SMR

97/12

ARCHAEOLOGICAL FIELD EVALUATION REPORT

Grange Farm, Grayingham, Lincolnshire

Site Code:	GYG 97
LCNCC Acc No.	238.97
NGR:	SK 9565 9558
Planning Ref.	97/P/0733

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Report prepared for Ermine Farms Ltd. by Colin Palmer-Brown
October 1997

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Summary

* *A magnetometer survey and a programme of gridded field walking was carried out for Ermine Farms Ltd. on a proposed development site situated approximately 2km east of Grayingham*

* *The magnetometer survey failed to produce conclusive evidence of archaeological activity and the fieldwalking result was also largely negative*

* *It is concluded on the basis of these non-intrusive surveys that the archaeological potential of the site is limited, although one faint geophysical anomaly on the west side may be worthy of limited further investigation*

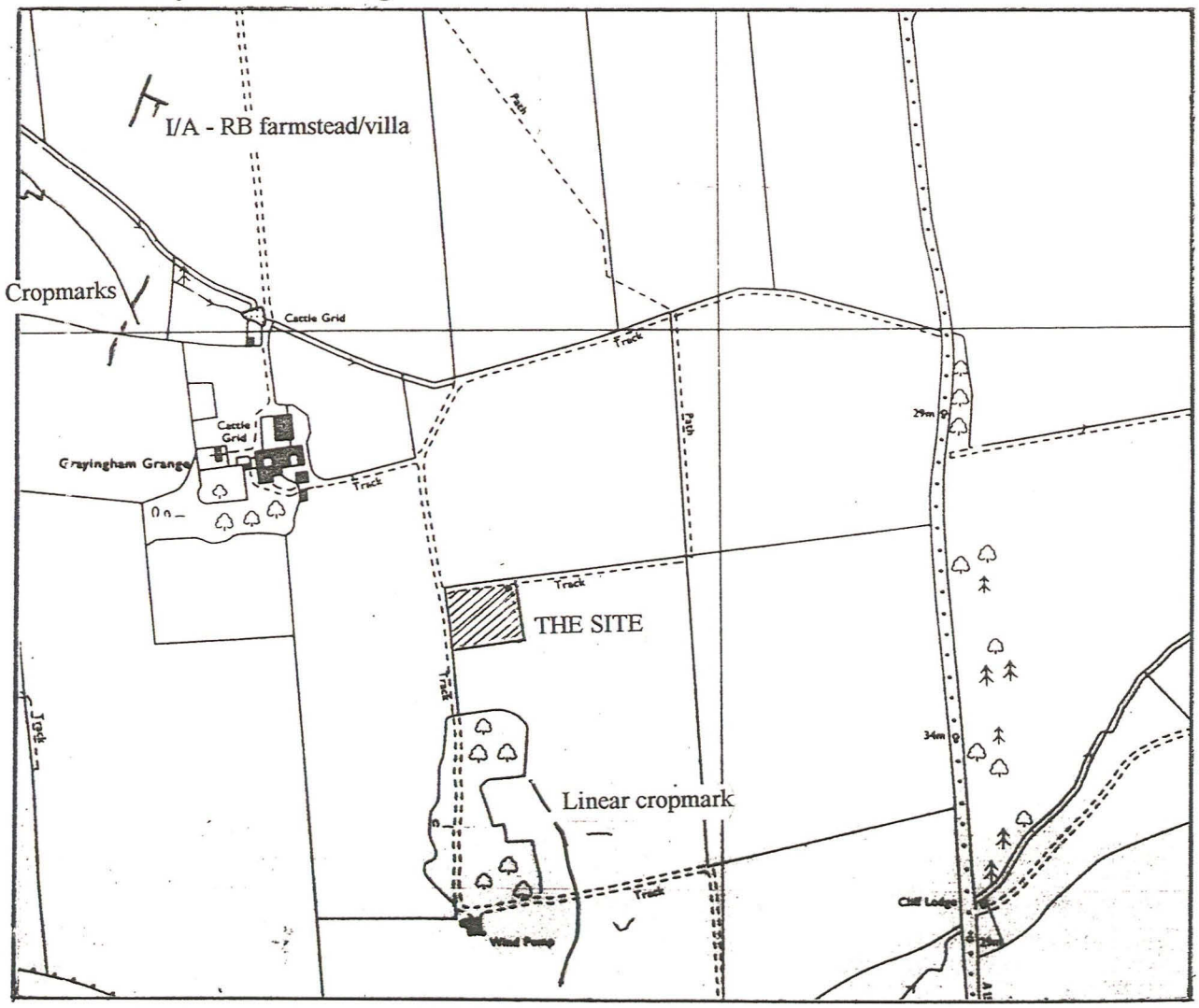


Fig. 1 1:10,000 site location incorporating relevant information from the county SMR (OS copyright reference AL 515 21 A0001)

1.0 Introduction

Pre-Construct Archaeology (Lincoln) were commissioned by Ermine Farms Ltd. to carry out an archaeological field evaluation on c. 0.81 hectares of land situated approximately 2km east of Grayingham in Lincolnshire. These works were commissioned to fulfil a planning constraint issued by West Lindsey District Council. They comprised a magnetometer survey by the Landscape Research Centre Ltd. and a gridded field walk by PCA.

The proposed development site comprises a rectangular unit which measures approximately 97.5m east-west and 80.0m north-south.

The archaeological work was undertaken in accordance with the LCC (draft) Archaeology Handbook and a written project specification, prepared by PCA in September 1997.

Sincere thanks are expressed to the commissioning clients, Ermine Farms Ltd; in particular, Mrs Ward.

2.0 Planning background

