

**ABINGDON ARCHAEOLOGICAL GEOPHYSICS**  
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**Short Report form no. 2015-07**



**Survey Details**

**Name of site:** Collyweston terraces

**County:** Northamptonshire

**NGR grid reference** Main area centered on Grid ref SK993027.

**Nearest postcode** PE9 3PZ.

**Client:** Rachel Delman, University College, Oxford.

**Purpose of survey:**

To ascertain whether magnetometry and earth resistance surveys could locate a summerhouse which was believed to be in this vicinity as part of larger researches in this area.

**Start date:** 1 September 2015 **End date:** 3 September 2015 **Report date:** 30 September 2015.

### **Geology at site**

The geology is understood, from the Geology of Britain viewer to be Northampton Sand formation or Grantham formation sandstone siltstone and mudstone. Our observations on site indicated that it was a limestone – probably the Lower Lincolnshire limestone member which is supposed to occur further up the slope. A soil sample was kindly analysed for its magnetic susceptibility by Alister Bartlett. He found that it had a reading of  $47.5 \times 10^{-8}$  SI/kg), which is much as expected from highly responsive soil on an Oolite bedrock.

### **Known archaeological sites / monuments covered by the survey**

This is an area in the park and grounds of a medieval palace which is reputed to have been to the north east of the survey area. The survey area included parts of the terraces which may be related to the palace. We understand that the area is a Scheduled Ancient monument number 1003632. Section 42 licence no SL00110768 was obtained on 7 August 2015.

### **Archaeological sites / monument types detected by the survey**

Areas of presumed terrace walls and a possible road. The dates could not be inferred from the geophysics results.

**Surveyor** Abingdon Archaeological Geophysics, Roger Ainslie, Sally Ainslie

### **Location of:**

**a) Primary archive**, i.e. raw data, electronic archive etc  
Abingdon Archaeological Geophysics.  
Also with client

**b) Full report:**  
ditto

### **Technical Details**

Type of survey

A Magnetometer

Area surveyed: 1.0 hectares

Traverse separation, if regular: 1 metre

Reading / sample interval: 8 per metre

Type, make and model of instrumentation: Bartington Grad 601/2 fluxgate gradiometer.

B Earth Resistance

Area surveyed: Area 0.23 hectares.

Traverse separation, if regular: 0.5 metres.

Reading / sample interval: 2 per metre.

Twin probe array.

Mobile probe separation 0.25 metres. This was set as the soil appeared to be thin over the bedrock and a test area over an area at the northern part of the magnetometry area detected walls there.

Type, make and model of instrumentation: TR Systems/CIA resistance meter.

### **Survey Location**

The survey areas were set out using a Trimble proXR gps using the national beacon system for differential correction. There were usually 8 satellites in useful positions and this will have located points to within 0.5 metres.

### **Processing**

ArcheoSurveyor was used to process the data. The processes were destagger and linear smoothing for magnetometry and despiking to remove the occasional bad reading from the earth resistance.

### **Land use at the time of survey**

Short grass used as sheep pasture. Wire fences and agricultural equipment obstructed the survey.

### **Additional remarks**

30 metre grids. First line start NW corner going east zig zag.

### **Results** (refer to plans below)

#### Magnetometry

- 1 Probably pieces of iron. There was evidence of possible walls visible as banks in this grid but magnetometry has not detected these.
- 2 Modern wire fencing.
- 3 An area of high and low readings. These may be associated with a possible culvert taking the water from the spring to the north east to the fishponds.
- 4 Pieces of iron.
- 5 Slight indications of lines of low magnetic response. These may be nothing.
- 6 Agricultural equipment and wire fencing.
- 7 Small linear high anomalies which may be small ditches or similar.
- 8 An area of low anomalies. This could be a track surfaced with limestone or similar low magnetic material.
- 9 Probably pieces of iron but more deeply buried than 4 above.

#### Earth resistance

- 10 An approx north south line of high resistance. This could be a thin wall or where a service pipe trench has been filled with a different material from the surrounding ground.

- 11 Small linear patches of low resistance in an area of high resistance. This could be a small ditch but it is close to the retaining wall of the terrace.
- 12 Linear areas of low resistance with high resistance between them. This could be a track with ditches on its sides.
- 13 A linear area of higher resistance. This could be a retaining wall for the terrace.
- 14 Small patch of low resistance. There was a sheep salt lick in this area and it is possible that salt has got into the ground and lowered its electrical resistance in this area.

