westenviro ltd

Land to South West of Trewennack, Helston

Phase 1 Preliminary Risk Assessment Report

Ref. 23014-R2

July 2023

Westenviro Ltd Incorporated in England and Wales No. 7965953.
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Land to South West of Trewennack, Helston

Phase 1 Preliminary Risk Assessment Report

Report No. 23014-R2

Client:
Rhos Construction Ltd

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1. Introduction

1.1 Background

Westenviro Ltd has been instructed by Rhos Construction, to undertake a Phase 1 Desk-Based Preliminary Risk Assessment for a residential development site on land to the south west of Trewennack, Helston TR13 0PQ (hereafter referred to as "the site"). The report is required to support a future planning application.

1.2 Information Reviewed

Westenviro Ltd has reviewed and assessed information from the following sources:

- A site walkover carried out in July 2023;
- Groundsure environmental and geological data reports for the site, dated February 2023 (see Appendix 2);
- Current and historical Ordnance Survey (OS) maps (see Appendix 3);
- Data from online mapping and aerial imagery presented by British Geological Survey (BGS), Environment Agency (EA), Cornwall Council, UK Soil Observatory (UKSO) and Google Earth;
- Information on planning history of the Site and surrounding areas, from Cornwall Council online records.

The Groundsure report and historical mapping was obtained for a previous report covering an earlier phase of development, which the currently proposed development abuts as shown in Figure 2. The boundaries shown on the Groundsure documents relate to the earlier phase, however the current phase is covered by the mapping and data and the distances shown in this report have been estimated in relation to the boundary of the currently proposed development.

1.3 Purpose and Scope of Study

The purpose of the Report is to collect and examine existing available information, and carry out a site walkover to identify near surface evidence of contamination impact, in order to provide an assessment of potential in-ground environmental risks and liabilities associated with the proposed redevelopment of the site as described in Section 1.4.

The main objectives of the Phase 1 Preliminary Risk Assessment are to:

- Evaluate the environmental setting of the site and to identify sensitive receptors;
- Identify and evaluate possible source-pathway-receptor linkages;
- Formulate a Conceptual Site Model (CSM) to consider the significance of the source-pathway-receptor linkages; and
- Identify if further investigation is required and recommend a scope.

This Report has been undertaken in accordance with current relevant guidance and best practice as set out in British Standard BS10175:2011 + A2: 2017, DEFRA/Environment Agency Land Contamination Risk Management (LCRM) Framework (8 October 2020, updated 19 April 2021) and Contaminated Land Report (CLR) 11, NHBC/Environment Agency/CIEH Guidance for the Safe Development of Housing on Land Affected by Contamination (R&D Publication 66: 2008) and in accordance with Cornwall Council guide entitled Land Affected by Contamination – Developers Guide and Information Requirements for Planning Applications (Version 2, July 2021). Please note that this scope of works does not cover any mining search or investigations.

1.4 Description of Proposed Development

Development proposals comprise the construction of a total of nine houses on land to the south west of Trewennack, Helston, abutting a recently completed development of five houses.

1.5 Limitations

This Assessment has been produced in accordance with the principles of LCRM and BS10175:2011+A2:2017 in relation to a Preliminary Risk Assessment. It provides an assessment of the potential contamination status of the ground below the site based upon the information made available to Westenviro Ltd at the time of the study and on surface observations from a site walkover. Although reference may be made to issues other than those related to contamination, any comments relating to such matters are for information only.

Westenviro Ltd has reviewed and assessed information from the Client, Groundsure Ltd, and others. Westenviro Ltd does not warrant the accuracy of the information provided to it. The conclusions, opinions and recommendations presented in this report are based upon this information. No intrusive investigation or sampling has been undertaken by Westenviro on the site of the currently proposed development.

2. Site Location and Description

2.1 Site Location

The site consists of a plot of land of approximately 0.5 Ha, of which the north-western part faces directly on to the A394 Penryn to Helston road and the eastern part is located to the rear of the access road constructed to serve an earlier phase of development. The site is located on the south west edge of the hamlet of Trewennack, approximately 2 km north- east of Helston town centre, and is accessed by a cul de sac on the south side of the A394. The postcode attributable to the site is TR13 0PQ. The site is centred at National Grid Reference 167751 028647.

The site boundary has been established from a preliminary sketch plan provided by the client. Reference should be made to planning application documents for the boundary applicable to the planning application.

2.2 Current Use of Site

The site is currently occupied by two polytunnels and an agricultural field.

2.3 Current Use of Surrounding Area

Current land uses in the surrounding area are identified in Table 2.3.

Table 2.3 Current Land Uses in Surrounding Area

Direction	Current Use
North	Residential, with arable fields beyond.
East	Residential.
South	Agricultural
West	Arable fields

2.4 Observations from Site Walkover

Methodology
A site walkover was carried out on 20th July 2023, during a period of sunny weather. The site walkover comprised examination on foot of the site and its immediate surrounds. Selected photographs are reproduced in Appendix 1.

Site Access
The Site is accessed from a cul de sac leading from the A394 Penryn to Helston road, serving the earlier phase of development.

Site Layout
The north-eastern edge of the site is currently in use as a temporary construction compound for the earlier development phase. Site cabins and welfare facilities are present, along with building material storage areas delineated by Heras fencing. An excavator and builders vans were also parked in this area. There was no external fuel or lubricant storage. A black plastic tank is understood to be a water tank.

Adjoining the construction compound are two steel framed polytunnels, one uncovered and the other covered with plastic sheet. Both have been used for horticultural cultivation but appear to be disused, although some remaining tomato plants are present in the second polytunnel along with a small tractor.

The south-western half of the site, beyond the polytunnels, is occupied by a horticultural bed, mainly fallow but with some sunflowers and onions growing, and a grassed former horticultural area. A cultivator attachment for the tractor is present in the grassed area.

The soil substrate exposed comprised natural brown gravelly silt topsoil. Close to the site entrance, the substrate contains gravel and cobbles of slaty mudstone (shillet) probably from the cutting for the site entrance. There was no other made ground visible.

No asbestos containing materials were observed. No fuels, lubricants or other potential contaminants were noted.

Invasive plants, eg Japanese Knotweed *fallopia japonica* were not observed.

All mains services (apart from gas) are assumed to be available from the road.

Surrounding Area Layout
Refer to Table 2.3 above.

Potentially Contaminative Land Uses: On Site
None observed.

Potentially Contaminative Land Uses: Off Site
None observed.

3. Environmental Setting and Site History

3.1 Review of Environmental Setting and Planning Information

A review of information from the data sources identified in Section 1.2 is presented in Table 3.1 below. Information considered to be of potential significance to land contamination on the site is shown in bold text.

Table 3.1 Environmental Setting and Planning Information

Aspect	Review
Geology	According to the Groundsure report, which is based on BGS 1:50,000 scale geological mapping, the site is directly underlain by solid strata. This is mapped as comprising an igneous intrusion of metamicrogabbro immediately to the north of the site, and the Mylor Slate Formation comprising hornfelsed slate and hornfelsed siltstone underlying the site itself. Superficial deposits are not mapped at the site. There are no BGS borehole records proximate to the site. According to the Groundsure report risks from geohazards such as shrink-swell clays, ground dissolution, compressible deposits, collapsible deposits, landslides and running sands, are identified as negligible or very low.
Background Contaminant Concentrations	According to BGS data in the Groundsure report, estimated concentrations of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil are as follows: • Arsenic 15-60 mg/kg • Bioaccessible arsenic 2-9 mg/kg • Lead 100 mg/kg • Bioaccessible lead. 60 mg/kg • Cadmium 1.8 mg/kg • Chromium 60->180 mg/kg • Nickel 15-60 mg/kg According to UK Soil Observatory online data, arsenic concentrations are estimated between 36-65 mg/kg. Arsenic concentrations may exceed residential Generic Assessment Criteria, however bioaccessibility of naturally occurring arsenic in Cornwall is typically low. This was confirmed by topsoil testing carried out an earlier phase of development, abutting the site to the north-east, in March 2021 (See below, Appendix 5). The range of arsenic concentrations stated above are not considered to represent an excess risk. Estimated concentrations of cadmium, chromium, lead and nickel are considered to be low relative to residential Generic Assessment Criteria.
Radon	According to the Groundsure report the site lies within an area where over 30% of homes are above the action level for radon. Based upon the UK Radon map data and Building Research Establishment (BRE) guidance, full radon protection measures are indicated to be necessary in the construction of new residential buildings or extensions in the area.
Hydrogeology	According to the Groundsure report, the bedrock is classified by the Environment Agency as a Secondary A Aquifer, containing permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. The bedrock aquifer is considered to have a high vulnerability. Soil leaching potential is identified as intermediate. The site is not located within a groundwater source protection zone. There are no groundwater abstraction records within 1 km of the site.

Aspect	Review
Surface Water	According to the Groundsure report, the nearest surface water feature is a stream, 50m west of the site, which flows in a generally southerly direction towards the tidal Helford River towards the River Camel. There are no surface water abstractions recorded within 500m of the site.
Flooding and Drainage	According to the Groundsure report the site is not in an area at risk from flooding from rivers and sea (Zones 2 or 3) and is at a negligible risk of surface water and groundwater flooding. Flood risk assessment is not within the scope of this report.
Protected Designations	According to the Groundsure report there are no protected designations such as SSSI's, etc, within 500m of the site. There are features of heritage interest (ancient monuments, listed buildings, etc) within 250m of the site, the closest being a holy well, 90m south of the Site, recorded as a Grade II* listed building and a Scheduled Ancient Monument. several Grade II listed buildings are present in the vicinity of Trelil Farmhouse, 100m-150m south-west of the site.
Planning	Outline planning consent for the earlier development abutting the site to the north-east was granted by Cornwall Council in February 2019, reference PA18/07707. Reserved matters approval for four houses was granted in October 2021, reference PA21/07468. A further consent, for construction of an additional house, was granted in October 2021, reference PA21/08949. No information relevant to land contamination is recorded in these records or in other planning records covering the immediately surrounding area.

3.2 Review of Land Use and Regulatory Information

A review of land use and regulatory information from the data sources identified in Section 1.2 is presented in Table 3.2 below. Clarification of specific entries is provided below the table.

Table 3.2 Land Use and Regulatory Information for Site and Surrounding Area

Aspect	On Site	Surrounding Area
Past Land Use including tanks, energy features, petrol stations, garages, military land (Groundsure report sections 1, 2)	No data found (smithy referred to as on site is 60m north-west of current site)	3 records found for a smithy present between 1909 and 1938, related to a building 60m north-east. See below.
Current Industrial Land Use including recent industrial land use, current or recent petrol stations, electricity cables, gas pipelines, sites determined as contaminated land, control of major accident hazards sites, explosives sites, hazardous and dangerous substances storage/use, licensed industrial activities and pollutant release, radioactive substance authorisations, licensed discharges to controlled waters, pollutant releases, pollution incidents and inventory records (Groundsure report section 4)	No data found	No data found within 100m.
Waste and Landfill including active or recent landfill, historical landfill, historical waste sites, licensed waste sites, waste exemptions (Groundsure report section 3)	No data found.	No landfill or licensed waste sites data found within 250m. No waste exemptions recorded within 100m.
Mining, Ground Workings and Natural Cavities including natural cavities, Britpits data, surface ground workings, underground workings, historical mineral planning areas, non coal mining mining cavities, JPB mining areas	One record found for vein minerals. See below	2 surface workings records found within 100m comprising ponds, 35m west. No underground

Aspect	On Site	Surrounding Area
data, coal mining, brine areas, gypsum areas, tin mining and clay mining (Groundsure report section 18)		workings records found for mining related features within 250m.

Note: relevant regulatory information in the surrounding area is identified in this table if within 100m of the site boundary, or at greater distance if it is considered that the site could potentially have been impacted by the activity. Geolocation may be approximate and distances stated may vary from the actual distance.

Smithy: this feature is likely to represent very small scale rural metalworking. The mapping identifies a building 60m north east of the site boundary and is not considered to be a potential source of contamination affecting the site.

Vein minerals: The Groundsure report states that small scale underground mining may have occurred and mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered. The Groundsure report also states that tin mining is reported to have occurred in the general area.

The closest mapped mining feature according to Groundsure is an unspecified disused shaft located around 620m north-west of the site. Mapping prepared by A. K. Hamilton Jenkin shows no mining features within or adjacent to the site. There is no mapped evidence (from either historical OS maps or from A. K. Hamilton Jenkin) of mining, waste tipping or mineral processing on the site.

A documentary mining search provided by Mining Eye (see Appendix 4) indicates that the site appears to be south of any mining activity. The footings in the adjacent site were found to be clear and the trend of the lodes in the area suggests that if they occurred, they would be absent in the footings on this phase of development. Reference should be made to the mining search report for recommendations related to inspection of footings.

3.3 Review of Site and Surrounding Area History

A review of information on history of the site and surrounding area, from the data sources identified in Section 1.2 is presented in Table 3.3 below. Information considered to be of potential significance to land contamination on the site is shown in bold text.

Table 3.3 History of Site and Surrounding Area

Date	On Site	Surrounding Area
1881 and 1888 OS mapping	The site is shown as part of an undeveloped field in assumed agricultural use. A terrace of four small assumed residential buildings is present on the western part.	A terrace of four small assumed residential buildings abut the site to the north. Further residential buildings present beyond 50m north-east (Trewennack hamlet). Remaining area within 100m undeveloped and in assumed agricultural use.
1907 and 1908 OS mapping	No material changes.	Smithy identified in small building 30m to the north-east.
1938 OS mapping	No material changes.	No material changes.
1963 OS mapping	No material changes.	Terrace of buildings abutting to the north depicted as unroofed.
1968 OS mapping	No material changes.	Smithy no longer identified; now replaced by residential building (Hillside).
1975, 1978 and 1983 OS mapping	No material changes.	No material changes.

Date	On Site	Surrounding Area
1995 OS mapping	No material changes	No material changes
2001 and 2003 OS mapping	No material changes	No material changes
1999 and 2005 aerial photographs	Site in apparent horticultural use with 3 no polytunnels present in its eastern part	Field to north-east in assumed horticultural use, also boats, sheds etc present. Residential development north and north-east (Trewennack hamlet) beyond. Remainder of surrounding area in agricultural or horticultural use.
2009 aerial photographs	No material changes	Field to north-east not laid to grass, boats sheds etc still present.
2016 and 2019 aerial photographs	No material changes	Residential development underway 60m east of site (2019)
2021 and 2022 aerial photographs (Google Earth)	Two polytunnels remain in eastern part of site.	Residential development underway abutting to north-east of site, access road partly constructed on abutting to the north.
2010 to 2023 OS Mapping	Scale too small to show detail.	Scale too small to show detail.

Note: relevant historical activities in the surrounding area are identified in this table if within 100m of the site boundary, or at greater distance if it is considered that the site could potentially have been impacted by the activity.

3.4 Findings from Topsoil Sampling

Four samples of topsoil were taken by Westenviro from the area abutting the site to the north-east, prior to the earlier phase of development, in March 2021. The samples were analysed for concentrations of metals and bioaccessibility of arsenic. The purpose of the testing was to identify if any of the metals were naturally elevated and assess the bioaccessibility of arsenic, in order to ascertain the suitability of the soil for residential gardens both on-site and at a separate site where surplus soil was proposed to be used.

The letter report produced at the time is appended as Appendix 5. Arsenic concentrations ranged from 53 mg/kg to 80 mg/kg, which exceeds the guideline value of 37 mg/kg for residential (with produce consumption – i.e. gardens). However, the bioaccessible fraction was identified as only 0.7%. Based on the identified low bioaccessibility, a Site Specific Acceptance Criterion (SSAC) of 380 mg/kg, a value not exceeded by any of the samples tested. No guideline value exceedances of any other metals analysed were recorded.

It was concluded that the topsoil was suitable for the gardens in the residential development with no requirement for remediation measures such as soil cover layers. Given the similarity of geology and former land use, the findings of the topsoil sampling on the abutting area of land are considered to provide a line of evidence relevant to the current proposed site.

4. Conceptual Site Model

4.1 Introduction

Based on the review of the site history and environmental setting reported in the preceding section the following principal observations may be made:

- Mapping has shown the site to be undeveloped from the earliest (1881) until the most recent mapping. A terrace of four small buildings, assumed residential, was present abutting the site to the north from 1881 but by 1963 they were recorded as unroofed and the area was cleared by 2016. Three polytunnels, assumed in horticultural use, were present on the eastern part of the site from 1999. No potentially contaminative uses were noted on site.
- The soil substrate exposed in topsoil sampling pits comprised natural brown silt loam topsoil. There was no made ground visible. No evidence of deleterious materials such as asbestos, or fuel or lubricant storage, leakage or spillage, was observed on the site.
- According to the mining search the site appears to be south of any mining activity..
- The area to the north and north-east (Trewennack hamlet) has been developed for predominantly residential uses since before the 1880s. One potentially contaminative activity, a smithy, was located 30m north-east of the site from 1908 to 1963, however this feature is likely to represent very small scale rural metalworking and is not considered to be a potential source of contamination affecting the site.
- The concentrations of arsenic in soil identified in the vicinity of the site from BGS data in the Groundsure report are in the range 15-60 mg/kg. According to UK Soil Observatory online data, arsenic concentrations are estimated between 36-65 mg/kg. These are considered to be representative of normal background concentrations in the area. Topsoil testing in March 2021 on the land abutting to the north-west found arsenic concentrations ranged from 53 mg/kg to 80 mg/kg, which exceeds the guideline value of 37 mg/kg for residential (with produce consumption – i.e. gardens). However, the bioaccessible fraction was identified as only 0.7%. Based on the identified low bioaccessibility, a Site Specific Acceptance Criterion (SSAC) of 380 mg/kg, a value not exceeded by any of the samples tested. Given the similarity of geology and former land use, the findings of the topsoil sampling on the abutting area of land are considered to provide a line of evidence relevant to the current proposed site.
- No guideline value exceedances of any other metals analysed were recorded.
- High levels of radon are likely to be present in the geological formations beneath the site.

4.2 Proposed Use of Site

A residential development has been consented for the site comprising a total of 9 no dwellings including private gardens.

The preliminary risk assessment, and outline conceptual model, developed below takes into account this sensitivity and is based on the Residential with home grown produce consumption exposure scenario.

4.3 Methodology

The DEFRA/Environment Agency Land Contamination Risk Management (LCRM) framework defines the framework for contaminated land risk assessment in the UK. Note that this process does not consider physical risks from mining related features, which are not addressed in this report.

Three stages of risk assessment are defined: **Preliminary**, **Generic Quantitative** and **Detailed Quantitative**. An outline **Conceptual Model** that identifies **Potential Contaminant Linkages** (referred to under the former CLR11 guidance as Potential Pollutant Linkages) between a contaminant **Source**, a **Receptor** and a linking **Pathway**, should be established at the **Preliminary Risk Assessment** stage. This outline **Conceptual Model** should be developed to take account of all the existing information available at the time. It allows information required from subsequent environmental site investigation to be identified. As further information becomes available the outline **Conceptual Model** is updated.

Production of a **Conceptual Model** requires an assessment of **Risk** to be made. For there to be a **Risk** there must be a **Potential Contaminant Linkage**. **Risk** is a combination of the **Likelihood** of an event occurring and the **Severity** of the event.

Guidance is provided Annex 4 of the National House Building Council/Environment Agency/Chartered Institute of Environmental Health R&D publication 66, Guidance for the Safe Development of Housing on Land Affected by Contamination (NHBC/EA/CIEH, 2008) which updates and supersedes CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).

Based on R&D66, Annex 4, four categories of **Likelihood** of an event can be defined:

- **High Likelihood**: There is a contaminant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution;
- **Likely**: There is a contaminant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term;
- **Low Likelihood**: There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term; and
- **Unlikely**: There is a contaminant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Similarly, based on R&D66, Annex 4, four categories of **Severity** of an event can be defined:

- **Severe**: Highly elevated concentrations **likely** to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs.
- **Medium**: Elevated concentrations which **could** result in “significant harm” to human health as defined by the EPA 1990, Part 2A if exposure occurs.
- **Mild:** Exposure to contaminants **unlikely** to lead to “significant harm” to human health; and
- **Minor:** No measurable effect on humans.

A contaminant linkage must first be established before probability is classified. If there is no contaminant linkage then there is no potential risk. If there is no contaminant linkage then there is no need to apply tests for probability and consequence.

Once the **Likelihood** of an event occurring and its **Severity** have been classified, the table below

can be used to define a **Risk Category**.

Severity / Likelihood	Severe	Medium	Mild	Minor
High Likelihood	Very high	High	Moderate	Low
Likely	High	Moderate	Moderate/Low	Low
Low Likelihood	Moderate	Moderate/Low	Low	Very Low
Unlikely	Moderate/Low	Low	Very Low	Very Low

These **Risk Categories**, and the further actions that may be required as a result, may be defined as follows

- **Very High**: There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring;
- **High**: Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action;
- **Moderate**: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild.;
- **Low**: It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild; and
- **Very Low**: It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

There is no potential risk if no contaminant linkage has been established.

4.4 Conceptual Site Model and Risk Assessment Summary

Based on the data reviewed, the sample analysis results and the site walkover reported above the following table 4.4a presents the outline Conceptual Site Model summary. This is based on the proposed use and the site in its current condition. Observations are outlined in Table 4.4b on the following page.

Table 4.4a Outline Conceptual Site Model Table

Source	Pathway	Receptor	Risk (before mitigation)	Observation
Background level of arsenic in natural soils	Soil ingestion, inhalation, direct contact	Construction workers; Future residents of the site	Low	1
High background level of radon in the area	Migration through subsoil and into buildings	Future residents of the site	High	2

Table 4.4b Conceptual Site Model Observations

Observation	Risk Justification, Further Action or Mitigation Required, Risk after Mitigation
1	Topsoil testing on land adjacent to the north-east in March 2021 found arsenic concentrations ranged from 53 mg/kg to 80 mg/kg, which exceeds the guideline value of 37 mg/kg for residential (with produce consumption – i.e. gardens). These are considered to be representative of normal background concentrations in the area. However, the bioaccessible fraction was identified as only 0.7%. Based on the identified low bioaccessibility, a Site Specific Acceptance Criterion (SSAC) of 380 mg/kg, a value not exceeded by any of the samples tested. Given the similarity of geology and former land use, the findings of the topsoil sampling on the abutting area of land are considered to provide a line of evidence relevant to the current proposed site. On this basis the current risk is assessed as **Low**.
2	Radon is a radioactive gas generated by secular decay of uranium naturally present in granite rocks present at depth beneath Cornwall. As a gas, it can migrate through the ground and enter buildings. There is a **High** risk of radon migration at this location. Construction of residential buildings will need to make provision of radon protection measures (eg radon membrane and collection sump). On the basis that these details are constructed and approved as compliant with building regulations the risk to future residents on the site is assessed as **Low**.

5. Conclusions and Recommendations

5.1 Conclusions of Preliminary Risk Assessment

The following conclusions have been drawn from the Preliminary Risk Assessment:

- The site has been in agricultural and horticultural use throughout the period covered by the mapping and other records.
- There is no evidence of historical mining activities on the site.
- The soil substrate exposed comprised natural brown gravelly silt topsoil. Close to the site entrance, the substrate contains gravel and cobbles of slaty mudstone (shillet) probably from the cutting for the site entrance. There was no other made ground visible. No evidence of deleterious materials such as asbestos, or fuel or lubricant storage, leakage or spillage, was observed on the site.
- Historical operations at a smithy 30m north of the site are not considered likely to have affected the site.
- Arsenic concentrations on adjacent land to the north-east ranged from 53 mg/kg to 80 mg/kg, which exceeds the guideline value of 37 mg/kg for residential (with produce consumption – i.e. gardens). These are considered to be representative of normal background concentrations in the area. However, the bioaccessible fraction was identified as only 0.7%. Based on the identified low bioaccessibility, a Site Specific Acceptance Criterion (SSAC) of 380 mg/kg, a value not exceeded by any of the samples tested. The topsoil was considered suitable for the gardens in the residential development with no requirement for remediation measures such as soil cover layers. Given the similarity of geology and former land use, the findings of the topsoil sampling on the abutting area of land are considered to provide a line of evidence relevant to the current proposed site.
- High levels of radon are likely to be present in the subsoil and radon protection measures need to be incorporated in the development to satisfy building regulations.

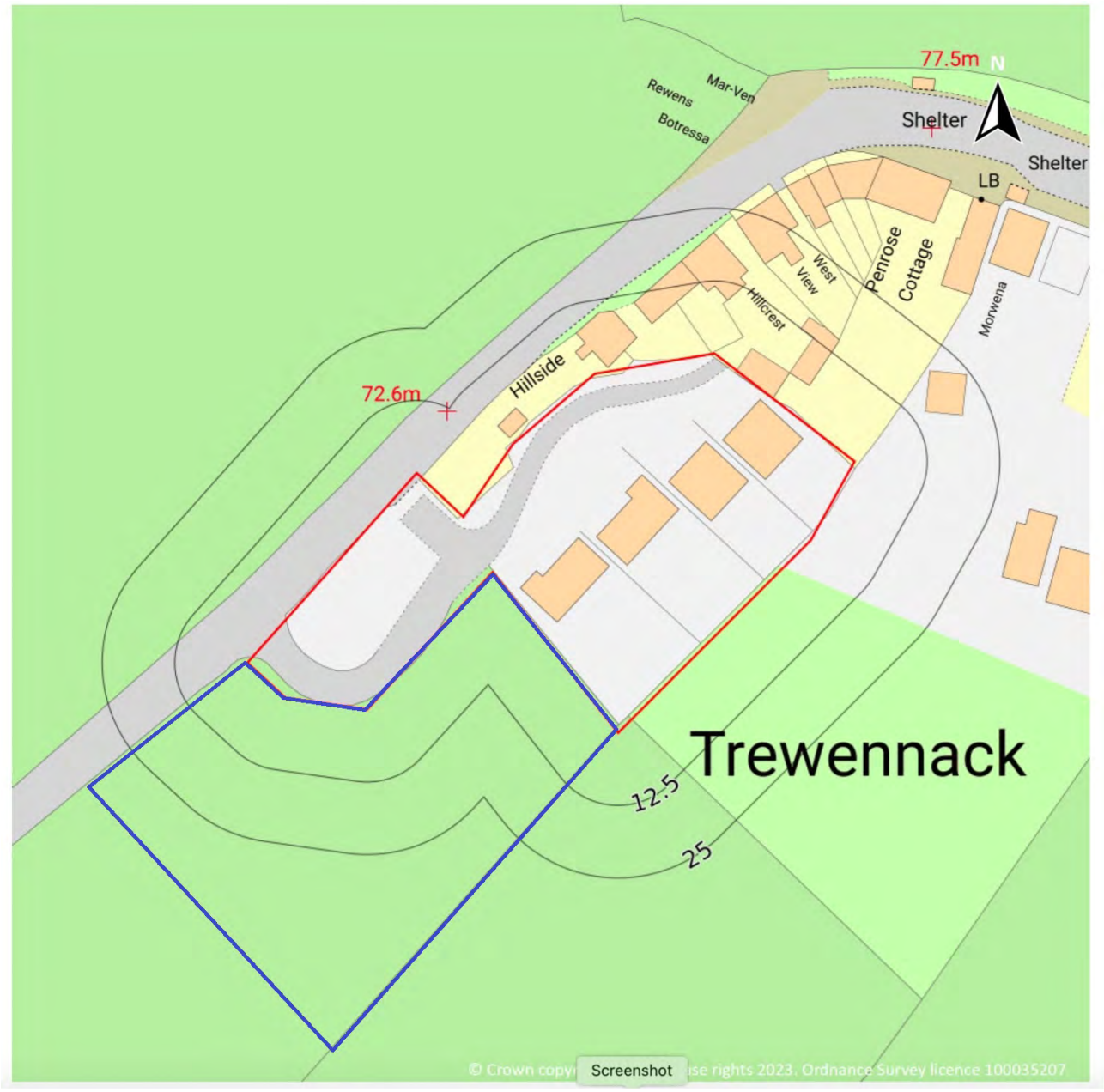
5.2 Recommendations

Evidence of historical activities on the site likely to have caused land contamination has not been found. Off site potential contamination sources are considered unlikely to have affected the current site. Whilst natural background concentrations of arsenic exceed residential generic assessment criteria, they are of very low bioaccessibility and therefore are not considered to represent an unacceptable risk to future residential occupiers. Therefore no recommendations are made for further investigations or remediation work related to land contamination.

