A Geophysical Resistivity Survey at Manor Farm Cottage, Newton Harcourt Leicestershire (SP 369 967)

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A Geophysical Survey at Manor Cottage, Newton Harcourt, Leicestershire (SP 369 967).

1. Summary

A geophysical resistivity survey was carried out in November 2003 by University of Leicester Archaeological Services (ULAS) of an area adjacent to Manor Cottage, Newton Harcourt, Leicestershire (SP 369 967), for J.F Goddard. The purpose of the survey was to track the possible continuation of putative medieval walls noted in a range of outbuildings. Although some linear anomalies were noted, no obvious indications of buried wall foundations were revealed. Records will be deposited with the Leicestershire and Rutland Sites and Monuments Record.

2. Introduction

This document presents the results of an archaeological geophysical resistivity survey adjacent to a range of outbuildings to Manor House Cottage, Newton Harcourt, Leicestershire (SP 369 967, figs 1a and 1b). The owner has noted several transverse stone walls in the range which appear anomalous to the brick construction elsewhere in the range, and wished to know if these walls had originally extended beyond the range.

3. Methodology

All work followed the Institute of Field Archaeologist's *Code of Conduct* and adhered to their *Standard and Guidance for Archaeological Field Evaluation* (1999). The survey also follows English Heritage *Research and Professional Services Guideline No 1, Geophysical Survey in Archaeological Field Evaluation* (1995) and *The Use of Geophysical Techniques in Archaeological Evaluations,* (Institute of Field Archaeologists Technical Paper no. 9; Gaffney, Gater and Ovendon 1991).

Earth Resistance Survey

The survey was carried out in November 2003 using an RM15 Resistivity Meter on $10m^2$ grids along traverses spaced at 1.0m intervals, readings taken every 1.0m along these. Instrument sensitivity was set to the maximum of 0.1Ω.

Data was downloaded to a notebook personal computer for storage and assessment. Following the completion of the survey, processing and analysis took place using Geoscan Research Geoplot v.3.00 software. Results are presented in greyscale format.

Several site constraints meant that parts of the area were unavailable for meaningful survey. In particular, immediately west of the range was hardstanding, with a carport

at the south west end. These would have masked any continuation of footings immediately west of the present range.

The location of the survey areas were tied in to existing boundaries and buildings. It was noted that the available mapping, based on Ordnance Survey 1955 data, is slightly inaccurate as regards the exact orientation of the south end of the range.

4. Results (Figs 2, 3)

Restistivity meters are in effect measuring soil moisture. Higher resistivity values should represent a drier subsurface matrix: building foundations, building debris, and buried surfaces such as yards, paths, or floors, can cause this sort of anomaly. Thus under usual conditions, a buried wall footing would exhibit higher resistance than the soil around it, due to the footings having less moisture. There is a possible candidate for a linear high resistance anomaly running from the south west edge of the carport westward. This is two readings (i.e. 2m) in width, which would seem to be slightly on the wide side considering the size of the transverse walls (although the width of a resistivity anomaly is not necessarily the same as the feature which is causing it). There is supposedly also an underground sewer on this alignment, and this would be a better explanation for the anomaly.

The eastern survey block was not subject to the same constraints as the western, with the surveyed area put to lawn. Normally a resistivity survey would have a good chance of picking up buried wall footings running under grass, but no good candidate for east-west high resistance anomalies appear in the data. There are two linear high resistance anomalies running approximately north-south in the northern part of the survey area which could represent wall footings or buried garden features.

In general, the survey has failed to provide evidence for the continuation of putative medieval walls either east or west of their *in situ* position.

5. References/Sources

Clark, A J 1990 *Seeing Beneath the Soil*, Batsford.

English Heritage 1995 *Research and Professional Services Guideline No 1, Geophysical Survey in Archaeological Field Evaluation.*

Gaffney, C, Gater, J and Ovendon, S 1991 *The Use of Geophysical Techniques in Archaeological Evaluations,* Institute of Field Archaeologists Technical Paper Number 9.

