Geophysical Survey Report
Bohuntin Burial Ground

RGC13105/BBG

On behalf of:

Paul Gillies

Rose Geophysical Consultants:
Specialising in Archaeological Survey and Consultancy

Rose Geophysical Consultants LLP:
Specialising in Archaeological Survey and Consultancy

5 Petticoat Lane
Orphir
Orkney
KW17 2RP

Telephone: 01856 811783
Email: Susan@rosegeophysics.co.uk
www.rosegeophysics.co.uk

Registered in Scotland No. 304077

VAT Registration No: 141 7787 93

Executive Summary

A post medieval burial ground (NN 28524 82613; HER MHG51258) is believed to lie within a pasture field to the northeast of Roy Bridge in the Highlands. The extent of the presumed graveyard is unknown and all that survives is a low mound of rubble. It is believed that the last burial occurred *circa* 1800. A single track may have run adjacent to the site of the burial ground but has since been realigned. Resistance survey was carried out at 1m by 1m intervals over an area of 0.96ha. The survey covers the area of the postulated burial mound and the area of a proposed single house plot.

The data are dominated by anomalies thought to be due to natural variations within the underlying soil and bedrock and agricultural activity. Although some ephemeral anomalies of possible interest have been tentatively noted around the surface mound their interpretation is cautious. No anomalies thought to be archaeologically significant have been detected within the area of the planning application.

Survey:	Bohuntin Burial Ground
Client:	Paul Gillies
Date of Survey:	14th – 15th October 2013
Survey Personnel:	Dr S M Ovenden and A S Wilson
Report Author:	Dr S M Ovenden
Date of Draft Report:	24th October 2013

1. Introduction

1.1 A post medieval burial ground (NN 28524 82613; HER MHG51258) is believed to lie within a pasture field to the northeast of Roy Bridge in the Highlands. The extent of the graveyard is unknown and all that survives is a low mound of rubble. It is believed that the last burial occurred *circa* 1800. A single track may have run adjacent to the site of the burial ground but has since been realigned.

1.2 Resistance survey was carried out at 1m by 1m intervals over an area of 0.96ha, as indicated on Figure 1, at a scale of 1:5000. The survey covers the area of the postulated burial mound and the area of a proposed single house plot.

1.3 Figure 2 shows a summary greyscale image of the data *in-situ* with an accompanying interpretation diagram in Figure 3, both at a scale of 1:1250. Figures 4 – 7 display archive data plots and an interpretation of the data at a scale of 1:500.

2. Methodology

2.1 Prior to data collection a series of 20m grids were established across the site. The survey grid was tied-in to hard features depicted on Ordnance Survey maps and has been lodged with the client

2.2 Earth resistance surveys measure variations in the moisture content of the earth's subsurface by passing a small electrical current through the subsurface. Features such as walls, foundations, rubble, bedrock and sands and gravels will show as high resistance anomalies. Features such as ditches, robber trenches and furrows, with their humic fill, will result in a low resistance response.

2.3 Resistance survey was carried out using a Geoscan RM85 resistance meter. For this survey a standard twin probe configuration was used with a mobile probe separation of 0.5m providing a depth resolution of approximately 0.75m. Data was collected at 1m by 1m intervals.

2.4 The data was processed with Geoscan Research Geoplot 3.00, using a standard range of corrections and processing algorithms.

2.5 Raw, interpolated and high pass filtered data have been included in the report. Interpolating data has the effect of smoothing the data image by interpolating the data in both the X and Y directions resulting in the appearance of a 0.5m by 0.5m sample interval. Running a High Pass Filter on the data effectively removes background trends within the data thereby enhancing more discrete anomalies. The data have been displayed at a variety of levels, in an attempt to pull out more subtle anomalies. In area resistance survey the data values themselves are not significant but rather the changes relative to the background level of response are. In some of the figures the data are plotted at absolute values in ohms (Ω). In other plots the statistics of the full data range are used and the data are plotted at plus/minus one or two standard deviations (SD).

3. Results of Resistance Survey

Anomaly numbers referred to below are shown on the accompanying interpretation diagrams.

