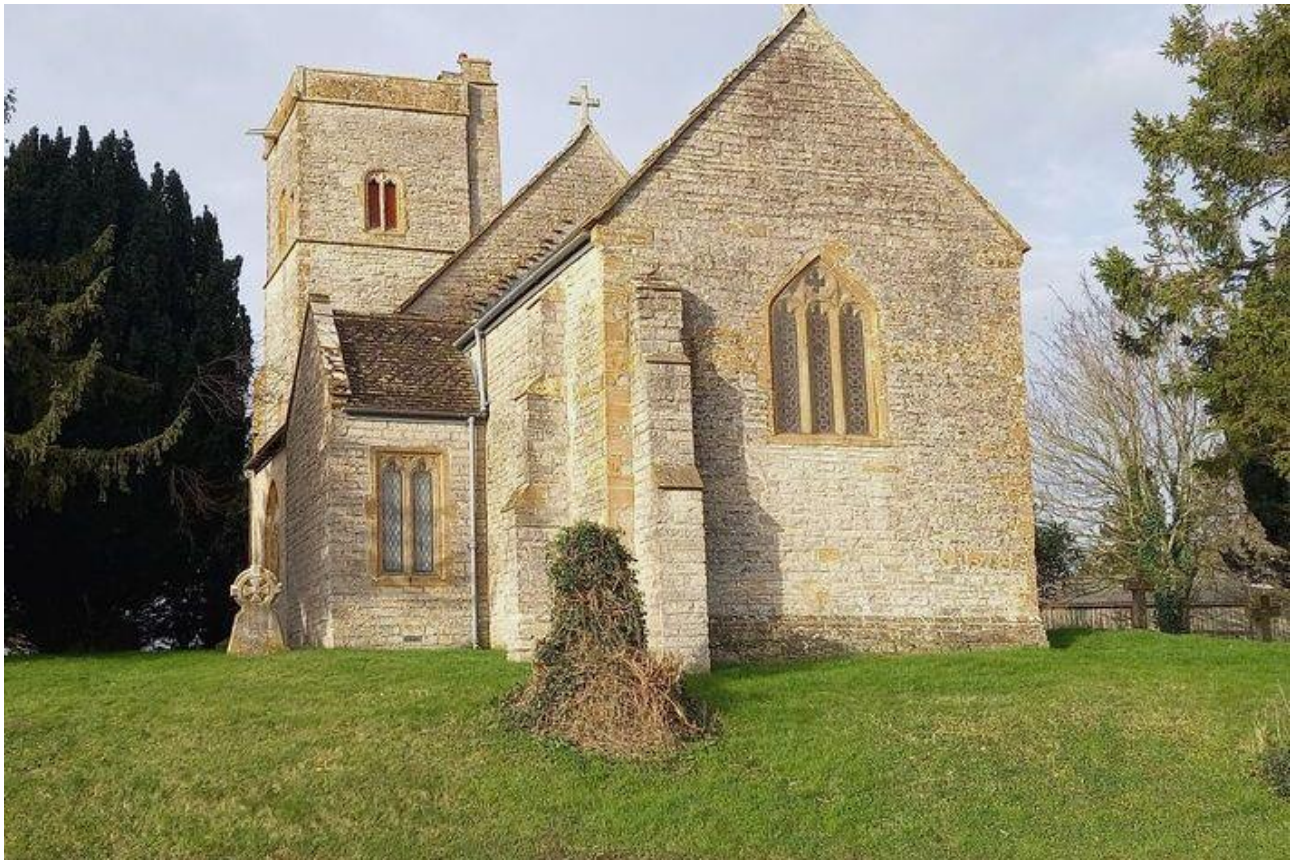
St Andrews Church, Northover, Somerset

Resistivity Survey August 2024



GeoFlo South West Geophysical and Flotation Service

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Acknowledgements

Thank you to Marie Leverett from the Churches Conservation Trust and the Rev'd Bruce Faulkner for permission to survey the site and for their background information and assistance with the survey. Thanks also to the local community who came along, showed an interest and joined in on the day.

St Andrews Church, Northover, Somerset
Resistivity Survey, August 2024

1.0 Introduction

The survey (fig 1) took place in the grounds of St Andrews church, Northover, in Somerset (NGR 352353 123142) at the request of the churches conservation Trust (CCT) and the Parochial Church Council (PCC). The purpose of the survey was to attempt to locate any previous building foundations, or archaeological anomalies that would support suggested use of the site prior to the current Church building and add to the existing knowledgebase for the CCT.