Figure 1: Site Location Plan

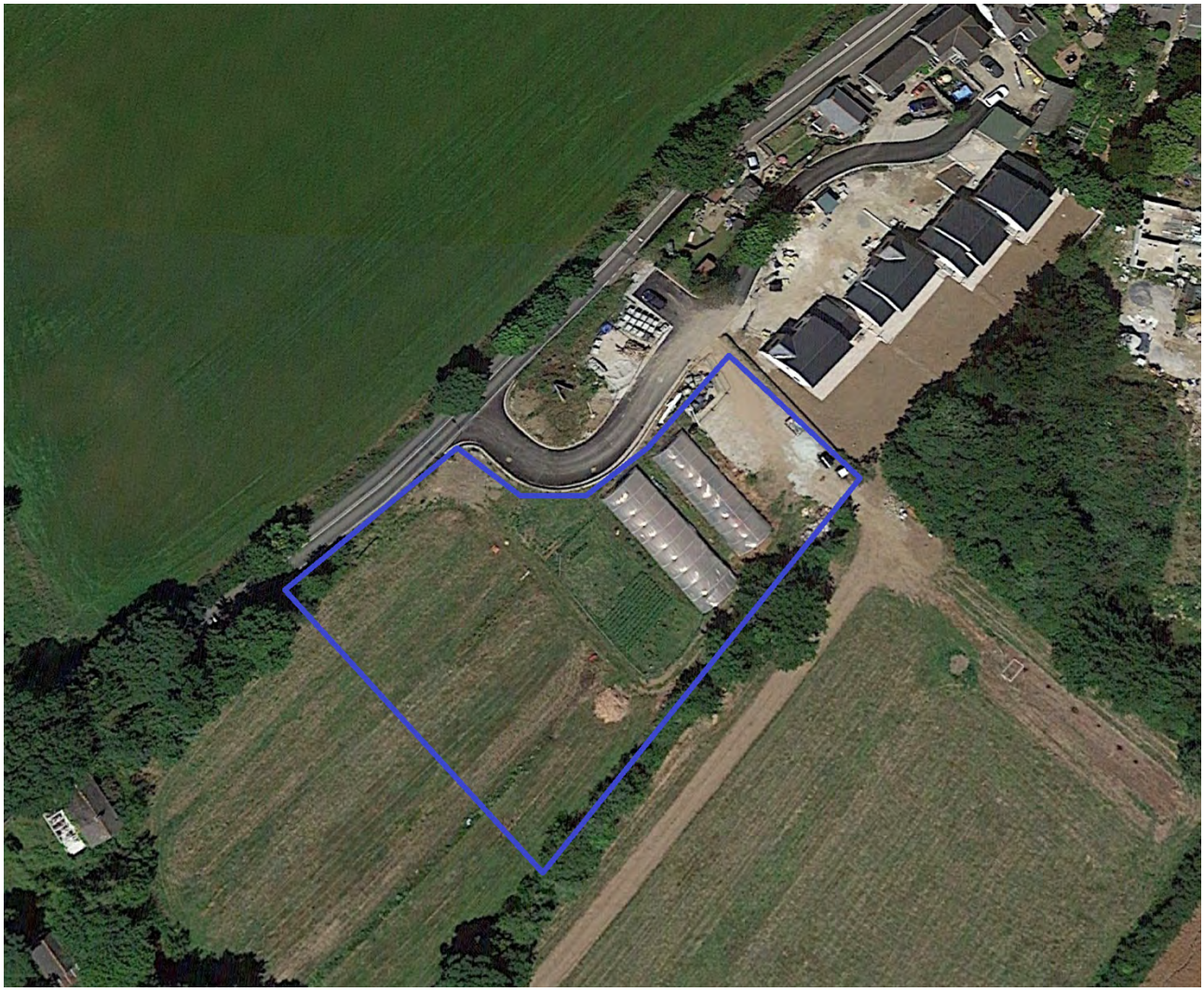
Note: plan not to scale. Blue line shows current site boundary. Red line shows boundary defined for Groundsure report covering previous development phase, with buffers at 500m and 1000m.

Figure 2: Site Plan



Note: plan not to scale. Blue line shows current site boundary. Red line shows boundary defined for Groundsure report covering previous development phase, with buffers at 12.5m and 25m.

Figure 3: Aerial Photograph (2022)



Note: Not to scale. Blue line shows site boundary.

Appendix 1

Site Photographs

August 2018
Taken from Design and Planning Appraisal for planning application PA18/07707

Land rear of West View, Trewennack

Appendix 2

Groundsure Enviro + Geo Insight Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

LAND REAR OF WEST VIEW, TREWENNACK, HELSTON, TR13 0PQ

Order Details

Date: 23/02/2023

Your ref: 23014

Our Ref: GS-9377218

Site Details

Location: 167751 028647

Area: 0.34 ha

Authority: Cornwall Council (Unitary)

Contact us with any questions at:
info@groundsure.com
01273 257 755

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	**1.1**	**Historical industrial land uses**	3	0	2	3	-
15	**1.2**	**Historical tanks**	0	0	2	0	-
15	1.3	Historical energy features	0	0	0	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
17	**2.1**	**Historical industrial land uses**	3	0	3	3	-
18	**2.2**	**Historical tanks**	0	0	3	0	-
18	2.3	Historical energy features	0	0	0	0	-
19	2.4	Historical petrol stations	0	0	0	0	-
19	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
20	3.1	Active or recent landfill	0	0	0	0	-
20	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
21	3.6	Licensed waste sites	0	0	0	0	-
21	**3.7**	**Waste exemptions**	0	0	42	3	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
25	4.1	Recent industrial land uses	0	0	0	-	-
25	4.2	Current or recent petrol stations	0	0	0	0	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-

26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
26	4.7	Regulated explosive sites	0	0	0	0	-
27	4.8	Hazardous substance storage/usage	0	0	0	0	-
27	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
27	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
27	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
27	4.12	Radioactive Substance Authorisations	0	0	0	0	-
28	**4.13**	**Licensed Discharges to controlled waters**	0	0	10	5	-
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
31	4.17	List 2 Dangerous Substances	0	0	0	0	-
31	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
33	**5.1**	**Superficial aquifer**	Identified (within 500m)				
34	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
35	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	**5.6**	**Groundwater abstractions**	0	0	0	0	9
39	**5.7**	**Surface water abstractions**	0	0	0	0	19
43	5.8	Potable abstractions	0	0	0	0	0
44	5.9	Source Protection Zones	0	0	0	0	-
44	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
45	**6.1**	**Water Network (OS MasterMap)**	0	0	4	-	-

46	**6.2**	**Surface water features**	0	0	6	-	-
46	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
47	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
47	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
48	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
49	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50	7.6	Flood Zone 2	None (within 50m)				
50	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
51	8.1	Surface water flooding	Negligible (within 50m)

Page	Section	Groundwater flooding	
52	**9.1**	**Groundwater flooding**	Negligible (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
55	**10.7**	**Designated Ancient Woodland**	0	0	0	0	2
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	Green Belt	0	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0

56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
56	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
57	**10.16**	**Nitrate Vulnerable Zones**	0	0	0	0	3
58	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
59	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
60	11.1	World Heritage Sites	0	0	0	-	-
61	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
61	11.3	National Parks	0	0	0	-	-
61	**11.4**	**Listed Buildings**	0	0	8	-	-
62	11.5	Conservation Areas	0	0	0	-	-
62	**11.6**	**Scheduled Ancient Monuments**	0	0	1	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	**12.1**	**Agricultural Land Classification**	Grade 3b (within 250m)				
67	12.2	Open Access Land	0	0	0	-	-
67	12.3	Tree Felling Licences	0	0	0	-	-
67	12.4	Environmental Stewardship Schemes	0	0	0	-	-
67	**12.5**	**Countryside Stewardship Schemes**	0	0	5	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
69	13.1	Priority Habitat Inventory	0	0	0	-	-
69	13.2	Habitat Networks	0	0	0	-	-
69	13.3	Open Mosaic Habitat	0	0	0	-	-
69	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
70	**14.1**	**10k Availability**	Identified (within 500m)				
71	14.2	Artificial and made ground (10k)	0	0	0	0	-
72	14.3	Superficial geology (10k)	0	0	0	0	-

72	14.4	Landslip (10k)	0	0	0	0	-
73	14.5	Bedrock geology (10k)	0	0	0	0	-
73	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
74	**15.1**	**50k Availability**	Identified (within 500m)				
75	15.2	Artificial and made ground (50k)	0	0	0	0	-
75	15.3	Artificial ground permeability (50k)	0	0	-	-	-
76	**15.4**	**Superficial geology (50k)**	0	0	1	0	-
77	15.5	Superficial permeability (50k)	None (within 50m)				
77	15.6	Landslip (50k)	0	0	0	0	-
77	15.7	Landslip permeability (50k)	None (within 50m)				
78	**15.8**	**Bedrock geology (50k)**	2	0	2	2	-
79	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
79	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
80	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
81	**17.1**	**Shrink swell clays**	Negligible (within 50m)				
82	**17.2**	**Running sands**	Negligible (within 50m)				
83	**17.3**	**Compressible deposits**	Negligible (within 50m)				
84	**17.4**	**Collapsible deposits**	Very low (within 50m)				
85	**17.5**	**Landslides**	Very low (within 50m)				
87	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
88	18.1	Natural cavities	0	0	0	0	-
89	18.2	BritPits	0	0	0	0	-
89	**18.3**	**Surface ground workings**	0	0	2	-	-
89	**18.4**	**Underground workings**	0	0	0	0	57
91	18.5	Historical Mineral Planning Areas	0	0	0	0	-

92	**18.6**	**Non-coal mining**	1	0	0	2	2
92	**18.7**	**Mining cavities**	0	0	0	0	9
93	18.8	JPB mining areas	None (within 0m)				
94	18.9	Coal mining	None (within 0m)				
94	18.10	Brine areas	None (within 0m)				
94	18.11	Gypsum areas	None (within 0m)				
94	**18.12**	**Tin mining**	Identified (within 0m)				
94	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
95	**19.1**	**Radon**	Greater than 30% (within 0m)				

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
97	**20.1**	**BGS Estimated Background Soil Chemistry**	2	0	-	-	-
97	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
97	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
98	21.1	Underground railways (London)	0	0	0	-	-
98	21.2	Underground railways (Non-London)	0	0	0	-	-
98	21.3	Railway tunnels	0	0	0	-	-
98	21.4	Historical railway and tunnel features	0	0	0	-	-
98	21.5	Royal Mail tunnels	0	0	0	-	-
99	21.6	Historical railways	0	0	0	-	-
99	21.7	Railways	0	0	0	-	-
99	21.8	Crossrail 1	0	0	0	0	-
99	21.9	Crossrail 2	0	0	0	0	-
99	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 04/07/2019

Site Area: 0.34ha

Recent site history - 2016 aerial photograph

Capture Date: 31/05/2016

Site Area: 0.34ha

Recent site history - 2009 aerial photograph

Capture Date: 10/09/2009

Site Area: 0.34ha

Recent site history - 2005 aerial photograph

Capture Date: 15/10/2005

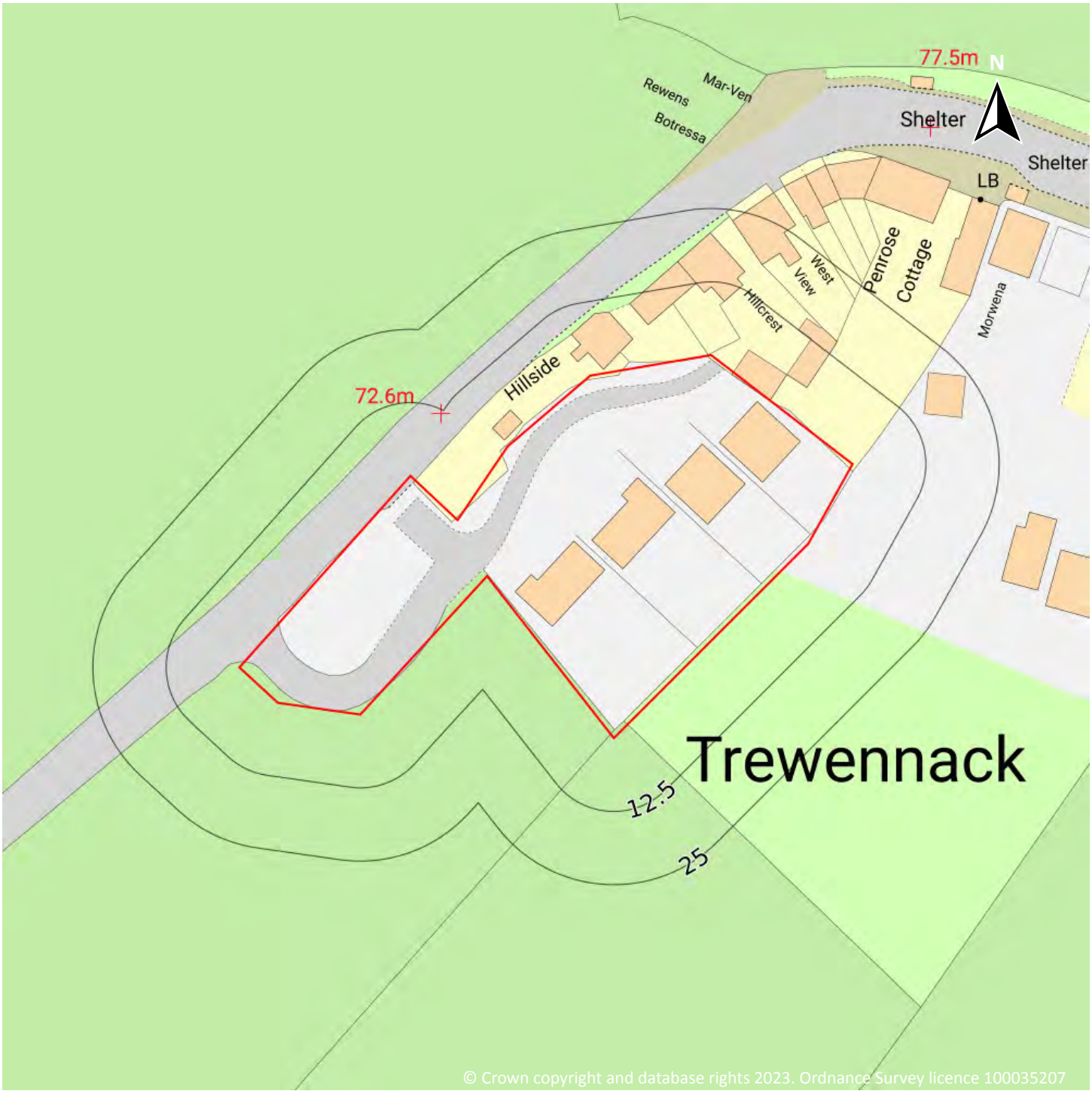
Site Area: 0.34ha

Recent site history - 1999 aerial photograph

Capture Date: 02/09/1999

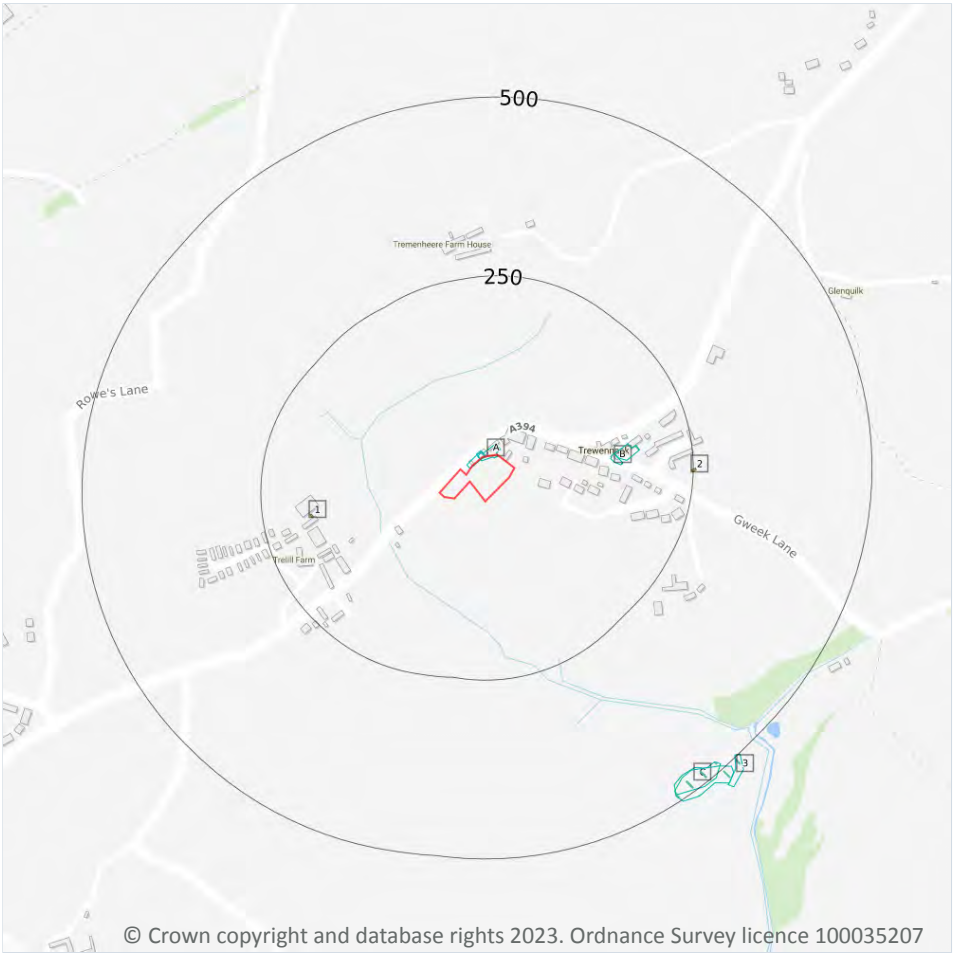
Site Area: 0.34ha

OS MasterMap site plan



Site Area: 0.34ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

1.1 Historical industrial land uses

Records within 500m	8

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Smithy**	**1909**	**48384**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Smithy**	**1962**	**51699**
A	**On site**	**Smithy**	**1938**	**58483**
B	135m E	Smithy	1909 - 1938	43361
B	141m E	Smithy	1877	24662
C	472m SE	Unspecified Quarry	1976	19640
C	473m SE	Unspecified Pit	1962	33683
3	498m SE	Unspecified Ground Workings	1976	20300

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**2**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	180m W	Unspecified Tank	1967 - 1974	5547
2	248m E	Unspecified Tank	1973	3229

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**0**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

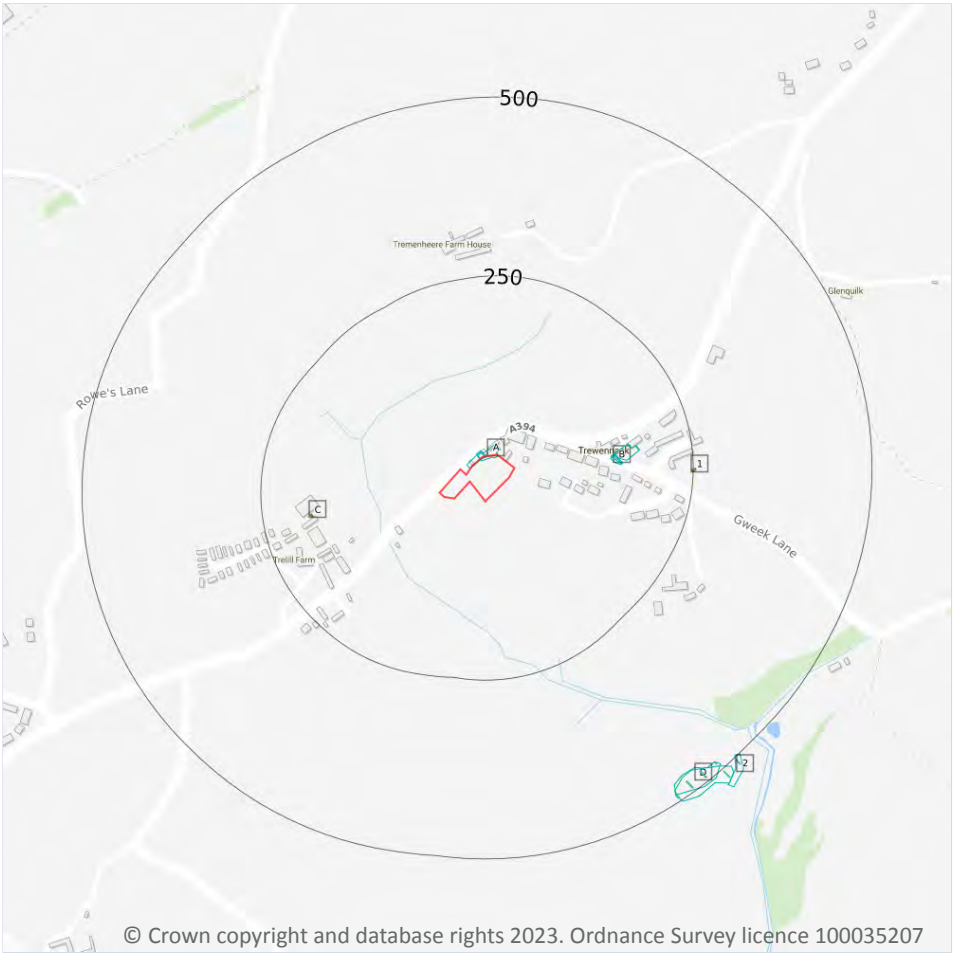
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

2.1 Historical industrial land uses

Records within 500m	9

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Smithy**	**1909**	**48384**
A	**On site**	**Smithy**	**1938**	**58483**
A	**On site**	**Smithy**	**1962**	**51699**

ID	Location	Land Use	Date	Group ID
B	135m E	Smithy	1909	43361
B	136m E	Smithy	1938	43361
B	141m E	Smithy	1877	24662
D	472m SE	Unspecified Quarry	1976	19640
D	473m SE	Unspecified Pit	1962	33683
2	498m SE	Unspecified Ground Workings	1976	20300

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**3**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

ID	Location	Land Use	Date	Group ID
C	180m W	Unspecified Tank	1967	5547
C	180m W	Unspecified Tank	1974	5547
1	248m E	Unspecified Tank	1973	3229

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**0**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

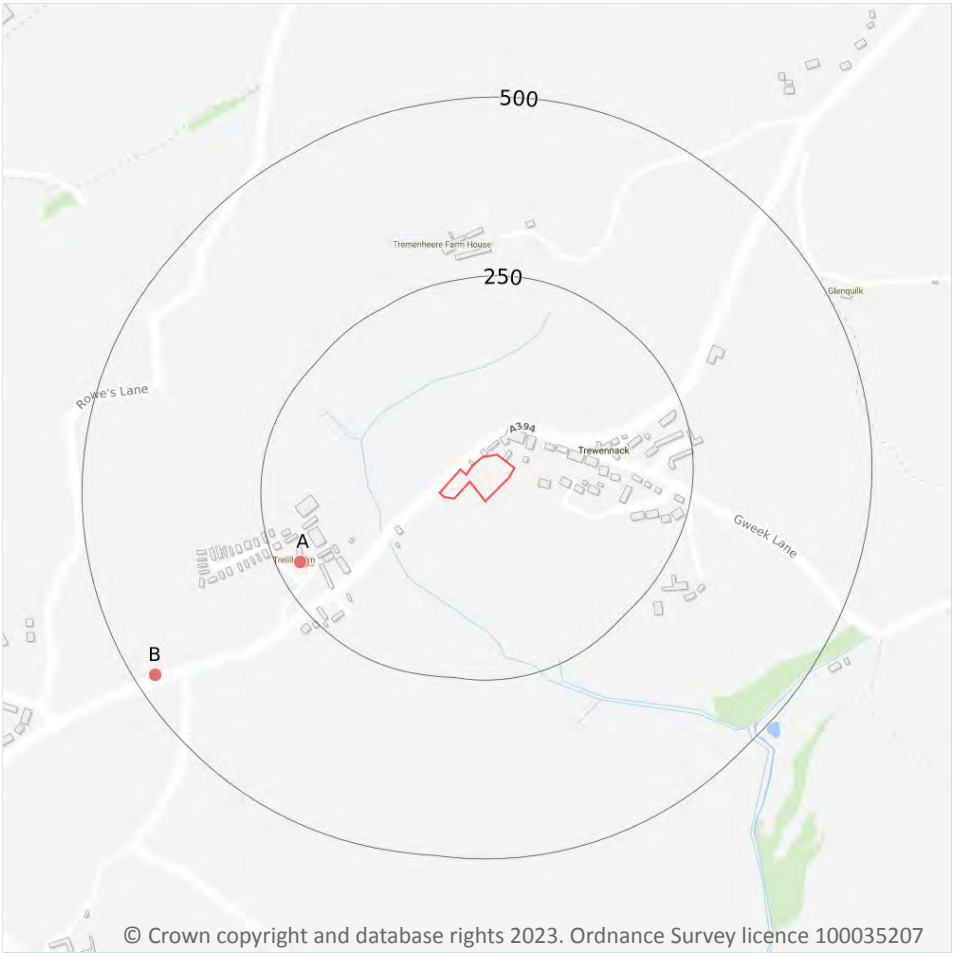
2.5 Historical garages

Records within 500m	0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	45

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 20**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Disposing of waste exemption	On a Farm	Burning waste in the open

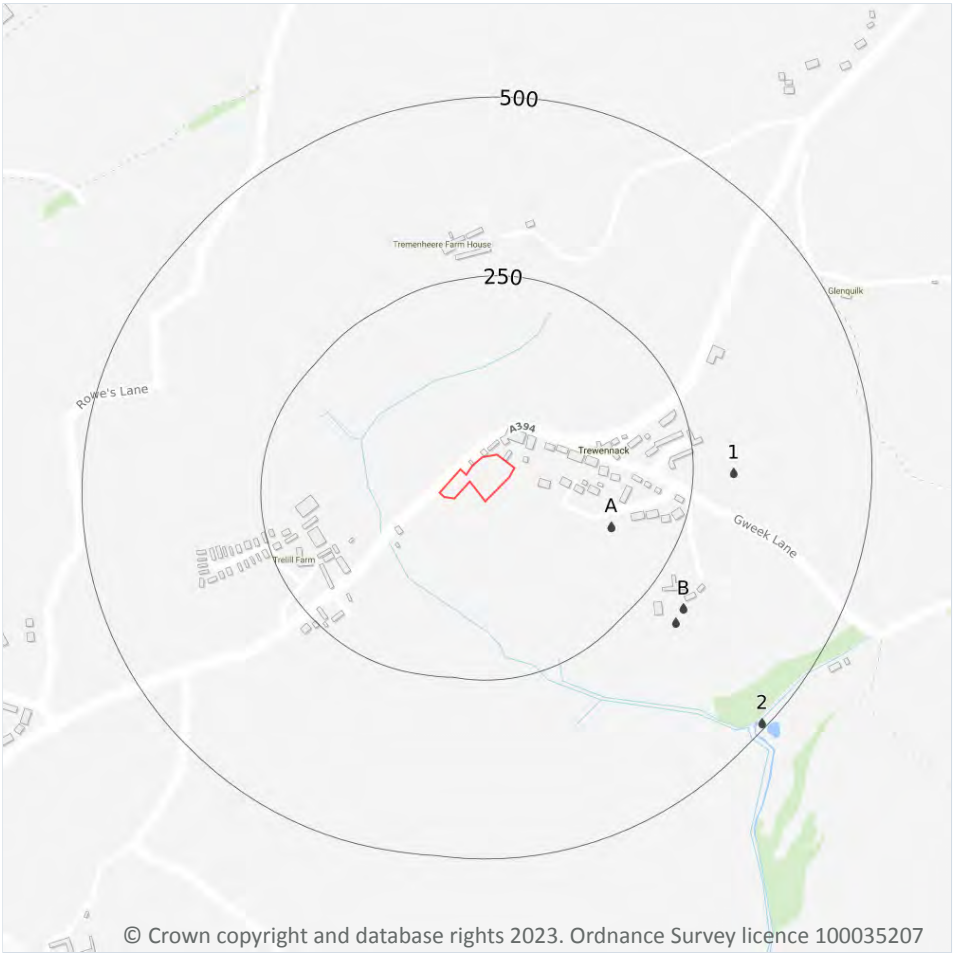
ID	Location	Site	Reference	Category	Sub-Category	Description
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Disposing of waste exemption	On a Farm	Disposal by incineration
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Treating waste exemption	On a Farm	Aerobic composting and associated prior treatment
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Treating waste exemption	On a Farm	Cleaning, washing, spraying or coating relevant waste
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Using waste exemption	On a Farm	Use of waste for a specified purpose
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX315363	Using waste exemption	On a Farm	Use of waste in construction
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Disposing of waste exemption	On a farm	Burning waste in the open
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Using waste exemption	On a farm	Use of waste in construction
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Using waste exemption	On a farm	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX178611	Disposing of waste exemption	On a farm	Disposal by incineration
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Disposing of waste exemption	On a farm	Disposal by incineration
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Disposing of waste exemption	On a farm	Burning waste in the open
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Using waste exemption	On a farm	Use of waste in construction
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

ID	Location	Site	Reference	Category	Sub-Category	Description
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
A	215m SW	TRELILL FARM, HELSTON, TR13 0PG	WEX028325	Using waste exemption	On a farm	Use of waste for a specified purpose
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Treating waste exemption	Agricultural Waste Only	Cleaning, washing, spraying or coating relevant waste
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Treating waste exemption	Agricultural Waste Only	Aerobic composting and associated prior treatment
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
A	218m SW	Trelill Farm HELSTON Cornwall TR13 0PG	EPR/ME5984GZ/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
B	473m SW	-	WEX089109	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	473m SW	-	WEX089109	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	473m SW	-	WEX089109	Using waste exemption	Not on a farm	Use of waste in construction

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m	0

Current potentially contaminative industrial sites.

