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Short Report form no. 2014-11

Survey Details

Name of site: West Field, Totternhoe

County: Bedfordshire

NGR grid reference Centred on SP981 211
Nearest postcode. LU6 1QH

Start date: 2 October 2014 **End date:** 17 October 2014 **Report date:** 1 November 2014

Geology at site

West Melbury marly chalk formation possibly overlain by Quaternary gravels, sands silts and clays.

Known archaeological sites / monuments covered by the survey

It is recorded in the Central Bedfordshire Council Monument record as HER Number 25 - MBD25

In 1899 a series of eight pits or trenches were uncovered in West Field. The trenches contained Roman pottery, roof and floor tiles and animal bones and were interpreted as waste pits

See Worthington G Smith, 1904, *Dunstable: its History and Surroundings*

Archaeological sites / monument types detected by the survey

A series of enclosures and a N-S trackway. Most enclosures are rectangular but these appear to respect a curvilinear enclosure.

Surveyor Abingdon Archaeological Geophysics, Roger Ainslie, Sally Ainslie

Name of client, if any:

Barry Horne, "Beaumont", Church End, Edlesborough, Bedfordshire. LU6 2EP. Tel 01525 221219 email: bhorne@globalnet.co.uk

Purpose of survey:

The client wanted to know more about the cropmark site identified by Angela Simco on an air photograph as he suspects it is the first location of Totternhoe villa.

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, if applicable : 4.7 hectares
Traverse separation, if regular: 1 metre
Reading / sample interval: 8 per metre
Type, make and model of instrumentation: Bartington Grad 601/2

B Earth Resistance

Area surveyed, if applicable: 0.4 hectares
Traverse separation, if regular 1 metre
Reading / sample interval: 1 per metre
Type, make and model of instrumentation: TR Systems/CIA resistance meter.
Twin probe array, 0.5 metre mobile probe separation.

Land use at the time of survey

Arable field ploughed and cultivated.

Additional remarks

30 metre grids. First line start NW corner going east zig zag.
Grids aligned on National Grid.

Results (refer to plans below)

Magnetometry

- 1 Enclosure ditch. The N-S one shows better than the E-W one as the magnetometer survey traverses went east-west. Remains in the northern and eastern parts of the survey area may also be less detectable as they are more deeply buried under colluvium.
- 2 Probably ridge and furrow.
- 3 Enclosures which appear to but onto a N-S trackway.

- 4 Horseshoe shaped enclosure. This appears to be earlier than the main enclosures but later than the E-W ditch (8 below).
- 5 Possible roundhouses. One is fairly clear but there may be others in this area.
- 6 Curved ditch. This is not very clear but appears to respect the horseshoe enclosure (4) and also cross the north - south track.
- 7 Pair of parallel ditches. Possibly a minor trackway.
- 8 East – west ditch approximately parallel to the present field boundary and footpath. This may, from the way (4) butts up to it, be the earliest feature although this relationship will need to be investigated further.

Resistivity

- 9 E-W ditch-like anomaly. This may possibly not be the one visible on the air photograph which appears to be to the south of this anomaly.
- 10 Low resistance ditches which appear to coincide with those visible on the magnetometry plot.
- 11 High resistance areas. Unfortunately the area surveyed does not enable them to be interpreted. Although this area is one of the lowest in the field, the earth resistance here is high. This may be influenced by the deep (approx 1.8m) ditch on the eastern side of this field which may lower the water table in its vicinity. This ditch appears to cross the slope of the ground and is thus presumably man made rather than being a natural watercourse.
- 12 Curved low resistance anomaly which is also visible in the magnetometry results.
- 13 Small E-W ditches, some of which are visible in the magnetometry results. These appear to be less detectable to the east.
- 14 Although the anomaly, which is probably an iron pipe, is visible to magnetometry its trench was not very clear in the resistivity results. A larger survey area could have given more clarity.

Conclusions

The magnetometry did not locate the villa which had been anticipated from some cropmarks visible on air photos. This may be because there were many pottery and brick and tile fragments on the field. These were in small pieces and were mainly of post medieval and later date although there was some Roman pottery on the surface. This could have obscured fainter anomalies from detection using magnetometry.

