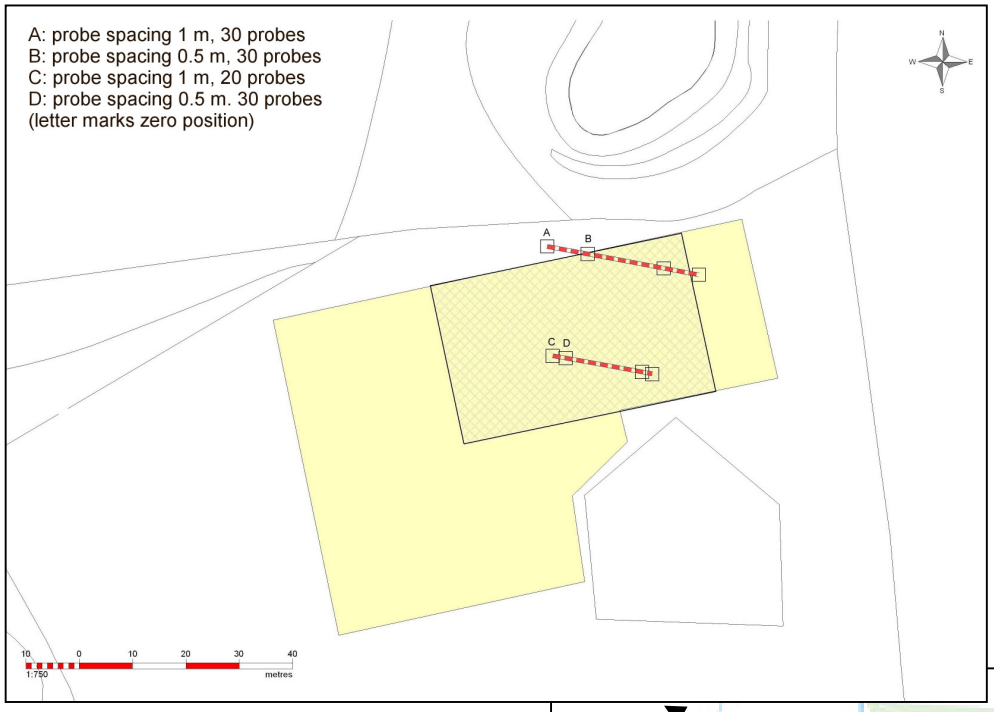
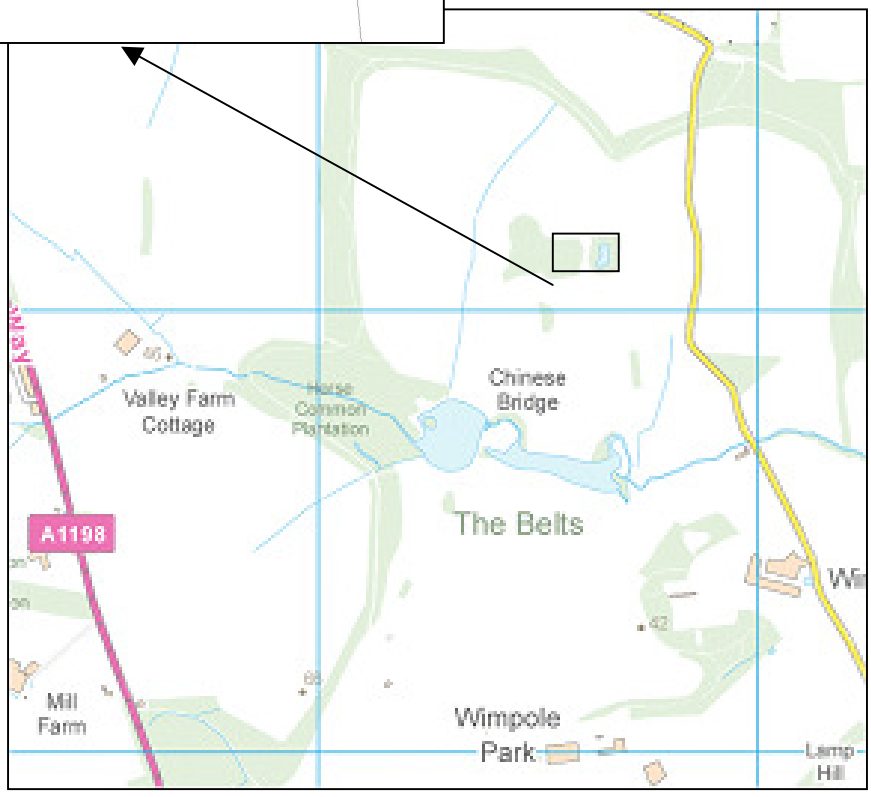
Wimpole Johnston's Pond Report

