

Northamptonshire Archaeology

Archaeological Geophysical Survey
Land at Oakley Brook, Great
Oakley, Northamptonshire
October 2007



Adrian Butler

November 2007

Report 07/ 185

Northamptonshire Archaeology

2 Bolton House
Wootton Hall Park

Northampton NN4 8BE

t. 01604 700493 f. 01604 702822

e. sparry@northamptonshire.gov.uk

w. www.northantsarchaeology.co.uk



NORTHAMPTONSHIRE COUNTY COUNCIL

NORTHAMPTONSHIRE ARCHAEOLOGY

OCTOBER 2007

ARCHAEOLOGICAL GEOPHYSICAL SURVEY

LAND AT OAKLEY BROOK,

GREAT OAKLEY, NORTHAMPTONSHIRE

NOVEMBER 2007

STAFF

Project Manager Adrian Butler BSc MA AIFA
Fieldwork Adrian Butler
 Steve Morris
 Paul Kajewski BA PGDip
 Luke Yates
Text and illustrations Adrian Butler

QUALITY CONTROL

	Print name	Signature	Date
Checked and approved by	Bill Boismier		20/11/07

OASIS REPORT FORM

PROJECT DETAILS		
Project name	Geophysical Survey at land at Oakley Brook	
Short description (250 words maximum)	Northamptonshire Archaeology was commissioned by Wardell Armstrong to undertake a magnetometer survey across a proposed development area to the south of Great Oakley, Northamptonshire. Other than a large amount of ferrous debris in the topsoil, only three ferrous pipelines and a possible square brick feature were located.	
Project type	Geophysical Survey	
Site status (none, NT, SAM etc)	none	
Previous work (SMR numbers etc)	Possible route of Roman Road HER: 3141 & 3141/1	
Current Land use	Arable and pasture	
Future work	Yes	
Monument type/ period		
Significant finds (artefact type and period)		
PROJECT LOCATION		
County	Northamptonshire	
Site address (including postcode)	Mill Hill, Great Oakley, Corby, Northamptonshire	
Study area (sq.m or ha)		
OS Easting & Northing	SP869 852	
Height OD		
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Charlotte Dawson, Wardell Armstrong	
Project Design originator	Adrian Butler, Northamptonshire Archaeology	
Director/Supervisor	Adrian Butler	
Project Manager	Adrian Butler	
Sponsor or funding body	Wardell Armstrong	
PROJECT DATE		
Start date	October 2007	
End date	November 2007	
ARCHIVES	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical		
Paper	Northamptonshire Archaeology	Survey notes
Digital	Northamptonshire Archaeology	Geophysical data
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Archaeological geophysical survey at land at Oakley Brook, Great Oakley, Northamptonshire	
Serial title & volume	NA reports 07/185	
Author(s)	Adrian Butler	
Page numbers	5	
Date	20/11/07	

CONTENTS

1	INTRODUCTION	1
2	ARCHAEOLOGICAL BACKGROUND	1
3	TOPOGRAPHY AND GEOLOGY	1
4	METHODOLOGY	2
5	SURVEY RESULTS	3
6	CONCLUSION	4
	BIBLIOGRAPHY	4

Figures

Fig 1: Site location	1:30,000
Fig 2: Gradiometer Scanning Results	1:2500
Fig 3: Gradiometer Survey Results	1:2000
Fig 4: Gradiometer Survey interpretation	1:2000

ARCHAEOLOGICAL GEOPHYSICAL SURVEY

LAND AT OAKLEY BROOK,

GREAT OAKLEY, NORTHAMPTONSHIRE

OCTOBER 2007

ABSTRACT

Northamptonshire Archaeology was commissioned by Wardell Armstrong to undertake a magnetometer survey across a proposed development area to the south of Great Oakley, Northamptonshire. Other than a large amount of ferrous debris in the topsoil, only three ferrous pipelines and a possible square brick feature were located.

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by Wardell Armstrong to undertake a magnetometer survey across approximately 19ha of mixed pasture and arable land to the south-west of Great Oakley, Northamptonshire (Fig 1, NGR: SP 869 852). The survey was carried out in October 2007.

2 ARCHAEOLOGICAL BACKGROUND

A “Geophysical Survey Base” map, provided by Wardell-Armstrong, showed the line of a Roman road as likely to pass through the western three fields of the site area. A further archaeological site is known from the Corby Local Plan, straddling the brook in the north-east of the site.

The First Edition Ordnance Survey (1885) shows Field 1 (Fig 2) as containing a former mill in the south-east corner and a boundary bisecting the field.

