

# LAND ADJACENT TO WHITE CROFT

NANCLDRA

TOWEDNACK

CORNWALL

Results of a Geophysical Survey



South West Archaeology Ltd. report no. 190226



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# LAND ADJACENT TO WHITE CROFT, NANCLEDRA, TOWEDNACK, CORNWALL

## RESULTS OF A GEOPHYSICAL SURVEY

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By J. Bampton  
Report Version: FINAL

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Work undertaken by SWARCH for Cornwall Community Land Trust (the Client)

### *SUMMARY*

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*This report presents the results of a geophysical survey carried out by South West Archaeology Ltd. (SWARCH) on land adjacent to White Croft, Nancledra Hill, Nancledra, Cornwall. The site is located on the north side of Nancledra; a 14<sup>th</sup> century settlement at a ford of the Red River. A leat associated with a post-medieval mill in Nancledra lined the western edge of the site.*

*The geophysical survey identified a single linear anomaly associated with a modern service. No other significant responses were identified.*

*Based on the geophysical survey results, no further archaeological works are recommended for the site.*

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February 2019

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## ACKNOWLEDGEMENTS

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THE CORNWALL COMMUNITY LAND TRUST (THE CLIENT)  
CORNWALL COUNCILS HISTORIC ENVIRONMENT TEAM

## PROJECT CREDITS

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GRAPHICS: JOE BAMPTON

## 1.0 INTRODUCTION

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<b>LOCATION:</b>	LAND ADJACENT TO WHITE CROFT, NANCLEDRA HILL (B3311), NANCLEDRA
<b>PARISH:</b>	TOWEDNACK
<b>COUNTY:</b>	CORNWALL
<b>NGR:</b>	SW 49550 36150
<b>PLANNING NO.</b>	PRE-PLANNING
<b>SWARCH REF.</b>	TNW19

### 1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Cornwall Community Land Trust (the Client) to undertake a geophysical survey on land adjacent to White Croft, Nancledra Hill, Nancledra, Cornwall, as part of the pre-application requirements for a proposed housing development. This work was undertaken in accordance with best practice and ClfA guidance.

### 1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The village of Nancledra is located c.6km north-north-east of Penzance, on the B3311, at the crossing of the Red River in a landscape of steep valleys and hills. The site is across a roughly trapezoidal field on the north side of the village, immediately north of White Croft. The field sloped down moderately to the south-west with a drain along its west boundary and the B3311 along its east boundary. The site was at a height of c.120m AOD; sloping from c.125m AOD in its north-east corner to 115m AOD in its south-west corner (Figure 1).

The soils on the site are the well-drained gritty loamy soils with a humose surface horizon in places of the Moretonhampstead Association (SSEW 1983), which overlie the Land's End Intrusion of microgranite and aplitic rock (BGS 2019).

### 1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The settlement at Nancledra was first recorded as *Nanscludri* in 1301/2 (Watts 2004; MCO15810). The place-name 'Nancledra' is derived from the Cornish, *nans* meaning 'valley' and probably a personal name; meaning 'Culdir's valley' (Watts 2004). The village is located in the deanery and west division of the hundred of Penwith (Lysons 1814), c.6km north-north-east of Penzance. Lysons (1814) refers to the settlement as *Nancledry* and the 1841 Tithe apportionment refers to it as *Nancledery*. In 1841 the estate of *Nancledery* (Nancledra) was owned by a John Davies Gilbert Esq. and occupied and farmed by tenants. The site was listed on the 1841 tithe apportionment as plot 924, was occupied by a Henry Roach, called *Town Field* and was under arable cultivation. The majority of the fields around the site, according to the tithe apportionment, had prosaic names and were under arable cultivation. Some fields in the wider area had names that may allude to prehistoric 'rounds' or barrows, such as plot 912 to the south-east of the site: 'Lower Burrow Field' (MCO3156). In the 20<sup>th</sup> century *White Croft* was built and the southern boundary of the site established. At least in the post-medieval period the Red River to the west of the site has been utilised for milling and a leat, now blocked, runs to the 18<sup>th</sup> century *Corn Mill* in Nancledra (MCO27785) along the west boundary of the site.