In 2017 Archaeology RheeSearch Group carried out magnetometry and resistivity surveys on this site to determine whether the line of a 17th century pipe line could be determined.
Members participating: Pat Davies, Brian Bridgland, Liz Livingstone, Ian Sanderson, Gill Shapland, Maureen Storey and Tony Storey.
Site liaison: Simon Damant.
Site conditions: Rough grass.
Equipment: Bartington 601 gradiometer; TRCIA 50 cm twin probe.
Magnetometry readings: 8/m, 1 m separation.
Resistivity readings: 1 m interval, 1 m separation.
Wenner array survey settings given below.
Raw data are available as separate appendices.

Location: TL336519, Wimpole Hall, Cambs.





Location plan: Survey areas
(resistivity survey areas hatched and lettered, magnetometry areas solid. Vertical slices barred red lines)

Purpose of survey: The purpose of this survey was to determine the position of a pipe line running from Johnston's Pond towards the fountain site near Wimpole Hall.

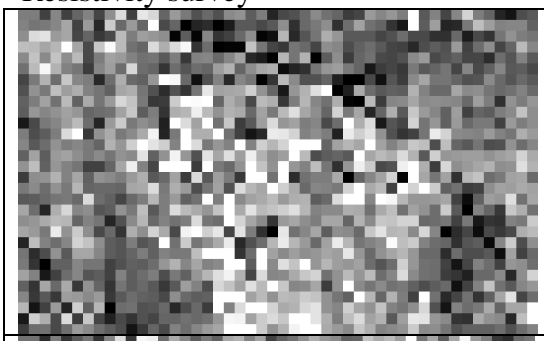
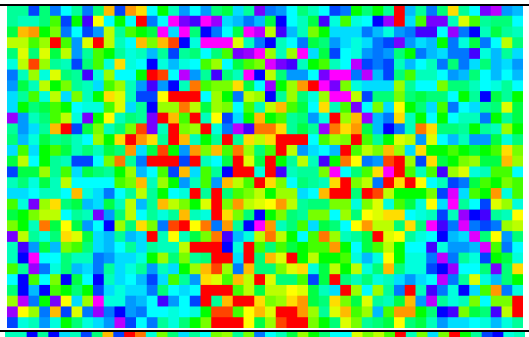
Site topography:

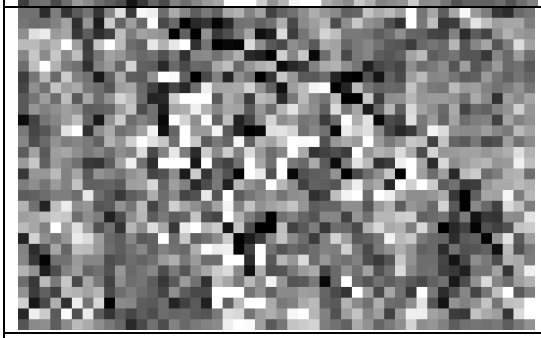
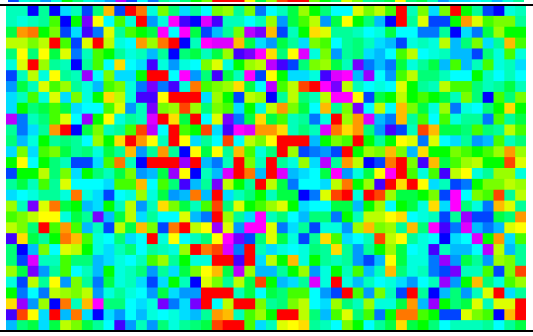
Coarse mown grass field almost level on the north then sloping down to the south.