Planning permission is sought for the erection of seven pig rearing buildings and associated infrastructure (eg one feed bin per building and a concrete channel for holding solid manure). It is understood that full planning will not be granted until the clients have satisfied the planning authority that either the site is clear of archaeological remains, or that the interests of the archaeology can be accommodated within the scheme of development.

This report documents two stages in a potentially tripartite programme of evaluation. It is understood that the use/intensity of trial excavation would be dependant on the outcome of this combined report. A decision on whether or not further archaeological intervention will be required in connection with the present application will be a matter for consideration by the Assistant Archaeological Officer for Lincolnshire, not PCA.

3.0 Archaeological and historical background

Information contained as part of the County Sites and Monuments Record for Lincolnshire (SMR) indicates that the site is located within an area of high archaeological potential The principal recorded details can be summarised as follows:-

- the Roman road Ermine Street is approximately 600m east of the site; Romano-British pottery has apparently been recovered from the west side of the road, which could indicated the proximity of a roadside settlement

- a Romano-British villa complex has been identified just to the north of Grayingham Grange (SK 9520 9630), which may have been pre-dated by a native farmstead

- Mesolithic (Middle Stone Age) artefacts have been recovered from the area surrounding SK 9525 9635

- evidence for a Bronze Age barrow cemetery has been found scattered around the application site (usually in the form of cropmarks seen from the air): in addition, Bronze Age pottery has been recovered at SK 9552 9661.

- of particular note is a possible prehistoric linear boundary which could cross the application site. Aerial photographic records show this to the south of the application area, immediately east of a disused quarry, possibly extending northwards

In addition to the above, the site has been the subject in recent times of a rapid walk over survey by J and P Albone, producing little artefactual data (J Albone, pers. comm.).

