

**LAND AT NANTURRAS**

**GOLDSITHNEY**

**ST HILARY**

**CORNWALL**

Results of a Geophysical Survey



South West Archaeology Ltd. report no. 200115



[www.swarch.net](http://www.swarch.net)

01769 573555  
01872 223164

LAND AT NANTURRAS, GOLDSITHNEY, ST HILARY, CORNWALL  
RESULTS OF A GEOPHYSICAL SURVEY

---

By J. Bampton  
Report Version: FINAL  
Draft issued: 15<sup>th</sup> January 2020  
Finalised: 16<sup>th</sup> January 2020

Work undertaken by SWARCH for Cornwall Archaeological Unit (The Client)

**SUMMARY**

---

*This report presents the results of a geophysical survey carried out by South West Archaeology Ltd. (SWARCH) on at Nanturras, Goldsithney, St Hilary, Cornwall. The site is located to the east of Goldsithney, immediately north of Nanturras and on the parish boundaries of St Hilary and Perranuthnoe.*

*The site is located in a landscape of medieval farmland and post-medieval to modern mining activity. Historic mapping showed that the site had been split into three fields until between 1977 and 1991 with later fences occasionally being erected. Field name evidence associates the site with a fair and a 'well' or 'watering place'; late 19<sup>th</sup> century mapping shows a pond in the south-east end of the field, adjacent to the road. Field work conducted on the site in 1999 during the instatement of a sewage treatment pipeline revealed modern land-drains on the site and flint scatters in the adjacent fields.*

*The geophysical survey identified eleven groups of anomalies including; modern services and boundaries, relatively recently removed historic boundaries, geological variation, possible relict boundary/drainage ditches and possible pits associated with the mining landscape or possible well-type feature. Most of these anomalies are modern or geological. However, some undated features at the north-west end of the site may be associated with an earlier (probable medieval) field system and/or post-medieval mining or farming of livestock. The south-east end of the site is ostensibly dominated by a change in geology or made-ground, possibly associated with mining waste.*

*Although probable archaeological anomalies were sparse on the site, the presence of some undated linear features and possible mining related pits may warrant further investigation. The frequency of flint scatters in the surrounding landscape may also warrant a degree of further investigation on the site. Targeted evaluation trenches would be useful to validate the geophysical survey and would clarify the presence and extent of possible archaeological features and deposits.*

---



January 2020

South West Archaeology Ltd. shall retain the copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved, excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project. The views and recommendations expressed in this report are those of South West Archaeology Ltd. and are presented in good faith on the basis of professional judgement and on information available at the time of production.

## CONTENTS

---

<i>SUMMARY</i>	2
<i>CONTENTS</i>	3
<i>LIST OF FIGURES</i>	3
<i>LIST OF TABLES</i>	3
<i>LIST OF APPENDICES</i>	3
<i>ACKNOWLEDGEMENTS</i>	4
<i>PROJECT CREDITS</i>	4
<b>1.0 INTRODUCTION</b>	<b>5</b>
1.1 PROJECT BACKGROUND	5
1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND	5
1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND	6
1.4 METHODOLOGY	7
<b>2.0 GEOPHYSICAL SURVEY</b>	<b>8</b>
2.1 INTRODUCTION	8
2.2 SITE INSPECTION	8
2.3 METHODOLOGY	8
2.4 RESULTS	9
2.5 DISCUSSION	10
<b>3.0 CONCLUSION</b>	<b>15</b>
<b>4.0 BIBLIOGRAPHY &amp; REFERENCES</b>	<b>16</b>

## LIST OF FIGURES

---

*Cover plate: Site shot of surveyed area; viewed from the south-east (no scale).*

FIGURE 1: SITE LOCATION (THE SITE IS INDICATED).	5
FIGURE 2: SHADE PLOT OF GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.	13
FIGURE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.	14
FIGURE 4: GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING.	17
FIGURE 5: RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.	18
FIGURE 6: RED-BLUE-GREEN SHADE PLOT OF GRADIOMETER SURVEY DATA; GRADIATED SHADING.	19
FIGURE 7: EXTRACT FROM THE SURVEYOR'S DRAFT MAP FOR THE LANDS END AREA, 1809.	20
FIGURE 8: EXTRACT FROM THE ST HILARY (TOP LEFT) AND PERRANUTHNOE (BOTTOM RIGHT) TITHE MAPS, 1841.	20
FIGURE 9: EXTRACT FROM THE ORDNANCE SURVEY 1 <sup>ST</sup> EDITION, 6 INCH SERIES, PUBLISHED 1888.	21
FIGURE 10: EXTRACT FROM THE ORDNANCE SURVEY 2 <sup>ND</sup> EDITION, 25 INCH SERIES, PUBLISHED 1908.	21

## LIST OF TABLES

---

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.	9
---	---

## LIST OF APPENDICES

---

APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY	17
APPENDIX 2: SUPPORTING SOURCES	20
APPENDIX 3: SUPPORTING PHOTOGRAPHS	22

## ACKNOWLEDGEMENTS

---

CORNWALL ARCHAEOLOGICAL UNIT (CAU) (THE CLIENT)  
THE LANDOWNER FOR ACCESS

## PROJECT CREDITS

---

DIRECTOR: DR. SAMUEL WALLS, MCIFA  
FIELDWORK: JOE BAMPTON, MCIFA  
REPORT: JOE BAMPTON, MCIFA  
EDITING: DR. SAMUEL WALLS, MCIFA  
GRAPHICS: JOE BAMPTON, MCIFA

## 1.0 INTRODUCTION

<b>LOCATION:</b>	LAND AT NANTURRAS, GOLDSITHNEY
<b>PARISH:</b>	ST HILARY
<b>COUNTY:</b>	CORNWALL
<b>NGR:</b>	SW 54863 30927
<b>SWARCH REF.</b>	MGN19

### 1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Cornwall Archaeological Unit (The Client) to undertake a geophysical survey on land at Nanturras, Goldsithney, St Hilary, Cornwall, as part of the pre-application requirements for a proposed campsite. This work was undertaken in accordance with best practice and CfA guidance.