If the villa had been on the northern part of the survey area one would have expected it to have had a lot of burning in its ditches and piles of roof tile and brick which are usually detectable using magnetometry.

The ground slopes downwards from the south western corner of the field and the colluvium may be greater at the bottom of the slope and be burying remains to below the detection of the magnetometer.

Some ditches were located with earth resistance transects where these were not detected by magnetometry but the presence of earth leakage currents towards the northern end of the survey area made this a very slow method. It is likely that a wider spacing of mobile probes may be able to detect even more deeply buried features but this will depend on soil conditions at the time of survey.

The enclosures which were detected are partially visible on some Google Earth photos although they are far clearer on the magnetometry plot. Their date and purpose cannot be ascertained by our geophysical methods. There could well be several phases of occupation.

Slight traces of N-S ridge and furrow were located. The furrows appear to be some 15 metres apart which may relate to Worthington Smiths' "trenches" but those were some 25 -30 feet apart.

REMINDER

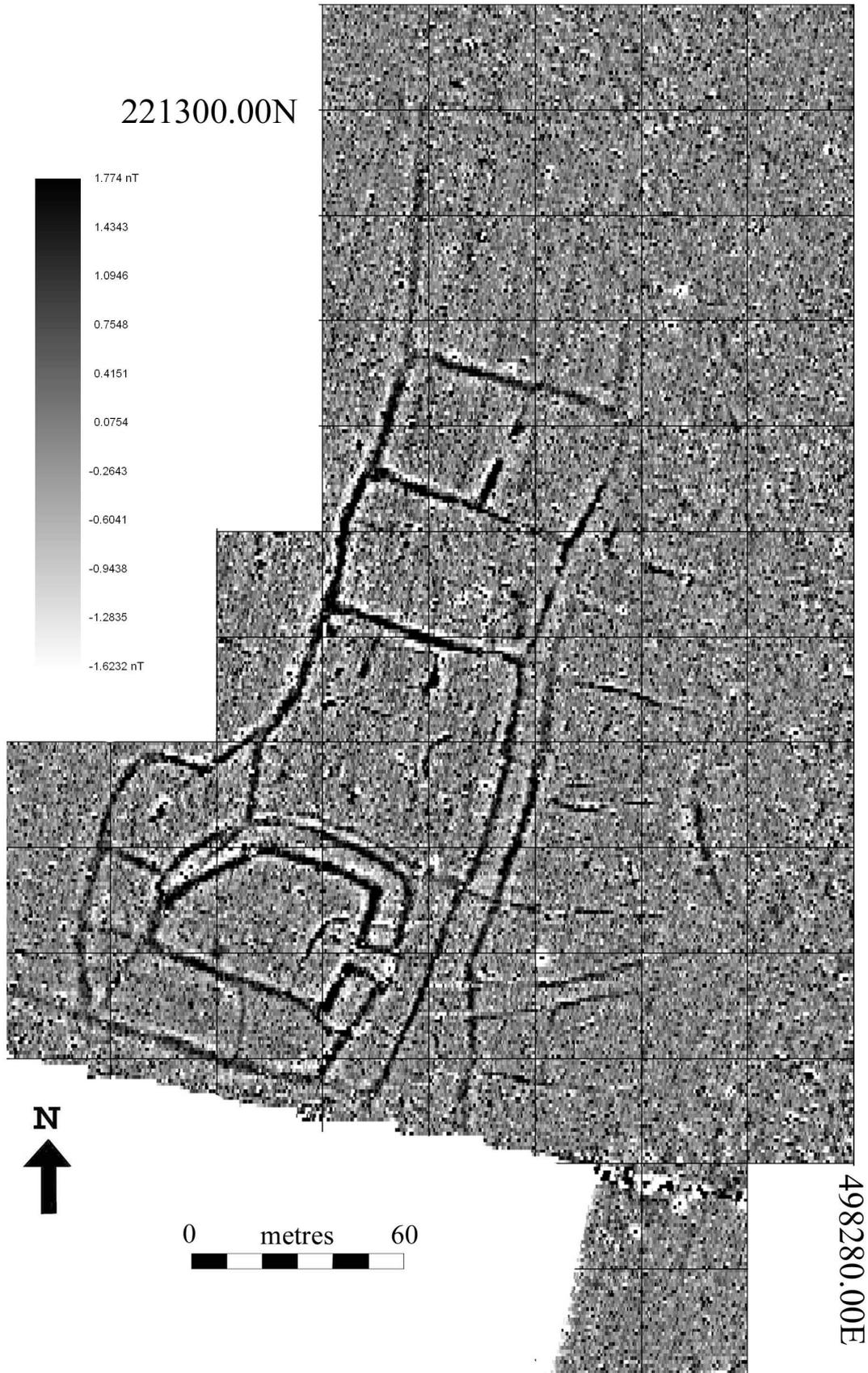
Many features cannot be located by using magnetometry or resistivity. Features including flint scatters and burials may well exist which are not detectable by these survey methods. The failure to locate remains does not mean that they are not there.



