LAND OFF RIDGEGROVE HILL
KENSEY VALLEY
LAUNCESTON
CORNWALL

Results of a Geophysical Survey

South West Archaeology Ltd. report no. 201127

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
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LAND OFF RIDGEGROVE HILL, KENSEY VALLEY, LAUNCESTON, CORNWALL

RESULTS OF A GEOPHYSICAL SURVEY

By P. Webb
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Work undertaken by SWARCH for a private client

SUMMARY

This report presents the results of a geophysical survey carried out by South West Archaeology Ltd. (SWARCH) on land off Ridgeway Hill/Kensey Valley Meadow, Launceston, Cornwall, as part of a planning submission for the residential development of the site. The site comprises three complete plots, and the northern two-thirds of a fourth plot of land between Ridgegrove Hill (west) and Kensey Valley Meadow (east) at the eastern edge of the historic town of Launceston. There is evidence of prehistoric activity in the area, though it is largely from the medieval period that Launceston and the surrounding agricultural landscape developed.

Much of the site could not be surveyed due to fields F1 and F2 being heavily overgrown; and the steepness of the slopes in fields F3 and F4. The survey identified a single group of anomalies, including a pair of possible pits which may be associated with quarrying activity on the western edge of the site. Modern disturbance and services were identified along the northern edge of the surveyable area.

The results of the geophysical survey and the sites steep topography would suggest that the archaeological potential of the site is low, the survey only identifying a small number of features likely associated with quarrying activity on the site and modern disturbance/services. Further archaeological mitigation is not thought to particularly worthwhile in this instance given the level of disturbance and steeply sloping nature of the site.

November 2020

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ACKNOWLEDGEMENTS

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1.0 INTRODUCTION

LOCATION: RIDGEGROVE HILL/KENSEY VALLEY MEADOW
PARISH: LAUNCESTON
COUNTY: CORNWALL
NGR: (CENTROID) SX 33619 84674
SWARCH REF. LKV20
OASIS REF. SOUTHWES1-426550

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by a Private Client (the Client) to undertake a geophysical survey on land off Ridgeway Hill/Kensey Valley Meadow, Launceston, Cornwall, as part of a planning submission for the residential development of the site. This work was undertaken in accordance with best practice and CIfA guidance in order to assess the potential impact of the proposals on any buried archaeological remains.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The site is located at the north-eastern edge of the town of Launceston, approximately 400m east of the historic core and castle. It comprises four parcels of land covering an area of *c.*2.5ha situated on the north-east facing steep slopes of the Kensey river valley at a height of between *c.*80m and *c.*100m AOD. The soils of this area are the well-drained fine loamy and fine silty soils of the Denbigh 1 Association close to where they border the well-drained fine loamy soils of the Denbigh 2 Association (SSEW 1983). These overlie the slate and siltstone of the Liddaton Formation with overlying deposits of alluvial clay, silt, sand and gravel where it borders the mudstone and sandstone of the Crackington Formation (BGS 2020).

1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

Launceston lies in the north division of the hundred of East and in the deanery of Trigg-Major. It is an ancient market and borough town, situated on the mail-coach road from London to Land's End (now the A30). The manor of Launceston was owned by the Earls of Cornwall, and following its seizure by William the Conqueror, was given to his half-brother Robert, Earl of Morteyne. The town was made a free borough during the 13th century and was incorporated in 1555. The 13th century castle was an important post during the civil war, being occupied at various points by both Royalists and Parliamentarians (Lysons 1814).

The site falls within land designated on the Historic Landscape Characterisation as Medieval Farmland: the agricultural heartland, with farming settlements documented before the 17th century and whose field patterns are morphologically distinct from the generally straight sided field of later enclosure. Either medieval or prehistoric origins.

The Cornwall Historic Environment Record identified the surrounding landscape as containing evidence of prehistoric activity: a Neolithic lithic scatter being recovered at Launceston (MCO52784). However, it was during the medieval period that there is evidence for significant activity in the area: Launceston Castle being recorded in the Domesday Book of 1086 (MCO132; List1017575); St Stephen's monastery (List1013339) replaced by Launceston Priory in 1127 (MCO6257; List1004511); whilst settlement at Dutson (MCO14336), Goodmansleigh (MCO15468), and Truscott date to 1150; and at Newport (MCO22587) to 1250.

