LAND AT COAD'S GREEN
NORTH HILL
CORNWALL

Results of a Geophysical Survey

South West Archaeology Ltd. report no. 161011

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
SOUTHWEST ARCHAEOLOGY

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Land at Coad's Green, North Hill, Cornwall
Results of a Geophysical Survey

By J. Bampton
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11th October 2016

Work undertaken by SWARCH for Chris Gubbin

SUMMARY

South West Archaeology Ltd. (SWARCH) was commissioned to undertake a geophysical survey and for related off site analysis and reporting on land at Coad's Green, North Hill, Cornwall, in advance of the application for planning for the residential development of the site.

The results of the geophysical survey identified a small number of anomalies of probable archaeological origin. These are likely to represent a probable medieval to post-medieval field boundary that was removed in the first half of the 19th century and two or three further ditches that may indicate a further boundary. However, modern services and disturbance are reported to have taken place in the vicinity of these anomalies, and along the present eastern boundary of the site.

There is a low potential of disturbing any significant archaeological features and deposits during proposed developments of the site and it would appear that the limited archaeological resource on the site is likely to have been partially truncated by ploughing. It is recommended that in this instance no further archaeological mitigation will be required.

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ACKNOWLEDGEMENTS

THE STAFF AT THE CORNWALL RECORD OFFICE (CRO)
MR CHRIS GUBBINS, THE CLIENT FOR UNRESTRICTED ACCESS

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GRAPHICS: JOE BAMPTON

1.0 INTRODUCTION

LOCATION: LAND ADJACENT TO PENHOLE CLOSE, COAD'S GREEN
PARISH: NORTH HILL
COUNTY: CORNWALL
NGR: CENTRED ON SX 29359 76775
SWARCH REF: LGC16

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Chris Gubbins (the Client) to undertake a geophysical survey on land adjacent to Penhole Close, Coad's Green, North Hill, Cornwall, in advance of an application for planning for the residential development of the site and for related off site analysis and reporting. This work was carried out in accordance with best practice and CIfA guidelines.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Coad's Green is on a hilly ridge of land between the Rivers Inny and Lynher on the eastern fringe of Bodmin Moor; approximately 8km south-south-west of Launceston. The village is located on the B3257, which follows the ridge afore mentioned, at a confluence of roads. The site is across parts of two fields at a height of *c.*180m AOD on the western side of the village with relatively modern residential developments to its north and east and farmland to its west and south. The site is on a relatively flat land that falls away gently to the west-south-west. The larger southern part of the site is currently under pasture and the smaller northern part of the site has been used as a spoil heap for an on-going housing development that borders the north side of the survey area.

The soils in the area are the well drained fine loamy and fine silty soils over rock of the Denbigh 1 association (SSEW 1983). These soils overlie the slates of the sedimentary Tavy Formation across most of the site and potentially the sandstone and argillaceous rocks of the Bealsmill Formation at the north end of the site (BGS 2016).

1.3 HISTORICAL BACKGROUND

The site lies in an area characterised as the East Cornwall and Tamar Moorland Fringe, which is known for its well-preserved medieval landscape and settlements. The site lies on the western edge of the village of Coad's Green in the parish of North Hill, in the deanery and east division of the hundred of East (Lysons 1814). Coad's Green is an 18th or 19th century settlement that takes its name from a local surname (Watts 2004). Approximately 0.5km south west of the site lies the former Domesday Manor of Penhole. A similar distance to the north-west is the Medieval settlement of Trefuge, and to the north, Langstone – the place-name here suggests a probable menhir or standing stone once stood. The earliest potential feature indicated on the Cornwall HER at Coad's Green is from documentary evidence for medieval cross (HER No.17527).

Figure 1: Site location (the site is indicated).

1.4 ARCHAEOLOGICAL BACKGROUND

The site is located within an area characterised as Medieval farmland by the Cornwall Council Historic Landscape Characterisation (HLC) - *'The agricultural heartland, with farming settlements documented before the 17th century AD and whose field patterns are morphologically distinct from the generally straight-sided fields of later enclosure. Either medieval or prehistoric origins'.* In the area, and visible on the recent mapping are examples of modern enclosure.

Although no archaeological investigation has taken place at the site or in the immediate vicinity, the Cornwall Historic Environment Record (HER) lists various identified and potential assets within 1km of the site:

A 120m diameter Iron Age 'round' known as 'Rings Camp' (HER No.17481) is located north of the site. Place-name evidence for three other potential prehistoric assets includes the settlements/farmsteads at Langstone (17500.10) and Lanoy (17520), which both refer to potential standing stones as Lanoy was once referred to as 'mena above town'; and a field named 'Burrow

park' on the tithe apportionment at Landreyne (17519), which may refer to Bronze Age barrows, although none are extant on the site.

Aerial photography has been used to identify Early Medieval and Medieval assets such as field boundaries at Coad's Green, Langstone and Trefursdon (58678, 58646 and 58650) and ridge and furrow at Landreyne (58677). Documentary evidence has further been used to identify Early Medieval settlements at Penhole, first mentioned in 1086 (17517); Lanoy, first mentioned in 1314 (17501); Langstone, first mentioned in 1394 (17500); Trefursdon, first mentioned in 1422 (17507); and Trefuge, first mentioned in 1469 (17506). The 19th century field-name 'Cross Park' in Coad's Green has also been used to suggest the site of a Medieval cross (17527). The existing field boundaries of Medieval strip-fields have also been identified at Trewithey (17494) and can be seen in the wider area.

Post-medieval assets within 1km include four quarries, two milestones, a cider mill at Langstone, a blacksmiths and carpenters workshop in Coad's Green and a school (17550 and 17551).

Two modern assets within 1km of the site include a Second World War ammunition storage depot for the Coad's Green Auxiliary Unit located in the village shop (166669) and two observation posts to the south-east of the village (166580).

There are seven Grade II Listings for buildings within 1km of the site; The 18th century Trefuge Farmhouse barn and stables (List Entry No.1249741), a 19th century granary associated with Trefuge Farmhouse (1263604) and the 17th century Langston Farmhouse (1263709) to the north of the site; the 19th century Warren's Park Farmhouse and an associated barn (1249749 and 1263608) and the 19th century Methodist's Chapel in Coad's Green (1249977) to the east of the site; and the 17th century Penhole House and its garden wall (1250148) to the south of the site.