No previous archaeological field work has taken place on the site. An archaeological assessment and watching brief have been conducted at Chypons Bridge to the north (ECO2183; ECO2914). Three Grade II Listed properties are in Nancledra, including; Nancledra Mill, mentioned above; the 19<sup>th</sup> century Gilbert Hall (MCO52907); and the 19<sup>th</sup> century Wesleyan Methodist Chapel (MCO32946). Cornwall's Historic Environment Record (HER) list very few significant assets close to

the site, although it does include; a Mesolithic flint scatter (MCO45098) to the south-east of the site; a possible prehistoric field system (MCO50780) identified from aerial photography to the west; and a Scheduled medieval cross at Brunnion Carn (MCO5062) to the east, all within 1km of the site. Within 2km of the site and possibly indicative of the landscape around the site the HER lists Scheduled monuments including; the Neolithic enclosure/Iron Age Hillfort at Trencrom Castle (MCO91) to the east; the Iron Age hillfort and 18<sup>th</sup> century folly at Castle-An-Dinas (MCO90) to the south-west; and a 'round' and enclosure at Chellew Farm (MCO8709) to the south; as well as various barrows and prehistoric settlements further afield, particularly to the west. Also, within c.500m of the site the HER lists post-medieval mines at Boswase to the south and the tin mine at Wheal Margaret to the east (Cornwall PRN: 40671; 40410). Furthermore, the Cornwall Historic Landscape Characterisation describes the site as within 'Historic Farmland' - *'The agricultural heartland, with farming settlements documented before the 17<sup>th</sup> century AD and whose field patterns are morphologically distinct from the generally straight-sided fields of later enclosure. Either medieval or prehistoric origins'*.

#### 1.4 METHODOLOGY

This work was undertaken in accordance with best practice and ClfA guidance. Any desk-based assessment aspect of this report follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (ClfA 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: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (ClfA 2014b).

LAND ADJACENT TO WHITE CROFT, NANCLEDRA, TOWEDNACK, CORNWALL



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

## 2.0 GEOPHYSICAL SURVEY

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### 2.1 INTRODUCTION

An area of c.0.3ha was the subject of a magnetometry (gradiometer) survey. The purpose of this survey was to identify and record magnetic anomalies within the proposed site. While identified anomalies may relate to archaeological deposits and structures the dimensions of recorded anomalies may not correspond directly with any associated features. The following discussion attempts to clarify and characterise the identified anomalies. The survey was undertaken on the 22<sup>nd</sup> of February 2019 by J. Bampton; the survey data was processed by J. Bampton.

### 2.2 SITE INSPECTION

The site is located across a small trapezoidal field that had been under pasture and as meadow prior to the geophysical survey. Various ruts were visible on the ground, perhaps associated with the cutting of overgrowth in the recent past. The site was under short grass. The site sloped moderately down from the north-east corner of the site to the south-west. It had stone-lined Cornish hedgebanks, over 1m high, along its east and north boundaries; the northern example being overgrown with scrub and slightly eroded; and the eastern being well consolidated and also overgrown with gorse scrub. Two telegraph poles were located along the eastern boundary and the entrance to the site was in the north end of the eastern boundary. An animal eroded, possibly recently reinstated, section of boundary was located near the entrance to the site at the east end of the northern boundary. The southern boundary was defined by a wooden- and chain-link fence lined with ferns with a gate to the garden of White Croft at its west end. The western boundary dropped away to a contour leat terrace that was lined with stunted trees, scrub and a post and wire fence. The leat was no longer functioning. The ground along this edge may have been slightly built up and retained to maintain the edge of this leat. No obvious standing remains or earthworks were present on the site. Supporting photographs for the site inspection can be seen in Appendix 3.

### 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 all traverses out- and inbound by -2 intervals.

Details: 0.28125ha surveyed; Max. 118.79nT, Min. -142.39nT; Standard Deviation 14.15nT, mean -0.32nT, median 0.00nT.



