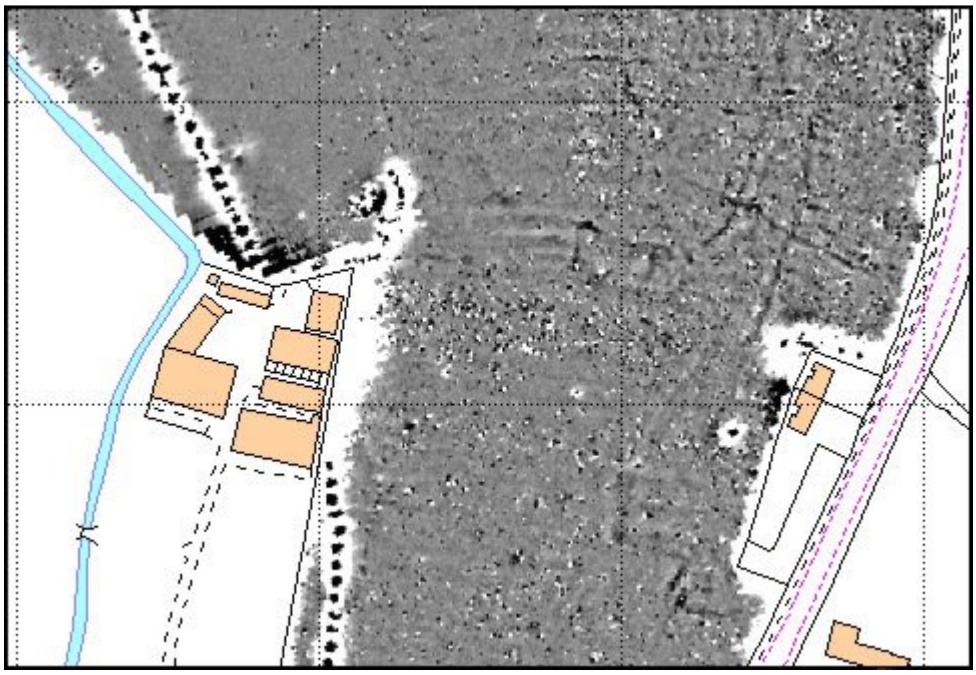

Archaeological geophysical survey at Harbury Gardens, Leamington Spa Warwickshire September to October 2014

Report No. 14/223

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Illustrator: John Walford

Project Manager: John Walford
NGR: SP 314 623

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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1- 195894	
Project name	Archaeological geophysical survey at Harbury Gardens, Leamington Spa, Warwickshire	
Short description	MOLA were commissioned to undertake a detailed magnetometer survey of *c* 50ha of land at Harbury Gardens, Leamington Spa, Warwickshire. The survey detected probable remains of the shrunken medieval village of Tachbrook Mallory at the eastern end of the survey area. To the north, the survey identified other anomalies which are tentatively interpreted as post-medieval brick kilns. Lesser archaeological features, including medieval to post-medieval ridge and furrow, 19th-century field boundaries and quarry pits, were also detected.	
Project type	Geophysical survey	
Site status	None	
Previous work	Geophysical survey and trial trench evaluation on land to north.	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	Shrunken medieval village, medieval to post-medieval ridge and furrow, post-medieval kilns?	
Significant finds	None	
PROJECT LOCATION		
County	Warwickshire	
Site address	Harbury Gardens, Leamington Spa	
Study area	*c* 50ha	
OS Easting & Northing	SP 314 623	
Height OD	*c* 60-70m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Anna Stocks, Warwickshire County Council	
Project design originator	MOLA Northampton	
Director/Supervisor	Olly Dindol and Adam Meadows	
Project Manager	John Walford	
Sponsor or funding body	Prospect Archaeology	
PROJECT DATE		
Start date	15 September 2014	
End date	3 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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 at Harbury Gardens, Leamington Spa, Warwickshire, September to October 2014	
Serial title & volume	MOLA Northampton Reports 14/223	
Author(s)	John Walford	
Page numbers	6	
Date	21 November 2014	

