



The Friends of
Corhampton
Saxon Church



A Geophysical Survey at Broom Farm Soberton, Hampshire

July 18th – July 19th 2014

Liss Archaeological Group Ref: BFS -14

*Carried out by Liss Archaeological Group
on behalf of -
The Friends of Corhampton Saxon Church
&
The Saxons in the Meon Valley Project.*

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Liss Archaeological group
(edited by Nick Stoodley)*

With special thanks to the following for their support



Summary

Liss Archaeological Group were asked by The Friends of Corhampton Saxon Church and the Saxons in the Meon Valley project to carry out a geophysical survey using both magnetometry and resistivity at Broom Farm, Soberton, Hampshire. The survey took place over the 18th and 19th July 2014 with the help of volunteers from the local community. The survey revealed a number of interesting anomalies, which seem to be associated with a known Romano-British building. In order to protect the security of the site specific information about its location has been omitted.

Introduction

The survey site is located approximately 1.7 km south east of the village of Soberton at Broom Farm, Soberton.

There was rain during the night before the survey, but on both days of the fieldwork the weather was mostly sunny with the occasional threat of showers. The ground conditions were good, soil drainage was good and the survey was conducted over well-nourished short grass.

No formal accounts of any previous archaeological work at the site could be located. Records however show that there was interest in the Roman remains by a Mr A Moray Williams in the early years of the 20th century. Plans were drawn up for an excavation, but in 1914 the outbreak of WW1 caused them to be put on hold. Recently a 6th-century gilt copper alloy saucer brooch was recovered by a metal detector (Stedman & Stoodley 2000, 137-138). The find was made about 200m north-west of the Roman site and may have been disturbed from an early Anglo-Saxon burial. A close spatial association between Roman and Anglo-Saxon evidence has been evidenced at several other sites in the Meon Valley (Stoodley & Stedman 2001; Stoodley 2013) and it at Broom Farm they may be further early Anglo-Saxon burials and possibly also settlement features.

The surface geology or 'Drift' of the area is Clay-with-Flints, a residual deposit formed from the dissolution, decalcification and cryoturbation of bedrock strata of the chalk group and Palaeogene formations. The dominant lithology is orange-brown and red-brown sandy clay with abundant nodules and rounded pebbles of flint (Nerc 2014).

Objectives and methodology

The purpose of the survey was twofold: to assess if possible the extent of the known Romano-British occupation and secondly to ascertain whether there was evidence of activity on the site following the Roman period. Both magnetometry and resistivity were used as in tandem they provided the best option of detecting buried archaeology.

A main north - south 100m base line was established using a Francis Barker M88 prismatic compass and set at magnetic North. An area of 60m x 100m was gridded. A 20m x 20m grid pattern was chosen for the survey as this fitted within the boundary of the area to be surveyed. Once established ten figure grid references were recorded for each of the 20m base line points (Fig. 1).

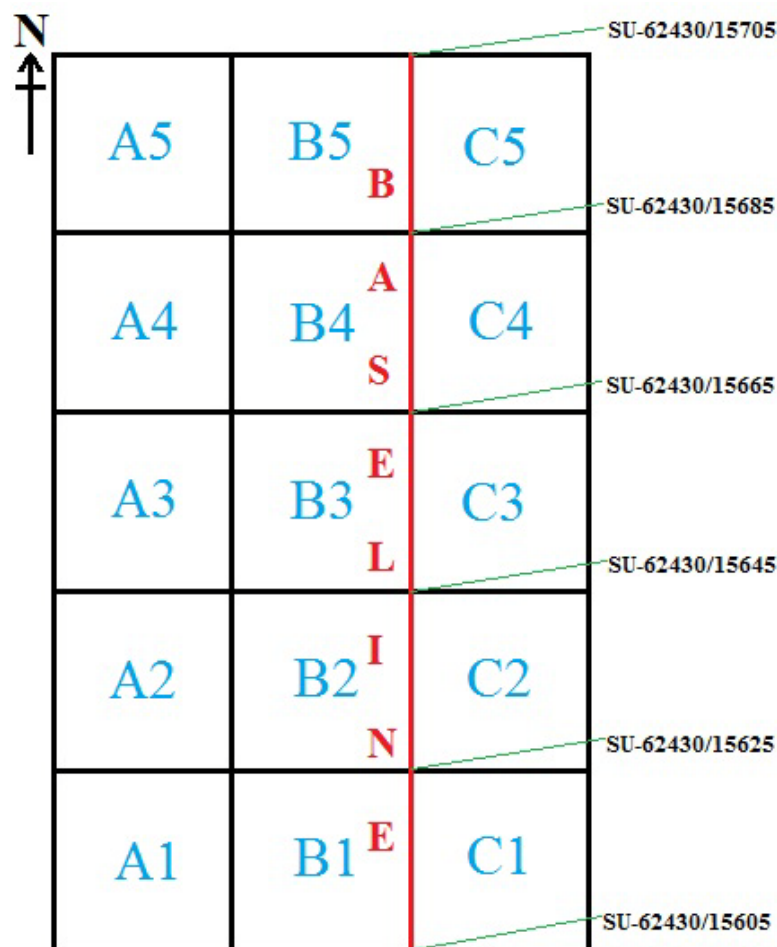


Fig 1 The grid

A Geoscan Research RM-85 was used to gather the resistance data and a Geoscan Research FM-36 was used to collect magnetic data.

RM-85

Hardware settings

Configuration - PA20 probe array with 0.5-metre beam

Mobile probe spacing - 0.5-metre

Log mode - single log / twin array

Interval setting - 0.5-metre moving north-south

Traverse setting - 0.5-metre zig-zag, moving east to west starting at the south-west corner of the grid square.