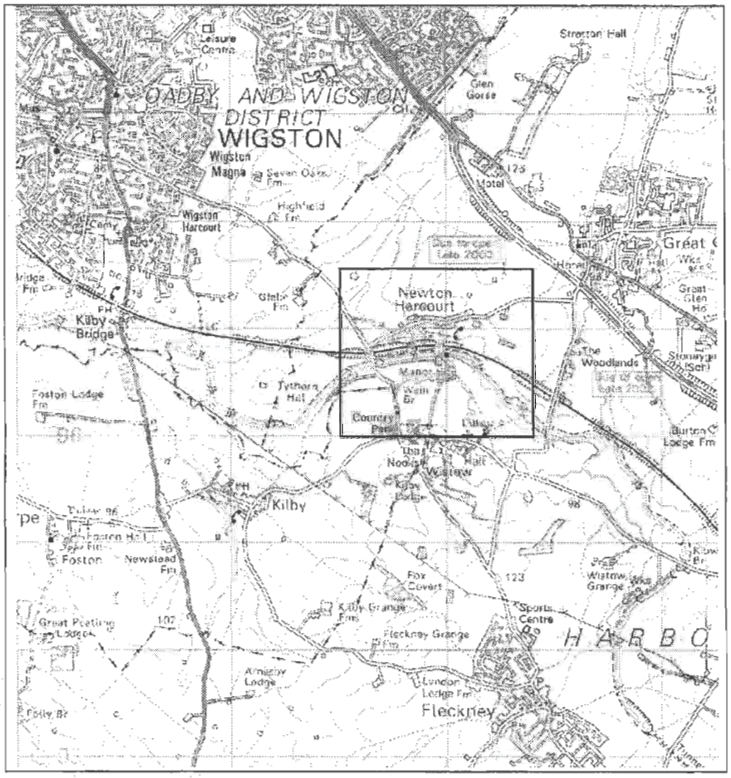
Hartley, R., 1989 *The Medieval Earthworks of Central Leicestershire* Leicestershire Museums Publication 103

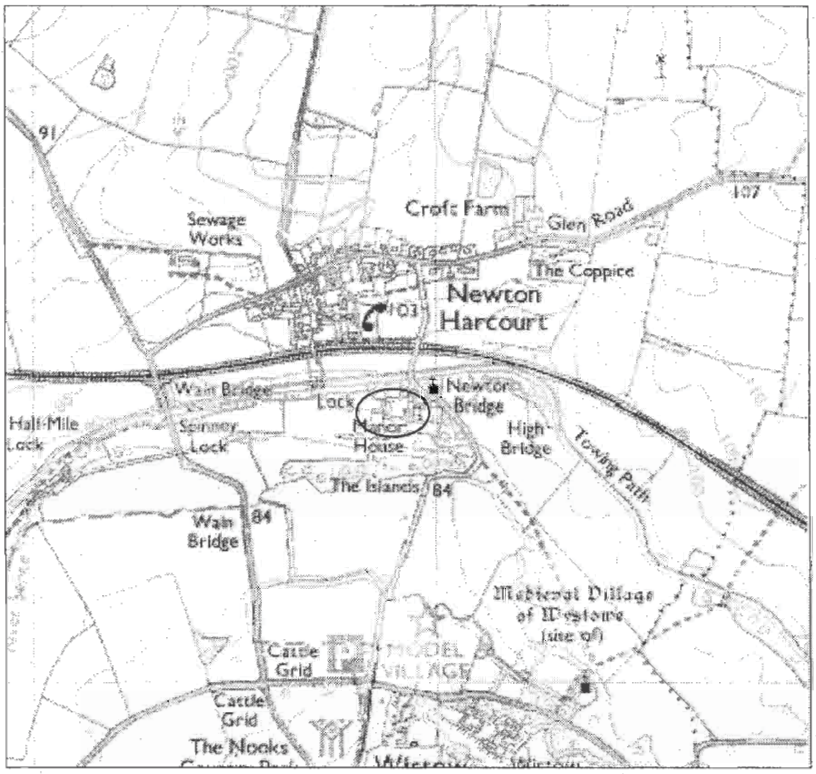
6. Acknowledgements

The survey was carried out by Jon Coward, assisted by Hayley Addison. Project management was by Dr Patrick Clay of ULAS. ULAS would like to thank Mr Goddard for his assistance .