St Andrews church is a Grade II listed building (Historic England List entry number: 1267315). Mentioned in the Doomesday book, St Andrews is thought to be a Saxon Minster, placed upon the site of an earlier temple, possibly Roman as the site is adjacent to an important Roman cemetery. The geology of the site is Blue Lias formation and Charmouth Mudstone.

The survey was carried out by GeoFlo, assisted by local volunteers, Marie Leverett from the CCT and Rev'd Bruce Faulkner

1.1 Equipment

Resistivity meter – TR/CIA Resistance Meter

A twin probe array was used, with mobile probes at a fixed separation of 500mm and two remote probes of variable spacing. The meter range was 200 Ohm, and minimal filtration was employed to remove any effects of mains electrical earth currents. Resistivity meters work by measuring the resistance to the passing of an electrical current through the ground from one probe to another. Different buried components in the ground have different degrees of conductivity or resistance. Water is the best conductor in the soil so in effect the method is also dependent on the amount of moisture present. As a consequence it can be susceptible to geological and seasonal variations. It is effective in the identification of stone structural remains, organically rich deposits and cut linear features or large pits, where there is sufficient contrast between features and the surrounding buried environment.

Software – Geoscan Geoplot 4.00

Geoplot 4.00 allows the presentation of data in four graphical forms: dot-density, grey scale, pattern and X-Y (or *trace*) plots. The latter are particularly effective when used in conjunction with other graphical modes to emphasise ferrous magnetic anomalies or other distortions which show as accentuated peaks or troughs. The programme supports statistical analysis and filtering of the data.

1.2 Field method

The survey area was divided into 2 separate plots, with the church in the middle and dividing; area A: Graveyard North and area B; Graveyard South, each survey area was divided into 10m squares aligned with the east/west wall of the church (fig 2).

Readings were logged at 1m intervals along south to north traverses (graveyard north) and north to south (graveyard south) set 1m apart, in a zig zag pattern.

1.3 Processing method

1. Isolated high or low readings (noise spikes) were replaced by the mean reading.
2. The impact of geological variation was reduced by the application of a uniform high pass filter with a radius of 8 readings in the X and Y directions.
3. Data were smoothed and weak anomalies highlighted by the application of a low pass filter with a radius of 1 reading in the X and Y directions.
4. Further smoothing was achieved by the positive interpolation of data points along the Y and X axes, using the calculation of sin(x)/x.

2.0 The survey area

2.1 Graveyard North

The grid comprises 6 contiguous whole and partial squares covering the majority of the church yard (fig 2). Although most of the ground had been cleared, some areas could not be surveyed due to shrubbery and graves. The survey area covered approximately 0.04 ha.

2.2 Graveyard south

The grid comprises 4 contiguous whole and partial squares covering the majority of the area (fig 2). Although most of the area was surveyable, some areas could not be surveyed due to shrubbery and graves. The survey area covered approximately 0.03 ha.

3.0 Survey results *(figs 3, 4 & 5)*

The readings discussed below are after the use of a high pass filter enabling high and low resistance data to be expressed in a bipolar form.

The area surveyed shows high levels of ground disturbance, due to continuous use as a burial area for approx. 900 years plus. This has resulted in large, amorphous high and low resistance anomalies across both areas which are shown in figs 3 & 4. These anomalies are discussed in ***3.1*** below. The levels of this disturbance limits confidence in interpretation of the results for archaeological features.

The readings in both areas are generally within the range of -9 to 9 ohms. There are a number of isolated areas of high resistance, where they range from 14 to 32 ohms. These correspond to buried stone, likely to be graves. These are highlighted as blue areas in fig 4.

3.1 Higher resistance anomalies (fig 5)

A Area of high resistance anomalies ranging from 17 to 28 ohms. Corresponds with the location of a former pathway leading to the former vicarage (Rev'd Bruce Faulkner, 2024).

4.0 Conclusion

The degree of confidence in identified anomalies is generally low.

Although the survey has not discovered evidence of previous use for the site, it has highlighted some areas that suggest buried graves which are no longer visible and the possible location of a former pathway. However, the amount of disturbance over the centuries has resulted in the survey results proving inconclusive.

Bibliography

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Geophysical Survey in Archaeological Field Evaluation. Historic England, Swindon, 2008.