Software settings

Grid length – 20m

Sample interval – 0.5m

Grid width – 20m

Traverse interval – 0.5m

Traverse mode – zig-zag

FM-36

Hardware settings

Resolution – 0.1nt

Log interval – 0.25m

Grid size – 20m

Baud rate – 2400

Software settings

Grid length – 20m

Sample interval – 4 per metre

Grid width – 20m

Traverse interval – 1m

Traverse mode – Zig-Zag

Data was downloaded onto an Acer Aspire X xc600 desktop computer running Windows 8 operating system. The data was processed and filtered using Snuffler version 1.11 geophysics data processing software.

Results

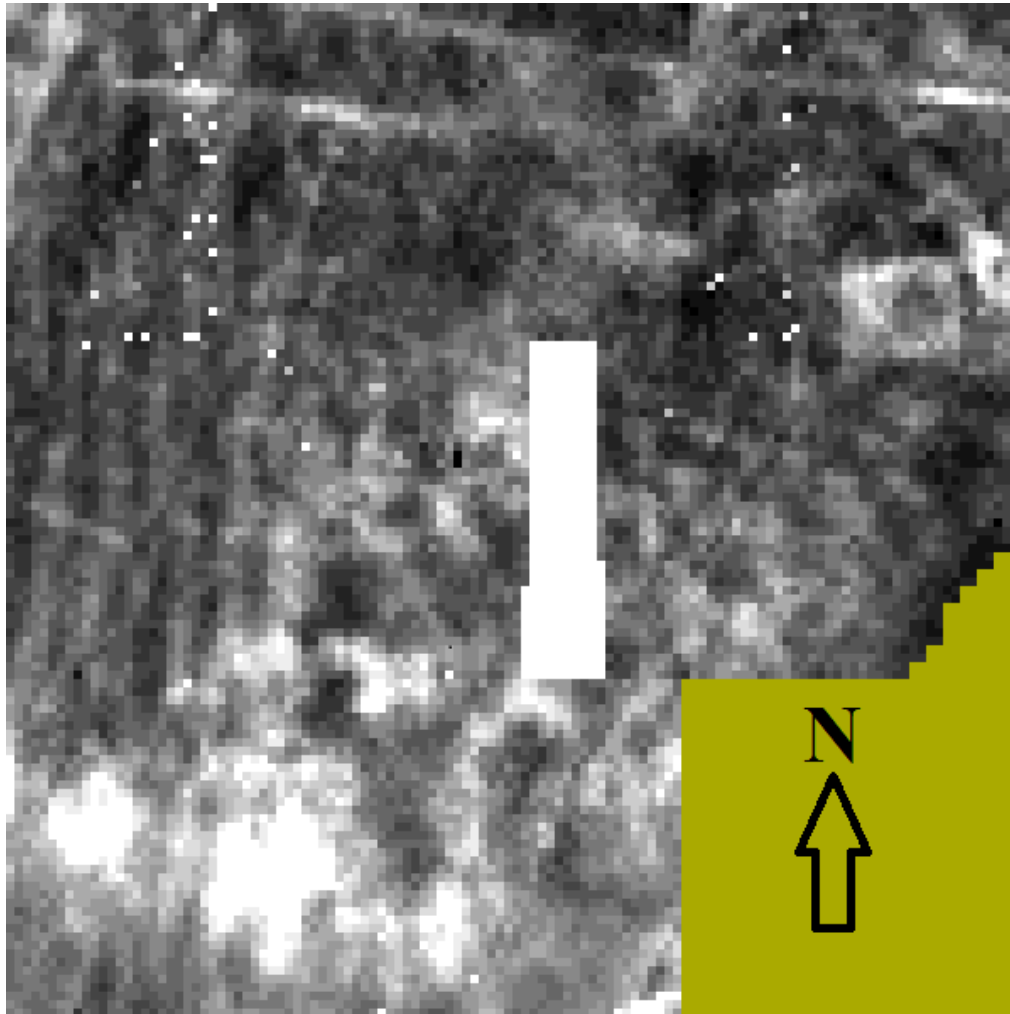


Fig 2 Plot of the raw unfiltered data (resistance)

Resistance. The raw unfiltered data is represented in Linear plot format (Figs 2 & 3). The white rectangular area close to its centre is due to a low battery voltage causing the instrument to log an 'out of range' default high resistance reading; this area should be disregarded. The data was filtered (Figs 4 & 5) and the sequence was: edge correction, de-spike, interpolate (horizontally and vertically) and convert to relief plot.