### 1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The site is c.7.5km east of Penzance, to the east of Goldsithney and immediately north of Nanturras (farm), off of the B3280. It consists of a narrow, slightly curving, rectangular field aligned approximately north-west by south-east in a landscape of fields, mining works and dispersed settlements with various inter-connecting tracks. The site is within a broad shallow basin defined by a drain that issues from the west side of Goldsithney. The site is on relatively level ground, although slopes down gently to the west-north-west. The site was at a height of c.45-55m AOD (Figure 1).



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

The soils on the site are the well-drained fine loamy soils over slate of the Denbigh 2 Association (SSEW 1983), which predominantly overlie the slate and siltstone of the Mylor Slate Formation (BGS 2019). The extreme southern end of the site may overlie the Hornfelses Slate and Hornfelses Siltstone of the same formation. The geology of this area includes dykes of igneous intrusions.

### 1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The site is situated to the east of Goldsithney, opposite Nanturras Farm, on the north side of the B3280. Nanturras itself and Goldsithney fall within the parish of Perranuthnoe and the south-western boundary of the site forms the border with the parish of St Hilary, in which the site itself lays. Both parishes are in the deanery and west division of the hundred of Penwith (Lysons 1814). At the time of the Domesday survey the site would have been within the hundred of Connerton and was roughly half-way between four manors; the very small Trescowe to the east, Gurlyn to the north-east, Perranuthnoe to the south-south-west and Truthwall (Tregurtha) to the north-west (Morris 1992). It was ostensibly on the edge of the manors of Perranuthnoe and Truthwall. St Hilary was first recorded in 1205 as *de Sancto Elarlo* (HER no. MCO16851) and Goldsithney was first recorded between 1227 and 1242 as *Nundinis Sancti Jacobi Exta Montem* (MCO14550). The place name of Goldsithney (*Pleyn-goyl-sithny* in 1399; *Goylsithney* in 1403) means ‘fair of St Sithney’, from the Cornish *gol* meaning ‘fair’ and the saints name. A fair was granted to Goldsithney sometime before 1284 (Watts 2004). A settlement at Nanturras was first recorded in 1400 as *Nansturant* (MCO15868) and is derived from the Cornish *nans* meaning ‘valley’ and possibly a personal name or; the Old English *thyrre* meaning ‘dry’, *rand* meaning ‘bank’ relating to a boundary or topographic feature, or a form of *an* meaning ‘solitary’.

Cornwall’s Historic Landscape Character (HLC) depicts the site as *Medieval farmland: ‘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 HLC further depicts some modern and post-medieval fields in the landscape, such as immediately south and west. The site also falls within the Tregonning and Gwinear Mining Districts World Heritage Site Area (DCO1758) and is between the Conservation Areas (CA) of Goldsithney (DCO66) and St Hilary (DCO75). The Goldsithney CA is comprised of three 18<sup>th</sup>/19<sup>th</sup> century Grade II Listings, with two others outside the CA. St Hilarys CA is comprised of the Grade I Listed Church of St Hilary (DCO12319) which has a 13<sup>th</sup> century tower, a number of 18<sup>th</sup>/19<sup>th</sup> century modifications and 21 associated Grade II Listed assets (including; grave markers/tombs, crosses and gates). Two of these Grade II assets are also Scheduled Ancient Monuments; a 5<sup>th</sup>-12<sup>th</sup> century cross and a 9<sup>th</sup>-15<sup>th</sup> century memorial stone. The St Hilary CA then includes four 18<sup>th</sup>/19<sup>th</sup> century Grade II Listings. Two addition Grade II listings lay outside the CA.

The Cornwall Historic Environment Record (HER) lists assets representative of prehistoric to modern activity near the site: a Mesolithic flint scatter to the south-west (MCO45061), a Neolithic flint scatter to the east (MCO6677), possible barrows (‘burrows’ in the historic record) destroyed by mining to the south (MCO3304), ‘rounds’ across the landscape all based on field name evidence (e.g. ‘Round’ MCO8764, ‘Kestle Field’ MCO8119, ‘Gears’ MCO7868 etc), a Roman milestone in the foundations of St Hilary church (MCO27170), a medieval settlement (and cross moved to St Hilary church) at Trevabyn (MCO17797, MCO5934); and various post-medieval quarries and mines across the landscape, e.g. at Trevabyn (MCO28732), Perrandowns (MCO12407), Owen Vean (MCO12362) and Nanturras (MCO28739). The HER indicates a ‘Wheal Park’ on the site (MCO39888) but informs us of no substantiating evidence. A.K. Hamilton Jenkins annotated maps tell us that Wheal Park was a copper mine associated with Owen Vean in a sett granted in 1772 and that it merged with Trevelyan mine before 1863. Hamilton Jenkins labels the ‘old shaft’ north of-/contiguous with the site with ‘Kidney Mine’, which is recorded elsewhere as

mixed mine (probably tin and copper) in St Erth parish. Wheals Caroline and Arthur (and Virgin) were located to the south of the site and Tregurtha Downs to the west.

A brief cartographic assessment of the site indicates relative continuity in the land-/field-scape of the area alongside an intensely industrialized mining landscape. The 1809 surveyor's draft map shows the extent of surrounding settlements and working mines with numerous tracks. The 1841 St Hilary and Perranuthnoe tithe maps show the site as split into three arable fields (plots 165, 166, 167 (St Hilary tithe)). These were part of the 'Glebe' property held by the church of St Hilary and at the time the Rev. Thomas Pascoe. Plot 165 was called 'Well Meadow' and the track on the north-east side of plot 167 (plot 168) was referred to as 'lane and watering place'. Plot 62 (Perranuthnoe tithe) was called 'adit field'. Three other significant field names listed on the tithe (St Hilary) are; plot 164, 'Lower Well Close'; plot 169, 'Lower Fair Close'; and plot 123, 'Cross Close'. 'Cross close' refers to a medieval cross that has since been relocated to the church. The other field names allude to access to usable water and the probable fair location. It is possible that a spring or well is present on the site or that natural or modified (drainage) channels were utilised on the site; perhaps for livestock, which would have been of convenience during local fairs. The field boundaries on the site, as shown on the tithe map, remain through the Ordnance Survey (OS) mapping until 1977, inclusive. They are absent from the OS mapping in 1991 and the site is depicted as a single long field. The OS 1<sup>st</sup> edition (1887) shows a pond at the south-east end of the site, beyond the survey-able area, beside the main road and the second edition shows modified boundaries in the same location presumably associated with a pond. Satellite imagery from 2001 shows one fence line across what would have been plot 165. In 2004/5 satellite imagery shows that the fence visible in 2001 has gone but four others are in place, including two that are evident on imagery from 2009 and on plans supplied by the client for this survey. Supporting sources can be seen in Appendix 2.