## 2.4 RESULTS

Table 1 with the accompanying Figure 2 shows 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 1.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Strong bipolar/ mixed response, probable	Linear	Modern service	Indicative of a modern metallic service. Responses of between -140nT and +119nT

## 2.5 DISCUSSION

The survey identified a single anomaly group indicative of a modern service running approximately north-south along the eastern edge of the site. There were no responses of significant or probable archaeological character on the site: shallow ground disturbance, geological variation and magnetic disturbance accounting for discernible patterns and variation in response. Some landscaping associated with the leat along the western edge of the site may have occurred and account for some magnetic disturbance in that area, however metal fence-lines and scrub made the very western edge of the site un-surveyable. The leat and by default any possible associated features along the western edge of the site are ostensibly post-medieval, based on the dates attributed to Nancledra Mill. Cartographic and additional sources that support the discussion and interpretation are referred to in Section 1.3 and can be seen in Appendix 2.

Anomaly Group 1 consists of strong mixed (bipolar) (-140 to +119nT) linear response, aligned approximately north-south. It is indicative of a modern metallic service running along the eastern edge of the site. An animal eroded crossing over the northern site boundary, at its east end, may have been reinstated having had this service cut through it.

The general geological variation of response across the site varied between +/-2 nT and slightly above and a handful of weak discrete ovoid and sinuous and linear patterns in the geophysical response are so weak as to fall within natural variation or shallow ground disturbance, as was noticed during the site inspection. A faint negative linear response in the south-west of the site may equate to a shallow pipe/drain.

