations. The suggestion of a kiln is also supported by the magnetic enhancement of the adjacent ditch anomaly, which could occur through the incorporation of burnt debris into the ditch fill.

Outside the enclosure, to the east, there are two very tenuous positive linear anomalies which may represent ditches of indeterminate date. A few small positive anomalies in the same field provide similarly equivocal evidence for pits. To the south-west, in the larger field, there are two other possible pits and some short linear trends which may hint at the presence of further ditches. Another linear anomaly further south in the western field has also been interpreted as a ditch.

4.2 Modern features

The survey has detected traces of most of the former field boundaries depicted on the historic mapping of the survey area (Gailey 2014, figs 3-6). One boundary ditch is represented by a linear anomaly which runs down the long axis of the western field. The other boundaries have not produced such clear anomalies, but can be discerned as slight linear concentrations of dipolar anomalies and data spikes. These will represent minor accumulations of ferrous scrap and other magnetic debris around the margins of the former fields.

A series of very weak linear anomalies with alternating polarities follow parallel north-south alignments through the western field, representing parts of a modern system of field drains. No comparable anomalies are present in the north-eastern field.

A large triangular zone of intense magnetic disturbance projects westwards into the western field from School Road. It coincides with an area upslope of the former pond which was depicted as a marshy copse on the first edition of the Ordnance Survey map (1883). The probable interpretation is that the disturbance arises from a modern deposit of made ground (incorporating scrap metal and other rubbish) that has been used to level and stabilise the ground and make it suitable for cultivation. At the tip of this zone there is a large discrete dipolar anomaly which may represent the remnants of a weir also depicted on the 1883 map (Gailey 2014, fig 4).

The various dipolar anomalies which are present throughout the survey data will mostly represent insignificant pieces of scrap metal within the ploughsoil, although one of the larger ones relates to a manhole cover. In certain places, such as the eastern edge of the north-eastern field, there are particularly marked concentrations of small dipoles and data spikes, probably representing modern accumulations of rubbish and ceramic hardcore. The intensity of the larger anomalies is typically well in excess of 100nT, allowing them to be clearly distinguished them from the les intense ‘kiln’ anomaly previously described.

At the northern end of the survey area there is a long and narrow anomaly with intense positive and negative elements. This is thought to be a spurious data artefact caused by a train passing close by whilst the survey was in progress.

4.3 Geological features

Various weak and diffuse positive anomalies occur across the southern half of the western field. Some linear trends are present, perhaps representing erosional channels or other minor features in the surface of the natural geology, but the remainder of the anomalies constitute no more than incoherent background patterning. This is likely to have a mixed origin, reflecting natural geological variations and also disturbance arising from the small gravel pits depicted on early editions of the Ordnance Survey map (Gailey 2014, figs 4-5).

5 CONCLUSION

The survey has detected a large sub-rectangular enclosure at the northern end of the survey area, immediately east of Parnell Lane. Although this feature corresponds to a field on the Elmswell tithe map (1842), it is magnetically distinct from the other nineteenth century fields, and may represent an earlier feature fossilized into the 19th-century landscape. Within the enclosure, the survey has detected one magnetic anomaly which is thought to represent a kiln or a brick-built structure and two others which perhaps represent elongated quarry pits. However, the survey has detected no trace of the building which the tithe map suggests should lie against the northern end of the enclosure.

The results from the remainder of the survey area are relatively uninformative, showing only a few doubtful archaeological features along with old field boundaries, modern field drains and an area of made ground. This suggests that substantial archaeological features may be absent from the majority of the area, although it does not preclude the presence of ephemeral remains with little or no discernible magnetic signature.