Site is currently subject to a walkover survey and desk-based assessment by Cornwall Archaeological Unit (CAU *forthcoming*). Previous archaeological works to have occurred on/across the site include an archaeological assessment, geophysical survey and watching brief associated with a pipeline (HER nos. ECO364, ECO581, ECO582). These programs of work identified Mesolithic to Neolithic/Bronze Age flint scatters in the fields immediately south-west and north-east of the site and a stone-filled land drain running parallel to a removed historic boundary on the site.

#### 1.4 METHODOLOGY

This work was undertaken in accordance with a 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).

## 2.0 GEOPHYSICAL SURVEY

---

### 2.1 INTRODUCTION

An area of c.0.9ha 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 7<sup>th</sup> of January 2020 by J. Bampton; the survey data was processed by J. Bampton.

### 2.2 SITE INSPECTION

The site was located across a relatively long and narrow, slightly curving, field aligned north-west by south-east. It was accessed from the main road (B3280), opposite Nanturras and the junction with Trescowe Road. A small plot between the road-side access and the site fields proper, of scrub and ostensibly raised/disturbed ground, could not be surveyed. It provided access to a track, in disrepair, along the north-east side of the site and an area of modified drainage in the southern corner of the site. A ramp of made-ground led from this area to the site fields proper, that could be surveyed. These fields were in fact a single field, the dividing fence lines having been partially removed and flattened; although traces of them survived on the ground as debris, as protrusions from extant boundaries, and due to occasional recently planted young trees/shrubs. The field was surrounded by a wooden fence and had had internal wooden fence divisions all with provision for electric fencing. At the south-east end of the site a retaining wall/bank defined the step up to the plot beside the road.

The field was surrounded by Cornish hedge bank (stone lined earth bank) boundaries with oak trees frequently along their length with access gates in the south-east end and halfway along the north-east boundary where the adjacent disused mining track turns north-east. A drainage ditch could be seen along the outside of the south-eastern boundary and a track lined the south-east half of the north-east boundary. Extensive brambles also lined much of the site, particularly the north-west half of the north-east boundary. A patch of irregular scrubby ground was beyond the north-west end of the site. On the site four large trees defined the locations of historic/relict field boundaries. The south-eastern example of these visible relict boundaries was also defined by a ridge where the ground dropped down from the south-east part of the site to the north-west. In the south-east part of the site was also a mound dumped earth/debris, a horse shed with apparent alkathene water pipe and a metal storage/shipping container. The site was under relatively short, 'tufty', grass and had evidently recently been under pasture. Patches of scrub visible on the ground (near to removed modern fence lines) may represent areas of underlying geological change/shallow topsoil, or disturbed ground associated with gates or the locations of former items such as feeders or troughs. 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 30x30m. 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 0.50m.

Details: 0.87605ha surveyed; Max. 98.28nT, Min. -102.39nT; Standard Deviation 10.49nT, mean 0.01nT, 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 1.

TABLE 1: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Weak-moderate positive and negative, probable	Linear	Historic field boundary	Two examples of responses indicative of a bank flanked by ditches. The south-eastern example had weak responses; c.-3nT and +6nT. The north-western example had moderate responses; +7 to +23nT and <-16nT. These anomalies equate to boundaries present on historic mapping between 1841 and 1977 inclusive and absent from OS mapping in 1991.
2	Moderate-Strong bipolar, probable	Linear	Modern removed fence line	Indicative of magnetic debris and shallow ground disturbance associated with fence lines established in the 2000's and that were present on-site during survey as demolished fences. Responses of <+/-14nT (south-eastern example) and between -10 and +43nT (north-western example).
3	Very strong bipolar, Probable	Linear	Modern service	Indicative of a modern/metallic service. Equates to a South West Water sewage treatment pipeline laid here in 1999. Responses of c.+/-100nT.
4	Weak positive, probable	Linear	Ditch	Indicative of either a cut and in-filled linear feature such as a drainage ditch. Possible ditch on the south-west side of a relict boundary. Response strength may imply an ephemeral or shallow nature. Response of c.+2nT.
5	Weak positive, possible	Linear	Ditch	Possibly a continuation of anomaly 4. Indicative a ditch-type feature. The weak and partial response may be obscured by other anomalies. A slight associated negative response may indicate a land-drain or geological explanation. Response of c.+2nT.
6	Weak positive and negative, possible	Linear/curvi-linear	Ditches/drain / track	Indicative of a ditches and land-drains. Response strength indicative of shallow/ephemeral features or geological variation. May be accounted for by tracks or

LAND AT NANTURRAS, GOLDSITHNEY, ST HILARY, CORNWALL

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
				drainage towards the west corner of the site; or earlier (possible early medieval) field boundaries. Response of between -2nT and +3 to +5nT.
7	Weak positive, probable	Ovoid	Hollow, well or mining prospection	Indicative of a cut and in-filled feature such as a pit. c.6m across could be indicative of a sunken featured building. Based on historical references on site to a 'well' and the mining landscape, may be associated with these or later land use. Response strength of +7nT.
8	Strong positive, probable	Ovoid	Hollow, pit or mining prospection	Indicative of a pit or treethrow. Associated by proximity to anomaly 7 so possibly associated with it; Based on historical references on site to a 'well' and the mining landscape, may be associated with these or later land use. Response of <+29nT.
9	Weak-strong positive, possible	Ovoid	Geological variation, pit or treethrow	Examples of small positive responses indicative of pits or treethrows. The north-western example (Response of <+34nT) may be associated with disturbance or trees close to- and within the scrub at the north-west end of the site. The south-eastern example (Response of +7nT) is more likely a geological response but could be a pit or tree-throw.
10	Weak di-/bipolar, possible	Amorphous spread	Geological variation or Made-ground	Indicative of geological variation as a result of either ground disturbance/made-ground or responses associated with metamorphic geologies. The site lies on a boundary of sedimentary and metamorphic geologies and this localised response is more indicative of a metamorphic or igneous geology. Associated with anomaly 11. Response of -2 to +5nT.
11	Weak di-/bipolar, possible	Amorphous spread	Geological variation or Made-ground	Slight raised area at the south-east end of the site across what was historically the south-east of three fields. This area/field was still stepped down from the road. Indicative of geological variation or made-ground. If geological, defines the change in geologies as on the BGS on the site. Associated with anomaly 10. Response of -3 to +6nT.

