



**Community  
Landscape  
Archaeology  
Survey  
Project**

**CLASP Geophysical Report No.15/002**

# **GEOPHYSICAL SURVEY OF BARN CLOSE AND THE MERE, GRANGE FARM, HARPOLE, NORTHAMPTONSHIRE**

**SP 68903 62067**

**STEPHEN YOUNG AND FRED KAY**



**COMMUNITY LANDSCAPE & ARCHAEOLOGY SURVEY PROJECT**

**December 2015**

## **OASIS REPORT FORM**

### **BARN CLOSE / THE MERE**

|   |   |
|---|---|
| <b>REPORT FORM PROJECT DETAILS</b>              | <b>OASIS No: CLASP1-225998</b>  |
| Project name                                    | Geophysical Survey of Barn Close and The Mere, Harpole, Northamptonshire<br>18-29 Aug 2014  |
| Short description                               | A description and interpretation of additional Geophysical survey work undertaken to enhance of the findings of two previous geophysical reports commissioned by CLASP and carried out by Northamptonshire Archaeology (now MOLAS) in 2003 and 2006 geophysical survey. The results obtained revealed the full extent of the scheduled site and possibly earlier round houses and enclosures outside to the north west of the main villa complex. |
| Project type (eg DBA, evaluation etc)           | Geophysical survey  |
| Site status (none, NT, SAM etc)                 | Scheduled Monument no: NN938;<br>List Entry Number 1003901<br>ENN5578, 5579, 5580, 5833, 5832, 104762, 104587. NCCHER: MNN8652 & MNN3728  |
| Previous work (SMR numbers etc)                 | 938/1 Harpole Roman Villa<br>938/1/1 Roman Mosaic<br>938/1/3 Roman Finds  |
| Current Land use                                | Arable  |
| Future work (yes, no, unknown)                  | Yes   |
| Monument type/ period                           | Site of scheduled Roman Villa   |
| Significant finds<br>(artefact type and period) | Roman Pottery sherds, coins, metal artifacts, building material   |
| <b>PROJECT LOCATION</b>                         |   |
| County  | Northamptonshire  |
| Site address<br>(including postcode)            | Grange Farm, High Street, Harpole,<br>Northamptonshire NN7 4DJ  |
| Study area (sq.m or ha)                         | 23.4 ha   |

|   |                                    |   |  |
|---|------------------------------------|---|--|
| OS Easting & Northing<br>(use grid sq. letter code) |                                    | SP 68903 62067  |  |
| Height OD   |                                    | C. 126m OD  |  |
| <b>PROJECT CREATORS</b>                             |                                    |   |  |
| Organisation  |                                    | CLASP   |  |
| Project brief originator                            |                                    | CLASP   |  |
| Project Design originator                           |                                    | CLASP   |  |
| Director/Supervisor                                 |                                    | Stephen Young   |  |
| Project Manager                                     |                                    | Jennifer Smith  |  |
| Sponsor or funding body                             |                                    | Harpole Historical Society  |  |
| <b>PROJECT DATE</b>                                 |                                    |   |  |
| Start date/End date                                 |                                    |   |  |
| <b>ARCHIVES</b>                                     | <b>Location</b><br>(Accession no.) | <b>Content</b> (eg. pottery,<br>animal bone. etc)   |  |
| Physical  | CLASP Archive:                     |   |  |
| Paper   | CLASP Archive:                     | Site file   |  |
| Digital   | CLASP Archive:                     | Mapinfo plans, Word report  |  |
| <b>BIBLIOGRAPHY</b>                                 |                                    |   |  |
| Title   |                                    | Geophysical survey of Barn Close and<br>The Mere, Grange Farm, Harpole,<br>Northamptonshire |  |
|   |                                    | CLASP report 16/2   |  |
| Author(s)   |                                    | Young S, Kay F  |  |
| Page numbers  |                                    |   |  |
|   |                                    |   |  |
|   |                                    |   |  |

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## ABSTRACT

*CLASP commissioned and conducted additional geophysical fieldwork, on the archaeological site of a large Roman villa site cultivated by Grange Farm in Harpole Parish, Northamptonshire. The survey covered 23.4 ha in two fields called Barn Close and The Mere. Gradiometer and resistance surveys were undertaken to establish the archaeological extent of the site as well as to enhance and improve the current information derived from previous geophysical surveys. The purpose of the gradiometer survey was to explore the areas to the north and west of the previously investigated portion of the site whilst the resistance survey concentrated on the western masonry wing of the large courtyard villa in the hope of obtaining a more detailed plan of the layout of the building. A greater degree of detail of the geophysical anomalies was obtained together with information about the surrounding area. The gradiometer survey was especially useful in relation to the interpretation of the outer courtyard's (villa rustica) overall layout and location of agricultural buildings. In addition the survey helped with determining the surrounding field system and identified a further complex of enclosures located to the NE of the central villa complex. The resistance survey clarified the internal correlation between several rooms in the southern end of the west wing of the villa. The findings taken together indicate that this is the largest and most complex of all the villa estates in the immediate locality and probably reflects the relative importance and prominence of the site in the wider Roman landscape.*

## 1.0 Introduction

- 1.1 A geophysical survey was undertaken by the Community Landscape and Archaeology Survey Project (CLASP), a community based archaeological charity, in September 2014 on and in the vicinity of the scheduled Roman Villa site at Grange Farm on two fields called Barn Close and The Mere to the north of the village of Harpole, Northamptonshire (NGR SP 6890362067).
- 1.2 The site is a scheduled ancient monument (NN938) (List Entry Number 1003901) and the intention of the geophysical survey was to assist in providing a detailed interpretation of the size, plan and current status of the archaeological features to assist Heritage England in future conservation policy.
- 1.3 The survey covered a total area of 23.4 ha. At the time of survey (September 2014) the fields were under arable cultivation and no problems were encountered with the collection of the field data.
- 1.4 Both magnetometer and earth resistance surveys were employed to expand on previous geophysical and surface surveys at the site and each technique has been used as circumstances and conditions dictated.

- 1.5 The survey methodology described in this report was based upon guidelines set out in English Heritage document *Geophysical Survey in Archaeological Field Evaluation* (David et al 2008)

## **2.0 Site location and description**

- 2.1 Situated on a ridge to the north of the village of Harpole in the fields known as Barn Close and the Mere (figs.1 and 2), centred at SP 6890362067. The survey area is bounded to the N by the Roman Road between Whilton and Duston and is surrounded on the east, south and west by arable fields at the time of survey.
- 2.2 The drift geology of the site consists of Glacial Boulder Clay (British Geological Survey sheet 185, published in 1980) and the site is generally flat at 126m above OD. North of the villa the ground slopes gently down to the north-west.

## **3.0 Archaeological and historical background**

- 3.1 The area around Harpole is known to form part of a wider Roman landscape dominated by a series of villa complexes and estates in the late 3<sup>rd</sup> to 4<sup>th</sup> centuries AD. Prominent amongst these and neighbouring the Barn Close/The Mere villa are the Roman buildings recorded to the north-west in Harlestone parish at Sharoah Field (NCCHER: MNN8652) and to the south-west (NCCHER: MNN3728) of Harpole adjacent to the A45 in the field known as Harpit.
- 3.2 The site was initially located and identified as a Roman site in 1846 (EN5578) and archaeological material including pottery, coins and tesserae from a mosaic were observed both then and again in 1849. (RCHM) Trial trenching in 1953 (SP 6890 6207) due to the installation of field drainage revealed the partial plan of the main villa range and more archaeological finds of the Roman period (EN5580). In 1967 observation along a pipe line (ENN5833) noted extensive Roman material and a surface scatter from field walking were also recorded in 1969 (ENN5832).