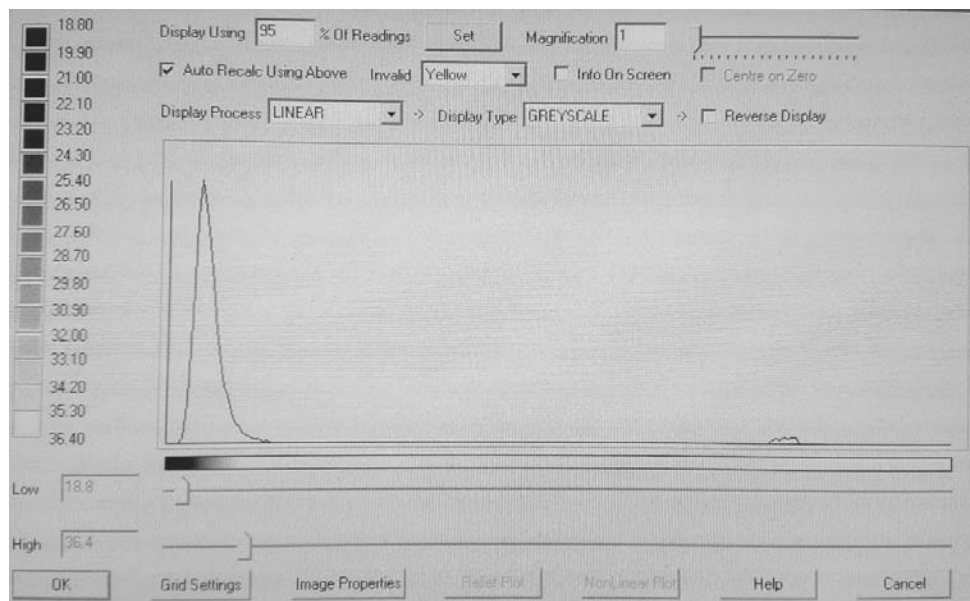


Fig 3 Data settings for the raw linear resistivity plot

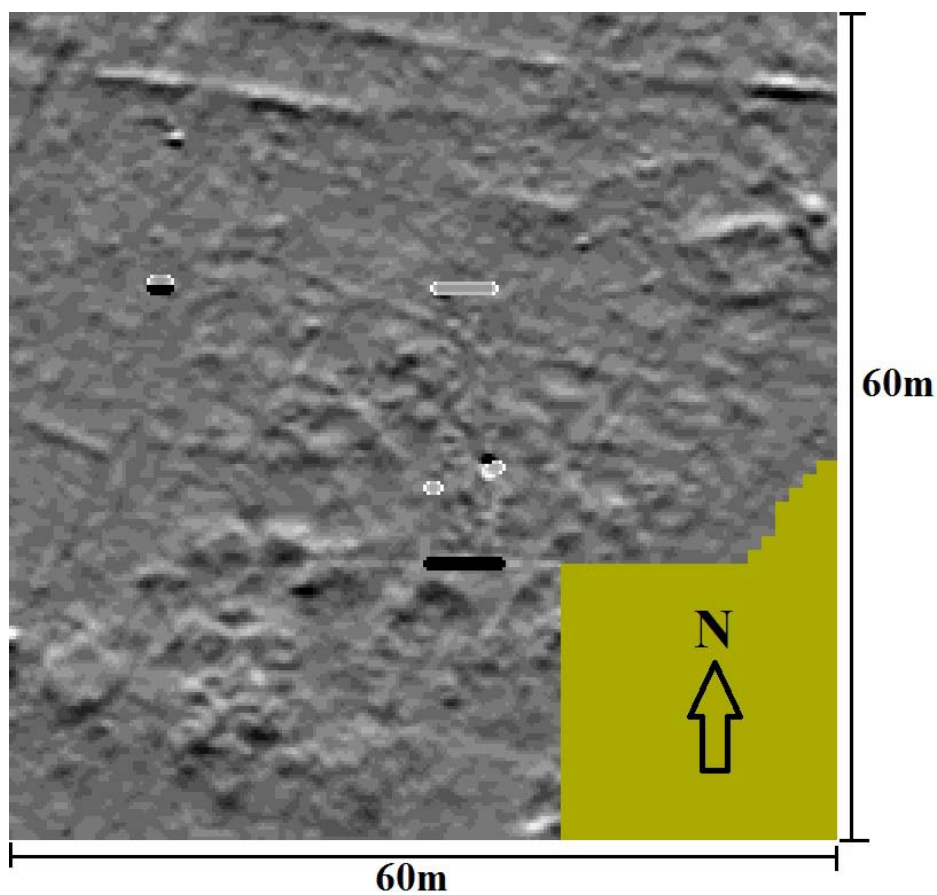


Fig 4 The raw resistivity data filtered and displayed in relief plot

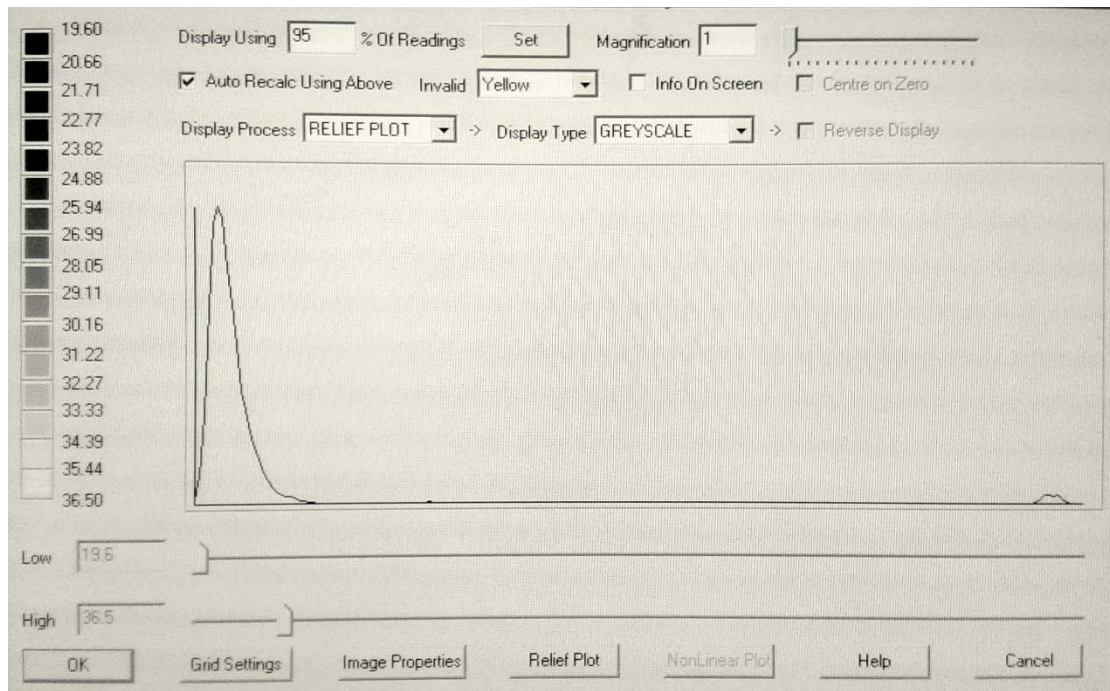


Fig 5 Data settings for the filtered relief plot image

Magnetometry. The raw unfiltered plot is presented in linear plot format with edge correction applied (Figs 6 & 7). The data was filtered and is presented in linear plot format (Figs 8 & 9). The sequence of the filtering process was as follows: edge correction, de-spike, de-stagger (horizontally and vertically) and interpolate (horizontally and vertically).

