

# LAND NORTH OF ENNOR CASTLE

ST. MARY'S

ISLES OF SCILLY

CORNWALL

Results of a Geophysical Survey



South West Archaeology Ltd. report no. 190507



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# Land north of Ennor Castle, St Mary's, Isles of Scilly, Cornwall

## Results of a Geophysical Survey

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Work undertaken by SWARCH for Cornwall Archaeological Unit (CAU)

### *SUMMARY*

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*South West Archaeology Ltd. (SWARCH) was commissioned by Cornwall Archaeological Unit (the Client) to undertake a geophysical survey on land north of Ennor Castle, St Mary's in the Isles of Scilly, as part of the pre-development works required for the proposed development.*

*The proposed development site is located immediately north of Old Town, with Ennor Castle and the majority of Old Town to the south; a few residential properties lie to the east of the site across Old Town Lane. The airport lies further to the east with Lower Moors to the west.*

*The geophysical survey identified very few features within the site, and none corresponding to the historic mapping of the area, or to known heritage assets within the landscape. The anomaly groups present seem to primarily relate to modern utilities. The slight change in response towards the eastern edge of the site may represent near-surface geology as well as buried utilities. The results of the geophysical survey would suggest that no clear features of archaeological interest lie within the site boundary.*

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The views and recommendations expressed in this report are those of South West Archaeology Ltd. and are presented in good faith on the basis of professional judgement and on information available at the time of production.

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## ACKNOWLEDGEMENTS

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CORNWALL ARCHAEOLOGICAL UNIT (THE CLIENT)  
CORNWALL COUNTY HER

## PROJECT CREDITS

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## 1.0 INTRODUCTION

**LOCATION:** LAND NORTH OF ENNOR CASTLE  
**PARISH:** ST MARY'S  
**COUNTY:** CORNWALL  
**NGR:** SV 91441 10454  
**SWARCH REF.** SMEC19

### 1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Cornwall Archaeological Unit (the Client) to undertake a geophysical survey on land north of Ennor Castle, in support of a planning application for a proposed development.



FIGURE 1: SITE LOCATION.



## 1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The site comprises a single pasture field to the north of Ennor Castle and The Old Town Inn, and north-west of The Old Chapel. The field is on a very slight north-west facing slope at an altitude of c.5m AOD overlooking the Lower Moors. The soils of this area are the well-drained gritty loamy soils with an occasional humose surface horizon of the Moretonhampstead association; with the permeable coarse loamy soils with a humose or peaty surface horizon of the Laployd Association to the west (SSEW 1983). The boundary between these associations is not entirely clear and may occur within or immediately beyond the site boundary. These soils overlie the igneous granite from the Isles of Scilly Intrusion; superficial deposits of clay, silt, sand and gravel are identified close to the site and may occur within the site (BGS 2019).

## 1.3 HISTORICAL BACKGROUND

The site is located to the north of Ennor Castle, which occupies a prominent position to the north of Old Town Bay. The earliest reference to the castle is 1244, at which time Ennor would have been the main settlement on the island, although it was somewhat eclipsed following the construction of the Star Castle in the 16<sup>th</sup> century. The two other principal elements making up the remains of Old Town or Ennor as a medieval settlement are the Old Quays and the Old Church which surround Old Town Bay. The early 20<sup>th</sup> century Ordnance Survey map (Figure 2) shows the layout of the site. The track along the southern border of the site is not depicted on this map, though the boundary running across the site does partially follow the line of the track. There is no remaining evidence of the boundary running north-south across the site, presumably a fence. A windpump is shown on the northern boundary of the site.