During the post-medieval period there was significant development of infrastructure with the creation of the North Cornwall Railway (MCO55730) and Launceston branch of the Great Western Railway (MCO55733) both of which ran to the immediate north of the site. Industrial activity was also prevalent during this period: mining being carried out at St Stephens manganese mine (MCO12226) and a number of quarried being worked across the landscape, including one on the western boundary of the site (MCO37806). Much of this development of Launceston and its growth to subsume the nearby settlements of Newport and St Stephens can be seen in the multitude of listed buildings within the Conservation Area, many of which date to the post-medieval period.

Archaeological investigations in the area have been limited, and largely centred around areas of existing settlement, many of the listed buildings of Launceston having been subject to building recording.

1.4 METHODOLOGY

This work was undertaken in accordance with current best practice, CIfA guidance. Any desk-based assessment aspect of this report follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (CIfA 2014a) and *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012). The geophysical (gradiometer) survey follows the general guidance as outlined in: *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b).

FIGURE 1: SITE LOCATION (THE SITE IS INDICATED).

2.0 GEOPHYSICAL SURVEY

2.1 INTRODUCTION

An area of *c.*2.5ha 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 16th November 2020 by S. Stevens; the survey data was processed by P. Webb. Additional graphic images of the survey data and numbered grid locations can be found in Appendix 1; and supporting photographs for the site inspection can be seen in Appendix 2.

2.2 SITE INSPECTION

The site comprises three complete plots, and the northern two-thirds of a fourth plot of land between Ridgegrove Hill (west) and Kensey Valley Meadow (east). The fields are all sub-rectangular to irregular in plan and form a parcel of land orientated approximately north-west to south-east. To the north is the disused North Cornwall Railway; to the east the modern residential development of Kensey Valley Meadow; to the south residential properties backing onto the A388; and to the west and north-west disused quarry workings and Ridgegrove Hill.

The level ground of fields F1 and F2 was heavily overgrown; whilst the more open steeply sloping fields of F3 and F4 were under pasture. Where boundaries could be identified they were a mix of tree-lined overgrown hedgebanks, modern wooden panel garden fencing; wooden post and wire and post and rail fencing. A series of metallic man-hole covers were identified within field F2.

Due to the heavily overgrown nature of much of the site, particularly to the north within fields F1 and F2; and the steepness of the slopes within fields F3 and F4, only a small area (*c.*0.2ha) was actually surveyable.

2.3 METHODOLOGY

The gradiometer survey follows the general guidance as outlined in: *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016) 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- and set out using a Leica CS15 GNSS Rover GPS. The data was downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.36.0*. 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 +/- 1SD; removes extreme data point values.
DeStripe all traverses, median; used to equalise underlying differences between grids (potentially caused by instrument drift or orientation, directional effects inherent in magnetic instrument, or differences in instrument set up during survey e.g. using two gradiometers).

Details:
0.20645ha surveyed
Stats unadjusted; Max. 98.47nT, Min. -100.00nT; Standard Deviation 15.68nT, mean -3.77nT, median -4.34nT.
Stats adjusted; Max. 110.61nT, Min. -107.26nT; Standard Deviation 12.93nT, mean 0.27nT, 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.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Strong positive with weak negative, possible	Discrete ovoid	Pit	Indicative of a cut and in-filled discrete feature such as a pit. Associated negative response may indicate banked spoil material. Responses of between -10.24nT and +48.05nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic object. Responses of between *c.*+/-100nT.
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris and modern services. Responses of between -107.26nT and +107.15nT.

2.5 DISCUSSION

The survey identified a single group of anomalies: two possible pits; whilst ground disturbance including but not limited to modern services and buried metallic objects was also identified. The background geological variation across the site was between +/-5nT.

Anomaly Group 1 consists of a pair of strong positive (+5.43nT to +48.05nT) discrete ovoid responses with associated weak negative (-10.24nT to -1.58nT) indicative of cut and in-filled features such as pits with associated 'banked' material. The strength of the responses and association with possible banked mounds may suggest possible quarry prospection pits.

Modern disturbance, dipolar anomalies and magnetic disturbance are also located across the site, particularly within fields F1 and F2. This is likely due to the presence of modern services (identified by man-hole covers) and the possible dumping of material associated with the nearby railway.

2.6 ARCHAEOLOGICAL POTENTIAL

The results of the geophysical survey would suggest that the archaeological potential for the site is *low.* Much of the surveyable area to the north was disturbed, likely due to the presence of modern services; whilst features identified to the south may relate to quarrying activity on the western boundary of the site.