Results:

The images in this section are orientated for presentation. The images are not to a common scale.

Resistivity survey

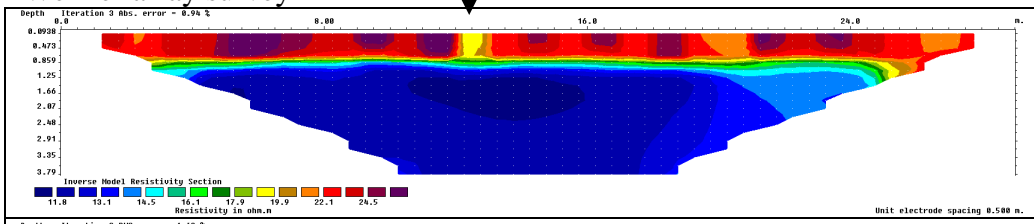
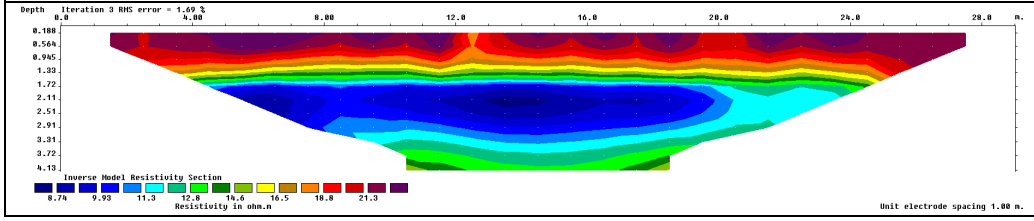
<table>
<tr><td>  </td><td>  </td><td>Resistivity 48 m x 30 m

Raw data</td></tr>
<tr><td>  </td><td>  </td><td>High pass filter 8</td></tr>
<tr><td>(black – low, white – high)</td><td>(purple/blue – low, red – high)</td><td></td></tr>
</table>

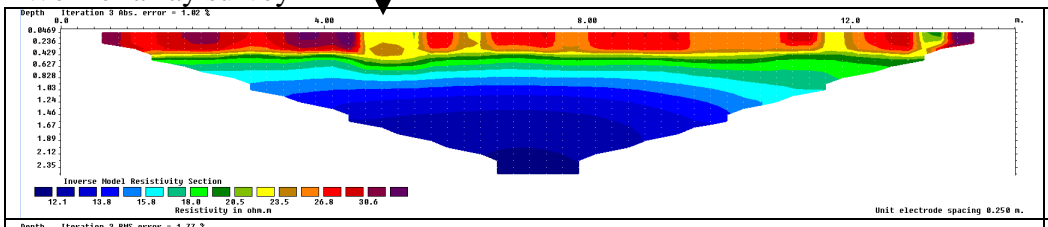
Note resistance tomography data processing allows considerable variation in the model which adjusts the image. The code defines the key parameters which are only meaningful within the Res2Dinv programme used. Where "ref" is in the code the theoretical probe separation given in the image is half of the actual separation.

Two different processing methods are presented for each data set below. An arrow indicates the intersection of the estimated line of the pipe with the survey line.

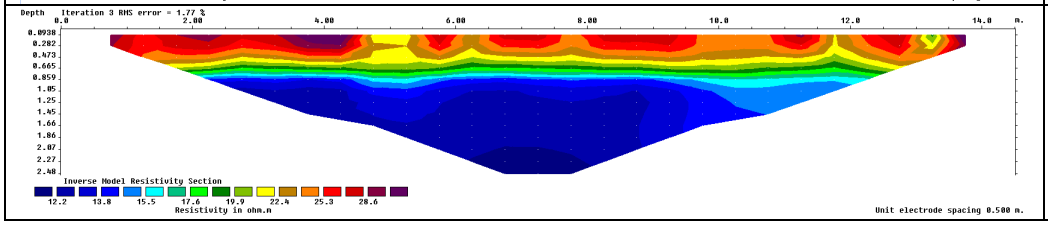
Wenner array survey A

<table>
<tr><td>  </td><td>29 m long
probe spacing
1 m
Code
2RRYYNref</td></tr>
<tr><td>  </td><td>Code
2SSYYN</td></tr>
</table>