Extensive field walking and geophysical surveys from the Heritage Lottery funded project *Local People: Local Past* (ENN104762) in 2003 and 2006 has recovered scatters of archaeological material from both this site and the surrounding settlements of the Roman period. Data distribution plots are accessible online for Barn Close/The Mere and the Harpit site.

([http://www.olioweb.me.uk/clasp/LOCAL/SITE\\_MAPS/har2/html\\_pages/har2\\_frame.html](http://www.olioweb.me.uk/clasp/LOCAL/SITE_MAPS/har2/html_pages/har2_frame.html))([http://www.olioweb.me.uk/clasp/LOCAL/SITE\\_MAPS/har1/html\\_pages/har1\\_frame.html](http://www.olioweb.me.uk/clasp/LOCAL/SITE_MAPS/har1/html_pages/har1_frame.html)).

## 4.0 Field methodology

- 4.1 The aim of the geophysical survey was to establish accurately the presence, extent and character of any geophysical anomalies within the survey area. It was also undertaken in order to clarify and enhance the previous fieldwork which only covered part of the area available for geophysical survey.
- 4.2 The gradiometer and resistivity meters are non-intrusive scientific inspecting techniques used to determine the presence or absence of some types of sub-surface archaeological features (e.g. ditches, trackways, field systems, enclosures and building foundations). By scanning the soil surface geophysics can identify areas of varying magnetic susceptibility and resistivity variations, the data from which can be interpreted in a variety of graphical formats and identifying images that share morphological affinities with diagnostic archaeological remains (Clark 1990). In this case magnetic and resistivity surveys were employed because they offered the best chance of locating the wider extent and structural detail of the surviving archaeology.
- 4.3 The area gradiometer survey was conducted using a Bartington grad 601 dual flux gate with the DL 601 data logger set to make four readings per metre (sample interval of 0.25m). The zigzag traversed method of survey was used with 1m wide traverses on a north/south line across a series of 30m x 30m grids (87 grids) order to maximize the area available for survey. The sensitivity of the machine was set to record and detect variation in the order of 0.1 nanoTesla. The smaller scale resistivity survey utilized a RM15 data logger set to make 1.0 readings per metre. Again zigzag traversed method of survey was used with 1m wide traverses across a series of 20m x 20m grids (6 grids). The sensitivity of this machine was set to record and detect variation in the order of 0.1 ohms.
- 4.4 The data was processed using Snuffler version 1.3 and filtered to reduce geomagnetic striping and operator error due to ground irregularities etc. The gradiometer data is displayed as a grey scale map in figs. 3 and 4 and an interpretation of the possible archaeological anomalies is shown in fig. 5. The resistivity data is also displayed as a grey scale map in figs 6 & 8 and an interpretation in figs. 7 and 9.
- 4.5 The only interference encountered affected the gradiometer survey of area 2 (Barn Close) in the south-east corner where the data is interrupted by the alignment of a metal pipeline placed across the field from north-east to south-west in 1967.



## **5.0 Field data and analysis of magnetometry results**

- 5.1 In the interest of clarity and a consistent approach the field data obtained from the 2014 gradiometer survey has been combined with the analysis derived from the 2006/7 Northamptonshire Archaeology Report (08-70) for discussion in this report.
- 5.2 The Barn Close and The Mere gradiometer survey identified a range of geo-physical anomalies associated with the site over an extended chronological period. These include an area of rectilinear enclosures located in the centre of the site spread across both fields (areas 1 and 5). A bank and ditched boundary enclosure housing the villa complex (areas 1, 2 and 4). A further series of enclosures on the western edge of the site in the Mere (area 1), triangular and circular in shape, and an outer field system lying mainly on the northern slope of the same area (area 1). Evidence of building debris over the main villa complex (area 1 and 5) and possible structural remains of ancillary farm buildings in a second courtyard to the S of the main structural range and an isolated building anomaly to the N away from the main villa (area 2).
- 5.3 The survey also revealed the alignment of several possible trackways (areas 1, 2 and 5) and an enclosure inside the villa complex perimeter bank and ditch which is also adjacent to the main range of the villa of indeterminate date (area 1). A strong magnetic anomaly, diagonally across the SW corner of Barn Close, caused by a modern metal gas pipe, prevented and obscured a clear survey of that part of the field (areas 2 and 5).
- 5.4 The central rectilinear enclosures situated within the perimeter boundary of the future villa probably pre-date the construction of the complex and represented the focal point of the settlement from an earlier configuration and layout of the site. Extensive field walking data retrieved from field survey suggest a late 1<sup>st</sup> century to mid 3<sup>rd</sup> century AD for this phase of development (Young forthcoming). This anomaly indicates these enclosures are relatively small, averaging 0.04 hectare. The general alignment of these rectilinear enclosures coincides with the later villa and is indicative of continuity of occupation. Some of these enclosures may well have contained round houses, the predominant local building in the wider locality during this period.
- 5.5 The western triangular enclosure with subdivisions is associated with several circular features about 15m dia. Its use and date cannot be determined nor can the relationship to the other features identified on the site.
- 5.6 A bank and ditched perimeter boundary for the main villa complex covers in excess of 6.5 hectares and is aligned north-west to south-east. On the south-west side there appears to be evidence of a double or re-cut ditch. Based on the extensive field walking data and the overall phasing ascribed to the development of the main villa range a late 3<sup>rd</sup> century AD date would appear to be appropriate for their original construction (Young forthcoming).

- 5.7 Other field systems and boundaries are also evident to the north and west of the main villa complex; no dating evidence is available.
- 5.8 The extensive areas of anomalies indicating building debris demonstrate the existence of several independent structures. The largest of these is centered on the known position of the main villa range (areas 1 and 5). A secondary debris scatter (area 2) suggests ancillary buildings adjacent to the south-west main villa perimeter boundary. Field walking pottery and coin distribution potentially dates these to the late 3<sup>rd</sup> to mid 4<sup>th</sup> century AD. Interestingly the layout and distribution of these structures and their relationship to the enclosing boundary ditch and the evidence from the resistivity survey are strongly suggestive of a double courtyard villa configuration at the site.

A small isolated area of building debris to the north of the site (area 1) is possible evidence of another building which may or may not be associated with the villa but whose date is currently undetermined.

- 5.8 There is evidence of four trackways. Two parallel trackways, one each side of the main villa range (fig. 9) and two further trackways cutting across the site (areas 1 and 2) may or may not be associated with the villa complex.
- 5.9 The enclosure immediately north of the villa but within the perimeter boundary is roughly rectangular but with rounded corners and has an opening in the north-west corner. It is 22m x 27m. This enclosure does not appear to be associated with the rectilinear enclosure system or the main villa range and could possibly represent the Late Iron Age nucleus of the site.
- 5.10 Ridge and Furrow. There is evidence of uniform medieval ridge and furrow over the whole area, aligned approximately north–south (Fig. 9)

## **6.0 Field data and analysis of resistivity results**

- 6.1 The prime motivation for undertaking the resistivity fieldwork was to see whether CLASP could enhance the degree of detail achieved by the earlier commercial archaeological survey. This initial fieldwork acting as a control specially for our resistivity work as CLASP continue to develop this technical capacity to a level that would assist in a better understanding of the layout of the western wing of the main villa range. Again, as with the general magnetometry results, to help achieve a consistent approach in the overall interpretation of the anomalous observations in the resistivity element of the field data obtained in the 2006/7 Northamptonshire Archaeology report (08-70) have been included in our deliberations for this report.
- 6.2 The resistivity survey was carried out in the northern half of Barn Close and concentrated on known geophysical anomalies associated with the western wing of the main villa range, (area 3). A relatively small sample area (2,400 sq m)

was chosen for fieldwork. This area is located in a zone which formed part of the previously identified larger site that constituted the architecturally sophisticated *Villa Urbana* section of a double courtyard villa settlement. Essentially it comprised the area of a significant rectilinear structure overlain by masonry and building debris aligned north-east to south-west which formed the western wing of the main villa range (area 3).