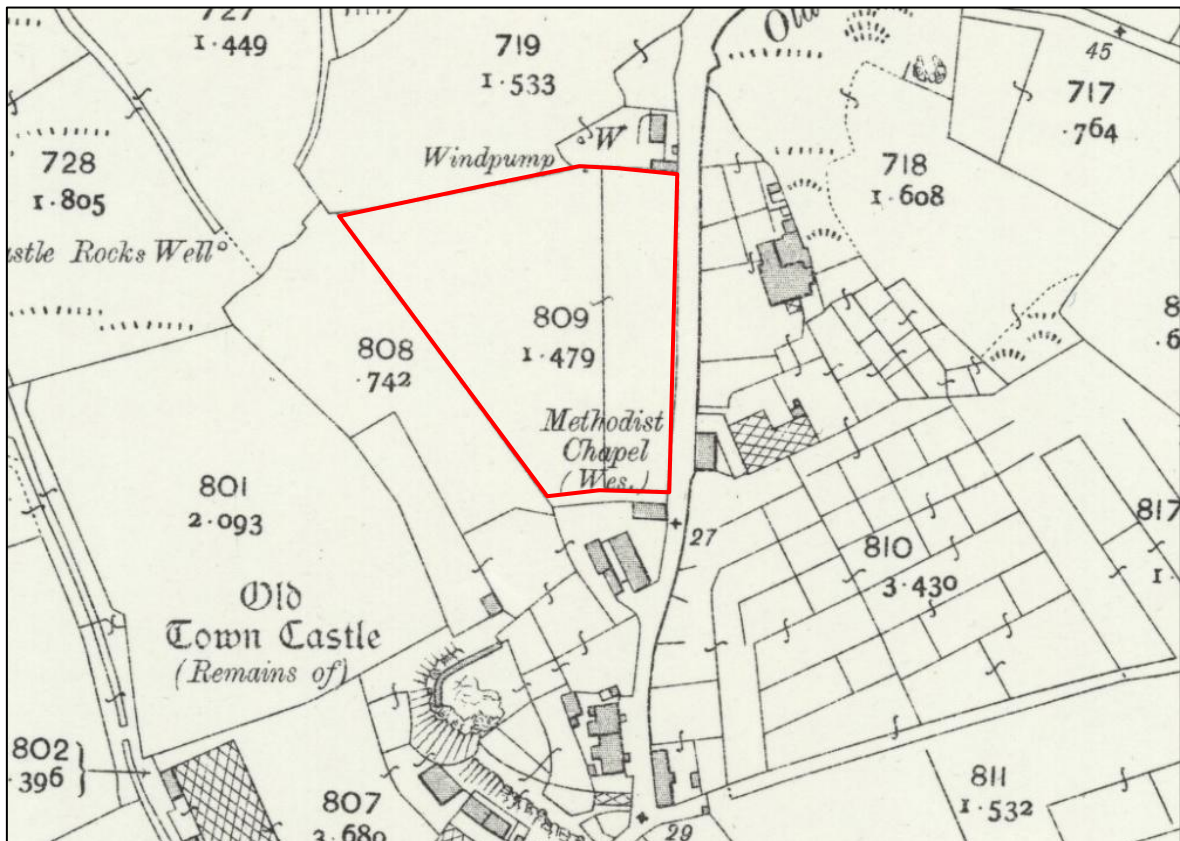


FIGURE 2: EXTRACT FROM THE OS 25" MAP, PUBLISHED 1908 (SURVEYED 1906) (CORNWALL SHEET LXXXVII.11); THE SITE IS INDICATED.

## 2.0 GEOPHYSICAL SURVEY

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### 2.1 INTRODUCTION

An area of c. 0.5ha was the subject of a magnetometry (gradiometer) survey. The purpose of this survey was to identify and record magnetic anomalies within the proposed site. While identified anomalies may relate to archaeological deposits and structures the dimensions of recorded anomalies may not correspond directly with any associated features. The following discussion attempts to clarify and characterise the identified anomalies. The survey was undertaken on the 4<sup>th</sup> June 2019 by P. Bonvoisin; the survey data was processed by P. Bonvoisin.

### 2.2 METHODOLOGY

The gradiometer survey follows the general guidance as outlined in: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (ClfA 2014b).

The survey was carried out using a twin-sensor fluxgate gradiometer (Bartington Grad601). These machines are sensitive to depths of up to 1.50m. The survey parameters were: sample intervals of 0.25m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation was circumstantial, grid squares of 30×30m. The gradiometer was adjusted ('zeroed') every 0.5-1ha. The survey grid was tied into the Ordnance Survey National Grid. The data was downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.25.0*. The primary data plots and analytical tools used in this analysis were *Shade* and *Metadata*. The details of the data processing are as follows:

Processes: Clip +/- 3SD; DeStripe Median Sensors: Grids: All.

Area Details: 0.44695ha surveyed; Max. 98.86nT, Min. -109.47nT; Standard Deviation 11.67, mean -0.56nT, median 0.00nT.



FIGURE 3: VIEW ACROSS THE SITE, LOOKING TOWARDS ENNOR CASTLE; VIEWED FROM THE NORTH (NO SCALE).



## 2.3 SITE INSPECTION

The site was under pasture at the time of survey, having been recently cut. The scorchmarks of a bonfire were observed to the north-eastern corner of the site, although any debris had been removed prior to the survey. The western, northern and eastern boundaries of the site consisted of overgrown hedgebanks, mostly comprised of granite stone-faced earth banks. The northern boundary of the site comprised of a granite boulder wall with mature trees lining it; the southern boundary of the site was marked out by the track towards Blue Cottage Barn. A small area to the north-east of the site contained some mature trees. The eastern boundary of the site abuts Old Town Lane, with the hill topped by St Mary's airport rising to the east. Old Town and Ennor Castle lie to the south of the site. Ennor castle is clearly visible but now mostly overgrown. To the north and west of the site pasture fields, with wetlands further to the north-west. A full complement of site photographs can be found in Appendix 2.