1.5 METHODOLOGY

The background research and desk-based assessment aspect of this report follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (CIfA 2014a), *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012), and *The Setting of Heritage Assets, GPA3* (Historic England 2015).

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

'Archaeological geophysical survey uses non-intrusive and non-destructive techniques to determine the presence or absence of anomalies likely to be caused by archaeological features, structures or deposits, as far as reasonably possible, within a specified area or site on land, in the inter-tidal zone or underwater. Geophysical survey determines the presence of anomalies of archaeological potential through measurement of one or more physical properties of the subsurface.' (Standard and Guidance for Archaeological Geophysical Survey 2014).

The results of the survey will as far as possible inform on the presence or absence, character, extent and in some cases, apparent relative phasing of buried archaeology leading to the formulation of a strategy to mitigate a threat to the archaeological resource.

2.0 GRADIOMETER SURVEY

2.1 INTRODUCTION

The purpose of this survey was to identify and record magnetic anomalies within the proposed site. While the anomalies may relate to archaeological deposits and structures, the dimensions of recorded anomalies may not directly correspond with any associated archaeological features. The following discussion attempts to clarify and characterise identified anomalies. The survey was undertaken on the 7th October 2016 by J. Bampton in sunny to overcast conditions. The survey data was processed by J. Bampton. An area of approximately 0.6ha was surveyed.

The survey identified four groups of anomalies, which include an historic field boundary; cut linear features of ditches associated with either drainage and field boundaries or modern services; and anomalies associated with ploughing and agricultural machinery activity along the edges of the field. Instances of probable ferrous objects and modern disturbance were also visible.

2.2 SITE INSPECTION

The site was comprised of parts of two fields; the southern field comprised the majority of the site and had relatively short grass for pasture; the northern part of the site was a narrow strip of a field between a Cornish hedgebank that divided the site and an on-going development bordering the north of the site. The southern part of the site had a flat landscaped playing field to its east beyond a high metal fence and Cornish hedgebanks with barbed-wire fences along its north and south borders. To the west of the survey area the field overlooked the valley of the River Lynher and across Bodmin Moor. West of the survey area, towards the middle of the field a ditched earthwork of a relict field boundary associated with the extant field-system could be seen. The north part of the site had been fenced off along its western edge, and had a building site to its northern edge and modern houses with walled and fenced gardens to its eastern edge. The majority of this northern area was covered in a spoil heap and the eastern part of the area that could be surveyed had been disturbed by heavy machinery. It appeared to have formerly been under pasture. A compliment of supporting photographs of the site can be seen in Appendix 2.

2.3 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* (CIfA 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 all traverses, median; DeStagger, offset in- and outbound by -2 intervals (grids 1-6).

Details: 0.5667ha surveyed; Max. 94.19nT, Min. -104.68nT; Standard Deviation 11.10nT, mean 0.63nT, median 0.00nT.

2.4 RESULTS

Table 1 with the accompanying Figures 2 and 3 show the analyses and interpretation of the geophysical survey data. Additional graphic images of the survey data and numbered grid locations can be found in Appendix 3.

Anomaly group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Strong positive with associated negative, probable	Linear	Historic field boundary	Positive response indicative of a ditch with associated negative response indicative of bank or compacted material. Probably equates to a boundary visible on the 1803 Surveyor's Draft map. Responses of <+48nT and <-26nT.
2	Strong positive, probable	Linear	Ditch	Positive response indicative of a ditch running parallel to group 3. Response of <+41nT.
3	Strong positive with associated negative, probable	Linear	Ditch or field boundary	Positive and negative response indicative of a boundary with a ditch. Possibly comprised of intercutting linear features. Response of <+/-36 to 41nT.
4	moderate positive and negative, probable	Linear	Plough-scars and agricultural tracks	Relatively weak parallel positive and negative anomalies indicative of ploughing. Responses of between +/-15nT.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

