

PROPOSED WOODLAND CREATION

CONNONBRIDGE

EAST TAPHOUSE

CORNWALL

Results of a Geophysical Survey



South West Archaeology Ltd. report no. 230519



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PROPOSED WOODLAND CREATION, CONNONBRIDGE, EAST TAPHOUSE,
CORNWALL
RESULTS OF A GEOPHYSICAL SURVEY

By P. Webb
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Work undertaken by SWARCH for Cornwall Council (the Client).

SUMMARY

This report presents the results of a geophysical survey carried out by South West Archaeology Ltd. (SWARCH) on land at Connonbridge, East Taphouse, Cornwall to inform plans for proposed woodland planting. The site is located in the parish of St Pinnock, in the historic hundred and deanery of West. Settlement is not recorded at Middle Taphouse until 1532, East Taphouse being recorded on historic mapping from the late 17th century. During the mid-19th century the land of the proposal site was owned by the Honourable Anna Maria Agar of Landhydrock.

The HLC records the site as being within post-medieval enclosed land; and medieval farmland with either medieval or prehistoric origins. The features identified on the HER largely reflect prehistoric use of the landscape, the proposal site falling to the south of the Middle Taphouse barrow cemetery, with further non-designated barrows recorded within and to the west of the site. The site of a Registered Civil War battlefield is also identified to the north.

The survey identified 12 groups of anomalies across the site. These were predominantly linear ditch and/or bank boundary features associated with phases of the existing and historic field-system, though a probable prehistoric barrow was also identified. Possible pits and/or tree-throws, alongside anomalies associated with agricultural activity, metallic debris and ground disturbance were also apparent.

The degree of preservation of the identified features appears to be moderate to poor. The majority of the anomaly responses are moderate to weak, with some intermittent and barely discernible from the background geology. This suggests that whilst some of the identified features may survive to a good depth, others only survive to a shallow depth; their intermittent nature suggesting only partial survival. However, it is possible that additional, even more ephemeral features, are masked by the background geology and modern disturbances.

The results of the geophysical survey would suggest that the archaeological potential for the site is high. Whilst a good number of features have been identified, the majority relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date. However, the combination of a well preserved prehistoric barrow within the survey area and the Registered battle site to the north that are of particular importance on the site, and it is possible that a prehistoric date cannot be ruled out for some of the other features.

The proposed retention of an open clearing around the undesignated barrow is considered an appropriate mitigation strategy in this instance, although the barrow will need to be grazed or cut on a regular basis to maintain this clearance in the future.



June 2023

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THE LANDOWNER AND CLIENT FOR ACCESS

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1.0 INTRODUCTION

LOCATION:	CONNONBRIDGE, EAST TAPHOUSE
PARISH:	ST PINNOCK
COUNTY:	CORNWALL
NGR:	CENTRED ON SX 18153 62700
PLANNING No.:	N/A
SWARCH REF.	ETC23
OASIS REF:	SOUTHWES1-515719

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Cornwall Council (the Client) to undertake a geophysical survey on land at Connonbridge, East Taphouse, St Pinnock, Cornwall as part of proposals for woodland creation in the area. This work was undertaken in accordance with a Written Scheme of Investigation (WSI; Boyd 2023) drawn up in consultation with the Forestry Commission (FC), Local Planning Authority (LPA), best practice and ClfA guidance.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The survey area is located c.500 south of East Taphouse, c6km south-west of Liskeard and c.11km south-east of Bodmin, to the south of Braddock Down and immediately east of the B3359 and Kilmansag Farm. The site sits at the head of a river valley of a tributary of the West Looe River. The soils of the area are the well-drained fine loamy soils over slate or slatestone rubble of the Denbigh 2 Association (SSEW 1983), which overlie the sedimentary slate and siltstone of the Saltash Formation (BGS 2023) at a height of between c.145m and c.170m AOD.

1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The site is located at the western edge of the parish of St Pinnock, in the historic hundred and deanery of West. Settlement is not recorded at Middle Taphouse (from the Cornish meaning 'house at the top or summit') until 1532, East Taphouse being recorded on historic mapping from the late 17th century (Buck 1996).

The proposal site lies within an area recorded on the Historic Landscape Characterisation (HLC) as *Post-medieval enclosed land: Land enclosed in the 17th, 18th and 19th centuries, usually from land that was previously upland rough ground and often medieval commons; generally in relatively high exposed or poorly drained parts of the country.* The rest of the proposed woodland site lies within *Farmland: medieval: 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.*

At the time of the tithe survey (c.1841), the land occupied by the fields of the proposal site were listed as *Travillis Downs* (plot 123, leased to Matthew Ede and occupied by Samuel Matthews); *North Down* (plot no. 125 leased to Jane Browne; plot nos. 201-2 leased to John Verrin; plot no. 232 leased to Robert Nicholls; and plot no. 243 leased to Charles and Richard Jay) and *North Hill* (plot no. 277 leased to Robert Nicholls), all owned by the Honourable Anna Maria Agar of Lanhydrock.

The features identified on the Cornwall Historic Environment Record (HER) largely reflect prehistoric use of the landscape, the site falling to the south of a barrow cemetery at Middle Taphouse (SAM1003077, SAM1004433, SAM 1004435) and to the north of a scheduled barrow at Kilmansag (SAM 1004434), with further non-designated barrows (MCO42287, MCO44050) to the

immediate west of the site along with a flint scatter (MCO1145). Within the boundary of the site a further barrow (MCO2955) and post-medieval quarry (MCO42313) are recorded. The Scheduled Barrow group to the north has been subject to a geophysical survey (Dean 2015), which suggest that the western most example may not/no-longer survive as an archaeological feature/deposits.

The site also lies to the immediate south of the Registered battlefield of Braddock Down (List 1000005), the site of a Civil War battle of 1643, where the Royalist Sir Ralph Hopton defeated the Parliamentarian forces of Colonel Ruthin. This area was subject to an archaeological assessment by Cornwall Archaeological Unit in 1996 (Buck 1996).

1.4 METHODOLOGY

The geophysical (gradiometer) survey was undertaken in accordance with current best practice and ClfA guidance; and follows the guidance outlined in *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008b); *Standard and Guidance for Archaeological Geophysical Survey* (ClfA 2014b); *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016).

'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 to inform a strategy to mitigate any threat to the archaeological resource.