## 2.5 DISCUSSION

The survey identified eleven groups of anomalies including; modern services and boundaries, relatively recently removed historic boundaries, geological variation, possible relict boundary/drainage ditches and possible pits associated with the mining landscape or 'well' (possible watering-hole or spring). The general geological variation across the site varied between the south-east third and north-west part two-thirds of the site. The south-east end was c.-3nT to +6nT; and the north-west end was c. <+/-2nT. This apparent difference in geological conditions may be associated with a made-up or terraced ground, but importantly accounts for occasional anomalous points and variations across the site. The site has been used until recently, with various modern fence lines having been instated and removed and any activity on the site may reflect modern practices associated with its recent agricultural use (predominantly as pasture). Earlier field work on the site has identified modern land-drains that may obscure or cut any buried

archaeological resource. Cartographic and additional sources that support the following discussion and interpretation can be seen in Appendices 1 and 2.

Anomaly Group 1 consists of two weak-moderate (-3nT to +6nT; and -16nT to +23nT) negative linear responses with flanking positive responses that divide the site in three. They are aligned north-east by south-west. These anomalies equate to boundaries depicted on the 1841 tithe map and Ordnance Survey (OS) mapping from 1887 to 1977. These boundaries are absent from the cartographic record in 1991. These boundaries are typical of Cornish hedgebanks that would have had a central bank flanked by ditches.

Anomaly Group 2 consists of two moderate-strong (-10nT to +43nT) bipolar linear responses that divide the site in three. These responses are indicative of magnetic debris associated with recently demolished/flattened wooden fence lines with occasional electric fencing strapping and ferrous debris. These fence lines, aligned north-east by south-west, were visible on satellite imagery from c.2004 and their remnants were visible on the ground and against the extant boundaries during the survey. Some other 'spikes' of ferrous objects or magnetic debris (particularly north-west of group 7 may also indicate the location of one of these types of modern fence lines that was evident on satellite imagery in 2001.

Anomaly Group 3 consists of a very strong (+/-100nT) bipolar linear response aligned north-east by south-west. It equates to a South West Water (SWW) sewage treatment pipeline that was instated across the site in 1999 (Jones 1999; Lawson-Jones 2001).

Anomaly Group 4 consists of a weak (c.+2nT) positive linear response aligned approximately north-west by south-east. It is indicative of a ditch that would drain into the west corner of the site. It may represent the best, although ephemeral or shallow, part of a relict boundary associated with other curving boundaries in the landscape and anomaly group 6; there is a faint negative response between this and part of group 6. Group 5 may be a continuation of this anomaly.

Anomaly Group 5 consists of a weak (+2nT) positive linear responses aligned north-west by south-east indicative of a ditch-type feature. It is partially obscured by stronger responses of modern features. It can be extrapolated to join group 4 and may be part of an earlier boundary or drainage system. An associated but very weak parallel negative response may be indicative of a land-drain, of which one was identified during a watching brief of the SWW pipeline (group 3).

Anomaly Group 6 consists of multiple weak (-2nT to +5nT) positive and negative linear and curvilinear responses indicative of boundary or drainage ditches. These responses are ephemeral suggesting a low level of survival or shallow nature. It is possible that they represent shallow, topsoil, disturbance associated with a track from a gate halfway along the north-east site boundary and the west corner of the site. These anomalies may indicate a field/drainage system that can be extrapolated to meet the extant field-scape, therefore probably medieval or later; the site having intruded on larger fields and possibly the small enclosure on the north-west end of the site containing a 'old shaft'. Possibly associated with groups 4 and 5.

Anomaly Group 7 consists of a weak (+7nT) positive ovoid response indicative of a hollow, c.6m across. In some situations, this could be interpreted as a possible Sunken Featured Building (SFB). In this instance it is most likely associated with the wider mining landscape or allusions to a 'well' or 'watering place' in the historic record and in keeping with the landscape in which drainage channels along adjacent boundaries can be seen to be necessary and modified/relatively well kept. However, the 1887 1<sup>st</sup> edition OS map depicts a pond in the south-east end of the site that may be associated with- or account for these well-based field name elements. Mining prospection is another likely explanation for such an anomaly, especially with the presence of a 'old shaft'

immediately north-west of the site and the possible presence of Wheal Park or Wheal Kidney on the site itself; although the provenance of these associated mines is debatable. It is associated with group 7.

Anomaly Group 8 consists of a strong (<+29nT) positive ovoid response associated with group 7. It is indicative of a possible pit, probably associated with mining prospection, a watering-hole or later activity. Although not clear on the geophysical survey elsewhere, geotechnical pits or some kind of groundworks had ostensibly taken place on the site prior to the survey (although this could have been shallow ground disturbance associated with agricultural works).

Anomaly Group 9 consists of two, one weak and one strong (+7nT and <+34nT) positive ovoid responses indicative of pits or treethrows. The nature of the geology across the site probably accounts for the weaker (south-eastern) example and any similar responses across the site. The stronger example is located against the scrub edge of the site and may represent a pit, treethrow or activity at a potential field corner/confluence of extant and relict boundaries (groups 4 and 6). Any activity on the site may be associated with the wider mining landscape.