- 6.3 This rectilinear structure representing the western wing of the main villa range is situated within the enclosing perimeter boundary of the northern courtyard of a double courtyard villa (fig. 9). Based on the evidence of extensive field walking and metal detecting surveys the building appears to probably have been originally constructed in the late 3<sup>rd</sup> century AD and continued in use, although possibly much changed, into the 5<sup>th</sup> century AD (Young forthcoming).
- 6.4 The building appears to be subdivided longitudinally and possibly laterally and is indicative of a series of rooms. Field walking has demonstrated that most if not all of these rooms contained mosaics and the box flue tile demonstrating the existence a hypocaust system of under floor heating associated with a bath house range contained within the west wing. These anomalies also seem to have a structural relationship with another building located immediately to the east in the interior of the courtyard at some stage of the occupation of the site. This other anomaly was identified and located in the Northamptonshire Archaeological Survey but was not commented upon.

## 7.0 Conclusions

- 7.1 The range of data obtained from both the magnetometer and resistivity geophysical surveys has enabled CLASP to considerably enhance current understanding of and ability to interpret the remains of the Roman settlement at Barn Close and The Mere. These findings supported by the data obtained from the intensive field walking and metal detecting surveys allow the site not only to be characterized more clearly but also provide a basic chronological development of the site to be postulated for the first time.
- 7.2 It is now possible to state that the origin of the site lies in the Late Iron Age although the findings from the geophysical survey are somewhat ethereal and difficult to characterize clearly. The most prominent anomaly relating to this period centering on the enclosure described above (5.9) which also coincides with the focal point of early pottery retrieved through field walking. However the recovery of two gold *staters* and other early coins obtained from metal detecting supported by pottery of Late Iron Age date which have been recovered from the site in general hint at a settlement of some status. The site locality continued to be occupied into the conquest period with the ceramic distribution focused in this same area to the north-east of Barn Close.

([http://www.olioweb.me.uk/clasp/LOCAL/SITE\\_MAPS/har2/html\\_pages/har2\\_frame.html](http://www.olioweb.me.uk/clasp/LOCAL/SITE_MAPS/har2/html_pages/har2_frame.html))([http://www.olioweb.me.uk/clasp/LOCAL/SITE\\_MAPS/har1/html\\_pages/har1\\_frame.html](http://www.olioweb.me.uk/clasp/LOCAL/SITE_MAPS/har1/html_pages/har1_frame.html)).

- 7.3 It is not until after the Post Conquest period that the settlement was drastically reorganized and significantly enlarged in the late 1<sup>st</sup> early 2<sup>nd</sup> century AD. This corresponds with the first generation of inhabitants that might describe themselves as provincials. Indeed the general layouts of the field and enclosure system appear to relate to this period. The increasing consumption of Roman material goods demonstrating occupation of the site survived successfully into the 3<sup>rd</sup> century AD as an estate based on a mixed farming regime.
- 7.4 The greatest change occurred in the late 3<sup>rd</sup> century AD and is associated with the construction of a double courtyard winged corridor villa. A large central domestic complex best interpreted as a *Villa Urbana* associated with a northern courtyard and a range of auxiliary farm buildings representing the *Villa Rustica* in another courtyard to the south. Pottery and coin distributions suggest intensive activity on this area of the site through the 4<sup>th</sup> and into the 5<sup>th</sup> century AD.
- 7.5 The additional resistivity data has also enabled an assessment and a characterization to be made of the anomalies previously identified in the courtyard of the main villa complex. Undoubtedly this building has nothing to do with the overall layout of the villa complex as the centre of a sophisticated estate and must represent a subsequent phase of activity at the site in the late 4<sup>th</sup> to mid 5<sup>th</sup> century AD. The position and nature of these remains possibly underlie a changing rationale for the site and the nature of the occupational activity associated with the settlement.
- These anomalies could represent the foundations of a comparatively large and substantially constructed aisled stone building, the alignment of which mirrors the west wing of the main villa range. The data also demonstrates that the buildings are physically connected and therefore share a functional relationship. The apsidal shape of the northern end of this substantial building is indicative of a basilica structure not unlike those connected to the early church although the general alignment of the building leaves this open to question.
- 7.6 Post Roman pottery dated 450–850 AD recovered from field walking reflects some sort of activity at the site but occupation had certainly ceased by the 6<sup>th</sup> century AD.