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Archaeological geophysical survey at Harbury Gardens, Leamington Spa, Warwickshire September to October 2014

ABSTRACT

MOLA were commissioned to undertake a detailed magnetometer survey of c 50ha of land at Harbury Gardens, Leamington Spa, Warwickshire. The survey detected probable remains of the shrunken medieval village of Tachbrook Mallory at the eastern end of the survey area. To the north, the survey identified other anomalies which are tentatively interpreted as post-medieval brick kilns. Lesser archaeological features, including medieval to post-medieval ridge and furrow, 19th-century field boundaries and quarry pits, were also detected.

1 INTRODUCTION

MOLA was commissioned by Prospect Archaeology to undertake a detailed magnetometer survey on *c* 50ha of the proposed Harbury Gardens development site at Leamington Spa, Warwickshire (NGR SP 314 623; Fig 1). This work followed on from an earlier phase of geophysical survey and trial trench excavation which covered *c* 10ha of land on the northern edge of the same development site (Urmston 2013; Chinnock 2013). The present phase of fieldwork was undertaken from 15th September to 3rd October 2014, in fulfilment of a brief issued by the Warwickshire Planning Archaeologist (WCC 2014).

2 BACKGROUND

2.1 Location and geology

The survey area is located at Grove Farm, on the southern edge of Leamington Spa between Harbury Lane and Bishop's Tachbrook (Fig 1). It encompasses four arable fields which are bounded to the east by the B4087 Oakley Wood Road and to the south by Tach Brook. A disused sewage treatment plant stands immediately west of the survey area and Brookside Farm stands close to its south-eastern corner.

The topography of the survey area can be summarised as two areas of relatively high ground, each attaining an elevation of *c* 70m aOD, separated by a small tributary valley which drains southwards into the Tach Brook. The brook itself flows north and then west along the edge of the survey area, at an elevation of *c* 55m aOD.

The solid geology of the survey area is predominantly Mercia Mudstone, although one small outcrop of dolomitic siltstone is also present. These strata are capped by river terrace gravels in the north-west of the area and by Thrussington member diamicton, fringed by Wolston gravels, in the east. A narrow band of alluvium lies alongside the stream which defines the southern boundary of the site (BGS 2014).

2.2 Historical and archaeological background

The Warwickshire Historic Environment Record (HER) lists three minor archaeological features within the survey area. One is a cropmark of a possible trackway, located close to the western edge of the area (MWA 4564). The other two are small quarry or marl pits located close to Grove Farm (MWA4583-4). In addition, the English Heritage 'Pastscape' database notes the discovery of a scatter of Roman pottery in the western part of the survey area (record no. 335634).

Immediately east of the survey area is the site of the shrunken medieval village of Tachbrook Mallory (MWA712). Two Grade II listed historic buildings survive on this site; namely the 16th-century Tachbrook Mallory House (*alias* 'the Grove') and the partial remains of the medieval chapel of St James. The first edition Ordnance Survey map shows that in the late 19th century a number of buildings and small orchards still stood along the western side of the road, just within the survey area. Another deserted medieval village, Heathcote, is thought to have lain *c* 600m west of the survey area (MWA1979)

An Iron Age site has recently been discovered *c* 400m to the north-east of the survey area, at Woodside Farm (Burke 2013), and a banjo enclosure of similar date has been recorded from cropmarks at Heathcote Home Farm, *c* 800m to the north-west. No other substantial prehistoric or Roman sites are recorded nearby, although the HER does list the find-spots of a few worked flints and other artifacts.

The two fields immediately north of the present survey area, adjacent to Harbury Lane, were subject to a geophysical survey and trial trench evaluation in 2013 (Urmston 2013; Chinnock 2013). This work identified only minor historic features, comprising medieval ridge and furrow, a post-medieval field boundary and a post-medieval quarry pit.