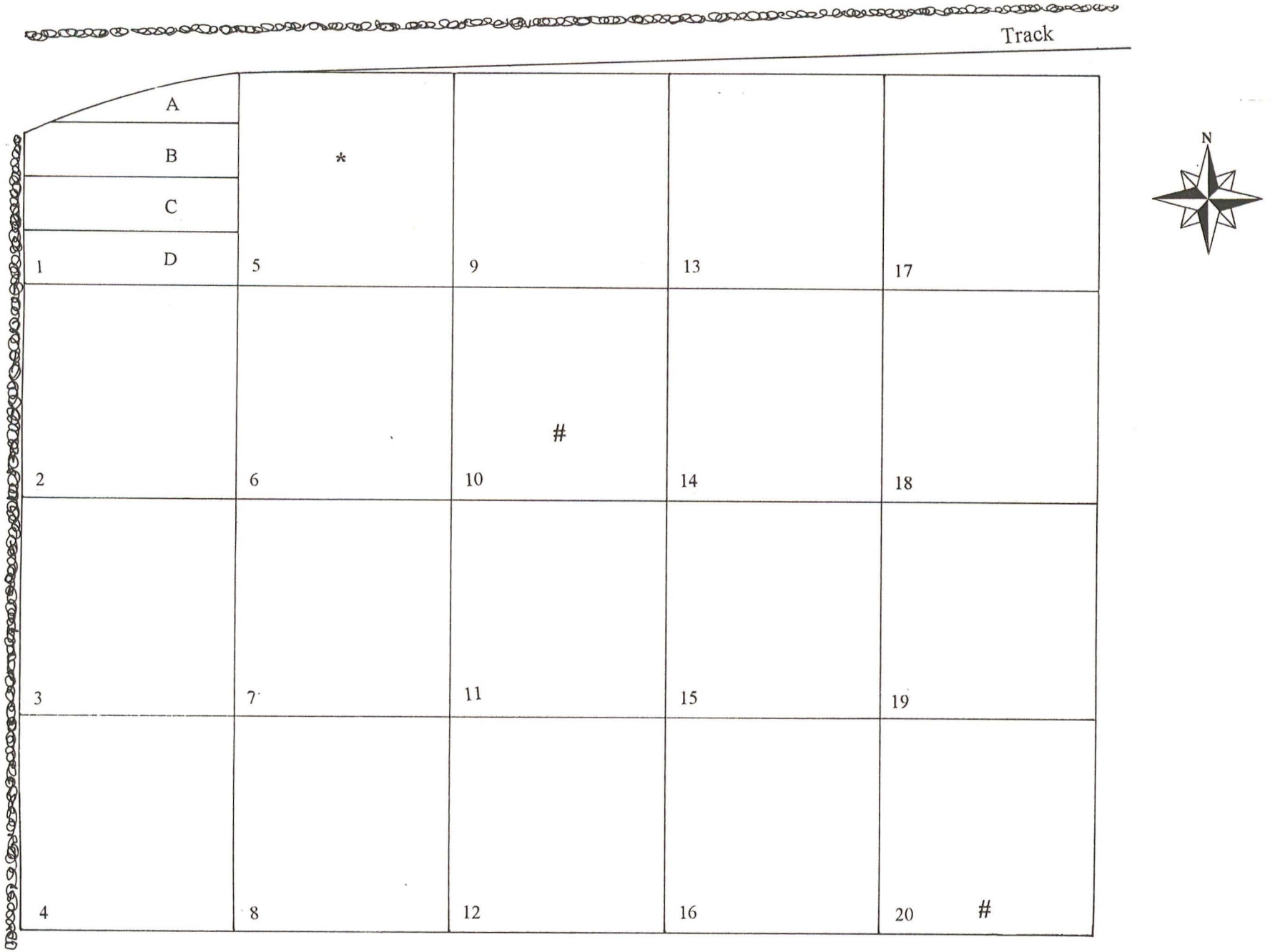
The site is on land which lies at an altitude of between 39m and 42m OD. The development area itself, which is currently used for cultivation, is level, though the land dips gently towards the east. The parent and drift geology of the area is a complex of brown calcareous soils over Oolitic limestone through mixed soils on the scarp down to heavy non-calcareous gleys and brown earths on the Jurassic clays (Straw 1969, 5 - 9).

4.0 Methodology

Fieldwalking over the application site was carried out by James Albone of PCA on September 22nd, 1997. The magnetometer survey was carried out by the Landscape Research Centre Ltd. on September 23rd, 1997.

For the fieldwalking, the entire site was divided into 20m grid squares (numbered 1 - 20) and each grid square was scanned at 5m intervals (A - D). Artefacts were coded according to grid square and transect (eg 5A, 17D etc). The data is presented on Fig. 2.

The magnetometer survey was sub-contracted to the Landscape Research Centre Ltd. with instructions that the work should proceed in accordance with the English Heritage document *Geophysical Survey in Archaeological Field Evaluation*, 1995. Details of the full survey methodology may be read in Appendix 1.



* = Slag

= Worked flint

Fig.2 1:500 field walking plot

5.0 Results

5.1 Geophysical Survey

The full results of the magnetometer survey may be read in Appendix 1, though a summary account is offered below.