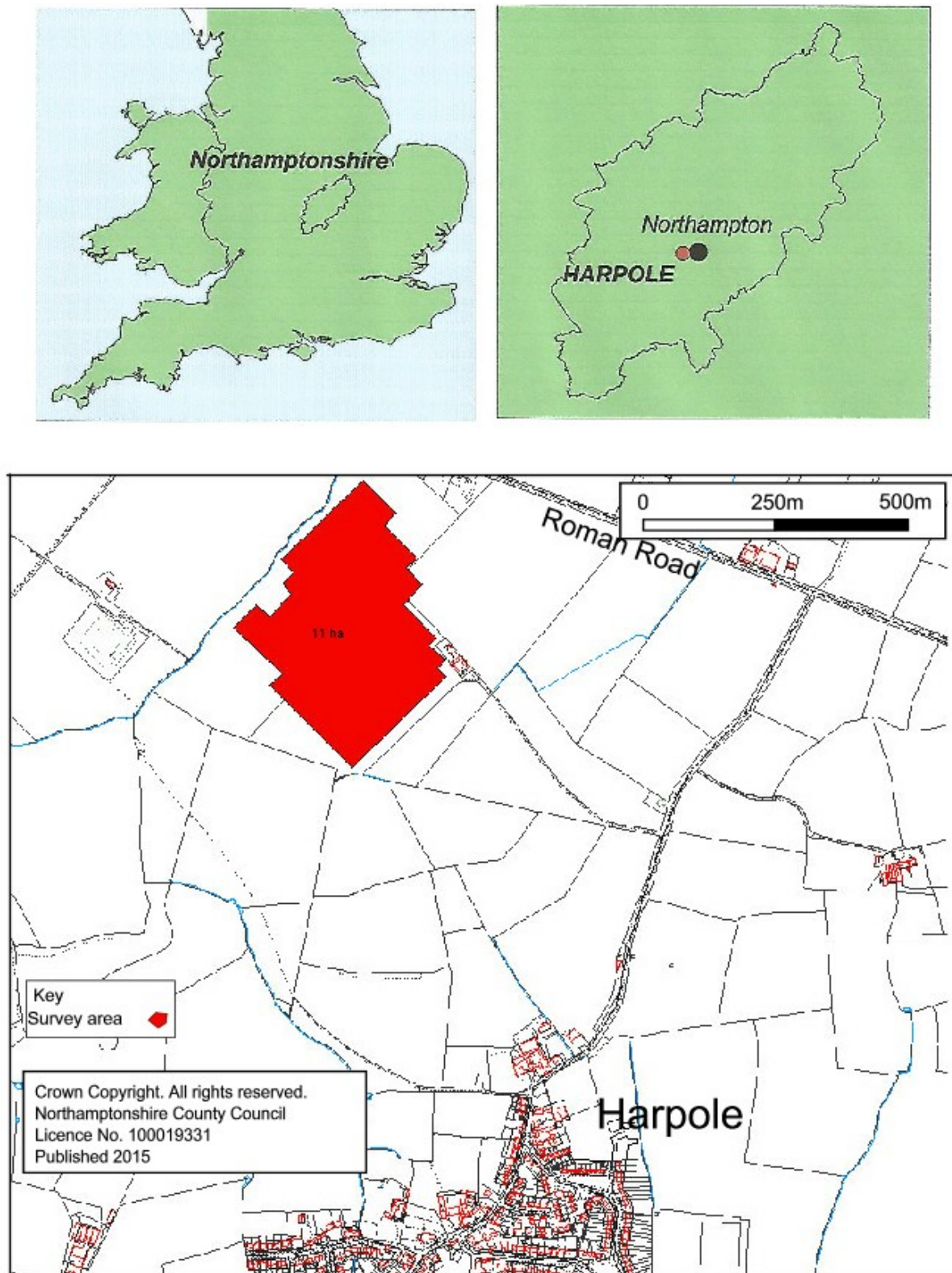


Fig.1 Site Location plans.

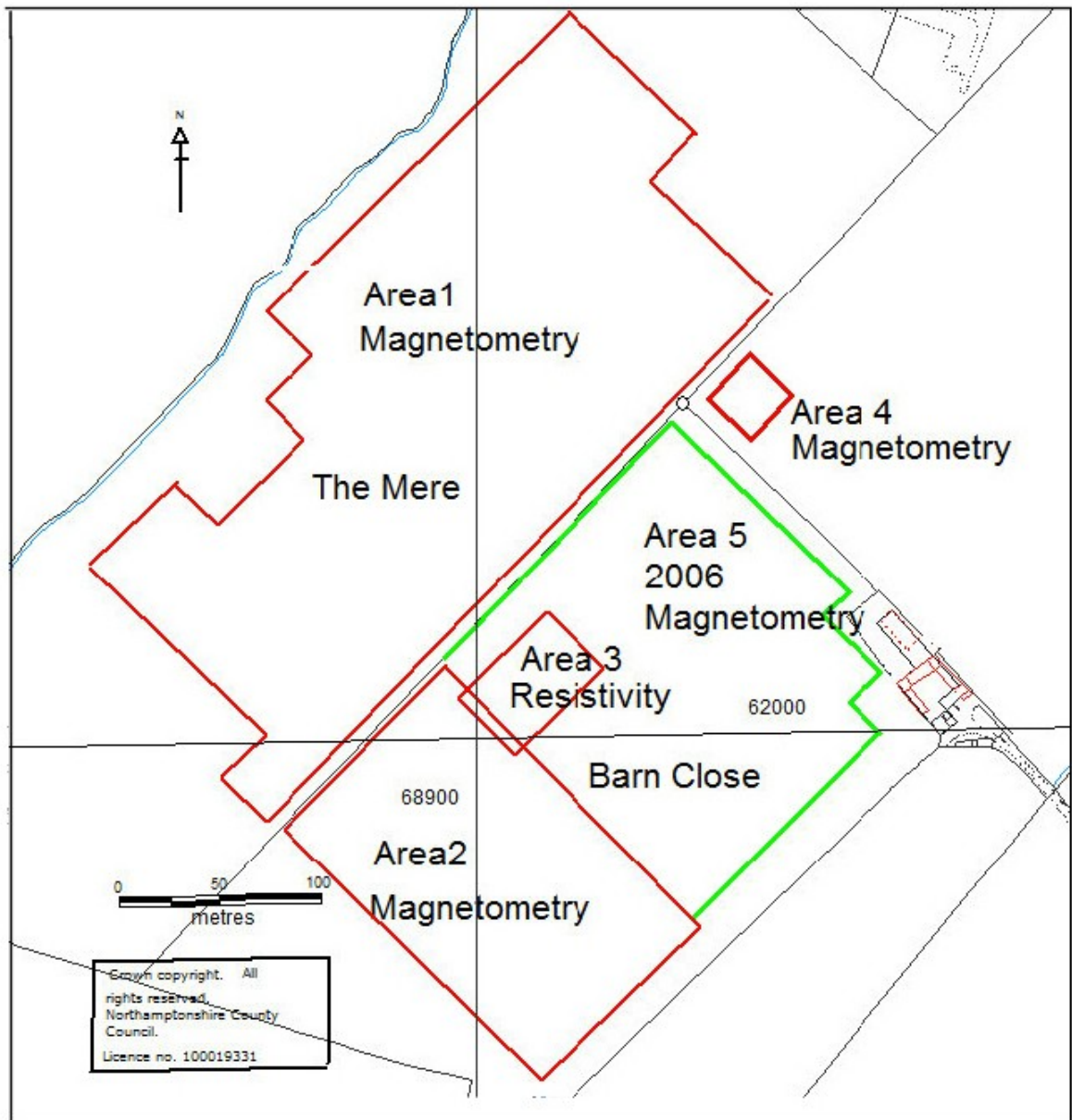


Fig.2 Location plan showing gradiometer and resistance survey areas, including 2006 survey.