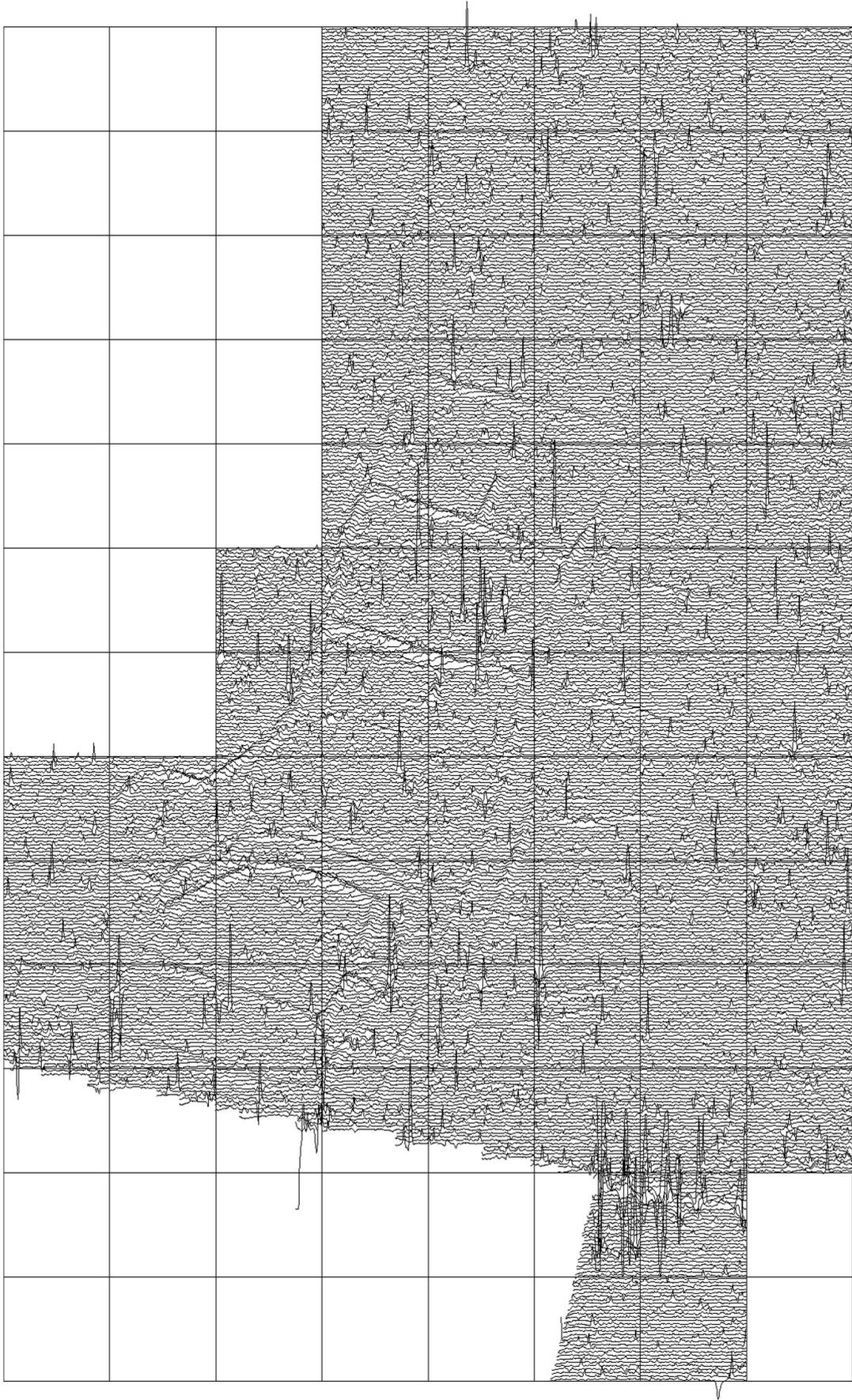
LOCATION . Magnetometry and resistivity on Google Earth base.