PROPOSED WOODLAND CREATION, CONNONBRIDGE, EAST TAPHOUSE, CORNWALL

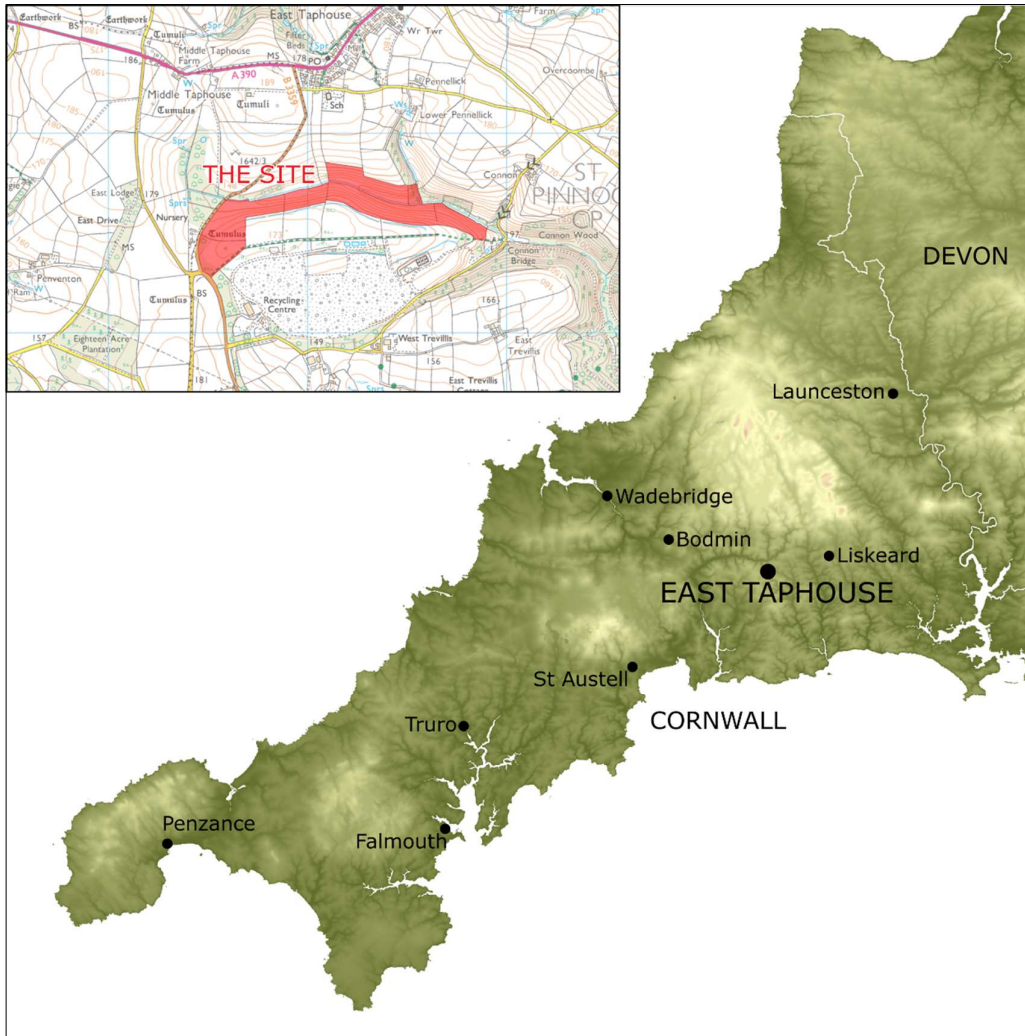


FIGURE 1: SITE LOCATION (THE SITE IS INDICATED). CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2023. LICENCE NUMBER 100022432.

2.0 GEOPHYSICAL SURVEY

2.1 INTRODUCTION

An area of c.6ha was the subject of a magnetometry (gradiometer) survey (c.4.01ha surveyed) within the wider proposal site. 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 between 17th-19th May 2023 by P. Bonvoisin and the survey data processed by P. Webb. Supporting photographic evidence from the site inspection can be seen in Appendix 1; detailed survey data in Appendix 2; and additional graphic images of the survey data and numbered grid locations can be found in Appendix 3.

2.2 SITE INSPECTION

The site comprises two north to south orientated sub-rectangular fields (F1 c.3.4ha; F2 c.2.5ha) along the eastern edge of the B3359 to the south of East Taphouse. At the time of survey the site was under pasture. The topography of the site slopes steeply up from the north-west (within field F1) towards a plateau (within field F2). The site is bordered to the north by an area of woodland; to the east by agricultural land; to the south by a recycling centre; and to the west by the B3359. Both fields are bounded by tree-lined hedgebanks with internal post and wire fences.

The ground is generally uneven, though a number of earthworks could be identified across the site, including: the earthwork mound of a possible prehistoric barrow towards the middle of field F2; a large sub-oval to irregular hollow suggestive of a quarry pit towards the north-western corner of field F2.

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* (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 30x30m. 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).

DeStagger selected grids, all traverses out- and inbound by 0.25m to 0.50m reduces staggering effects within data derived from zig-zag collection method.