3.1 The data from the resistance survey are displayed in Figures 2 and 4 - 6. Black represents high resistance e.g. walls, rubble etc., while white indicates low resistance. Areas shaded pale blue indicate areas were readings could not be taken due to large stones and the track way along the edge of the field.

3.2 The background level of resistance across the site is very high due to the underlying soils and geology. There are large variations within this generally high background, the majority of which are thought to be due to natural variations within the underlying soil and geology. It is possible that these strong broad variations may be masking weaker anomalies from archaeological features, if present.

3.3 The broad band of high resistance (1) is cut by a well-defined low resistance anomaly (2). It is assumed that (1) is due to natural geological and pedological variations. The broad area of low resistance (2) is due to recent excavations at the site to remove gravel/rubble material to use as a platform base for a shed in the southern portion of the field.

3.4 The other broad areas of high resistance (3) – (5), together with (1), generally follow the breaks in slope and are thought to indicate areas where the bedrock is closer to the surface. While anomaly (3) is very rectilinear in appearance, it covers a large area (30m by 20m) and as such is unlikely to indicate a structure.

3.5 It is probable that the rectilinear form of many of the presumed natural anomalies, particularly (3), is due to the effect of modern ploughing and earlier ridge and furrow cultivation which can be seen within the data as weak trends aligned NE-SW and NW-SE, respectively. This is particularly apparent in the High Pass Filtered Data displayed in Figure 6.

3.6 There is a suggestion of a possible circular low resistance anomaly (6) surrounding the small mound within the field in the western half of the survey area. Such a response would be consistent with a ditch which may potentially suggest that this feature could be the remnants of a barrow. However, interpretation is very cautious. While an archaeological origin for this cannot be dismissed, the anomaly is not very well defined and it may simply be a product of variations in the topsoil caused by years of ploughing around the surface feature. Alternatively the ephemeral nature of (6) could be due to plough damage.

3.7 A cluster of high resistance anomaly (7) has been detected to the northwest of the rubble mound. This group of anomalies is far better defined and may be significant. However, it is thought likely that this is also due to agricultural activity cutting into natural subsoil.

3.8 A well-defined low resistance anomaly (8) can be seen crossing the northwest corner of the survey area on a northeast-southwest alignment. This may indicate a ditch type feature or a drain, although it is broad for the latter. It is likely to indicate an earlier field division or possibly the earlier track way.