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	15

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 25**

ID	Location	Address	Details	
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -

ID	Location	Address	Details	
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
A	157m E	1 - 10 PENMENETH ESTATE, TREWENNACK, HELSTON, TR13 0PU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRAB3493EM Permit Version: 1 Receiving Water: GROUNDWATER VIA A SOAKAWAY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 19/06/2014 Effective Date: 19/06/2014 Revocation Date: -
B	304m SE	LOWER TREWENNACK FARM, TREWENNACK, HELSTON, CORNWALL, TR13 0PH	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 303377 Permit Version: 1 Receiving Water: SOAKAWAY	Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 02/02/2006 Effective Date: 02/02/2006 Revocation Date: 16/12/2012

ID	Location	Address	Details	
B	304m SE	LOWER TREWENNACK FARM, TREWENNACK, HELSTON, CORNWALL, TR13 0PH	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 303377 Permit Version: 2 Receiving Water: SOAKAWAY	Status: VARIED UNDER EPR 2010 Issue date: 17/12/2012 Effective Date: 17/12/2012 Revocation Date: -
1	306m E	TREWENNACK HOUSING ESTATE, PARC BOWEN, WENDRON, CORNWALL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CRA 19 Permit Version: 1 Receiving Water: -	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 13/06/1957 Effective Date: 13/06/1957 Revocation Date: 28/10/1999
B	309m SE	LOWER TREWENNACK FARM, TREWENNACK, HELSTON, CORNWALL, TR13 0PH	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 302737 Permit Version: 1 Receiving Water: SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 30/01/2003 Effective Date: 31/01/2003 Revocation Date: 02/02/2006
2	492m SE	TREWENNACK HOUSING ESTATE, PARC BOWEN, TREWENNACK, HELSTON, CORNWALL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 301177 Permit Version: 1 Receiving Water: TRIBUTARY OF HELFORD RIVER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 28/04/2000 Effective Date: 28/10/1999 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

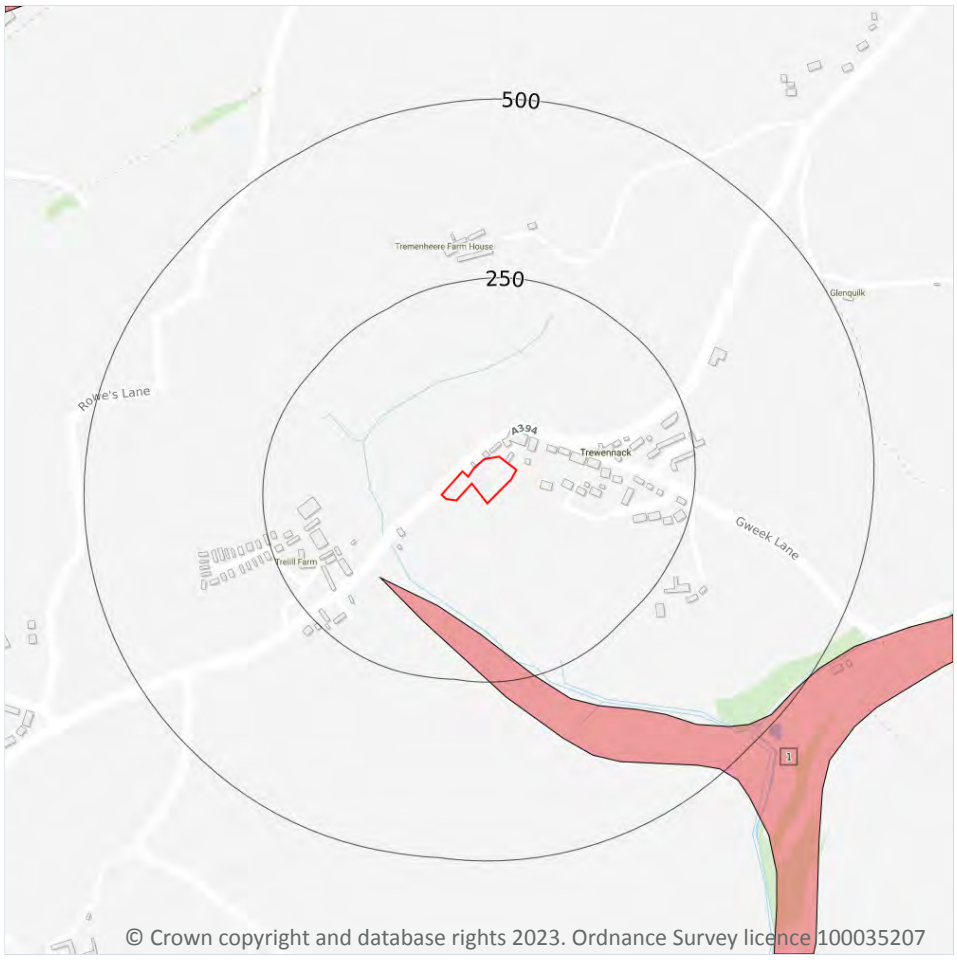
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	1

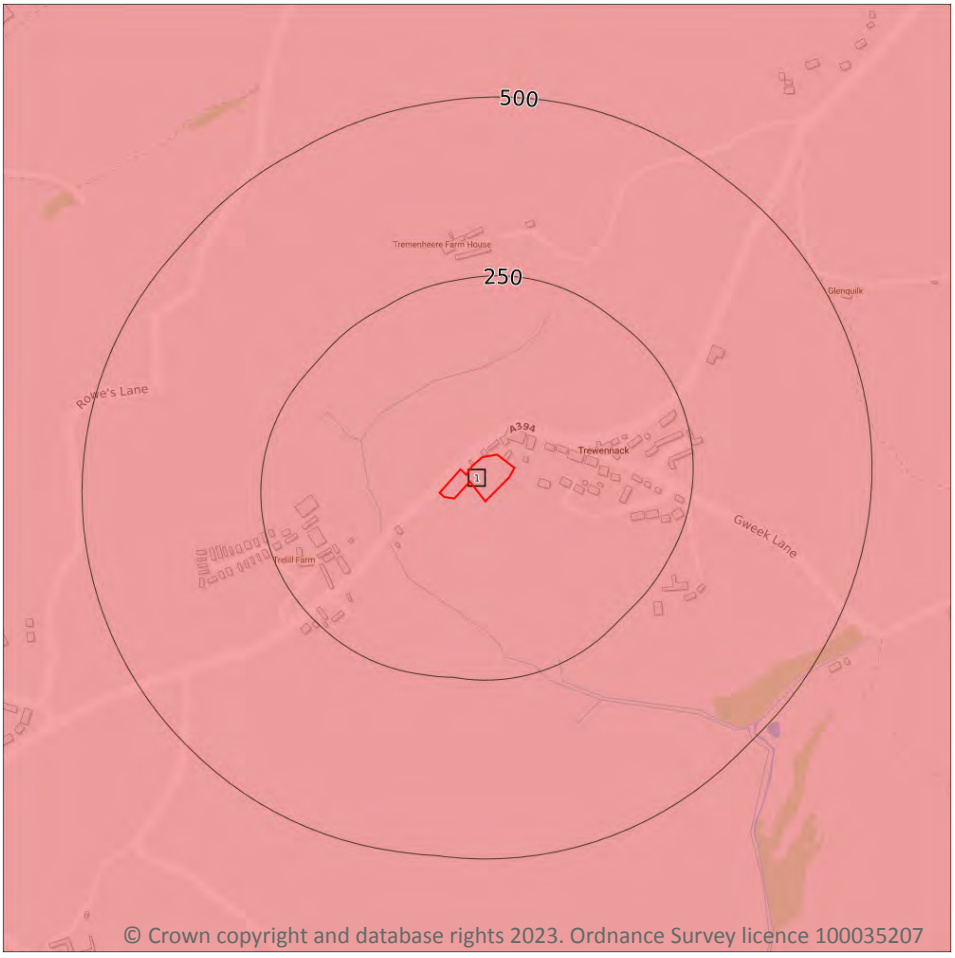
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 33**

ID	Location	Designation	Description
1	139m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	1

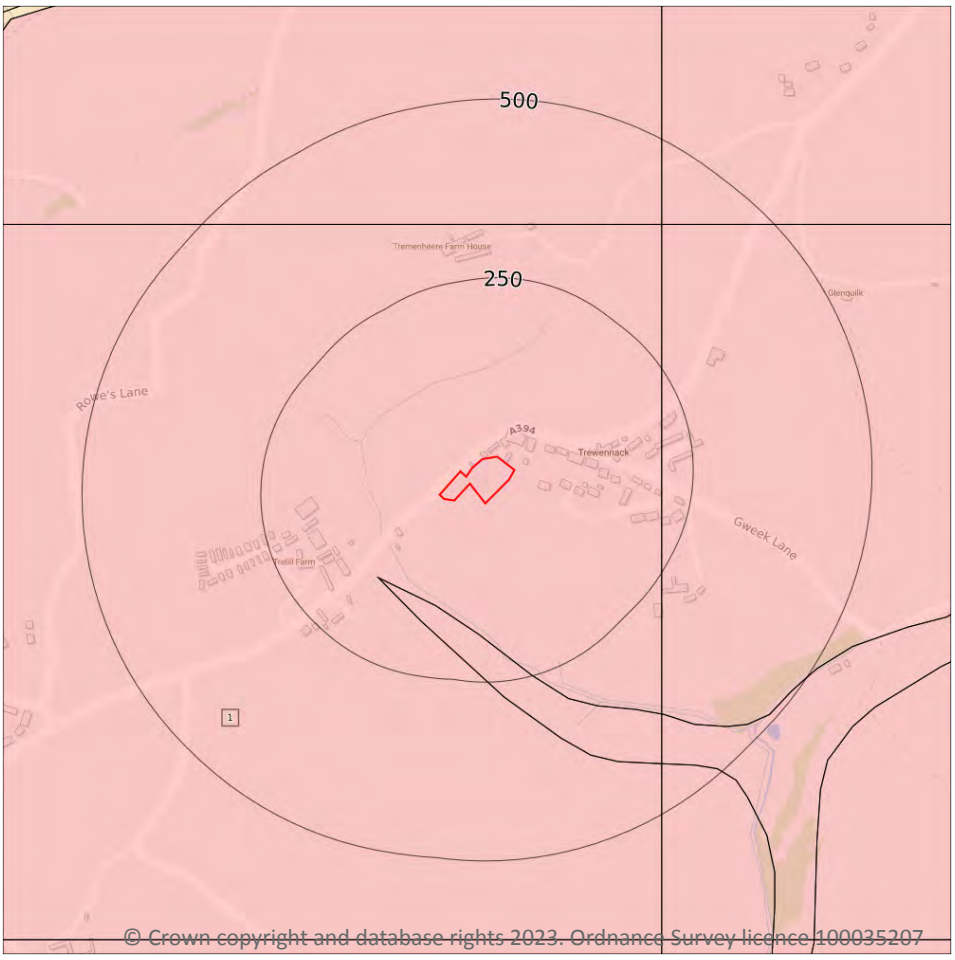
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 34**

ID	Location	Designation	Description
1	On site	Secondary A	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 35**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Intermediate Infiltration value: 40-70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones

Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	9

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Details	
-	1145m SW	Status: Historical Licence No: 15/48/231/G/228 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - Fresh Point: "GWEALMAYOWE PARK, HELSTON - BOREHOLE" Data Type: Point Name: Cowell Easting: 166800 Northing: 27900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 05/11/1987 Version End Date: -
-	1145m SW	Status: Historical Licence No: 15/48/231/G/228 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: "GWEALMAYOWE PARK, HELSTON - BOREHOLE" Data Type: Point Name: Cowell Easting: 166800 Northing: 27900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 05/11/1987 Version End Date: -
-	1145m SW	Status: Historical Licence No: 15/48/231/G/228 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: GWEALMAYOWE PARK, HELSTON - BOREHOLE Data Type: Point Name: Cowell Easting: 166800 Northing: 27900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 05/11/1987 Version End Date: -
-	1145m SW	Status: Historical Licence No: 15/48/231/G/228 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - Fresh Point: GWEALMAYOWE PARK, HELSTON - BOREHOLE Data Type: Point Name: Cowell Easting: 166800 Northing: 27900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 05/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 05/11/1987 Version End Date: -
-	1500m S	Status: Historical Licence No: 15/48/231/G/057 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: "TREGARRICK, HELSTON - WELL" Data Type: Point Name: Tregarrick Farms Ltd Easting: 167200 Northing: 27200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 31/12/1965 Version End Date: -

ID	Location	Details	
-	1500m S	Status: Historical Licence No: 15/48/231/G/057 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: TREGARRICK, HELSTON - WELL Data Type: Point Name: Tregarrick Farms Ltd Easting: 167200 Northing: 27200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 31/12/1965 Version End Date: -
-	1708m N	Status: Historical Licence No: 15/48/231/G/079 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: "CRAHAN FARM, WENDRON - WELL" Data Type: Point Name: Kivell Easting: 168300 Northing: 30300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 31/12/1965 Version End Date: -
-	1708m N	Status: Historical Licence No: 15/48/231/G/079 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: CRAHAN FARM, WENDRON - WELL Data Type: Point Name: Kivell Easting: 168300 Northing: 30300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 24/03/2005 Version End Date: -
-	1975m N	Status: Historical Licence No: 15/48/232/G/055 Details: General Farming & Domestic Direct Source: Ground Water - Fresh Point: BOSCADJACK FARM - WELL A Data Type: Point Name: Lawrance Easting: 167000 Northing: 30500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 31/12/1965 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**19**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 37**

ID	Location	Details	
-	708m E	Status: Historical Licence No: 15/48/231/S/010 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: "GRAMBLA FARM, WENDRON" Data Type: Point Name: Symms Easting: 168500 Northing: 28600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 28/02/1996 Version End Date: -
-	708m E	Status: Active Licence No: 15/48/231/S/010 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: GRAMBLA FARM, WENDRON Data Type: Point Name: E & G Rowe Partnership Easting: 168500 Northing: 28600	Annual Volume (m^3): 5,637 Max Daily Volume (m^3): 181.84 Original Application No: NPS/WR/024829 Original Start Date: 31/12/1965 Expiry Date: - Issue No: 103 Version Start Date: 17/11/2016 Version End Date: -
-	807m E	Status: Historical Licence No: 15/48/231/S/010 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: "GRAMBLA FARM, WENDRON" Data Type: Point Name: Symms Easting: 168600 Northing: 28700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 28/02/1996 Version End Date: -
-	807m E	Status: Active Licence No: 15/48/231/S/010 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: GRAMBLA FARM, WENDRON Data Type: Point Name: E & G Rowe Partnership Easting: 168600 Northing: 28700	Annual Volume (m^3): 5,637 Max Daily Volume (m^3): 181.84 Original Application No: NPS/WR/024829 Original Start Date: 31/12/1965 Expiry Date: - Issue No: 103 Version Start Date: 17/11/2016 Version End Date: -
-	807m E	Status: Active Licence No: 15/48/231/S/010 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: GRAMBLA FARM WENDRON Data Type: Point Name: E & G Rowe Partnership Easting: 168600 Northing: 28600	Annual Volume (m^3): 5,637 Max Daily Volume (m^3): 181.84 Original Application No: NPS/WR/024829 Original Start Date: 31/12/1965 Expiry Date: - Issue No: 103 Version Start Date: 17/11/2016 Version End Date: -

ID	Location	Details	
-	1092m SW	Status: Historical Licence No: 15/48/231/S/040 Details: Spray Irrigation - Storage Direct Source: Surface Water - Fresh Point: "TRESPRISON FARM, HELSTON" Data Type: Point Name: Benney Easting: 167100 Northing: 27700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1980 Expiry Date: - Issue No: 100 Version Start Date: 20/10/1989 Version End Date: -
-	1092m SW	Status: Historical Licence No: 15/48/231/S/040 Details: Spray Irrigation - Storage Direct Source: Surface Water - Fresh Point: TRESPRISON FARM, HELSTON Data Type: Point Name: Benney Easting: 167100 Northing: 27700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/04/1980 Expiry Date: - Issue No: 100 Version Start Date: 20/10/1989 Version End Date: -
-	1196m S	Status: Active Licence No: 15/48/231/S/024 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: HELFORD RIVER AT POLLARD FARM, WENDRON Data Type: Point Name: Neil Rowe Farming Limited Easting: 168104 Northing: 27466	Annual Volume (m^3): 3,273 Max Daily Volume (m^3): 218.20 Original Application No: NPS/WR/036077 Original Start Date: 31/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 31/08/2021 Version End Date: -
-	1201m S	Status: Historical Licence No: 15/48/231/S/024 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: "POLLARD FARM AND TRELILL FARM, WENDRON" Data Type: Point Name: Curnow Easting: 168100 Northing: 27460	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 31/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/03/1997 Version End Date: -
-	1201m S	Status: Historical Licence No: 15/48/231/S/024 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: POLLARD FARM AND TRELILL FARM, WENDRON Data Type: Point Name: Curnow Easting: 168100 Northing: 27460	Annual Volume (m^3): 3273 Max Daily Volume (m^3): 218.2 Original Application No: - Original Start Date: 31/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 13/03/1997 Version End Date: -

ID	Location	Details	
-	1201m S	Status: Historical Licence No: 15/48/231/S/024 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: POLLARD FARM, WENDRON Data Type: Point Name: S W & W I Curnow & Sons Easting: 168100 Northing: 27460	Annual Volume (m^3): 3273 Max Daily Volume (m^3): 218.2 Original Application No: - Original Start Date: 31/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 18/05/2007 Version End Date: -
-	1201m S	Status: Historical Licence No: 15/48/231/S/024 Details: Spray Irrigation - Direct Direct Source: Surface Water - Fresh Point: HELFORD RIVER AT POLLARD FARM, WENDRON Data Type: Point Name: S W & W I Curnow & Sons Easting: 168100 Northing: 27460	Annual Volume (m^3): 3,273 Max Daily Volume (m^3): 218.20 Original Application No: - Original Start Date: 31/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 31/05/2013 Version End Date: -
-	1716m NW	Status: Historical Licence No: 15/48/232/S/023 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: "TRELUBBAS WARTHA, WENDRON" Data Type: Point Name: Western Hydro Ltd Easting: 166930 Northing: 30180	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/07/1995 Expiry Date: - Issue No: 101 Version Start Date: 09/07/1999 Version End Date: -
-	1716m NW	Status: Historical Licence No: 15/48/232/S/023 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166930 Northing: 30180	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/07/1995 Expiry Date: - Issue No: 101 Version Start Date: 09/07/1999 Version End Date: -
-	1716m NW	Status: Historical Licence No: 15/48/232/S/027 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166930 Northing: 30180	Annual Volume (m^3): 14832432 Max Daily Volume (m^3): 58752 Original Application No: - Original Start Date: 01/05/2005 Expiry Date: 30/04/2006 Issue No: 101 Version Start Date: 01/05/2005 Version End Date: -

ID	Location	Details	
-	1716m NW	Status: Historical Licence No: 15/48/232/S/028 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166930 Northing: 30180	Annual Volume (m^3): 14,832,432 Max Daily Volume (m^3): 58752 Original Application No: - Original Start Date: 01/05/2006 Expiry Date: 31/03/2010 Issue No: 102 Version Start Date: 23/04/2008 Version End Date: -
-	1716m NW	Status: Historical Licence No: SW/048/0232/001 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166930 Northing: 30180	Annual Volume (m^3): 14,832,432 Max Daily Volume (m^3): 58752 Original Application No: - Original Start Date: 01/04/2010 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2010 Version End Date: -
-	1718m NW	Status: Historical Licence No: SW/048/0232/001 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166969 Northing: 30203	Annual Volume (m^3): 14,832,432 Max Daily Volume (m^3): 58752 Original Application No: - Original Start Date: 01/04/2010 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2010 Version End Date: -
-	1718m NW	Status: Active Licence No: SW/048/0232/001/R01 Details: Hydroelectric Power Generation Direct Source: Surface Water - Fresh Point: TRELUBBAS WARTHA, WENDRON Data Type: Point Name: Western Hydro Ltd Easting: 166969 Northing: 30203	Annual Volume (m^3): 14,832,432 Max Daily Volume (m^3): 58,752 Original Application No: NPS/WR/028655 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 16/05/2018 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	**0**

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

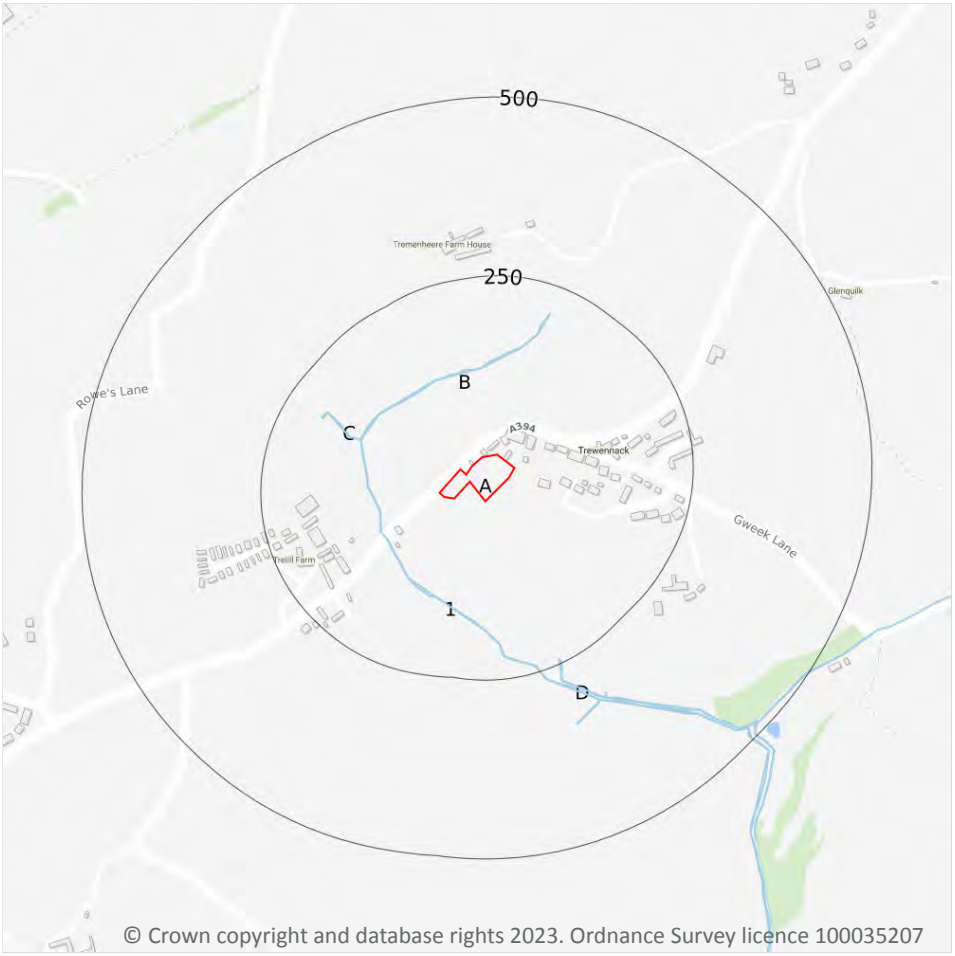
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	**4**

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 45**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	86m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	121m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	132m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	242m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**6**

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 45**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**1**

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 45**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Helford River**	**GB108048001820**	**Cober and Lizard**	**Cornwall West and the Fal**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 45**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	737m W	River	Helford River	GB108048001820	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 45**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**South Cornwall**	**GB40802G800200**	**Poor**	**Poor**	**Good**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

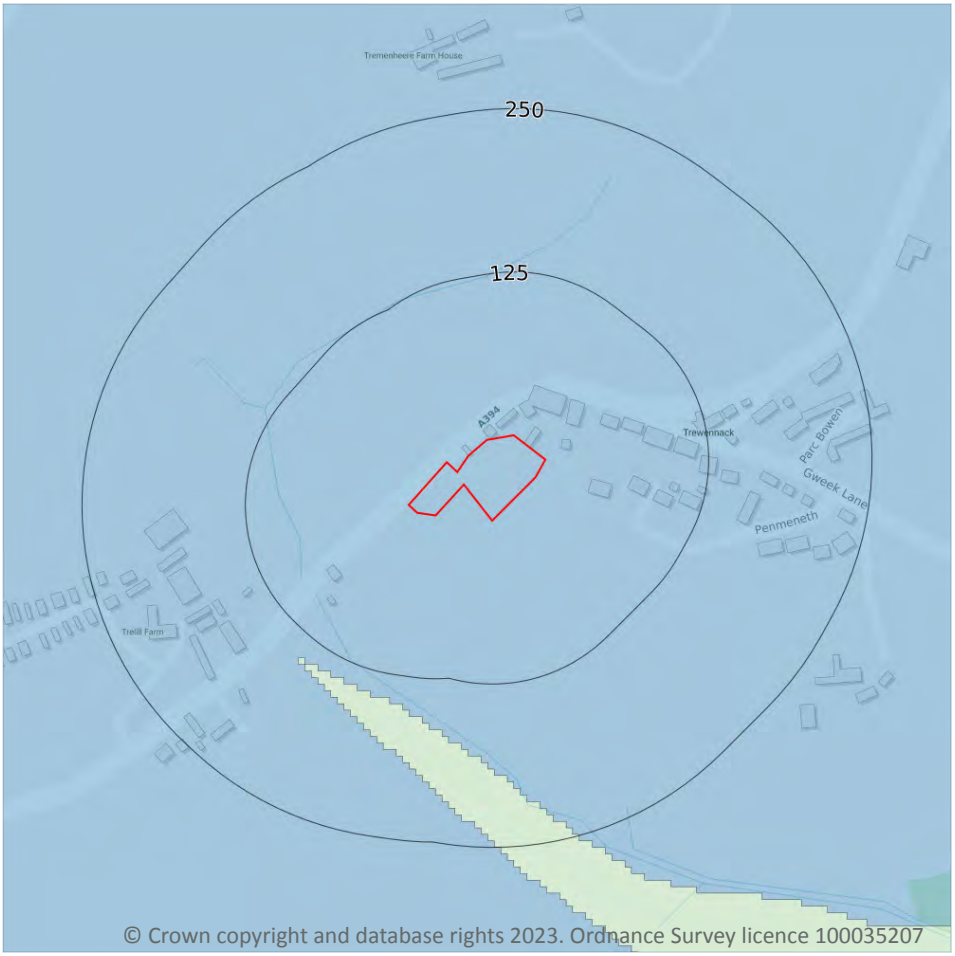
Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 52**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	2

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Woodland Type
-	1401m E	Unknown	Ancient & Semi-Natural Woodland
-	1543m E	Unknown	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or ‘classified’) under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

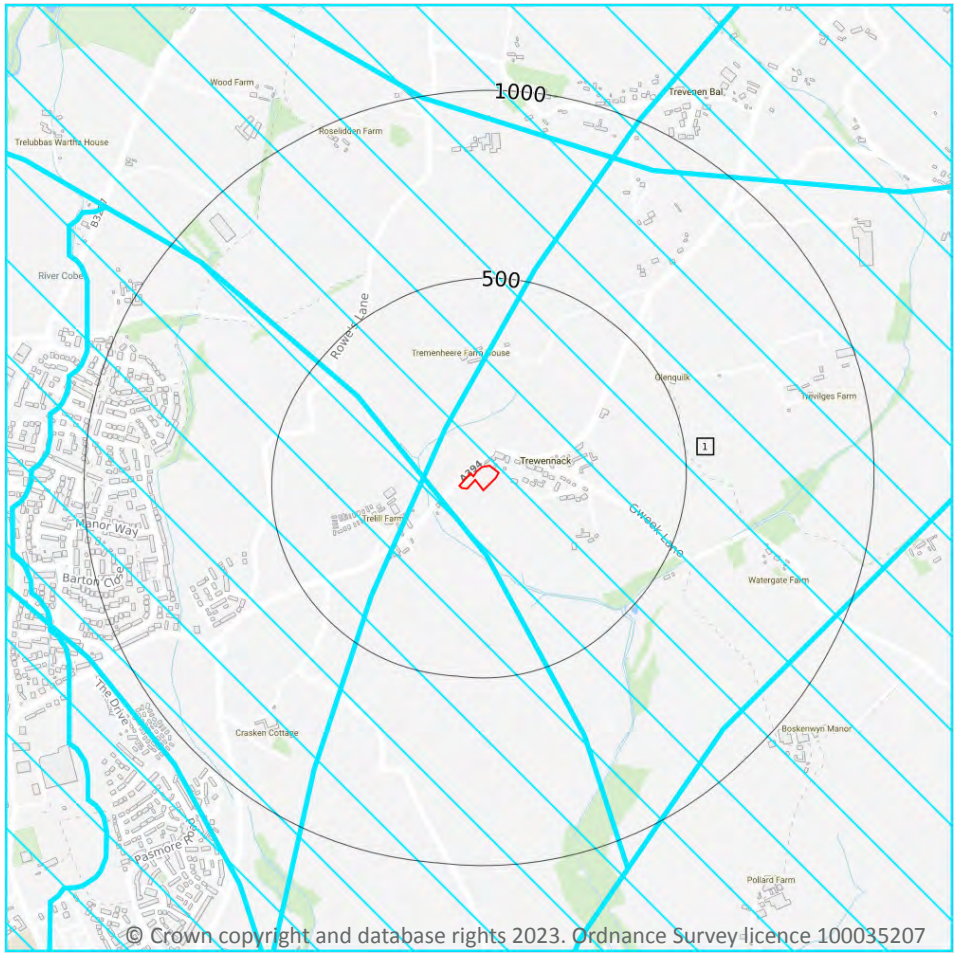
Records within 2000m	3

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1164m E	Nancenoy	Groundwater	154	Existing
1179m NW	The Loe Eutrophic lake NVZ	Eutrophic Water	110	Existing
1251m W	COBER NVZ	Surface Water	694	Existing

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 58**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).** **Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.** **Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.** **Notes: Strategic solutions for recreational impacts are in place. please contact your local planning authority as they have the information to advise on specific requirements.**

This data is sourced from Natural England.