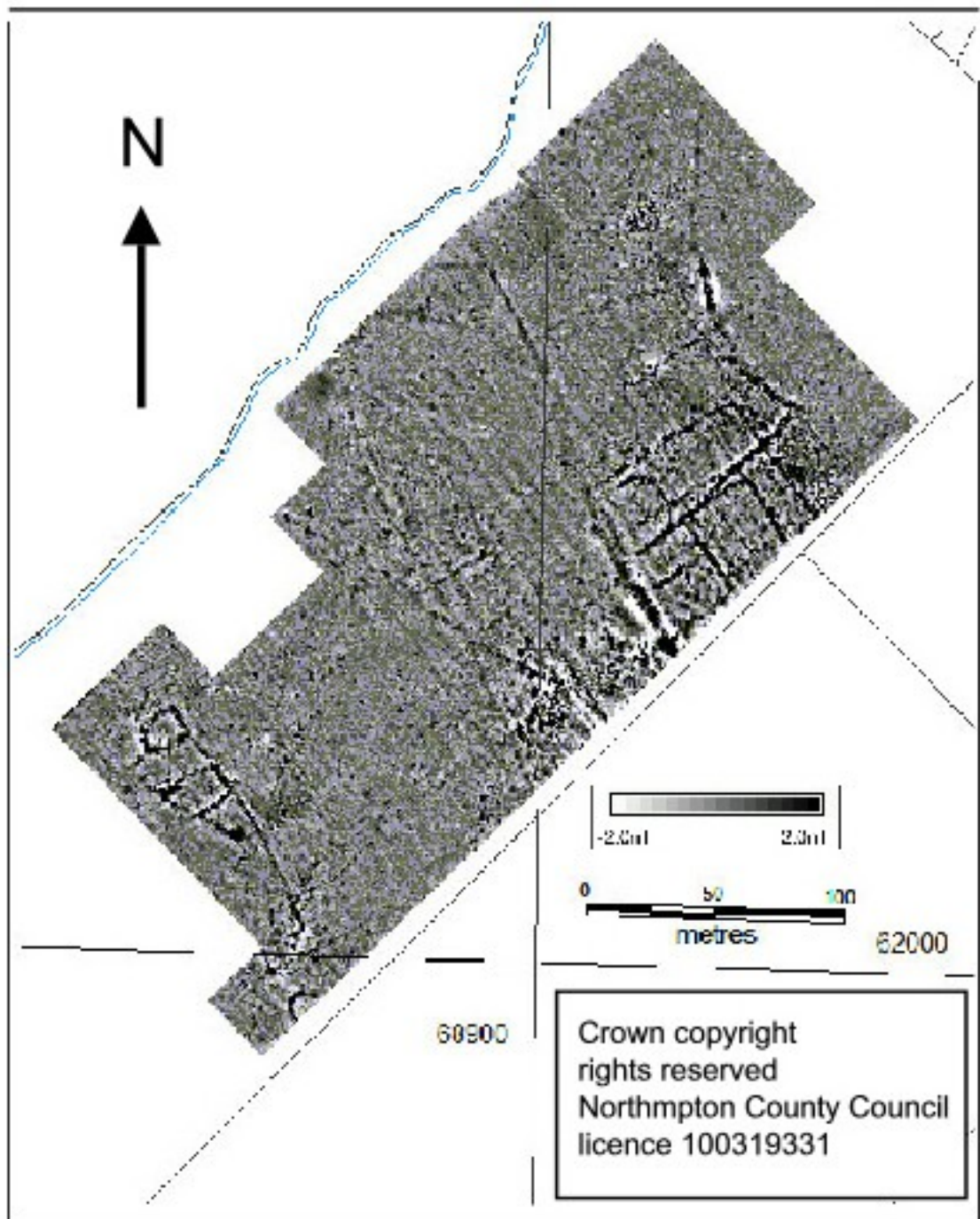


Fig. 3 Grey scale plot of enhanced data for The Mere.

