

**LAND OPPOSITE TREFEWHA COURT
PRAZE-AN-BEEBLE
CROWAN
CORNWALL**

Results of a Geophysical Survey



South West Archaeology Ltd. report no. 160912

Land opposite Trefewha Court, Praze-an-Beeble, Crowan, Cornwall

Results of a Geophysical Survey

By J. Bampton
Report Version: FINAL
12th September 2016

Work undertaken by SWARCH for Andrew Golay of GOLAY Planning
on behalf of Mrs Willoughby and Mrs Richards

SUMMARY

South West Archaeology Ltd. (SWARCH) was commissioned to undertake a geophysical survey on land opposite Trefewha Court, Praze-an-Beeble, Crowan, Cornwall, in advance of the application for planning for the residential development of the site and for related off site analysis and reporting.

The results of the geophysical survey would suggest that there are four probable 19th century features and a single earlier feature across the site. In addition several 20th century services also cross the site.

Given the place-name evidence it is probable that drainage was vital to the use of the land and a predominant spring and drain to the south-west was likely fed by the drains and ditches probably identified by the geophysical survey. The curvilinear anomaly identified by the survey is probably associated with various curving boundaries associated with medieval field-systems and settlements as can be seen in the wider landscape from mapping evidence through the 19th century and later. It is less likely to be of an earlier date as the majority of prehistoric assets ascribed to the surrounding area, such as barrows and 'rounds' are largely speculative.

The geophysical survey indicates that there is slight potential to disturb archaeological features and deposits during any proposed developments. However, these features and deposits appear to be largely post-medieval and modern in origin, with all features appearing to relate to drainage, field boundaries and agricultural activity. In addition it would appear that any archaeological resource on the site is likely to have been severely truncated by ploughing. Further mitigation for the buried archaeological resource does not therefore appear warranted in this instance.



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1.0 INTRODUCTION

LOCATION: FORE STREET, PRAZE-AN-BEEBLE
PARISH: CROWAN
COUNTY: CORNWALL
NGR: CENTRED ON SW 63595 36049
SWARCH REF: PBL16

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Andrew Golay of GOLAY Planning (the Agent) on behalf of Mrs Willoughby and Mrs Richards (the Clients) to undertake a geophysical survey on land opposite Trefewha Court, Praze-an-Beeble, Cornwall, in advance of an application for planning for the residential development of part of the site and for related off site analysis and reporting. This work was carried out in accordance with best practice and ClfA guidelines.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

Praze-an-Beeble is on the cross roads of the B3280 and the B3303, c.1.8km north-west of Crowan and c.4km south of Cambourne. It is in a hilly farming area, although situated on contours that provide a natural route-way running north-south and east west. The site itself is on a very gentle south-west facing slope off of the B3303/Fore Street and adjacent to Trefewha Court. The site constitutes a single approximately triangular field that had recently been used for silage. The site is at a height of c.107m AOD.

The soils in the area are the well drained fine loamy soils over slate or rubble slate with some fine loamy soils variably affected by groundwater of the Denbigh 2 association (SSEW 1983). These soils overlie the Hornfelsed slate and Hornfelsed siltstone of the metamorphic Mylor Slate Formation (BGS 2016).

1.3 HISTORICAL BACKGROUND

Praze-an-Beeble is in the parish of Crowan, which lies in the hundred and deanery of Penwith (Lysons 1814). The settlement was first recorded in 1697 as *Praze-an-beble* (HER No.29575) and is derived from the Cornish *pras* meaning 'meadow', the definite article *an*, and *pybell* meaning 'conduit/pipe', therefore, meaning 'meadow of the conduit' or 'pipe meadow' (Padel 1985); probably indicative of a degree of drainage across the area. The settlement has grown up around a crossroads and a blacksmiths workshop, first recorded on the 1838 tithe map. The site itself is adjacent to Trefewha, which was a settlement or farmstead first recorded in 1324 as *Trevewan* (HER No.29576). Although there are a number of probable medieval farmsteads in the vicinity of Praze-an-beeble it was probably at some point part of the principle sub-manor of Trevoole and prior to that or predominantly of Crowan and the Clowance Estate. Crowan was first recorded as *Eggloscraven* c.1150 (HER No.MCO14186) and the manor was held by the Helligan family and then the Kemyell family until the late 14th century when it passed to the Aubyn family by marriage who still held the manor in 1814 (Lysons 1814). The Aubyn's also held the substantial 13th century Clowance estate and manor from the 14th century to the south of Praze-an-Beeble (Gillard 2004). The 1838 Tithe apportionment indicates that the site was farmed by a Benedict Commons and owned by the Reverend *Richard Gervais-?* and a *William Richards*. The site, Tithe plot 1382, was part of *Trefewha* farm, called *Lower Gold Maggery* and under arable cultivation. The field name may suggest a 'rearing-place' derived from Welsh or Breton (Padel 1985).