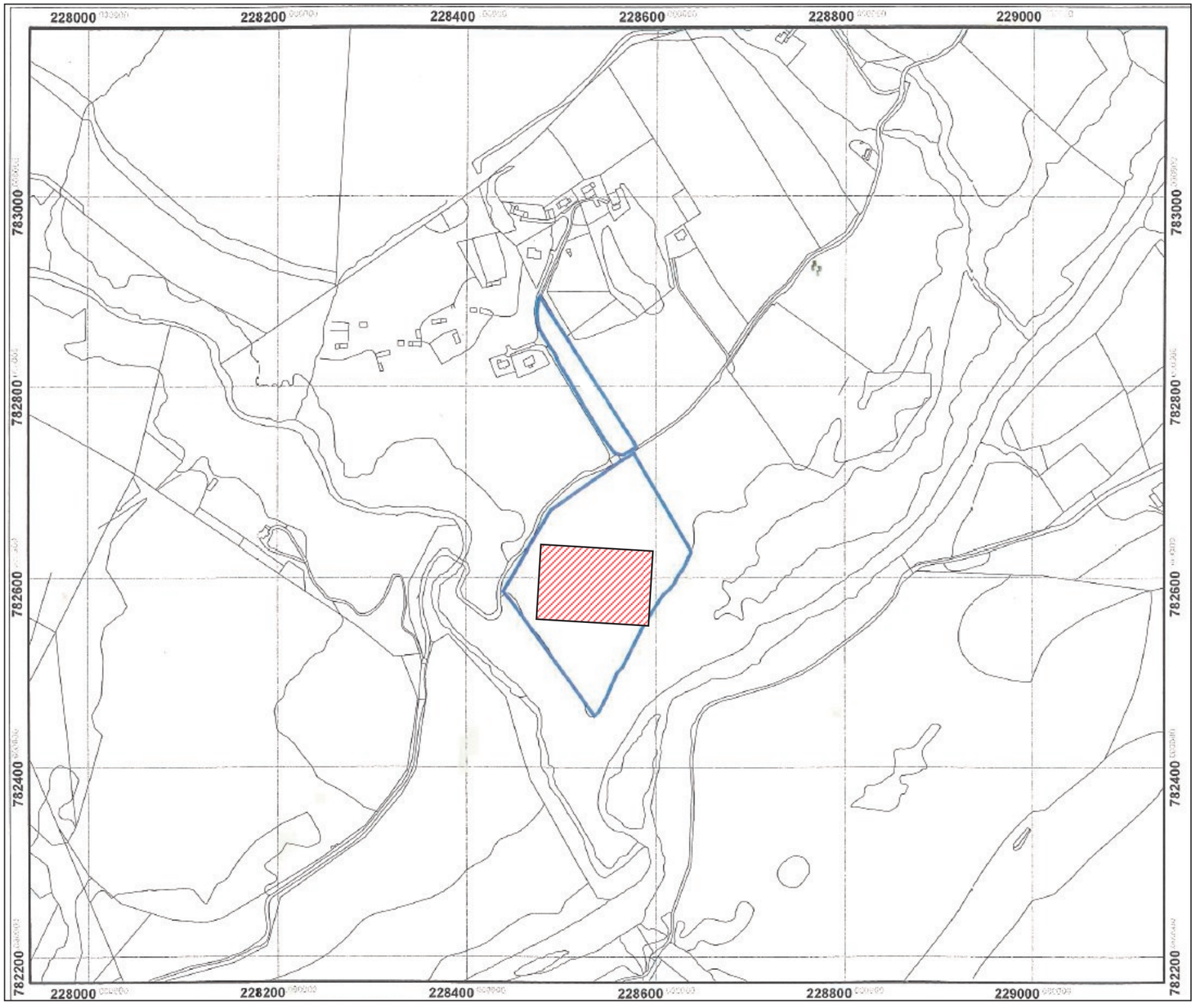
4. Conclusions

4.1 The data are dominated by anomalies thought to be due to natural variations within the underlying soil and bedrock and agricultural activity. Although some ephemeral anomalies of possible interest have been tentatively noted around the surface mound, their interpretation is cautious.

4.2 No anomalies thought to be archaeologically significant have been detected within the area of the planning application.