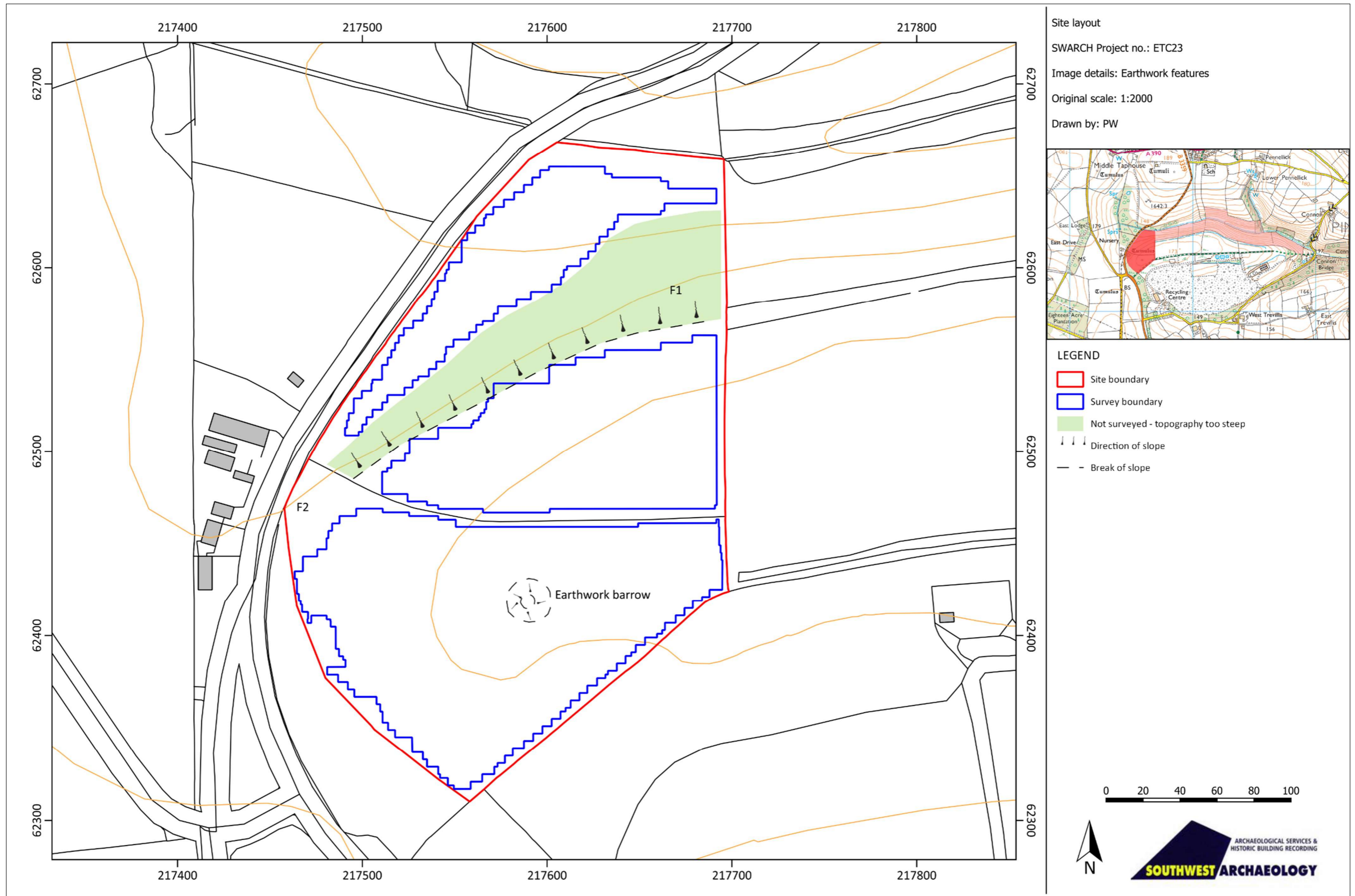


FIGURE 2: SITE LAYOUT SHOWING POSITION OF IDENTIFIED EARTHWORK FEATURES (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).

TABLE 1: SURVEY DETAILS (UN-ADJUSTED)

Field	Area Surveyed (ha)	Max (nT)	Min (nT)	Standard Deviation (nT)	Mean (nT)	Median (nT)
F1	1.9074	98.36	-75.62	3.86	0.79	0.59
F2	2.0984	96.48	-100.00	6.19	-0.04	0.31

2.4 RESULTS

Table 2 with the accompanying Figures 3-4 show the analyses and interpretation of the geophysical survey data.

TABLE 2: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
Field F1				
1	Moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional hedgebank construction. Orientated between approximately north-east to south-west and north-west to south-east. Depicted on historic mapping. Responses of between -15.70nT to -0.60nT and +0.08nT to +18.92nT.
2	Weak positive, possible	Linear	Historic boundary – ditch	Indicative of cut and infilled features such as ditches. Weak responses may indicate only shallow survival. Orientated approximately north-east to south-west. Depicted on historic mapping. Responses of between +0.07nT and +6.20nT.
3	Moderate positive & negative, probable	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional hedgebank construction. Orientated approximately north-east to south-west. Responses of between -9.47nT to -0.26nT and +0.45nT to +11.73nT.
4	Moderate to strong positive & negative, probable	Linear	Ditch & bank or modern service	Indicative of cut and infilled features such as ditches with flanking banked/compacted material. Strength of responses may indicate buried modern services. Orientated between approximately north-east to south-west and north-west to south-east. Responses of between -30.23nT to -0.20nT and +1.25nT to +26.74nT.
5	Moderate positive, possible	Linear	Ditch	Indicative of cut and infilled features such as ditches. Orientated between approximately north-east to south-west and north-west to south-east. Responses of between +0.05nT and +12.84nT.
6	Moderate to strong positive, possible	Discrete	Pit or tree-throw	Indicative of discrete cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Responses of between +2.85nT and +33.97nT.
	Weak positive & negative, possible	Linear	Agricultural activity	Linear striations covering the field with regularity. Indicative of ploughing. Weaker mixed positive and negative responses suggest shallow ploughing. Aligned approximately north-east to south-west. Responses of between -3.83nT and +4.29nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic objects. Responses of between -51.54nT and +98.91nT.
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris. Responses of between -76.26nT and +102.43nT.
Field F2				
7	Very strong positive & negative, probable	Discrete	Quarry pit	Indicative of cut and infilled features such as pits with associated banked material. Depicted on historic mapping. Responses of between -26.47nT to -1.32nT and +1.07nT to +70.77nT.
8	Weak positive & negative, probable	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional hedgebank construction. Orientated approximately north-east to south-west. Responses of between -6.63nT to -0.09nT and +0.16nT to +9.65nT.
9	Weak positive & negative, possible	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional hedgebank construction. Orientated approximately north-east to south-west. Responses of between -4.30nT to -0.08nT and +0.10nT to +6.26nT.
10	Very weak positive & negative	Linear	Ditch & bank or agricultural activity	Indicative of cut and infilled features such as ditches with flanking banked/compacted material. Weak responses may indicate deeper cut agricultural features. Orientated approximately north-east to south-west. Responses of between

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
				-4.12nT to -0.11nT and +0.41nT to +4.66nT.
11	Weak positive, possible	Linear	Ditch	Indicative of cut and infilled features such as ditches. Orientated between approximately north-east to south-west and north-west to south-east. Responses of between +0.17nT and +6.65nT.
12	Moderate positive & negative, probable	Discrete	Barrow	Indicative of cut and infilled features such as ditches associated with banked material. Visible as a substantial earthwork feature. Responses of between -11.07nT to -0.07nT and +0.31nT to +17.78nT.
13	Weak to moderate positive, possible	Discrete	Pit or tree-throw	Indicative of discrete cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Responses of between +0.03nT and +14.51nT.
	Weak positive & negative, possible	Linear	Agricultural activity	Linear striations covering the field with regularity. Indicative of ploughing. Weaker mixed positive and negative responses suggest shallow ploughing. Aligned approximately north-east to south-west. Responses of between -4.54nT and +4.71nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic objects. Responses of between -61.22nT and +80.52nT.
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris. Responses of between -100.76nT and +50.33nT.

2.5 DISCUSSION

The survey identified 12 groups of anomalies across the site. These were predominantly linear ditch and/or bank boundary features associated with phases of the existing and historic field-system, though a probable prehistoric barrow was also identified. Possible pits and/or tree-throws, alongside anomalies associated with agricultural activity, metallic debris and ground disturbance were also apparent.

The general response variation across the site was between +/-3nT with occasional clear background geological variation up to +/-5nT. The response strength of probable archaeological activity was low to moderate (typically between +/-15nT) though areas of stronger responses (up to c. +/-30nT) were present. The weaker responses of some of the anomalies may indicate that these are only likely to survive to a shallow depth; the stronger responses perhaps indicating the presence of more recent disturbance.

The anomaly groups identified include: historic ditch and bank boundaries created during the 19th century and removed by the early (Group 2) and mid- (Group 1) 20th century; further possible ditch and/or bank features associated with phases of the existing and historic field boundaries (Groups 3-5 and 8-11); a 19th century quarry pit (Group 7); a possible prehistoric barrow (Group 12); and possible pits or tree-throws (Groups 6 and 13).