## **Conclusions**

The magnetometry appears to have found little other than the trench for the water supply to the fishponds. This is to be expected as locating limestone walls on a limestone natural would be difficult. If the walls had been brick then the position would have been different. The area is also famed for its limestone slates so the absence of any responses from broken ceramic roof slates is not unexpected. The lack of ditches or hearths in the magnetometry results may be credible as a negative result as the magnetic susceptibility of the soil is such that the soil could be expected to show an enhancement caused by burning if it was present.

The earth resistance was more useful but did not locate any definite buildings in the area surveyed. There are traces of possible walls which may have retained the terraces. There is also a narrow line of high resistance (10) which could be a wall or the line of a service pipe trench or similar.

On the main terrace, the line of high resistance with ditch-like low resistance alongside (12) may be a track but this appears to widen at its northern end. Unfortunately the survey did not go further north to investigate the wider area.

If the widened area was the site for a building then an idea of its date may be gained from the construction of the terrace retaining wall. Whilst this is not in the remit of the geophysics, it was noticed that the base of the retaining wall at approx 499390E 302945 N had squared stones of which one at least was carved, see photos below.

It should be borne in mind that geophysics cannot give the full picture and that documentary and map research and even excavation would be necessary to be fully certain of what remains there are here.

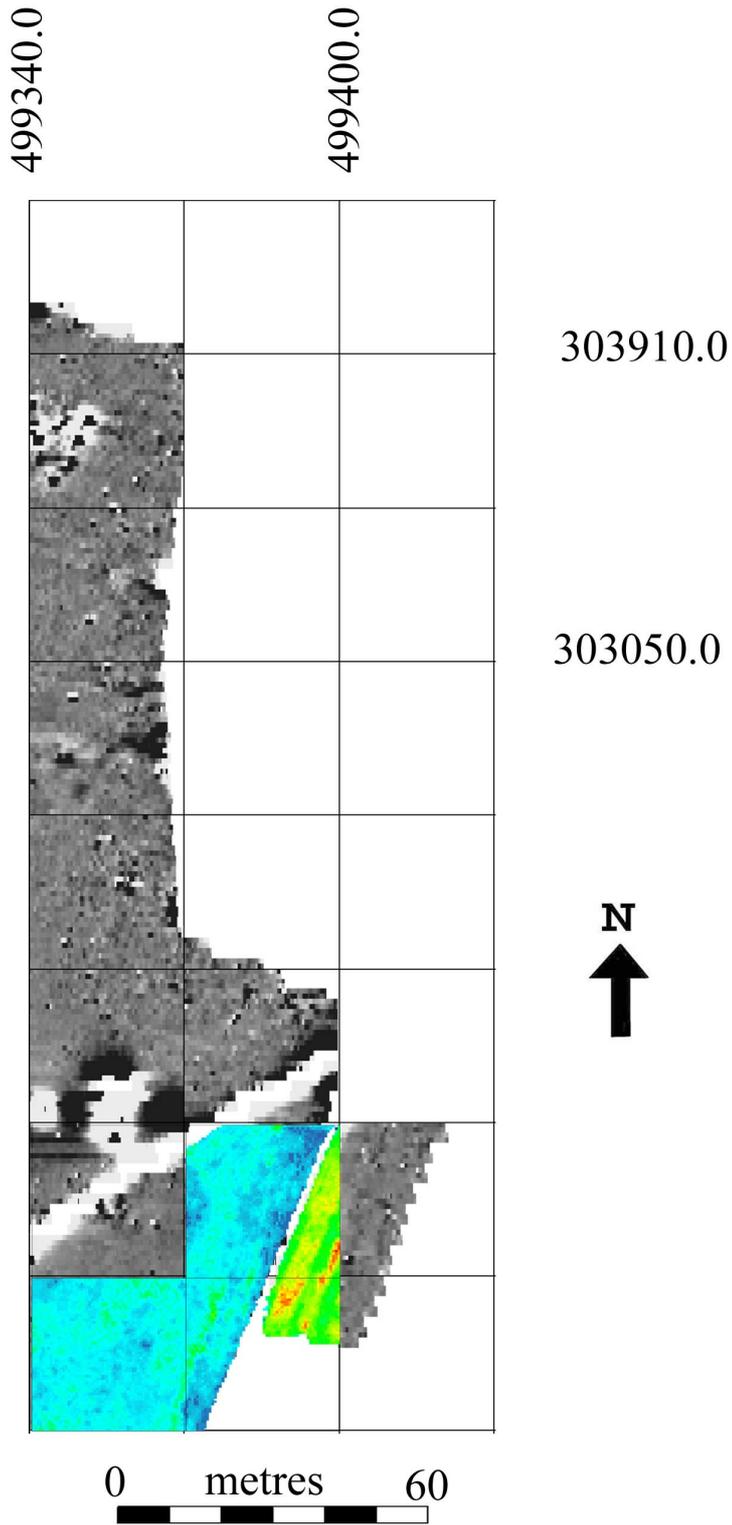
## **REMINDER**

Many features cannot be located by using magnetometry or resistivity. Features including flint scatters and burials may well exist which are not

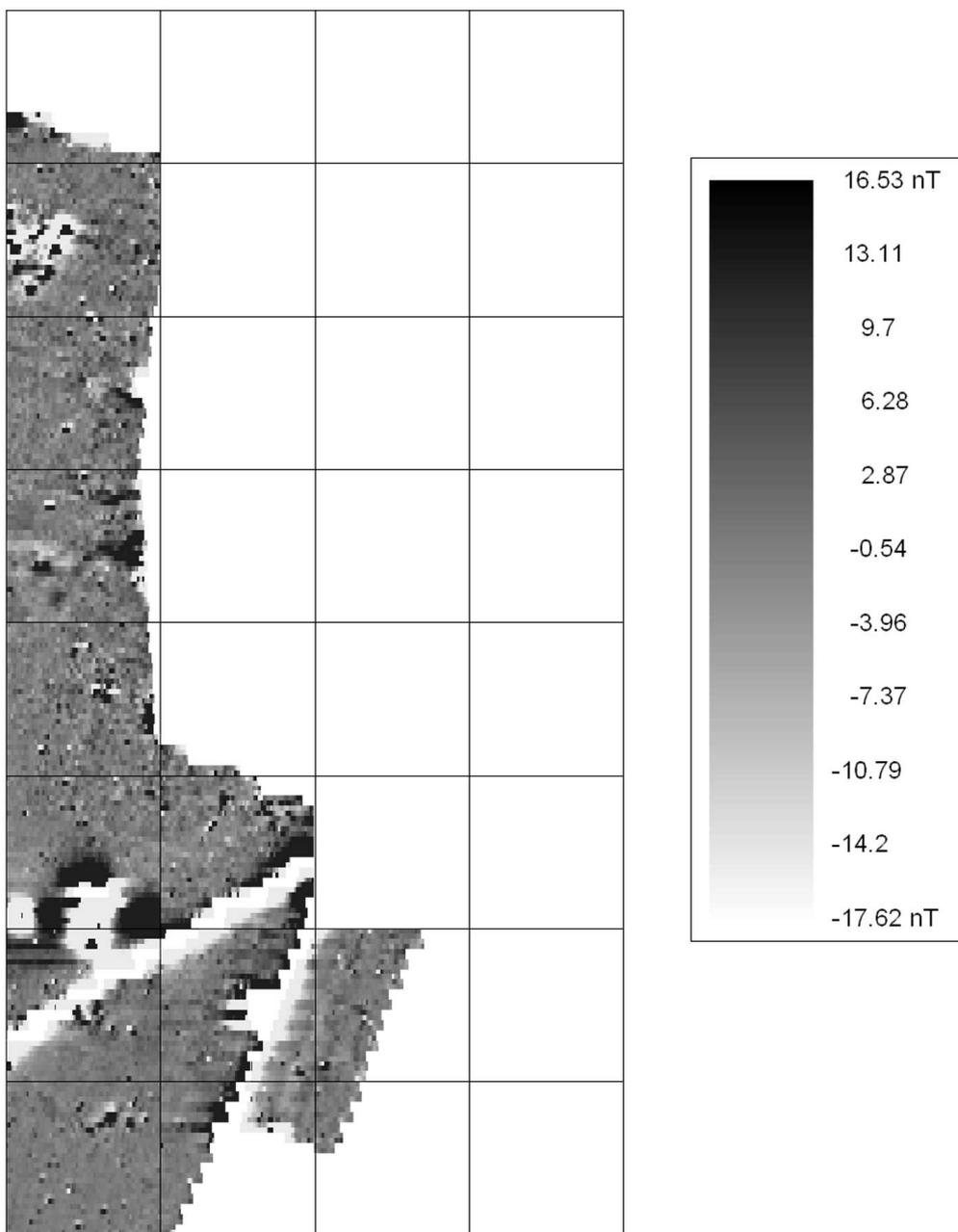
detectable by these survey methods. Failure to locate features does not mean that they are not there.