3 TOPOGRAPHY AND GEOLOGY

The proposed development area occupies an area of land at an elevation of approximately 102m AOD gently sloping down towards and across Oakley Brook to the north. Its geology is mapped as Boulder Clay on the hillside and alluvium around the water course (BGS 2007).

The site is divided by the north-south Mill Hill Road (Fig 1). Five fields (Fig 2, F1-5) were available for survey. Of the five all but Field 1, arable seedlings, were cattle pasture. The south-eastern corner of Field 1 a 0.25ha banked enclosure contained piles of gravel. Field 5 contained a concrete brick and steel inspection shaft.

4 METHODOLOGY

Fieldwork

The fieldwork was divided into two phases, an initial reconnaissance survey by gradiometer scanning to be followed by a 20% (4ha) targeted intensive gradiometer survey.

The reconnaissance survey was carried out using a pair of Geoscan FM-series fluxgate gradiometers. The development area was surveyed on a field by field basis, with each field being allocated a separate field number (Fig 2). Parallel transects at 20m intervals, were set out along the longer axis of each field. The gradiometers were then carried along the transects and monitored for fluctuations in the local magnetic field (scanning). Where an anomaly exceeding 3.0nT (nanoTesla) was encountered it was examined for magnetic characteristics, likely surface ferrous or ceramic discounted, and flagged for possible further investigation. Such anomalies were then plotted on scale maps (Fig 2).

Areas in each of the five fields were targeted for examination by more detailed survey. Each field was sub-divided into 30m x 30m grid-squares, which formed the basic unit of survey. These were laid out manually, using tapes and an optical square (Figs 3 and 4).

The survey was conducted with Bartington Grad601-2, twin sensor array, vertical component fluxgate gradiometers. These instruments were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.5m along the traverses, giving a total of 1800 measurements per grid.

All fieldwork was carried out in accordance with the guidelines issued by English Heritage and by the Institute of Field Archaeologists (EH 1995 & Gaffney, Gater and Ovendon 2002).

Data processing

The data was displayed and processed using Geoplot 3.00t software. In accordance with our normal policy, minimal processing was carried out on the data. The 'Zero Mean Traverse' function was applied as a standard in order to balance the data to zero. Other functions were applied only where necessary to correct specific data flaws.

The processed data is presented in this report in the form of greyscale plots (scale +4nT to -4nT black ~ white; Fig 3). It was considered that other plotting regimes such as 'stacked trace' would be uninformative for the majority of this survey. Interpretative plots (Fig 4) have been overlaid on the greyscales to aid in the discussion.

5 SURVEY RESULTS

Reconnaissance Survey (Fig 2)

All fields contained a general background level of ferrous and ceramic waste in the topsoil.

Field 1

The general level of background activity was higher in Field 1. The former field boundary was visible as a slight earthwork. Nine discrete positive magnetic anomalies were detected, although none obviously connected with a Roman road. A halo of enhanced magnetism was detected approximately around the enclosure in the south-east corner of the field. This corresponded with evidence of recent burning in the ploughsoil.

Field 2

A ferrous pipeline was detected orientated east-west across the north of the field.

Field 3

No anomalies were detected in field 3. The paucity of anomalies may have been due in part to depth of alluvial cover.

Field 4

No significant anomalies were detected in Field 4.

Field 5

At least two east-west orientated ferrous pipelines were detected in this field. The intensity of magnetism drowned out any further anomalies.

Detailed Survey (Figs 3 and 4)

Field 1

Two areas were surveyed in Field 1, a 1.44ha strip along the southern boundary and a 0.36ha square in the north-east, over scanning anomalies. No evidence of features relating to a Roman road were detected in the survey strip intersecting it. Survey error produced a series of 30m spaced parallel lines in the data of the southern block. These could not be corrected in processing, but it should be emphasised they do not disguise or indicate true magnetic anomalies. A number of discrete anomalies indicating ferrous objects were located. Including a lineation of small ferrous anomalies possibly representing a former fence line. Three zones of magnetic noise were identified, likely to result of burning or ceramic debris in the ploughsoil. The northern area of survey was

found to contain several ferrous anomalies.

Field 2

1.08ha was surveyed in the south of the field. Other than a number of random ferrous and ceramic anomalies nothing significant was detected.

Field 3

The background texture of the 0.54ha survey in this field indicated alluvial cover. Several ferromagnetic anomalies were detected.