FIGURE 4: VIEW OF THE SITE FROM ENNOR CASTLE; VIEWED FROM THE SOUTH (THE SITE IS INDICATED; NO SCALE).

## 2.4 RESULTS

Table 1, with the accompanying Figures 5 and 6, shows the analysis and interpretation of the geophysical survey data. Additional graphic images of the survey data can be found in Appendix 1.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Positive linear, possible	Linear	Possible cut feature	Indicative of a cut feature, but the weak response and form do not present a clear feature. Responses of c.+2nT to +1nT.
2	Mixed response, probable	Amorphous ovoid	Magnetic disturbance	Indicative of a ferrous object or similar magnetic debris, but too large a response to be classified as a Di-Polar anomaly. Responses of c.-56.30nT to +22.78nT.



Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
3	Mixed response, probable	Ovoid	Possible modern utility	The high response is indicative of a modern feature or disturbance. Responses of c.-100.32nT. to +97.99nT.
4	Mixed response, probable	Rectilinear area	Modern utility	The high response is indicative of a modern feature or disturbance. Corresponds to the protruding utility within the south-east corner of the site. Responses of c.-107.99nT to +81.57nT.
5	Mixed response, probable	Rectilinear area	Possible modern utility	The high response is indicative of a modern feature or disturbance. Responses of c.-99.48nT to +98.85nT.
6	Mixed response, probable	Ovoid	Possible modern utility	The high response is indicative of a modern feature or disturbance. Responses of c.-99.85nT to +98.85nT.

## 2.5 DISCUSSION

The survey identified six groups of anomalies showing clear features within the survey area; the characteristics of most of these features suggest that they represent modern features or utilities. No anomaly groups relate directly to features shown on the historic mapping of the site. The background response in the eastern edge of the site may indicate near-surface geology.

Group 1 (very weak positive, possible, c.+1.5nT), is indicative of cut feature, although the weak response and form may indicate this is not a distinct feature. May correspond to the utility pipe known to run along the eastern boundary of the site, as it does appear to run roughly south of anomaly group 5.

Group 2 (strong mixed, probable, c.-57nT to +23nT), is indicative of magnetic disturbance, possibly a ferrous object.

Groups 3, 4, 5 and 6 (very strong mixed, probable, c.-100nT to +100nT) are indicative of modern utilities due to the strength of the response. Anomaly group 4 is visible above ground and corresponds to water management for a house to the east. Anomaly group 5 lies directly north of anomaly group 1 and may correspond to the known utility running along the eastern boundary of the site.

Di-Polar anomalies and magnetic disturbance are present across the site; with no clear pattern to the Di-Polar anomalies and the magnetic disturbance, it is most likely to correspond to metallic objects or boundaries along the edges of the site.