Anomaly Group 10 consists of a weak (-2nT to +5nT) bi-/dipolar amorphous spread. This is indicative of a patch of geological variation at the edge of the site, associated with group 11. These responses can be indicative of igneous or some metamorphic geologies. The site lies on the boundary of sedimentary and metamorphic geologies. A metamorphic Hornfels geology begins, according to the British Geological Survey (BGS), near the south-east end of the site and possibly accounts for the general change in magnetic background variation evident across the site (group 11) and probably topographic features in the landscape. This is probably a localised patch of geological deposit equivalent to group 11.

Anomaly Group 11 consists a weak (-3nT to +6nT) bi-/dipolar area across the south-eastern third of the site. This area was defined as a plateau between the higher ground towards the road and the lower ground, divided by a historic boundary (group 1), to the north-west. This boundary is visible today and a bank between the higher and lower parts of the site. This response seems likely to be explained by the geological variation on the site, as described in the discussion of group 10. However, if the ground were terraced or built-up at any point it may exacerbate a geological change in response or be accounted for by a dump of material, such as mining waste. Whether this group is man-made or geological, group 10 is probably part of the same deposit/material.



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

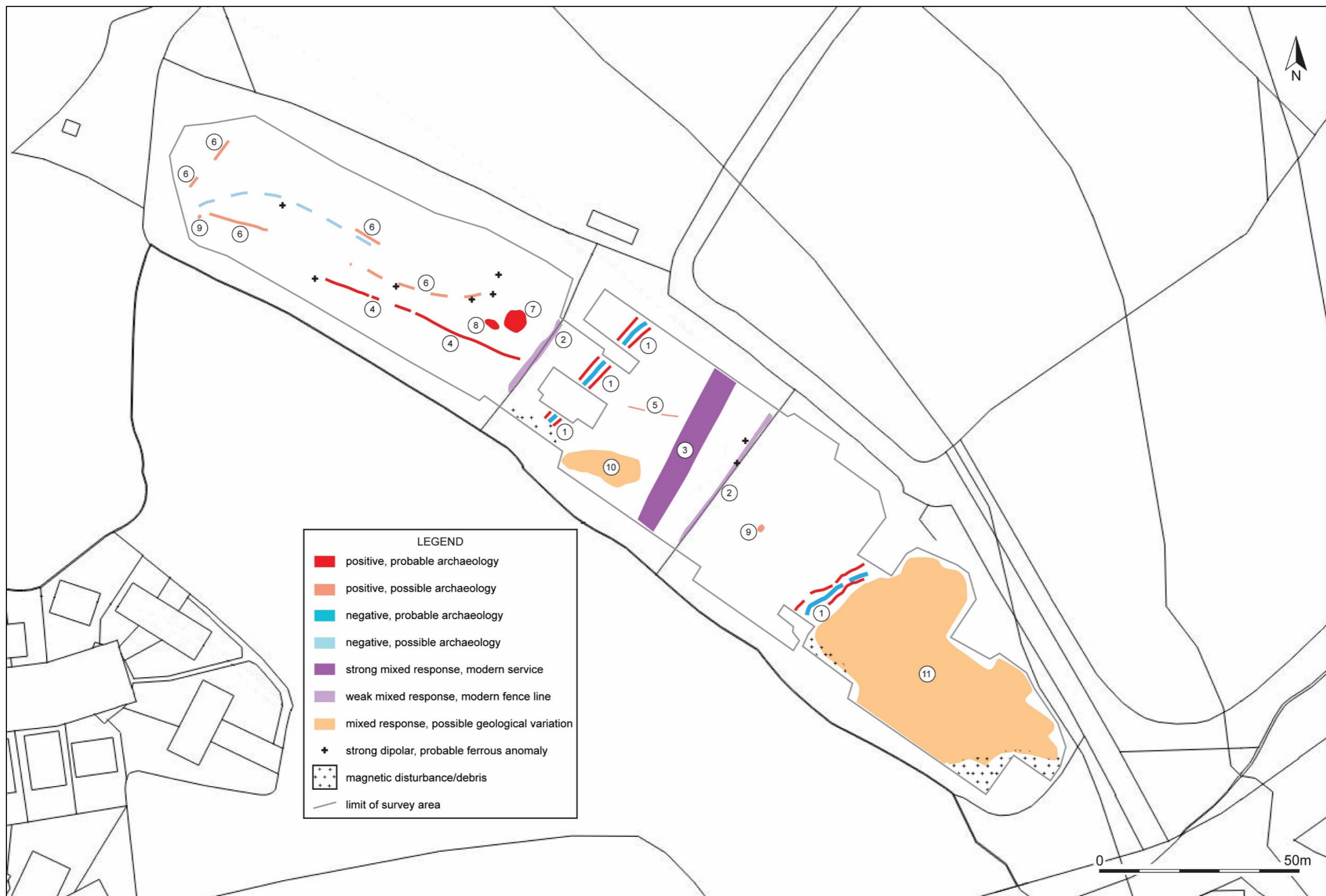


FIGURE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.

### 3.0 CONCLUSION

---

The site is located to the east of Goldsithney, immediately north of Nanturras and on the parish boundaries of St Hilary and Perranuthnoe. It is located in a landscape of medieval farmland and post-medieval to modern mining activity. Historic mapping showed that the site had been split into three fields until between 1977 and 1991 with later fences occasionally being put up while the site was under pasture. Field name evidence associates the site with a fair and a 'well' or 'watering place'; late 19<sup>th</sup> century mapping shows a pond in the south-east end of the field, adjacent to the road. Field work conducted on the site in 1999 during the instatement of a sewage treatment pipeline revealed modern land-drains on the site and flint scatters in the adjacent fields.

The geophysical survey identified eleven groups of anomalies including; modern services and boundaries, relatively recently removed historic boundaries, geological variation, possible relict boundary/drainage ditches and possible pits associated with the mining landscape or 'well' (possible watering-hole or spring). Most of these anomalies are modern or geological. However, some undated features at the north-west end of the site may be associated with an earlier (probable medieval) field system and/or post-medieval mining or farming of livestock. The south-east end of the site is ostensibly dominated by a change in geology or made-ground, possibly associated with mining waste.

Although archaeological anomalies were sparse on the site, the presence of some undated linear features and possible mining related pits may warrant further investigation. The frequency of found flint scatters in the surrounding landscape also highlights the general archaeological potential of the site and area. Targeted evaluation trenches would be useful to validate the geophysical survey and would clarify the presence and extent of possible archaeological features and deposits.