Field 4

As with Field 1, no indication of a road was detected in Field 4. A square magnetic anomaly was recorded at the eastern end of the 0.45ha. This anomaly is of unknown provenance, although it may suggest a brick-built feature.

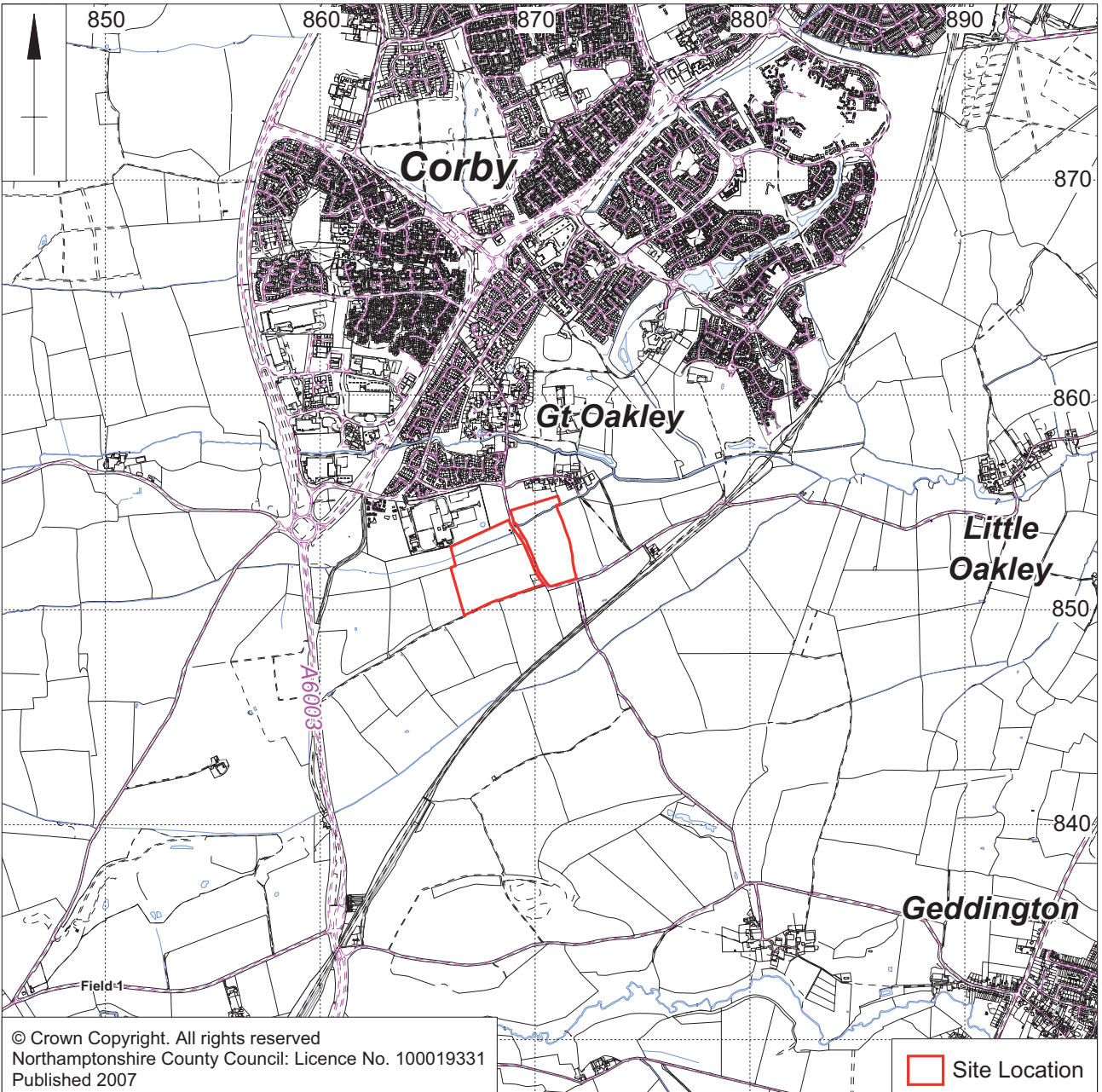
6 CONCLUSIONS

Gradiometer scanning and detailed survey of five fields at Oakley Brook have been unsuccessful in locating any obvious archaeological features. The area is littered with topsoil ferrous debris. A possible brick feature was located in Field 4, but that is likely to be of relatively modern date. Ferrous pipelines cross Fields 2 and 5. Evidence of alluvial cover was detected in Field 3, putatively masking any archaeological features. As this was less than a 100% intensive survey, it is possible that unknown archaeological features exist between scanning transects and detailed blocks.