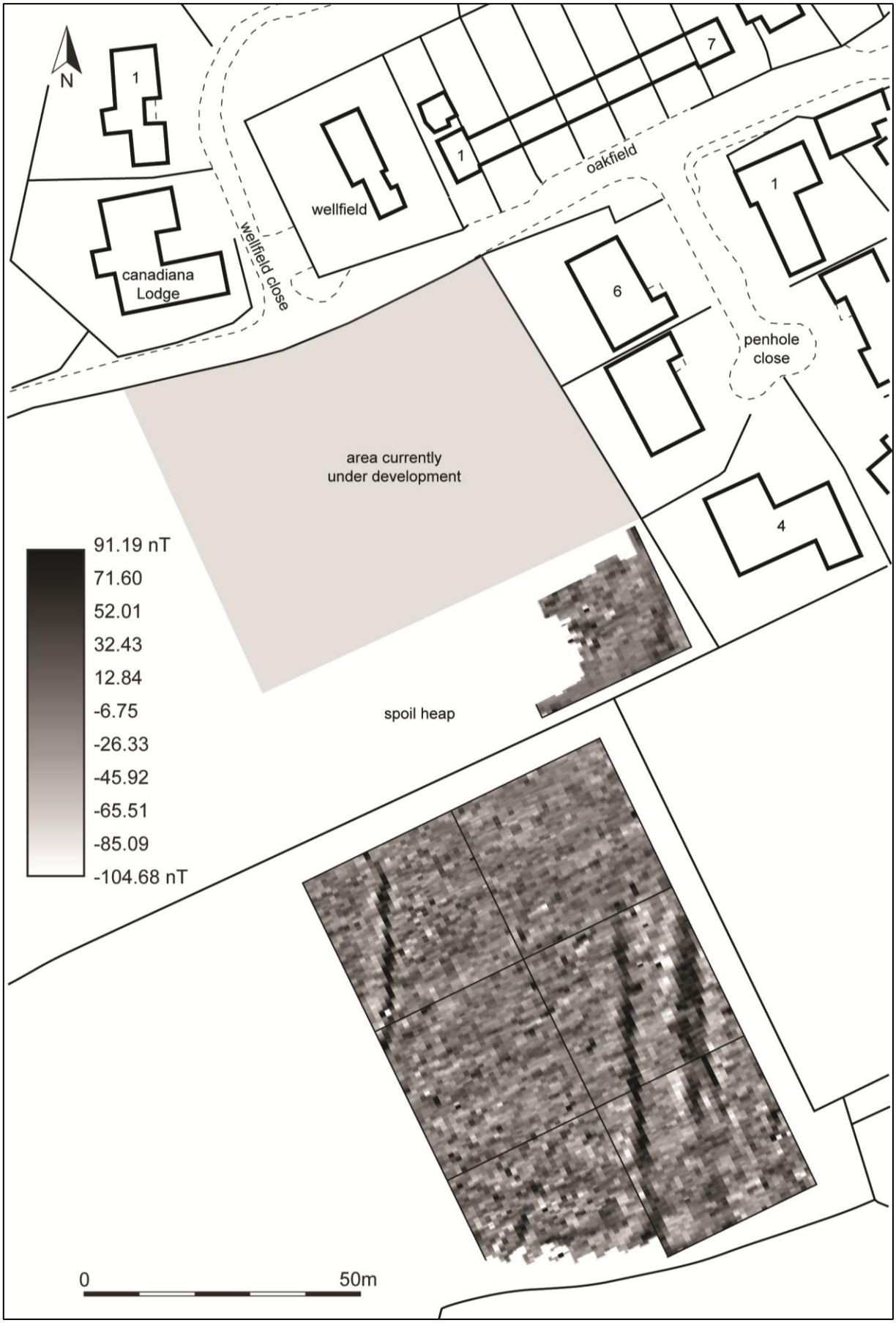

FIGURE 2: SHADE PLOT OF GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.

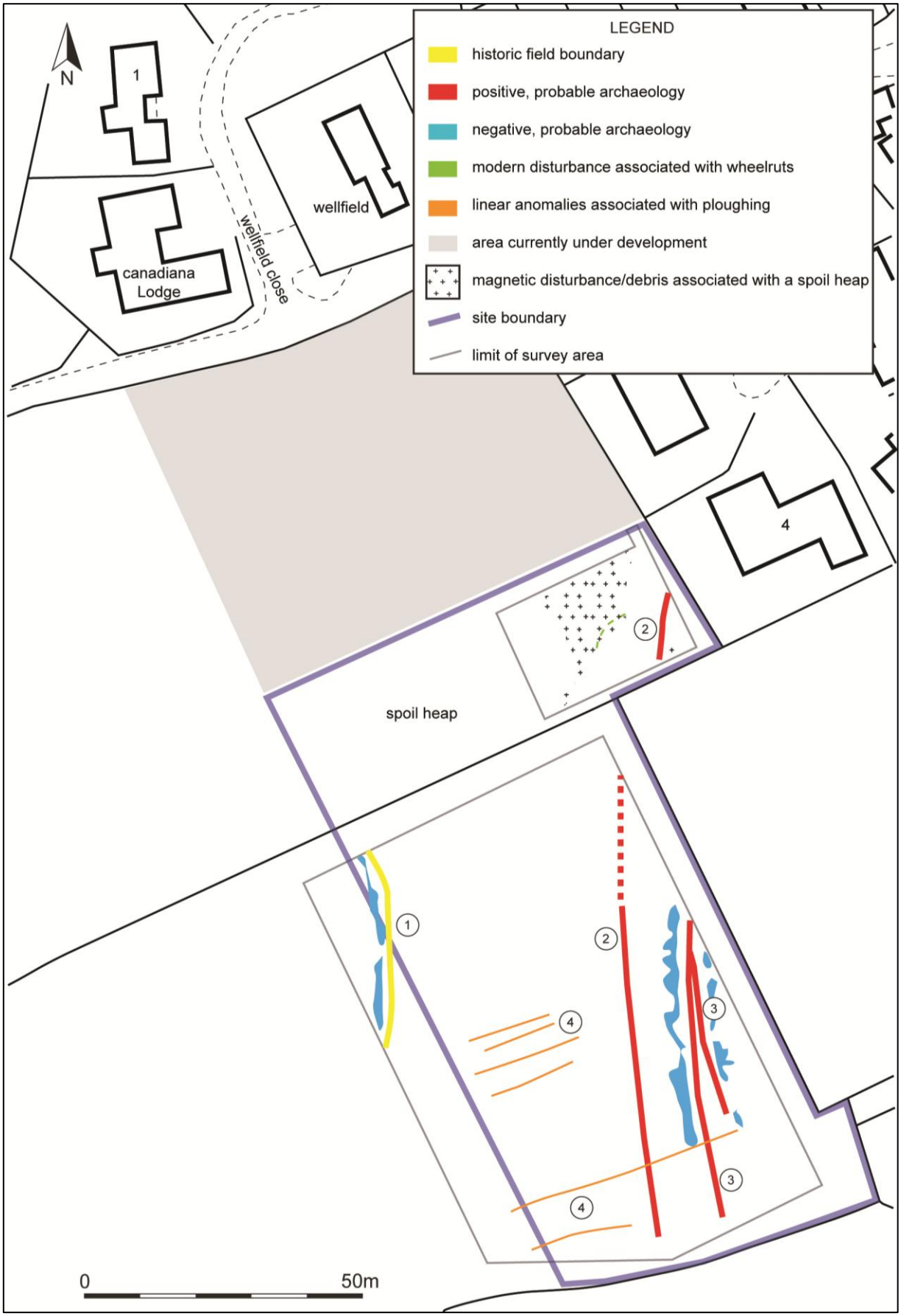

FIGURE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.

2.5 DISCUSSION

The survey identified four groups of anomalies totalling five possible archaeological features. Additional to this the survey identified the predominant direction of more recent ploughing across the site and some areas of modern disturbance.

Group 1 was a strong positive with associated negative curvilinear response (<48nT and <-26nT) aligned approximately north-south. The 1803 Surveyor's Draft map shows a field-scape yet to be adapted and rectified as it appears by the end of the 19th century and through the twentieth century. It shows large enclosures with various curving boundaries, one of which equates to this anomaly and would have extended from the road to the north and continued as the approximate north-south boundary half way along the southern boundary of the southern field. This boundary was probably part of a medieval field system and was removed before production of the 1883 Ordnance Survey 1st edition, by which time straighter boundaries had been instated. The later 19th century field-scape was largely in place by *c.*1840.