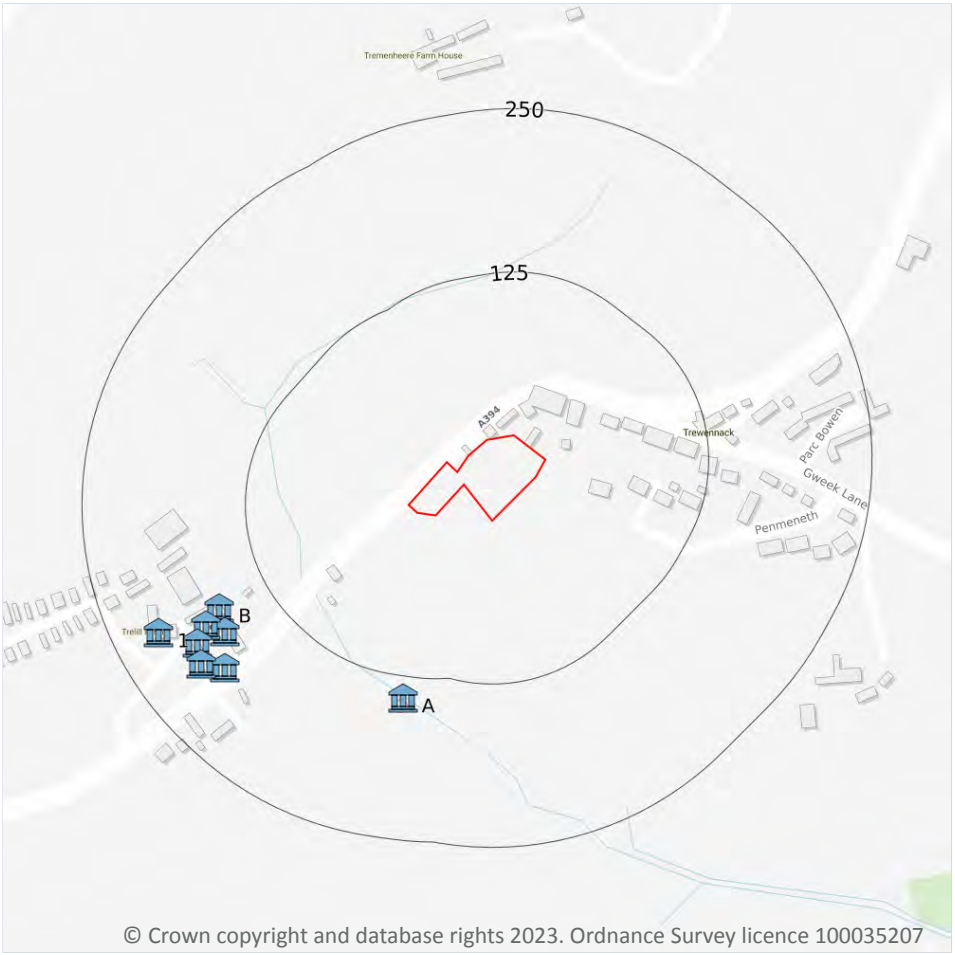
10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	8

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 60**

ID	Location	Name	Grade	Reference Number	Listed date
A	142m S	Holy Well of Saint Wendronas At Sw 676285, Wendron, Cornwall, TR13	II*	1142042	10/07/1957
B	165m SW	Piggery Immediately North of Trelill Farmhouse, Wendron, Cornwall, TR13	II	1309632	17/06/1988
B	171m SW	Trelill Farmhouse, Wendron, Cornwall, TR13	II	1328456	10/07/1957
B	181m SW	Bakehouse, Cartshed and Former Cottage Immediately North West of Trelill Farmhouse, Wendron, Cornwall, TR13	II	1142016	17/06/1988

ID	Location	Name	Grade	Reference Number	Listed date
B	188m SW	Cartshed At Approximately 10 Metres South West of Trelill Farmhouse, Wendron, Cornwall, TR13	II	1142017	17/06/1988
B	193m SW	Barn At Approximately 30 Metres West North West of Trelill Farmhouse, Wendron, Cornwall, TR13	II	1162436	17/06/1988
B	200m SW	Barns At Approximately 35 Metres West of Trelill Farmhouse, Wendron, Cornwall, TR13	II	1328457	17/06/1988
1	215m SW	Trelill Manor Farmhouse, Wendron, Cornwall, TR13	II	1162442	17/06/1988

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	**0**

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	**1**

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

Features are displayed on the Visual and cultural designations map on **page 60**

ID	Location	Ancient monument name	Reference number
A	143m S	Holy well at Trelill, 190m ENE of Trelill House	1006743

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

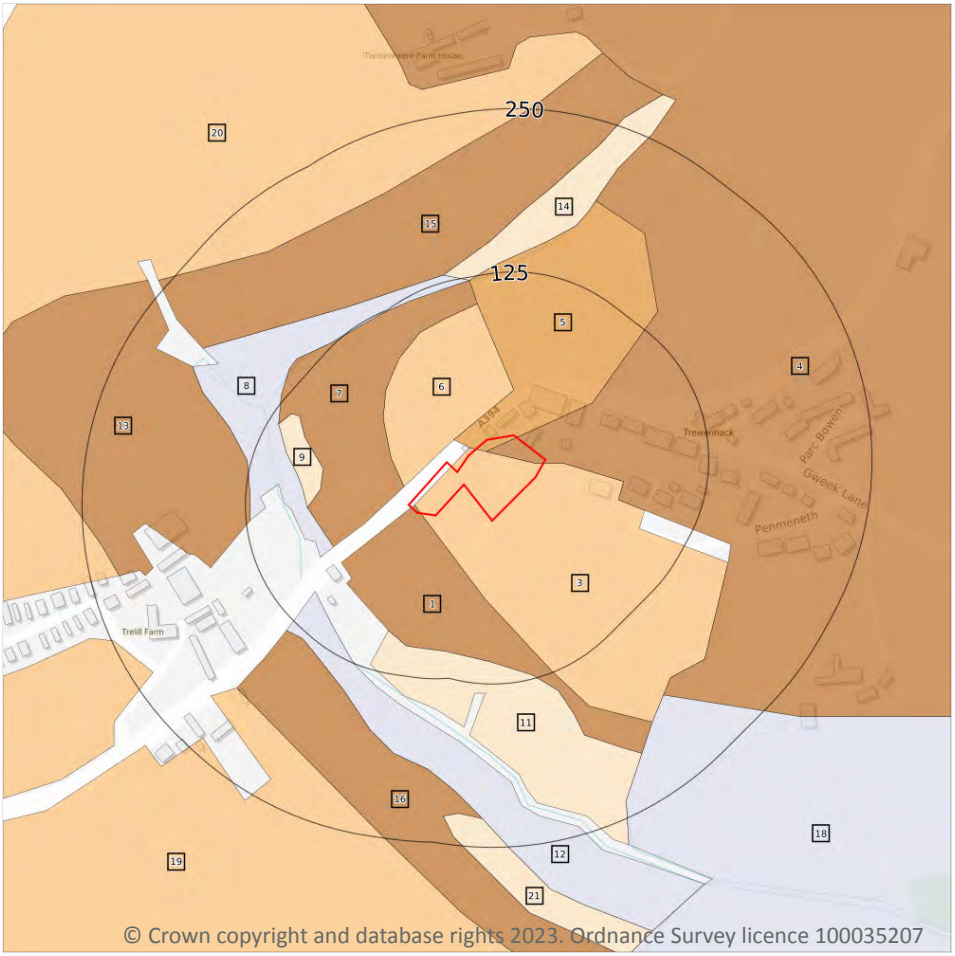
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	18

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 64**

ID	Location	Classification	Description
1	**On site**	**Grade 2**	**Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.**
3	**On site**	**Grade 3a**	**Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.**
4	**On site**	**Grade 2**	**Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.**
5	**On site**	**Grade 3**	**Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.**
6	9m NW	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
7	12m W	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
8	66m SW	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
9	69m W	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
11	93m SW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

ID	Location	Classification	Description
12	97m SW	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
13	122m W	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
14	123m N	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
15	130m N	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
16	130m SW	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
18	187m SE	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.
19	192m SW	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
20	204m NW	Grade 3a	Good quality agricultural land. Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.
21	226m S	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	5

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
61m E	1031011	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
94m W	635996	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023
119m N	649822	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023

Location	Reference	Scheme	Start Date	End Date
138m S	649822	Countryside Stewardship (Middle Tier)	01/01/2019	31/12/2023
226m E	1031011	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability

Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 70**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

This data is sourced from the British Geological Survey.

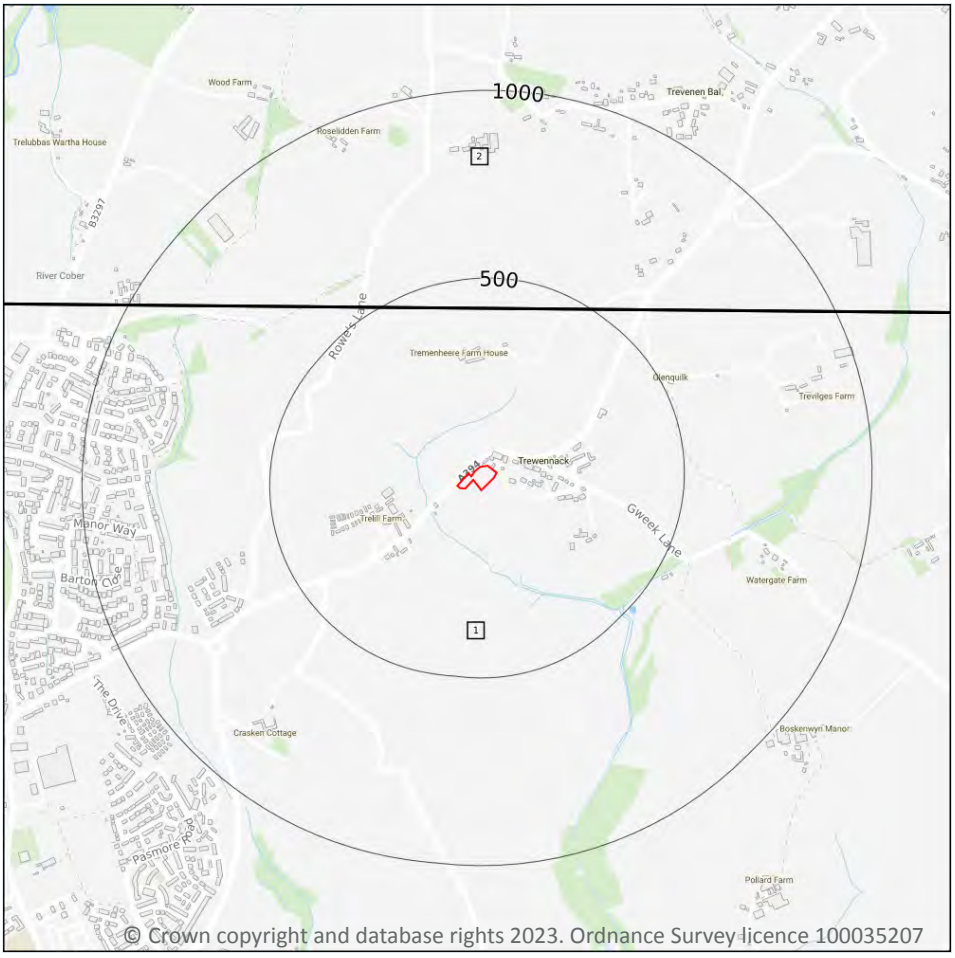
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	2

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 74**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW359_lizard_v4**
2	419m N	Full	Full	Full	Full	EW352_falmouth_v4

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial

Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	1

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 76**

ID	Location	LEX Code	Description	Rock description
1	139m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

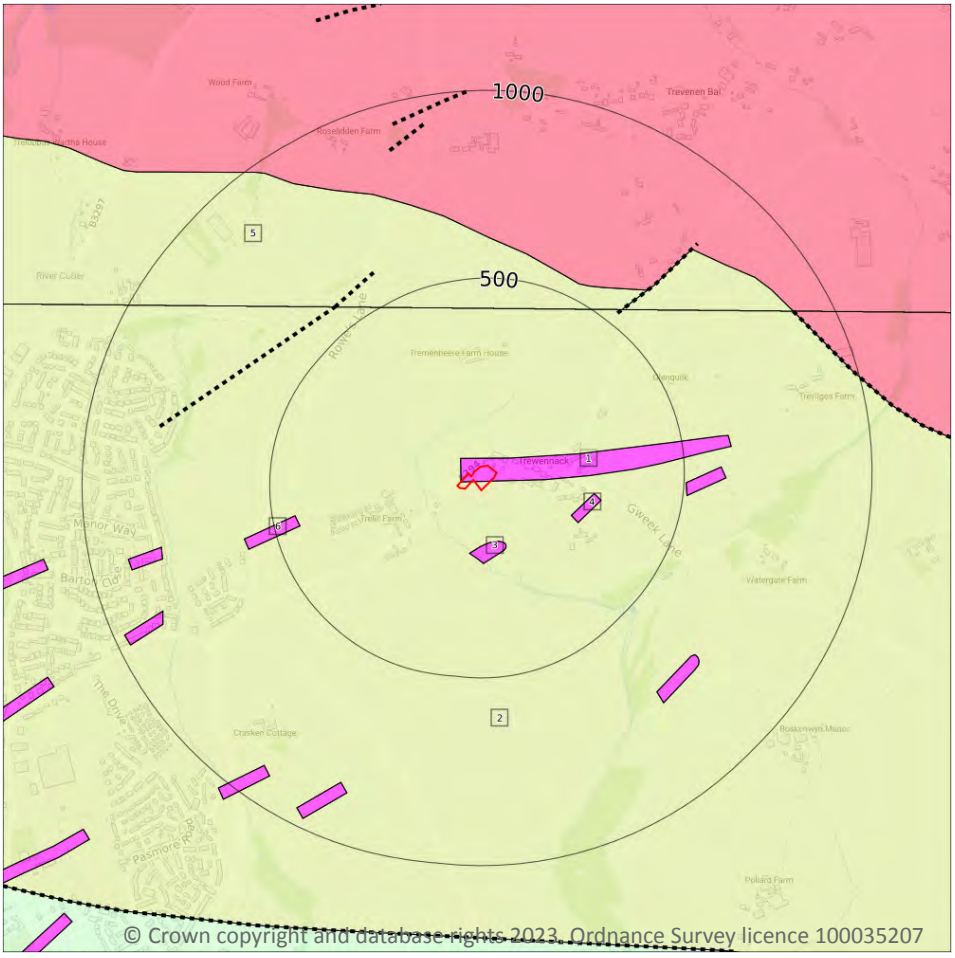
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	6

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 78**

ID	Location	LEX Code	Description	Rock age
1	On site	UIIDC-MMCGB	UNNAMED IGNEOUS INTRUSION, DEVONIAN TO CARBONIFEROUS - METAMICROGABBRO	-
2	On site	MRSL-HSSL	MYLOR SLATE FORMATION - HORNFELSED SLATE AND HORNFELSED SILTSTONE	FRASNIAN

ID	Location	LEX Code	Description	Rock age
3	140m S	UIIDC-MMCGB	UNNAMED IGNEOUS INTRUSION, DEVONIAN TO CARBONIFEROUS - METAMICROGABBRO	-
4	229m E	UIIDC-MMCGB	UNNAMED IGNEOUS INTRUSION, DEVONIAN TO CARBONIFEROUS - METAMICROGABBRO	-
5	419m N	MRSL-HSSL	MYLOR SLATE FORMATION - HORNFELSED SLATE AND HORNFELSED SILTSTONE	FRASNIAN
6	433m W	UIIDC-MMCGB	UNNAMED IGNEOUS INTRUSION, DEVONIAN TO CARBONIFEROUS - METAMICROGABBRO	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **2**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Low**	**Low**
On site	**Fracture**	**Low**	**Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **0**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes

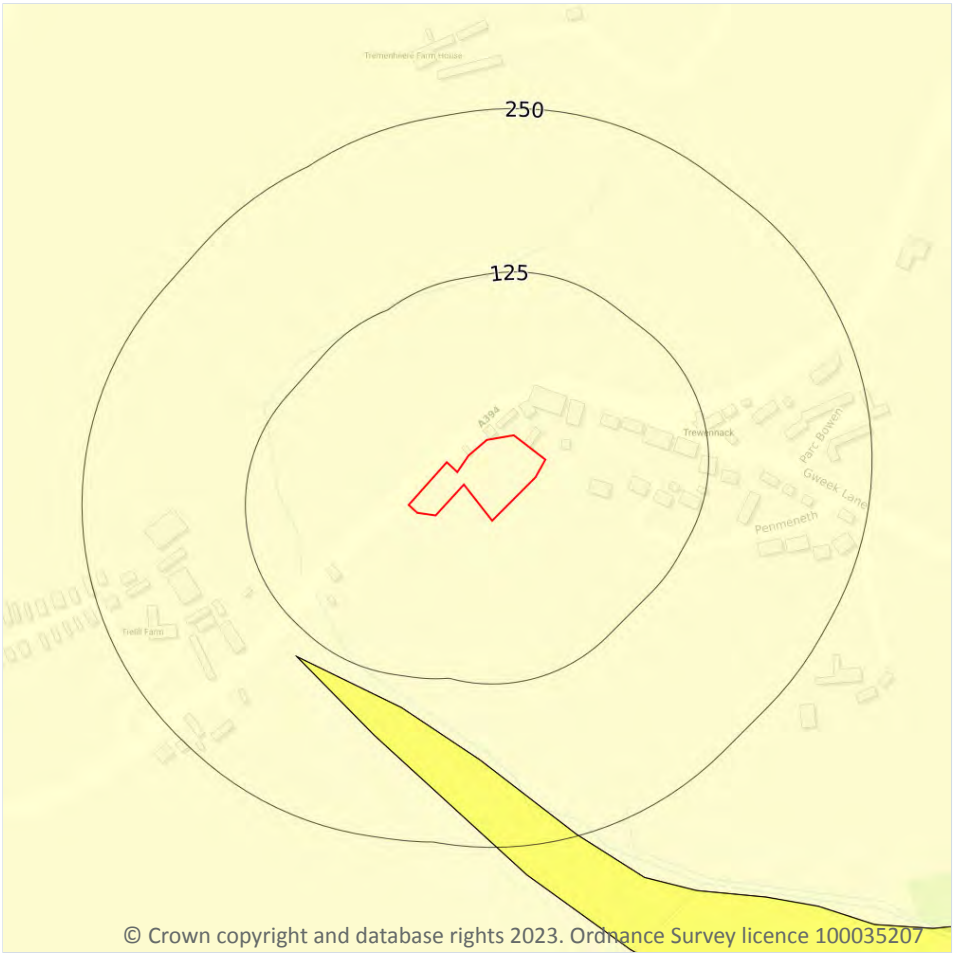
16.1 BGS Boreholes

Records within 250m	0

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

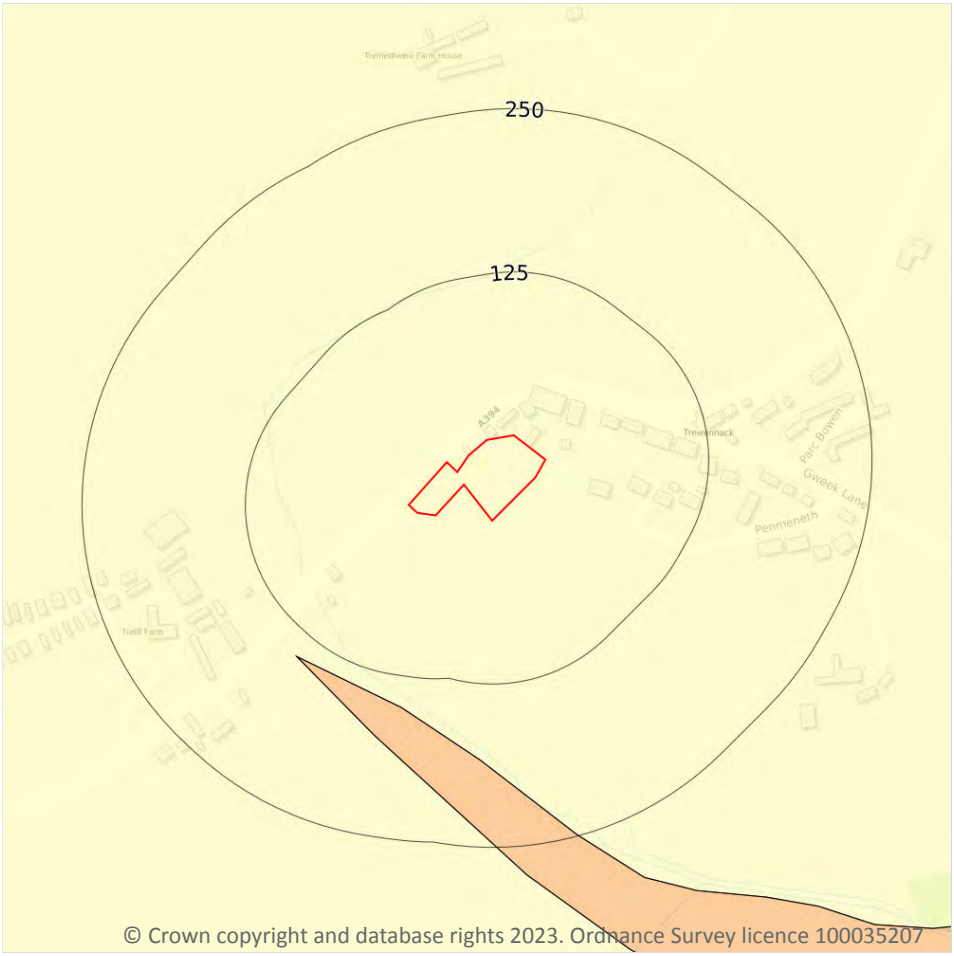
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 81**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

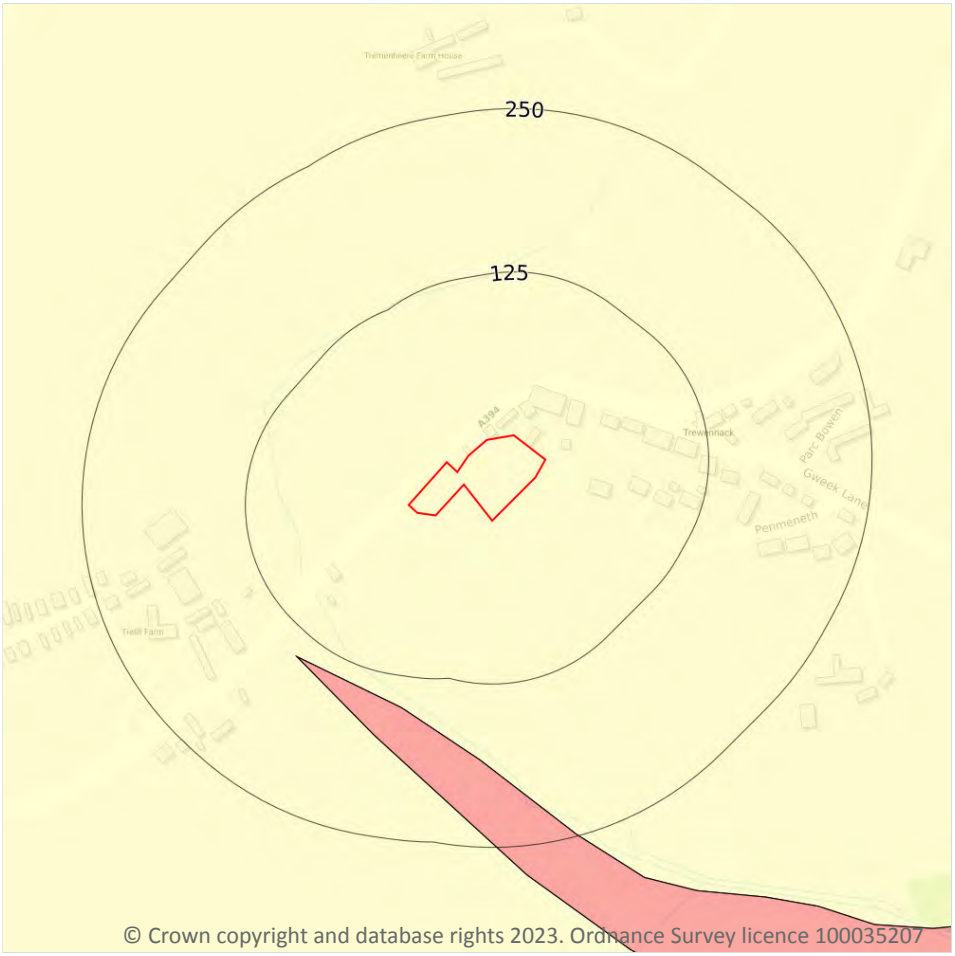
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 82**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

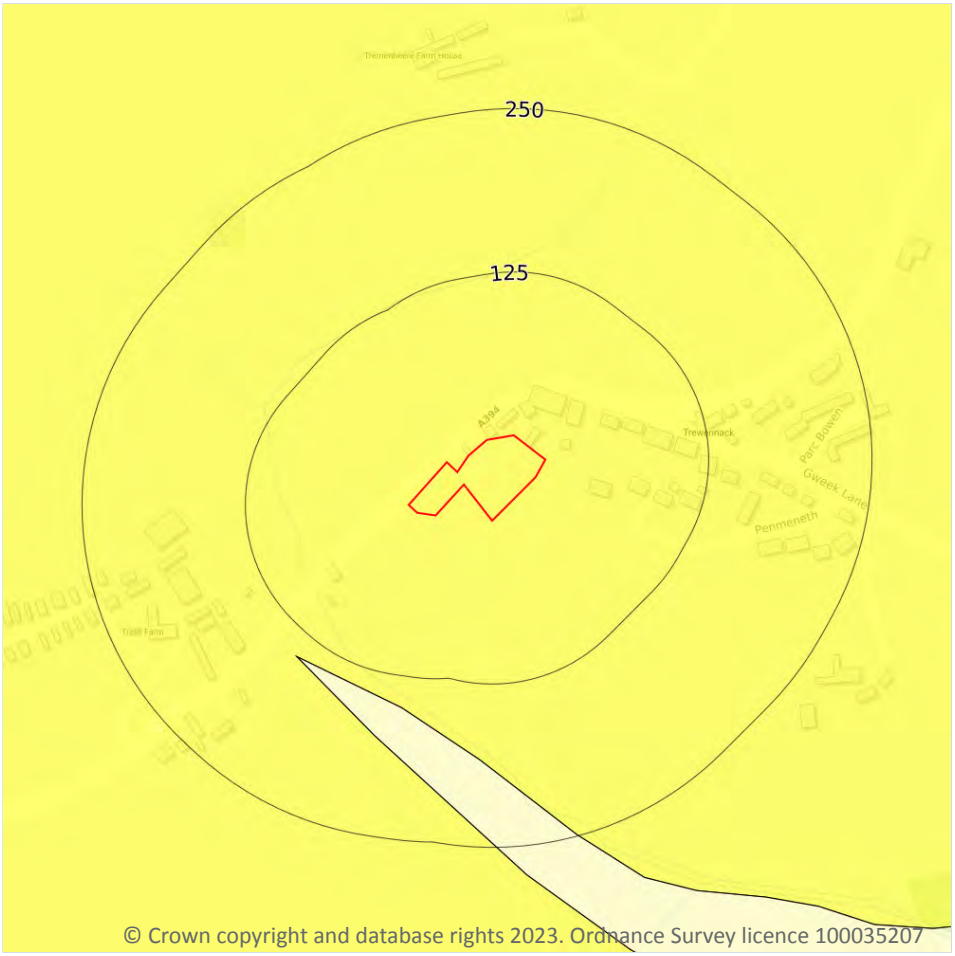
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 83**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

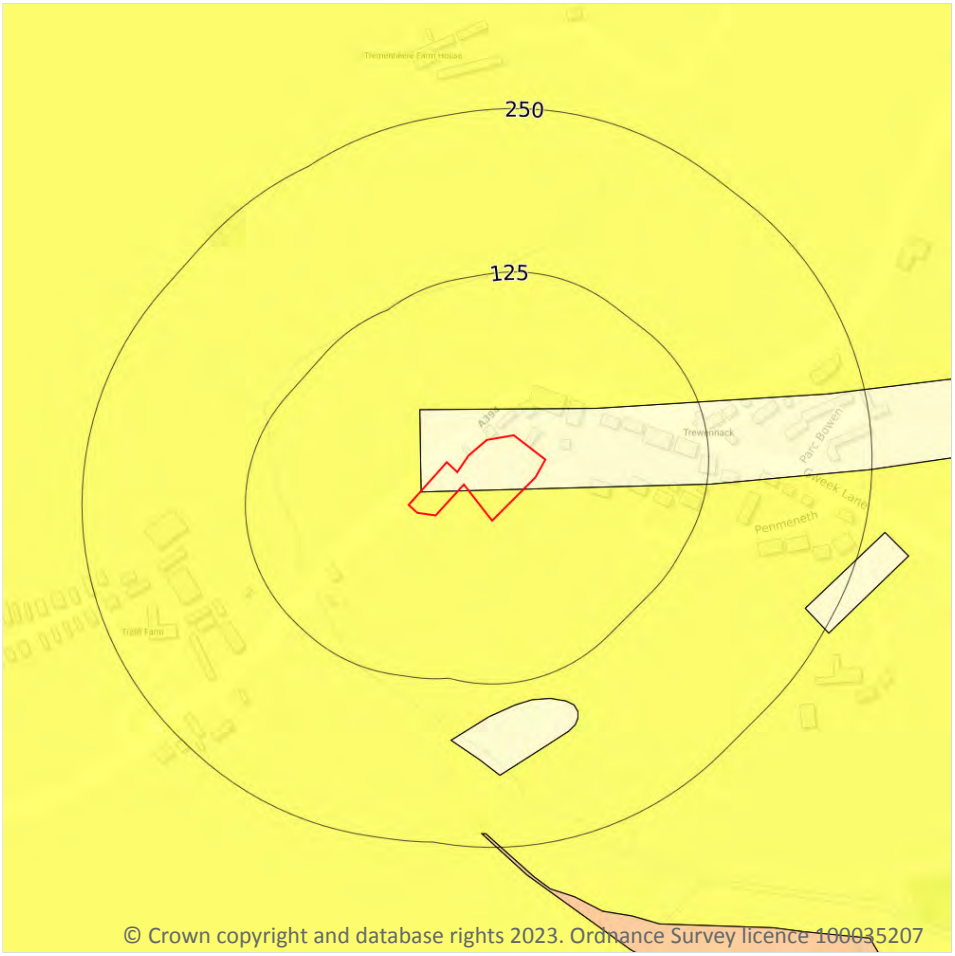
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 84**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 85**

