

Archaeological Field Unit

**Archaeological Monitoring at Coronation Avenue,
Throckenholt, Lincolnshire**

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2003

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**Archaeological Monitoring at Coronation Avenue,
Throckenholt, Lincolnshire
(TF 3515 0925)**

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SUMMARY

On the 24th March 2003 the Archaeological Field Unit of Cambridgeshire County Council (AFU) undertook the first phase of archaeological monitoring at Coronation Avenue, Throckenholt, in advance of the construction of fourteen dwellings and associated access roads and services. The aim of the investigation was to record and assess the nature of any archaeological evidence encountered before construction and hence to assess the potential for surviving remains. Given the subject site's location to the east of substantial Iron Age and Roman remains the area was considered to have high archaeological potential.

During the archaeological monitoring work no archaeological features were discovered. The absence of remains may be due to the low-lying nature of the land which rendered it prone to flooding and only useful on a seasonal basis. This would account for the presence of a drainage ditch, identified by aerial photography and geophysical survey, to the south-west of the area investigated.

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APPENDIX 1 Geophysical Survey

**Archaeological Monitoring at Coronation Avenue,
Throckenholt: Lincolnshire
(TF 3515 0925)**

1 INTRODUCTION

On the 24th March 2003 the Archaeological Field Unit of Cambridgeshire County Council (AFU) undertook archaeological monitoring at Coronation Avenue, Throckenholt (TF 3515 0925), (Fig. 1). The work was carried out to satisfy a planning condition (Application H19/1428/00) in advance of the construction of fourteen dwellings as well as access roads and services.

2 GEOLOGY AND TOPOGRAPHY

The geology of the site is older marine alluvium (Barroway Drove Beds) (BGS Sheet 158) with a silt-filled creek to the east. The site lies at approximately 3m OD.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Located predominately to the east of the site are numerous cropmarks (identified through aerial photography) which are assumed to be Iron Age or Roman in origin but which currently lack firm dating evidence.

Excavations to the south-west of Cole's Bridge at the southern end of Coronation Avenue in 1993 (Bray 1995) followed fieldwalking and survey. The excavations revealed extensive agriculture and settlement on the siltland during the 2nd and 3rd centuries AD. High quality locally made pottery and imported samian wares were found. The site appears to have fallen out of use and been abandoned as a consequence of phases of flooding - indicated by sterile water-borne silts and shallow peat deposits. It is suggested that the cropmarks indicate droveways and from this it is inferred that use of the land was limited to cattle or sheep rearing.

There was some reclamation of the silt fens during the 15th century with 'new enclosures' being formed, although there was a constant threat of flooding both from the sea and freshwater (Darby 1983).



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Figure 1 Location of excavation within the Phase 1 development area, with the overall development area and subsequent phases outlined

4 GEOPHYSICAL SURVEY

The project required that geophysical survey methods were employed and the results were used to assist the archaeological monitoring of the site. It was deemed appropriate to carry out the survey over the whole area of the development, which covers 0.33ha (Appendix 1). The survey identified large amounts of interference caused by modern disturbance. A single ditch aligned from north-west to south-east was identified towards the south-western end of the development area. This is probably the ditch identified through aerial photography.

5 METHODOLOGY

This was the first of six phases of work. The area excavated was a building footprint, measuring 10m x 8m. The area was excavated down to the natural geology (Fig. 1). The excavation of the footprint was undertaken by a tracked excavator using a 1.8m ditching bucket. A member of the AFU staff carried out observation of the excavation.