2.6 ARCHAEOLOGICAL POTENTIAL

Whilst none of the identified features can at this stage be dated, the location of several of the anomaly features correspond with boundaries depicted on historic mapping, indicating that these features were in use from the end of the 19th century and removed by 1907 (Group 2) or later in the 20th century (Group 1). Whilst not mapped, further ditch features are positioned running parallel to and alongside existing field boundaries (Group 8) and may reflect a slight shift in the position of these current boundaries.

The historic field-pattern of the site is characterised as *post-medieval enclosed land, enclosed in the 17th, 18th and 19th centuries alongside medieval farmland*; the surviving boundaries of which are represented in the gently curving elements of the existing field-system. It is likely that many of the ditch and/or bank features form part of these earlier field-systems, having been removed by the mid-19th century. In some instances these boundaries are clearly congruent with the broad layout of this

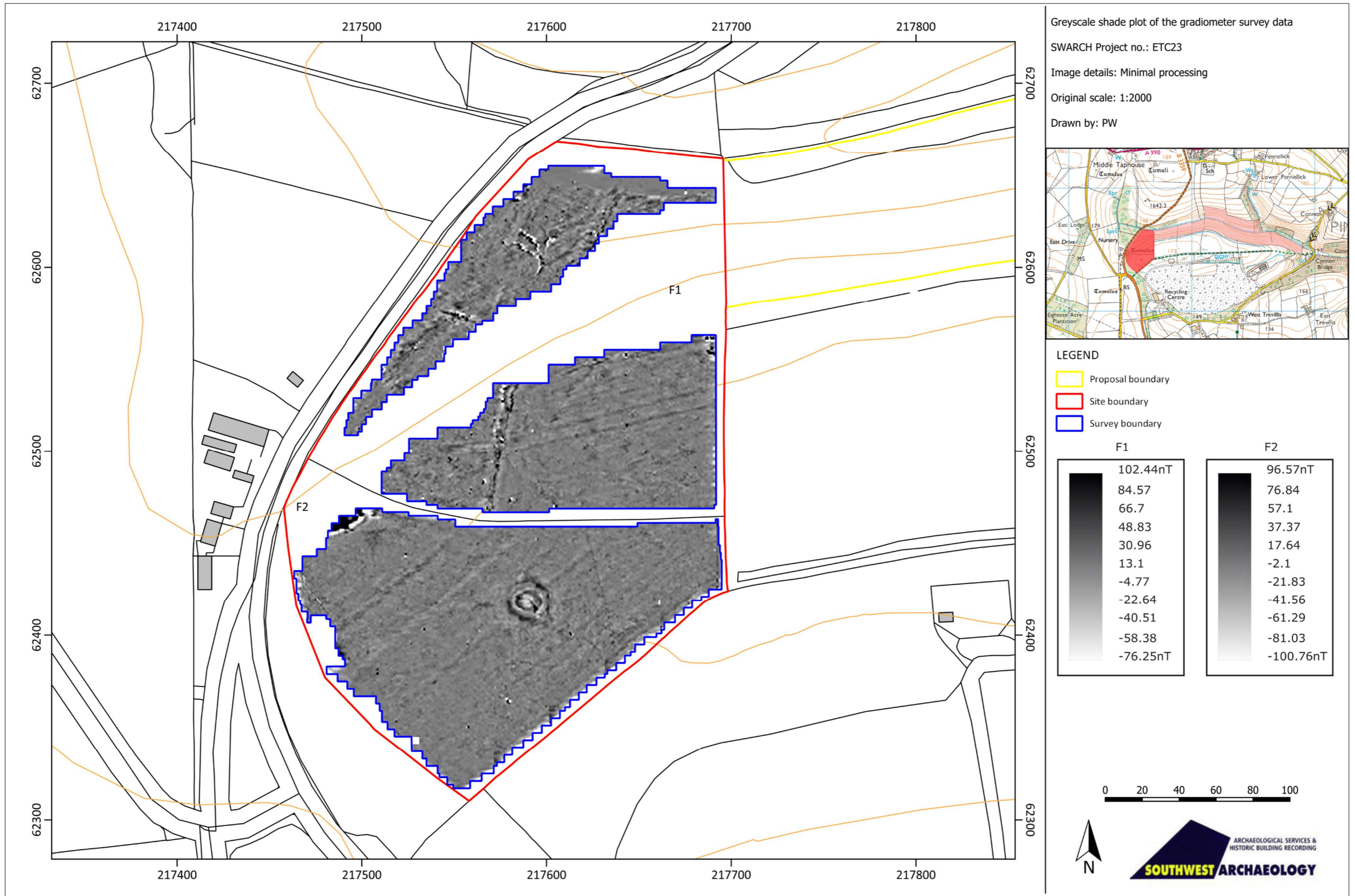


FIGURE 3: GREYSCALE SHADE PLOT OF THE GRADIOMETER SURVEY DATA; MINIMAL PROCESSING (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).