Wenner array survey B

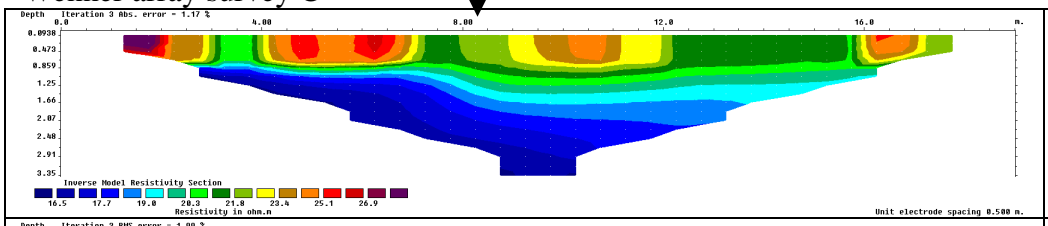


14.5 m long
probe spacing
0.5 m
Code
1RRYYNref

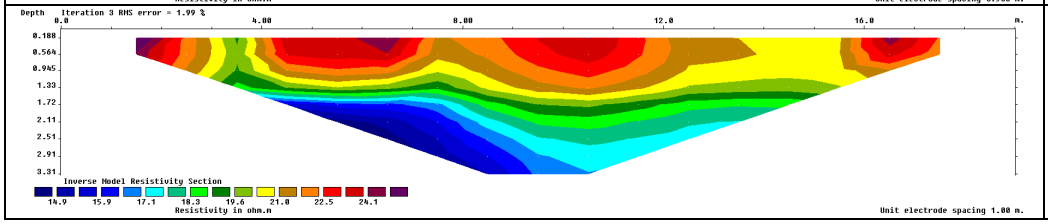


Code
1SSYYN

Wenner array survey C

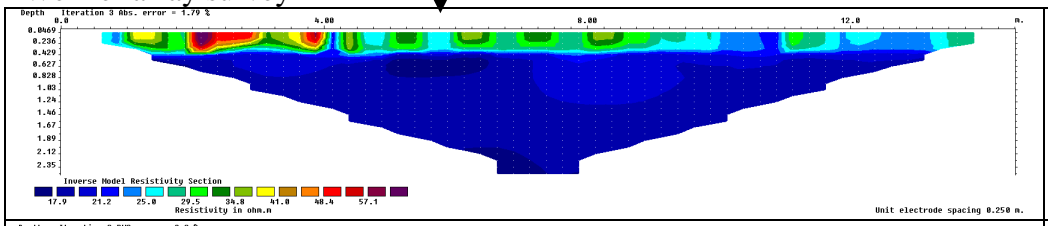


19 m long
probe spacing
1 m
Code
3RRYYNref

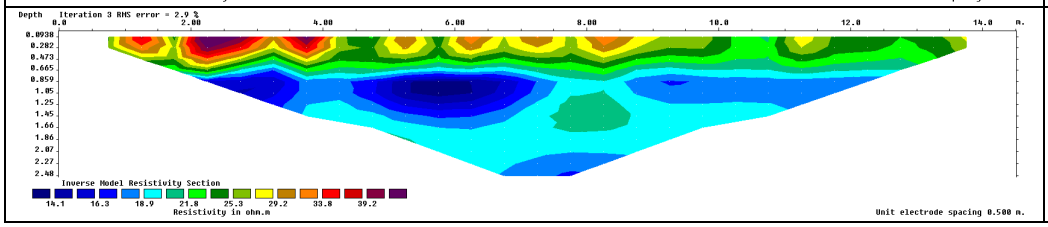


Code
3SSYYN

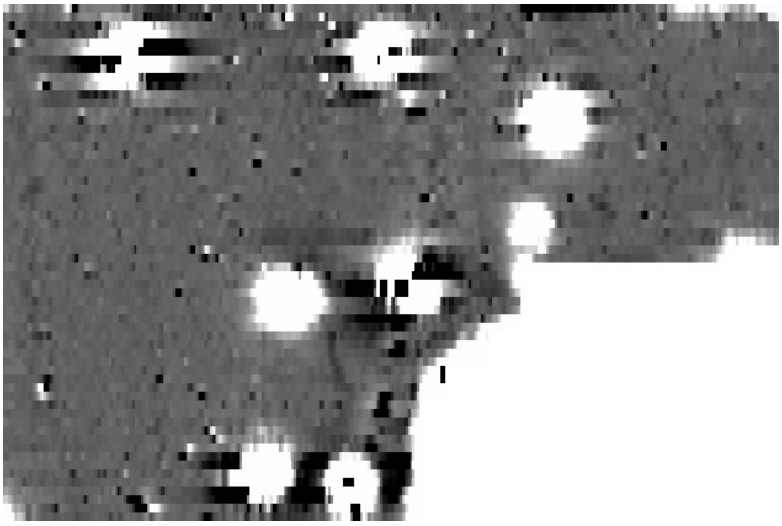
Wenner array survey D



14.5 m long
probe spacing
0.5 m
Code
4RRYYNref

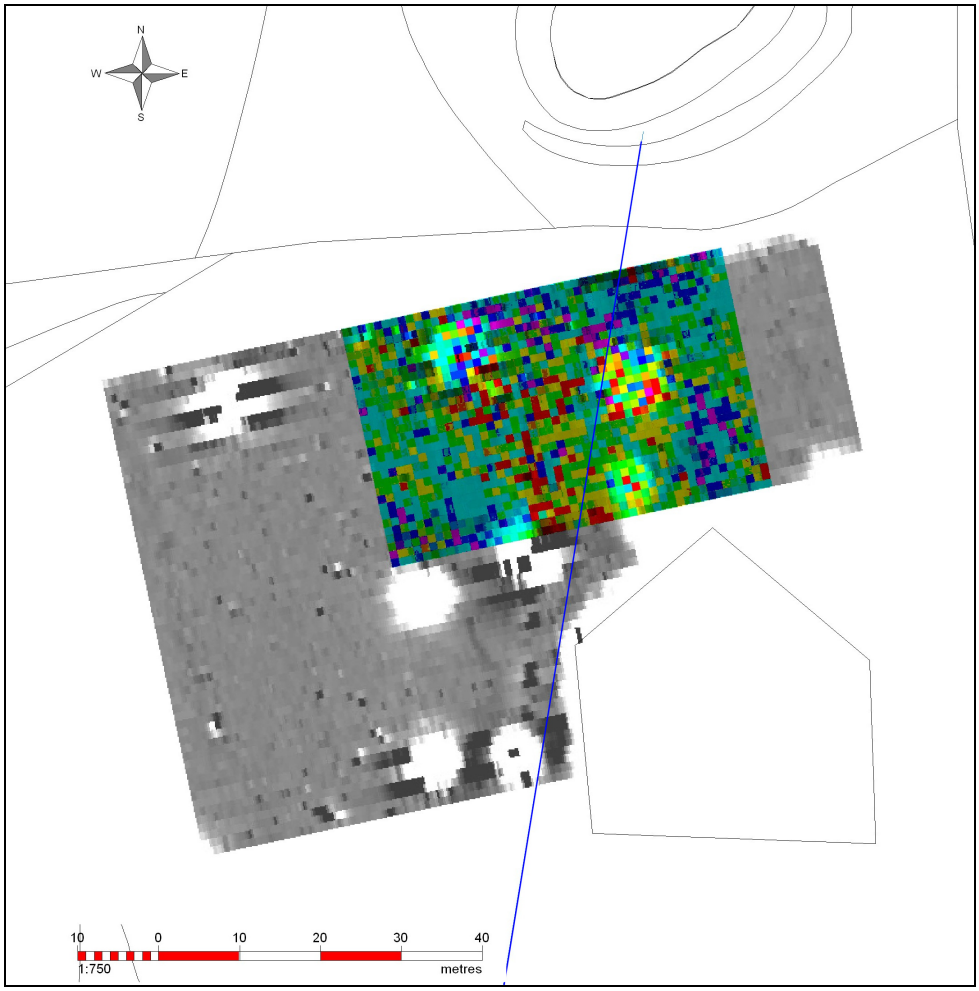


Code
4SSYYN

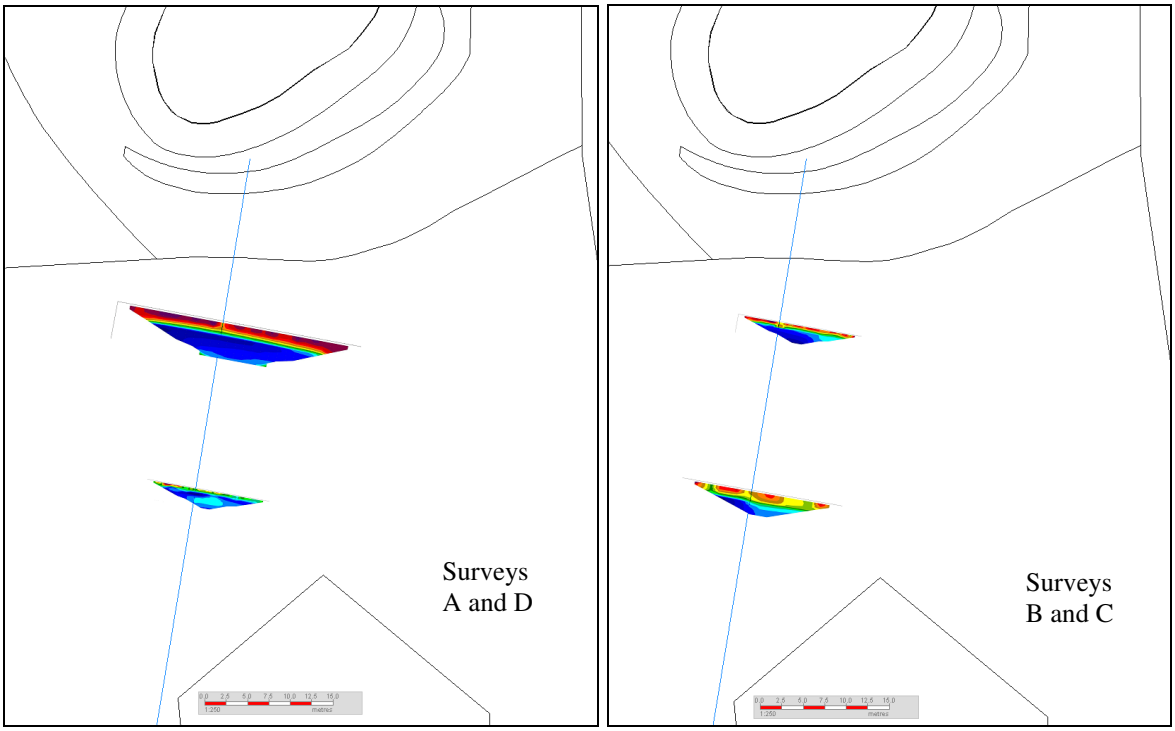


N