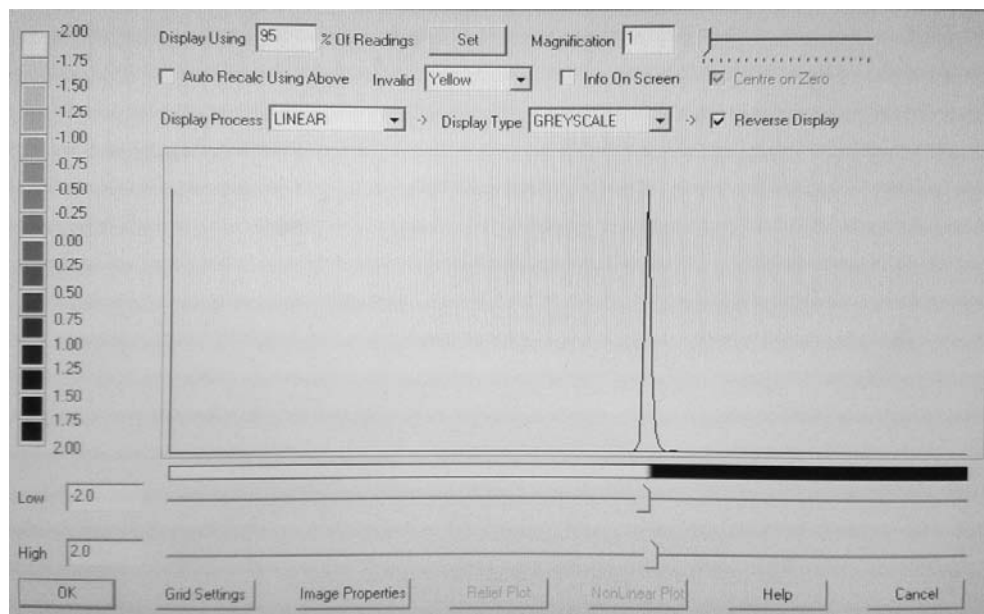


Fig 6 The data settings for the raw magnetic plot

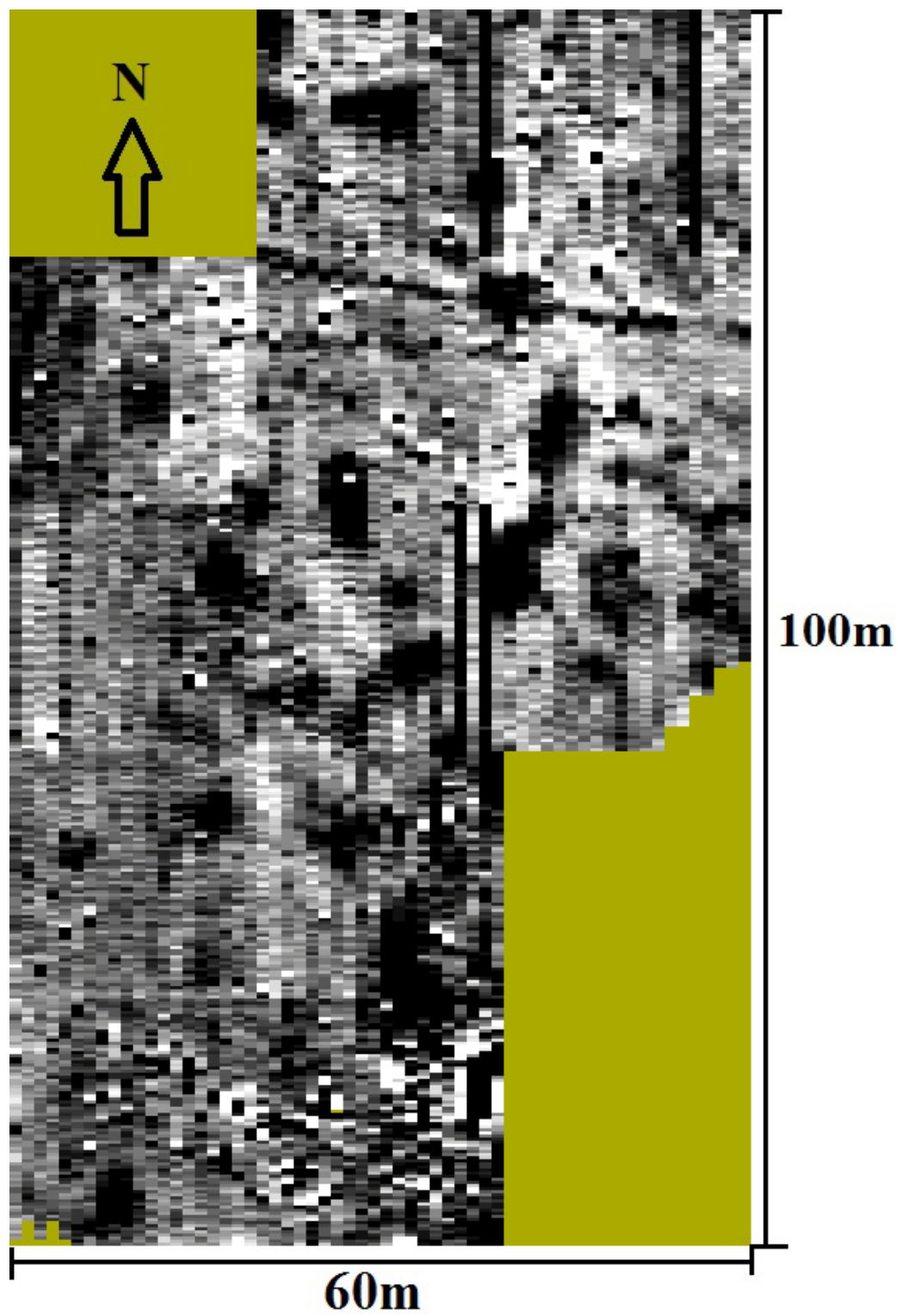


Fig 7 Raw unfiltered data

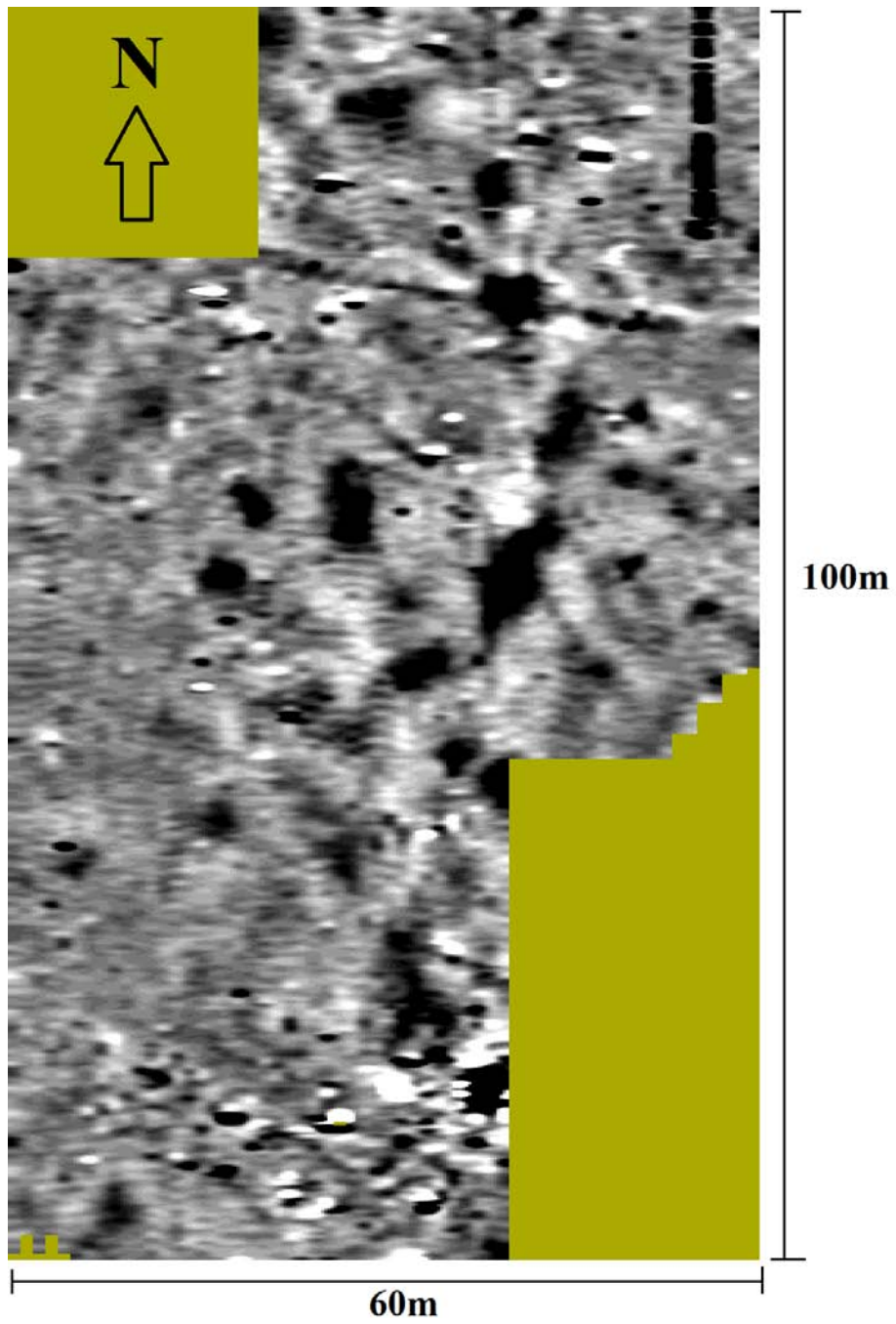