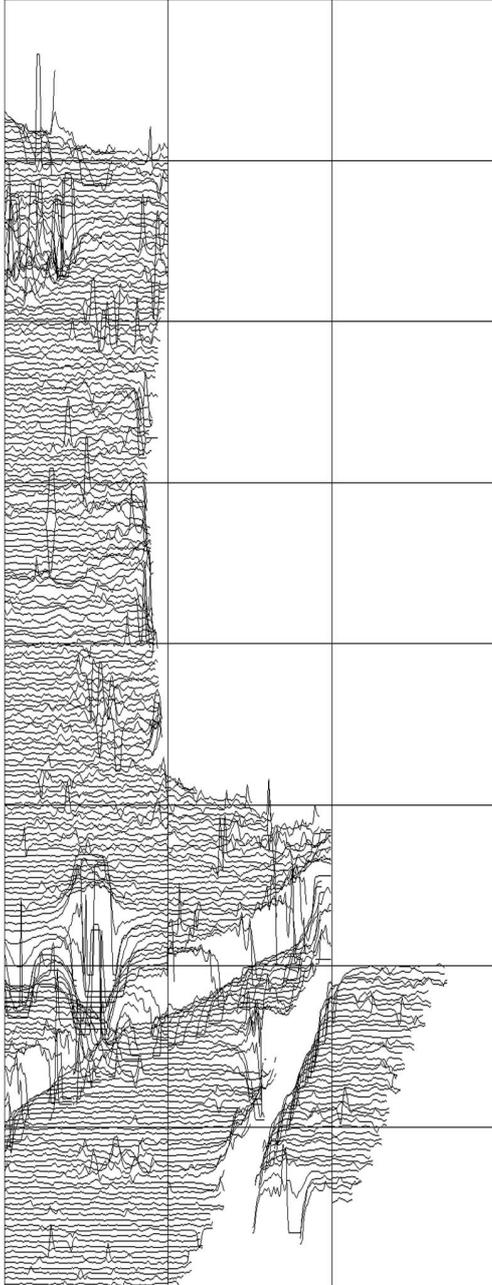
Grid location on Google air photo



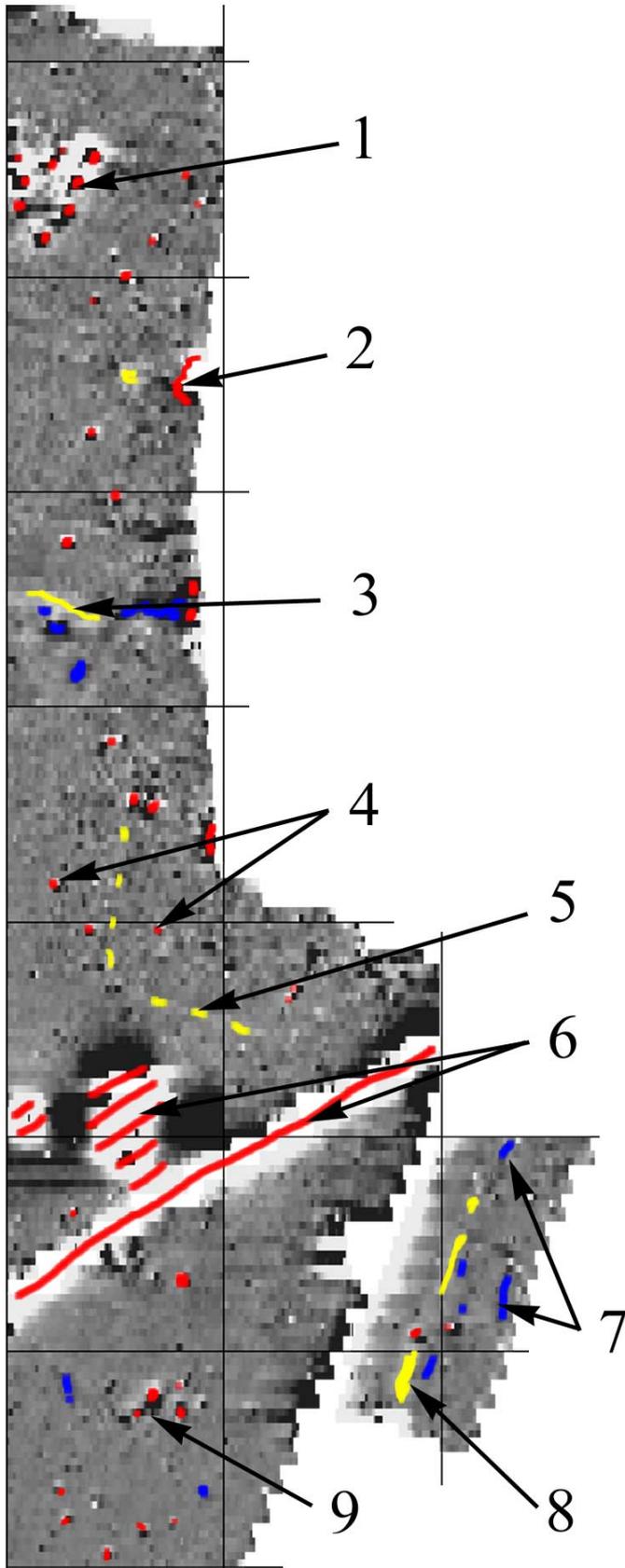
Grid locations



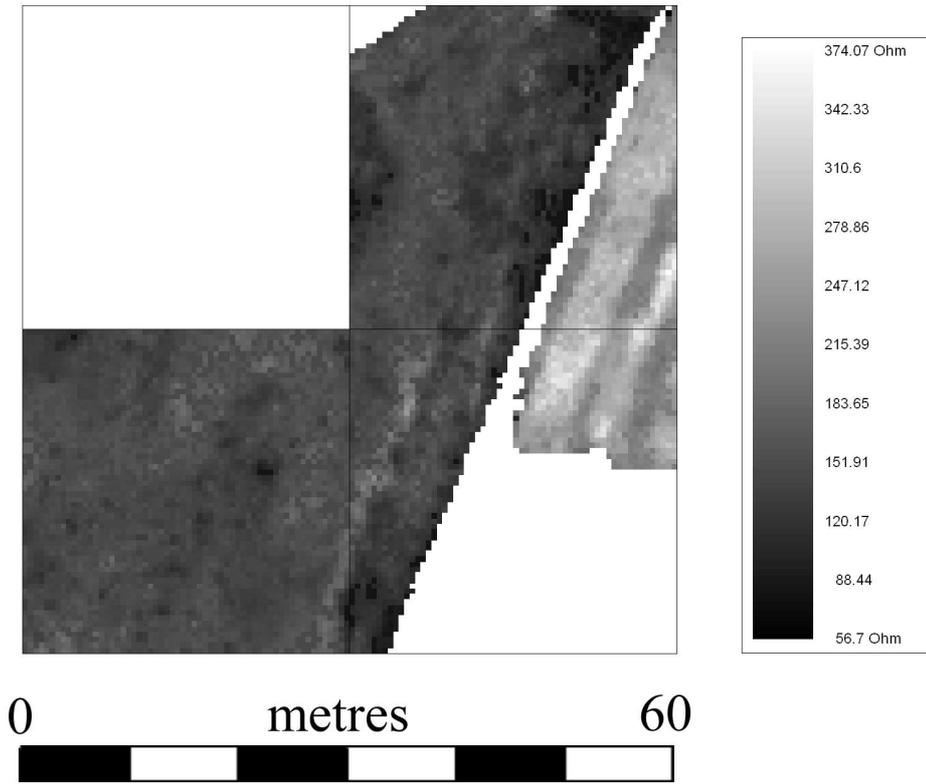