The results of the survey have been displayed as a greyscale image and a digitised interpretative plot. No obvious anomalies were detected, apart from in the far north-west corner of the site where an area of hard-core, used to construct a modern trackway, showed positively. This is of no archaeological significance.

One very faint possible anomaly was noted in the far west-central area: a linear anomaly orientated north-west to south-east (in survey grids 2 and 3, possibly extending to Grid 9 further to the south-east). The anomaly was too faint to allow a confident interpretation.

5.2 Field walking

Field walking was undertaken following ploughing and rolling. Conditions were not ideal, though some rain had fallen subsequent to the ploughing. The result was largely negative, with only four, widely scattered, artefacts being recovered from the whole area; from grids 5B, 8D, 10C and 20D. Artefacts of obviously modern origin were not recovered, including Victorian and C20th pottery land drain and brick fragments.

Significant artefactual remains may be summarised as follows:-

Slag (grid 5B). Single fragment of ?iron slag measuring approx. 65mm x 30mm. Isolated find close to track on north side of site, probably modern (very pure)

Flint (grids 8D, 10C and 20D)

Three pieces of silex were recovered during the survey, but only two show anthropogenic modification.

Primary flake, Grid 10C

Comprised of a grey-brown translucent silex with iron stained cortex retained on left side. The proximal end retains a small, crushed, triangular striking platform caused by an inaccurately aimed blow which also caused a distal hinge fracture. The dorsal surface retains broadly parallel negative flake scars from earlier removals, one which also ends abruptly with a hinge fracture. There is little patination to either surface.

Maximum dimensions (LxWxD) 22.0 x 31.0 x 8.5mm

Multi-platform core, Grid 20D

This artefact is comprised of a dark brown silex with grey-white patina and a small amount of post-depositional damage. It appears to have been worked in seven directions to produce small blades. The core retains removal scars of two core rejuvenation flakes, one of which resulted in hinge fracture and the probable cause for its discard.

Waste cores from the production of small blades occur from the Upper Palaeolithic into the Early Bronze Age. The small size of this core, its economical use of available material and depth of patination, may suggest a Mesolithic date.
Maximum dimensions (LxWxD) 37.0 x 36.5 x 32.0mm

The two artefacts clearly belong to two separate traditions though the extent or significance is unknown. Mesolithic material has been identified in the Grayingham area, and would need to be compared to the above prior to definite acceptance of the suggested date.

6.0 Discussion

The two non-intrusive surveys have resulted in the recovery of a limited range of archaeological data. In particular, with regard to the fieldwalking, the recovery of only two worked flints and an undated fragment of slag would suggest that the site does not lie within a settlement focus. The geophysics also has produced a largely negative result, although the occurrence of a possible linear anomaly in the west-central area gives some rise for concern when examined in conjunction with known cropmarks in the surrounding area. Fig. 1 incorporates a sketch plot of the relevant aerial photographic data: in particular, a linear ditch system which appears to survive well immediately to the east and south-east of a disused quarry located approximately 70m south of the proposed development.

7.0 Conclusion

It is concluded that, overall, the archaeological potential of the site is limited. The only exception may be the faint linear anomaly suggested by the geophysical survey, which could relate to the linear cropmarks seen to the east of the disused quarry (ie south of the proposed development). No measure of certainty can be attached to this hypothesis without further (ie intrusive) investigation. Any decision regarding the requirement or non-requirement of further investigation must rest with the Assistant Archaeological Officer for Lincolnshire, not PCA. That said, it is the opinion of the writer that clarification need not involve a great deal of further work and expense (one or possibly two small trial trenches could be used to rapidly assess the status of the anomaly).