List of Figures

Based on plan supplied by the client



BOHUNTIN

RESISTANCE SURVEY

Location Diagram

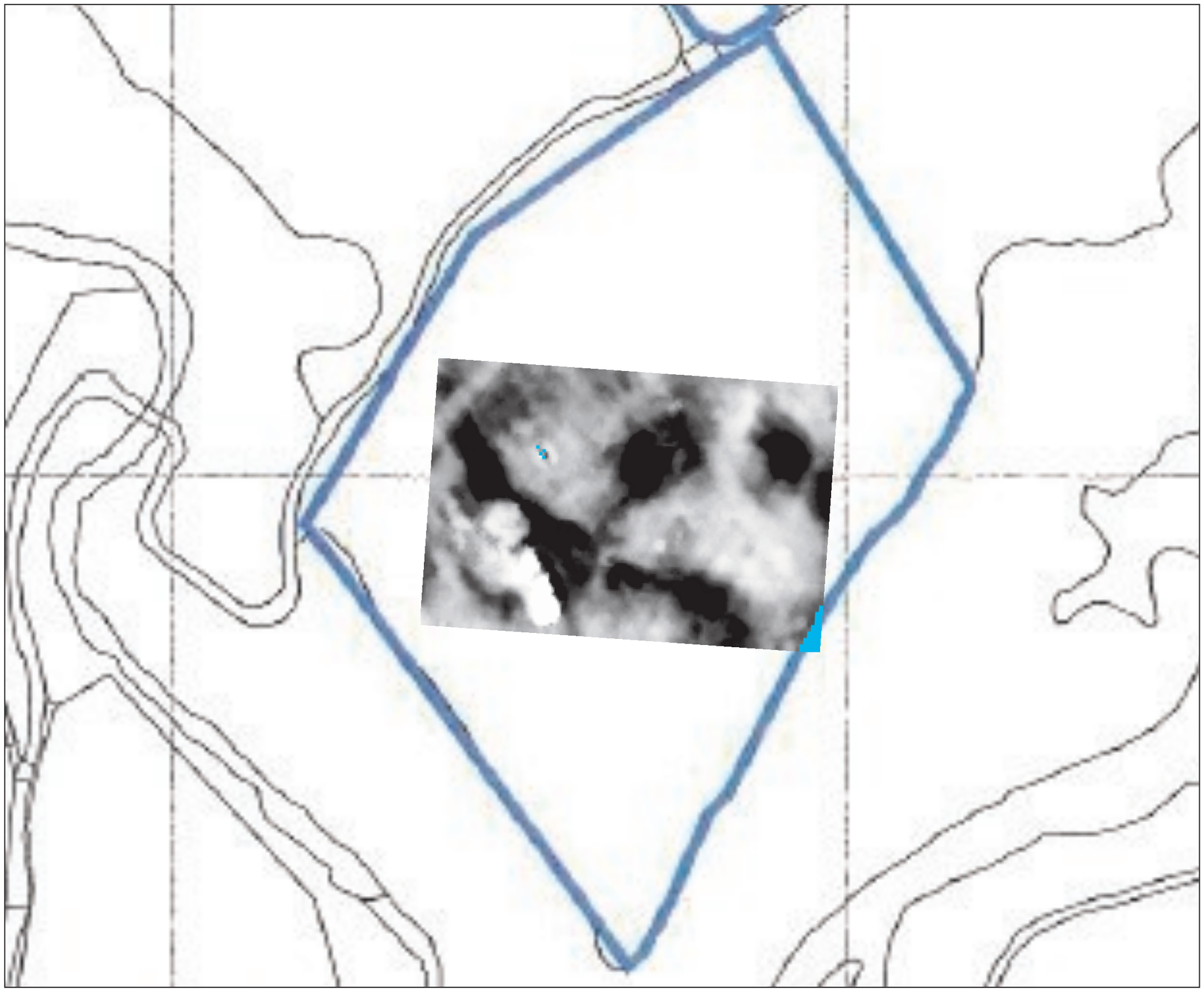
Survey Area

0m 200m

Rose Geophysical Consultants

Figure 1

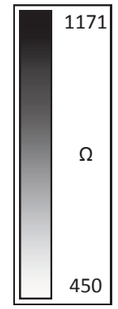
Based on plan supplied by the client