Location	Hazard rating	Details
On site	**Negligible**	**Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

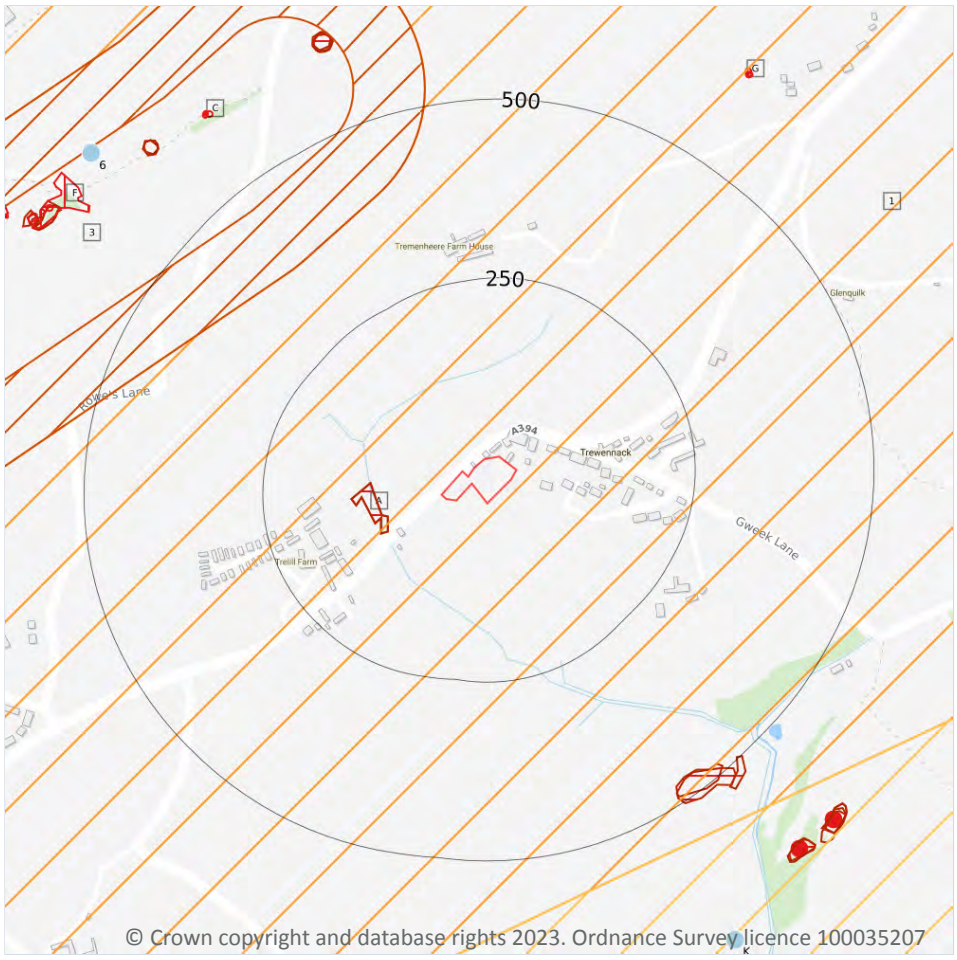
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 87**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	2

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
A	81m W	Ponds	1938	1:10560
A	81m W	Ponds	1877	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	57

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
C	608m NW	Unspecified Disused Shaft	1976	1:10000
C	611m NW	Unspecified Old Shaft	1938	1:10560
C	613m NW	Unspecified Old Shaft	1958	1:10560
C	614m NW	Unspecified Shaft	1877	1:10560
F	632m NW	Unspecified Disused Mine	1958	1:10560
G	634m NE	Unspecified Old Shaft	1878	1:10560
G	634m NE	Unspecified Old Shaft	1908	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	636m NE	Unspecified Old Shaft	1958	1:10560
G	638m NE	Unspecified Disused Shaft	1976	1:10000
F	675m NW	Unspecified Disused Shaft	1976	1:10000
F	681m NW	Unspecified Old Shaft	1877	1:10560
F	685m NW	Disused Tin Mine	1938	1:10560
-	696m S	Unspecified Old Shaft	1958	1:10560
-	697m S	Unspecified Old Shaft	1938	1:10560
-	697m S	Unspecified Old Shaft	1877	1:10560
F	720m NW	Unspecified Old Shaft	1877	1:10560
F	723m NW	Disused Tin Mine	1877	1:10560
-	756m NW	Unspecified Old Shafts	1877	1:10560
-	758m W	Unspecified Old Shafts	1938	1:10560
-	758m NW	Unspecified Old Shafts	1958	1:10560
-	764m W	Unspecified Old Shafts	1938	1:10560
-	765m W	Unspecified Old Shafts	1877	1:10560
-	765m W	Unspecified Old Shafts	1958	1:10560
-	878m N	Disused Tin	1877	1:10560
-	901m N	Unspecified Old Shafts	1877	1:10560
-	910m N	Unspecified Old Shafts	1938	1:10560
-	910m N	Unspecified Old Shafts	1877	1:10560
-	911m N	Disused Tin	1938	1:10560
-	912m N	Unspecified Old Shaft	1958	1:10560
-	918m N	Unspecified Disused Shaft	1976	1:10000
-	922m N	Unspecified Old Shafts	1938	1:10560
-	925m N	Unspecified Old Shafts	1958	1:10560
-	925m N	Unspecified Shaft	1877	1:10560
-	934m N	Disused Tin Mine	1877	1:10560
-	937m N	Unspecified Old Shafts	1958	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	937m NW	Unspecified Old Shaft	1877	1:10560
-	938m N	Unspecified Old Shafts	1938	1:10560
-	938m N	Unspecified Shaft	1877	1:10560
-	949m N	Unspecified Old Shafts	1938	1:10560
-	951m N	Unspecified Disused Mine	1958	1:10560
-	953m N	Unspecified Shaft	1877	1:10560
-	959m N	Unspecified Old Shafts	1958	1:10560
-	963m N	Unspecified Old Shafts	1938	1:10560
-	964m N	Unspecified Old Shafts	1958	1:10560
-	968m NW	Unspecified Disused Shaft	1976	1:10000
-	970m N	Unspecified Old Shafts	1938	1:10560
-	971m N	Unspecified Old Shaft	1877	1:10560
-	973m N	Unspecified Old Shafts	1958	1:10560
-	974m N	Unspecified Shafts	1877	1:10560
-	977m N	Unspecified Old Shaft	1877	1:10560
-	984m NW	Unspecified Old Shafts	1958	1:10560
-	987m NW	Unspecified Old Shafts	1938	1:10560
-	992m N	Unspecified Old Shafts	1938	1:10560
-	994m N	Unspecified Old Shafts	1958	1:10560
-	997m N	Unspecified Old Shaft	1877	1:10560
-	999m NW	Unspecified Shafts	1877	1:10560
-	1000m NW	Unspecified Old Shafts	1938	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	5

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**South West England**	**Vein Mineral**	**C**	**Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered**
2	368m NW	Not available	Vein Mineral	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
3	468m NW	Not available	Vein Mineral	E	Underground mining is known to have occurred within or very close to the area. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered
5	551m SE	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	777m N	Not available	Vein Mineral	E	Underground mining is known to have occurred within or very close to the area. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	9

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Mine Address	Mineral	Data source	Publisher
6	683m NW	Treworlis, Helston, Cornwall	Bornite, Chalcocite, Copper, Malachite, Native Copper, Tetrahedrite	CORNISH MINES (METALLIFEROUS AND ASSOCIATED MINERALS 1845-1913)	UNIVERSITY OF EXETER
K	702m SE	Freedom, Helston, Cornwall	Unknown	MINES AND MINERS OF CORNWALL: INDEX TO VOLUMES 1-16	ST AUSTELL : OLD CORNWALL PUBLICATIONS
K	702m SE	Lovell West, Helston, Cornwall	Cassiterite, Tin, Tinstone	CORNISH MINES (METALLIFEROUS AND ASSOCIATED MINERALS 1845-1913)	UNIVERSITY OF EXETER
-	881m SE	Boskenwyn Consols, Helston, Cornwall	Unknown	CORNWALL MINES DATABASE	UNPUBLISHED PRIVATE DOCUMENT.
-	925m N	Tremenhere, Helston, Cornwall	Bornite, Chalcocite, Copper, Malachite, Native Copper, Tetrahedrite	CORNISH MINES (METALLIFEROUS AND ASSOCIATED MINERALS 1845-1913)	UNIVERSITY OF EXETER
-	934m N	Trevenen Old, Helston, Cornwall	Unknown	CORNWALL MINES DATABASE	UNPUBLISHED PRIVATE DOCUMENT.
-	961m N	Roselidden-Wh.widden, Helston, Cornwall	Unknown	CORNWALL MINES DATABASE	UNPUBLISHED PRIVATE DOCUMENT.
-	961m N	Widden(whidden), Helston, Cornwall	Unknown	CORNWALL MINES DATABASE	UNPUBLISHED PRIVATE DOCUMENT.
-	992m NW	Trumpet West, Helston, Cornwall	Unknown	CORNWALL MINES DATABASE	UNPUBLISHED PRIVATE DOCUMENT.

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	1

Generalised areas that may be affected by historical tin mining.

Location	Details
On site	**The site is within an area where tin mining is reported to have occurred. This does not mean that the site is definitely directly affected but further consideration of tin mining is advised. Further mining searches are available at Groundsure.**

This data is sourced from Groundsure.

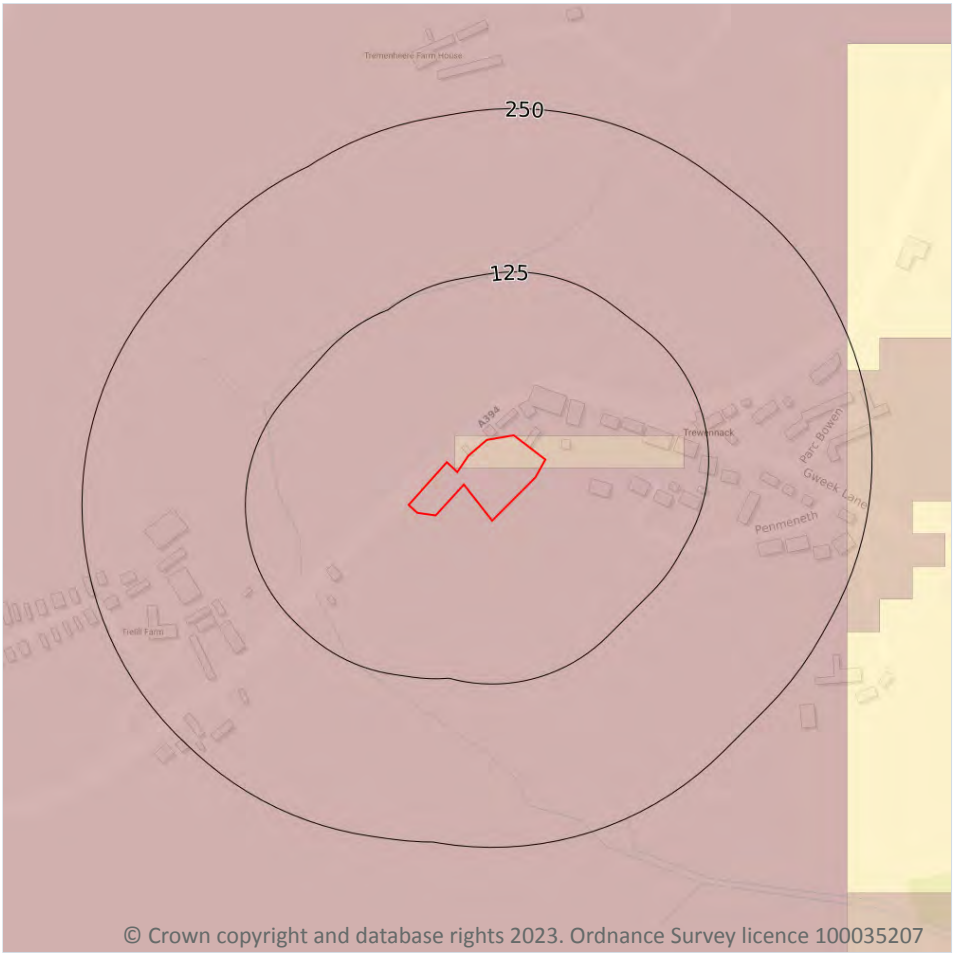
18.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	2

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 95**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 10% and 30%**	**Full**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Greater than 30%**	**Full**

This data is sourced from the British Geological Survey and UK Health Security Agency.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**2 - 4 mg/kg**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**>180 mg/kg**	**45 - 60 mg/kg**
On site	**45 - 60 mg/kg**	**7 - 9 mg/kg**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

Appendix 3

Groundsure Historical Maps

Groundsure

INSIGHTS

HISTORICAL MAP PACK LEGEND

COUNTY SERIES & NATIONAL GRID
1:10,560 & 1:10,000

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

If you have a query regarding any of the maps provided please contact Groundsure's technical helpline. We will endeavour to answer any queries you may have.

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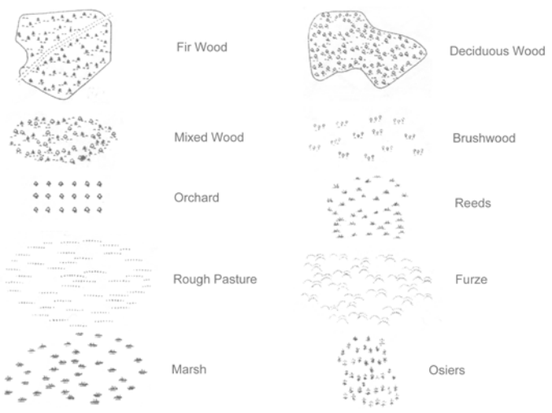
Tel 0800 028 0000

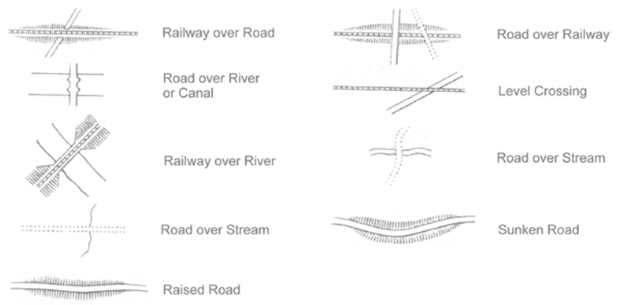
insight@groundsure.com
WWW.GROUNDSURE.COM

COUNTY SERIES 1:10,560

VEGETATION

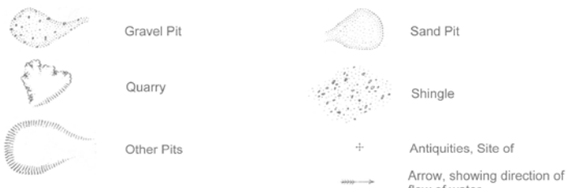


ROADS

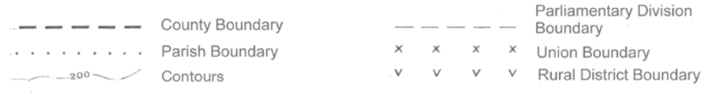


RAILWAYS

GENERAL FEATURES



BOUNDARIES



NATIONAL GRID 1:10,000 & 1:10,560

HEIGHTS (METRES)

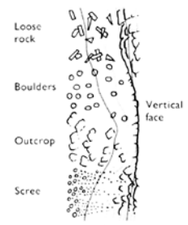
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by: ground survey • 163m; air survey

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

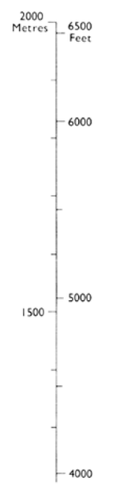
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

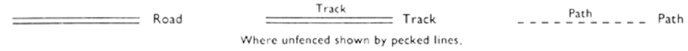
Metres - Feet



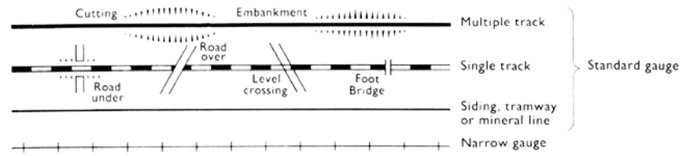
ABBREVIATIONS

BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

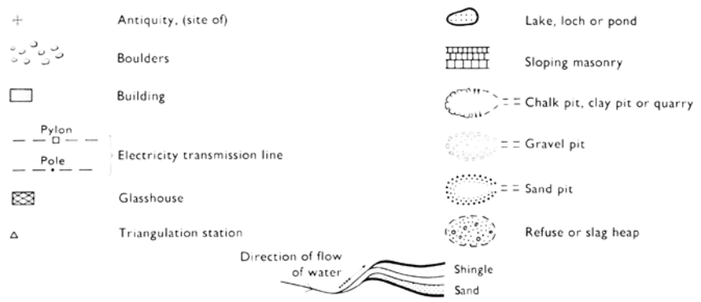
ROADS



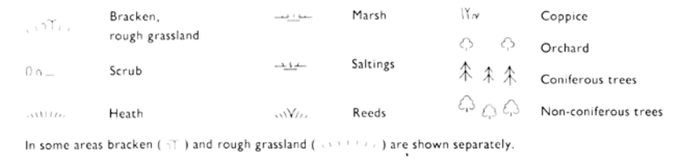
RAILWAYS



GENERAL FEATURES



VEGETATION



In some areas bracken ( ) and rough grassland ( ) are shown separately.

Groundsure

INSIGHTS

HISTORICAL MAP PACK LEGEND

COUNTY SERIES
1:1,2500

NATIONAL GRID
1:1,250 & 1:2,500

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

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insight@groundsure.com
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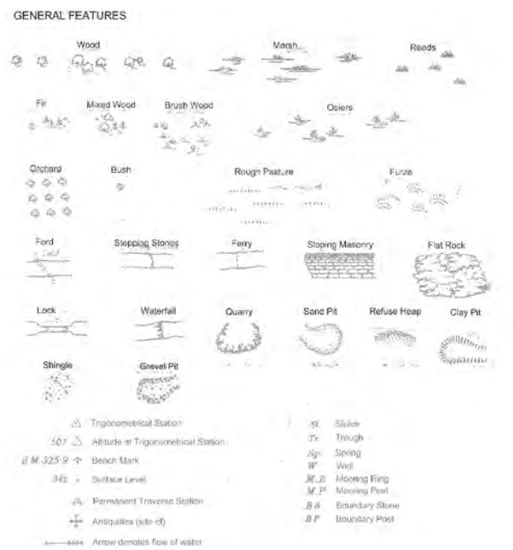
COUNTY SERIES 1:2,500



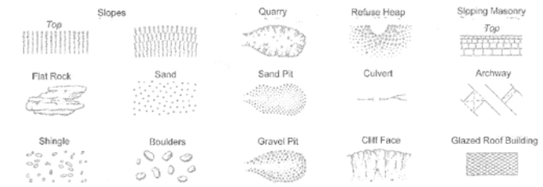
ABBREVIATIONS

Trigonometrical Station	Sluice
Altitude at Trigonometrical Station	Trough
Bench Mark	Spring
Surface Level	Well
Permanent Traverse Station	Mooring Ring
Antiquities (site of)	Mooring Post
Arrow denotes flow of water	Boundary Stone
	Boundary Post

NATIONAL GRID 1:2,500 & 1:1,250

GENERAL FEATURES

Non-coniferous Trees	Slopes	Antiquity (site of)
Coniferous Trees	Cliff	Culvert
Surveyed Trees	Cave Entrance	Direction of water flow
Orchard Trees	Rock	Electricity Pylon
Coppice, Osier	Boulders	ETL Electricity Transmission Line
Scrub	Sloping Masonry	Triangulation Station
Bracken	Roofed Building	Traverse Station (permanent)
Heath	Glasshouse	Bench Mark
Rough Grassland	Archway	Surface Level
Marsh, Saltings	Change of boundary morning	Revision Point (instrumentally fixed)
Reeds	see AREAS notes	Revision Point & Bench Mark coincident



BOUNDARIES

England & Wales

- County Boundary (geographical)
- County & Civil Parish Boundary coterminous
- Admin County or County Borough Boundary
- London Borough Boundary
- M B Bdy, U D Bdy, R D Bdy — County District Boundaries based on civil parish

England, Wales & Scotland

- Civil Parish Boundary
- Boro (or Burgh) Const & Ward Bdy / Co Const Bdy — Parly & Ward Boundaries based on civil parish
- Boro (or Burgh) Const & Ward Bdy / Co Const Bdy — Parly & Ward Boundaries not based on civil parish

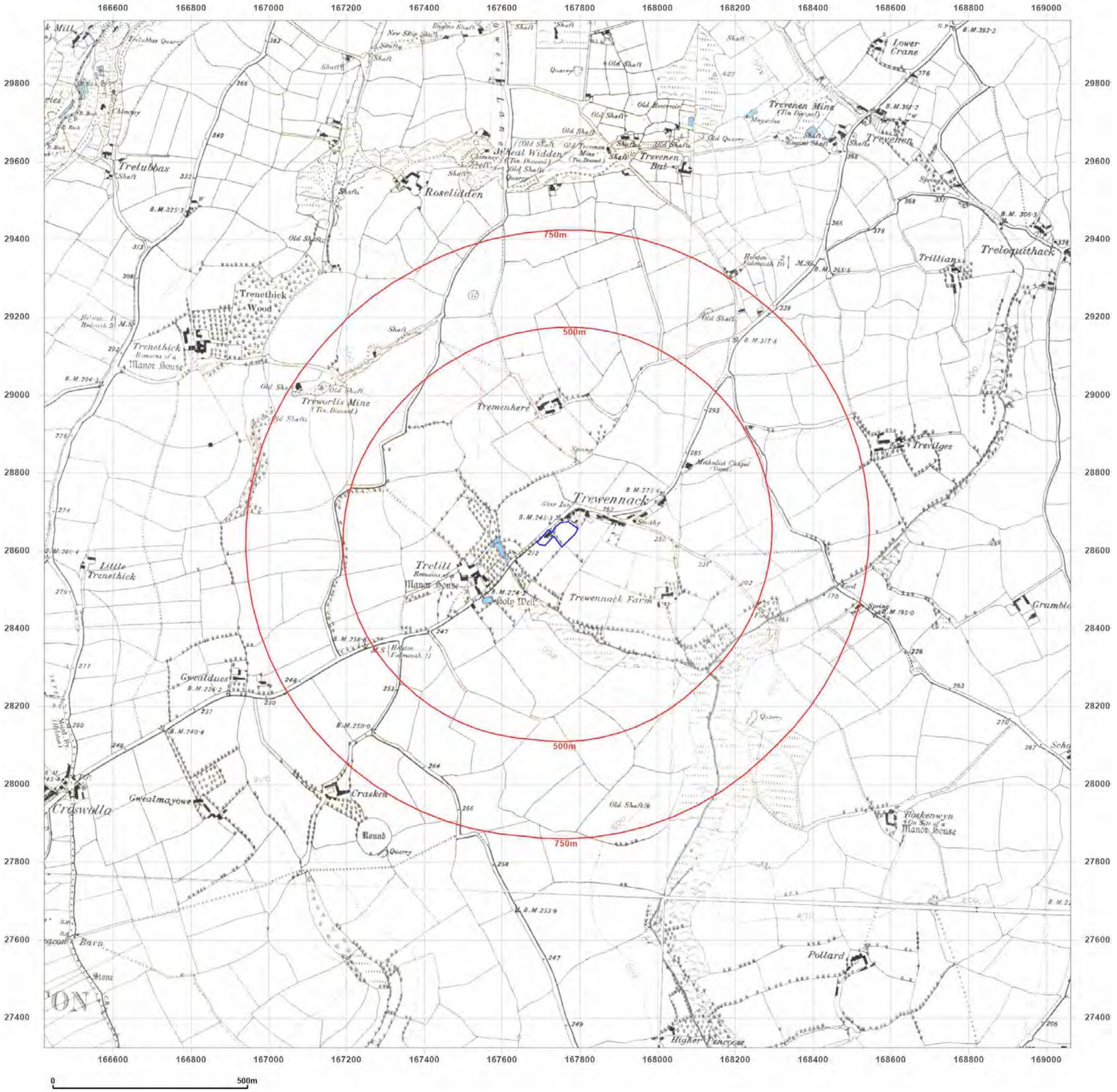
Scotland

- * County Boundary (geographical)
- † " " "
- Co Cnl Bdy — * County Council Boundary
- Co Cnl Bdy — † " " "
- Co of City Bdy — * County of the City Boundary
- Co of City Bdy — † " " " " "
- Burgh Bdy — * Burgh Boundary
- Burgh Bdy — † " "
- Dist Bdy — * District Council Boundary
- Dist Bdy — † " " " "

* Not with parish † Coincident with parish

ABBREVIATIONS

B H Beer House	M P U Mail Pick-up
B M Bench Mark	M S Mile Stone
B P Boundary Post	N T National Trust
B S Boundary Stone	N T L Normal Tidal Limit
C Crane	N T S National Trust for Scotland
C H Club House	P Pillar, Pole or Post
Chy Chimney	P C Public Convenience
Cp Capstan	P C B Police Call Box
D Fn Drinking Fountain	P H Public House
Dk Dock	P O Post Office
El P Electricity Pillar or Post	Pp Pump
E T L Electricity Transmission Line	P T P Police Telephone Pillar
F A Fire Alarm	Resr Reservoir
F A P Fire Alarm Pillar	R H Road House
F B Filter Bed, Foot Bridge	rp Revision Point
F B M Fundamental Bench Mark	S Stone
F S Flagstaff	S B Signal Box
F Sta Fire Station	S L Signal Light
G P Guide Post	Sl Sluice
G V C Gas Valve Compound	S P Signal Post
H Hydrant or Hydraulic	Spr Spring
ha Hectares	S Sta Signal Station
L B Letter Box	T C B Telephone Call Box
L B Sta Lifeboat Station	T C P Telephone Call Post
L C Level Crossing	Tk Tank or Track
L G Loading Gauge	Tr Trough
L Ho Lighthouse	ts Traverse Station
L Twr Lighting Tower	W Well
m Metres	W B Weighbridge
M H W Mean High Water	Wd Pp Wind Pump
M H W S Mean High Water Springs	Wks Works
M L W Mean Low Water	Wr Pt Water Point
M L W S Mean Low Water Springs	Wr T Water Tap
M P Mile or Mooring Post	



Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: County Series

Map date: **1888**

Scale: 1:10,560

Printed at: 1:10,560

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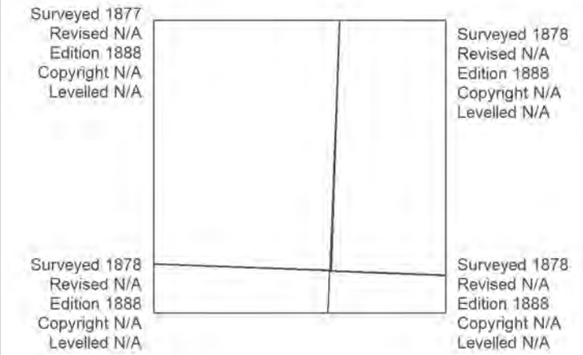