Further archaeological mitigation does not appear to be necessary given the limited results obtained by the geophysical survey and the steep nature of the ground limiting the likelihood of significant archaeological remains being present on the site.

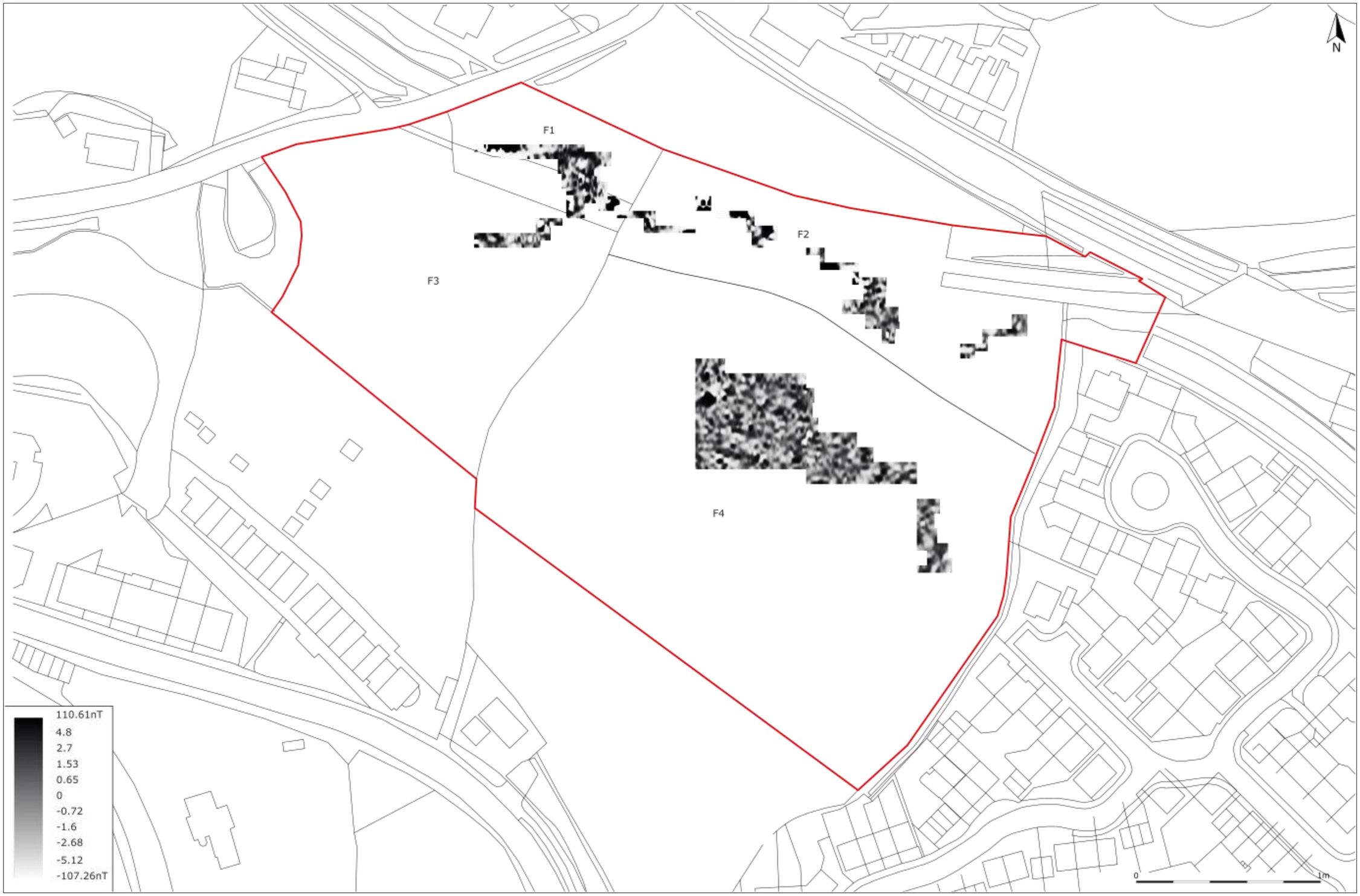

FIGURE 2: SHADE PLOT OF THE GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED.