Magnetometry with scale



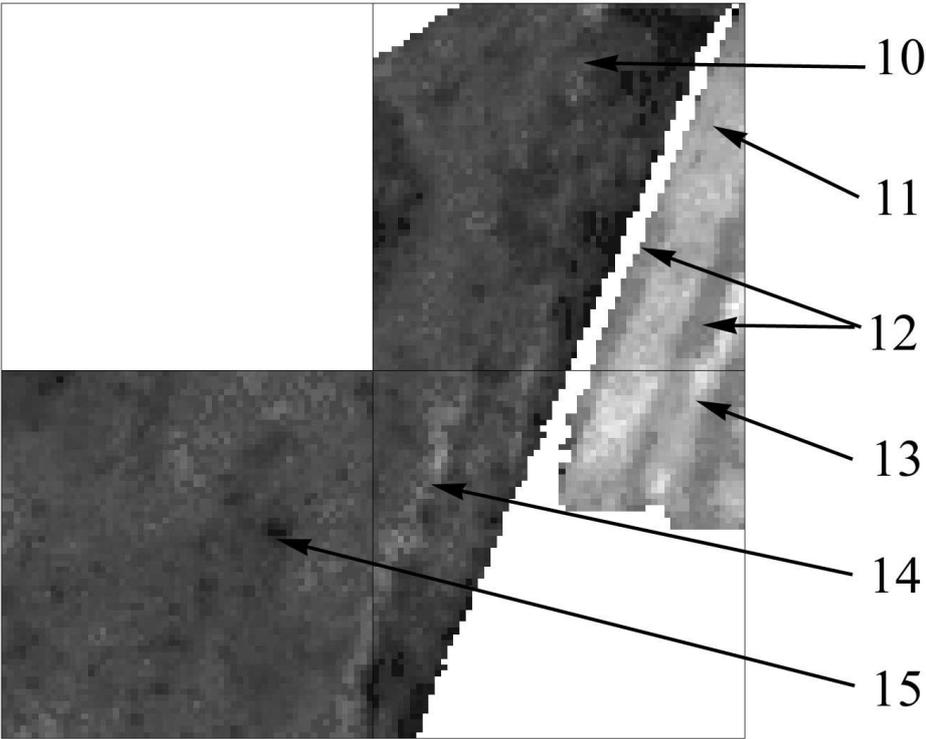
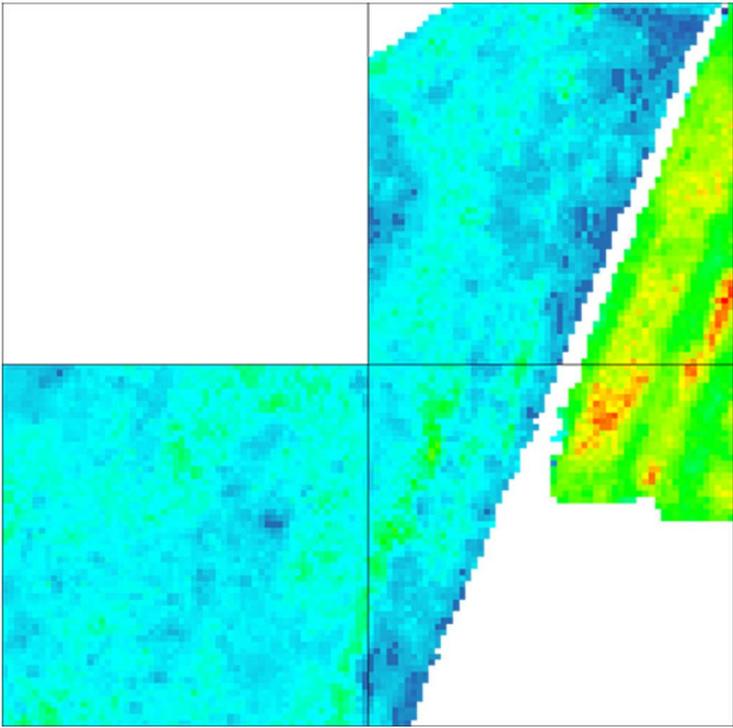
Magnetometry Trace plot clipped to +/-100nT



Magnetometry Interpretation



Earth resistance greyscale



Earth resistance colour and interpretation



Location and detail of terrace retaining wall