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 within each of the 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 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 English Heritage and by the Institute for Archaeologists and the generic brief for geophysical survey issued by the Warwickshire Planning Archaeologist (EH 2008; IfA 2011; WCC 2014) .

The survey data was 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 greyscale plots at a range of +4nT (black) to -4nT (white). These have been have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 2 and 4). Interpretive overlays are presented in Figures 3 and 5, and plots of the unprocessed survey data are presented in Figures 6 and 7.

4 SURVEY RESULTS

4.1 Archaeology

Tachbrook Mallory shrunken medieval village

The survey has detected a set of positive linear anomalies which occur along the eastern edge of the survey area in close association with an elongated zone of weak background magnetic disturbance (Figs 4 & 5). The overall extent of these anomalies is approximately 3ha, and their location coincides with the anticipated site of the shrunken medieval village of Tachbrook Mallory. They are thus interpreted as representing settlement remains dating from the medieval and post-medieval periods

The most persistent linear anomaly follows a sinuous north-south alignment through the area of disturbance, closely shadowing the line of Oakley Wood Road. It represents a ditch which may once have marked the rear boundary of properties lying along the road frontage. The other linear anomalies represent further ditches, most of which lie roughly parallel or perpendicular to the axis of the road. It is probable that these formed parts of individual property boundaries, but the detected lengths are too fragmentary and disjointed to be interpreted in more specific terms.

It is not clear whether the disturbed magnetic background should be interpreted as having an archaeological significance. It could be plausibly attributed to a mixed spread of archaeological deposits (midden material, up-cast subsoil, rubble, *etc*) with localised zones of magnetic enhancement and depletion. But it coincides moderately well the mapped extent of the Thrussington till (BGS 2014), which could itself contain a jumble of variably magnetic geological sediments.

As well as the background magnetic disturbance, the data from the vicinity of Tachbrook Mallory also exhibits a thin to moderate scatter of small dipoles and magnetic 'spikes'. These can be attributed to individual magnetic objects, including ferrous scrap and large pieces of brick and tile, lying in and below the ploughsoil.

Possible kilns

The survey has detected some anomalies of possible industrial origin in the north-eastern field (Figs 4 & 5). Two lie close together, near the northern edge of the survey area, and the remainder are clustered near the south-western corner of the field. They all exhibit moderately high levels of magnetic enhancement (typically 20nT to 100nT), which can indicate the presence of burnt soil or ceramic material, and a number of them have regular shapes which would be consistent with kiln structures.

The two northern anomalies each measure *c* 5m x 2m, and lie closely spaced on parallel alignments. They both have a peak magnetic intensity midway along their length, and are both surrounded by negative halos. There is a much larger magnetic anomaly to their north-east, but this is of undoubted ferrous origin as it attains a maximum measured intensity of 3000nT.

In the south-west of the field there is a sharply rectangular anomaly measuring 4m x 5m across. The size and shape of this would be consistent with a brick clamp kiln, but the intensity of the anomaly (clipped at 100nT) is greater than would be typical for such a feature. To its north-east there is a more irregular and less intense anomaly which could possibly represent the disturbed remains of a kiln. Other, smaller, anomalies in the same vicinity could possibly represent pits or small spreads of burnt soil.

Other possible archaeology

Very close to the south-eastern corner of the survey area, there is an interrupted chain of intense magnetic anomalies aligned from east to west (Figs 4 & 5). These coincide with the original line of Oakley Wood Road, as depicted on early editions of the Ordnance Survey map. This may be of some archaeological relevance, depending on the original age of the road and the extent to which early make-up and surface layers survive.