7. Archive

The archive consists of one measured sketch plan of the site and surveyed areas, plus digital geophysical data. It will be deposited with Leicestershire County Council Sites and Monuments Record in due course.





Figs 1a, 1b. Location of Site at Newton Harcourt, Leicestershire

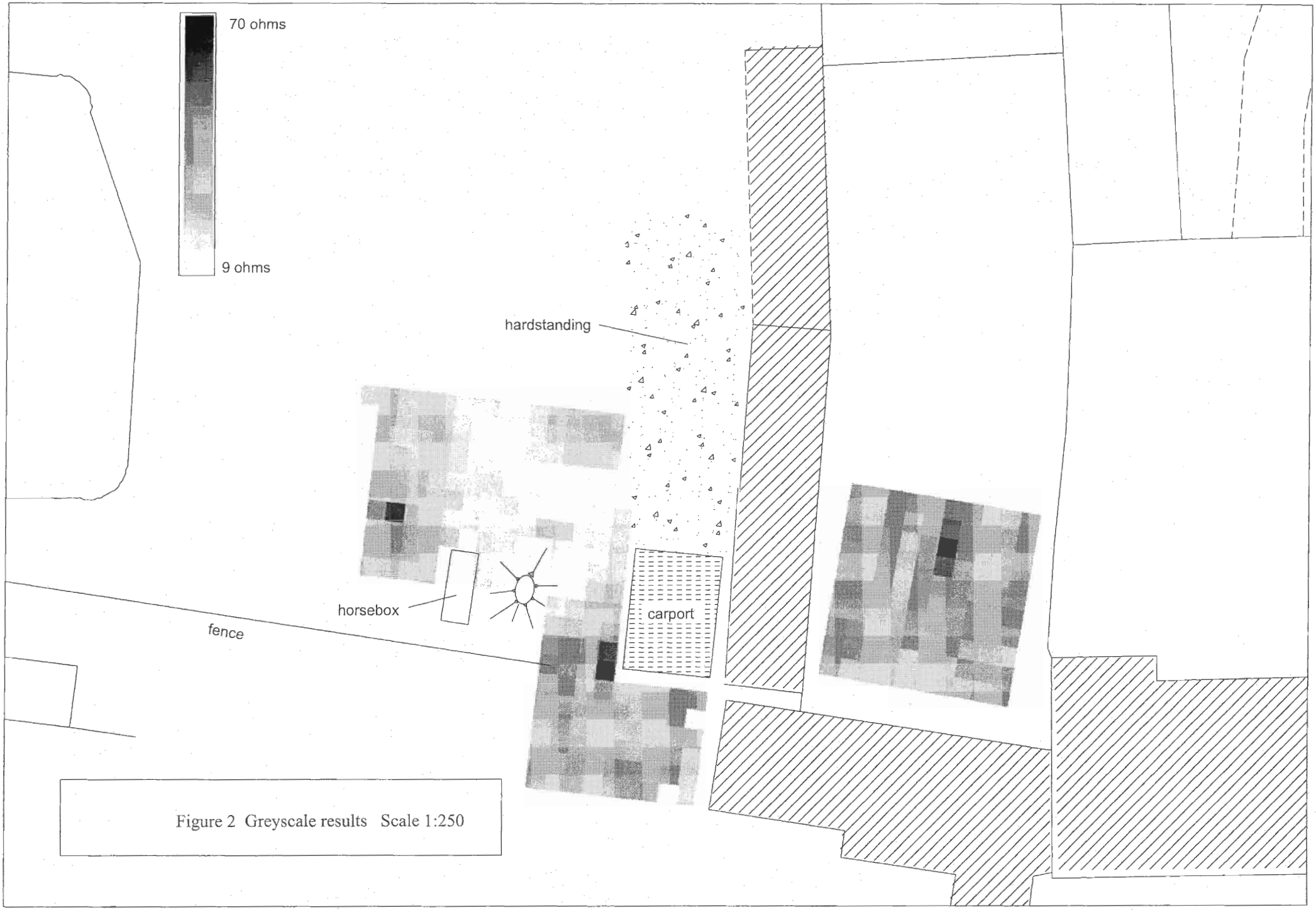


Figure 2 Greyscale results Scale 1:250

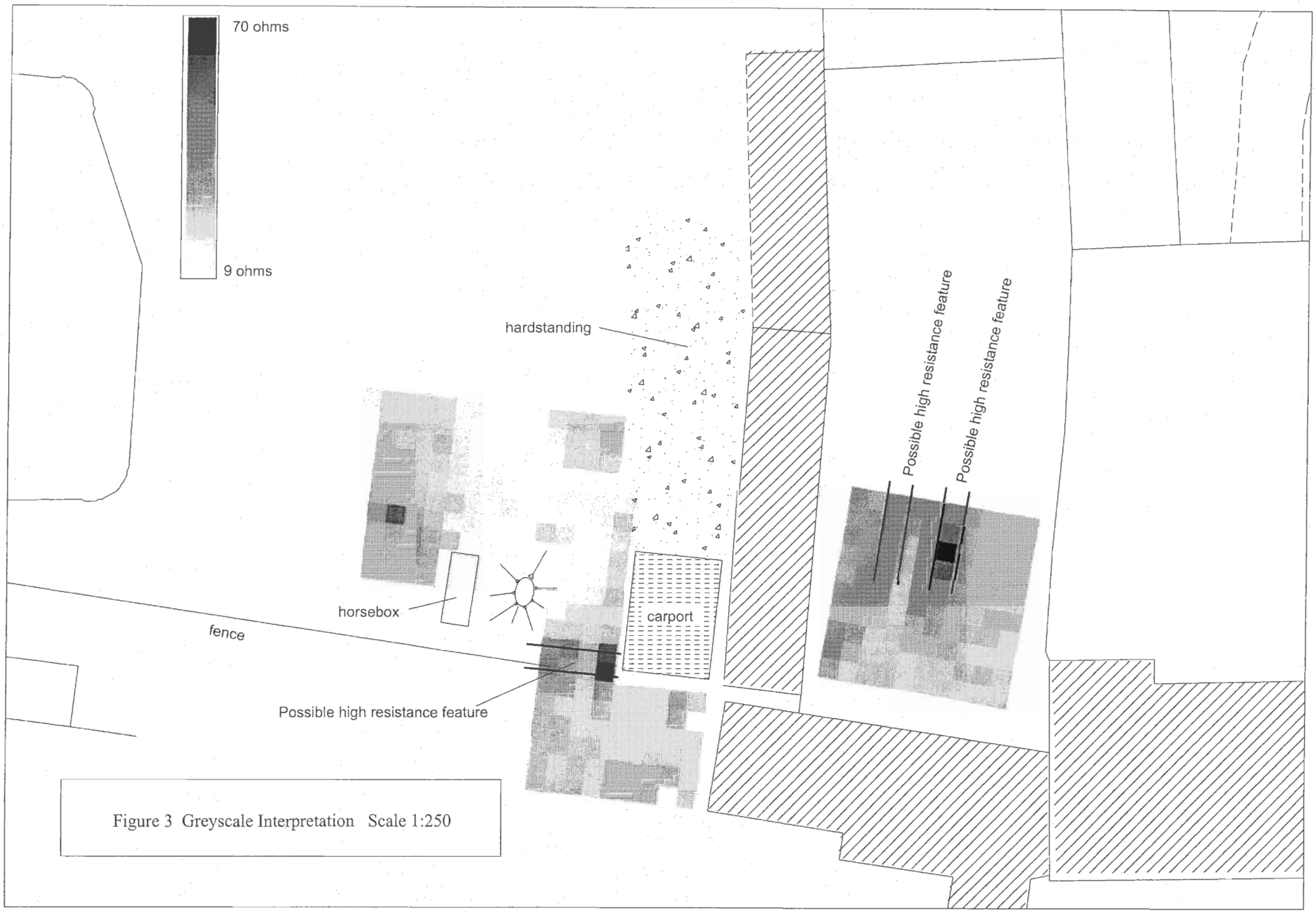


Figure 3 Greyscale Interpretation Scale 1:250