British Geological Survey website www.bgs.ac.uk/discovering Geology/ geologyofbritain/viewer.html (Accessed 4th September 2024).

https://www.visitchurches.org.uk/visit/church-listing/st-andrew-northover.html#undefined2 – 04/09/2024

Rev'd Bruce Faulkner (2024) Email to Marie Leverett, Paula Andrews, Nigel Harvey & Liz Caldwell, 22nd August 2024.

Fig 1: Location of survey

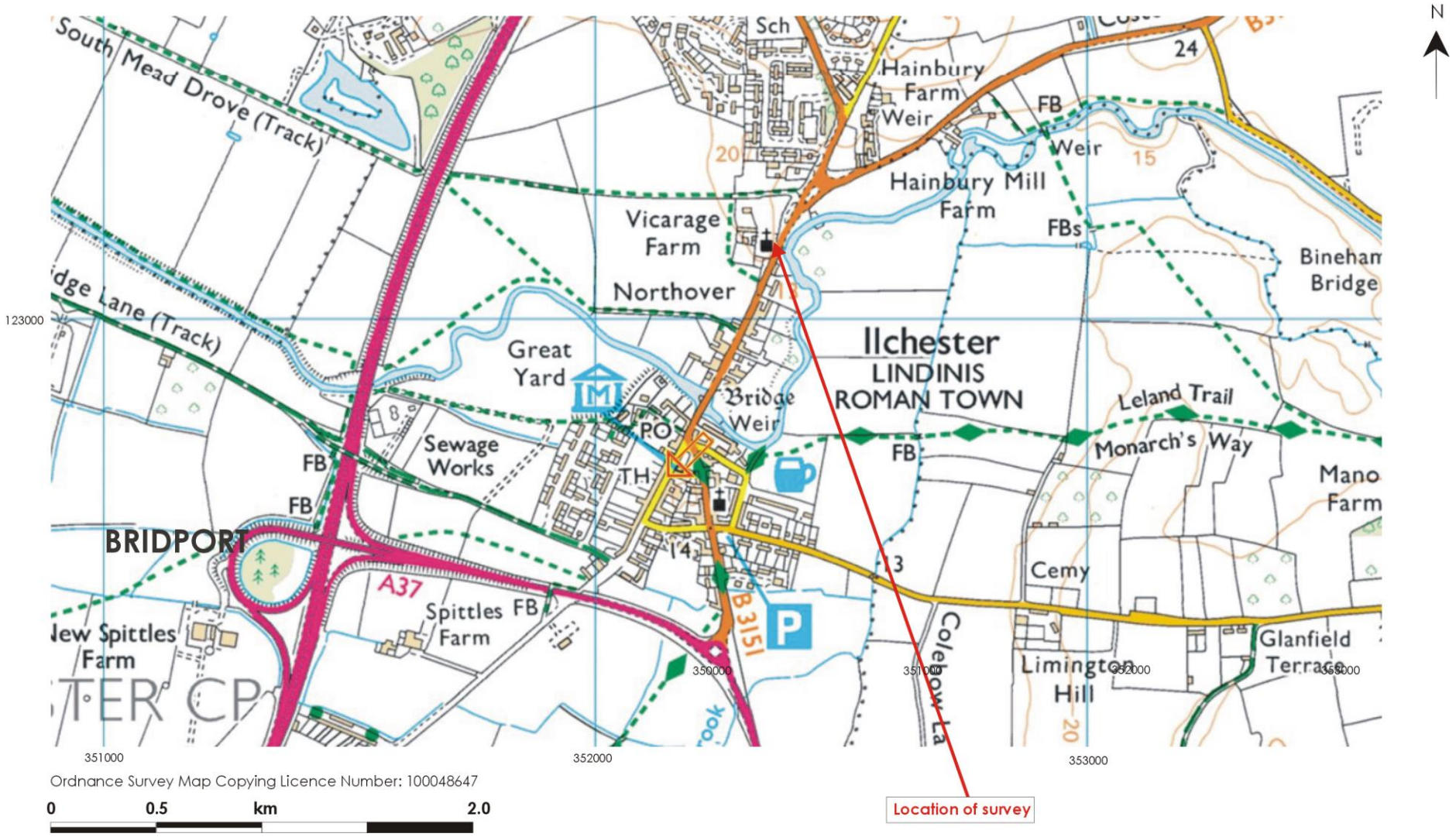


Fig 2: Location of survey - detail

Fig 3: Survey results

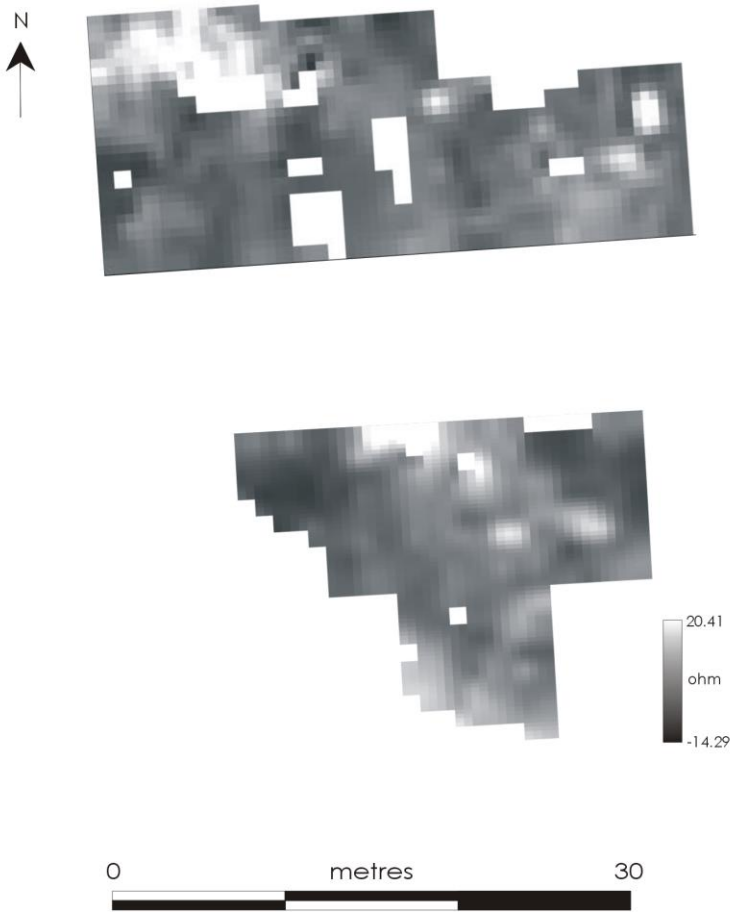


Fig 4: Highlighted survey results

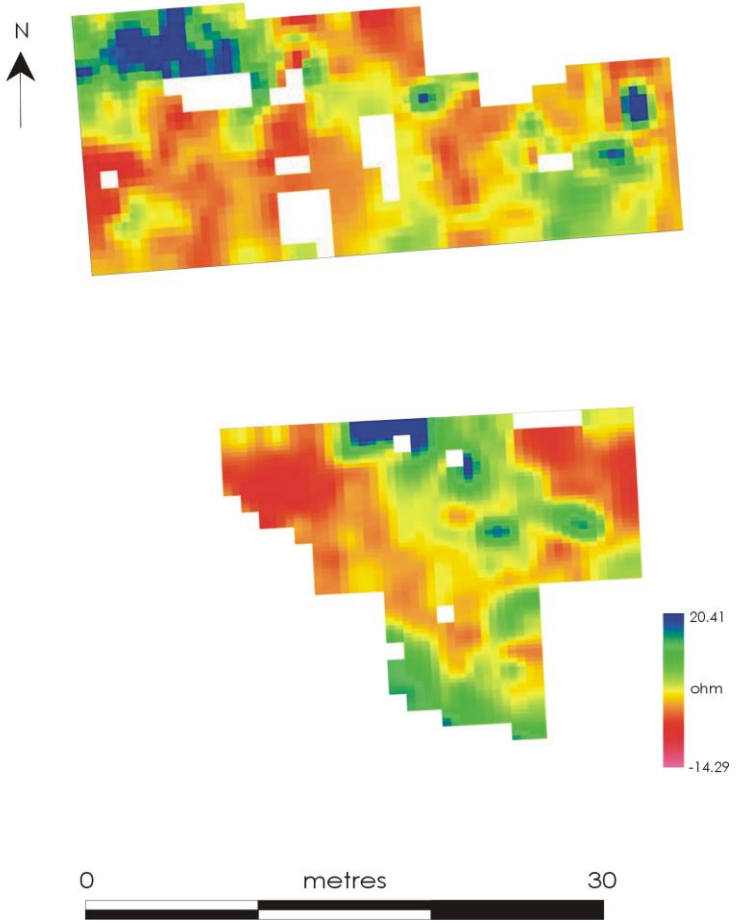