The available cartographic evidence (see Appendix 1) suggests that the main north-south road adjacent to the site was diverted between 1809 and 1838 to its current position, having once run along the south-west boundary of the site towards Trefewha. Mapping from 1888 to 1908 shows the current northern boundary of the site as a trackway and structures having been built to the north and south of the site, defining the southern boundary of the site. The general land- and field-scape has otherwise not changed much over the last century with no obvious alterations within the boundary of the site.



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'*.

The Cornwall Historic Environment Record (HER) lists nine potentially prehistoric assets identified through aerial photography within 1km of the site: Possible Iron Age/Romano-British 'rounds' at Gew Farm, Trethannas and Higher Trethannas (HER Numbers: 54261/24288, 29626 and 24255 respectively); possible Bronze Age barrows or spoil heaps (mounds) at Trenoweth, Little Barthog and Praze-an-Beeble (HER Numbers: 54260, 54288, 54287 and 54286 respectively); and an undated field-system at Hellegan Crofts (HER Number: 29623). One suspected 'round' site at Trerise (HER Number: 29622) has been largely disproved by recent site visits and a geophysical survey (Event Record Number: ECO545).

The HER lists eleven medieval assets within 1km of the site, including; settlements first recorded in the 13th century at Gernick and Trerise and first recorded in the 14th century at Borthog, Cardinham, Trefewha and Trethannas (HER Numbers: 29571, 29579, 29567, 29570, 29576 and 29580 respectively); probable medieval field systems within *Anciently Enclosed Land* according to the HLC and identified on aerial photography at Trefewha, Praze-an-Beeble and Gernick, where the remains of a post-medieval farmstead/miners smallholding is also located (HER Numbers: 54283, 54253 and 54256 respectively); an 'Old Chapel' is denoted on the 1838 tithe map at Higher Trethannas (HER Number: 29627); and at Clowance are listed three way-side crosses, probably 9th-15th century in date, which are collectively a Scheduled Monument and Grade II Listed structures (HER Number: 29468).

Post-medieval assets within 1km of the site include; spoil heaps/mounds associated with mining, as may be the case for a number of the recorded barrows (HER Numbers: 54257, 54281, 54284); 19th century Methodists chapels at Gew and Praze-an-Beeble, including a Sunday school (176352, 138232, 138233); quarries in or near to the village (54252, 54254); bridges (178010, 178011, MCO56578; various structures such as a milestone (178373), a boundary stone (178646), a railway station c.1887-1964 (178014), a blacksmiths workshop c.1838 (40354), a well (MCO56860), a 20th century war memorial (MCO56457) a modern school and signpost (175496, MCO56197); A series of post-medieval, 19th century, tin and copper mines in the area include those at Gernick (40342), Copper Bottom and Wheal Hender (29631) and Wheal an Gogue (40353) adjacent to the site, West Wheel Granville and Molesworthy United.

There are four Grade II Listed buildings within Praze-an-Beeble; the 17th-18th century farmhouse at Trethannas (1160470), the 19th century No.7 and No.60 Fore Street (1160290 and 1328353) and the 18th-19th century St Aubyn's Arms pub with adjoining post office and antique shop (1142184).

Most of the village of Praze-an-Beeble lies within the north-eastern extent of the Cornish Mining World Heritage Site: Tregonning and Gwinear Mining District. The site is immediately north of the World Heritage Site, which had a management plan written for it for 2005 (ECO1489). Other HER listed events that have occurred near to the site include curatorial advice for the developed parts of the village that border the site (ECO2386). However, no archaeological excavation has taken place on or immediately adjacent to 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* (ClfA 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* (ClfA 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 6th September 2016 by J. Bampton in overcast conditions. The survey data was processed by J. Bampton. An area of approximately 1.10ha was surveyed.

