

NORTHAMPTONSHIRE ARCHAEOLOGY

**GEOPHYSICAL SURVEY AT
NETHER HEYFORD, NORTHANTS**

NORTHAMPTONSHIRE COUNTY COUNCIL

NORTHAMPTONSHIRE ARCHAEOLOGY

June 1999

INTRODUCTION

A geophysical survey was carried out by Northamptonshire Archaeology at Nether Heyford Farm, Nether Heyford, Northants (NCL 019 549 540). The work was carried out on behalf of Neilson Young through a grant from the Great Ouse Valley Trading Company and Northants District Council. Both organisations and particularly Neilson Young are thanked for their support.

The site lies in the west of the village of Nether Heyford and to the south of the Great Ouse Valley Trading Company. Geophysical survey techniques were carried out in order to locate any archaeological features from the following evidence:

TOPOGRAPHY AND GEOLOGY

**GEOPHYSICAL SURVEY AT
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The site lies on a slight rise above the Great Ouse Canal to the west of the Great Ouse Valley Trading Company. The ground slopes down to the drive towards the Great Ouse Valley Trading Company. The geology of the survey area is comprised of Northampton Sand and Great Ouse Valley Sand. Geological (British Geological Survey sheet 105, Northants 1993).

GEOPHYSICAL SURVEY AT NETHER HEYFORD, NORTHANTS

Abstract

Detailed geophysical survey at Whitehall Farm, Nether Heyford, Northants (NGR) was carried out in May 1999. The results show a complex of trackways and enclosures. The possibility that the remains form part of a Roman villa could not be confirmed.

1. INTRODUCTION

A geophysical survey was carried out by Northamptonshire Archaeology in May 1999 at Whitehall Farm, Nether Heyford, Northants (NGR). The work was undertaken on behalf of Stephen Young through a grant from the Nene Valley Steering Committee via South Northants District Council. Both magnetometry and resistivity techniques were used.

The site lies to the west of the village of Nether Heyford and to the south of Whitehall Farm (Fig 1). Geophysical survey techniques were carried out in order to locate a probable Roman villa known from fieldwalking evidence.

2. TOPOGRAPHY AND GEOLOGY

The site lies on a slight plateau above the Grand Union Canal to the east at approximately 120m OD. The ground slopes from west to east down towards the Grand Union Canal. The geology of the survey area is comprised of Northampton Sand and Ironstone underlain by Glacial Sand and Gravel (British Geological Survey sheet 185, Northampton, published 1980).

3. BACKGROUND INFORMATION

Previous fieldwalking evidence has shown that a Roman building possibly a villa existed at this site. Substantial quantities of roofing tile, boxflue tile, pottery (Fig 2) and tesserae (Fig 3) have been recovered. The majority of the finds lie to the west of the break of slope into the valley below.

4. GEOPHYSICAL SURVEY

The magnetometer survey was carried out using a Geoscan Research FM36 Fluxgate Gradiometer. Parallel traverses were made from south to north at walking pace, with individual readings taken at 0.25m intervals using a sample trigger for rapid recording of data. The sensor alignment or balance was checked upon completion of survey within each grid square and tilt error maintained below $\pm 2nT$ per ± 20 -degree tilt. A total of 32 grids, each 20m x 20m were surveyed.

The resistivity survey was carried out using a Geoscan RM15 resistance meter with a twin electrode configuration in a mobile probe spacing of 0.5m. Transects were spaced 1m apart and were walked from south to north in 'zig-zag' fashion with readings logged at 1m intervals. A total of four grids, each 20m x 20m were surveyed.

The data were analysed using the Geoscan computer program Geoplot (V.2.01) and Geoplot 3.0 for windows (Beta version). Low magnetism is shown as white and high magnetism as black in the resultant plots (Fig 4). In contrast, low resistance is shown as white and high magnetism as black (Fig 5).

Analysis and Interpretation of results (Figs 4 and 5)

The magnetometer survey was carried out in three separate fields and produced good results showing an extensive Roman settlement.