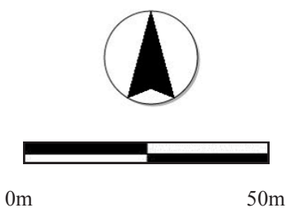


BOHUNTIN

RESISTANCE SURVEY

Summary Greyscale





Rose Geophysical Consultants

Figure 2

Based on plan supplied by the client

BOHUNTIN

RESISTANCE SURVEY

Summary Interpretation

High Resistance:
??Archaeology

Low Resistance:
??Archaeology

Trend

?Natural

?Modern

0m 50m

Rose Geophysical Consultants

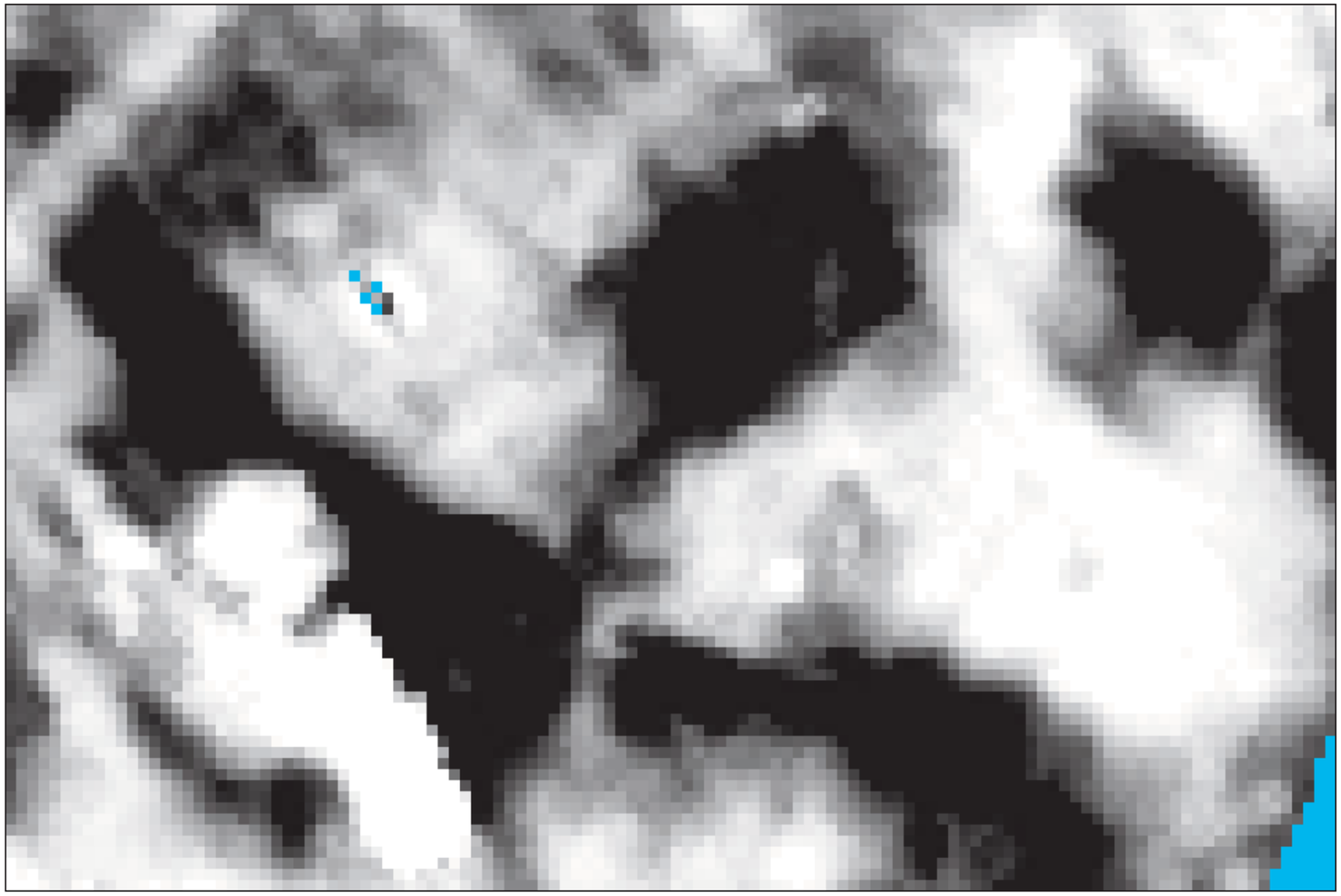
Figure 3

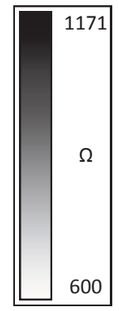
BOHUNTIN

RESISTANCE SURVEY

Summary Greyscale

Raw Data



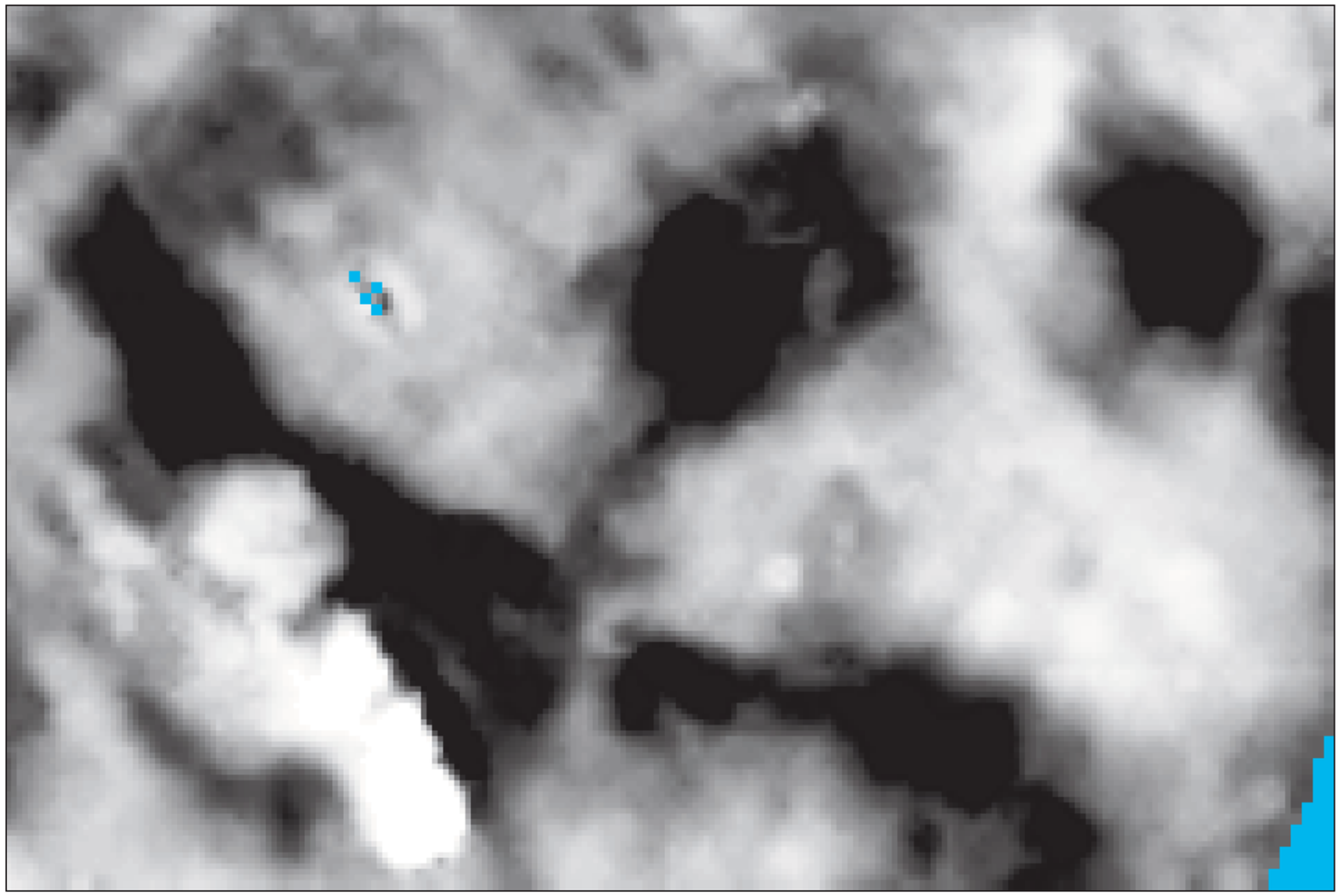


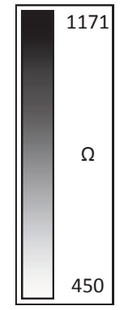