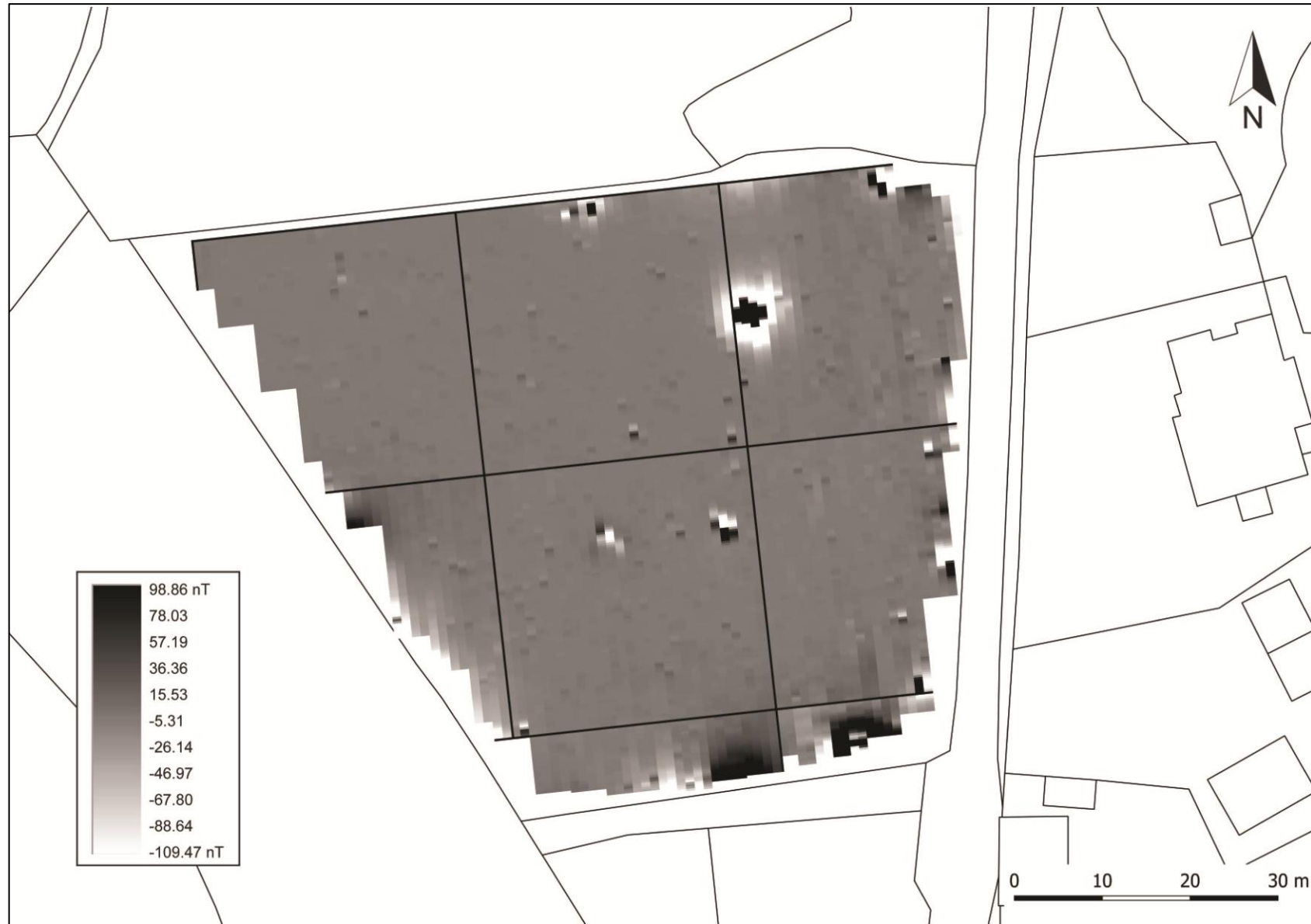


FIGURE 5: SHADE PLOT OF GRADIOMETER SURVEY DATA; GREYSCALE.



FIGURE 6: INTERPRETATION OF GRADIOMETER SURVEY DATA.

### 3.0 CONCLUSION

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The site is located immediately to the north of Old Town, with Ennor Castle and the majority of Old Town to the south. The geophysical survey identified very few features within the site, and the anomalies present appear to relate to modern utilities. The slight change in response towards the eastern edge of the site may represent near-surface geology as well as buried utilities. The results of the survey would suggest there are no clear features of archaeological interest.

### 4.0 BIBLIOGRAPHY & REFERENCES

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[www.bgs.ac.uk](http://www.bgs.ac.uk)