6 RESULTS

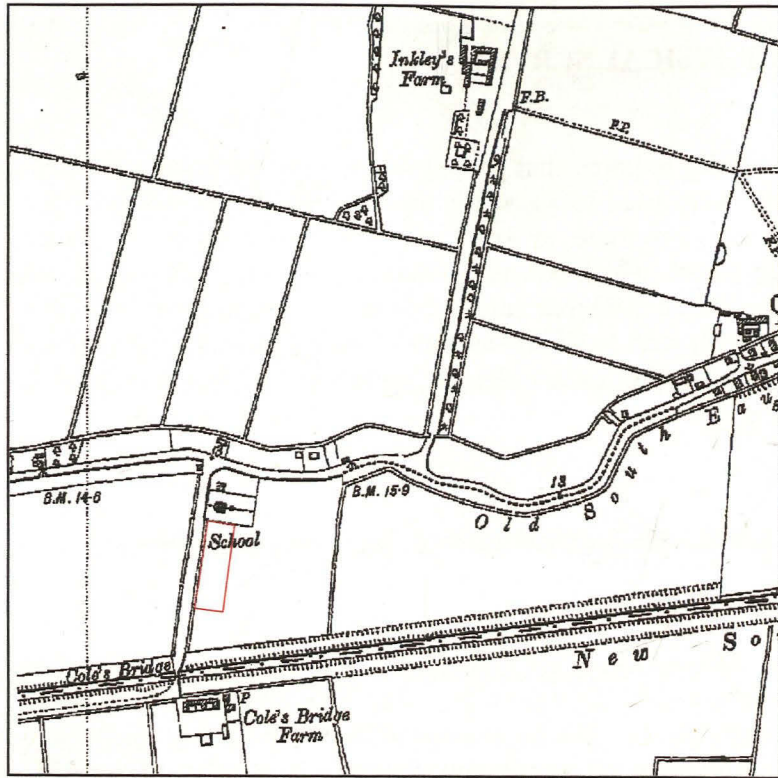
The excavated section showed the depositional sequence to be: grey brown topsoil (0.15m thick) overlying mid-grey brown clay (0.75m thick), this in turn sealed a layer of black peat (0.10m thick). Removal of the peat revealed the natural geology, consisting of degraded clay. No archaeological features were observed and no artefacts were recovered from the site.

7 DISCUSSION AND CONCLUSIONS

The aim of the study was to highlight the potential for the preservation of archaeological remains on the subject site and to identify the nature of any remains that may be affected by the proposed development.

The key issues specific to the site relate to its location to Iron Age and Roman crop marks, to the east and south-east.

Initial non-intrusive surveys (aerial photographic and geophysical surveys) of the site revealed the existence of a single ditch at the south-western end of the



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Figure 2 The investigation area (outlined in red) as shown on 1st edition OS map (above) and aerial photograph (below)

development area, outside the current phase of investigation. Excavation of the building footprint produced no evidence of archaeological remains, which supports the negative evidence gathered from the non-intrusive surveys.

The absence of significant archaeological remains (other than a drainage ditch) suggests that the land may have been used for agriculture in the Iron Age and/or Roman period and subsequently (Fig. 2). However, because of the low-lying nature of the land it may have only been used on a seasonal basis. The potentially wet conditions may also account for the presence of the drainage ditch located to the south-west.

ACKNOWLEDGEMENTS

The author would like to thank Concept Design and Development Ltd who commissioned and funded the archaeological work. The project was managed by Judith Roberts. The geophysical survey was carried out by Northamptonshire Archaeology.

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Appendix 1

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NORTHAMPTONSHIRE COUNTY COUNCIL***

JUNE 2003

***GEOPHYSICAL SURVEY AT
CORONATION AVENUE,
THROCKENHOLT,
LINCOLNSHIRE
MARCH 2003***

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**GEOPHYSICAL SURVEY AT CORONATION AVENUE,
THROCKENHOLT, LINCOLNSHIRE. MARCH 2003**

Abstract

A geophysical survey was carried out by Northamptonshire Archaeology over 0.33ha of land east of Coronation Avenue, Throckenholt, Lincolnshire. Although confused by modern interference, the survey detected a ditch possibly matching one previously known from aerial photography.

1 INTRODUCTION

Northamptonshire Archaeology were commissioned to carry out geophysical survey on land at Coronation Avenue, Throckenholt, Lincolnshire (NGR: TF 3515 0925). The land is proposed for a small housing development. As the location is in an area of known archaeological potential, archaeological evaluation was deemed necessary by the Lincolnshire County Council Archaeologist and carried out under contract by the Archaeological Field Unit, Cambridgeshire County Council (AFUCCC). The area is characterised by a large number of cropmarks identified by aerial photography (AP plot supplied by AFUCCC). Of the numerous apparent ditches and enclosures, one ditch appears to cross the south of the development area, orientated east-west.

The survey was located within a large arable field immediately east of Coronation Avenue, bordered by an open drain to the west and the steel fence of a heavy goods yard to the north. Prior to the start of the survey a causeway of brick hardcore had been constructed over the drain on the west of the site and some of the material extended into the survey area. In addition, two spoil heaps were located in the north-west of the area. These features would prove a hindrance to survey.

The soils of the area are of the Dowels association and the drift geology is a marine alluvium over peat (SSEW 1983).

2 METHODOLOGY

The project was initiated according to the standard Northamptonshire Archaeology methodology for fluxgate gradiometer survey. An approximate 0.33ha area was surveyed.