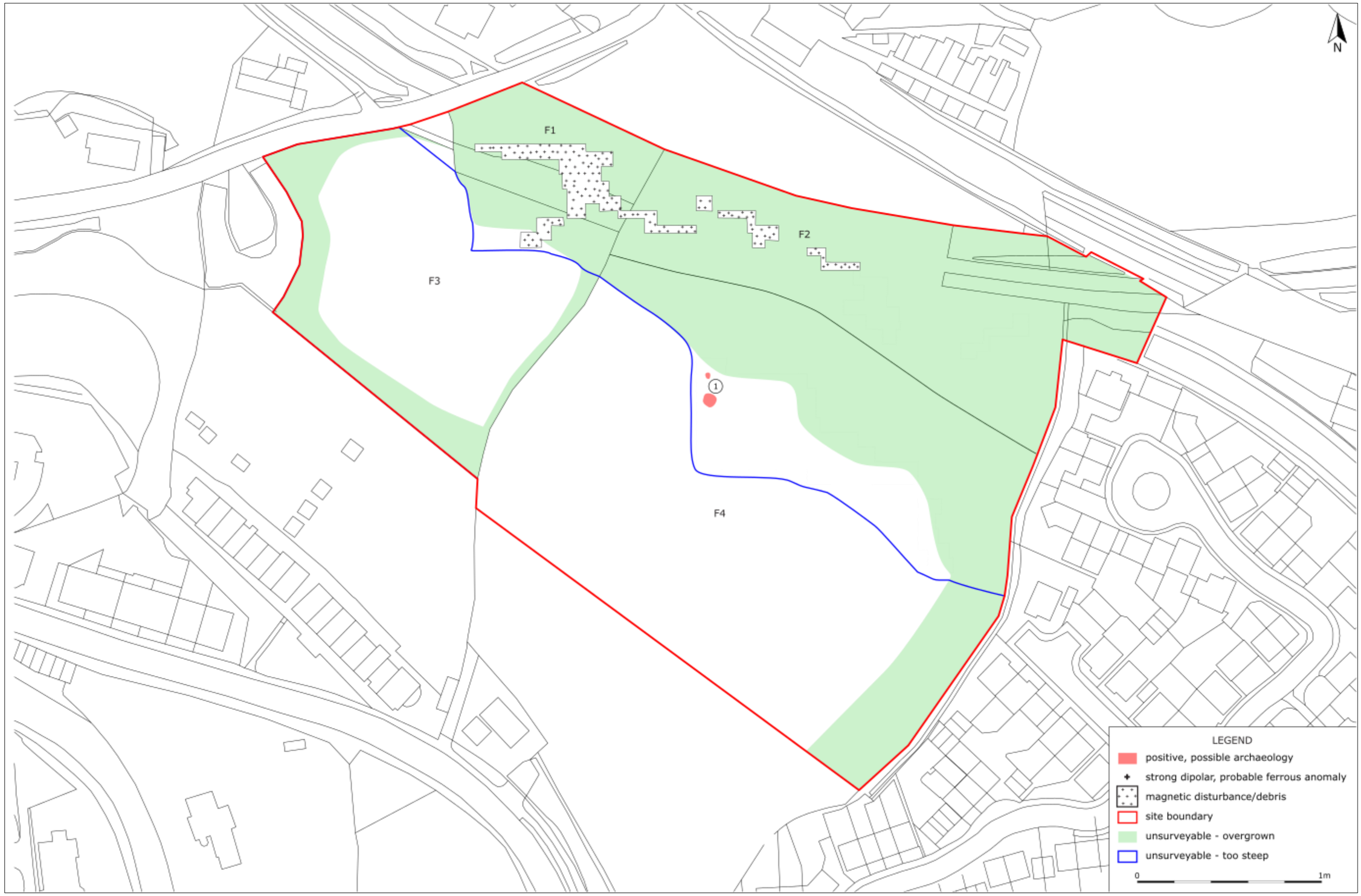

FIGURE 3: INTERPRETATION OF THE GRADIOMETER SURVEY DATA.

3.0 CONCLUSION

The site comprises three complete plots, and the northern two-thirds of a fourth plot of land between Ridgegrove Hill (west) and Kensey Valley Meadow (east) at the eastern edge of the historic town of Launceston. There is evidence of prehistoric activity in the area, though it is largely from the medieval period that Launceston and the surrounding agricultural landscape developed.

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The results of the geophysical survey would suggest that the archaeological potential of the site is *low,* the survey only identifying a small number of features likely associated with quarrying activity on the site and modern disturbance/services. Further archaeological mitigation is not thought to particularly worthwhile in this instance given the level of disturbance and steeply sloping nature of the site.

4.0 BIBLIOGRAPHY & REFERENCES

Published Sources:

Chartered Institute of Field Archaeologists 2014a (*revised* 2017): *Standard and Guidance for Historic Environment Desk-based Assessment*.