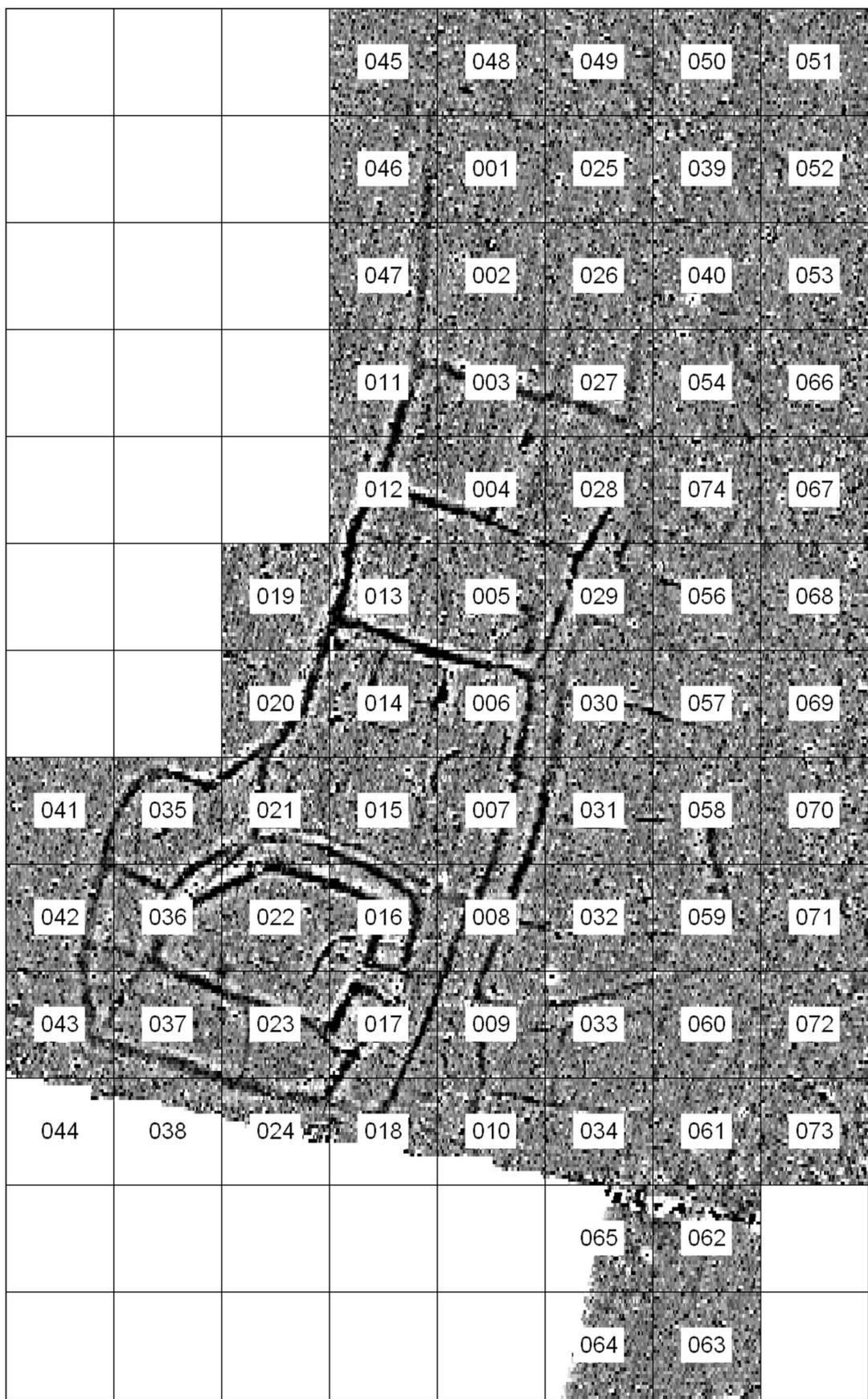
LOCATION . Resistivity on air photo base. Courtesy of Central Bedfordshire Council.