Fig 8 The filtered magnetic data presented in Linear plot format

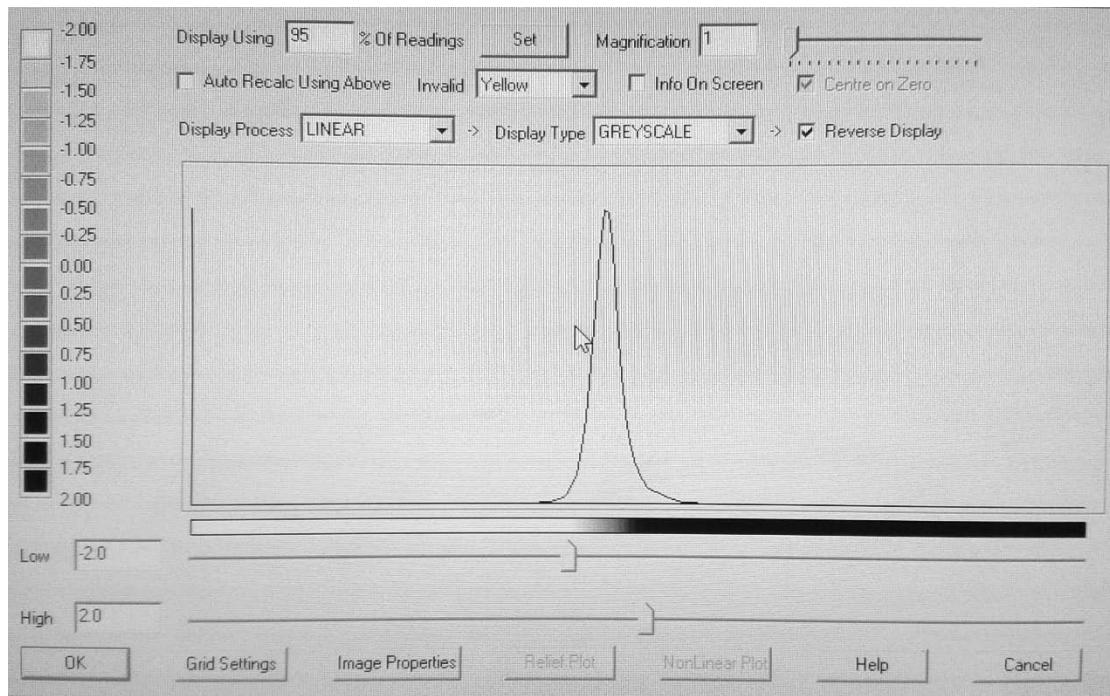


Fig 9 The data settings for the filtered magnetic plot

Interpretation

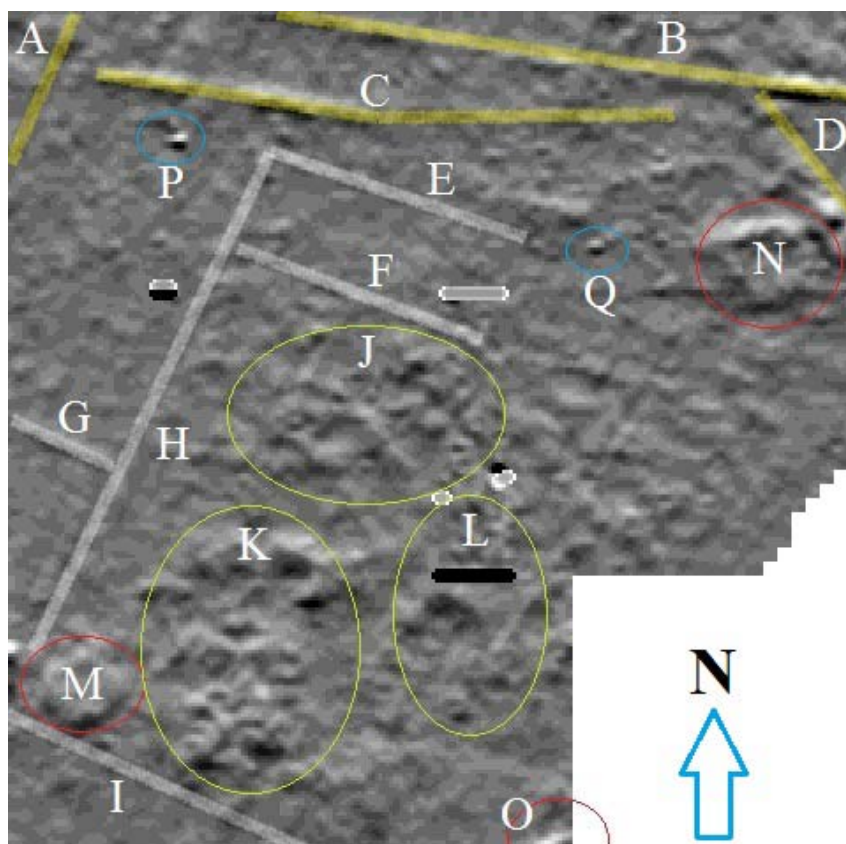


Fig 10 Resistance (relief plot)