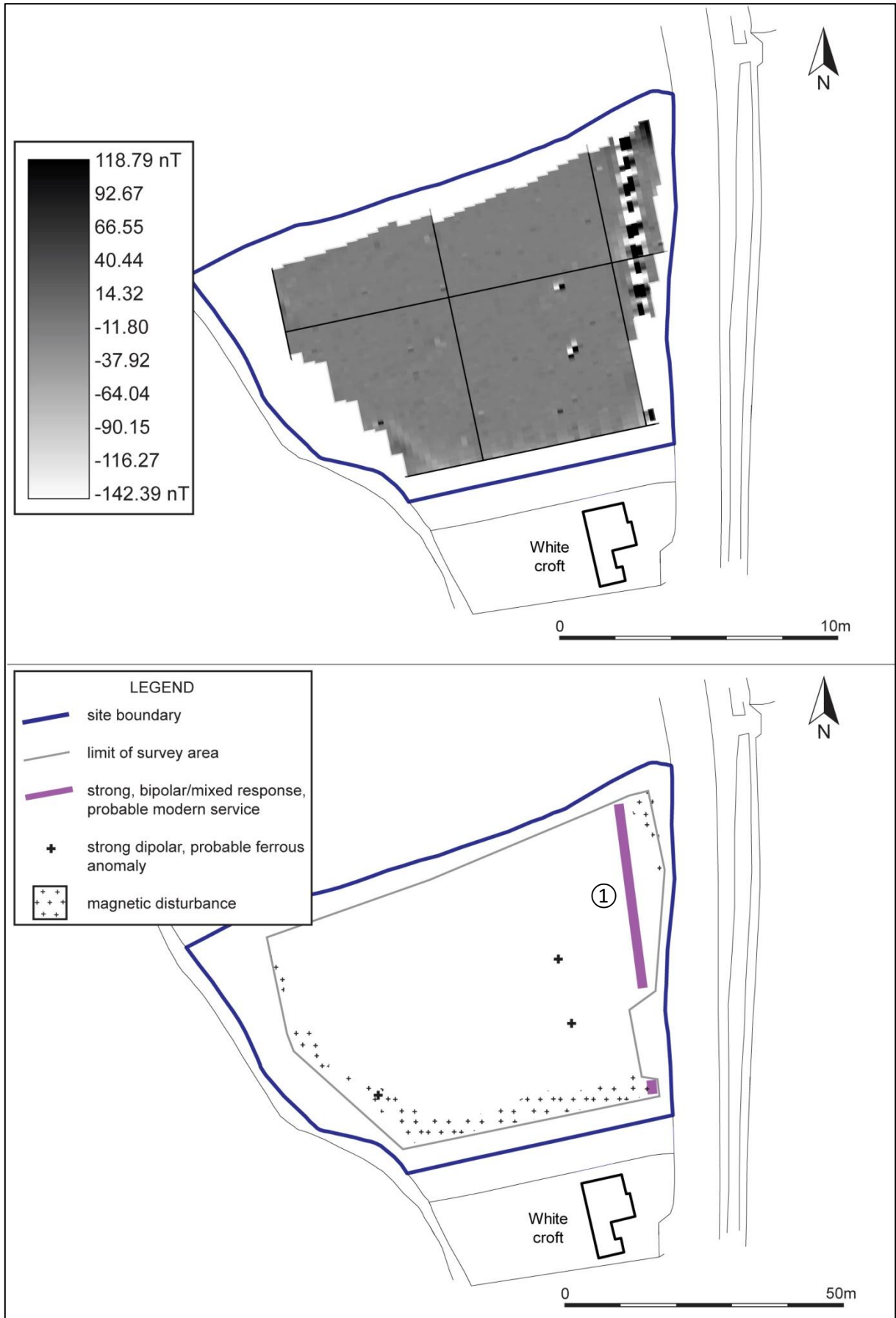


FIGURE 2: (ABOVE) SHADE PLOT OF GRADIOMETER SURVEY DATA WITH MINIMAL PROCESSING; (BELOW) INTERPRETATION OF GRADIOMETER SURVEY DATA.

### 3.0 CONCLUSION

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The site is located on the north side of Nancledra; a 14<sup>th</sup> century settlement at a ford of the Red River. A leat associated with a post-medieval mill in Nancledra lined the western edge of the site.

The geophysical survey identified a single linear anomaly associated with a modern service. No other significant responses were identified, mostly relating to natural geological variation or shallow ground disturbance.

Based on the geophysical survey results, no further archaeological works are recommended for the site.

## 4.0 BIBLIOGRAPHY & REFERENCES

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### *Published Sources:*

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

**Chartered Institute for Archaeologists** 2014b: *Standard and Guidance for Archaeological Geophysical Survey*.

**English Heritage** 2008a: *Geophysical Survey in Archaeological Field Evaluation*.

**Lysons, D. & Lysons, S.** 1814: *Magna Britannia, volume 3: Cornwall*. London.

**Schmidt, A.** 2002: *Geophysical Data in Archaeology: A Guide to Good Practice*. ADS series of Guides to Good Practice. Oxbow Books, Oxford.

**Soil Survey of England and Wales** 1983: *Legend for the 1:250,000 Soil Map of England and Wales (a brief explanation of the constituent soil associations)*.

**Watts, V.** 2004: *The Cambridge Dictionary to English Place Names*. Cambridge University Press.

### *Websites:*

**British Geological Survey** 2019: *Geology of Britain Viewer*.

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

**Cornwall Council Historic Environment Record (HER) and HLC** 2019: *Cornwall Council Interactive Map*

<https://map.cornwall.gov.uk/website/ccmap/> and <http://www.heritagegateway.org.uk>

### *National Library of Scotland (NLS)*

Ordnance Survey 1<sup>st</sup> edition, 25 inch map, Sheet: Cornwall LXVIII.7, surveyed 1876, published 1878

Ordnance Survey 2<sup>nd</sup> edition, 25 inch map, Sheet: Cornwall LXVIII.7, surveyed 1906, published 1908

### *The Genealogist*

Towednack Tithe Apportionment, 1841

Towednack Tithe Map, 1841

APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



FIGURE 3: (ABOVE) SITE LOCATION IN NANCLEDRA; (BELOW) GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING.