## 4.0 BIBLIOGRAPHY & REFERENCES

---

### *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.
- Morris, J.** 1992: *Domesday Book*. Phillimore.
- 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.

### *Unpublished Sources:*

- CAU** forthcoming: *Nanturras, Goldsithney, Cornwall: An archaeological Assessment and Walkover Survey*. CAU Report No. forthcoming.
- Jones, A.** 1999: *Perranuthnoe to St Hilary SWW Sewage Transfer Pipeline: An Archaeological Assessment*. CAU Report No. 1999R010.
- Lawson-Jones, A.** 2001: *Perranuthnoe to St Hilary SWW Sewage Transfer Pipeline: An Archaeological Watching Brief*. CAU Report No. 2001R035.

### *Websites:*

- British Geological Survey** 2020: *Geology of Britain Viewer*.  
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Cornwall Council Historic Environment Record (HER) and HLC** 2020: *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, 6 inch map, Sheet: Cornwall LXXV.NW, surveyed 1887, published 1888
- Ordnance Survey 2<sup>nd</sup> edition, 25 inch map, Sheet: Cornwall LXXV.I, revised 1907, published 1908

### *The Genealogist*

- St Hilary Tithe Map and Apportionment, 1841
- Perranuthnoe Tithe Map and Apportionment, 1841



APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



FIGURE 4: GEOPHYSICAL SURVEY GRID LOCATION AND NUMBERING.



FIGURE 5: RED-GREY-BLUE SHADE PLOT OF GRADIOMETER SURVEY DATA; BAND WEIGHT EQUALISED; GRADIATED SHADING.



FIGURE 6: RED-BLUE-GREEN SHADE PLOT OF GRADIOMETER SURVEY DATA; GRADIATED SHADING.

APPENDIX 2: SUPPORTING SOURCES

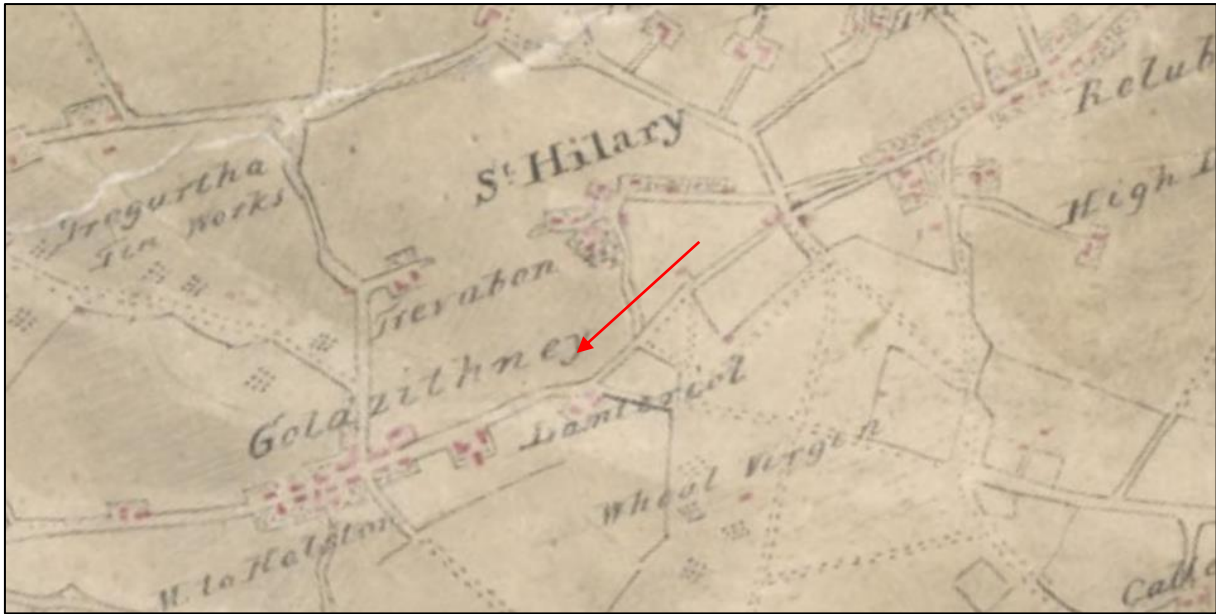


FIGURE 7: EXTRACT FROM THE SURVEYOR'S DRAFT MAP FOR THE LANDS' END AREA, 1809; THE APPROXIMATE LOCATION OF THE SITE IS INDICATED (BL).