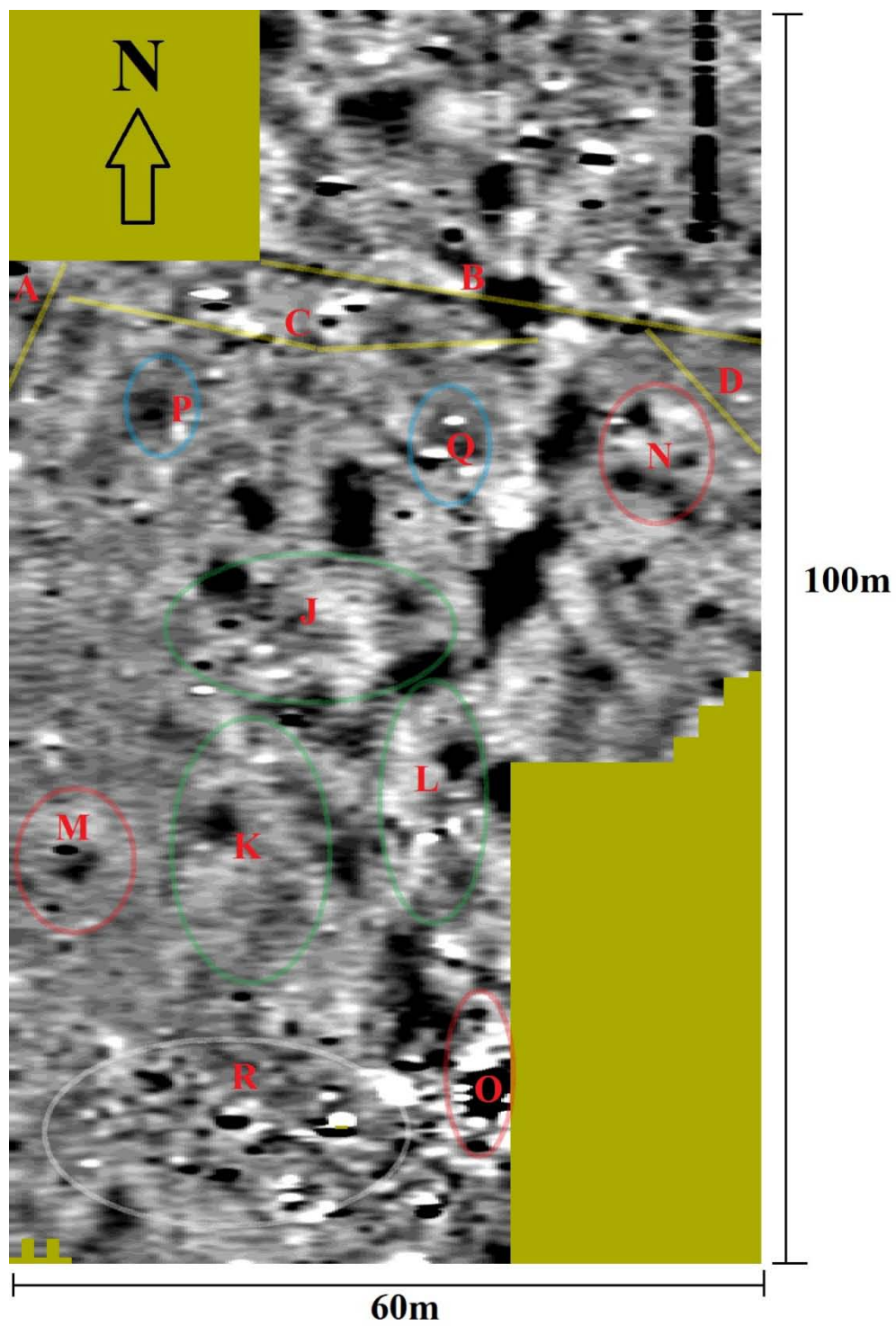


Fig 11 Magnetometry (relief plot)

The results of the resistivity and magnetometry surveys are shown in Figures 10 and 11 and the various anomalies are highlighted and described below.