*NLS*

1908 OS 25" map (surveyed 1906)



APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY

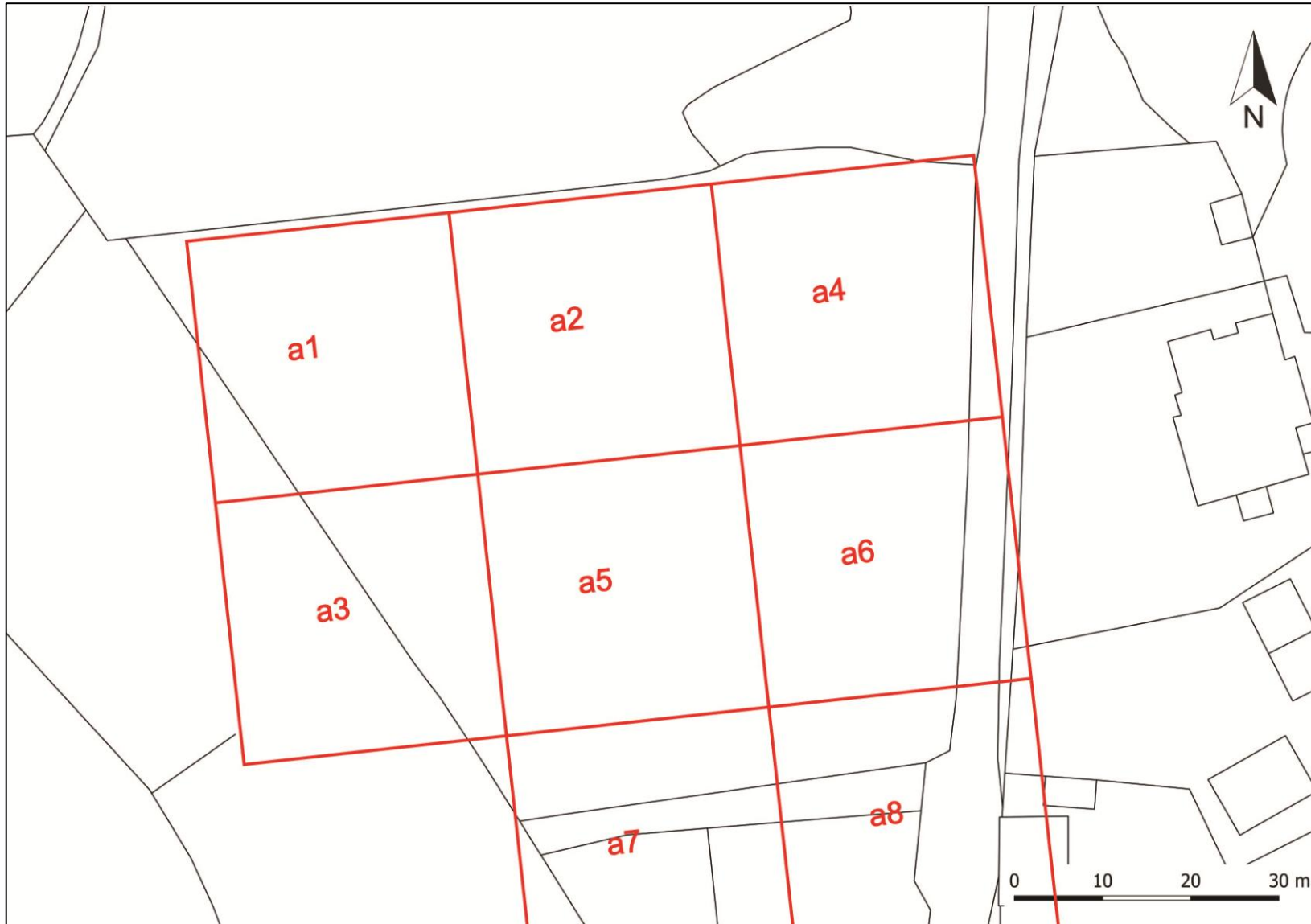


FIGURE 7: LOCATION AND NUMBERING OF GRIDS USED TO RECORD THE GEOPHYSICAL SURVEY DATA.