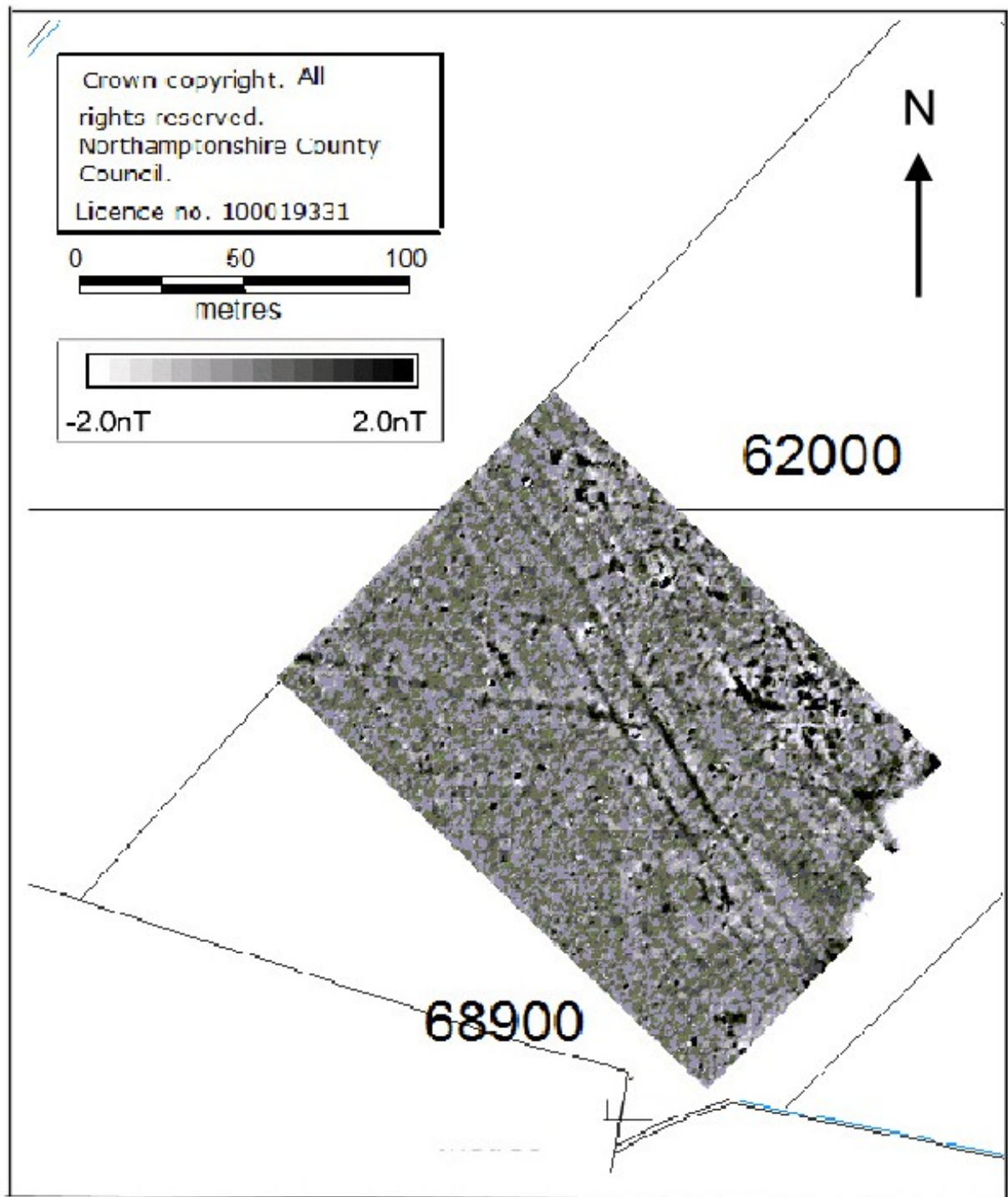


Fig.4 Grey scale plots enhanced data for Barn Close



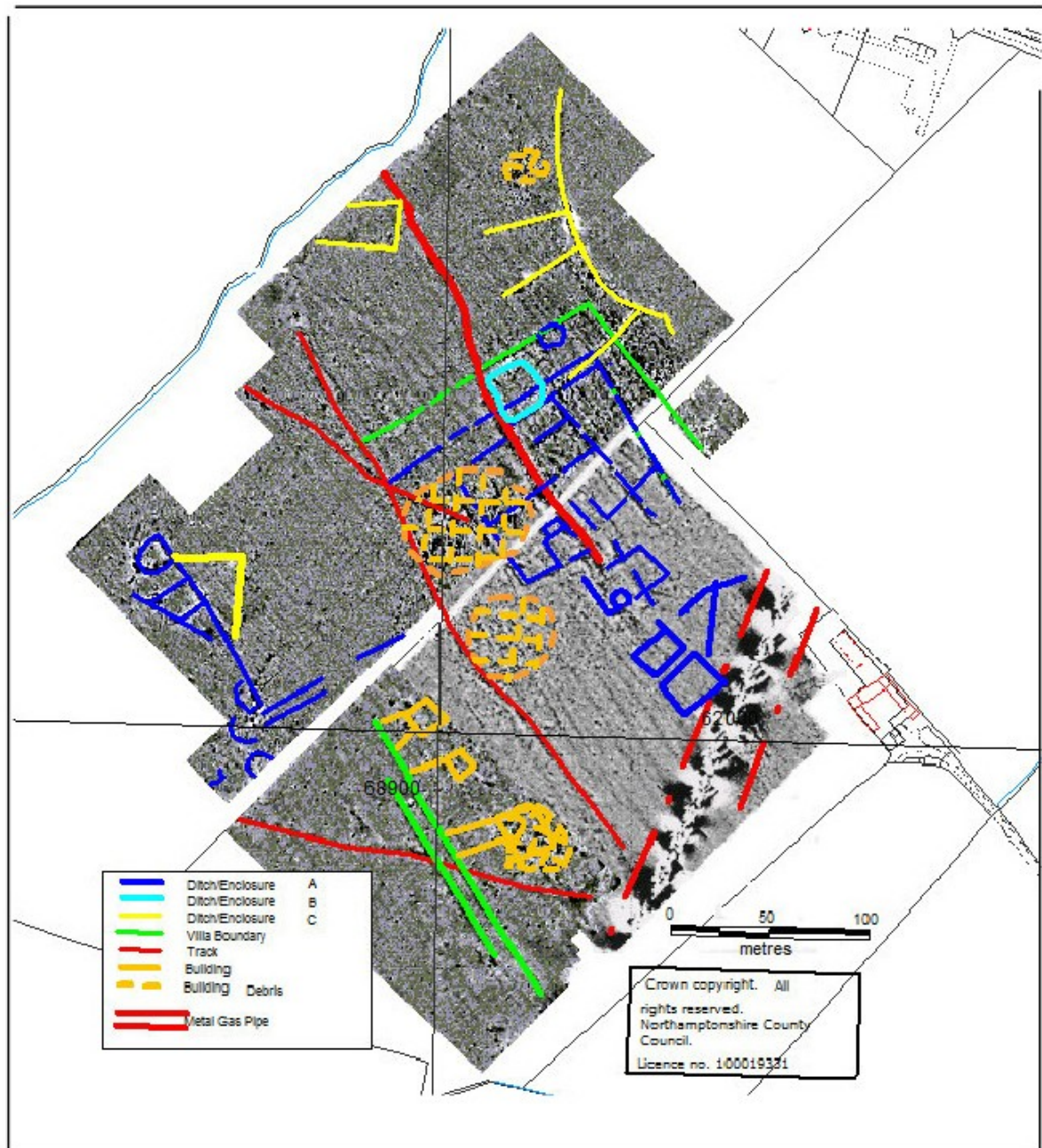


Fig. 5 Interpreted gradiometer survey grey scale results for Barn Close and The Mere, including 2006 survey.

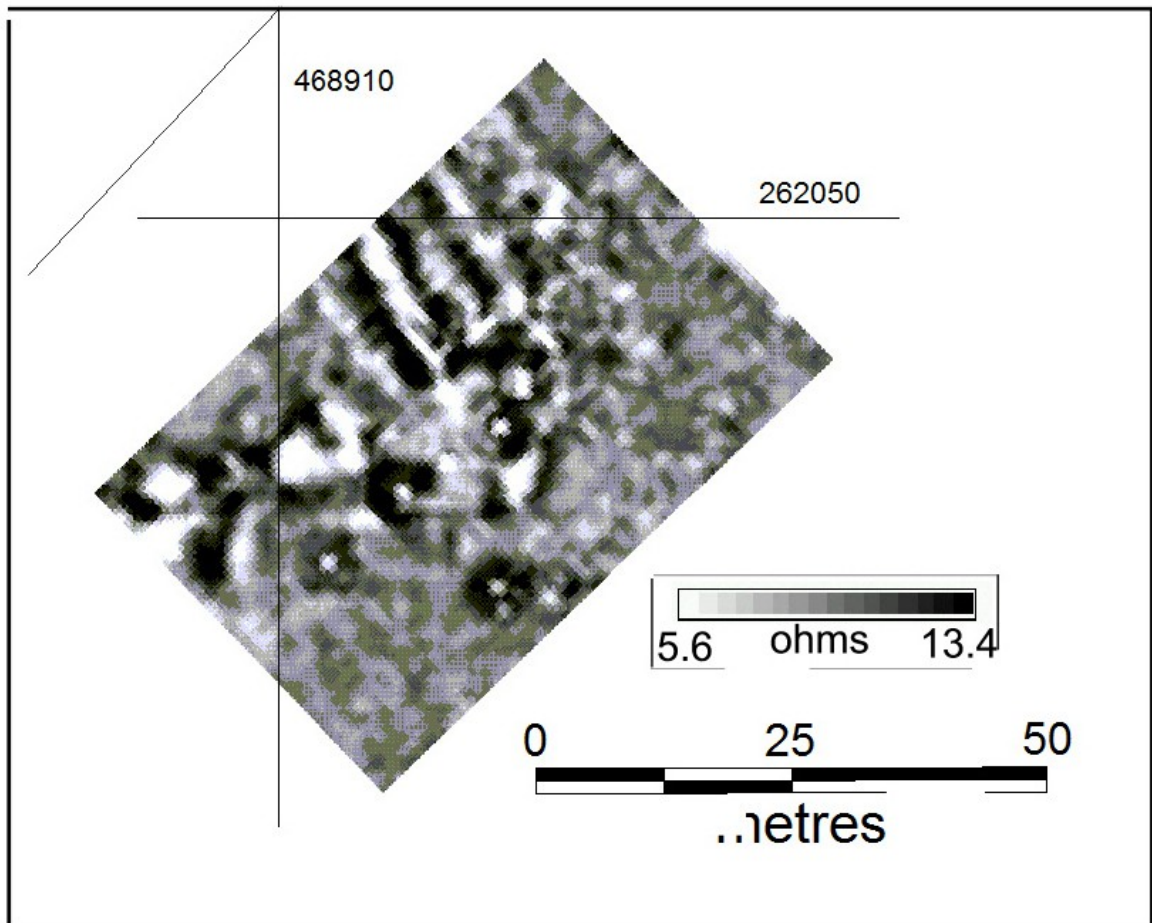


Fig.6 Resistance survey grey scale detail.