The survey identified four groups of anomalies, which include a historic trackway; field drains and ditches associated with drainage; and a possible medieval or prehistoric ditch associated with a boundary or drainage. Instances of probable ferrous objects or fragments across the site and areas of modern disturbance and modern services and drains were also identified.

2.2 SITE INSPECTION

The site was comprised of a single field with relatively short grass that had recently been cut for silage. The field was bounded by Cornish hedgebanks with ivy and brambles with a wire and post fence line along its south-west boundary and east, road-side, boundary. A modern fence line formed the remaining boundaries with occasional trees. Beyond the southern boundary was a converted Methodist chapel; to the east the B3303; to the south-west farmland associated with Trefewha; and to the north gardens, which appeared to have been made levelled/landscaped. Spoil heaps and organic debris were noted along the boundaries and in the gardens to the north. Near the middle of the field were two man-hole covers. Another was visible in the garden of Little Trefewha, to the north. A ridge, aligned north-east by south-west was visible on the ground in the south-east corner of the field where the ground dropped away in this corner. 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 (all grids).

Details: 1.0774ha surveyed; Max. 99.72nT, Min. -102.96nT; Standard Deviation 6.52nT, mean 0.11nT, 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	Weak-moderate positive, probable	Curvilinear	Ditch associated with drainage or a boundary	Positive response indicative of a ditch. Possibly parallel to a curving boundary visible on the 1809 Surveyor's Draft map until the 1888 Ordnance Survey 1 st edition. Responses of +7nT to +15nT.
2	Moderate positive, probable	Linear	Ditch associated with drainage	Positive response indicative of a ditch running parallel to group 3. Response of c.+10nT to +17nT.
3	Weak negative with associated positive, probable	Linear	Field drains, possibly stone-lined or with ceramic pipes	Probable ceramic pipe or stony/stone-lined drains associated with drainage. Response of c.-9nT and +7nT.
4	Weak negative with associated positive, probable	Linear	Trackway	Weak background variation sometimes indicative of geological variation but in this case a wide line of possibly compressed or rocky/stony material with a broad parallel line of a positive response may be indicative of modern tracks and disturbance along the edge of the field. However, the 1809 surveyor's Draft map indicates the north-south route prior to the construction of the B3303 may have followed this line. Responses of +4nT to -4nT.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