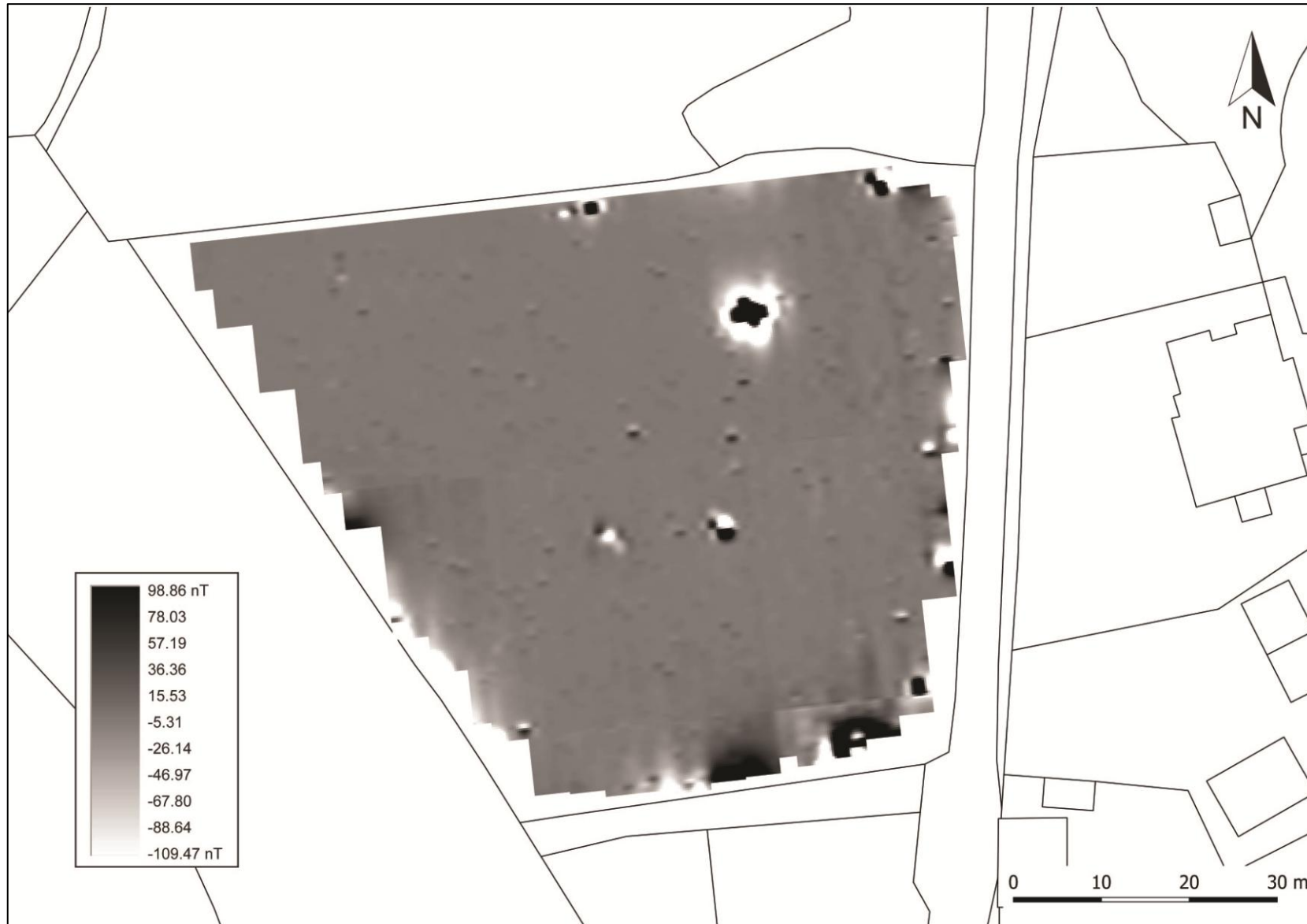


FIGURE 8: GREYSCALE SHADE PLOT OF GRADIOMETER SURVEY DATA; GRADIATED SHADING.

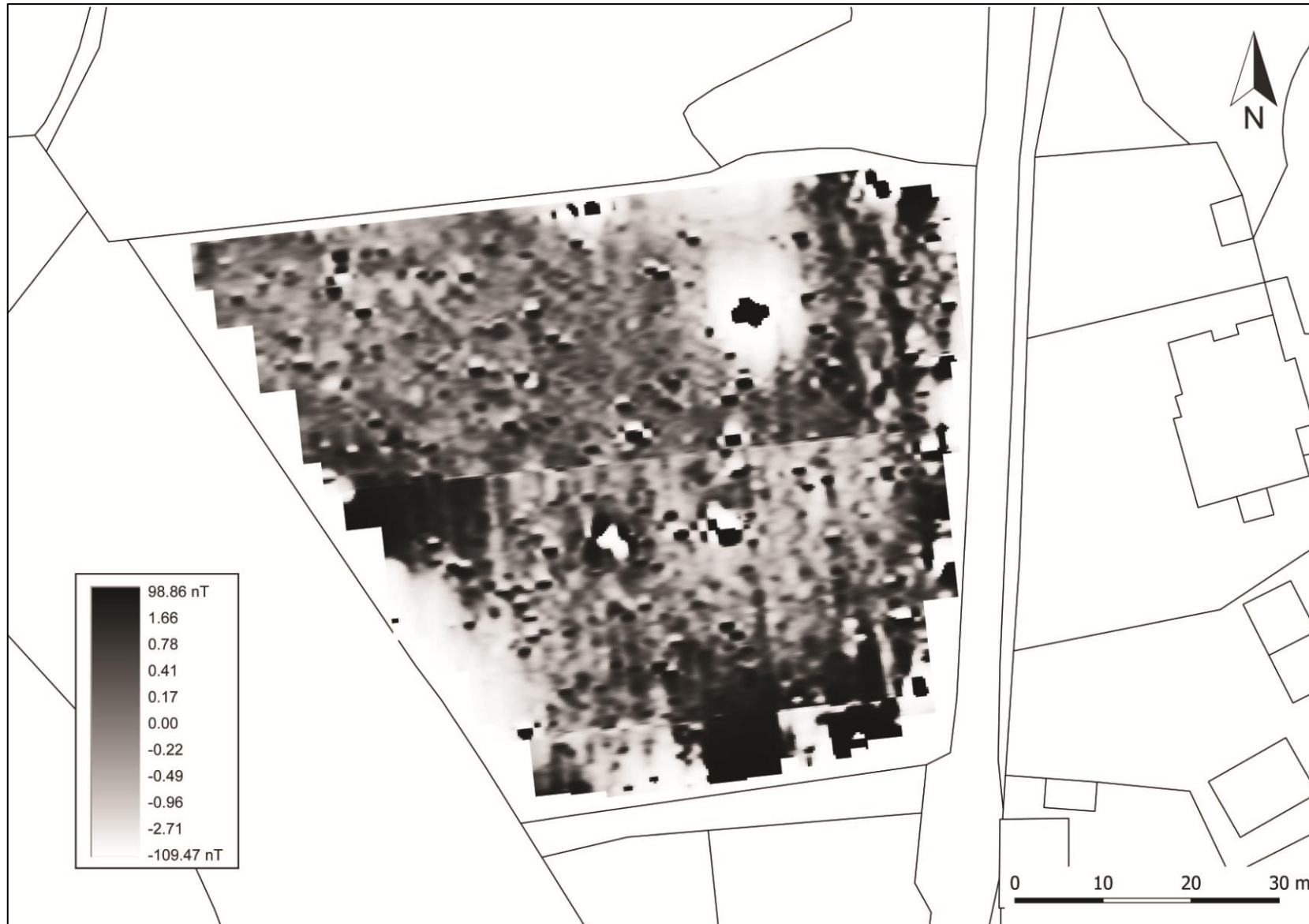


FIGURE 9: GREYSCALE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.