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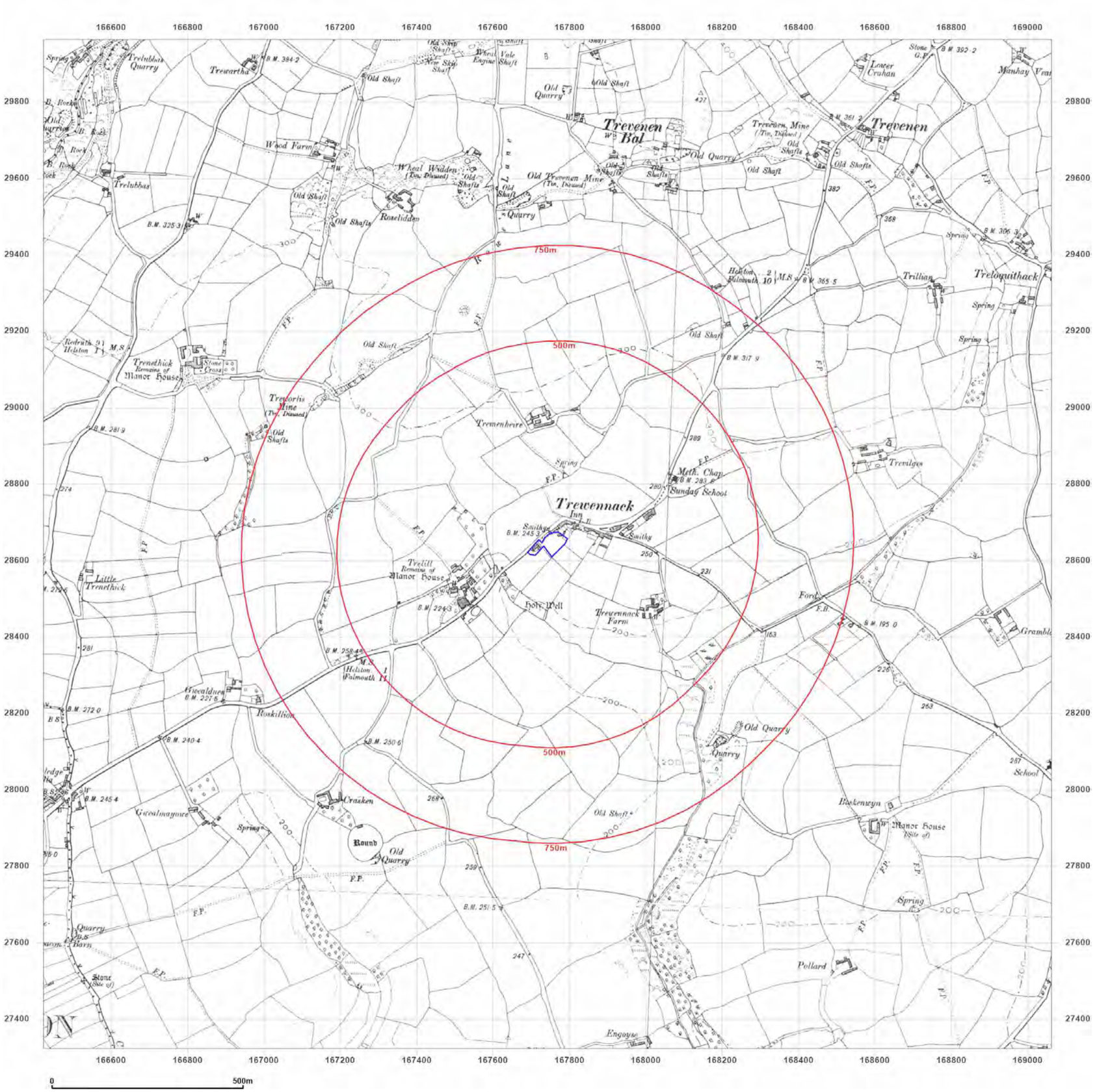

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: County Series

Map date: **1906-1909**

Scale: 1:10,560

Printed at: 1:10,560

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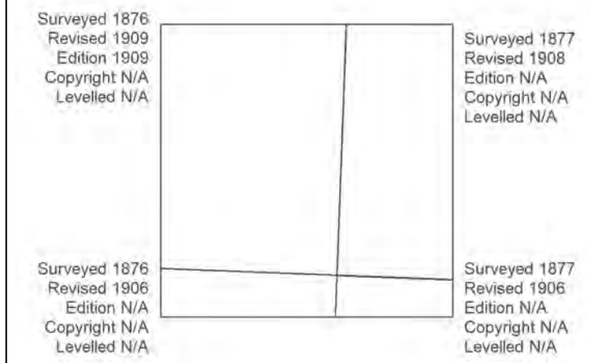

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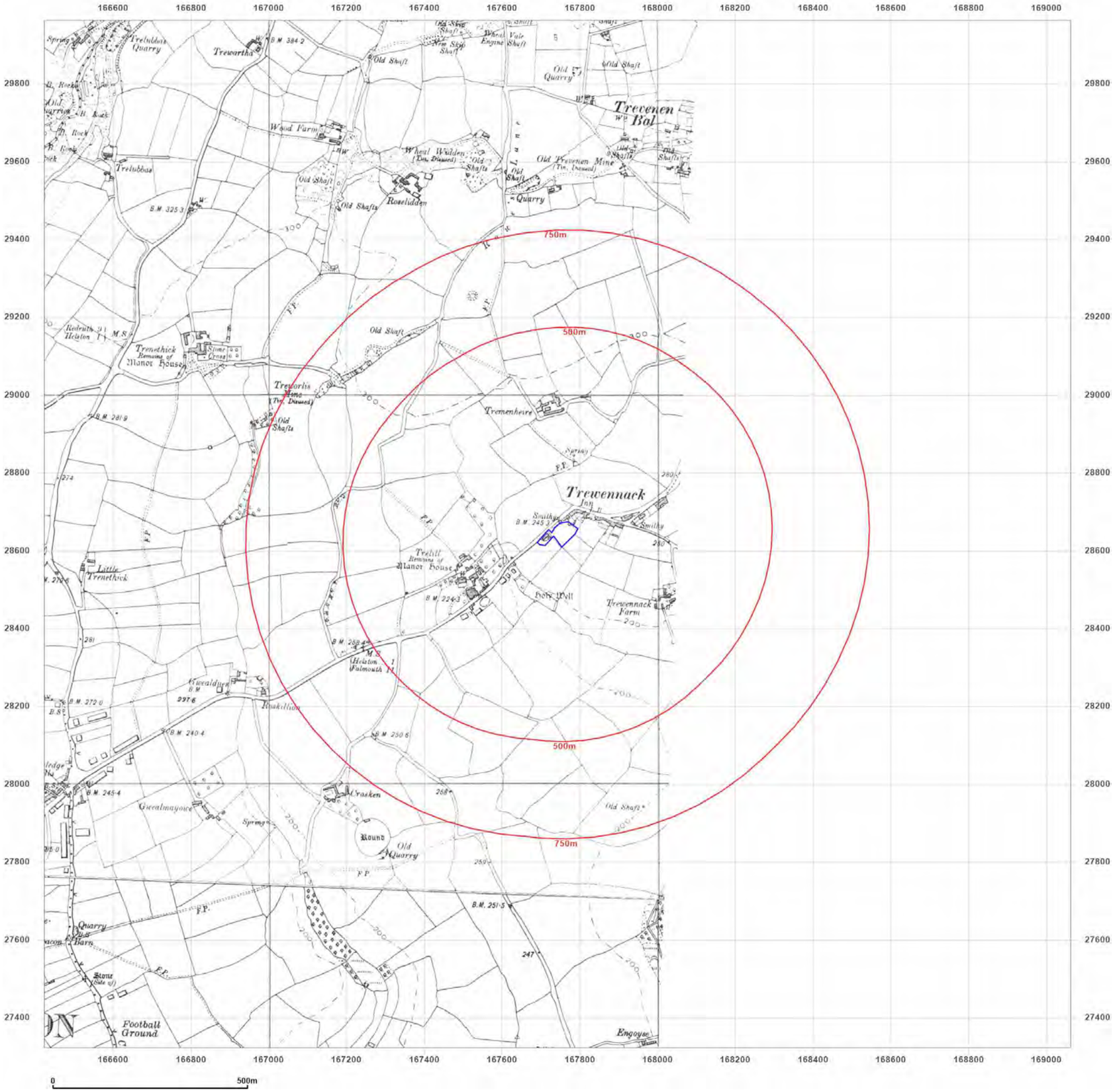

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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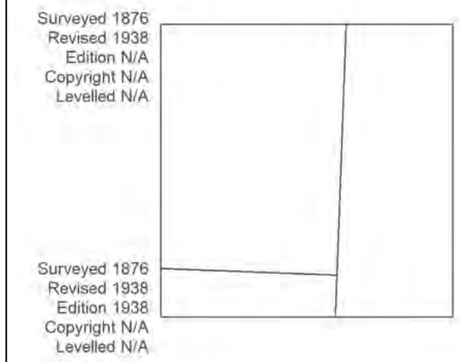

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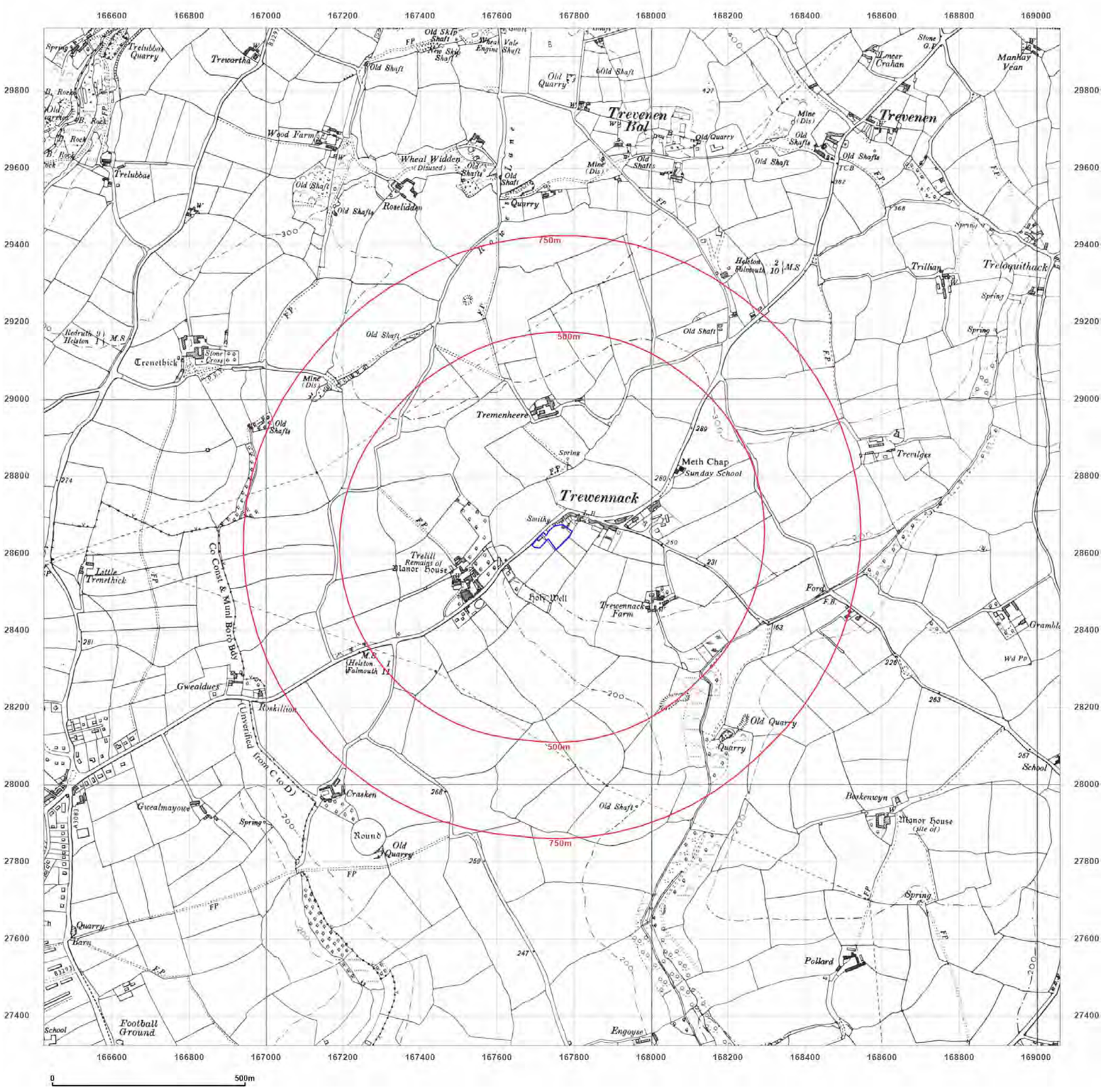

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: Provisional

Map date: **1963**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1958
Revised 1962
Edition N/A
Copyright 1963
Levelled N/A

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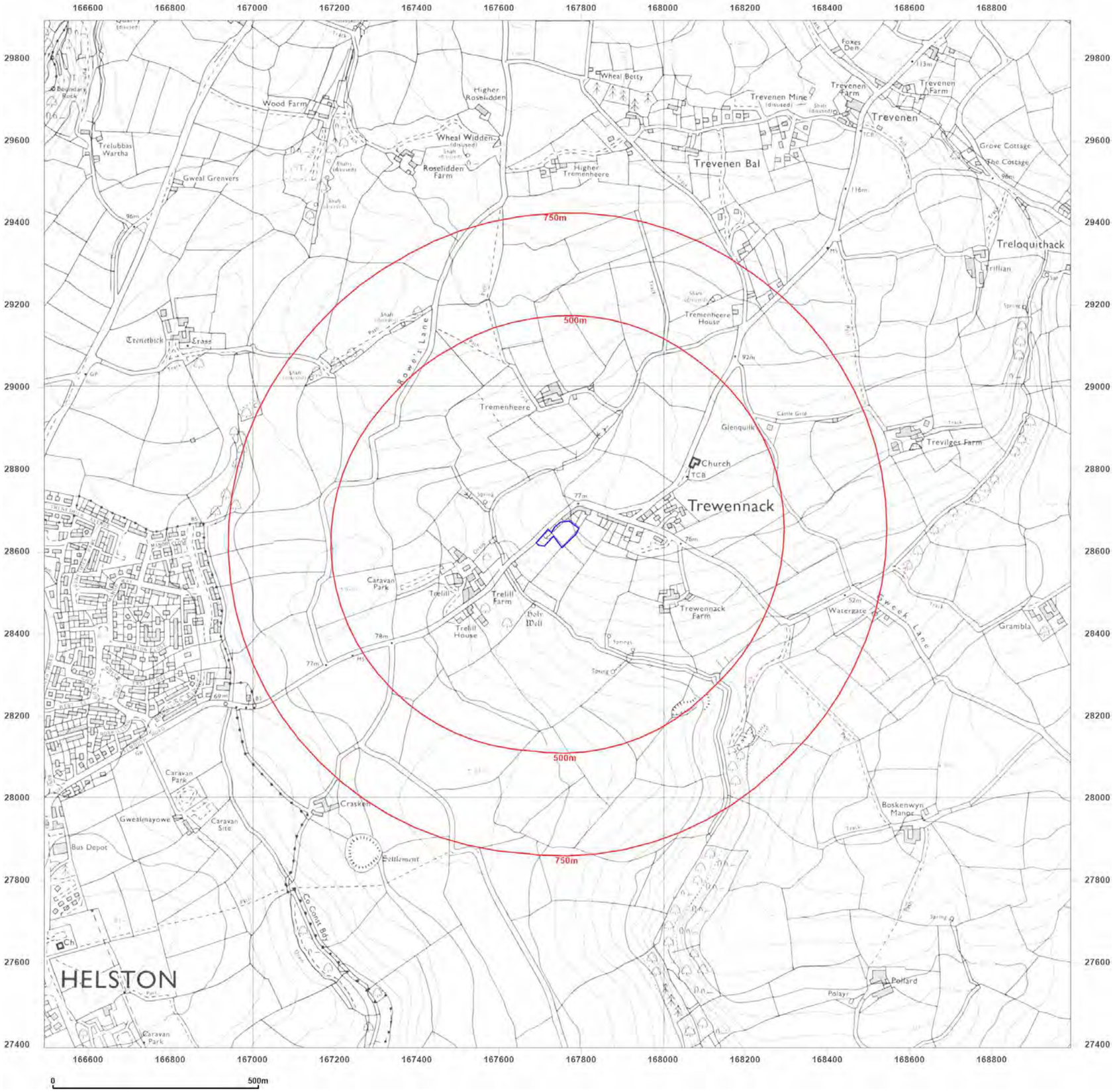

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1978**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1974
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A

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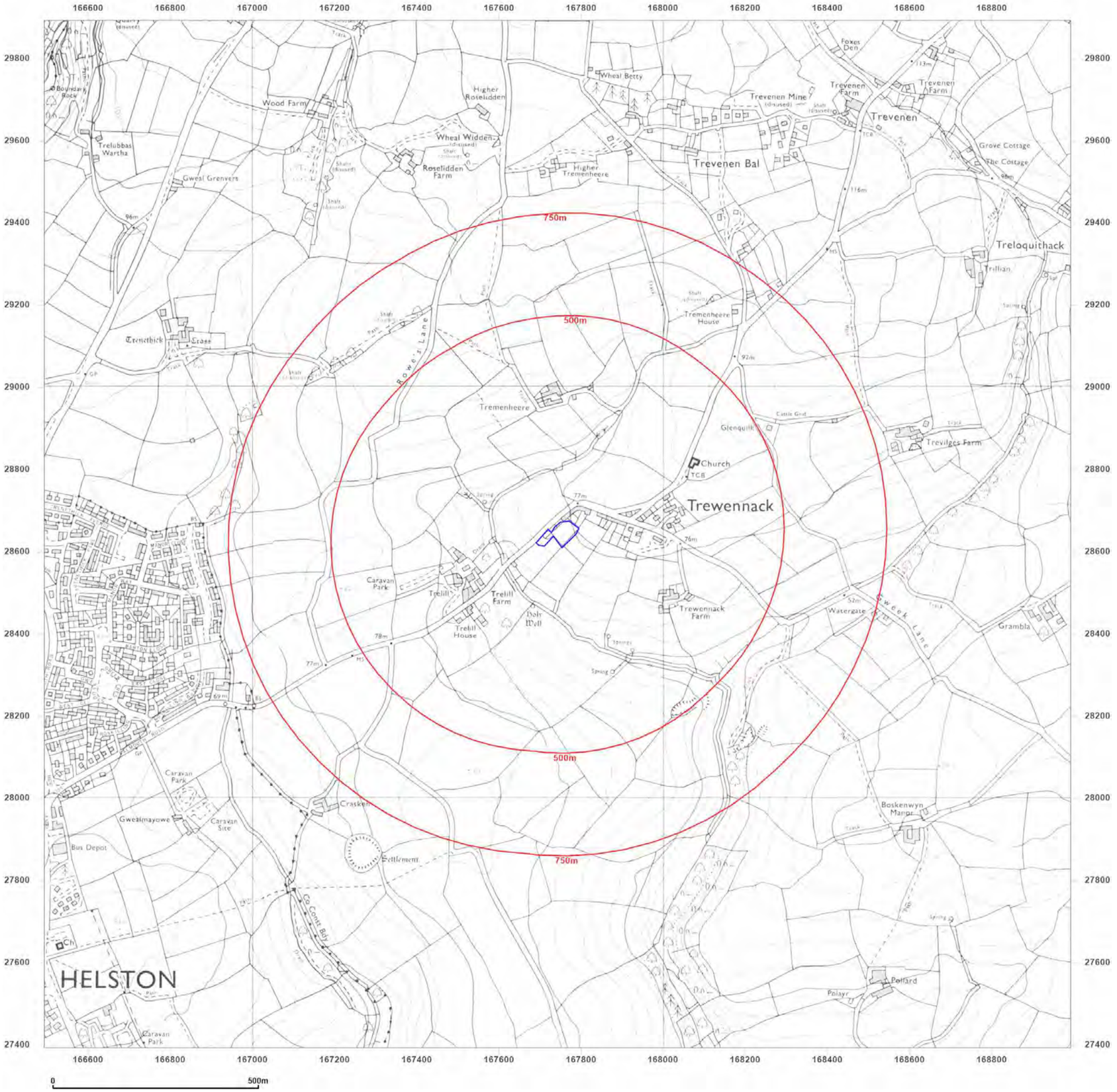

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1978**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1974
Revised 1978
Edition N/A
Copyright 1978
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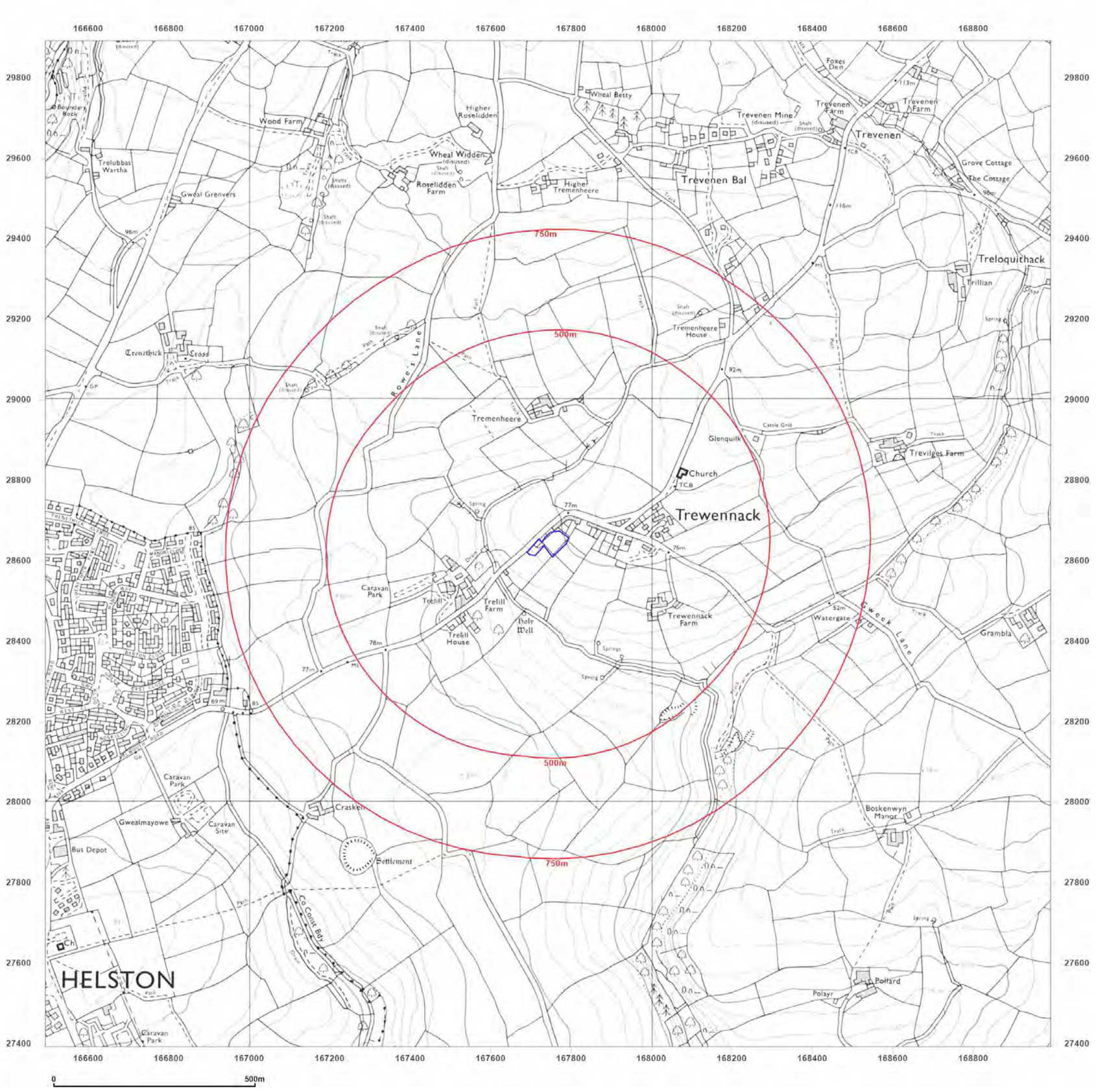

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1978**

Scale: 1:10,000

Printed at: 1:10,000

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Revised 1978
Edition N/A
Copyright 1978
Levelled N/A

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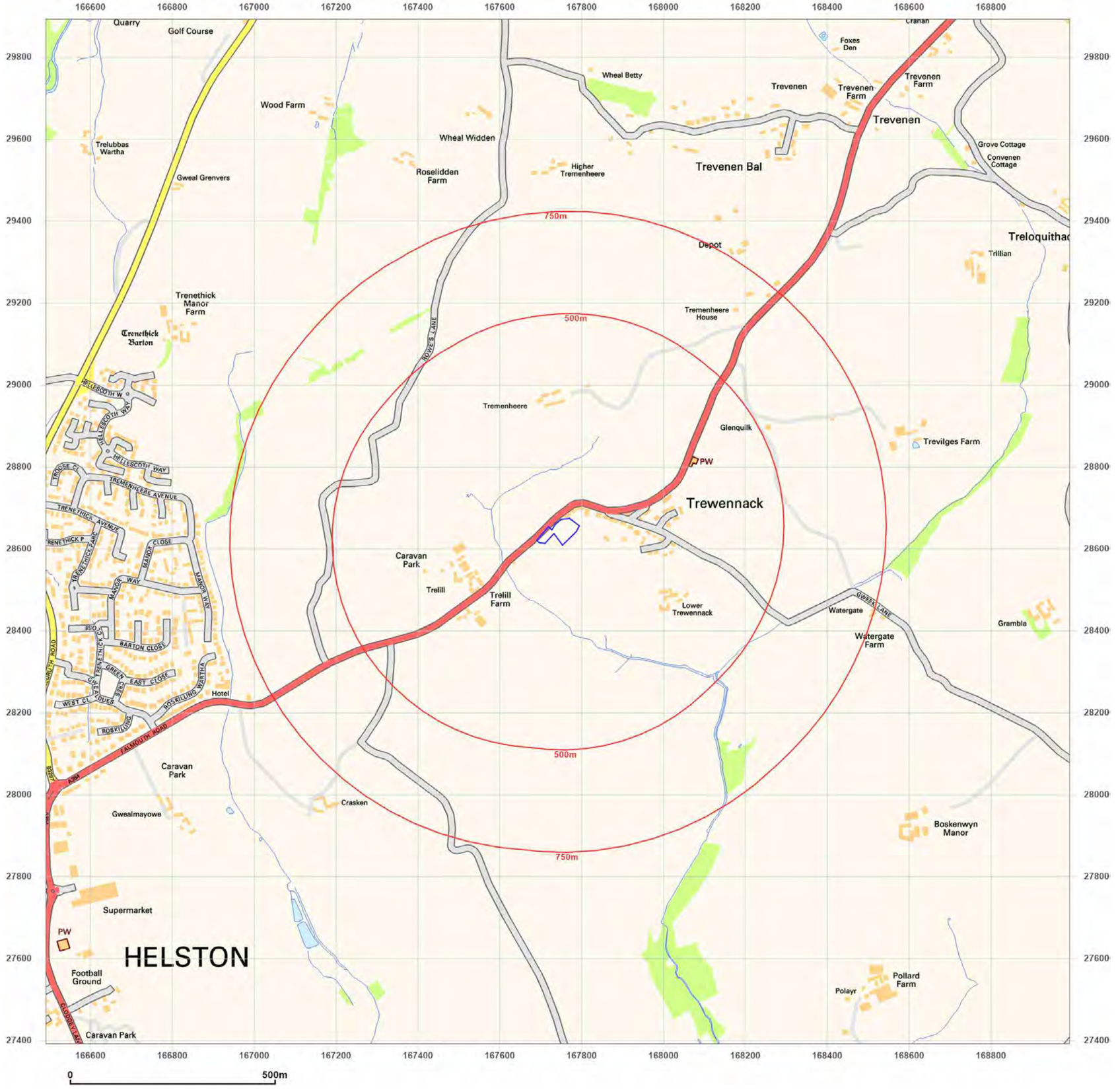

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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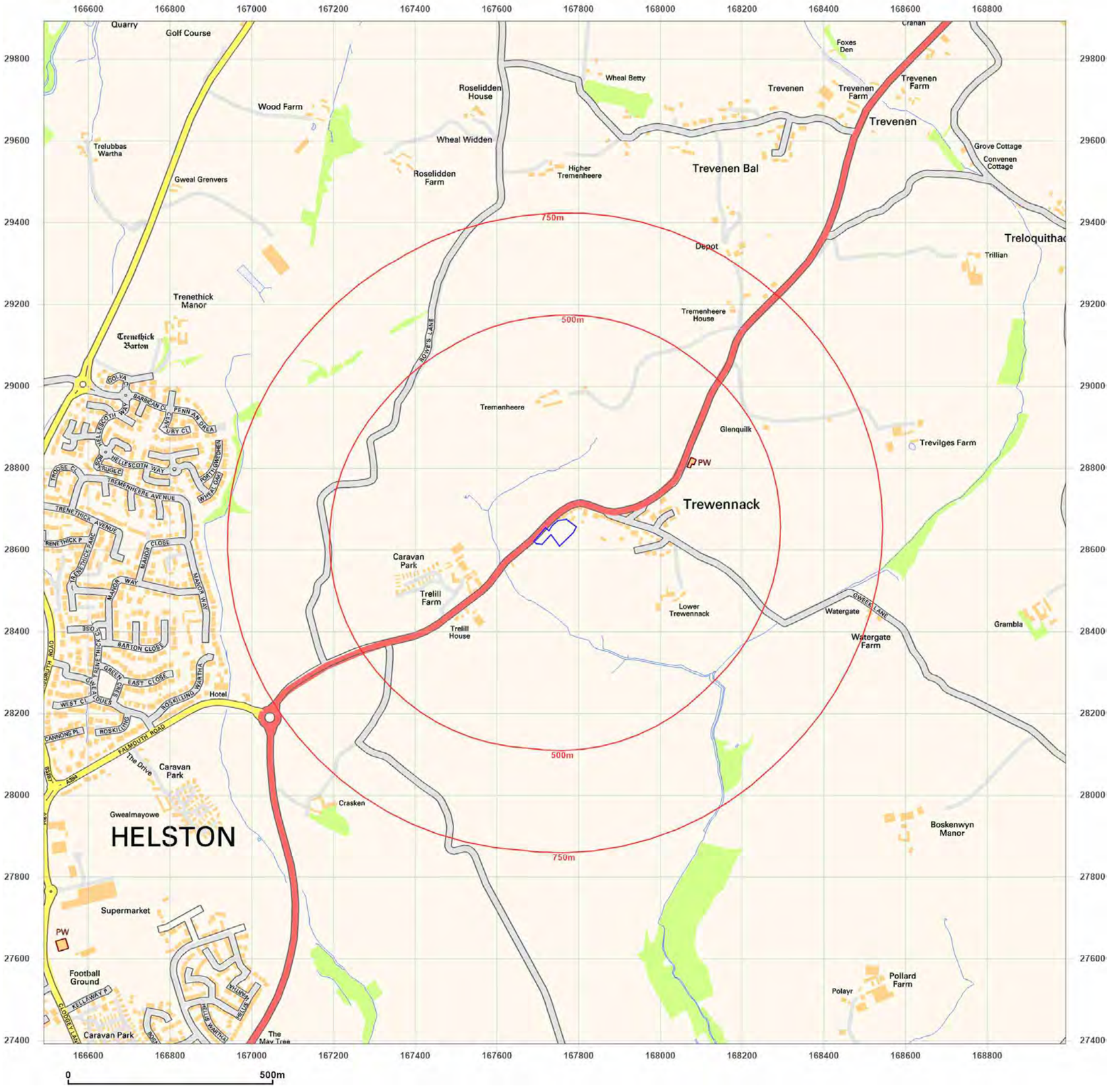