8.0 References

May, J 1976 Prehistoric Lincolnshire

Straw, A 1969 Lincolnshire Soils

9.0 Appendices

9.1 Fluxgate Gradiometer survey by the Landscape Research Centre Ltd

9.2 Relevant entries extracted from the County Sites and Monuments Record

Fluxgate Gradiometer Survey

carried out for

Pre-Construct Archaeology(Lincoln)

at

Grayingham Grange, Lincs

by the

Landscape Research Centre Ltd
Bridge Barn
Yedingham
North Yorkshire
YO17 8SL

on the

23rd September, 1997

Phone 01944 728441

Summary

A fluxgate gradiometer survey was carried out by the Landscape Research Centre Ltd on behalf of Pre-Construct Archaeology (Lincoln) over a proposed agricultural development. The proposed development area is the north-western corner of a field situated to the south-east of Grayingham Grange, Lincolnshire (National Grid Reference SK 9565 9558). No definite features of potential archaeological interest were detected by the gradiometer, although there was one very faint anomaly detected in the south-west part of the surveyed area.

Methodology

The subject of this report is the interpretation and discussion of the results of a fluxgate gradiometer survey carried out on behalf of Pre-Construct Archaeology (Lincoln). The survey was conducted using a ***Geoscan Research*** fluxgate gradiometer (model FM36). The zigzag traverse method of survey was used. The survey was conducted by taking readings every 25cm along the north-south axis and every 25cm along the east-west axis (thus 3600 readings for every 30m grid). The sensitivity of the machine was set to detect magnetic variations in the order of 0.1 nanoTesla. The data has been processed and presented using the programs GeoImage (software dealing with the processing of geophysical data) and G-Sys (an in-house developed Geographic Database Management program which can also display, process and present digitised plans and images).

The survey was carried out on the 23rd September, 1997. The area surveyed was 0.81 hectares. The surveyors were James Lyall and Jess Tipper. Upon arriving at the site, the surveyors noted that an area roughly equating to the proposed development had been set out, using 3 white wooden stakes in the south-west, south-east and north-east corners. The stakes had set out an area of 90 metres (north-south) by 105 metres (east-west), so it was decided to carry out the survey using this pre-existing grid. An area of 90 square metres was surveyed, with the south-west corner of grid three marked by one of the wooden stakes. Both the south-east corner of grid nine and the north-east corner of grid seven are 15 metres away from the other wooden stakes.