Group 2 was a strong curvilinear positive response (<41nT) aligned approximately north-south. It was indicative of a cut feature such as a ditch. It ran approximately parallel with Group 3 and may be associated with the same phase of boundary or drainage. Its ephemeral survival at the northern end of the southern field may be indicative of severe truncation by ploughing or indicate that the anomaly is a land drain that only begins near the break of the gentle south-west facing slope of the site. This anomaly appears to run into the corner of the field, where a farmer's service pipe reportedly enters the field and crosses the field, possibly alongside the eastern field boundary beyond the survey area or possibly straight across the field.

Group 3 was two strong curvilinear positive with associated negative responses (<41nT and <-36nT) indicative of ditches with possible bank material. That Groups 3 and 2 are approximately parallel suggests that they are associated with each other. They may both be part of an earlier field or drainage system or be associated with modern disturbance and services associated with 20th century housing developments to the north and east of the site.

Group 4 were moderate, although on this particular site relatively weak, parallel negative and positive response (*c.*+15 to *c.*-15nT) that ran parallel to the south and north boundaries of the site. This group is indicative of ploughing and the use of heavy farm machinery around the edges of the fields. Evidence for ploughing suggests a degree of truncation of the buried archaeological resource, particularly given the relatively weaker responses of features up-slope at the north end of the southern field compared to the southern end of the same anomalies.

3.0 CONCLUSION

The results of the geophysical survey suggest that there is a probable Medieval or Post-medieval field boundary that was removed in the first half of the 19th century and two or three undated ditches that may indicate a boundary. However, modern services and disturbance is reported to have taken place in the location of these anomalies along the eastern boundary of the site.

Evidence of medieval farming practices in the wider landscape and modern ploughing as evident from the geophysical survey may have truncated any buried archaeological resource. The ephemeral response of anomalies in the northern corner of the southern field may indicate severe truncation by ploughing in this part of the site.

Overall the nature of the archaeological features appears to be of low significance, and it is recommended that no further archaeological mitigation should be required.

4.0 BIBLIOGRAPHY

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Ordnance Survey (OS) 2nd edition, published 1906

Tithe Map, published c.1840

APPENDIX 1: SUPPORTING CARTOGRAPHIC SOURCES

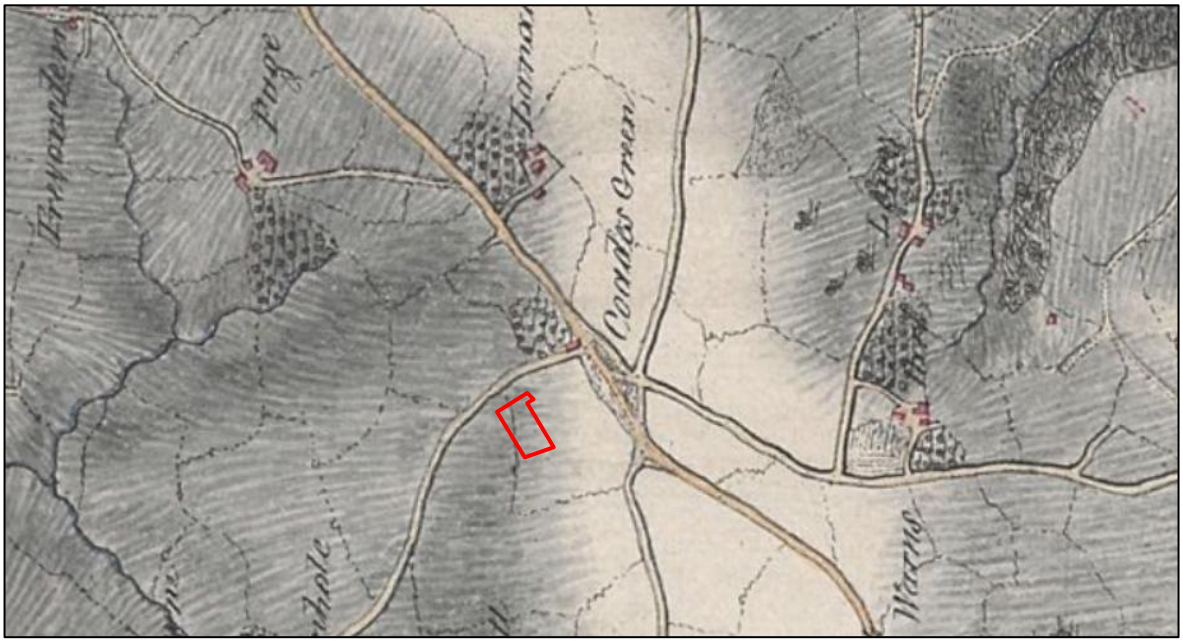

FIGURE 4: EXTRACT FROM THE SURVEYOR'S DRAFT MAP FOR CALLINGTON, *C.*1803 (BL); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.