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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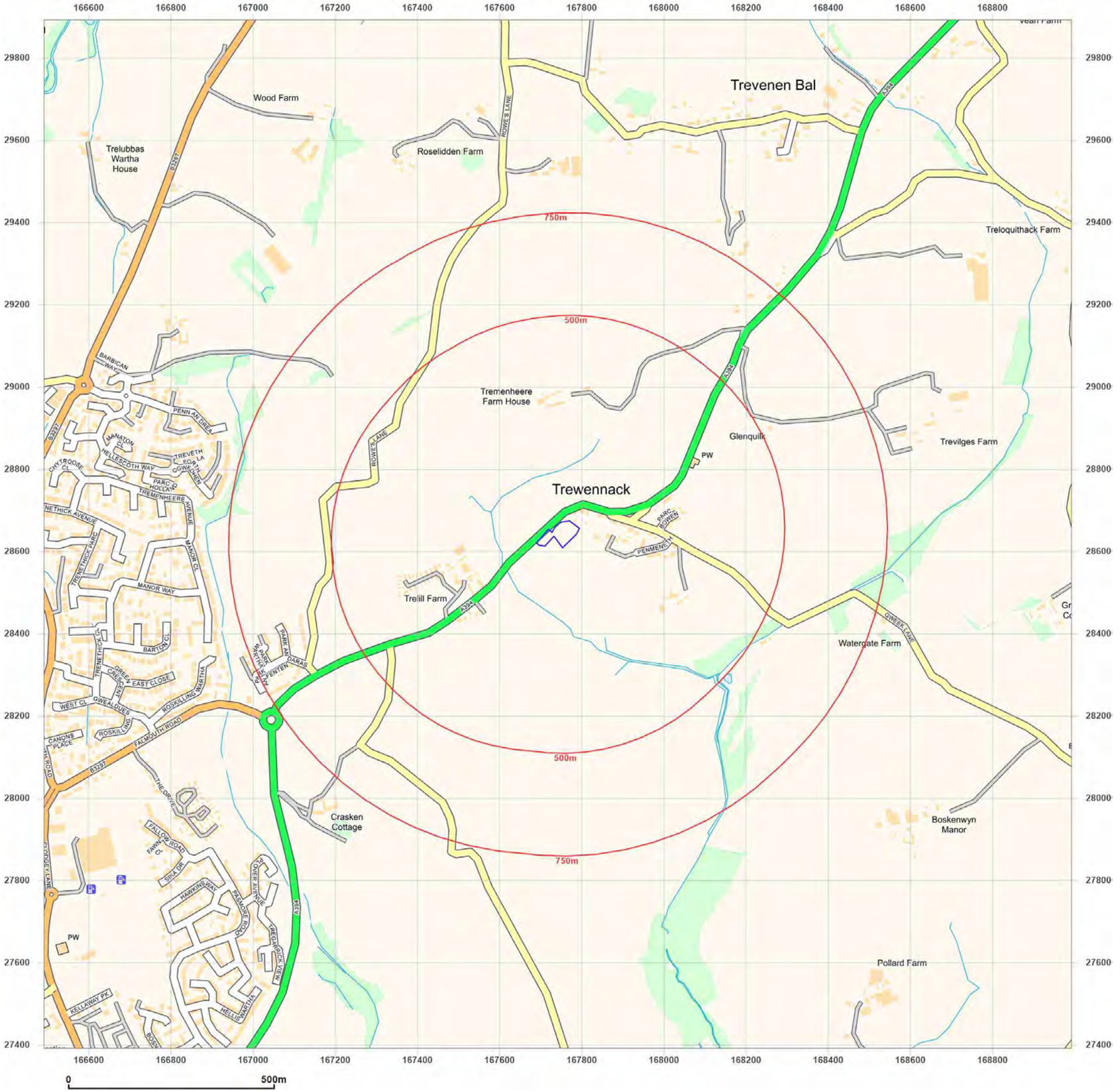

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **2023**

Scale: 1:10,000

Printed at: 1:10,000

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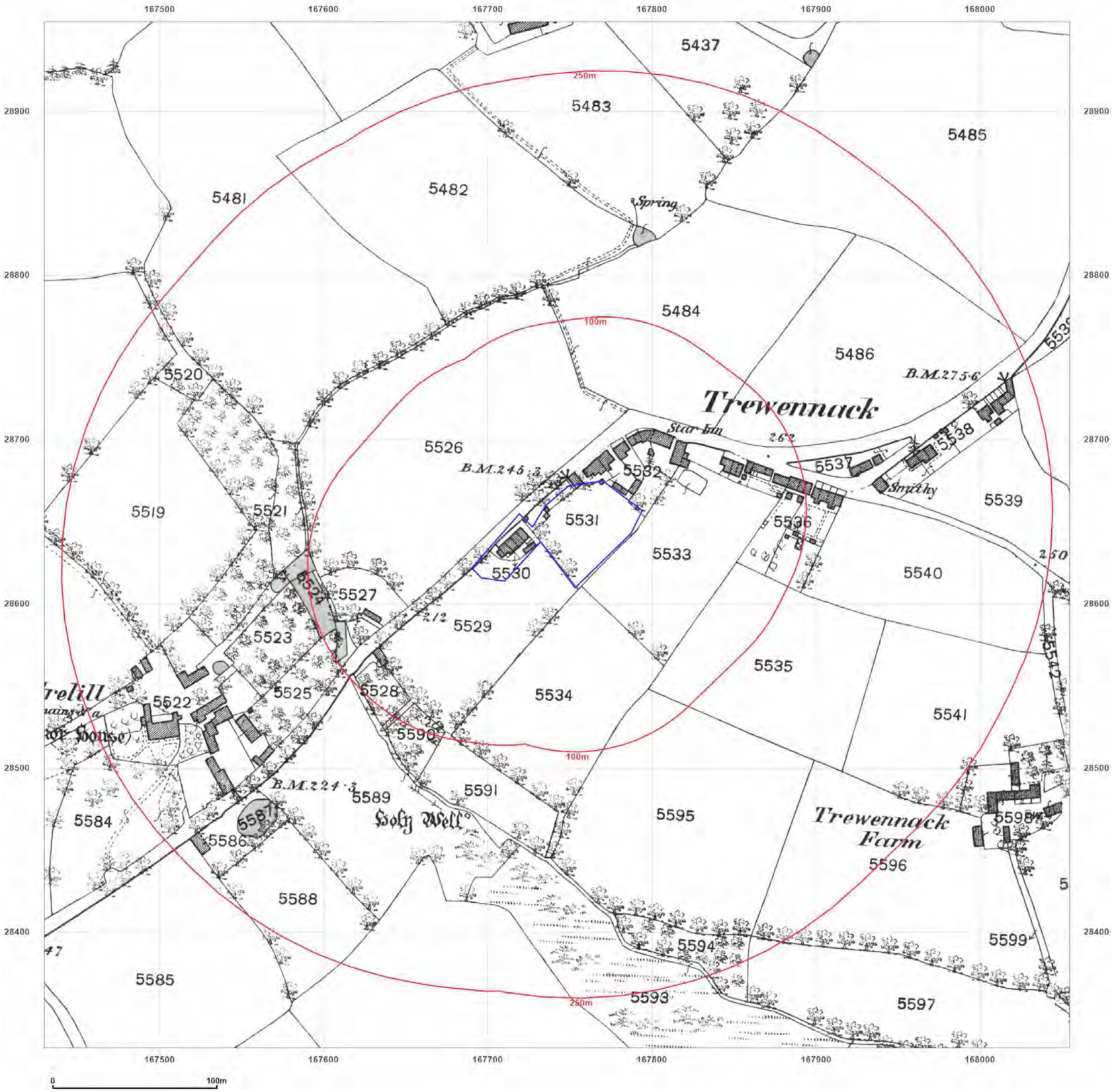

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: County Series
Map date: **1880-1881**
Scale: 1:2,500
Printed at: 1:2,500

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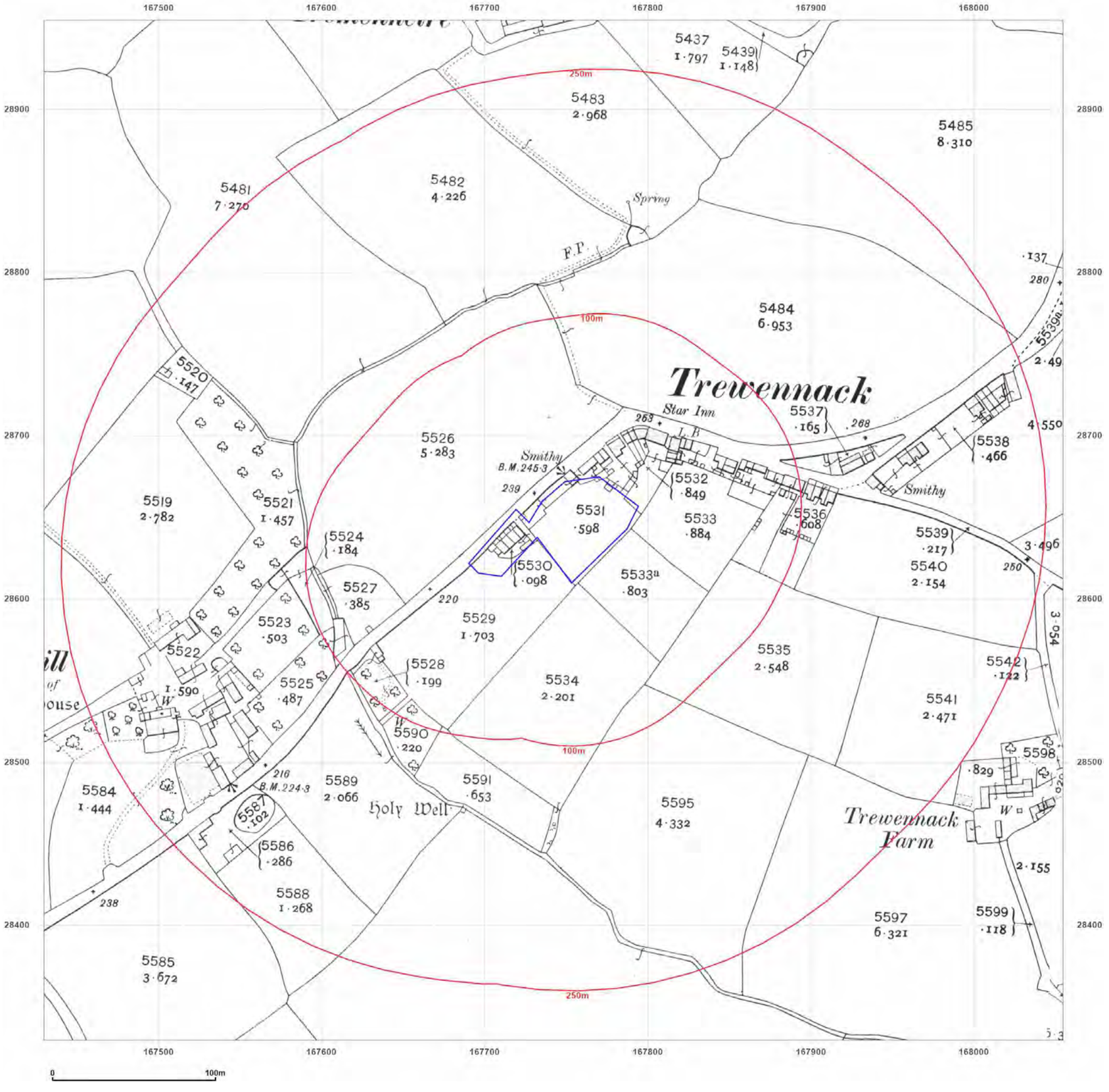

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: County Series

Map date: **1907-1908**

Scale: 1:2,500

Printed at: 1:2,500

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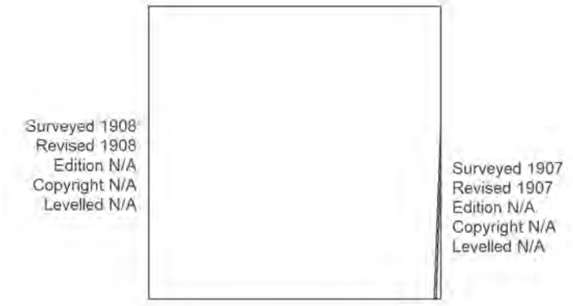

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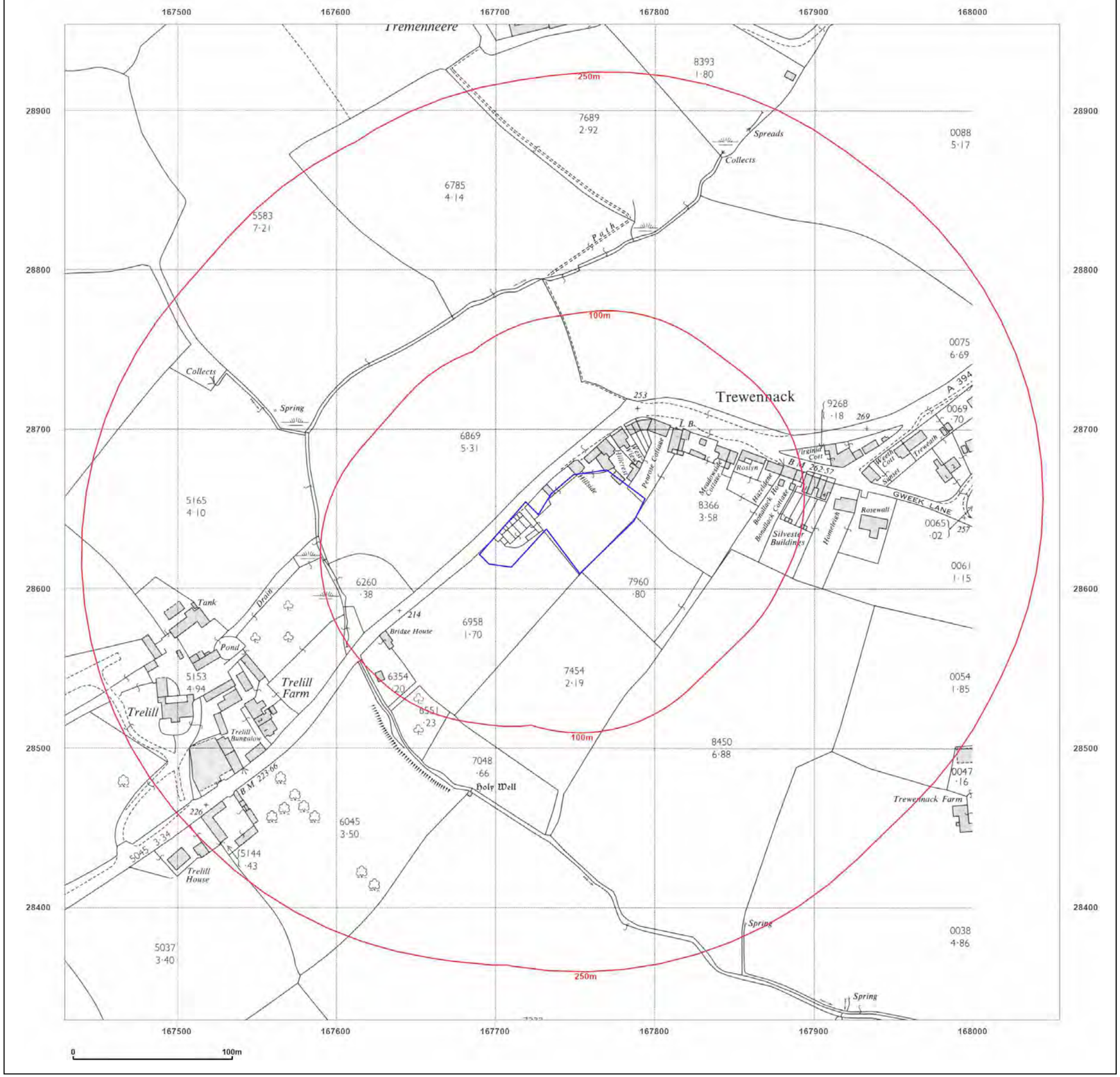

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1968**

Scale: 1:2,500

Printed at: 1:2,500

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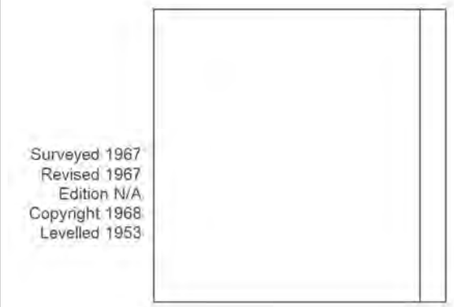

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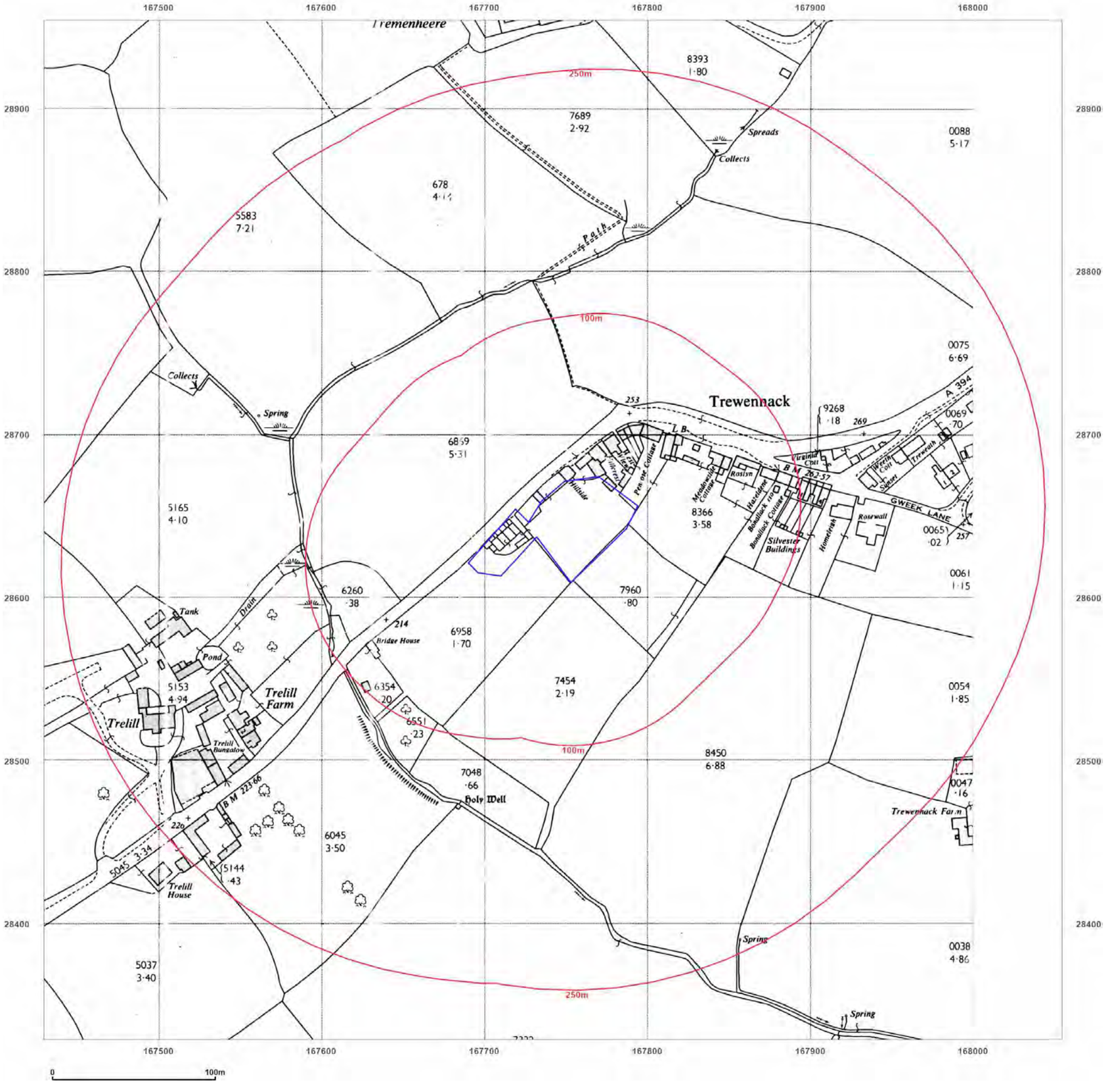

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1968**

Scale: 1:2,500

Printed at: 1:2,500

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Revised N/A
Edition N/A
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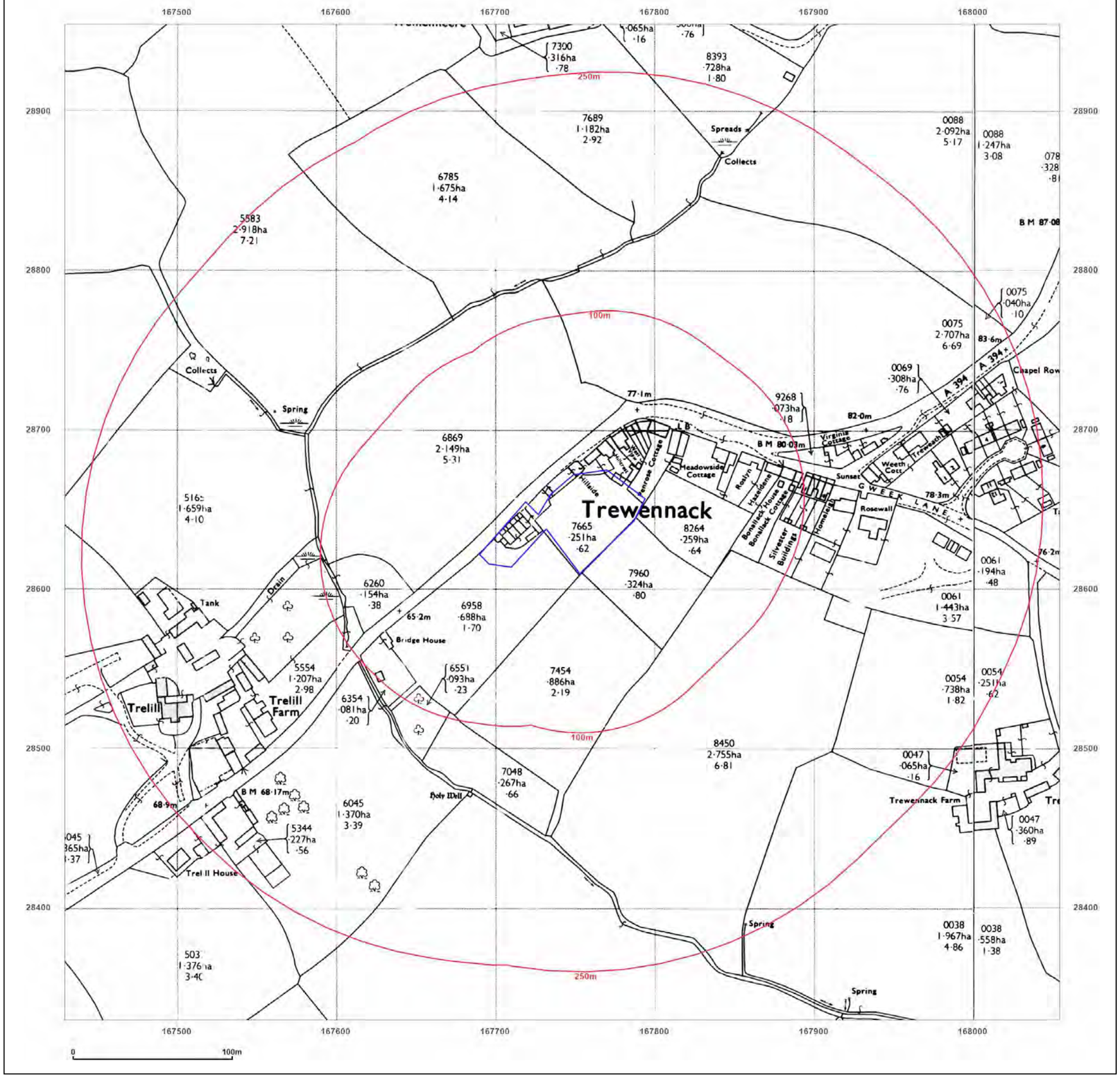

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1974-1975**

Scale: 1:2,500

Printed at: 1:2,500

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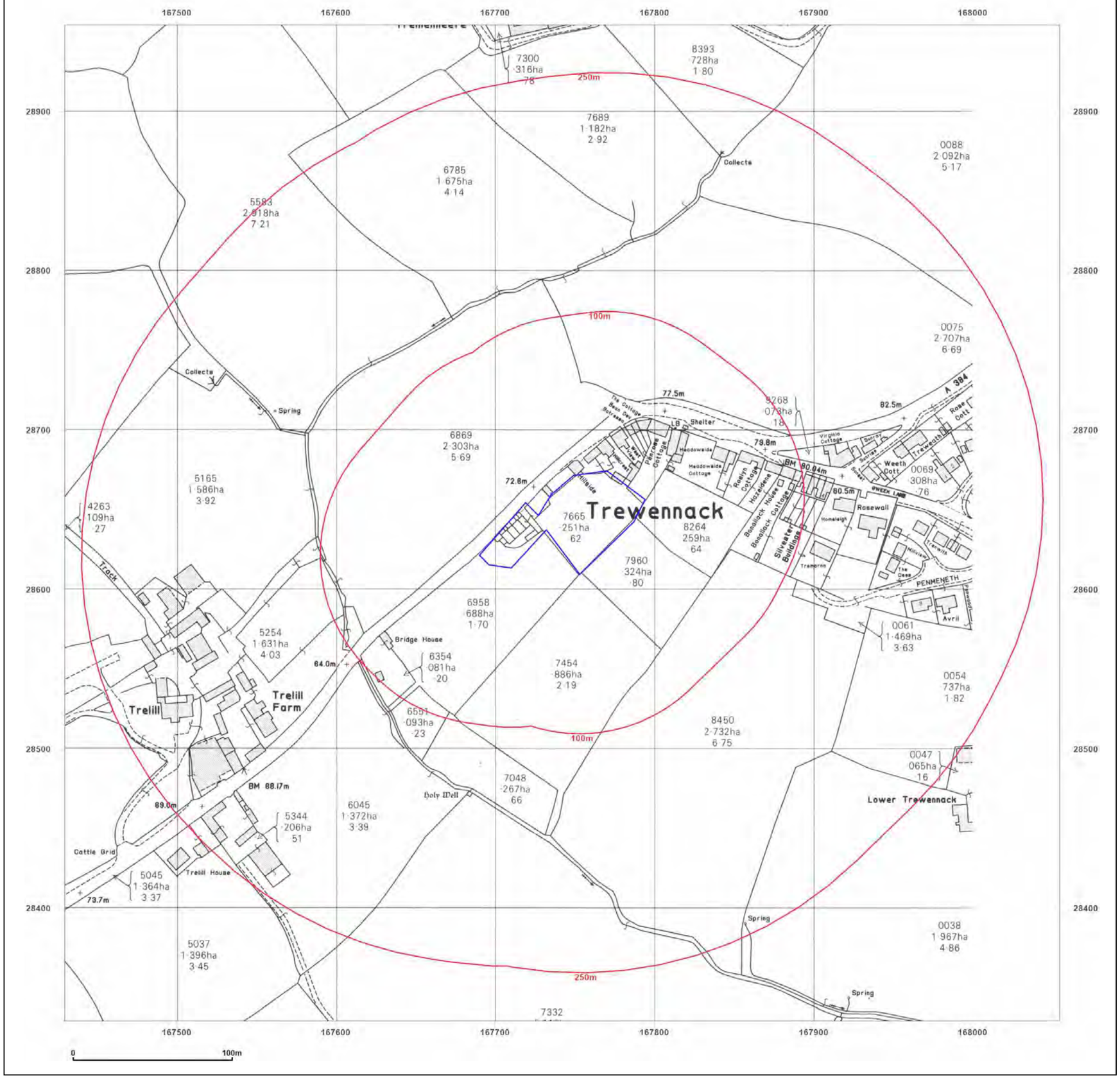