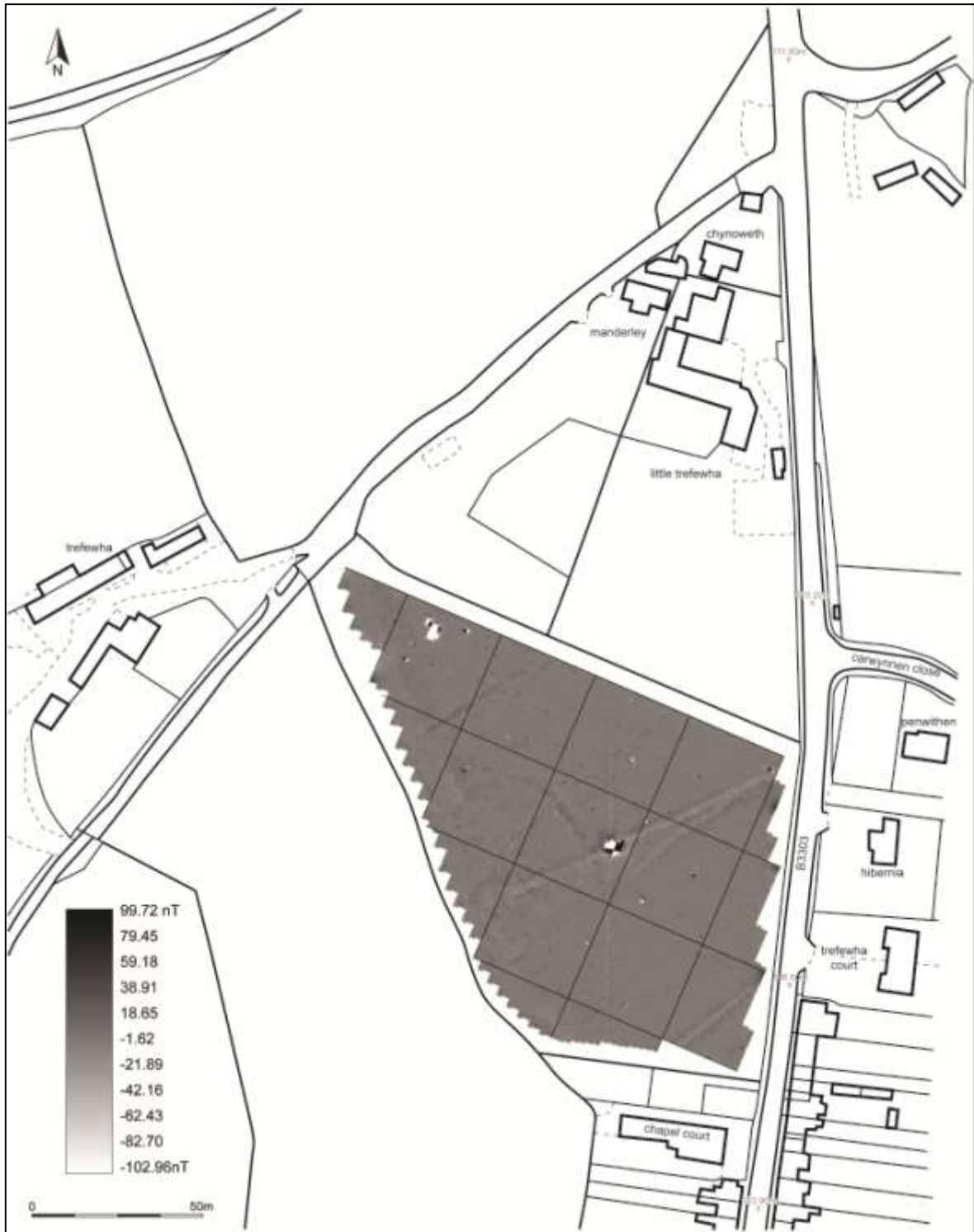


FIGURE 2: SHADE PLOT OF GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.