A group of magnetic anomalies occur at the north-western edge of the survey area, adjacent to a dog-leg kink in the modern field boundary. They coincide with the location of a barn and yard depicted on the first edition of the Ordnance Survey map, and appear to represent a scatter of building rubble and other debris bounded on the southern side by an infilled ditch. Two parallel, weakly negative, linear anomalies which extend north-westwards from this area are of uncertain origin, but it is possible that they relate to the trackway cropmark that has been recorded slightly to the north (MWA4564).

There are a few isolated anomalies, widely scattered across the survey area, which may represent minor archaeological features. These comprise two possible lengths of ditch near Grove Farm, another ditch to the east near Oakley Wood Road, and an elongated feature of unknown character lying near to the southern edge of the western field.

4.2 Ridge and furrow

The groups of weakly negative parallel linear anomalies which have been detected in many places across the survey area represent traces of medieval to early post-medieval ridge and furrow cultivation. They are most distinct in the eastern field, where the strength of the furrow anomalies may have been enhanced by the incorporation of magnetic soils from the adjacent archaeological remains. Elsewhere, the strength of the anomalies ranges from weak to almost indiscernible. This could be because the furrows have been heavily truncated by modern ploughing, but the more likely explanation is that the local soil does not support the development of well-defined magnetic contrasts, except in areas of former occupation where the natural magnetic susceptibility has been enhanced by anthropogenic inputs.

4.3 Recent field boundaries

The survey has detected a variety of different anomalies corresponding to parts of the arrangement of field boundaries depicted on the first edition Ordnance Survey map. Some boundaries are represented by positive linear anomalies, indicative of ditches, and others by scatters of small dipolar anomalies indicating accumulations of scrap metal other magnetic debris at the edges of the former fields. Where the concentrations are particular dense, along a couple of boundaries in the western half of the survey area, the cause is likely to be remnant hardcore from farm tracks alongside the boundaries.

4.4 Quarry pits

The survey has detected three tightly defined clusters of intense magnetic anomalies, all around 20m – 40m across (Figs 2 & 3). These coincide with former quarries or clay pits depicted on early editions of the Ordnance Survey map. A very similar feature was investigated during the earlier phase of works to the north of Grove Farm, and was confirmed to be a large pit backfilled with imported soil, brick rubble and agricultural scrap (Chinnock 2013).

4.5 Modern pipes and field drains

The survey area is bisected by a pipeline which follows an irregular course from its south-eastern corner to its north-western one. A smaller pipe or cable is represented by a similar anomaly that runs past the eastern edge of Grove Farm then turns to the south-west before terminating against a field boundary. A third such anomaly has been detected on the northern edge of the survey area, running north-west from a bend in the drive to the farm.

A parallel set of weak linear anomalies with alternating magnetic polarity occur in the eastern corner of the western field. These are diagnostic of field drains, as are the similar anomalies that extend westwards, roughly parallel with the adjacent stream.

4.6 Ferrous anomalies

The survey has detected a large number of dipolar anomalies distributed randomly across the entire survey area. Most of these will relate to minor pieces of scrap metal within the ploughsoil, but a few of the larger ones can be attributed to specific causes, namely a telegraph pole near the north-western corner of the survey area and two derelict ploughs in the eastern corner of the western field.

4.7 Geological anomalies

The survey has detected a number of weakly negative linear and curvilinear anomalies in the western and north-eastern fields. There is a low possibility that these represent archaeological features, but their negative polarity argues against such an interpretation. More probably they represent natural fissures or ice wedges with an in-washed fill of sand or other minimally magnetic natural sediment.

A few weak and amorphous positive anomalies occur alongside the stream which defines the southern edge of the western field. Such anomalies are typical of alluvial environments, and have no direct archaeological significance.

5 CONCLUSION

The survey has detected a linear spread of ditches and other archaeological features extending parallel to Oakley Wood Road at the eastern edge of the survey area. These are presumed to represent a portion of the shrunken medieval village of Tachbrook Mallory, as they lie immediately opposite the former chapel of St James and the 16th-century Tachbrook Mallory House. The extent of the archaeological remains cannot be precisely determined, due to the poor definition of the magnetic anomalies, but is provisionally estimated at around 3ha.

