

GEOPHYSICAL SURVEY OF A FIELD NORTH OF TIFFIELD, TOWCESTER, NORTHAMPTONSHIRE

OS SP 47194 24615

CLASP Geophysical Report No. 17/2

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REPORT FORM PROJECT DETAILS		OASIS No: clasp1 285264
Project name	Magnetometer survey at Tiffield near Towcester	
Short description	Geophysical survey (5.5 ha) of flat field 4.5 km North of Towcester in Northants. Previous finds: field scatter of Roman pottery sherds & coins, site of a Roman settlement	
Project type	Research	
Site status		
Previous work	MNN3761	
Current land use	arable	
Future work	unknown	
Monument type/ period	Roman	
Significant finds		
PROJECT LOCATION		
County	Northamptonshire	
Site address	Tiffield, Towcester, NN12 8AD	
Study area	5.5 ha	
OS Easting & Northing	Centred on SP 46970 25265	
Height OD	OD 125m	
PROJECT CREATORS		
Organisation	CLASP	
Project brief originator	CLASP	
Project Design originator	CLASP	
Director/Supervisor	Stephen Young	
Project Manager	Fred Kay	
Sponsor or funding body	None	
PROJECT DATE		
Start date/End date	Feb - March 2012	
ARCHIVES	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical	CLASP Archive:	
Paper	CLASP Archive:	Site file
Digital	CLASP Archive:	Mapinfo plans, Word report
BIBLIOGRAPHY		
Title		
Serial title & volume		
Author(s)	Stephen Young & Fred Kay	
Page numbers		

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Abstract

A geophysical (fluxgate gradiometer) survey, commissioned by CLASP, undertaken on the site of a Roman settlement as part of a larger landscape characterization project. The fieldwork centred on OS SP 46970252650 to the north of the village of Tiffield, Northamptonshire, covering an area of approximately 5.5 ha. An extensive array of anomalies was identified and located. These anomalies comprised a series of linear and rectilinear magnetic features which indicated the existence of a large ovoid enclosure, inland field system and possible central complex of buildings.

1.0 Introduction

- 1.1 As part of a larger Roman landscape characterization study a geophysical survey was undertaken by the Community Landscape and Archaeology Survey Project (CLASP) in February-March 2012 on a known Roman settlement to the north of the village of Tiffield near Towcester in South Northamptonshire (NGR SP 469702 52650).
- 1.2 The site is recorded as an ancient monument (MNN3761) and the intention of the geophysical survey was to assist in providing a detailed interpretation of the size, plan and archaeological status of the site as well as enhancing our understanding of the settlement's relationship to neighbouring sites.
- 1.3 The survey covered a total area of 5.5 ha. At the time of survey (February-March 2012) the fields were under arable cultivation and no problems were encountered with the collection of the field data.
- 1.4 The Bartington magnetometer was used as this form of survey was best suited to the circumstances, conditions and archaeological requirements of the site.
- 1.5 The geophysical survey also enabled us to enhance our understanding of previous small scale surface fieldwork at the site.
- 1.6 The survey methodology described in this report was based upon guidelines set out in English Heritage document *Geophysical Survey in Archaeological Field Evaluation* (David et al 2008).

2.0 Site location and description

- 2.1** The site is located on a gently south-west facing sloping field approximately 4 km north of Towcester (Lactodurum) and 2 km west of the Roman road of Watling Street, centred at OS SP 46970 25265 on an altitude of 125m. It is bounded on the south by a disused railway (now a nature reserve) and on other sides by farmland. The field was sown with rape at the time of the survey.
- 2.2** The solid geology of the site is Greater Oolite, drift geology consists of Glacial Boulder Clay (British geological survey sheet 185, published in 1980)

3.0 Archaeological and historical background

- 3.1** The landscape to the north of Tiffield contains an alignment of three interconnected Roman settlements. These form part of a wider agricultural landscape dominated by villa complexes surrounded by smaller farming estates.
- 3.2** The site was initially located and identified as a Roman site in 1976 when Roman pottery including mortarium sherds was retrieved. Roman coins were subsequently detected on the site by Northampton Metal Detecting Club. A partial fieldwalking and metal detecting survey of the settlement by CLASP in 2009 produced 1st to 4th century Roman pottery sherds and 3rd/4th century AD coins.