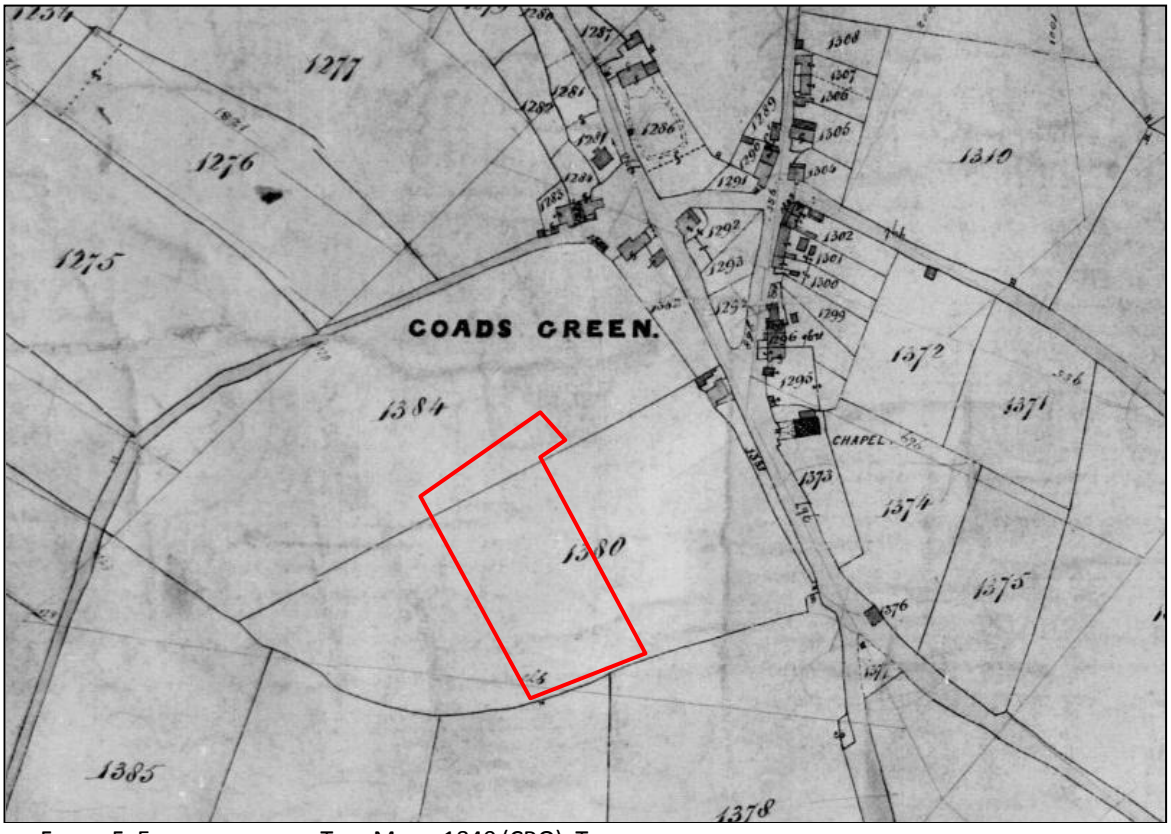

FIGURE 5: EXTRACT FROM THE TITLE MAP C.1840 (CRO); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED

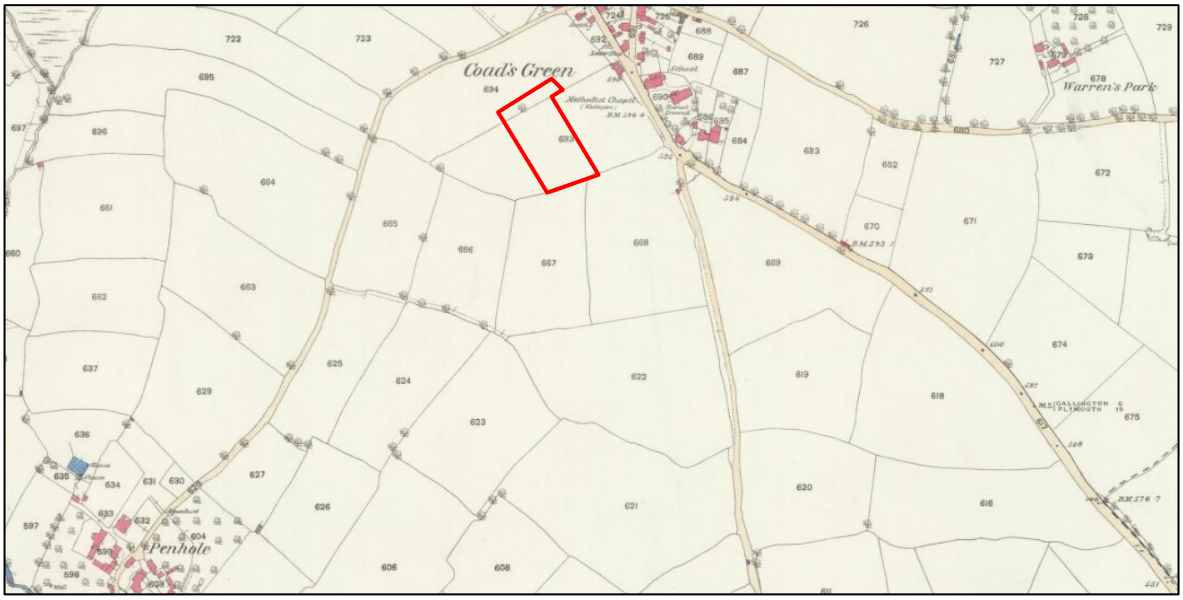

FIGURE 6: EXTRACT FROM THE ORDNANCE SURVEY 1ST EDITION, 25 INCH SERIES, SURVEYED 1882, PUBLISHED 1883 (CRO); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.