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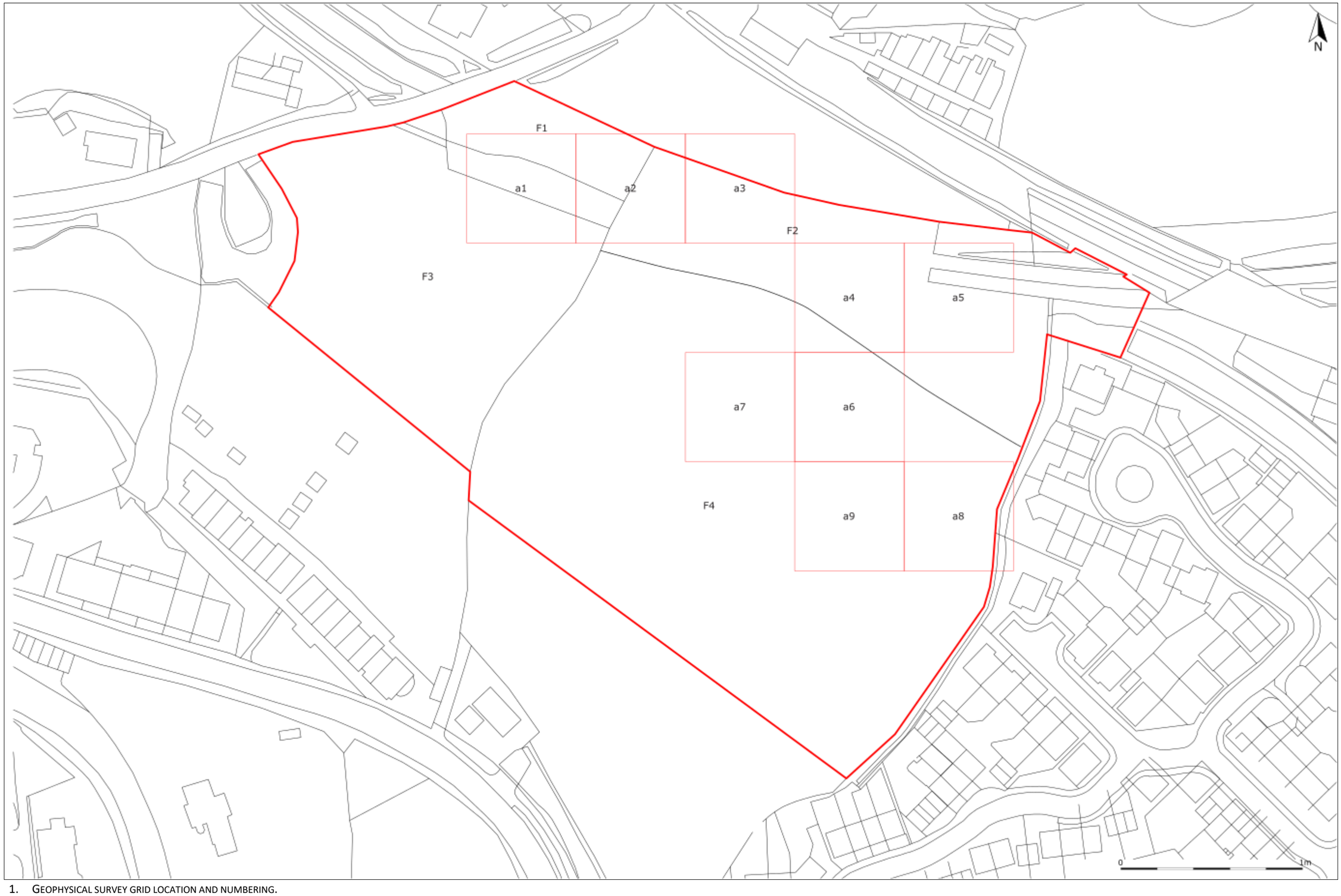
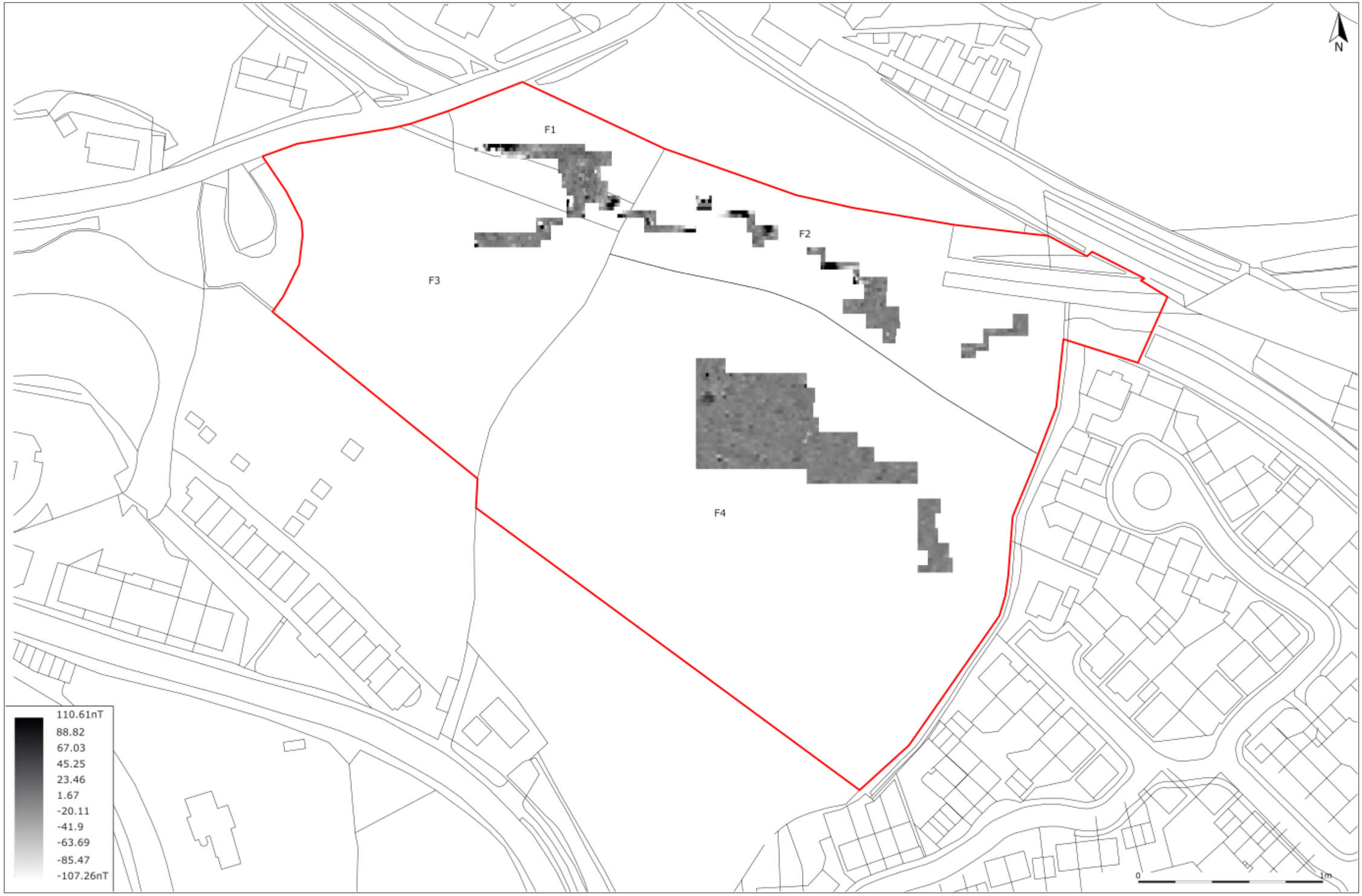
http://mapapps.bgs.ac.uk/geologyofbritain/home.html