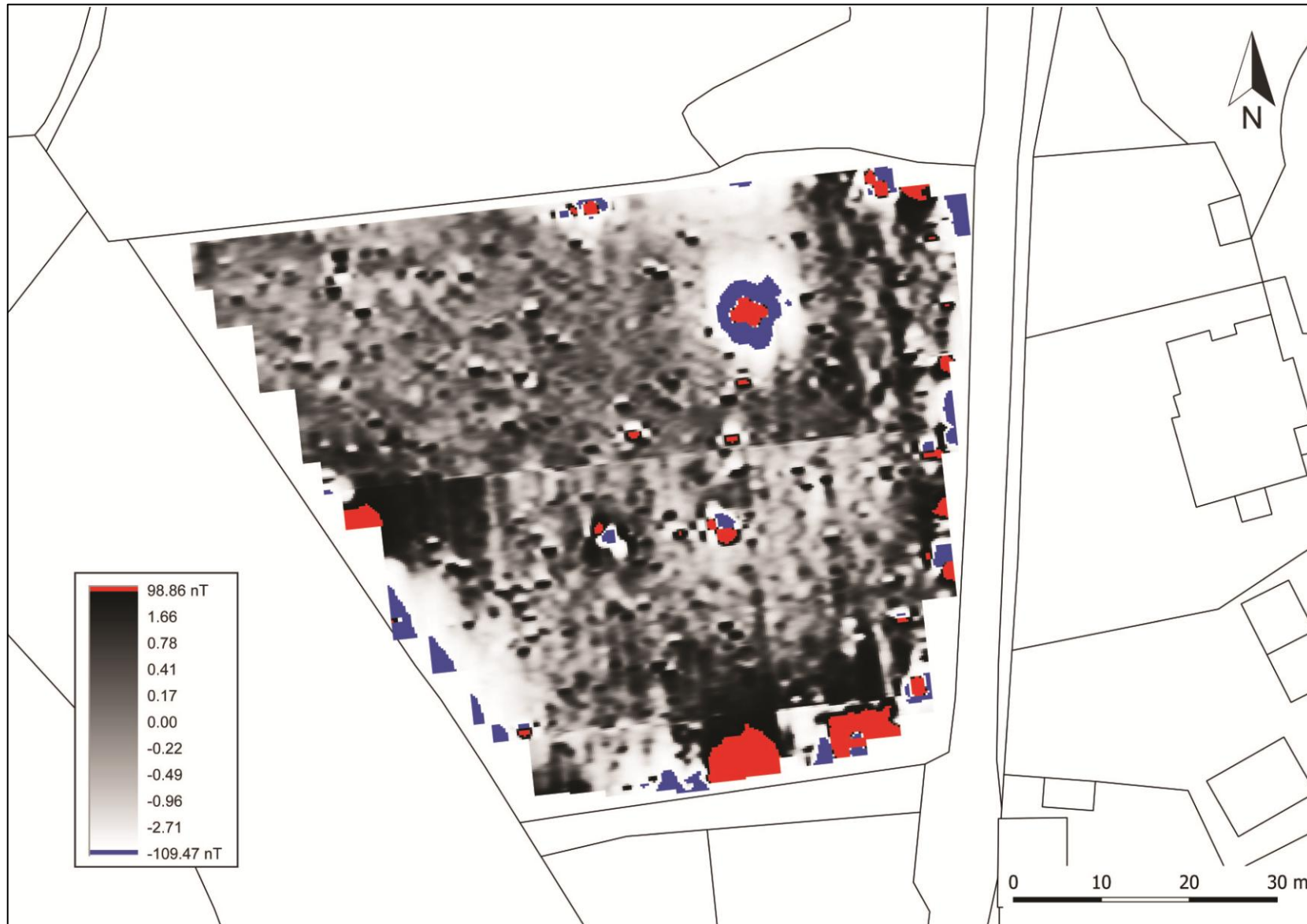


FIGURE 10: RED GREYSCALE BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.