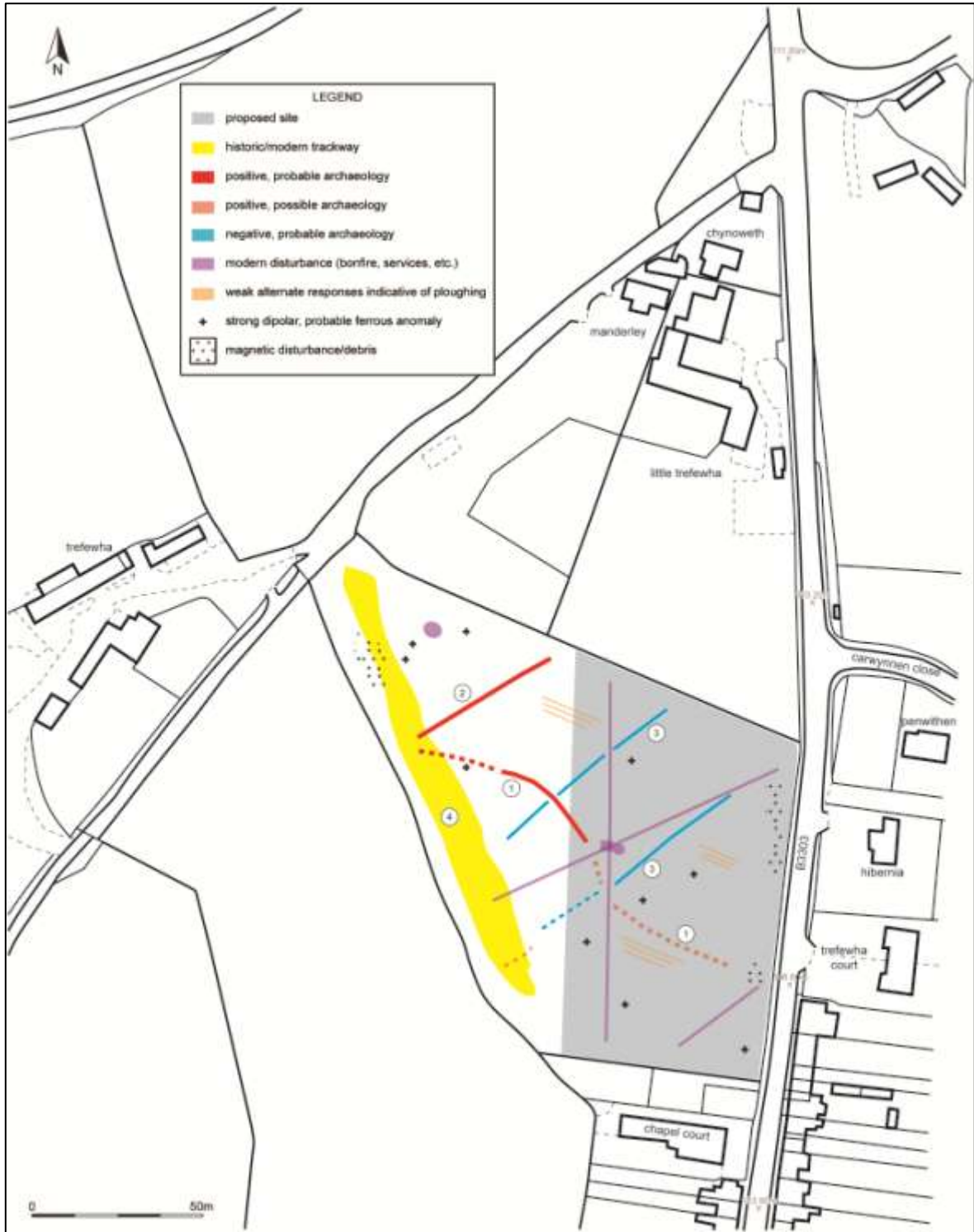


FIGURE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.

2.5 DISCUSSION

The survey identified four groups of anomalies totalling five possible archaeological features. Additional to this the survey identified at least five modern features such as drains and bonfires and the predominant direction of more recent ploughing across the site, approximately parallel to the northern boundary of the site.

Group 1 was a weak-moderate curvilinear positive response (c.+7nT to c.+15nT). Both the 1809 Surveyor's Draft map and the 1838 Tithe map indicate a possible curved boundary in the south-east of the site that then ran straight to the north-west. This boundary was apparently rectified by the time of the Ordnance Survey (OS) 1st edition (published 1888). Group 1 may be a contemporary of the earlier boundary and have run parallel to it. It possibly cuts or at least obscures part of the central anomaly of Group 3 (a probable land-drain implying it may not be earlier than medieval. It is in turn cut and obscured by modern drains near the middle of the site. Group 1 does not clearly survive at either of its ends. It may be that ploughing has fully truncated the feature in places.

Group 2 was a moderate linear positive responses (c.+10 to c.+17nT) aligned approximately north-east by south-west. It was indicative of a cut feature such as a ditch. It possibly cut anomaly Group 4 and ran parallel to Group 3. If not a contemporary of them it indicates some continuity and longevity in the approach to drainage across the site; following the very gentle slope of the land that runs down to the south-west.

Group 3 was two weak linear negative responses (c.-9nT) with an associated positive response (c.+7nT) indicative of ceramic pipes or stony/stone-lined drains probably associated with drainage. Group 3 appears to be parallel to Group 2, obscured by Group 1 and cut by modern drains.

Group 4 was a weak variation negative and positive response (c.+4 to -4nT) that ran along the south-west boundary of the site. It may be indicative of a track way with a ploughed out ditch. The negative response may be indicative of a spread of bank or stony material or a thinner or compressed soil over natural slate rock/rubble. The 1809 OS draft map implies that the road (now the B3303) once had a kink in it, to run past Trefewha. LiDAR imagery shows the possible extended route of this track that may have once continued to the north-west. By the time of the 1838 Tithe map the main north-south road through Praze-an-Beeble is shown as straight, similar to as it is today. It is unclear how this possible track relates to the probable ditch and drain features associated with Groups 1, 2 and 3, although it would appear that Groups 2 and 3 cut it. This would make the probable drainage ditches 19th century or later, while Group 1 could be a contemporary or earlier boundary/ditch.