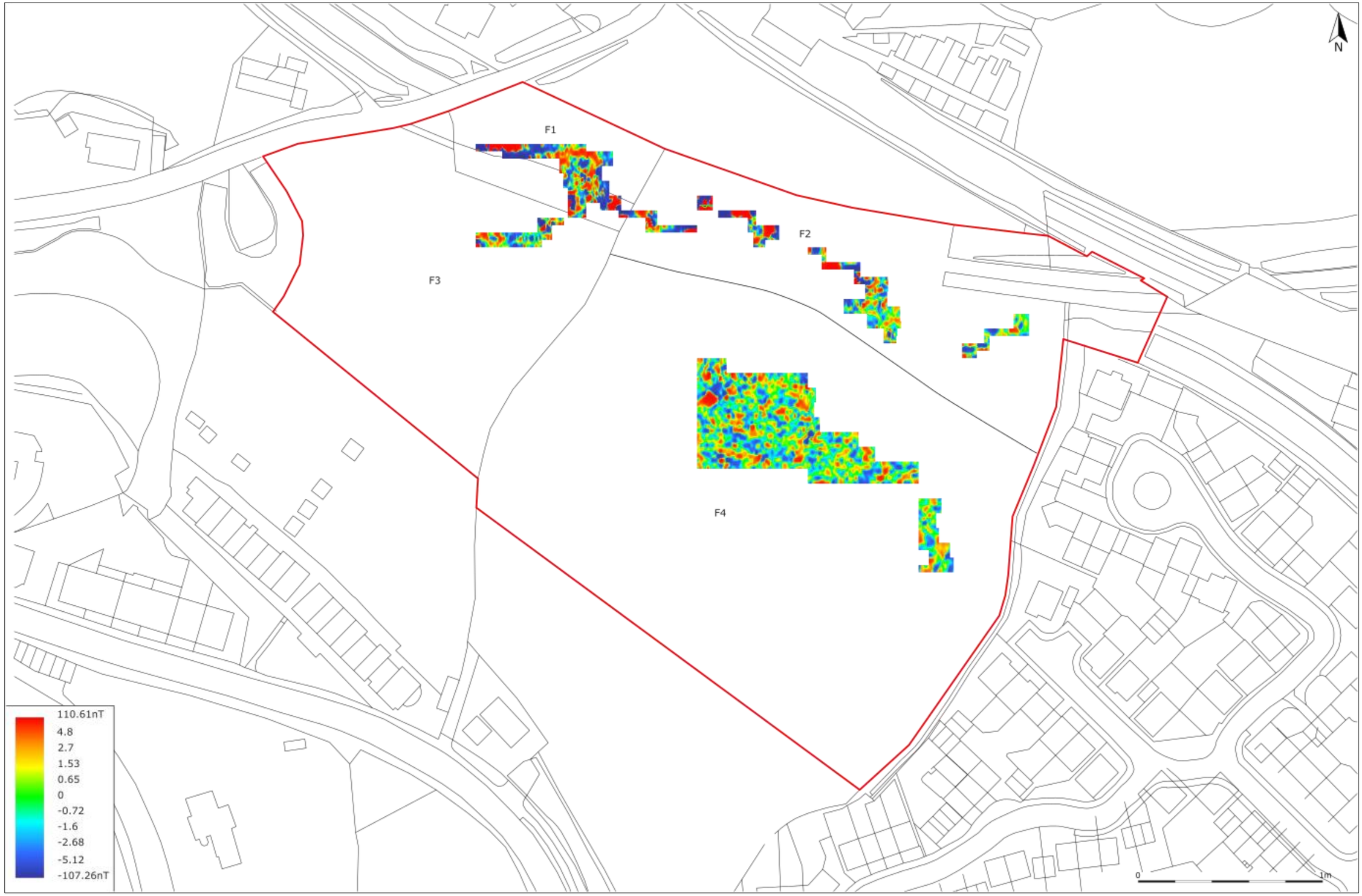
APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