A staggered junction of trackways can be seen in the resultant plot (Fig 3, A). One track is aligned from NE to SW and the other is roughly at right-angles to it. On either side of the trackways running perpendicular to them are a series of linear and rectilinear anomalies demarcating fields or paddocks (Fig 3, B). Enclosed within one of the paddocks to the NW is a smaller sub-rectangular enclosure (Fig 3, C). There appears to be two phases of enclosures represented in the resultant plot (Fig 3, E). At the north-eastern end of the road, the northern side ditch discontinues suggesting open fields to the east down slope (Fig 3, D).

At the north-west corner, an area of high magnetism was produced in the resultant plot denoting the demolished remains of old farm buildings (Fig 3, F). Linear parallel anomalies running in a north to south direction are the ploughed remains of the pre-enclosure field system of ridge and furrow (Fig 3, G). A fairly wide curvilinear anomaly to the south and south-west is the modern farm track running around the perimeter of the survey area (Fig 3, H).

A single grid was surveyed in the field to the south of the site in order to check whether the archaeology extended in this direction. The results showed two short parallel linear anomalies indicating the continuation of the NE to SW aligned trackway.

Two further grids were surveyed in the pasture field to the west that lies on a slight plateau. The results produced significant anomalies linear and curvilinear in nature denoting ditches suggesting the Roman settlement continues in this direction.

Resistivity survey

The resistivity survey has produced poor results due to the dry weather conditions (Fig 5).

5. CONCLUSIONS

The results indicate an extensive Roman settlement extending beyond the area of survey. Therefore, further survey work needs to be carried out in order to ascertain the extent of the archaeology.

ILLUSTRATIONS

Fig. 1 - 1:5000 location plan showing the location of survey grids.

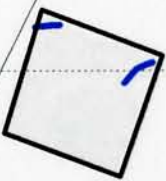
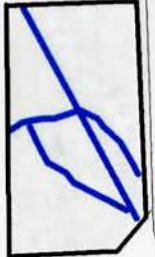
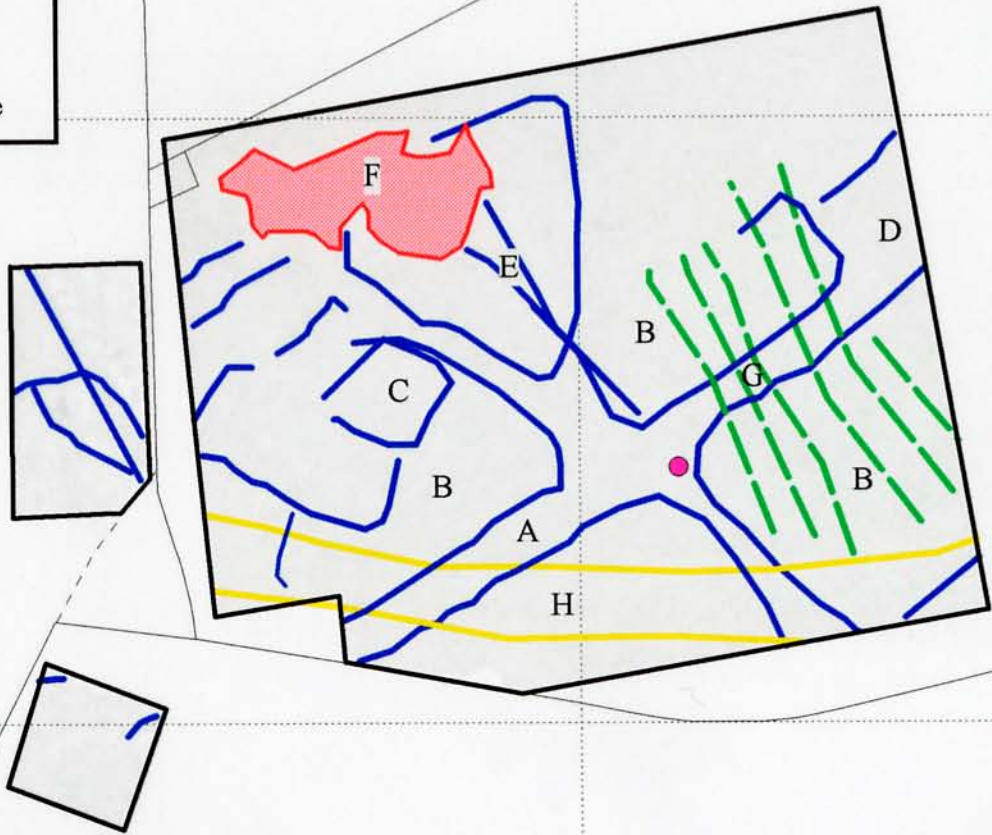
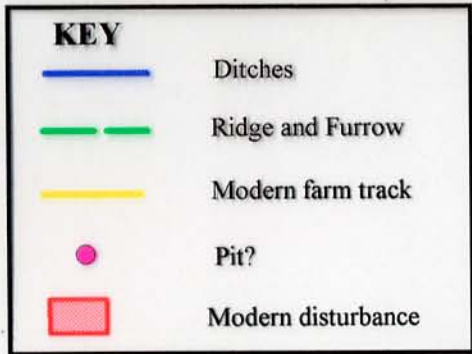
Fig. 2 - 1:1250 distribution plot of Roman pottery in relation to magnetometer results