(SE modern drain may be on line of earlier boundary associated with field on tithe to the east?)

3.0 CONCLUSION

The results of the geophysical survey would suggest that there are four probable 19th century features and a single earlier feature across the site. In addition several 20th century services also cross the site.

Given the place-name evidence it is probable that drainage was vital to the use of the land and a predominant spring and drain to the south-west was likely fed by the drains and ditches probably identified by the geophysical survey. The curvilinear anomaly identified by the survey is probably associated with various curving boundaries associated with medieval field-systems and settlements as can be seen in the wider landscape from mapping evidence through the 19th century and later. It is less likely to be of an earlier date as the majority of prehistoric assets ascribed to the surrounding area, such as barrows and 'rounds' are largely speculative.

The geophysical survey indicates that there is slight potential to disturb archaeological features and deposits during any proposed developments. However, these features and deposits appear to be largely post-medieval and modern in origin, with all features appearing to relate to drainage, field boundaries and agricultural activity. In addition it would appear that any archaeological resource on the site is likely to have been severely truncated by ploughing. Further mitigation for the buried archaeological resource does not therefore appear warranted in this instance.

4.0 BIBLIOGRAPHY

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Cornwall Record Office (CRO):

1838 Crowan Tithe map and apportionment

Ordnance Survey (OS) 1st edition, published 1888

Ordnance Survey (OS) 2nd edition, published 1908

APPENDIX 1: SUPPORTING CARTOGRAPHIC SOURCES AND LIDAR IMAGERY



FIGURE 4: EXTRACTS FROM THE SURVEYOR'S DRAFT MAPS FOR LANDS END AND REDRUTH, c.1809 (BL); THE SITE IS OUTLINED INDICATED.



FIGURE 5: EXTRACT FROM THE 1838 TITHE MAP FOR CROWAN (CRO); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.



Figure 6: Extract from the Ordnance Survey 1st edition, six inch series, Surveyed 1878, Published 1888 (CRO); the approximate location of the site is outlined in red.



FIGURE 7: EXTRACT FROM THE ORDNANCE SURVEY 2ND EDITION, SIX INCH SERIES, SURVEYED 1906, PUBLISHED 1908 (CRO); THE APPROXIMATE LOCATION OF THE SITE IS OUTLINED IN RED.



FIGURE 8: DETAILED TOPOGRAPHICAL IMAGE BASED ON LIDAR DATA. THIS IS A QGIS-GENERATED IMAGE (TERRAIN ANALYSIS>SLOPE) OF TELLUS LIDAR SURVEY DATA [CONTAINS FREELY AVAILABLE LIDAR DATA SUPPLIED BY NATURAL ENVIRONMENT RESEARCH COUNCIL (CENTRE FOR ECOLOGY & HYDROLOGY; BRITISH ANTARCTIC SURVEY; BRITISH GEOLOGICAL SURVEY); ©NERC (CENTRE FOR ECOLOGY & HYDROLOGY; BRITISH ANTARCTIC SURVEY; BRITISH GEOLOGICAL SURVEY)]; THE SITE IS OUTLINED IN RED.

APPENDIX 2: SUPPORTING PHOTOGRAPHS: SITE INSPECTION



FIGURE 9: THE SITE VIEWED FROM THE ENTRANCE IN THE NORTH-WEST CORNER; LOOKING SOUTH-EAST (NO SCALE).



FIGURE 10: THE SITE VIEWED FROM THE NORTH-WEST CORNER; LOOKING EAST (NO SCALE).



FIGURE 11: GARDENS OF LITTLE TREFEWHA SHOWING SPOIL HEAPS FROM MODERN DEVELOPMENTS THAT LOOK LIKE BARROWS AND ARE ABSENT FROM AERIAL SOURCES; LOOKING NORTH-EAST (NO SCALE).



FIGURE 12: CONVERTED METHODIST CHAPEL BEYOND THE SOUTH-EAST CORNER OF THE SITE; LOOKING SOUTH (NO SCALE).

APPENDIX 3: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



FIGURE 13: GEOPHYSICAL SURVEY GRID LOCATION, LAYOUT AND NUMBERING.