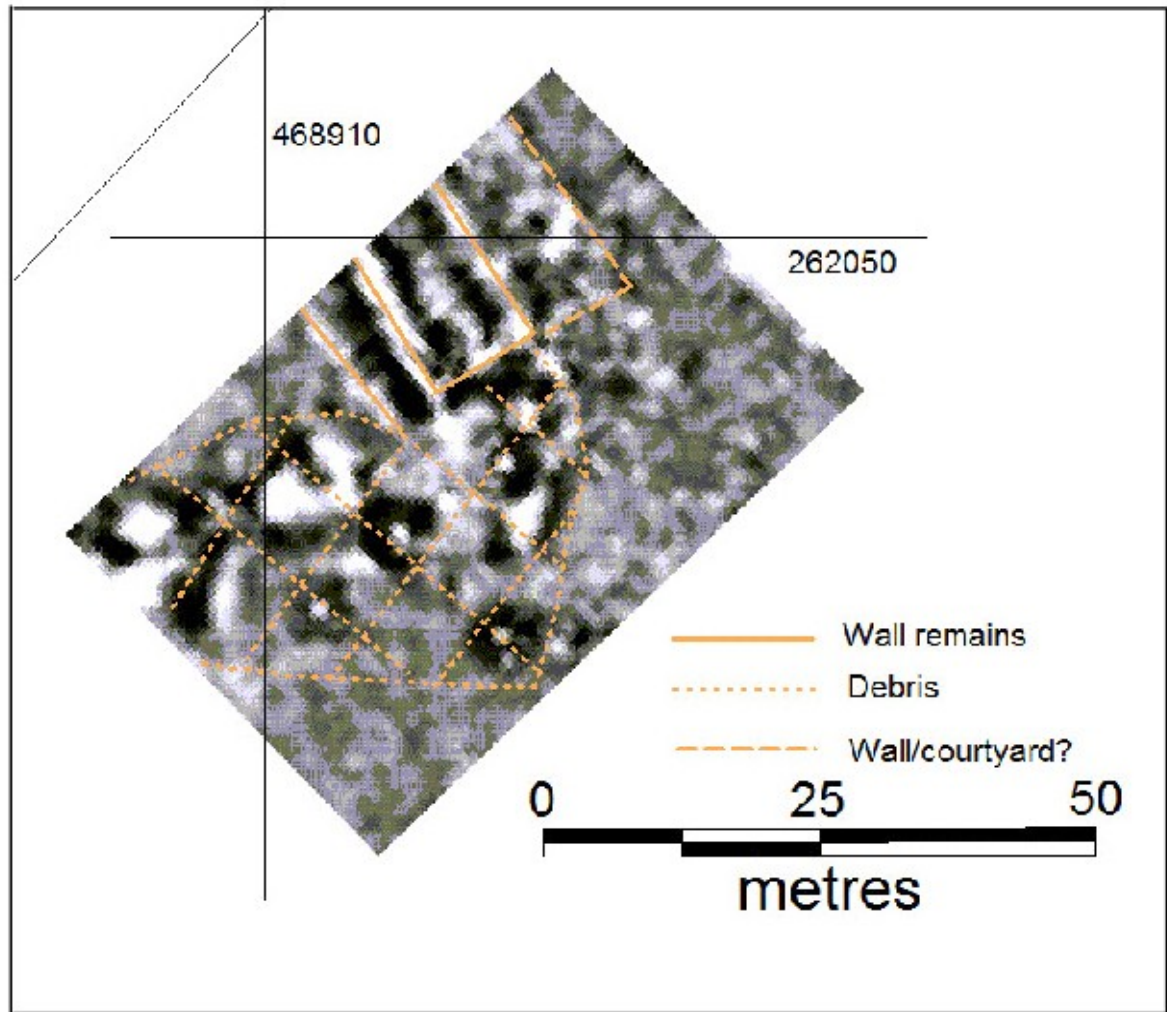


Fig 7 Barn Close resistance 2014 survey interpretation.

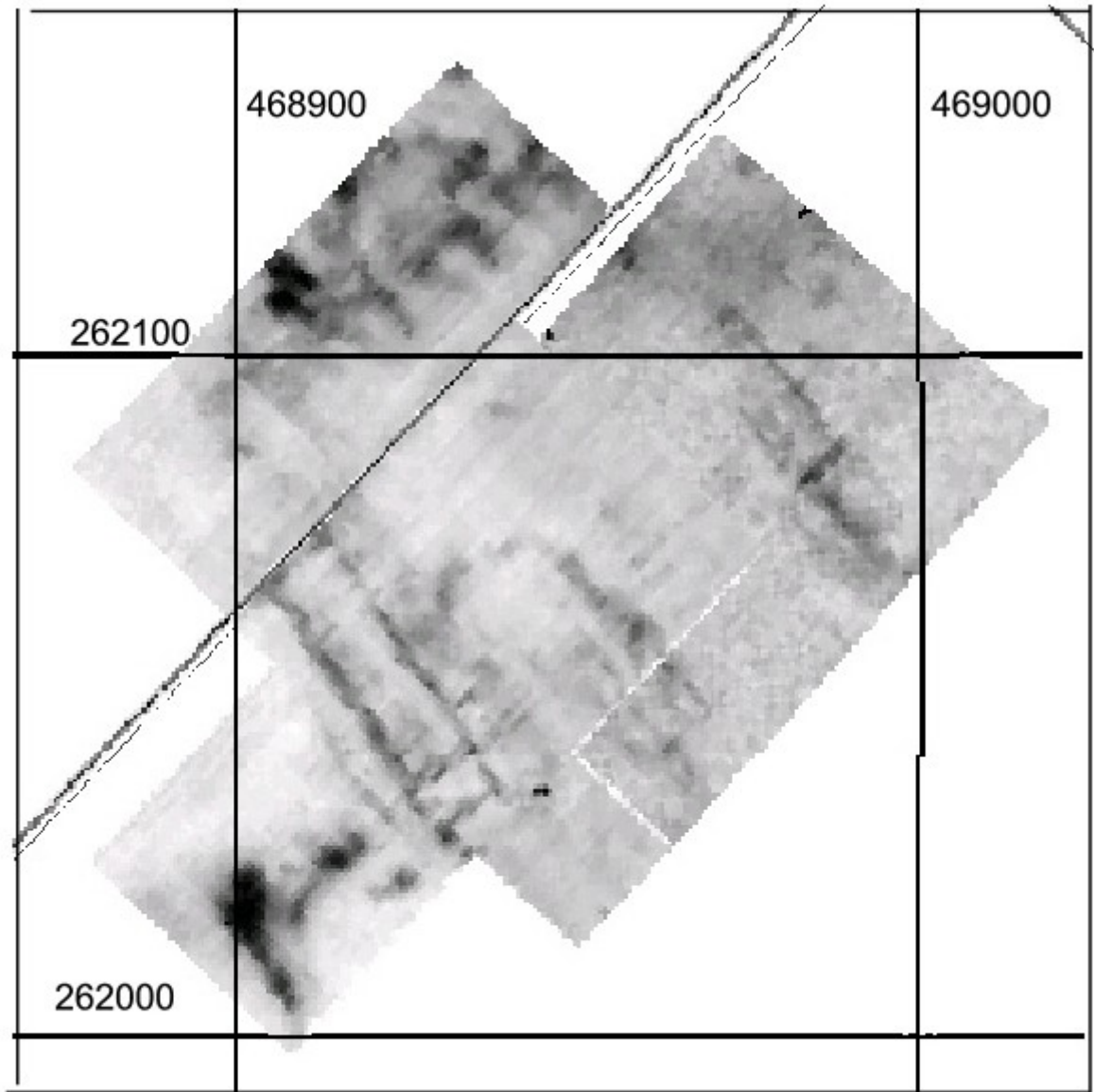


Fig 8 2006 resistance survey.