In the north-eastern part of the survey area, the survey has detected four moderately intense magnetic anomalies which have been tentatively identified as post-medieval brick kilns. This interpretation rests in part on the form and strength of the anomalies, but receives circumstantial support from the detection of small clay pits or quarries elsewhere in the survey area.

Traces of medieval to post-medieval ridge and furrow have been detected widely across the survey area, as have a number of 19th-century field boundaries. The survey has also detected a set of magnetic anomalies related to a barn and yard depicted on the first edition Ordnance Survey map.

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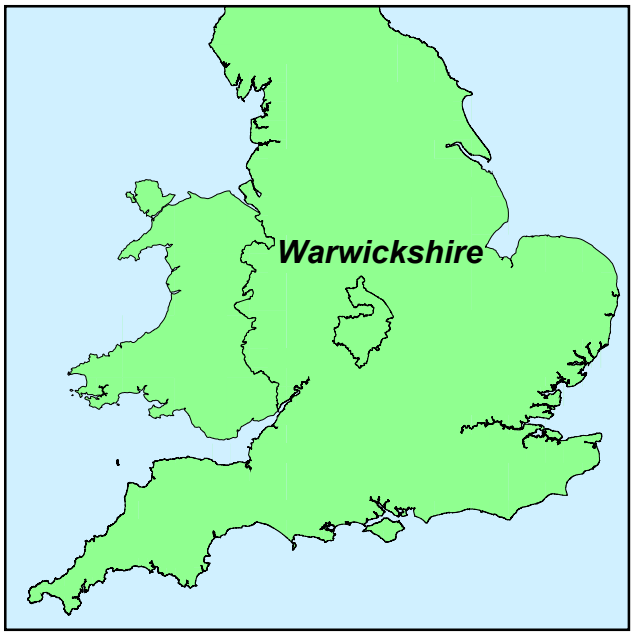
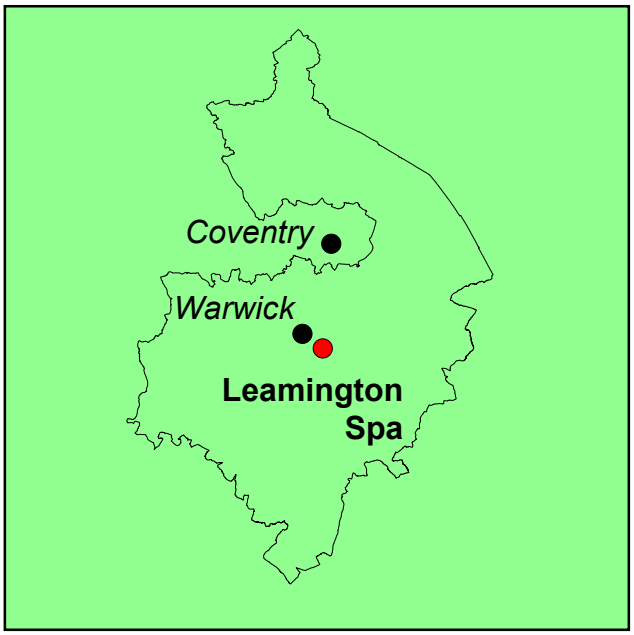
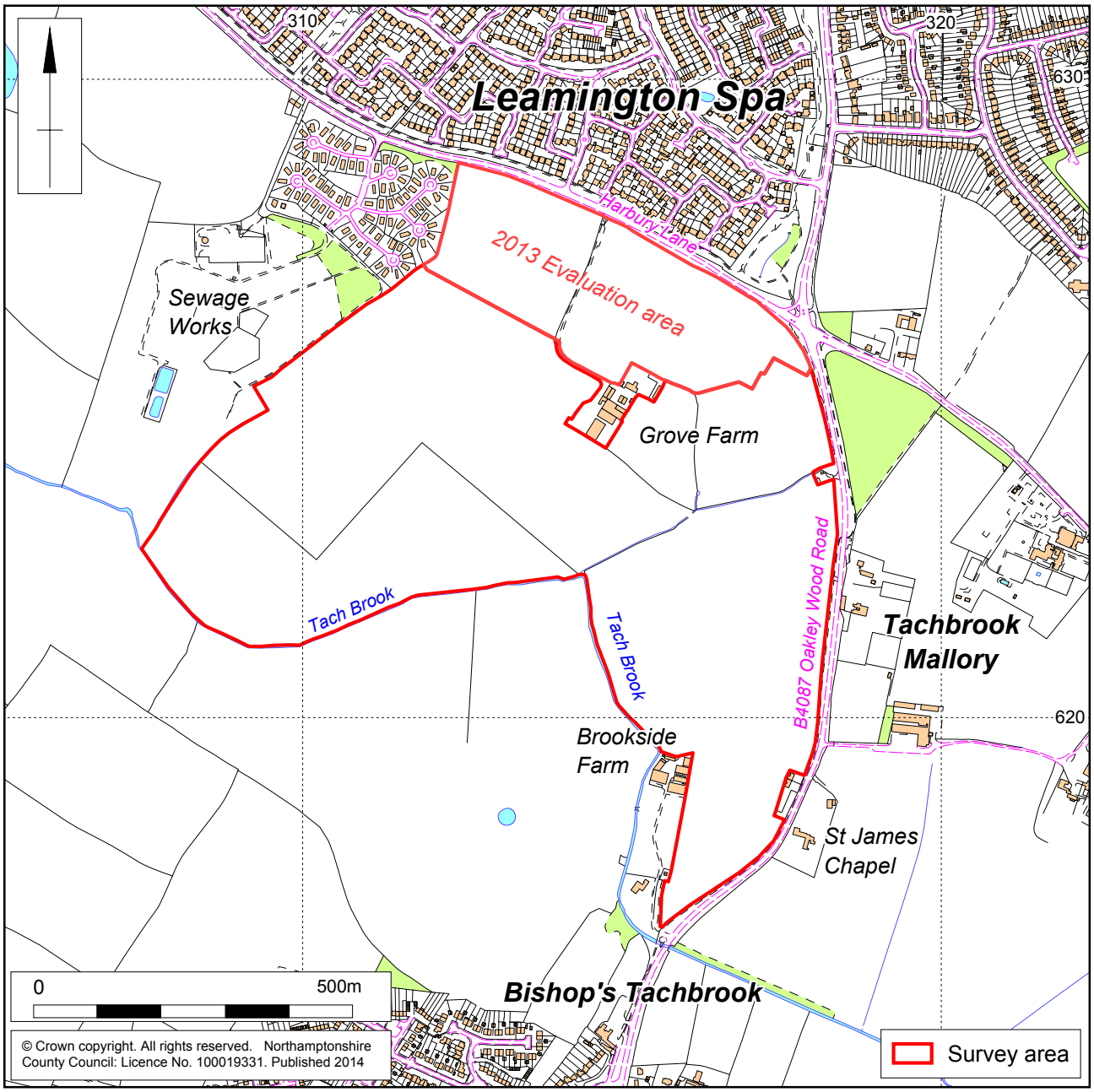
21 November 2014