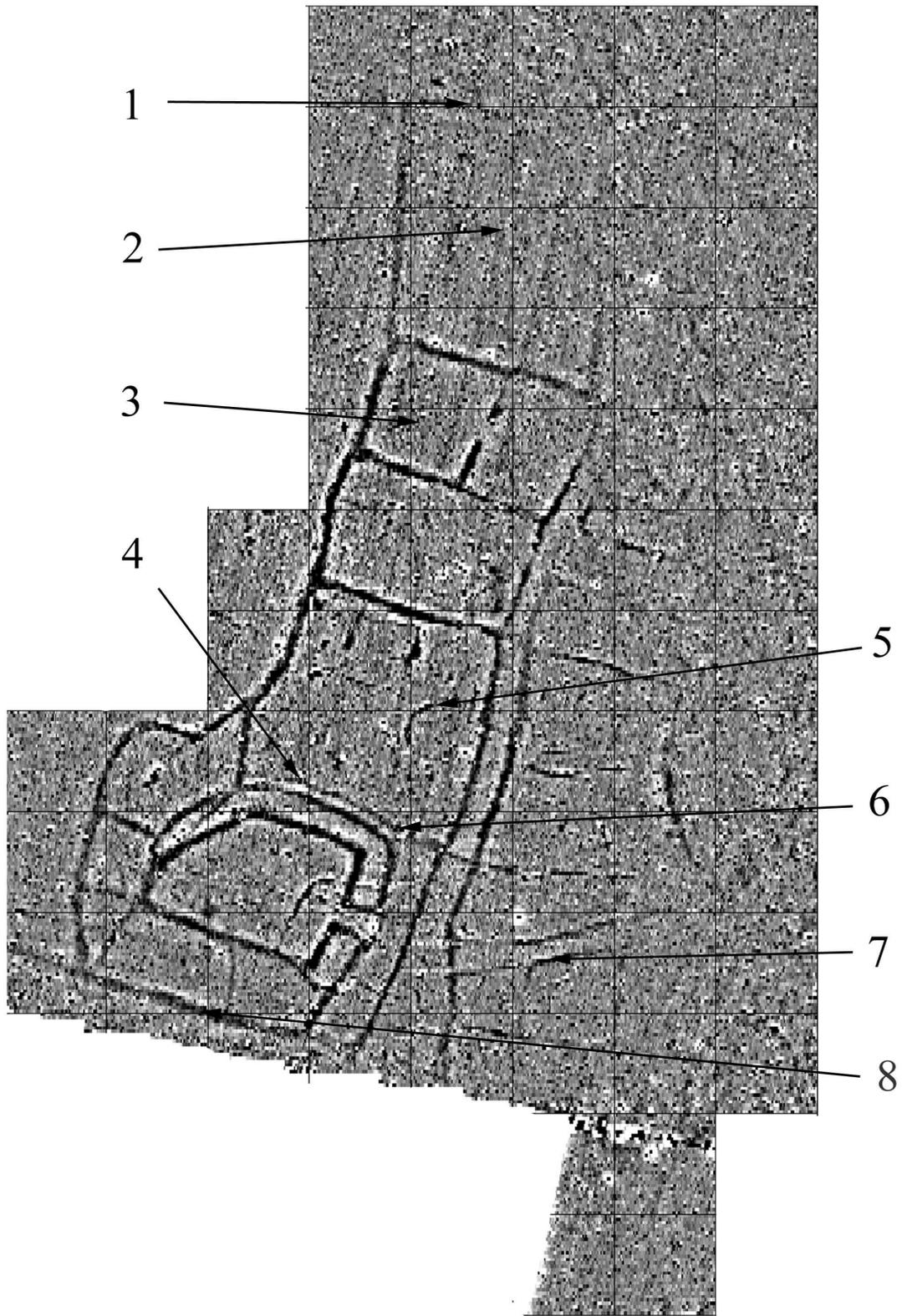
LOCATION Grid co-ordinates and magnetometry scales.