BIBLIOGRAPHY

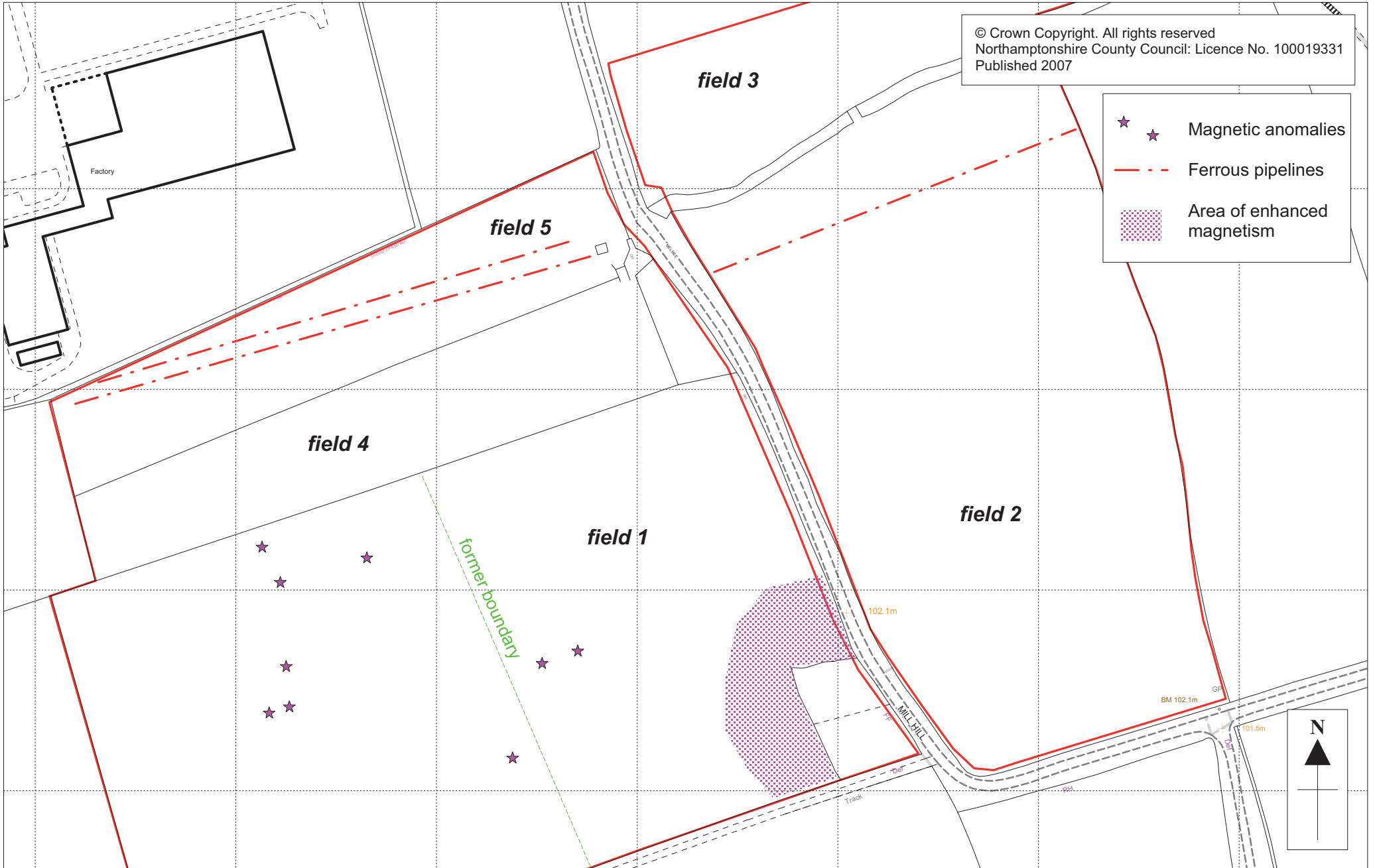
EH 1995 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage, Research and Professional Services Guideline, **1**

Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**



Scale 1:30,000

Site Location Fig 1



© Crown Copyright. All rights reserved
 Northamptonshire County Council: Licence No. 100019331
 Published 2007

- ★ ★ Magnetic anomalies
- Ferrous pipelines
- ▨ Area of enhanced magnetism

Scale 1:2500

Gradiometer Scanning Results Fig 2