FIGURE 14: RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA: GRADIATED SHADING; BAND WEIGHT EQUALISED.

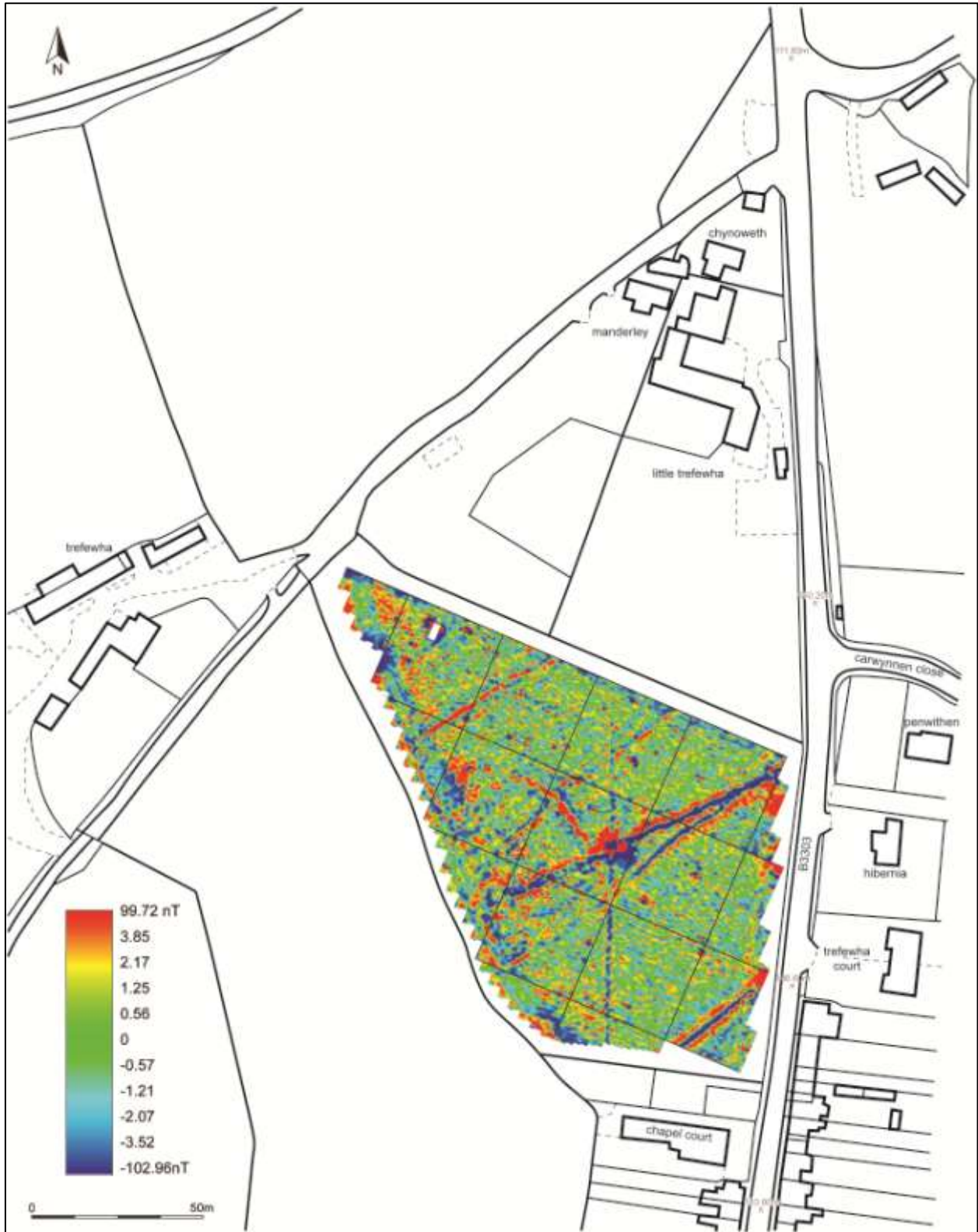


FIGURE 15: RED-BLUE-GREY (2) SHADE PLOT OF GRADIOMETER SURVEY DATA: GRADIATED SHADING; BAND WEIGHT EQUALISED.



The Old Dairy
Hacche Lane Business Park
Pathfields Business Park
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