4.0 Field methodology

- 4.1 The aim of the geophysical survey using a magnetometer was to establish accurately the extent and character of any geophysical anomalies within the survey area.
- 4.2 The gradiometer is a non-intrusive scientific inspecting instrument used to determine the presence or absence of some types of subsurface archaeological features (e.g. ditches, trackways, field systems, en-closures and building foundations). By scanning the soil surface geophysics can identify areas of varying magnetic susceptibility, the data from which can be interpreted in a variety of graphical formats and identifying images that share morphological affinities with diagnostic archaeological remains (Clark 1990).
- 4.3 The area gradiometer survey was conducted using a Bartington gradiometer type 601, dual flux gate, with the 601 data logger set to make four readings per metre (sample interval of 0.25 m). The zigzag traverse method of survey was used with 1 m wide traverses on a north/south line across a series of 49 separate 30 x 30m grids. The sensitivity of the machine was set to record and detect variation in the order of 0.1 nanoTesla
- 4.4 The data was processed using Snuffler Version 1.3 and filtered to reduce geomagnetic striping (ZMT) and operator error due to ground irregularities, etc. The gradiometer data is displayed as a grey scale map in fig. 3 and an interpretation of the possible archaeological anomalies is shown in fig. 4.

5.0 Field data & analysis of magnetometry results

- 5.1 The gradiometer survey identified a range of geo-physical anomalies associated with the site which appear to relate to an extended chronological period of occupation.
- 5.2 These include discrete areas of rectilinear enclosures that comprise one or two phases of an inland field system.
- 5.3 A large ditched ovoid boundary appears to underlie the field system. The western boundary ditch of this enclosure is obscured by the inland field system whilst the eastern and southern boundary ditches are clearly defined and separate from the intensive area of magnetic anomalies further to the west. The plan and appearance of the feature is possibly of earlier date.
- 5.4 The density of features at the focus of the settlement indicate potential structural elements, most likely to be interpreted as a villa complex.
- 5.5 A comprehensive system of medieval ridge and furrow following a north to south alignment is also evident.

6.0 Conclusions

- 6.1 The geophysical anomalies obtained from the survey considerably enhances CLASP's ability to interpret the character and nature of the Roman settlement investigated at this site. These findings allied to coin and pottery assemblages retrieved from limited intensive field walking and metal detecting surveys suggest a basic chronological development of the site.
- 6.2 It is now possible to state that the site was certainly occupied in the conquest period and probably originated in the Late Iron Age. The most prominent anomaly relating to this period is the large ovoid enclosure described above (5.3). The size and shape of the enclosure indicate an agricultural settlement of some status and underpin the longevity of the occupation, although the nature of this changed through time.
- 6.3 Analysis of the pottery and coin finds suggests a large scale reorganization of the layout of the settlement into a series of interconnecting enclosures or field system in the late 1st/2nd century AD (5.2). These archaeological features appear to lie on top of the early ovoid feature and reflect the trend identified elsewhere locally on sites from the Roman period. These developments correspond to the landscape changes introduced by the first generation of inhabitants that could be considered recognizably Roman provincials. The increasing consumption of Roman material goods demonstrates utilization and occupation of the site into the 3rd century AD. All the evidence points to an agricultural estate based on a mixed farming regime.
- 6.4 The density of magnetic anomalies at the core of the site would seem to indicate structural remains possibly related to the construction of a winged corridor villa

- (5.4). Dating such a domestic complex at this stage and interpreting the overall layout will require further fieldwork. However, the Roman coin distribution indicates activity across the settlement at least to the late 4th century AD which is consistent with other neighbouring settlements.
- 6.5 The existence of ridge and furrow across the site demonstrates that by the medieval period any evidence of earlier or intermediate occupation would not have been evident.