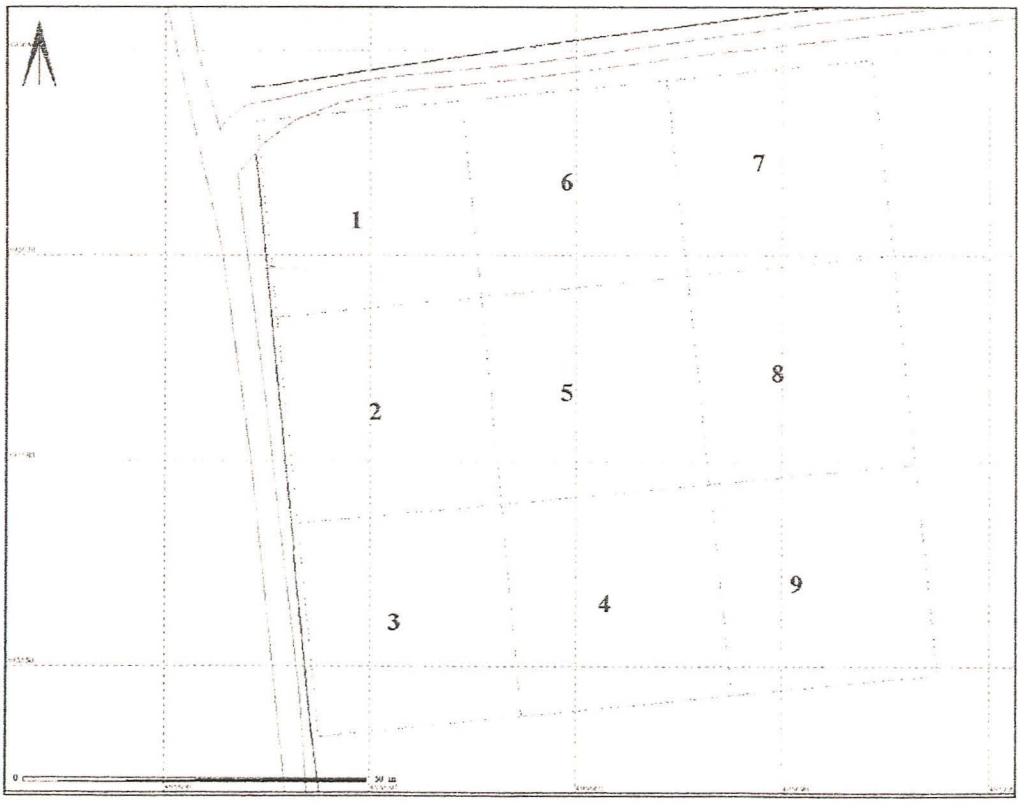


Figure 1. Plan showing the location and numbers of the 30 m sq survey grids

Gradiometer Results and Interpretation

The survey data is displayed as greyscale image (See Figure 2). The anomalies in the greyscale images are the areas of lighter and darker grey, which indicate areas of higher and lower magnetic response.

There are no obvious anomalies in the survey data, apart from in the far north-western corner of grid one, caused by the hard core used to construct the trackway (drawn as red in Figure 2 below). There is also a general spread of iron spikes (the very dark and light anomalies), which are normally associated with pieces of iron in the ploughsoil.

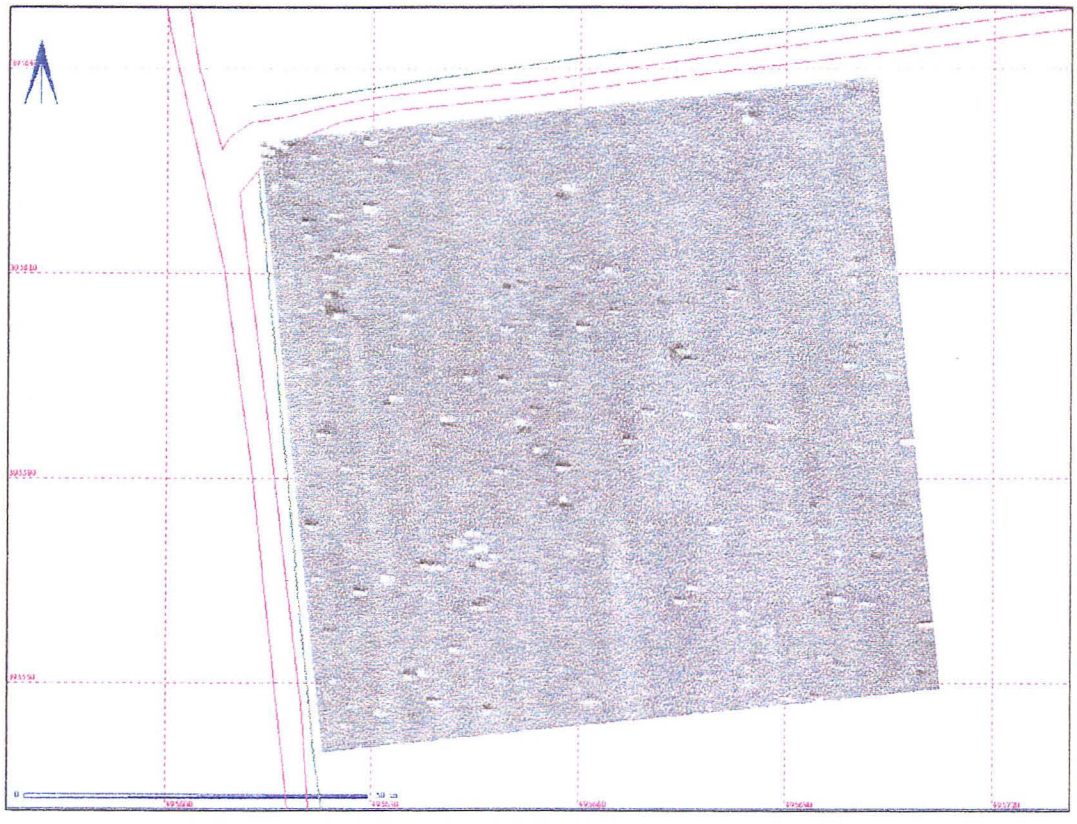


Figure 2. A greyscale plot of the survey data

The survey data is generally flat, although one very faint possible anomaly was noted. This is a possible linear anomaly, oriented WNW-ESE, most prominent in grids two and three, although it may extend into grid nine in the east. The anomaly is so faint that very little confidence can be placed in the interpretation.