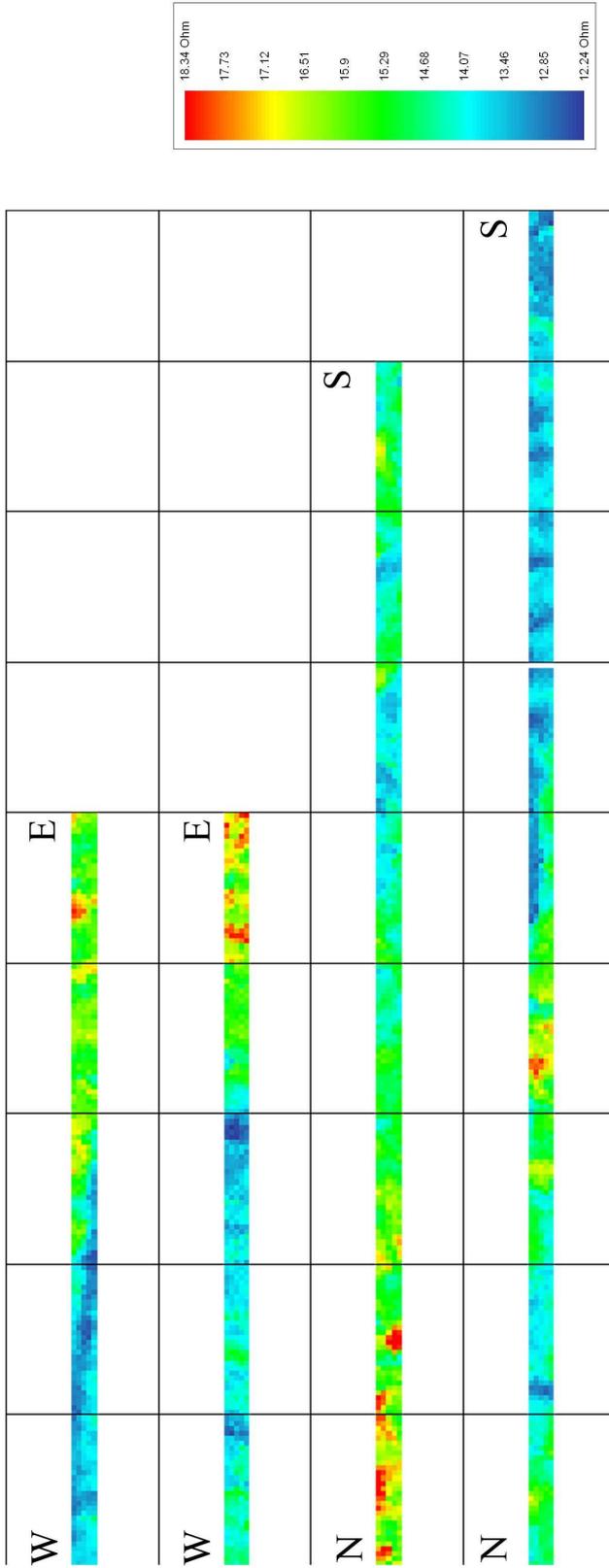
Trace plot clipped to +/- 100nT



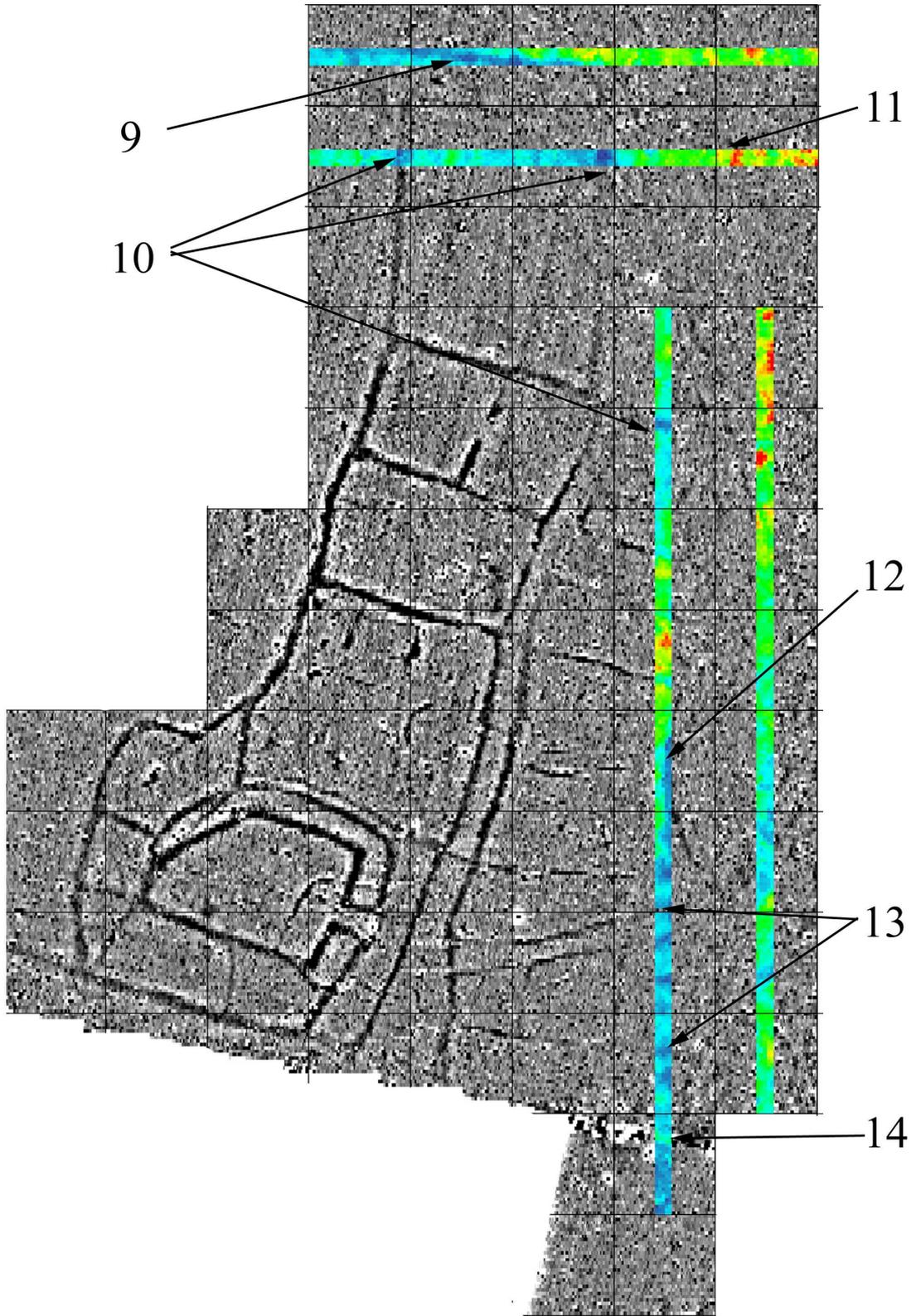
Magnetometry Grid order



Magnetometry Interpretation



Earth Resistance detail



Earth Resistance Interpretation