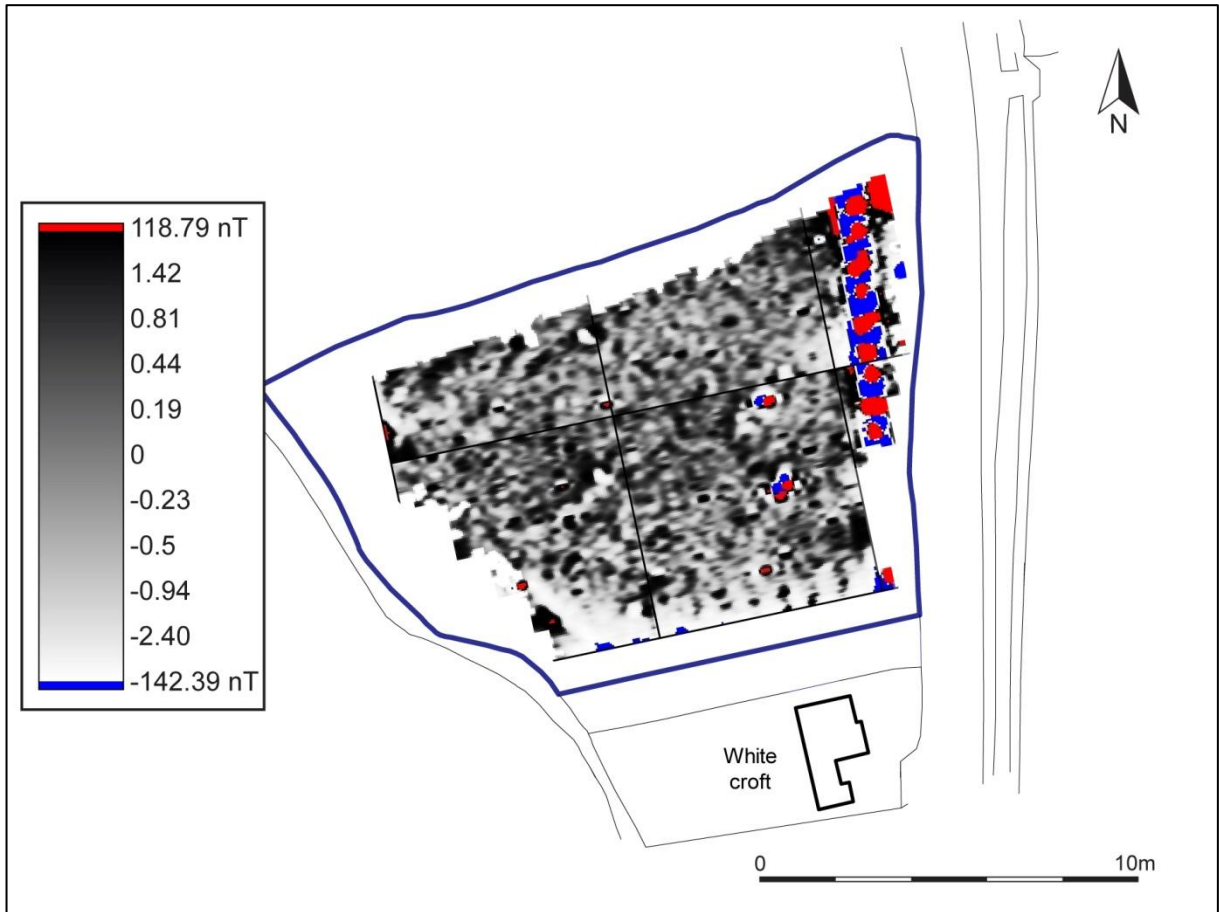


FIGURE 4: RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.