- A- Linear feature probably a ditch containing material, also detected with magnetometer.
- B- Linear feature probably a ditch containing material, also detected with magnetometer.
- C- Linear feature probably a ditch containing material, also detected with magnetometer.
- D- Linear feature probable ditch, also detected with magnetometer.
- E- Linear feature possible wall or ditch, not detected with magnetometer.
- F- Linear feature possible wall or ditch, not detected with magnetometer.
- G- Linear feature possible wall or ditch, not detected with magnetometer.
- H- Linear feature possible wall or ditch, difficult to discern due to plough lines sharing a similar alignment, not detected with magnetometer.
- I- Linear feature possible wall or ditch denoted by contrast between disturbed and un-disturbed ground, not detected with magnetometer.
- J- Area of disturbed ground possible occupation, also detected with magnetometer.
- K- Area of disturbed ground possible occupation, also detected with magnetometer.
- L- Area of disturbed ground possible occupation, also detected with magnetometer.
- M- Sub-circular feature, 6-7m diameter, possible building base, also detected with magnetometer.
- N- Sub-circular feature, 6-7m diameter, possible building base also detected with magnetometer.
- O- Anomaly giving high resistance reading close to the known area of the Roman building, also detected with magnetometer.
- P- Anomaly giving high resistance reading, also detected with magnetometer.
- Q- Anomaly giving high resistance reading, also detectable with magnetometer.
- R- Anomaly showing a high metallic disturbance, not surveyed with resistance.

Conclusion

The results of the survey show a complex system of possible walls ditches and boundaries probably associated with the known Roman building at this location. There appears to be more than one phase of occupation within the area surveyed; at least two, possibly more. The feature consisting of linear anomalies, E F G H and I, appears to act as a physical barrier which contains the areas of disturbance J K L. The two groups are therefore likely to be contemporary and associated.

Features A B C D probably represent various phases of enclosure or boundary ditches which contain material with slight magnetic properties and are detectable with the magnetometer. The anomalies M N appear to be sub-circular and about 6 -7m in diameter. They are detectable by resistance and magnetometry and may contain traces of ferrous metal and or fired clay. They do not appear to respect the feature

consisting of anomalies E F G H I, therefore they are probably not associated and may indicate an alternative phase of occupation on the site.

Feature O is within a few metres of the known location of the Roman building. It gave off a high resistance reading in addition to a high magnetic response and may therefore be a part of the building that extends into the field. Anomalies P and Q are giving above average resistance readings as well as showing a magnetic response; they are both relatively small and may be back filled pits, or a similar type of feature.

Anomaly R is showing as a large magnetic feature, possibly rectangular in shape with interspersed magnetic hot spots, which may be part of the nearby building or alternatively could be fragments of farm machinery that broke off as they hit buried stonework.

Acknowledgements

I would like to thank the Friends of Corhampton Saxon Church and the Saxons in the Meon Valley project for providing the opportunity to carry out this survey on their behalf. I would also like to thank Dr Nick Stoodley for his help during the survey and the local volunteers for their assistance. Thanks go to the volunteers from Liss Archaeological Group, John Broadbent, Lyn Pease, Mark Taylor, Ron Ingerson and Ray Bulman who shared their knowledge and expertise throughout. Gratitude is also extended to South Downs National Park Authority and English Heritage for their support, and to Andy Payne of English Heritage for the loan of the magnetometer.

References

NERC 2014, The BGS Lexicon of Named Rock Units - Result Details,
<http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=NCK>.