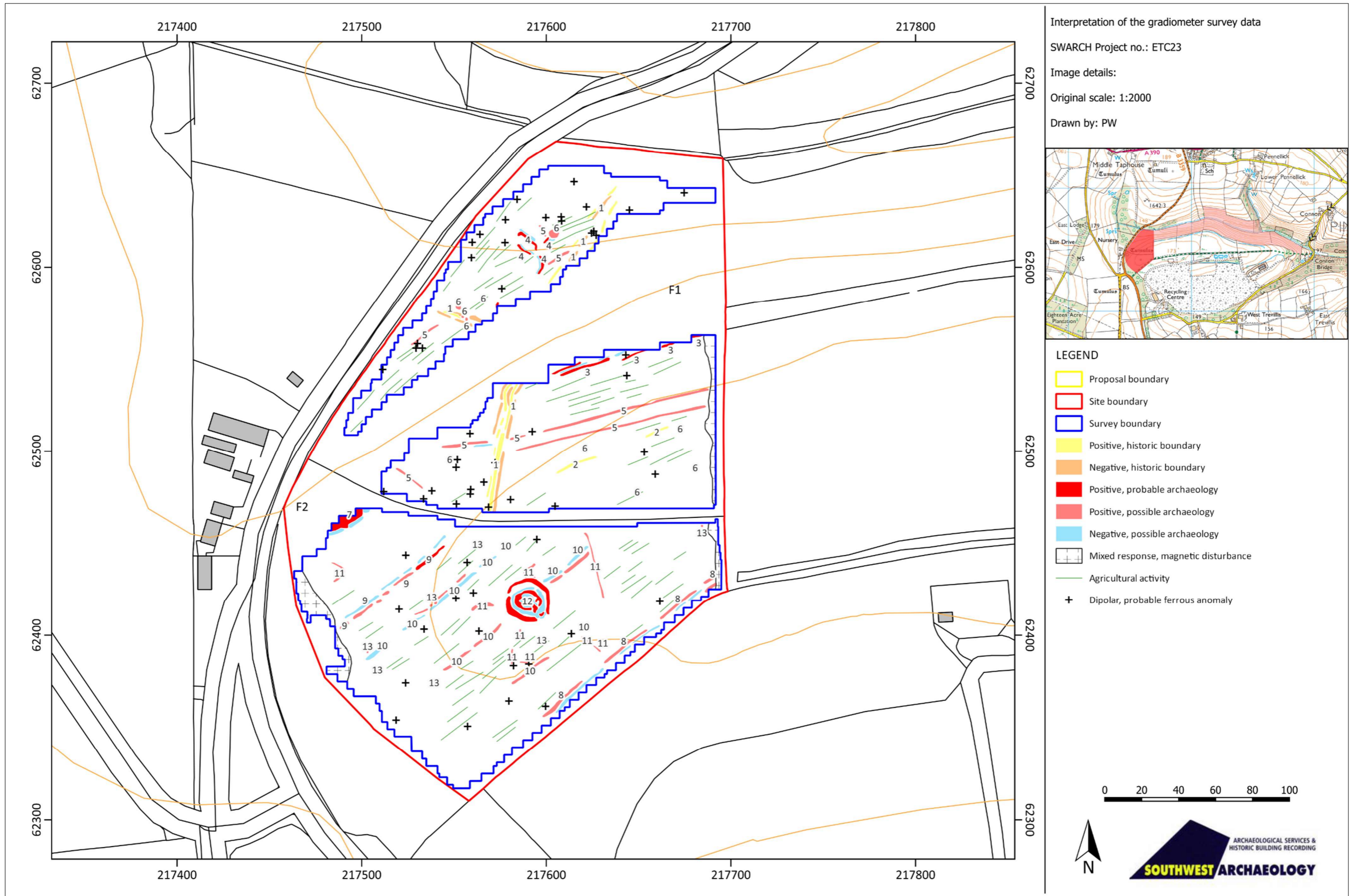


FIGURE 4: INTERPRETATION OF THE GRADIOMETER SURVEY DATA (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).

field-system (Groups 3, 5, 9 and 11); though some which appear congruent show weaker responses suggesting that they may be deeper cut examples of agricultural activity (Group 10) which run broadly parallel to these features. Further possible ditch features (Group 4) may also be associated as part of the historic field-system, though the strength of the responses suggests the possibility of their being modern services.

A number of possible pit features (Groups 6 and 13) were identified across the site, though the weak nature of many of the responses suggests that they may be natural in origin, the anomalies reflecting tree-throws. However, some pit features (Group 7) appear much more substantial, their size and surrounding banked (spoil) material suggesting use as extractive quarry pits, historic mapping indicating possible use during the late 19th century.

The unscheduled barrow (MCO42313) visible as an earthwork mound within field F2 was identified within the results of the geophysical survey as a central mound of banked material with a surrounding outer ditch (Group 12). A possible entrance is suggested by a break in the ditch to the south-eastern edge of the feature.

The degree of preservation of the identified features appears to be moderate to poor. The majority of the anomaly responses are moderate to weak, with some intermittent and barely discernible from the background geology. This suggests that whilst some of the identified features may survive to a good depth, others only survive to a shallow depth; their intermittent nature suggesting only partial survival. However, it is possible that additional, even more ephemeral features, are masked by the background geology and modern disturbances.

The results of the geophysical survey would suggest that the archaeological potential for the site is *high*. Whilst a good number of features have been identified, the majority relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date. However, it is the presence of a well preserved probable barrow feature of prehistoric date that is of particular importance on the site, and it is possible that a prehistoric date cannot be ruled out for some of the other features.

Any development of the site is likely to encounter and destroy the buried archaeological resource (should it be present), and further mitigation through targeted evaluation trenching would validate and clarify the results of the geophysical survey.

3.0 CONCLUSION

The proposal site comprises five irregular to sub-rectangular fields located c.500 south of East Taphouse, c6km south-west of Liskeard and c.11km south-east of Bodmin. The site sits at the head of a river valley to a tributary of the West Looe River south of Braddock Down and immediately east of the B3359 and Kilmansag Farm.

The site is located at the western edge of the parish of St Pinnock, in the historic hundred and deanery of West. Settlement is not recorded at Middle Taphouse until 1532, East Taphouse being recorded on historic mapping from the late 17th century. During the mid-19th century the land of the proposal site was owned by the Honourable Anna Maria Agar of Landhydrock.

The proposal site lies within an area recorded on the HLC as *post-medieval enclosed land*, enclosed between the 17th and 19th centuries; and *medieval farmland with either medieval or prehistoric origins*.

The features identified on the Cornwall HER largely reflect prehistoric use of the landscape, the proposal site falling to the south of the Middle Taphouse barrow cemetery, with further non-designated barrows recorded within and to the west of the site. The site of a Registered Civil War battlefield is also identified to the north.

The survey identified 12 groups of anomalies across the site. These were predominantly linear ditch and/or bank boundary features associated with phases of the existing and historic field-system, though the known prehistoric barrow was also clearly identified. Possible pits and/or tree-throws, alongside anomalies associated with agricultural activity, metallic debris and ground disturbance were also apparent.

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The results of the geophysical survey would suggest that the archaeological potential for the site is *high*. Whilst a good number of features have been identified, the majority relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date. However, the combination of a well preserved (probable) prehistoric barrow within the survey area and the Registered battle site to the north that are of particular importance on the site, and it is possible that a prehistoric date cannot be ruled out for some of the other features.

The proposed strategy of maintaining an open area around the barrow in the proposed planting scheme is considered to be very appropriate. The view between the barrow on this site and the large scheduled barrow to the north-north-east at Middle Taphouse should also remain largely open. Views towards other barrows (to the north and south-east) in this landscape are already largely screened by existing hedges, roads and modern features so maintaining any visual relationships is already infeasible and less sensitive.

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APPENDIX 1: SUPPORTING PHOTOGRAPHS – SITE INSPECTION



1. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE SOUTH (NO SCALE).



2. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE SOUTH-EAST (NO SCALE).