2.1 *FLUXGATE MAGNETIC GRADIOMETER SURVEY*

Previous research has shown that fired, or cut and backfilled archaeological features such as kilns and hearths, ditches and pits often have an anomalously higher magnetic susceptibility than the surrounding subsoil due to burning and biological processes. Differences in magnetic susceptibility within the subsoil and archaeological features can be detected as changing magnetic flux by an instrument such as a fluxgate gradiometer. Data from this may be mapped at closely spaced regular intervals, to produce an image which may be interpreted to locate buried archaeological features (Clarke 1990).

Detailed gradiometer survey was carried out utilising a Geoscan Research FM36 fluxgate gradiometer with ST1 sample trigger. Prospection was carried out in four grids of 30m x 30m along parallel traverses spaced at 1m intervals, recording data points spaced at 0.25m (a total of 1600 points in each grid) to a maximum instrument sensitivity of 0.1nT in accordance with English Heritage Guidelines (EH 1995). The grids were surveyed in the 'zig-zag' style (traverses walked alternately north-south/south-north). The data was downloaded to a notebook computer in the field, for storage and assessment.

2.2 *DATA PROCESSING AND PRESENTATION*

Following the completion of the survey, processing and analysis took place using Geoplot v.3.00 software (Geoscan Research 1999). The most typical method of visualising the data is as a greyscale image. In a greyscale, each data point is represented by a shade of grey, from black to white at either extreme of the data range. A number of standard operations were carried out to process the data. The gradiometer data was mathematically adjusted to account for instrument drift over time. The mean level of each traverse of data was reduced to zero and all grids matched so that there are no differences between background levels. The data was analysed 'on-screen' using a variety of viewing parameters and styles and the most useful of these saved as a *.BMP image and manipulated using Corel Draw software. A digital map of the survey area was constructed. The greyscale image of the survey results were then overlaid onto the digital map and an interpretation diagram generalised from the results.

3 *RESULTS*

The results of the gradiometer survey are shown in greyscale in Figure 2, within a linear range of -3.0nT to $+3.0\text{nT}$, appropriate for the low range of the magnetic response. An

interpretative diagram has been overlain on this in Figure 3. The following descriptions refer to both of these figures.

A very confused area of intensely magnetic signals on the western boundary of the site corresponds with the dump of thermoremanent brick material that makes up the causeway over the modern ditch (see above, 1). Similarly, occasional discrete intense dipolar anomalies are likely to reflect iron debris in the ploughsoil. Magnetic disturbance on the northern boundary of the site was caused by a large steel fence.

The site as a whole is dominated by east-west orientated positive magnetic banding of a sort that is typical of survey in the fenland environment.

Approximately 9.5m from the southern boundary of the site a north-west orientated curvilinear positive anomaly was detected, likely to reflect a buried ditch (Fig 3, A), perhaps the very ditch mapped as a cropmark (above, 1).

4

CONCLUSIONS

A magnetic gradiometer survey of 0.33ha of land was carried out at Coronation Avenue, Throckenholt, Lincolnshire. Although confused by modern interference, the survey detected a ditch which possibly matches one previously known from aerial photography and also recorded magnetic banding within either the soils or geological substrate of the area.

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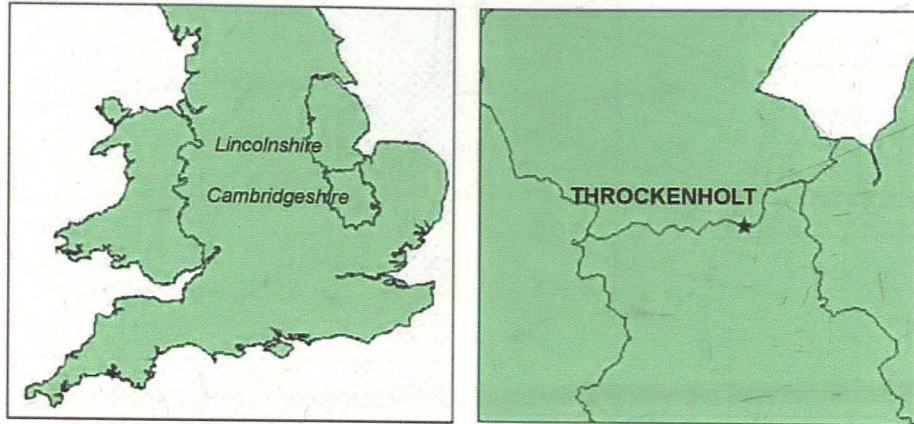
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Northamptonshire Archaeology

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Fig 1: Location



Fig 2: Gradiometer Survey Results



Fig 3: Gradiometer Results with interpretation