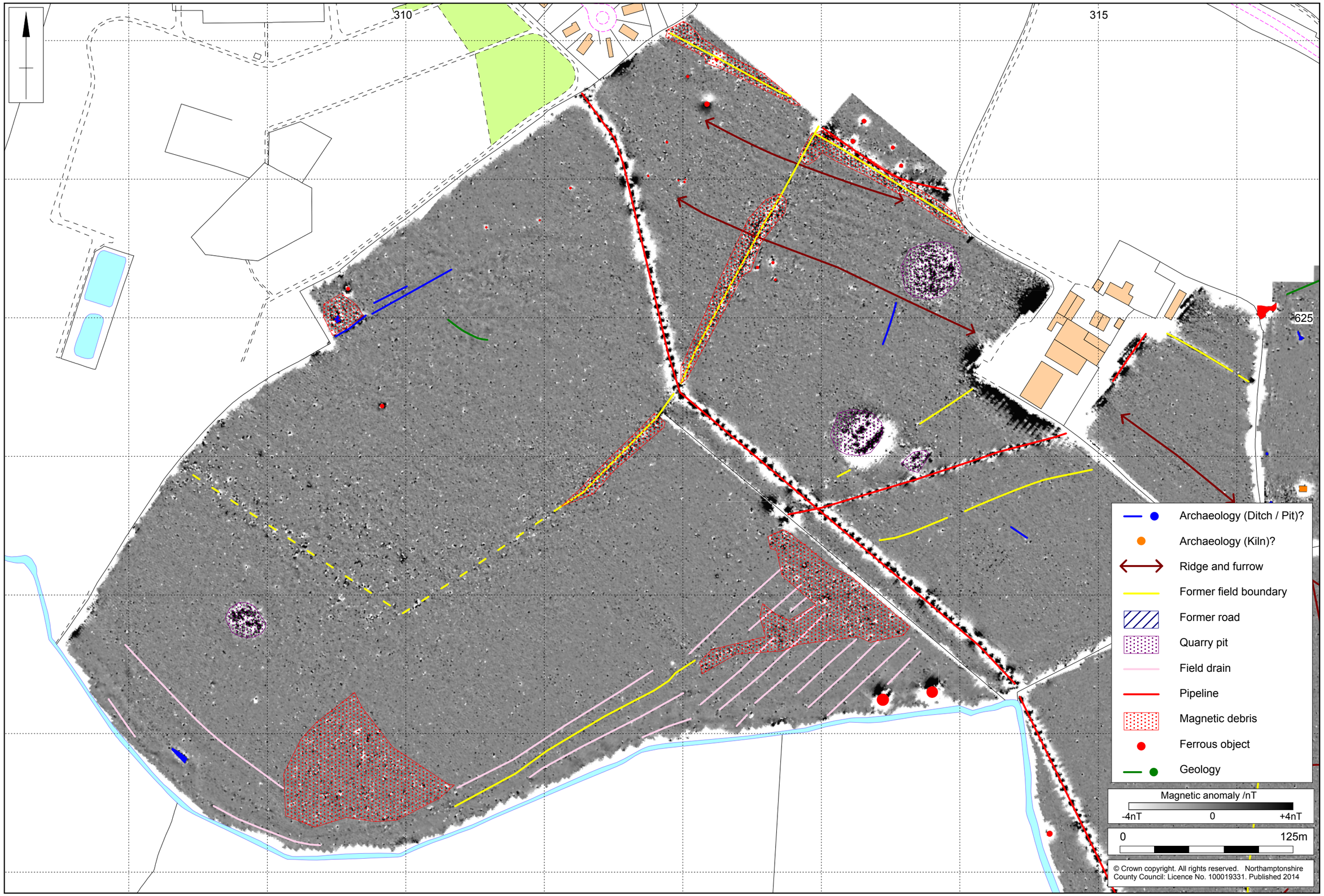


Scale 1:10,000

Site Location Fig 1

Scale 1:2500

Magnetometer survey results (West) Fig 2



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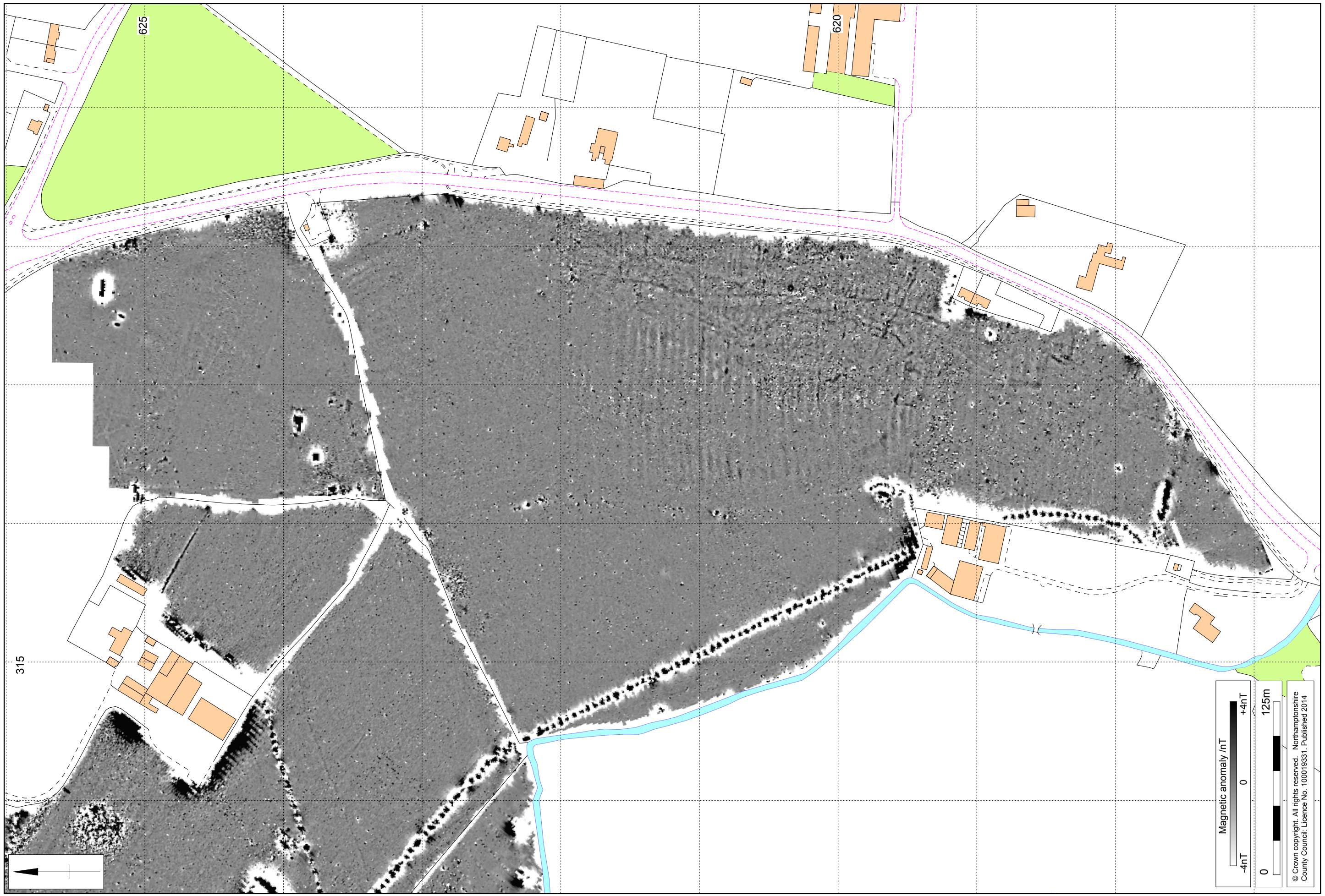
Magnetometer survey interpretation (West) Fig 3



Scale 1:2500

Magnetometer survey results (East) Fig 4

Scale 1:2500

Magnetometer survey interpretation (East) Fig 5

Scale 1:2500

Unprocessed magnetometer data (West) Fig 6

Scale 1:2500

Magnetometer survey results (East) Fig 7

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