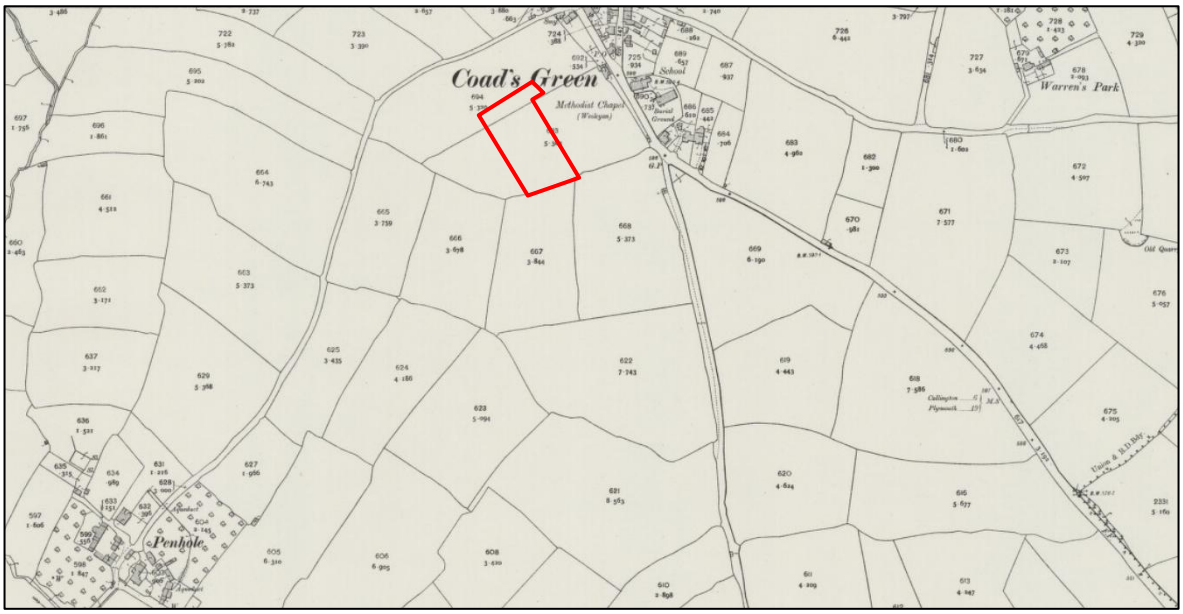

FIGURE 7: EXTRACT FROM THE ORDNANCE SURVEY 2ND EDITION, 25 INCH SERIES, SURVEYED 1905, PUBLISHED 1906 (CRO); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.

APPENDIX 2: SUPPORTING PHOTOGRAPHS: SITE INSPECTION

FIGURE 8: NORTH PART OF SITE WITH CURRENT AREA UNDER DEVELOPMENT; VIEWED FROM THE NORTH-WEST (NO SCALE).

FIGURE 9: THE SITE'S SOUTHERN FIELD; VIEWED FROM THE WEST CORNER/ENTRANCE TO THE FIELD (NO SCALE).

FIGURE 10: BOUNDARY DIVIDING THE SITE IN TO NORTHERN AND SOUTHERN FIELDS; VIEWED FROM THE WEST (NO SCALE).

FIGURE 11: SOUTHERN FIELD; VIEWED FROM THE NORTH-EAST CORNER, LOOKING SOUTH-SOUTH-EAST (NO SCALE).

FIGURE 12: BOUNDARY DIVIDING THE SITE INTO NORTHERN AND SOUTHERN FIELDS SHOWING THE SPOIL HEAP ON THE NORTH SIDE OF THE BOUNDARY; VIEWED FROM ITS NORTH-EAST END (NO SCALE).

FIGURE 13: SPOIL HEAP ACROSS THE MAJORITY OF THE WEST HALF OF THE NORTHERN PART OF THE SITE; VIEWED FROM THE SOUTH-EAST (NO SCALE).

FIGURE 14: EASTERN END OF THE NORTHERN PART OF THE SITE, ADJACENT TO THE EXTANT BUILDING SITE AND SPOIL HEAP; VIEWED FROM THE SOUTH (NO SCALE).

APPENDIX 3: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY

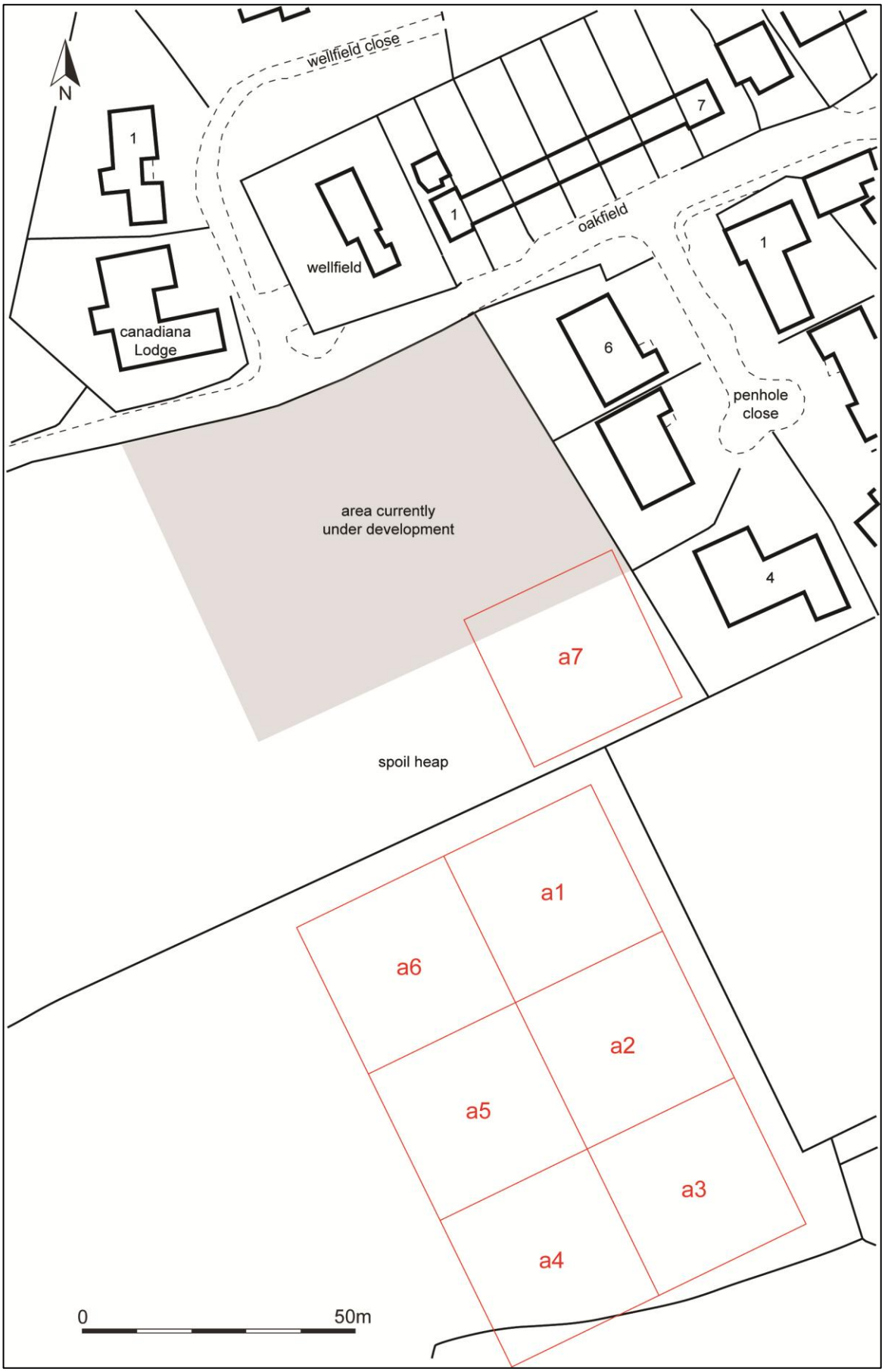

FIGURE 15: GEOPHYSICAL SURVEY GRID LOCATION, LAYOUT AND NUMBERING.