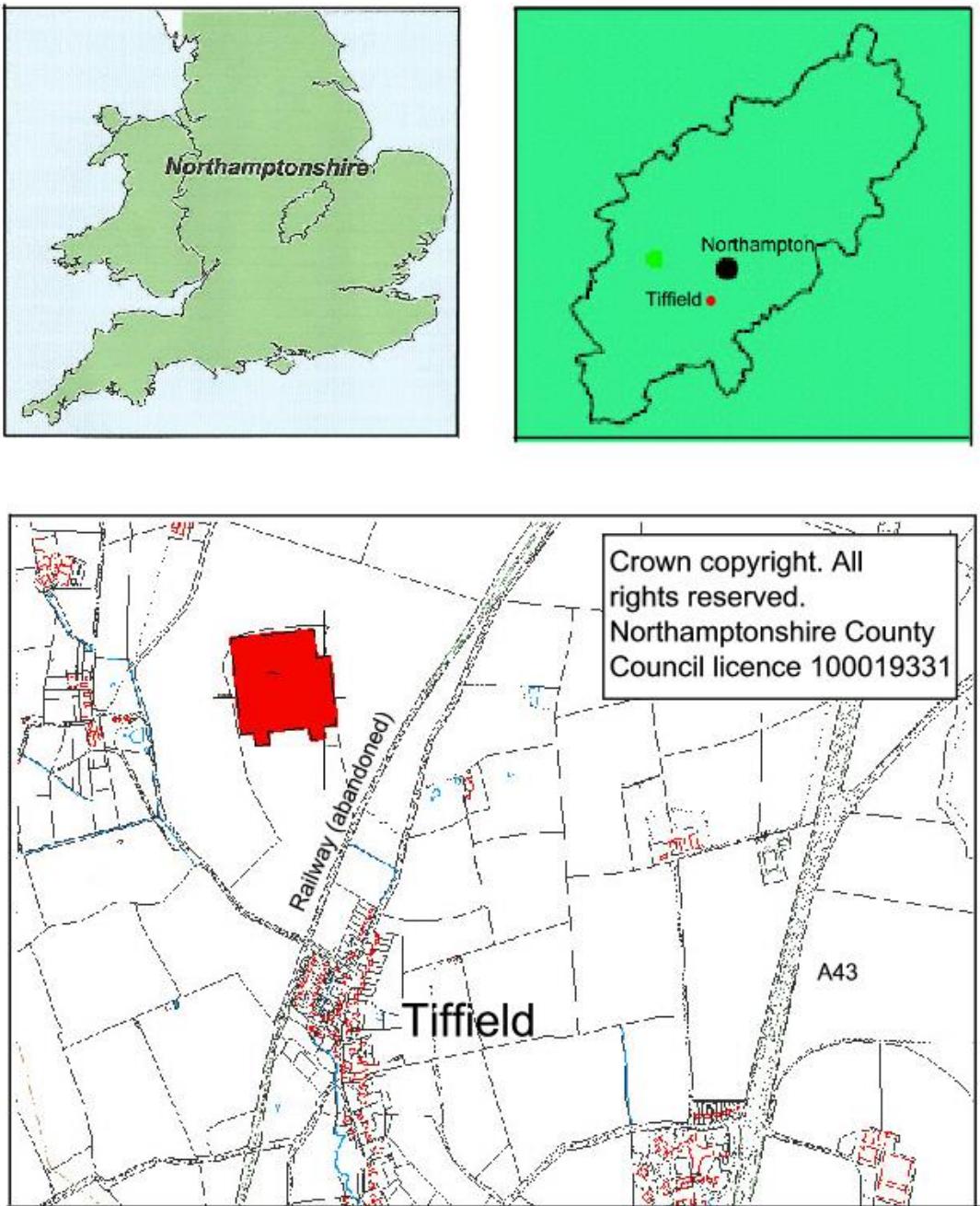


Fig 1 Site location plan

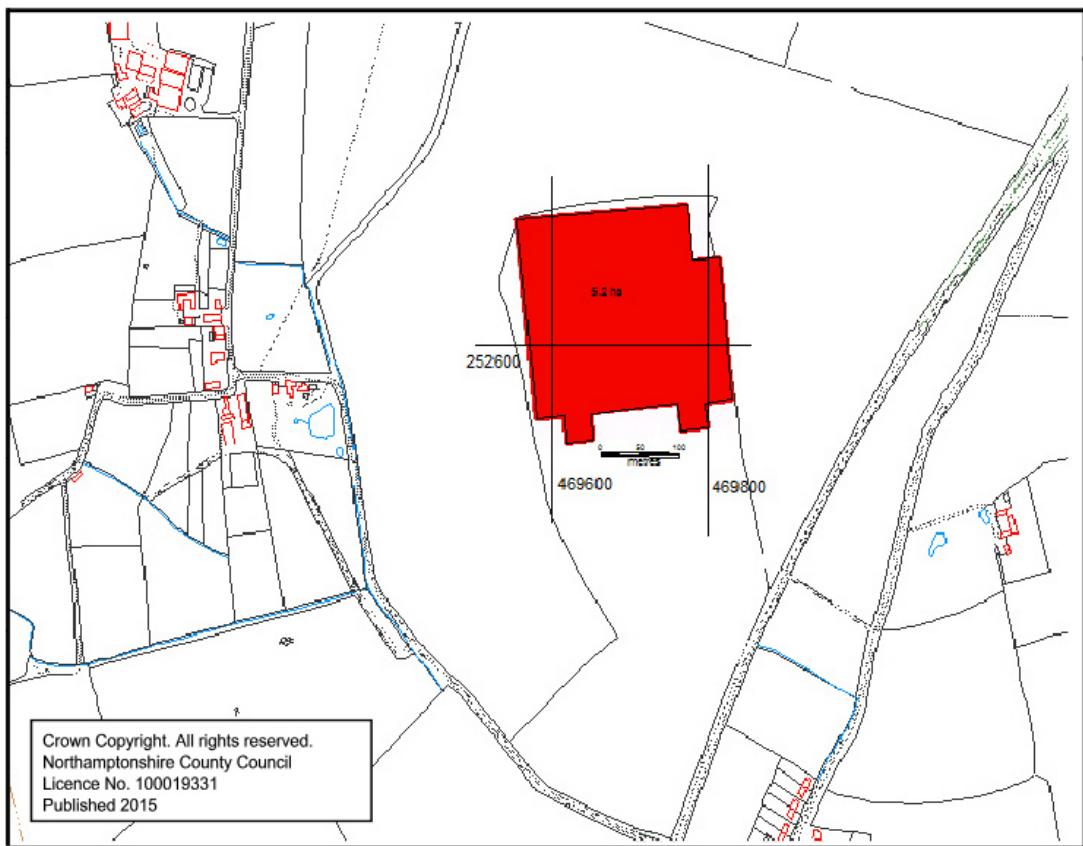


Fig 2 Location plan showing gradiometer survey area

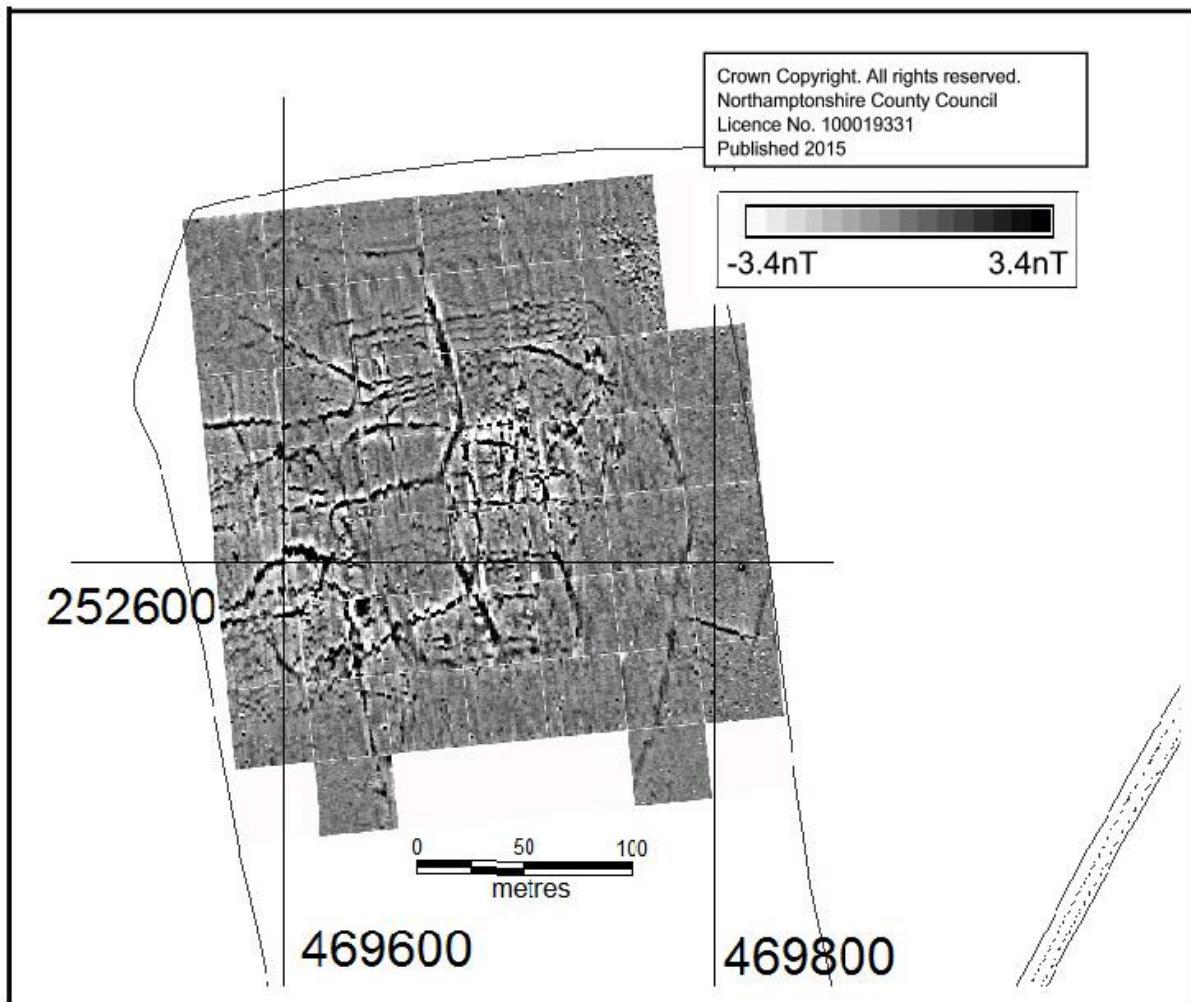


Fig 3 Greyscale plot of enhanced data



Fig 4 Interpreted plan of gradiometer survey results

Acknowledgements

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Bibliography

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BNFAS, 2 (1967), pg 11

RCHME: 1982, *Royal Commission on Historical Monuments for England, An Inventory of Archaeological Sites in South-West Northamptonshire Volume IV*, page 149

Appendix

Associated HER records excluding small finds

ENN5818	Pottery scatter
MNN3761	Romano-British settlement
MNN28815	Pottery scatter
MNN28814	Pottery scatter
MNN133814	Medieval ridge and furrow
ENN5817	Pottery scatter
MNN133817	Medieval ridge and furrow
MNN3762	Possible Romano-British settlement