BOHUNTIN

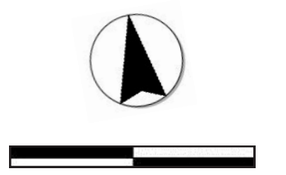
RESISTANCE SURVEY

Summary Greyscale

Interpolated Data







0m 20m

Rose Geophysical Consultants

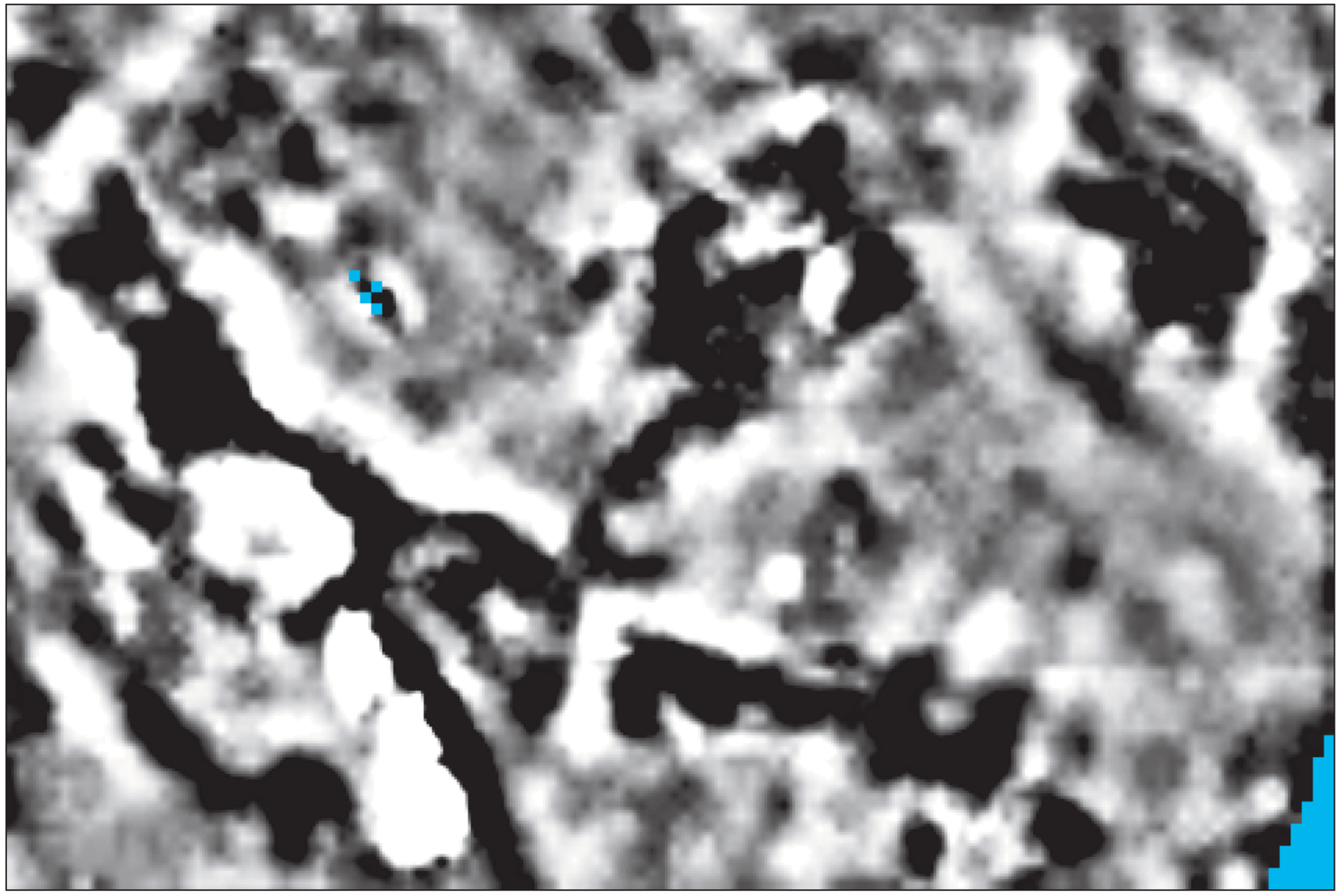
Figure 5

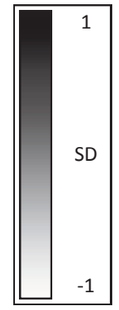
BOHUNTIN

RESISTANCE SURVEY