LAND ADJACENT TO WHITE CROFT, NANCLEDRA, TOWEDNACK, CORNWALL

APPENDIX 2: SUPPORTING SOURCES

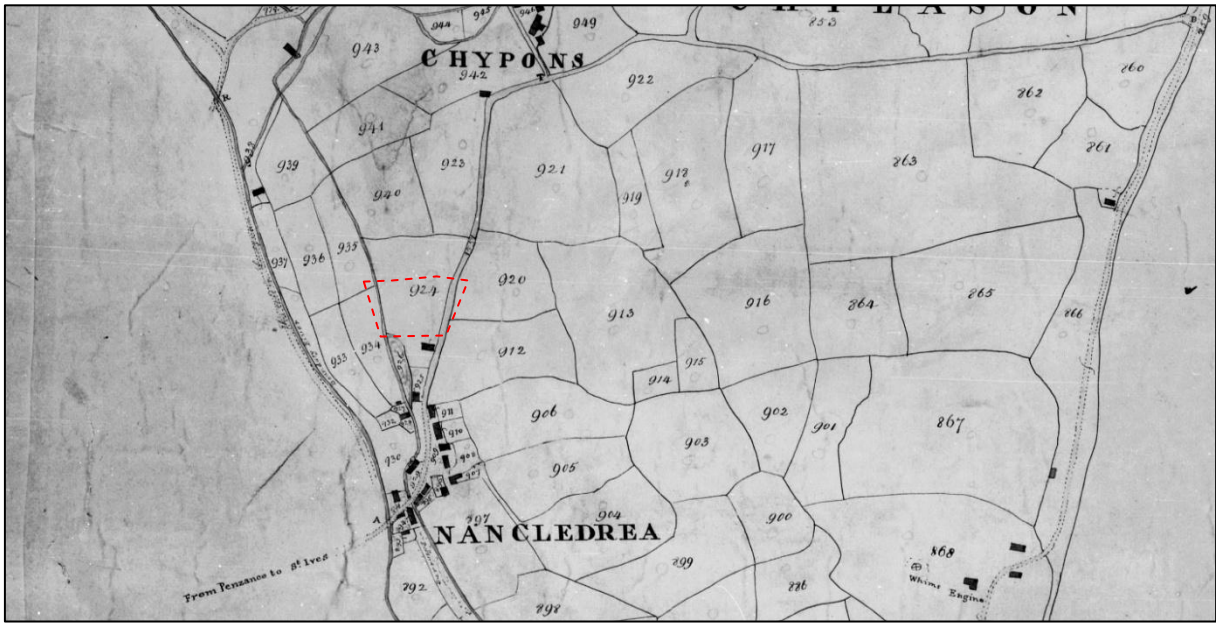


FIGURE 5: EXTRACT FROM THE TOWEDNACK TITHE MAP, 1841; THE APPROXIMATE SITE IS OUTLINED IN RED (THE GENEALOGIST).

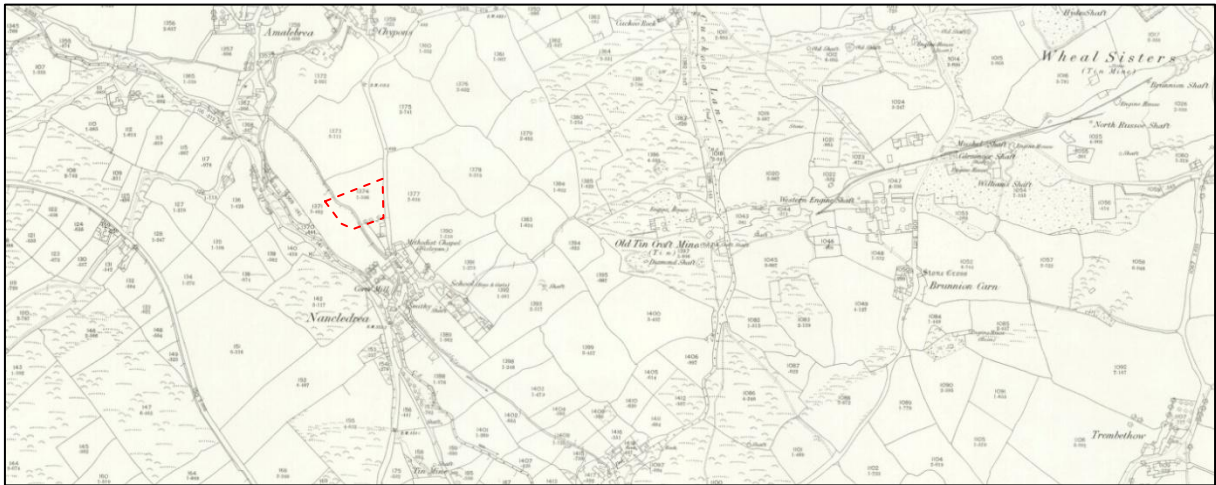


FIGURE 6: EXTRACT FROM THE ORDNANCE SURVEY 1<sup>ST</sup> EDITION, 25 INCH SERIES, PUBLISHED 1878; THE SITE IS OUTLINED IN RED (NLS).