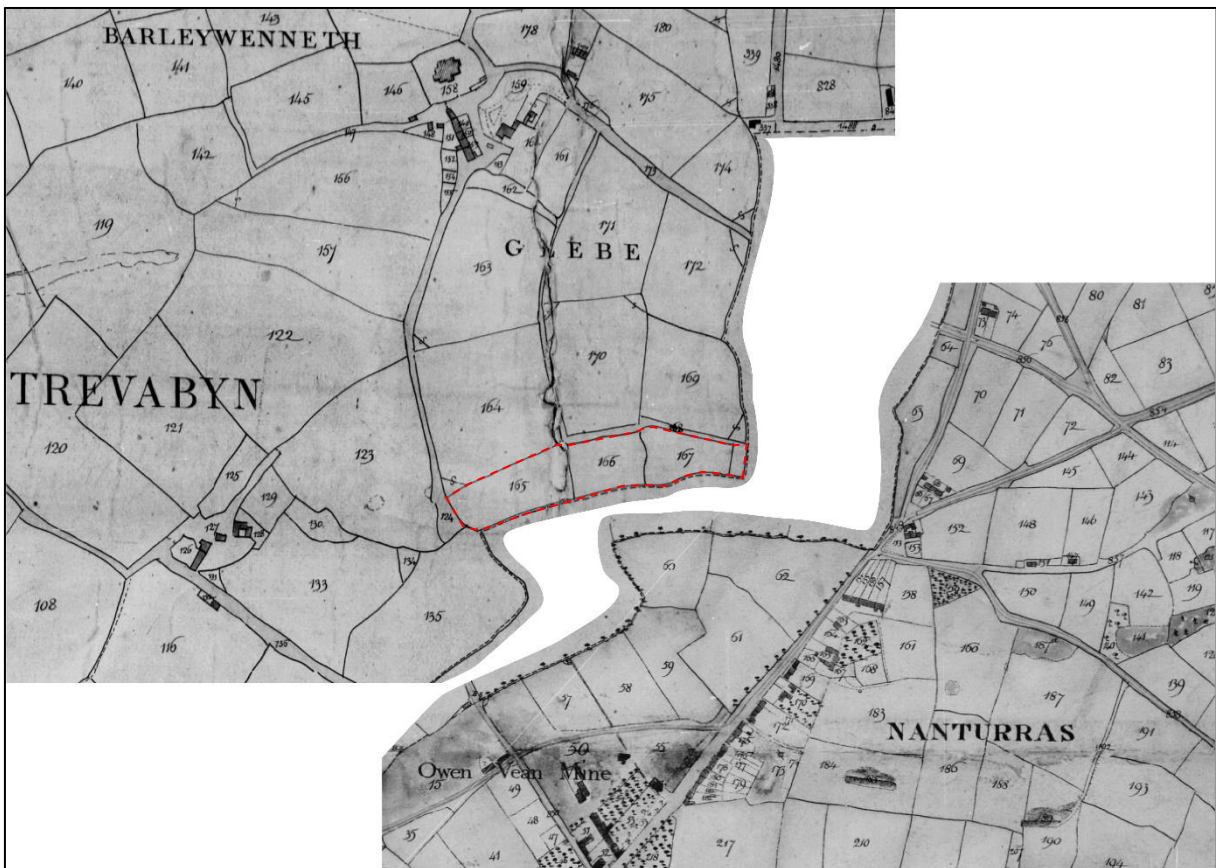


FIGURE 8: EXTRACT FROM THE ST HILARY (TOP LEFT) AND PERRANUTHNOE (BOTTOM RIGHT) TITHE MAPS, 1841; THE SITE IS OUTLINED IN RED (THE GENEALOGIST).

LAND AT NANTURRAS, GOLDSITHNEY, ST HILARY, CORNWALL

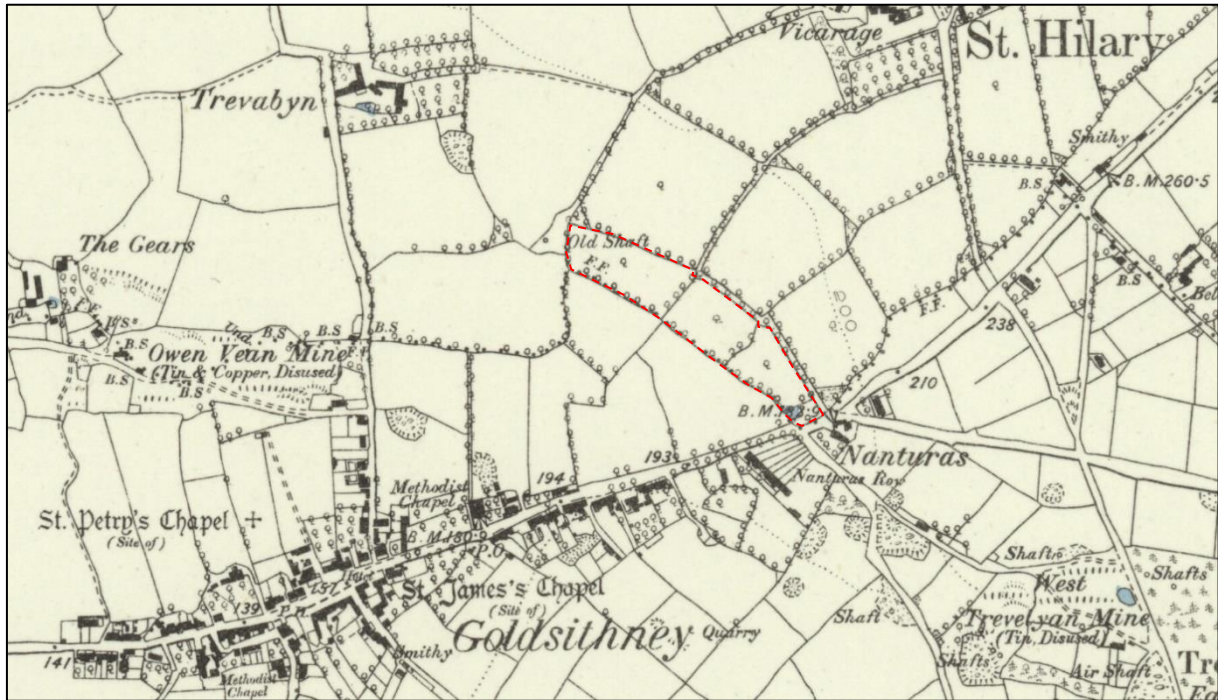


FIGURE 9: EXTRACT FROM THE ORDNANCE SURVEY 1<sup>ST</sup> EDITION, 6 INCH SERIES, PUBLISHED 1888; THE SITE IS OUTLINED IN RED (NLS).