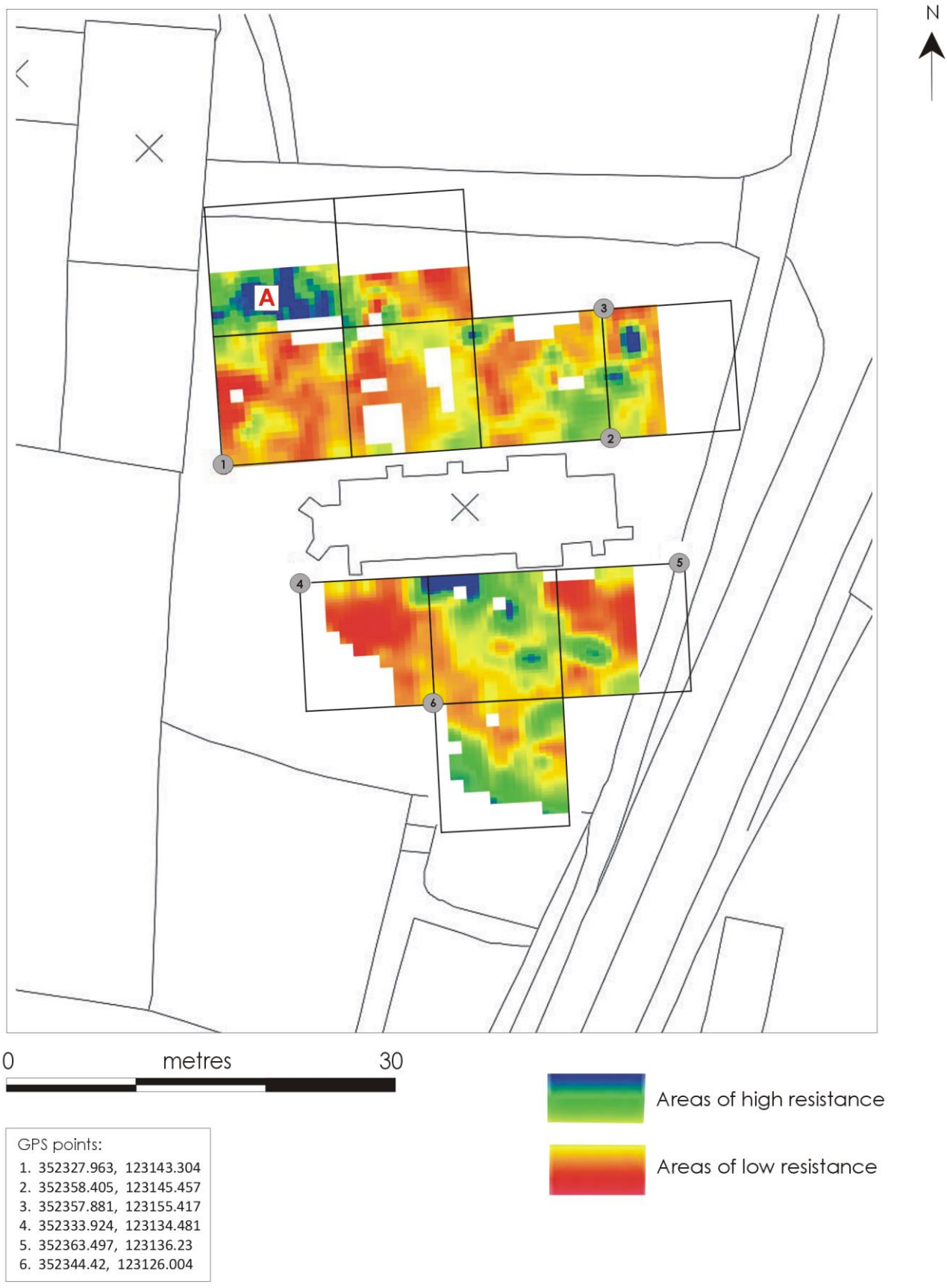


Fig 5: Interpretation



GPS points:

1. 352327.963, 123143.304
2. 352358.405, 123145.457
3. 352357.881, 123155.417
4. 352333.924, 123134.481
5. 352363.497, 123136.23
6. 352344.42, 123126.004

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