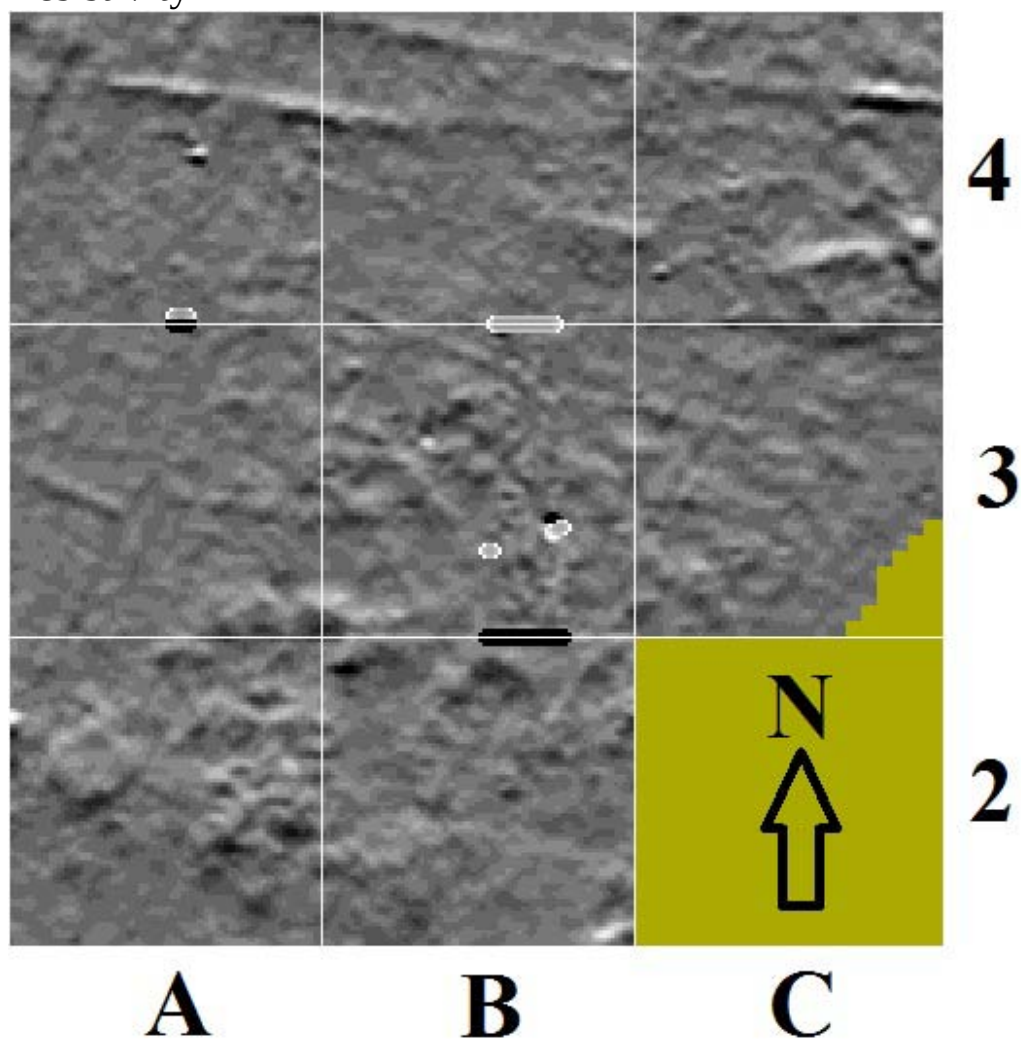
Stedman, M & Stoodley, N 2000 Eight Early Anglo-Saxon Metalwork Pieces from the Central Meon Valley, Hampshire, *Proc Hampshire Fld Club Archaeol Soc* **55** 133- 141.

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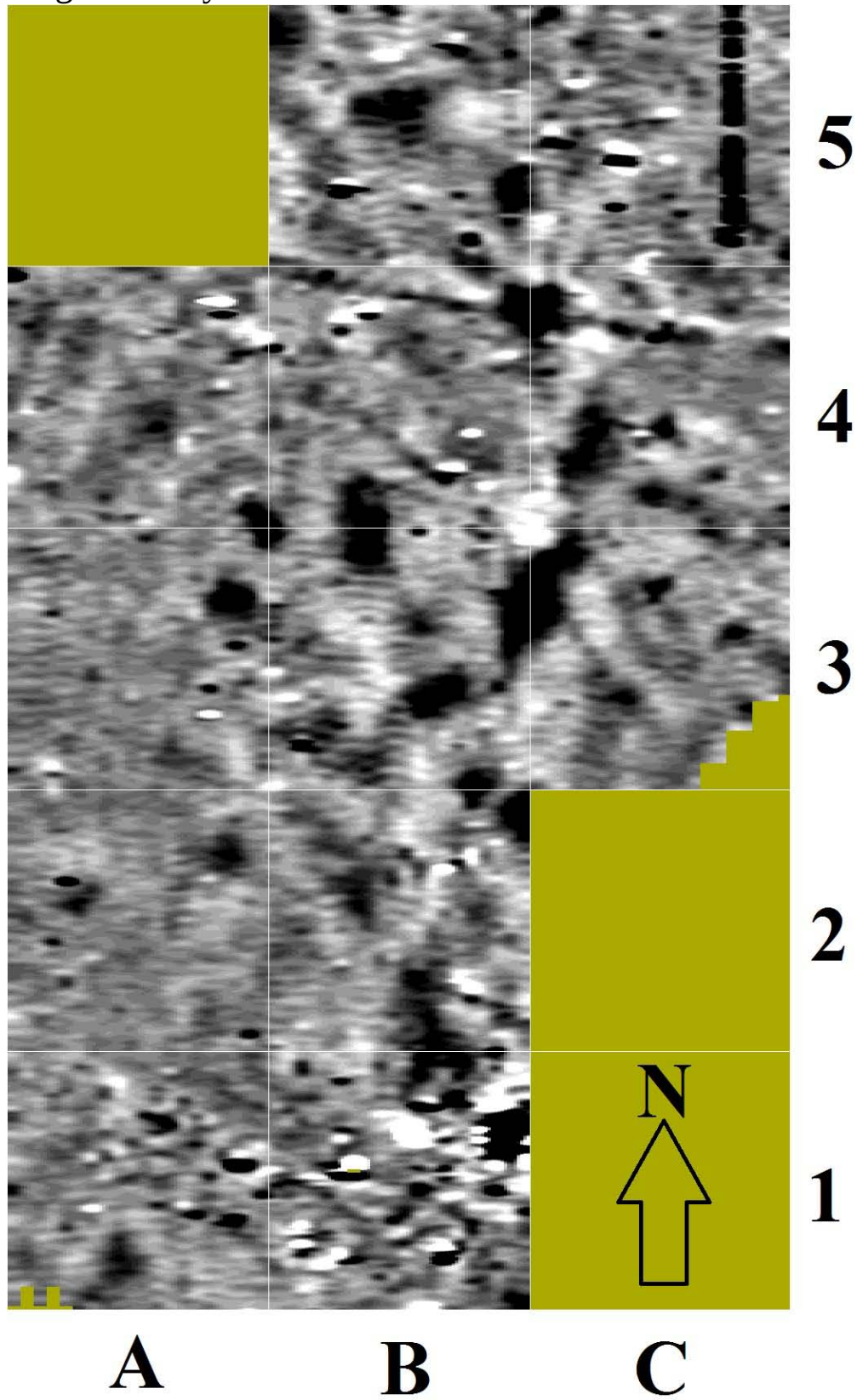
Appendix: supplementary figures

Resistivity



The resistivity plot with grid attached presented in relief plot

Magnetometry



The Magnetometry plot with grid attached displayed in linear plot format