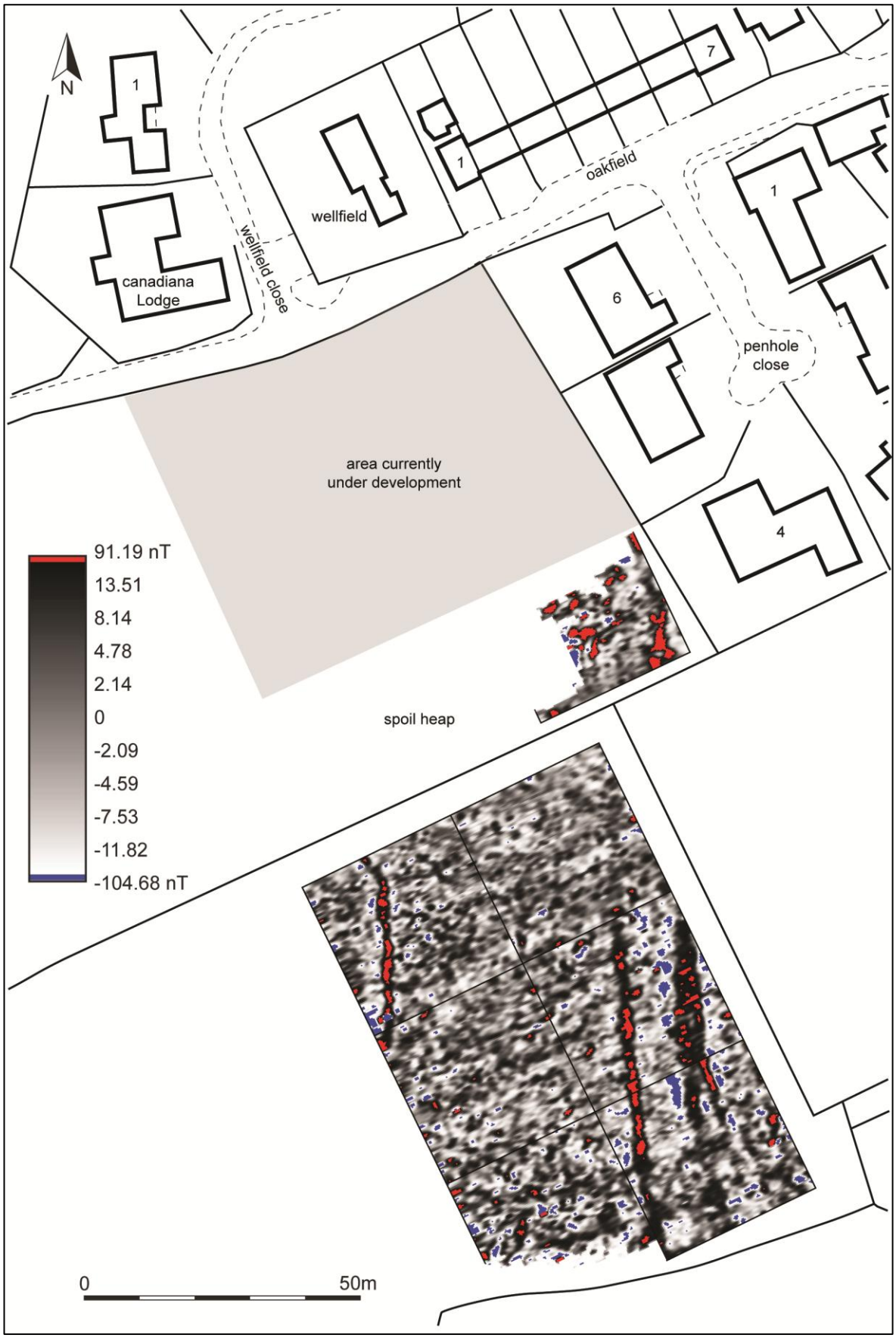

FIGURE 16: RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA: GRADIATED SHADING; BAND WEIGHT EQUALISED.