Summary Greyscale

High Pass Filtered Data

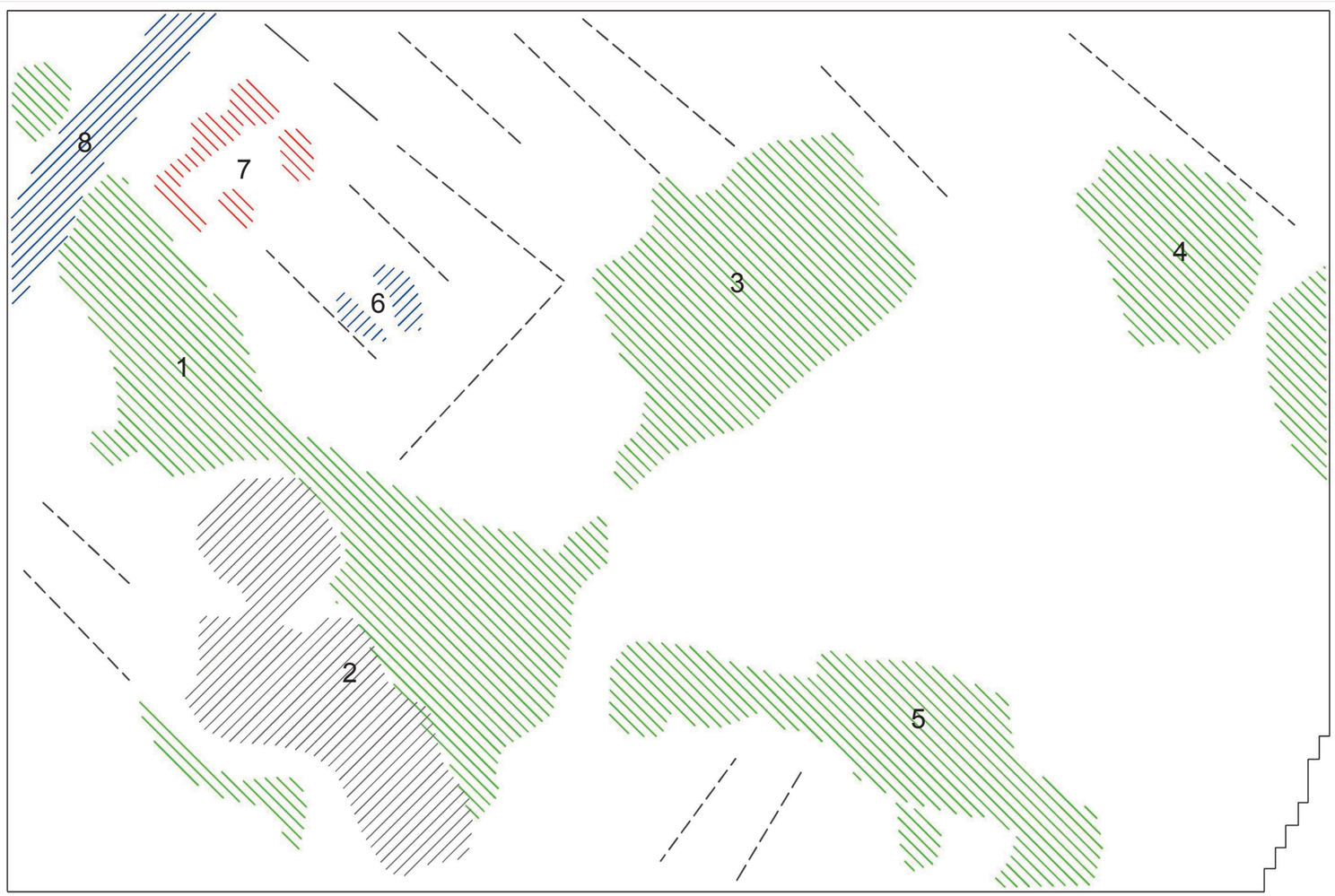




BOHUNTIN

RESISTANCE SURVEY

Summary Greyscale Interpretation



High Resistance: ??Archaeology

Low Resistance: ??Archaeology

Trend

?Natural

?Modern

0m 20m

Rose Geophysical Consultants

Figure 7