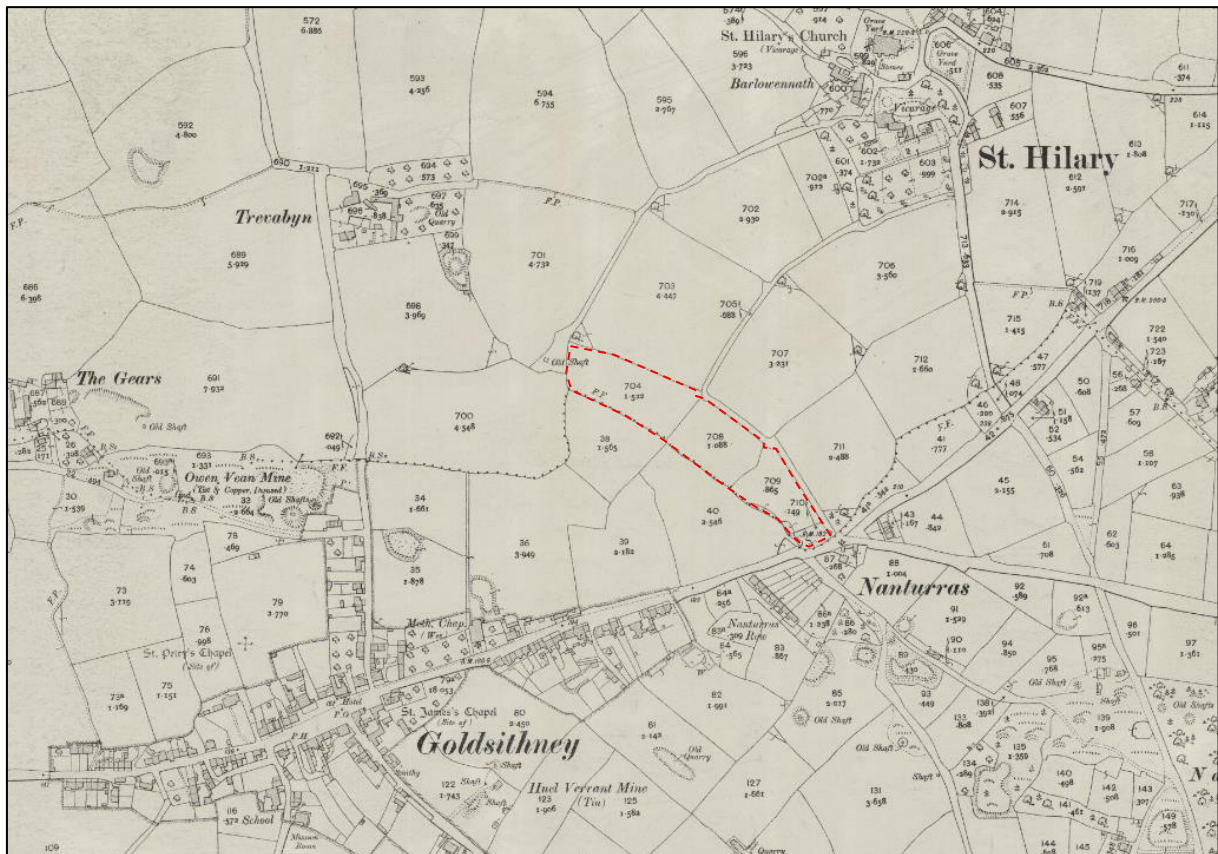


FIGURE 10: EXTRACT FROM THE ORDNANCE SURVEY 2<sup>ND</sup> EDITION, 25 INCH SERIES, PUBLISHED 1908; THE SITE IS OUTLINED IN RED (NLS).

APPENDIX 3: SUPPORTING PHOTOGRAPHS



1. SITE ENTRANCE FROM OFF THE B3280, LOOKING TOWARDS NANTURRAS BARNS; VIEWED FROM THE NORTH-WEST (NO SCALE).



2. BOUNDARY WALL BESIDE SITE ENTRANCE WITH HIGHER GROUND BEYOND; VIEWED FROM THE SOUTH-WEST (NO SCALE).



3. 'SCRUBBY' AREA BESIDE B3280, BESIDE ENTRANCE; VIEWED FROM THE NORTH-EAST (NO SCALE).



4. ENTRANCE TO SURVEY-ABLE FIELD AND ADJACENT DISUSED MINING TRACK; VIEWED FROM THE SOUTH-SOUTH-EAST (NO SCALE).



5. 'SCRUBBY' AREA BESIDE B3280; VIEWED FROM THE EAST (NO SCALE).



6. DRAINAGE CHANNEL/'POND'? ON WEST SIDE OF 'SCRUBBY' AREA BESIDE B3280; VIEWED FROM THE SOUTH-WEST (NO SCALE).





7. RAMPED ACCESS BETWEEN SITE ENTRANCE 'SCRUBBY' AREA AND SURVEY-ABLE FIELDS; VIEWED FROM THE SOUTH-EAST (NO SCALE).



8. SOUTH-EAST BOUNDARY OF SURVEY AREA; VIEWED FROM THE EAST (NO SCALE).



9. ENTRANCE TO SURVEY-ABLE AREA OF SITE; VIEWED FROM THE NORTH-WEST (NO SCALE).



10. SOUTH-EAST END OF THE NORTH-EAST BOUNDARY OF THE SITE; VIEWED FROM THE SOUTH-SOUTH-EAST (NO SCALE).



11. SOUTH-EAST END OF THE SITE; VIEWED FROM THE EAST-SOUTH-EAST (NO SCALE).



12. SURVEY-ABLE SITE AREA, NORTH-WEST END; VIEWED FROM THE NORTH-WEST (NO SCALE).



13. NORTH-WEST END/BOUNDARY OF THE SITE; VIEWED FROM THE SOUTH-EAST (NO SCALE).



14. REMOVED FENCE LINE (CENTRE-LEFT) AND TREE ON HISTORIC BOUNDARY ADJACENT TO GATE IN NORTH-EAST BOUNDARY (RIGHT); VIEWED FROM THE SOUTH-WEST (NO SCALE).



15. GATE IN THE NORTH-EAST BOUNDARY OF THE SITE ASSOCIATED WITH DISUSED MINING TRACK; VIEWED FROM THE SOUTH-WEST (NO SCALE).



16. REMOVED FENCE LINE (SOUTH-EASTERN EXAMPLE); VIEWED FROM THE NORTH-EAST (NO SCALE).



17. LIVESTOCK SHELTER IN SOUTH-EAST PART OF SITE AND TREE AND BANK OF HISTORIC FIELD BOUNDARY; VIEWED FROM THE NORTH-WEST (NO SCALE).



18. HISTORIC FIELD BOUNDARY (SOUTH-EASTERN EXAMPLE), SHOWING RIDGE/RAISED GROUND TO SOUTH-EAST; VIEWED FROM THE SOUTH-EAST (NO SCALE).



THE OLD DAIRY  
HACCHE LANE BUSINESS PARK  
PATHFIELDS BUSINESS PARK  
SOUTH MOLTON  
DEVON  
EX36 3LH

01769 573555

01872 223164

[MAIL@SWARCH.NET](mailto:MAIL@SWARCH.NET)