3. F1, VIEW ALONG THE WESTERN BOUNDARY; VIEWED FROM THE SOUTH-WEST (1M SCALE).



4. F1, DETAIL OF THE WESTERN BOUNDARY; VIEWED FROM THE SOUTH-EAST (1M SCALE).



5. F1, DETAIL SHOWING THE GRADIENT ACROSS THE MIDDLE OF THE FIELD; VIEWED FROM THE WEST (NO SCALE).



6. F2, VIEW ACROSS FIELD TOWARDS THE NON-DESIGNATED BARROW; VIEWED FROM THE WEST (NO SCALE).



7. F2, VIEW ACROSS THE FIELD; VIEWED FROM THE NORTH-WEST (NO SCALE).



8. F2, DETAIL OF NORTHERN BOUNDARY; VIEWED FROM THE SOUTH (1M SCALE).



9. F2, DETAIL OF THE WESTERN BOUNDARY; VIEWED FROM THE EAST (1M SCALE).



10. F2, DETAIL OF THE NON-DESIGNATED BARROW; VIEWED FROM THE WEST (NO SCALE).



11. F2, VIEW ACROSS THE AREA OF THE POST-MEDIEVAL QUARRY; VIEWED FROM THE NORTH-EAST (NO SCALE).

APPENDIX 2: METADATA FOR GEOPHYSICAL SURVEY PROCESSING

GRADIOMETRY

GENERAL DATA FOR ALL FIELDS/SITE:

SITE

NAME: ETC23
LOCATION: Connonbridge, East Taphouse
COLLECTION METHOD: ZigZag
SENSORS: 2 @1m spacing
DUMMY VALUE: 32702
X&Y INTERVAL: 0.25m
INSTRUMENT TYPE: Bartington Grad 601
UNITS: nT
SURVEYED AREA: 4.0058ha

PROGRAM

NAME: TerraSurveyor
VERSION: 3.0.37.30

STATISTICS ADJUSTED AFTER PROCESSING

PROCESSES USED:

DeStripe: 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).

DeStagger: reduces staggering effects within data derived from zig-zag collection method.

FIELD F1

STATS

MAX: 98.36
MIN: -75.62
STD. DEV.: 3.86
MEAN: 0.79
MEDIAN: 0.59
COMPOSITE AREA: 4.41ha
SURVEYED AREA: 1.9074ha

PROCESSES

PROCESSES: 14

- 1 Base Layer
- 2 DeStripe Median Traverse: Grids: All
- 3 DeStagger: Grids: a32.xgd a16.xgd a17.xgd a13.xgd a14.xgd By: 0 intervals, 50.00cm
- 4 DeStagger: Grids: a32.xgd a16.xgd a13.xgd By: 0 intervals, 25.00cm
- 5 DeStagger: Grids: a32.xgd a16.xgd a13.xgd By: 0 intervals, 25.00cm
- 6 DeStagger: Grids: a13.xgd By: 0 intervals, 25.00cm
- 7 DeStagger: Grids: SubGrid (Area: Top 120, Left 480, Bottom 151, Right 599) By: 0 intervals, -50.00cm
- 8 DeStagger: Grids: SubGrid (Area: Top 126, Left 480, Bottom 129, Right 599) By: 0 intervals, -50.00cm
- 9 DeStagger: Grids: SubGrid (Area: Top 122, Left 480, Bottom 125, Right 599) By: 0 intervals, -50.00cm
- 10 DeStagger: Grids: SubGrid (Area: Top 120, Left 480, Bottom 133, Right 599) By: 0 intervals, 25.00cm
- 11 DeStagger: Grids: a13.xgd By: 0 intervals, 25.00cm
- 12 DeStagger: Grids: SubGrid (Area: Top 122, Left 480, Bottom 131, Right 599) By: 0 intervals, -50.00cm
- 13 DeStagger: Grids: SubGrid (Area: Top 120, Left 480, Bottom 129, Right 599) By: 0 intervals, -50.00cm
- 14 DeStagger: Grids: SubGrid (Area: Top 122, Left 480, Bottom 127, Right 599) By: 0 intervals, -25.00cm

FIELD F2

STATS

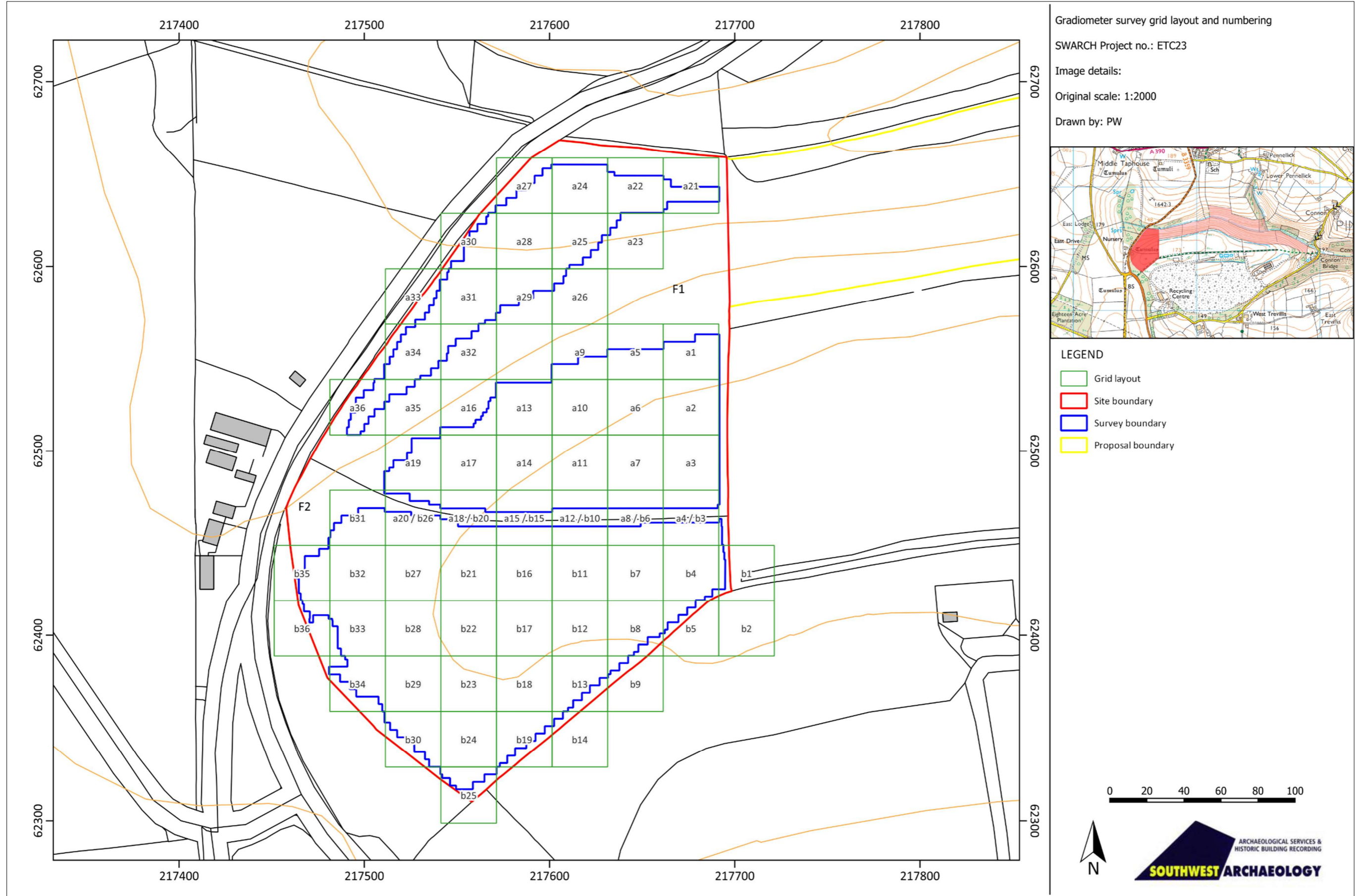
MAX: 96.48
MIN: -100.00
STD. DEV.: 6.19
MEAN: -0.04
MEDIAN: 0.31
COMPOSITE AREA: 4.86ha
SURVEYED AREA: 2.0984ha