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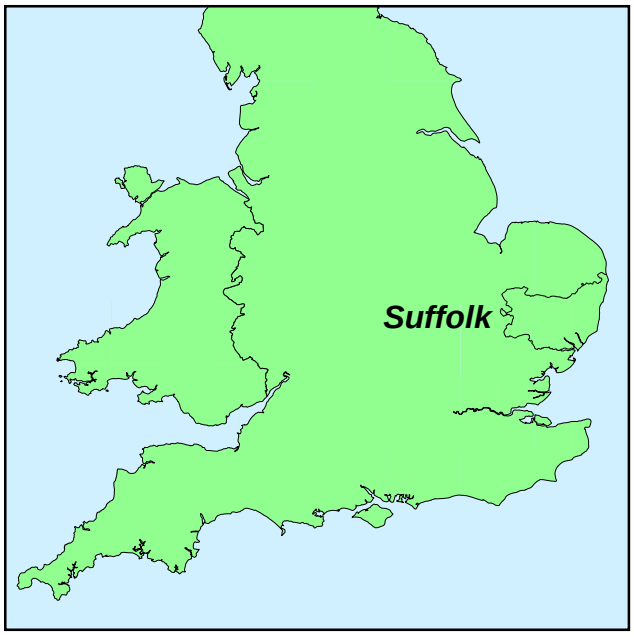
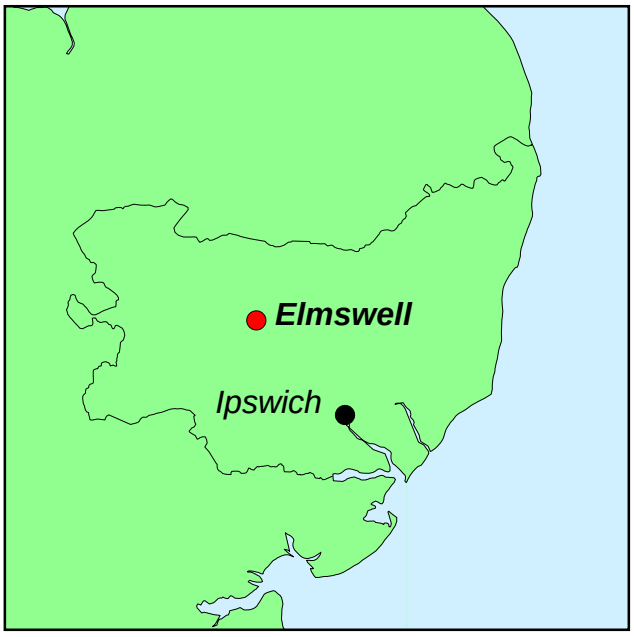
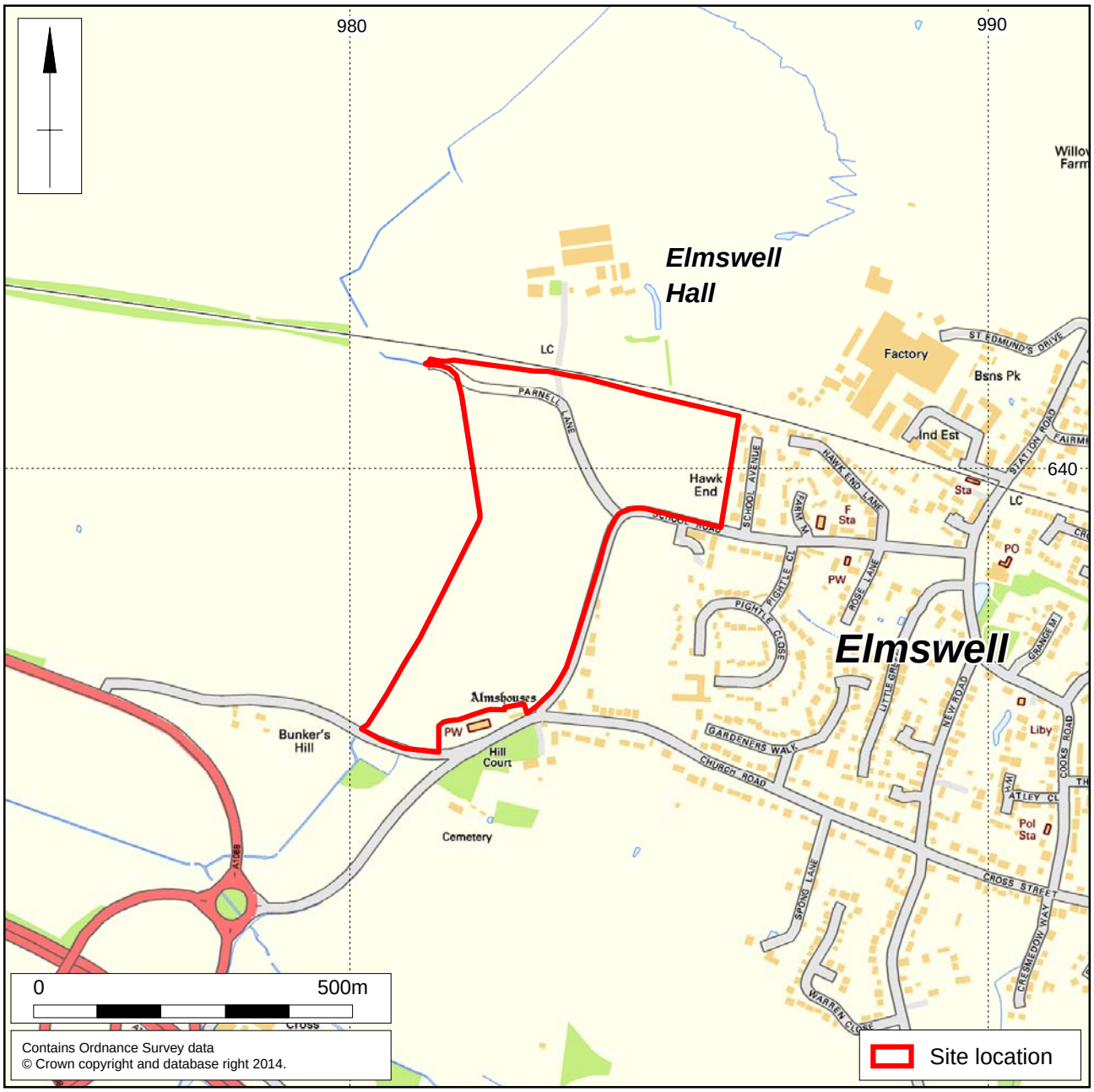
4 December 2014







Scale 1:10,000

Site location Fig 1

Scale 1:2500

Magnetometer survey results Fig 2

Scale 1:2500

Magnetometer survey interpretation Fig 3

643
641
639
637
635
985
983
981
Overgrown area,
not surveyed
Overgrown area,
not surveyed
Magnetic anomaly /nT
+10nT
0
-10nT
125m
0

Scale 1:2500

Unprocessed magnetometer data Fig 4

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