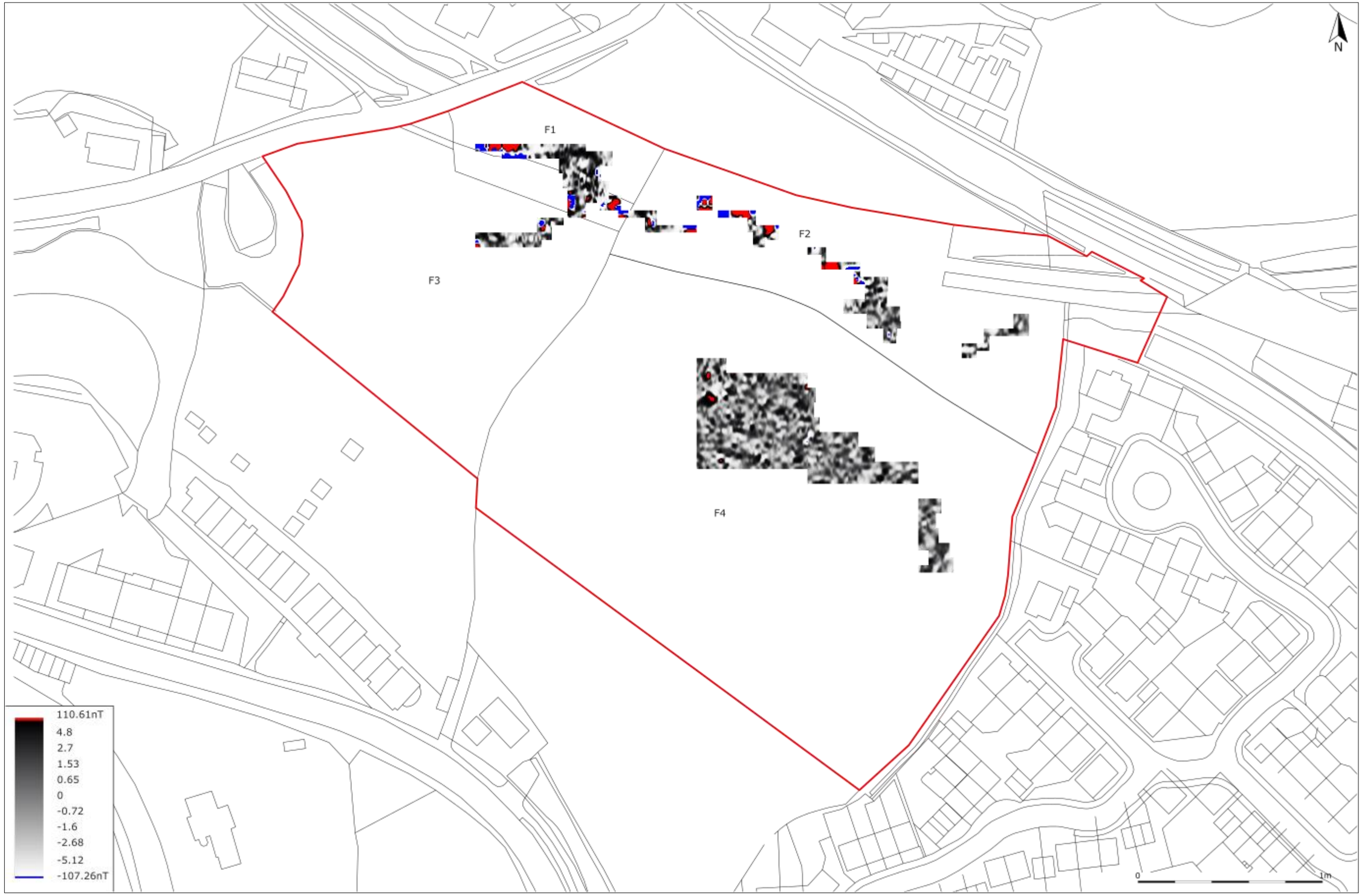
1. GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING.