PROCESSES

PROCESSES: 5

- 1 Base Layer
- 2 DeStripe Median Traverse: Grids: All
- 3 DeStagger: Grids: b16.xgd b17.xgd b11.xgd b12.xgd By: 0 intervals, 50.00cm
- 4 DeStagger: Grids: b16.xgd b17.xgd b11.xgd b12.xgd By: 0 intervals, 25.00cm
- 5 DeStagger: Grids: b16.xgd b17.xgd By: 0 intervals, 25.00cm

APPENDIX 3: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



Gradiometer survey grid layout and numbering

SWARCH Project no.: ETC23

Image details:

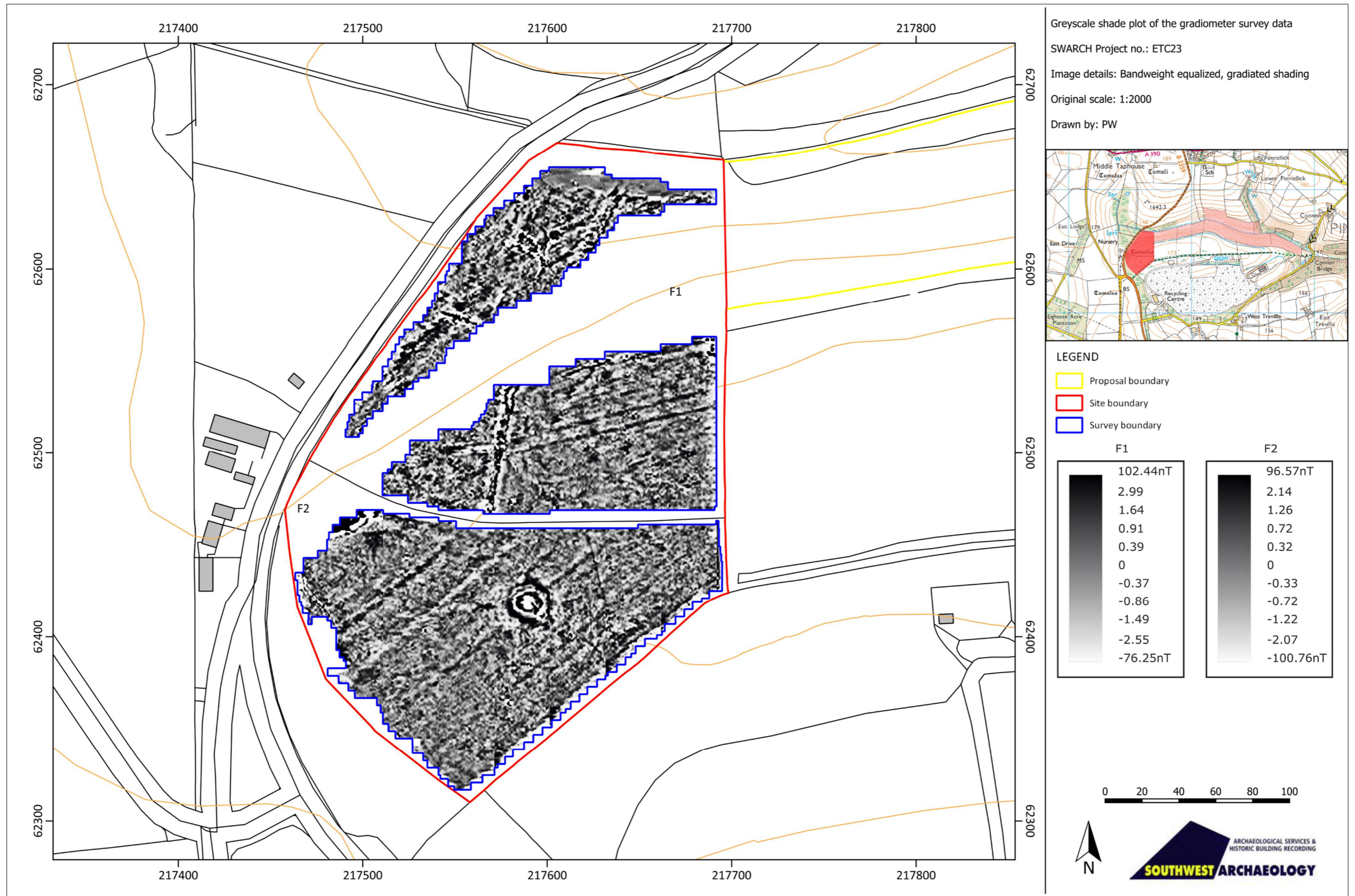
Original scale: 1:2000

Drawn by: PW

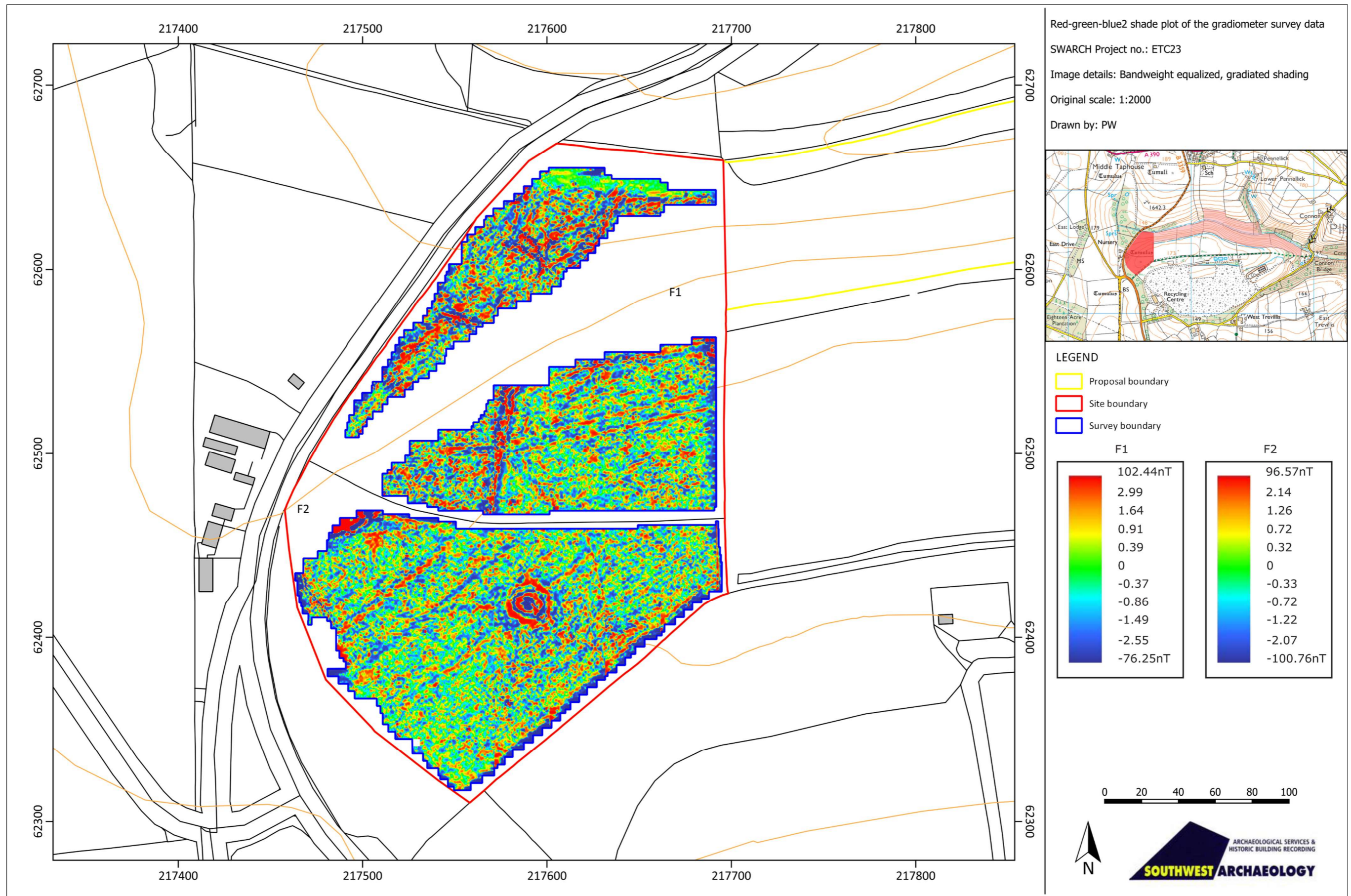
LEGEND

- Grid layout
- Site boundary
- Survey boundary
- Proposal boundary

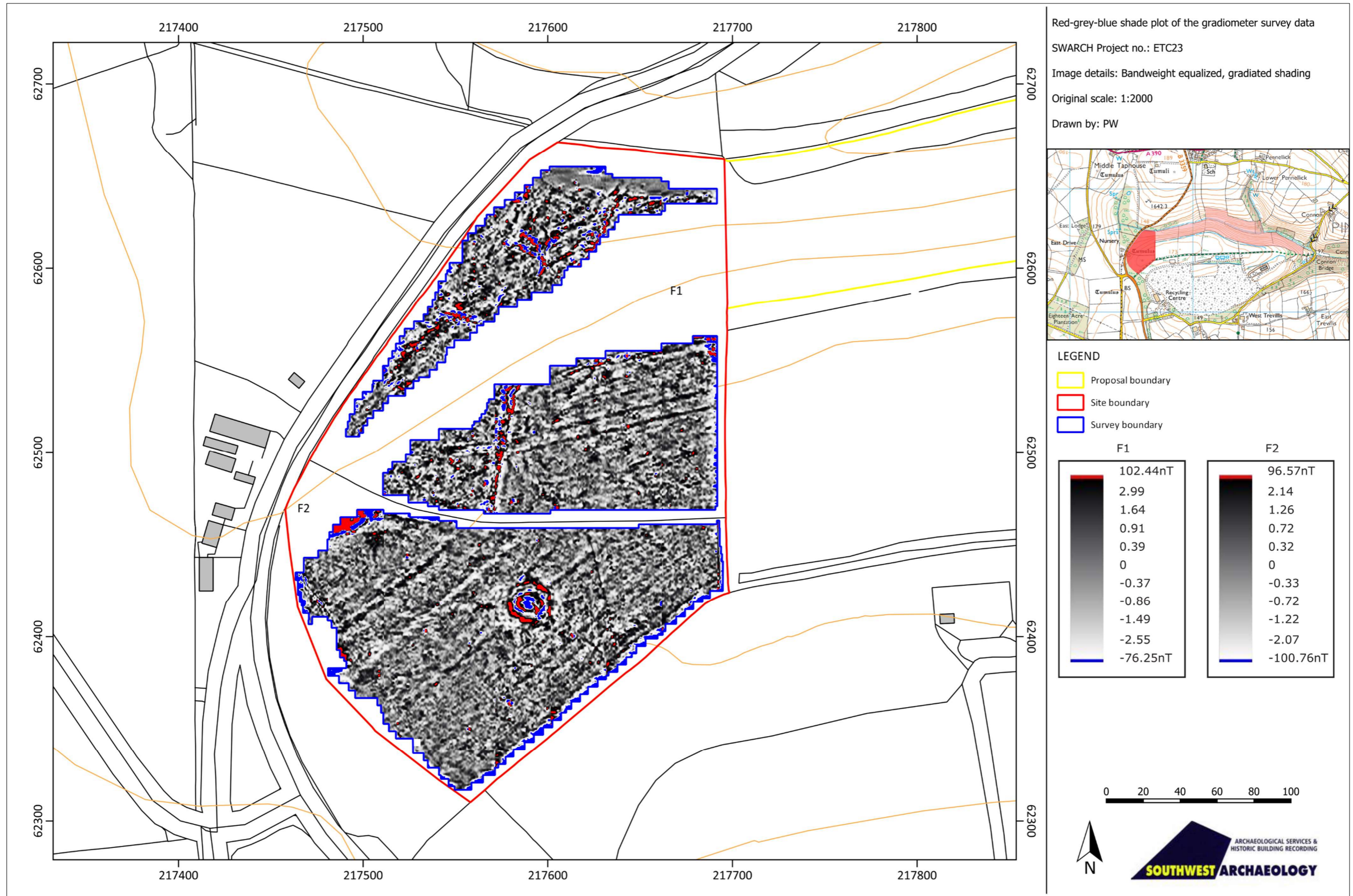
1. GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING. (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).



2. GREYSCALE SHADE PLOT OF GRADIOMETER SURVEY DATA; BANDWEIGHT EQUALIZED, GRADIATED SHADING (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).



3. RED-GREEN-BLUE2 SHADE PLOT OF GRADIOMETER SURVEY DATA; BANDWEIGHT EQUALIZED, GRADIATED SHADING (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).



4. RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BANDWEIGHT EQUALIZED, GRADIATED SHADING (CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT 2023. LICENCE NUMBER 100022432).



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