NORTHAMPTONSHIRE ARCHAEOLOGY

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A GEOPHYSICAL SURVEY AT

... HARPOLE,

NORTHAMPTONSHIRE

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A GEOPHYSICAL SURVEY AT ... HARPOLE, NORTHAMPTONSHIRE, APRIL 2003

ABSTRACT

Geophysical survey was undertaken on two areas of land with a combined area of approximately 4.8ha at ... Harpole, Northamptonshire. Gradiometer survey was carried out across both areas and revealed an extensive field system and medieval ridge and furrow.

1 INTRODUCTION

Northamptonshire Archaeology conducted geophysical survey on two areas of land with a combined area of approximately 4.8 hectares at ... Harpole, Northamptonshire (NGR SP... Fig 1). The work (supported by the Heritage Lottery Fund) was undertaken on behalf of Stephen Young, of University College Northampton. The aim of the work was to identify the nature of any buried archaeological remains.

2 TOPOGRAPHY AND GEOLOGY

The parish of Harpole covers about 760 ha and lies on the north side of the River Nene which forms its south boundary (RCHM 1982). The solid geology of ... is predominately Glacial Boulder Clay (British Geological Survey, England and Wales Sheet 185, 2002). The site is flat and was used for arable agriculture at the time of the survey.

3 ARCHAEOLOGICAL BACKGROUND

Archaeological evidence from prehistory through to the medieval period has been found in Harpole parish. The most notable is a Roman Villa has been recorded south-west of Harpole close to the A45.

4 METHOD

All fieldwork was in accordance with English Heritage Guidelines (EH 1995).

GRADIOMETER SURVEY

The gradiometer survey was undertaken using a Geoscan Research FM36 Fluxgate Gradiometer. A total of 120 separate 20m x 20m grid-squares were surveyed in detail. Each grid-square was traversed at rapid walking pace via parallel (Area 1) and zigzag (Areas 2 to 5) traverses spaced at 1m intervals. A sample trigger recorded readings every 0.25m along the traverse. At the end of

each grid the sensor alignment was checked and a tilt error of below +/-2nT per $+/-2^{\circ}$ tilt was maintained.

The data were analysed using Geoplot 3.0 software. Low (negative) magnetism is shown as white and high (positive) magnetism as black in the resultant greyscale plots. The data were processed using an algorithm to remove magnetic spikes, thereby reducing extreme readings sometimes caused by stray iron fragments and spurious effects due to the inherent magnetism of soils. The 'Zero Mean Traverse' algorithm was used in order to normalise the background variation between individual traverse and grid-squares. No other processing functions were employed. The processed data is presented here in the form of greyscale plots (Figs 2 and 3).

5 SURVEY RESULTS

5.1 AREAS 1 AND 2

The main focus of the archaeological activity appeared to be in the northern part of the survey area, although archaeological anomalies were detected throughout. A series of large inter-cutting parallel sub-rectangular positive magnetic anomalies, probably representing boundary ditches for enclosures aligned north-west to south-east, were identified to the north of Area 1 and continued into Area 2.

Enclosure A measured 60m x 40m and contained ditches which may have subdivided the area into paddocks. Five oval features, interpreted as pits, were also found within the enclosure. Enclosure B measured 110m x 40m and appeared to extend beyond the survey area. Numerous linear ditches and two smaller enclosures were found within this enclosure. Enclosure C, measuring 80m x 40m, overlapped Enclosure B, suggesting that they were not contemporary with one another. Within enclosure C there were other ditches and a small oval pit. Enclosures D and E have only been partially recorded as they extend beyond the survey area.

The size of the large rectangular features suggests that the survey detected an extensive field system, possibly including domestic activity.

Away from the large rectangular features several ditches may have formed other parts of the field system, but they are incomplete.

The survey also identified three areas of noisy data, one in Area 1 and two in Area 2. These are possibly groups of small pits/postholes or spreads of ceramic material.

In Areas 1 and 2, 15 parallel linear features were identified. The nature of such anomalies suggested that they may be the remains of former medieval ridge and furrow.

The large linear anomaly identified in the south-east of Area 1 is a modern ferrous pipeline that is

visible on the surface of the field.

5.2 AREAS 3, 4 AND 5

No significant anomalies of archaeological interest were identified by the survey other than an isolated positive anomaly, probably a pit in Area 5.

6 CONCLUSION

The geophysical survey was successful in identifying archaeological features within the northern part survey area. The nature of the features suggests that they represent a field system that has been successively used over a period of years and extends beyond the survey area. The smaller anomalies may imply some domestic activity within the enclosures.

7 **REFERENCES**

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

RCHM 1982 An Inventory of the Historical Monuments in The County Of Northampton Volume IV Archaeological Sites in South-West Northamptonshire 1982 Royal Commission On Historical Monuments England

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Fig 3 Gradiometer Survey Results with Interpretation