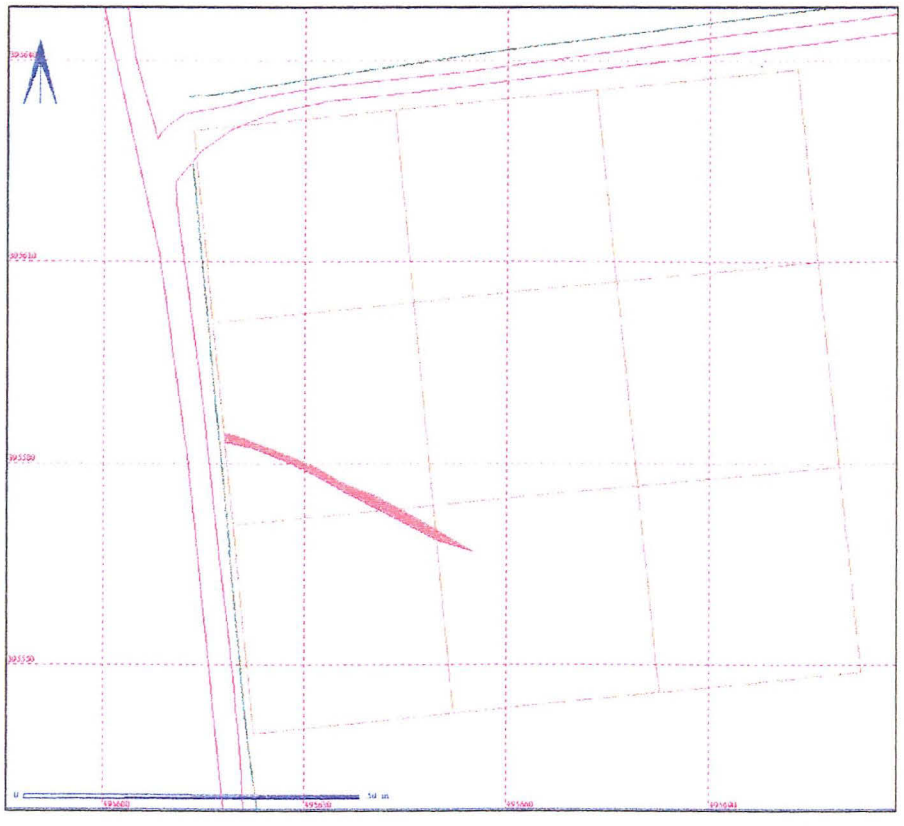


Figure 3 Digitised interpretation of the very faint possible anomaly.

Conclusions

In conclusion, it can be stated that the magnetic response of the surveyed area was generally low, and that only one very faint possible anomaly was detected. Although no archaeological remains were detected, this does not preclude the existence of such remains, only that this form of geophysical survey technique could not detect them.

Report by James Lyall

Landscape Research Centre Ltd

Appendix 9.2 Relevant entries extracted from the County Sites and Monuments Record for Lincolnshire

NGR	Description
SK95859513	Linear cropmark: trackway/boundary, probably prehistoric
SK95259635	Mesolithic flints
SK95529661	Bronze Age pottery
SK95209630	Iron Age farmstead/Romano-British villa site
SK961958	Worked flint + Romano-British pottery
SK95409595	Romano-British pottery
SK95109610	Cropmarks

PRE-CONSTRUCT ARCHAEOLOGY (LINCOLN)

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Mr J Bonnor
Archaeology Section
City and County Museum
12 Friars Lane
Lincoln.

October 1st, 1997

Dear Jim,

ARCHAEOLOGICAL REPORTS: LIVINGSTONE COTTAGE, WASHINGBOROUGH AND GRANGE FARM, GRAYINGHAM

Please find enclosed one copy of each of the above reports.

Washingborough is not very exciting at all but at Grayingham, which produced virtually no surface artefacts, there is some evidence that the linear ditch referred to in the brief does continue into the application area. As you will note, the linear anomaly was extremely weak, but this is perhaps what one would expect in this kind of environment (ie where there need not be iron-rich or charred remains occurring in the backfill). Do let me have your thoughts.

Best of regards,

CPH Palmer-Brown.