2. GREYSCALE SHADE PLOT OF THE GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.



3. RED-GREEN-BLUE2 SHADE PLOT OF THE GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED.



4. RED-GREY-BLUE SHADE PLOT OF THE GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED.

APPENDIX 2: SUPPORTING PHOTOGRAPHS

1. VIEW ACROSS F3 FROM NORTH-WEST CORNER; VIEWED FROM THE NORTH (NO SCALE).

2. VIEW ACROSS F3 FROM SOUTH-EAST CORNER, SHOWING STEEPNESS OF SLOPE; VIEWED FROM THE SOUTH-EAST (NO SCALE).

3. VIEW ALONG EAST BOUNDARY OF F3; VIEWED FROM THE SOUTH-WEST (NO SCALE).

4. VIEW ALONG SOUTH BOUNDARY F1; VIEWED FROM THE EAST-NORTH-EAST (NO SCALE).

5. VIEW ALONG WEST BOUNDARY F4; VIEWED FROM THE NORTH-NORTH-EAST (NO SCALE).

6. VIEW ACROSS F4 FROM THE NORTH-WEST CORNER, SHOWING THE STEEPNESS OF THE SLOPE; VIEWED FROM THE NORTH-WEST (NO SCALE).

7. VIEW ACROSS F4 FROM THE SOUTH-WEST CORNER; VIEWED FROM THE SOUTH (NO SCALE).

8. DETAIL OF SOUTHERN BANK BOUNDARY TO F2; VIEWED FROM THE NORTH-NORTH-EAST (1M SCALE).

9. DETAIL OF MAN-HOLE COVER IN F2; VIEWED FROM THE WEST-NORTH-WEST (1M SCALE).

10. VIEW ACROSS F2; VIEWED FROM THE EAST-SOUTH-EAST (NO SCALE).

11. VIEW ACROSS F1; VIEWED FROM THE EAST-SOUTH-EAST (NO SCALE).

12. VIEW ACROSS F1; VIEWED FROM THE WEST (NO SCALE).

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