Fig. 3 - 1:1250 distribution plot of tesserae in relation to magnetometer results

Fig. 4 - 1:1250 magnetometer survey plots with interpretation overlay

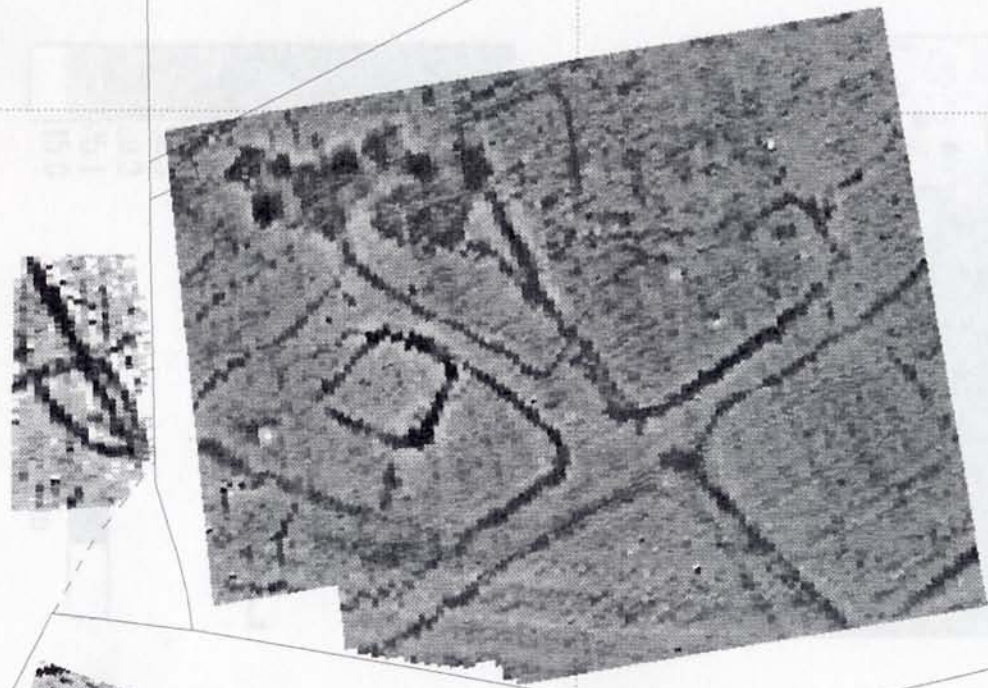
Fig. 5 - 1:500 resistivity survey plot

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Fig. 4 Overlay



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