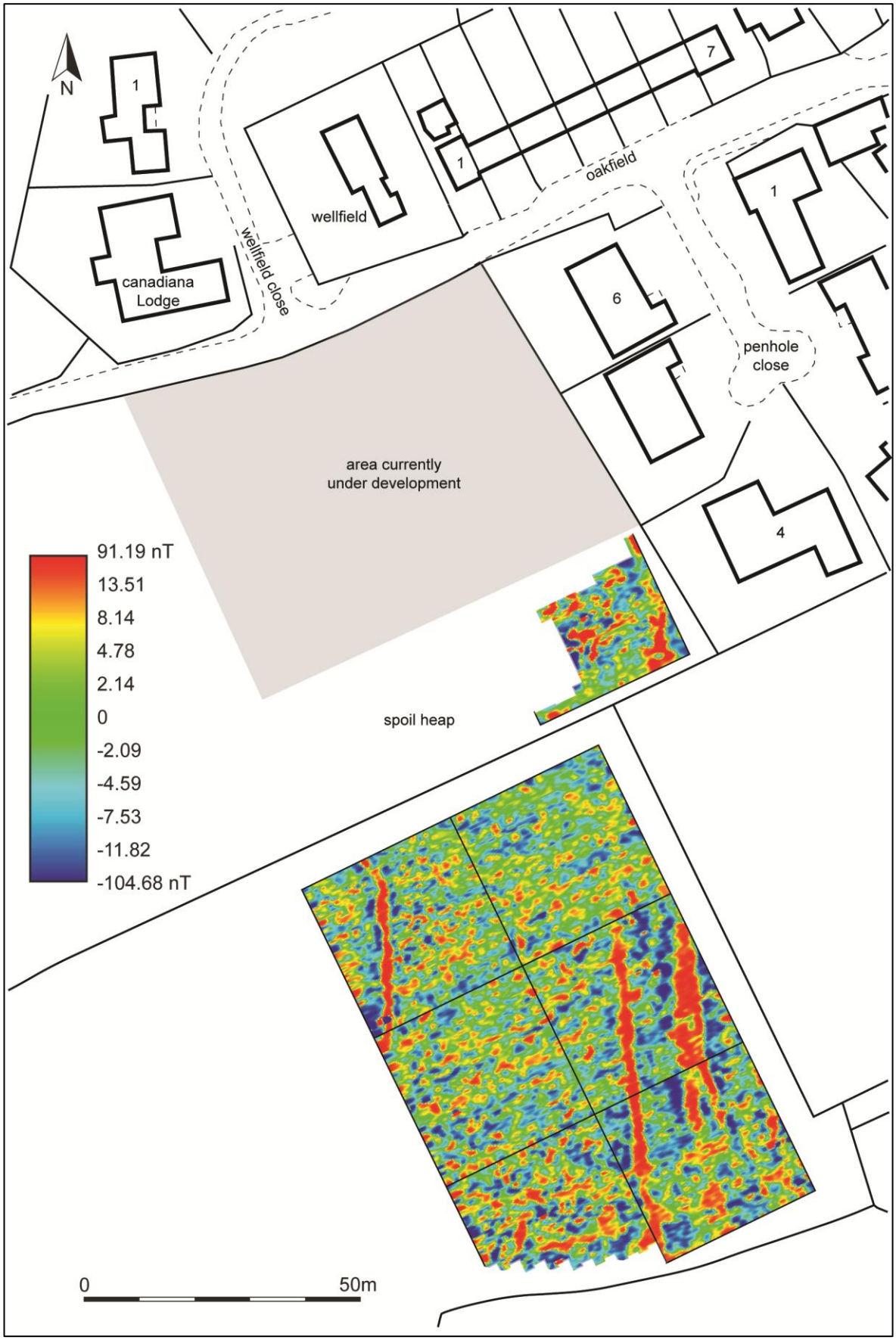

FIGURE 17: RED-BLUE-GREEN SHADE PLOT OF GRADIOMETER SURVEY DATA: GRADIATED SHADING; BAND WEIGHT EQUALISED.

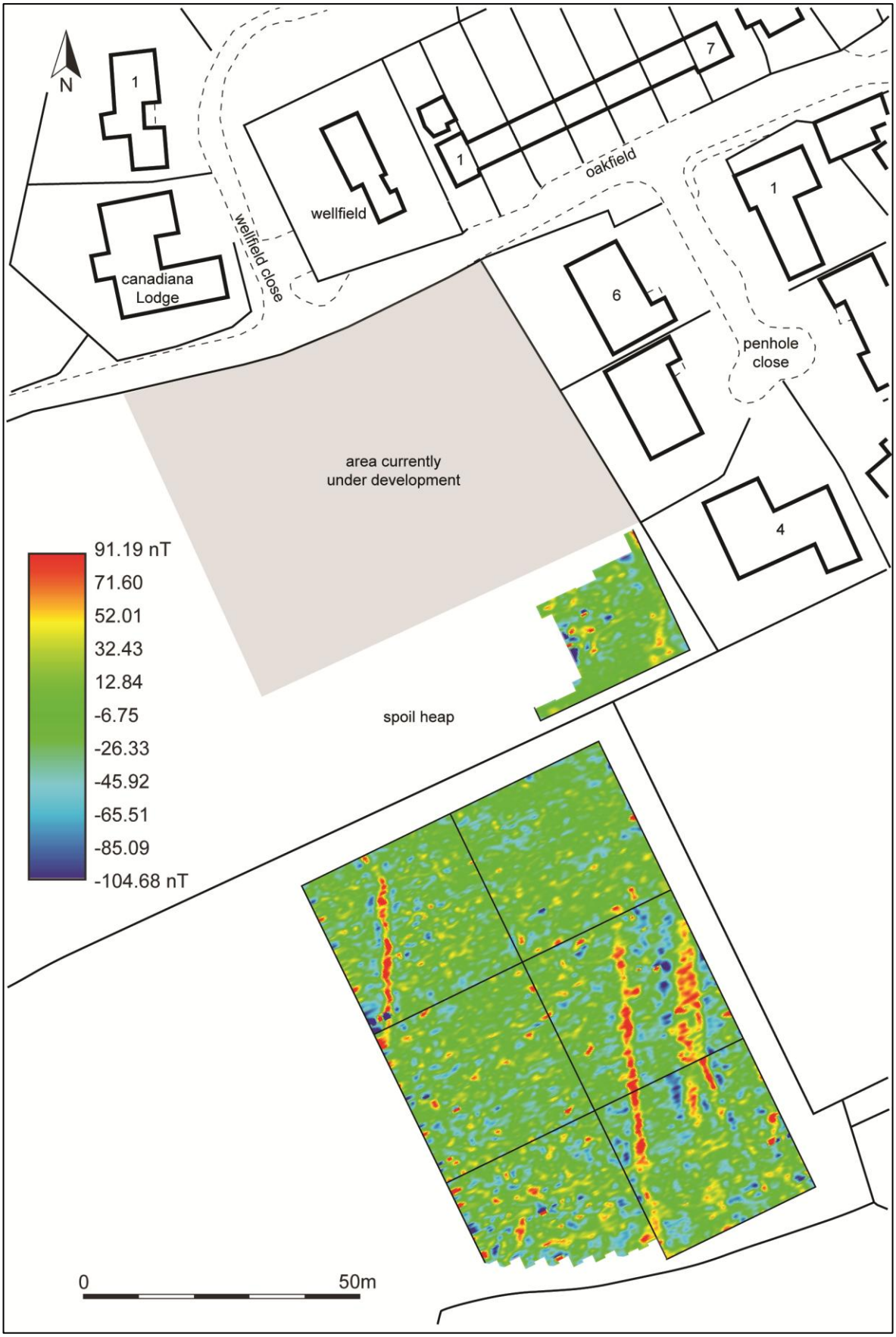

FIGURE 18: RED-BLUE-GREEN SHADE PLOT OF GRADIOMETER SURVEY DATA; GRADIATED SHADING.

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