LAND NORTH OF ENNOR CASTLE, ST MARY'S, ISLES OF SCILLY, CORNWALL

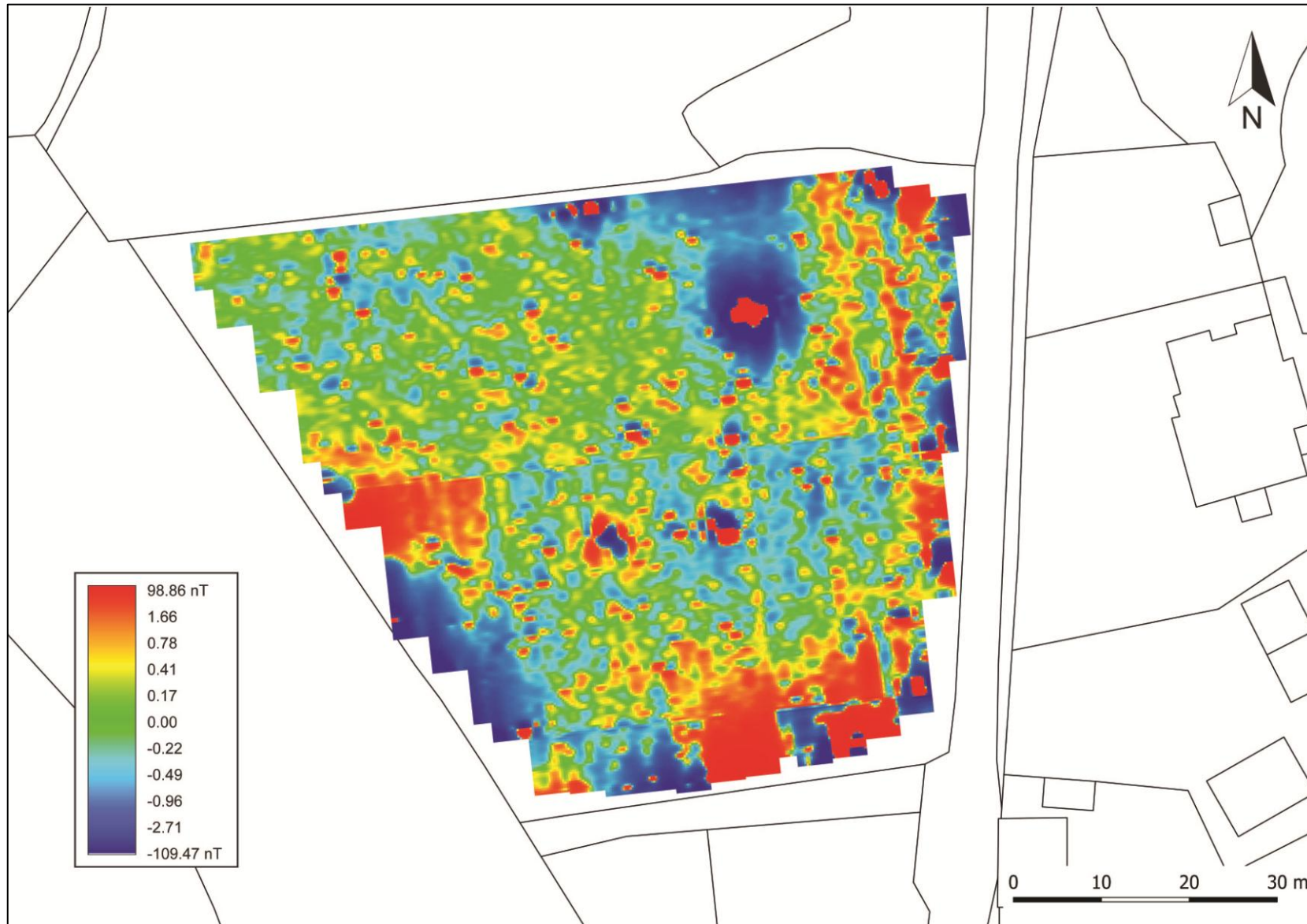


FIGURE 11: RED-BLUE-GREEN (2) SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.



APPENDIX 2: SUPPORTING PHOTOGRAPHS



1. VIEW OF THE TRACK RUNNING ALONG THE SOUTHERN BORDER OF THE SITE; VIEWED FROM THE WEST (NO SCALE).



2. VIEW OF THE WESTERN BOUNDARY OF THE SITE; VIEWED FROM THE SOUTH (NO SCALE).





3. VIEW OF THE NORTHERN BOUNDARY OF THE SITE; VIEWED FROM THE SOUTH-EAST (NO SCALE).



4. VIEW OF THE OLD CHAPEL AND THE SOUTH-EASTERN CORNER OF THE SITE; VIEWED FROM THE NORTH-WEST (NO SCALE).





5. VIEW OF ENNOR CASTLE FROM THE CENTRE OF THE SITE; VIEWED FROM THE NORTH (NO SCALE).



6. VIEW OF ENNOR CASTLE FROM THE WESTERN BOUNDARY OF THE SITE; VIEWED FROM THE NORTH (NO SCALE).





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