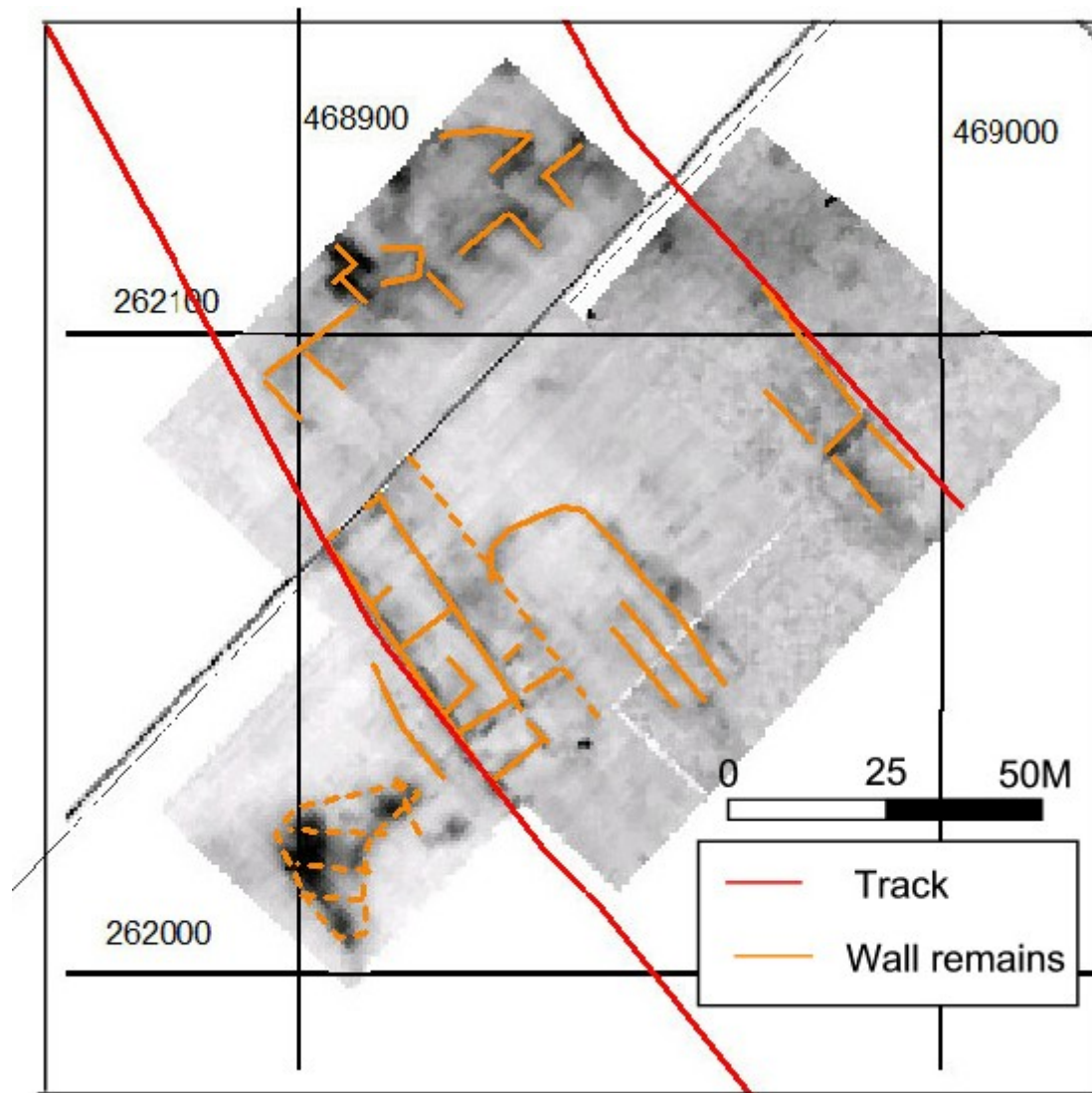


Fig 9 2006 resistivity interpretation.



Fig. 10 Ridge and furrow.

## **ACKNOWLEDGEMENTS**

CLASP would like to thank Margaret MacIntosh, Norman Garnett, Tony Keston, Jim Aveling, Colin Evans and Robert Close of CLASP for helping with the fieldwork; Mola for use of the 2006 survey results; Jennifer Smith, Harpole History Society, for managing the project; Mrs Winnie Clifton, land owner; and Elizabeth Still, Teresa Drage and Edward Church of Grange Farm for access to the site; Dr. Helen Woodhouse, Inspector of Monuments, English Heritage; Charlotte Walker, HER officer, Northants County Council for assistance with the research. Don Miller and Joy Kay for assistance with the proof reading although any errors are strictly the authors.

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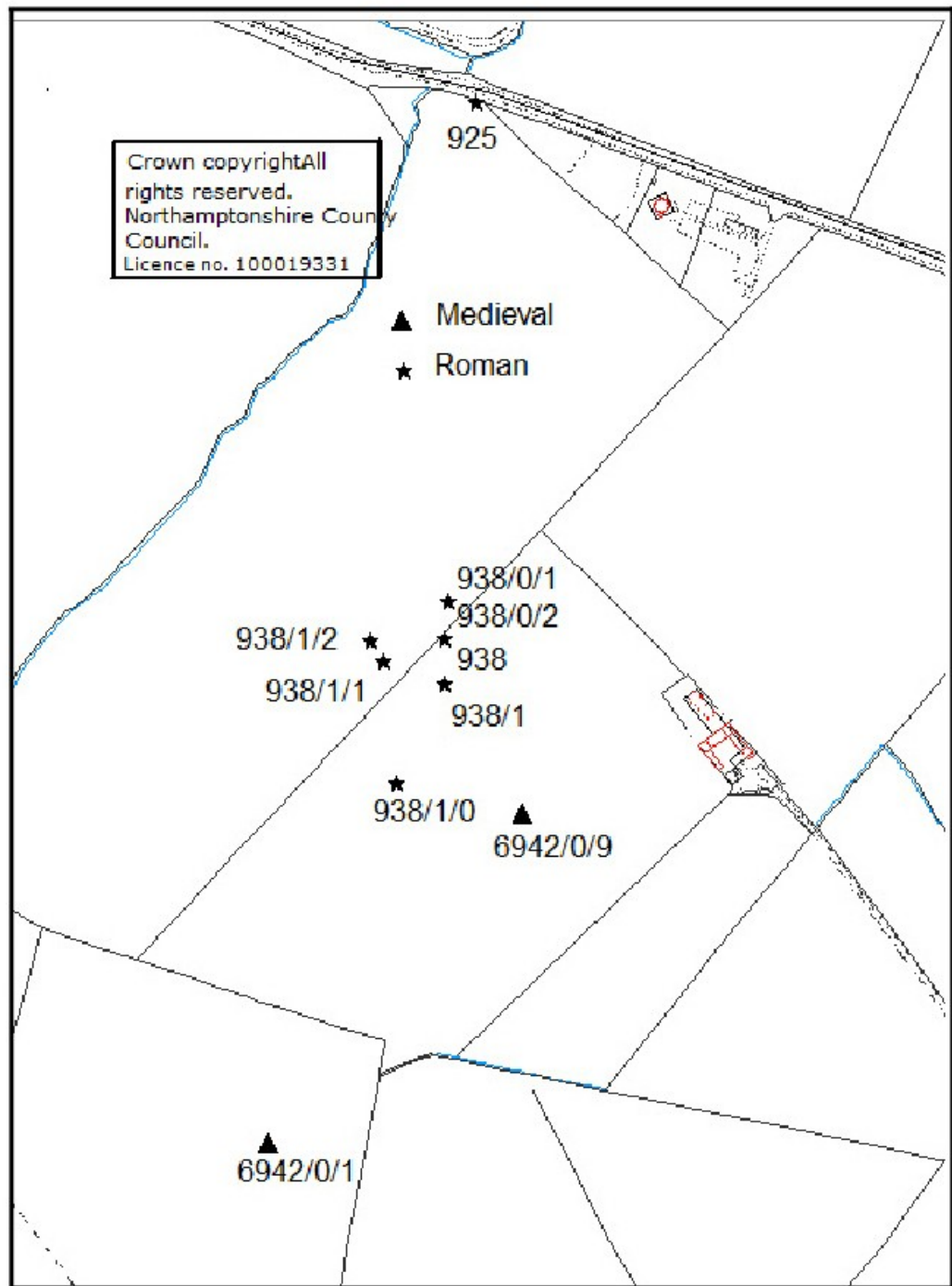
British geological survey sheet 185, published 1980

## **APPENDIX**

### **List of associated HER/SMR Records**

|          |                           |
|----------|---------------------------|
| 925      | Roman road                |
| 938      | Roman villa               |
| 938/1    | Roman Villa               |
| 938/0/1  | Roman field system        |
| 938/0/2  | Roman field system        |
| 938/1/0  | Roman pottery sherds      |
| 938/1/1  | Roman tessera             |
| 938/1/2  | Aerial photo              |
| 6942/0/1 | Headland, medieval        |
| 6942/0/9 | Ridge and furrow medieval |





Map of associated Northamptonshire HER/SMRs.