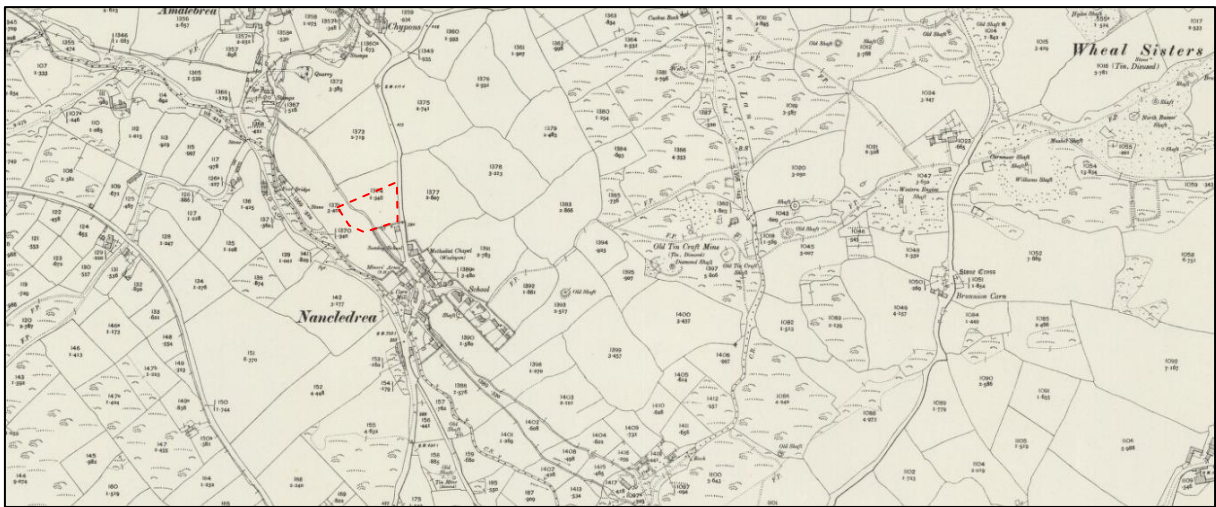


FIGURE 7: EXTRACT FROM THE ORDNANCE SURVEY 2<sup>ND</sup> EDITION, 25 INCH SERIES, PUBLISHED 1908; THE SITE IS OUTLINED IN RED (NLS).

APPENDIX 3: SUPPORTING PHOTOGRAPHS



1. SITE SHOT ALONG THE WESTERN BOUNDARY OF THE SITE; VIEWED FROM THE NORTH (NO SCALE).



2. SITE SHOT FROM THE NORTH-EAST CORNER OF THE SITE; VIEWED FROM THE NORTH-EAST (NO SCALE).





3. SITE SHOT ALONG THE NORTHERN BOUNDARY OF THE SITE; VIEWED FROM THE EAST (NO SCALE).



4. EXAMPLE OF 'CORNISH HEDGEBANK' IN ADJACENT FIELD TO NORTH, BESIDE THE ROAD; VIEWED FROM THE SOUTH-WEST (NO SCALE).



5. ENTRANCE TO THE SITE IN THE NORTH-EAST CORNER OF THE SITE; VIEWED FROM THE NORTH-WEST (NO SCALE).



6. ERODED PART OF NORTHERN BOUNDARY AT ITS EAST END, NEAR THE ENTRANCE; VIEWED FROM THE SOUTH (NO SCALE).



7. SITE SHOT ALONG SOUTHERN BOUNDARY; VIEWED FROM THE WEST (NO SCALE).



8. SITE SHOT FROM THE SOUTH-WEST CORNER; VIEWED FROM THE SOUTH-WEST; (NO SCALE).



9. SITE SHOT ALONG THE WESTERN BOUNDARY OF THE SITE; VIEWED FROM THE SOUTH (NO SCALE).



10. SHOT BEYOND SOUTH-WEST CORNER OF THE SITE, SHOWING THE LEAT.



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