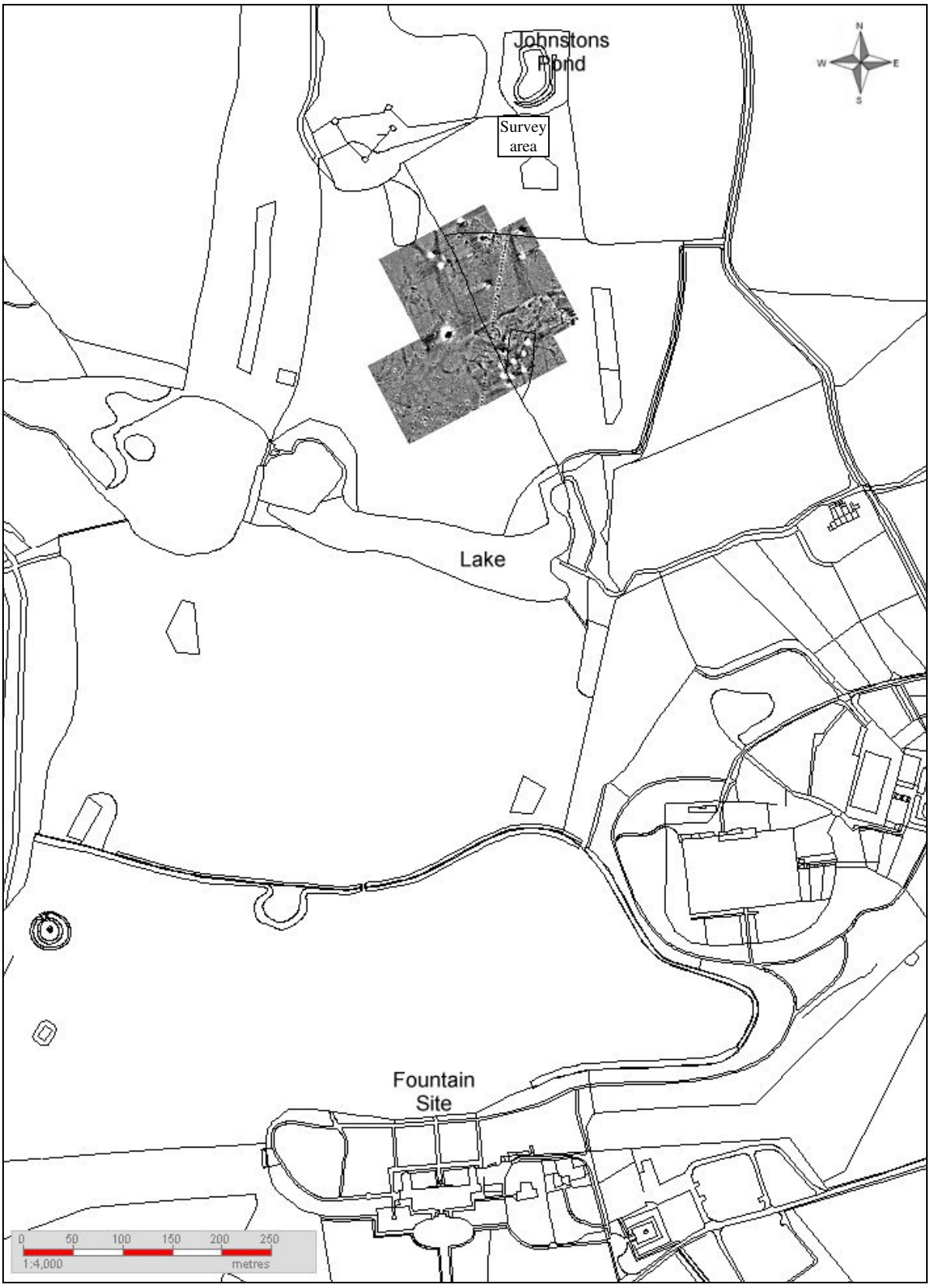
Magnetometry survey 90 m x 60 m range +6 to -10 nT



Superimposition of magnetometry and resistivity results. The blue line running across the survey area is an extrapolation of the course of the pipe line found in an earlier survey by Archaeology RheeSearch Group (Sanderson 2018), the magnetometry results from the earlier survey are shown in the wider context image below. The pipe line appears as a dotted line running towards Johnston's Pond.



Wenner survey lines along the top edge of each superimposed result with the extrapolated pipe line course shown in blue



Magnetometry results from Archaeology RheeSearch Folly Field report

Discussion:
The planar resistivity survey did not detect a pipe line. The magnetometry survey was affected by a number of metal tree guards and fencing to the SE which obscured any signal from a pipe line.
The results of Wenner survey A and the more detailed survey B both show an anomaly on the extrapolated line of the pipe. Survey B indicates that the feature is 5 m from the start point and about 0.5 m deep. Surveys C and D, about 20 m further south than A and B, give no clear indication of a pipe line. Survey C does suggest an anomaly about 2 m further along from the expected position on the survey line, but this is not substantiated by survey D.

Conclusion:
The likely position of the pipe line identified in our earlier report on Folly Field (Sanderson 2018) was located close to Johnston's Pond but could not be confirmed 20 m further south.

Reference: Sanderson, I. Folly Field Report, Cambridgeshire HER, submitted (2018)

Report by Dr I Sanderson for Archaeology RheeSearch