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

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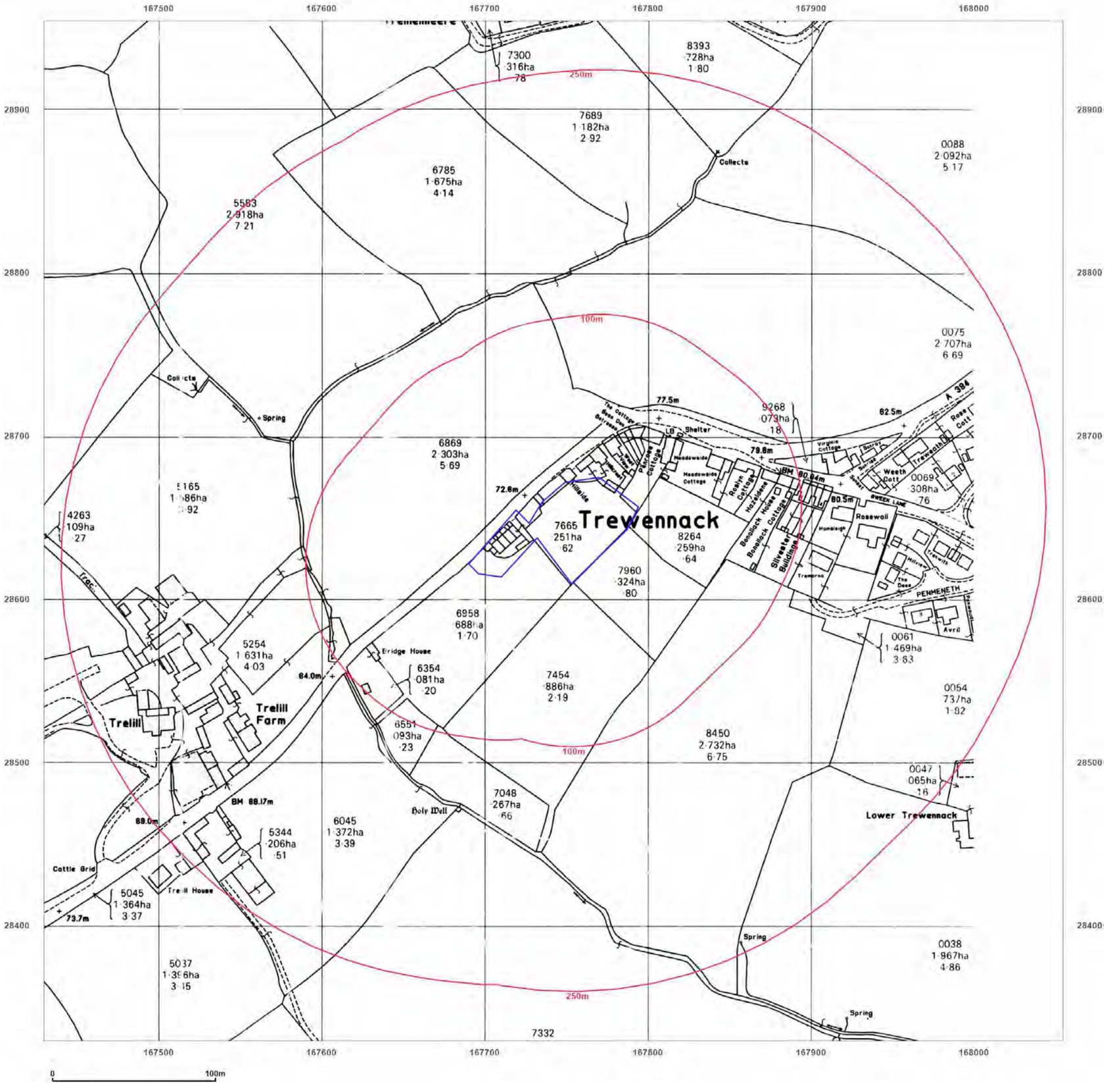

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

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Edition N/A
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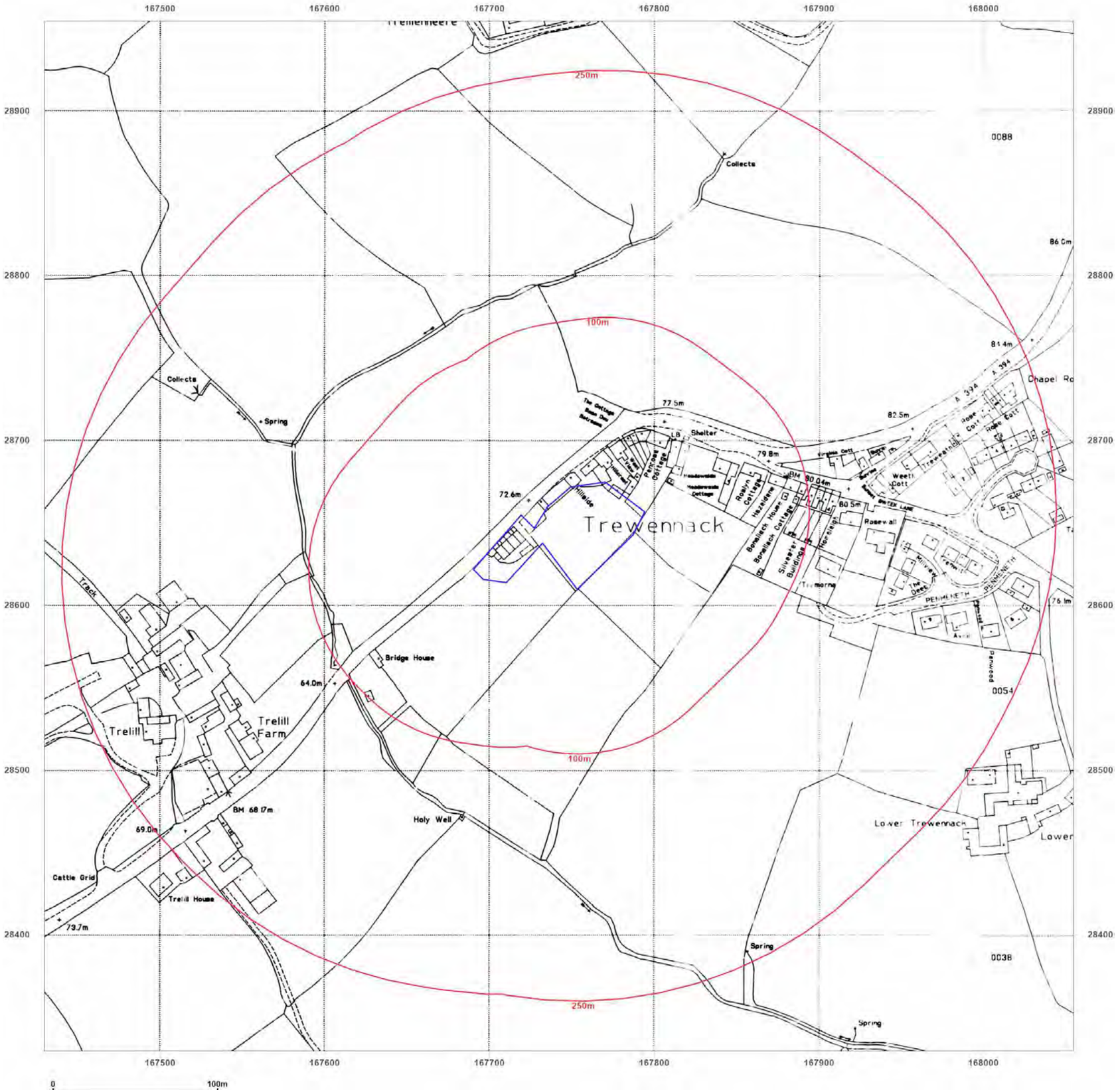

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: National Grid

Map date: **1995**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

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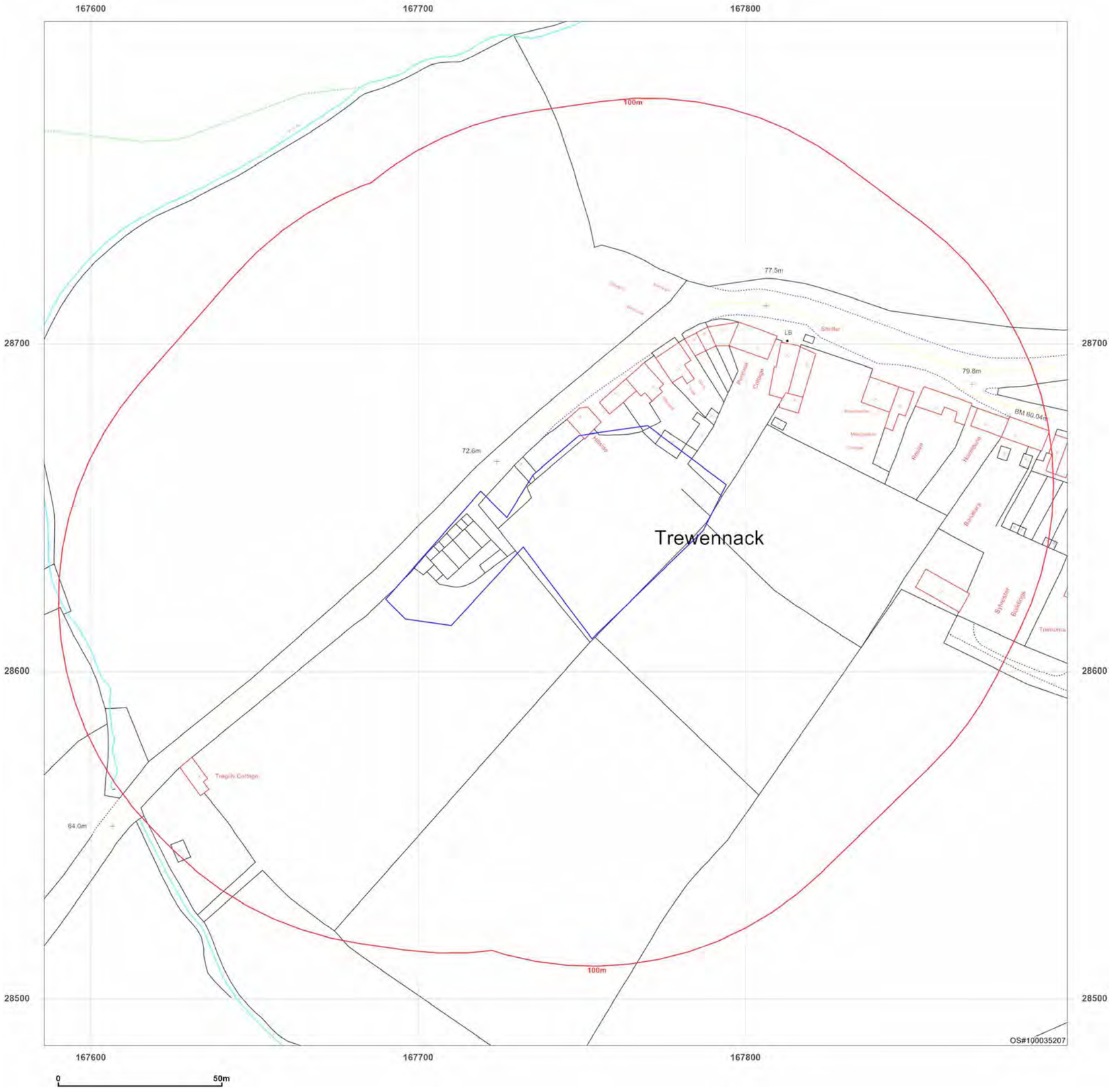

Groundsure INSIGHTS

Site Details:

LAND REAR OF WEST VIEW,
TREWENNACK, HELSTON,
TR13 0PQ

Client Ref: 23014
Report Ref: GS-9377217
Grid Ref: 167742, 28642

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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Appendix 4

Mining Eye Ltd Mining Search

The owners or agents thereof:

Land at Trewennack, Helston
Cornwall, TR13 0PQ

Grid Reference:- SW 677286

Mining Search Status:

Passed:- Acceptable Risk

Search Reference: WD0123P
Date of search: 01.08.2023

Introduction.

The primary purpose of this report is to ascertain whether historic mining activity poses a threat to ground stability and structural integrity of the property concerned. This is based on the metalliferous mining records held by Mining Eye Ltd at the time of producing the report.
This report is suitable for the purposes of conveyancing and insurance and is undertaken on behalf of the client or at the request of their solicitors/legal advisers.

General Mining Risk Information.

The main risk to property from abandoned mine workings is associated with shafts and shallow workings. Subsidence may be gradual or catastrophic, depending on the size of the feature involved and the mechanism of its structural failure. Backfilled workings and waste tips are prone to gradually settle over time, but it is usually the sudden failure of decayed timber supports which cause shafts to open or subside and workings to collapse. Many of the shallow workings are ancient and unrecorded however their position may be inferred by surface features, the record of waste tips on historic maps, or from the extrapolation of deeper structures on later mining plans. Since gradual development has obliterated many surface features, it is possible that unrecorded workings can exist within any mineralised area, without any indication of their presence.

Limitations.

This report is based on a comprehensive archive of abandoned mining plans and historic maps, as well as field data and other written material. It must be recognised that historic archive material does vary in accuracy and may not be complete. We endeavour to combine and synthesise an accurate

interpretation of these records, however we cannot be held responsible for any omissions or errors present in the archive material upon which this interpretation is based.
It should also be recognised and accepted that unrecorded or unindicated workings can exist in any mineralised area. Additionally, although this report may comment upon features other than mining, it is not intended to report archaeology, contaminated land, environmental or ecological factors. If this information is required, it must be sought separately.

Geology.

The bedrock geology comprises hornfelsed slates and from the Myslor Slates series. A footings inspection was carried out immediately to the north east of the site and here a heavy dark sandy silty soil with a typical thickness of 2.5m gradded to totally weathered dark slates (structured). A large band of Greenstone occurs to the north (microgabbro).

Mining History.

The area surrounding Wendron, both in the granite, and the sediments was worked before records began for tin. The workings were typically shallow, rich and limited in extent, although much trial work was undertaken. Some of the mines persisted until the late 19th century.

Present and Future Mining Activity.

There are no active permissions for any kind of mining activity in the immediate area. Due to the limited nature of the veins and the lack of persistence in depth, it is unlikely any of the mines will receive attention. We consider it to be confined to history.

Mining Appraisal.

The property appears to be south of any mining activity. The footings in the adjacent site were clear and the trend of the lodes in the area suggests that if they occurred, they would be absent in this footings.

Conclusion.

The site does not require any further attention in respect to historical mining. Footings require inspection of any inconsistent ground feature is encountered, however unless these are found we would designate the units of the development as secure assets for the purposes of lending and insurance in this respect.

Recommendation.

Work can proceed without any mining related concerns.

Footnote.

Mining Eye use the latest Geographical Information Systems software and Ordnance Survey Map Data under licence. This enables us to overlay all of the historic mapping and mining plans onto a plot of the most accurate modern map for the application. The data is easily visualised and it is possible to quickly locate features and assess their spatial accuracy. The resulting map is not a sketch of workings with no scale, it is dimensionally accurate within the tolerances specified by the software and the originating data from our archive material. It provides the client with the most accurate representation of mining workings relevant to their property.

Bibliography.

1. Wendron Tin. AK Hamilton Jenkin, (1961).

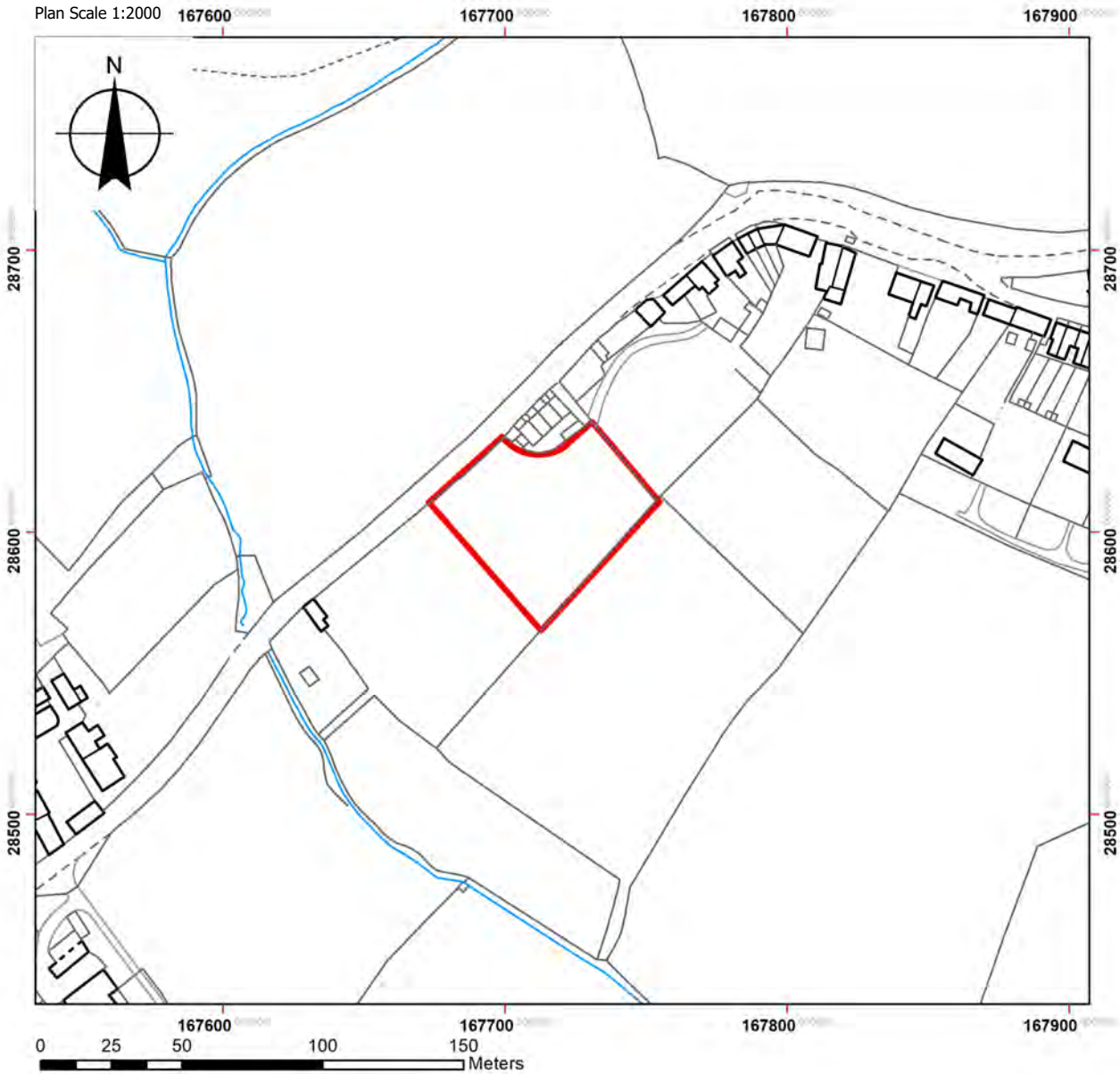
2. Mining Area Map "Wendron and Helston" MROA S6. (County Records)

3. The Metalliferous Mining Region of SW England, HG Dines, HMSO, (1956)

4. Observations on the West of England Mining Region, JH Collins (1912)

5. 1880 25" Ordnance Survey Map (Tiled).

6. 6" Geology BGS 1906 Sheet 76NW



Search Results for Recorded Mining Activity.

Property:
Land at Trewennack
Helston
Cornwall
TR13 0PQ

Mining Search Status:
Acceptable Risk

Center of plot: SW 677286

Legend:

Property Covered by this Search

Features highlighted on this map are based on all available information and records but no guarantee can be given that this is totally accurate or complete.

Appendix 5

2021 Letter Report on Topsoil Testing

westenviro ltd

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Andrew Wooding
Project Manager
Rhosnoweth Developments Ltd
Chenoweths Garage
Ruanhighlanes
Truro
TR2 5JT

25th March 2021
Our ref: 12031-V17

Dear Andrew

Land to Rear of West View, Trewennack, Helston: Sampling and Analysis of Topsoil for Use at Rowan Meadows, Treskerby, Redruth

Introduction

Westenviro Ltd has been commissioned by Rhos Construction Ltd to carry out a contamination assessment of topsoil at Land to Rear of West View, Trewennack, Helston. The Trewennack site is a greenfield housing development site with a surplus of topsoil centred at NGR 167763, 028647. There appear to have been no previous site investigations of this site, and no land contamination related planning conditions have been placed on the residential development of the site, however UK Soil Observatory data suggests that background total arsenic concentrations may exceed residential assessment criteria.

Surplus topsoil from this site is proposed for use in the development of 140 dwellings, access road, off street parking and associated works on fields adjacent to Rowan Meadows, Treskerby, Redruth, conditionally approved under planning consent no. PA12/06982. The Treskerby site is located to the south east of the A3047 Redruth to Scorrier road and north-east of existing housing at Rowan Meadows, and is centred at NGR 171500, 043500. Reference is also made to the subsequent decision notice for application number PA15-11532 dated 16th March 2016.

The import of topsoil to the Treskerby site is being carried out in accordance with a remediation strategy presented in Westenviro Ltd report 12031-R1 Treskerby, Redruth Phase 3 Remediation Scheme Report, May 2012. This report recommended that remediation works comprising soil covers in garden areas were carried out to address the elevated arsenic concentrations present at the Treskerby site.

This letter report presents soil analysis data from hand excavated pits in the topsoil present on the Trewennack site, including bioaccessibility analysis for arsenic, to confirm that the soil is acceptable for use as cover soil at Treskerby, and also as garden soil on the Trewennack site.

This Report has been undertaken in accordance with current relevant guidance and practice as set out in the UK government October 2020 Land Contamination Risk Management (LCRM) framework.

Trewennack Site: Soil testing of Topsoil, March 2021

Four soil samples were taken at the Trewennack site by Westenviro on 9th March 2021. The samples were taken from hand excavated trial pits, each 0.3m deep, at the positions identified in the appended figure. The samples were analysed by Chemtest Ltd and the analytical test certificates are provided in Appendix 1.

The samples were analysed for metals including arsenic (4 samples), and bioaccessible arsenic using the BARGE method (1 sample).

The results of the analyses confirmed the following:

- No exceedances of guideline values (LQM/CIEH S4ULs; DEFRA C4SL for lead), for residential gardens with consumption of home-grown produce) were recorded except for total arsenic;
- Arsenic was recorded at values between 53 and 80 mg/kg, exceeding the CLEA SGV of 32 mg/kg and the S4UL of 37 mg/kg, and consistent with the background concentrations indicated by UKSO;
- Bioaccessible fraction was recorded at 0.70% using the BARGE method on the sample analysed.

The outputs from the CLEA modelling carried out in July 2017 and reported in report ref. 12031-R4 as Table 4.4, reproduced below, have been applied to derive a Site Specific Acceptance Criterion for the soil.

Table 4.4 Relative Bioaccessibility and Assessment Criteria Values

Row No.	% Relative Bioaccessibility	Assessment Criteria mg/kg
1	100	37
2	80	46
3	60	59
4	40	83
5	20	142
6	10	221
7	5	305
8	2.4	380

Using the 2.4% relative bioaccessibility value from this table (higher and therefore more conservative than the value of 0.7% recorded by the BARGE testing), a site specific Assessment Criterion of 380 mg/kg has been derived. Reference should be made to the July 2017 Westenviro report ref. 12031-R4 for copies of the CLEA worksheets.

None of the analytical results for arsenic from the Westenviro sampling (maximum arsenic concentration 80 mg/kg) exceed this Assessment Criterion.

Conclusions

It is concluded that the topsoil at the Trewennack site is suitable for the gardens in the residential development at that site with no requirement for remediation measures such as soil cover layers.

It is also concluded that the surplus topsoil is acceptable for use in gardens/cover layers at the Rowan Meadows, Treskerby, site.

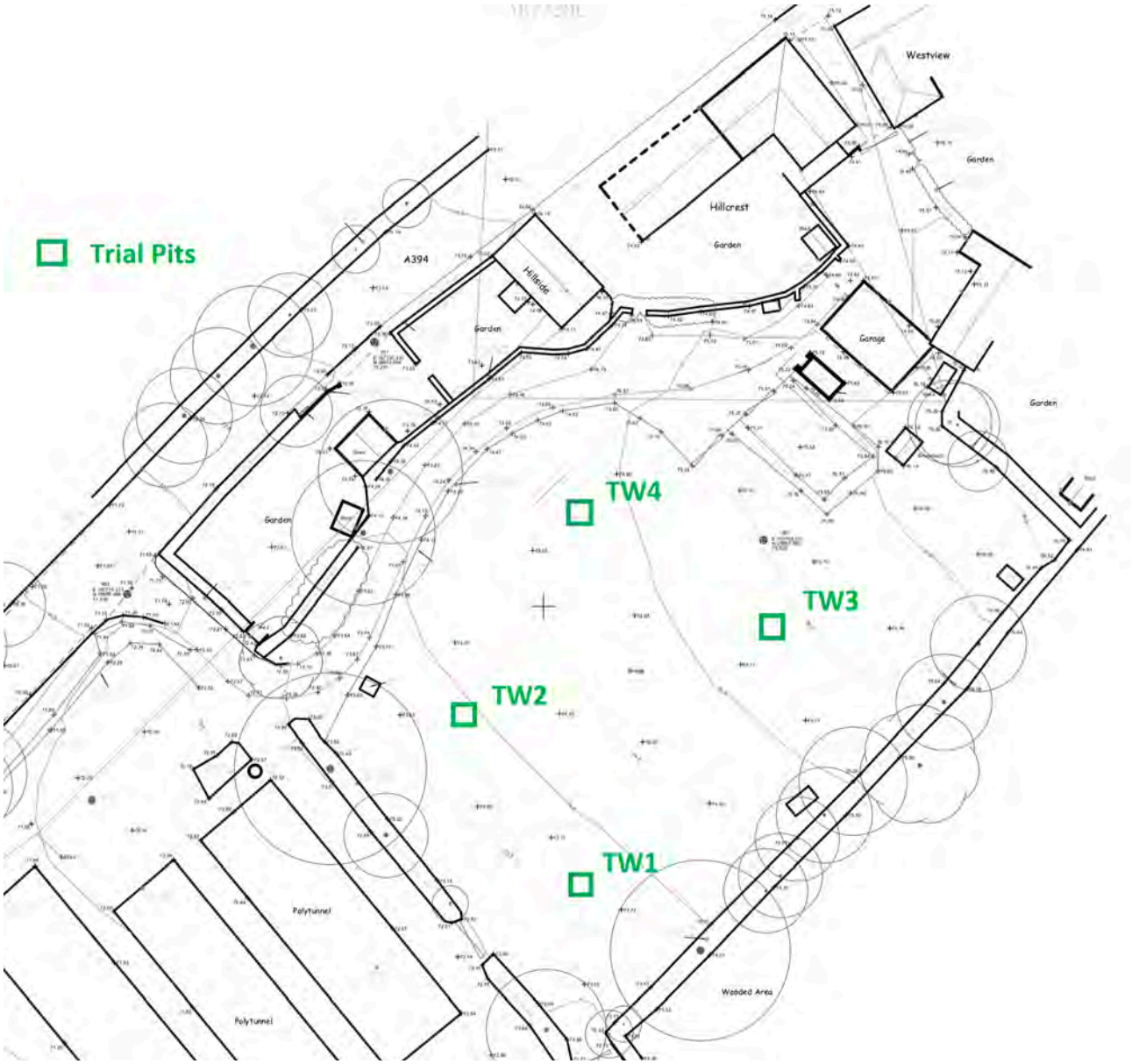
It is recommended that when transferred to Treskerby, soil from this site is kept separate from, and not mixed with, soil from previous source sites, to avoid the need for further testing and assessment of the mixed material. There is a possibility that mixing soil sources with differing geochemical properties could result in an increased bioaccessibility, therefore reduced acceptable arsenic concentration, for the mixed material.

Yours sincerely

Frank Westcott BSC MBA CENG CENV CWEM MICE MCIWEM SILC SQP
Director

Encs.
Figure – Location of Samples
Appendix 1 – Analytical Test Certificates

Figure: Sampling Locations, Land to Rear of West View, Trewennack, Helston



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UKAS TESTING
2183

Final Report

Report No.:	21-07805-1
Initial Date of Issue:	25-Mar-2021
Client	West Enviro
Client Address:	Magnolia House 15s Fore Street Roche St Austell Cornwall PL26 8EP
Contact(s):	Frank Westcott
Project	12031 Rhos Construction, Trewennack

Quotation No.:		**Date Received:**	11-Mar-2021
Order No.:	12031-210309	**Date Instructed:**	12-Mar-2021
No. of Samples:	4		
Turnaround (Wkdays):	10	**Results Due:**	25-Mar-2021
Date Approved:	25-Mar-2021		

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: 12031 Rhos Construction, Trewennack

Client: West Enviro		**Chemtest Job No.:**			21-07805	21-07805	21-07805	21-07805
Quotation No.:		**Chemtest Sample ID.:**			1158479	1158480	1158481	1158482
Order No.: 12031-210309		Client Sample Ref.:			TW1	TW2	TW3	TW4
		Client Sample ID.:			TW1	TW2	TW3	TW4
		Sample Location:			S1	S2	S3	S4
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.00	0.00	0.00	0.00
		Bottom Depth (m):			0.30	0.30	0.30	0.30
		Date Sampled:			09-Mar-2021	09-Mar-2021	09-Mar-2021	09-Mar-2021
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Moisture	N	2030	%	0.020	19	24	19	24
Arsenic	U	2450	mg/kg	1.0	53	62	54	80
Cadmium	U	2450	mg/kg	0.10	0.11	0.14	0.19	0.23
Chromium	U	2450	mg/kg	1.0	54	55	55	77
Copper	U	2450	mg/kg	0.50	58	62	62	100
Mercury	U	2450	mg/kg	0.10	0.85	0.80	0.83	1.0
Nickel	U	2450	mg/kg	0.50	61	58	58	84
Lead	U	2450	mg/kg	0.50	64	79	85	130
Selenium	U	2450	mg/kg	0.20	< 0.20	0.26	0.26	< 0.20
Zinc	U	2450	mg/kg	0.50	160	170	200	260
As Barge Stomach Phase	N	2630	mg/kg	N/A	0.17			
As Barge Stomach + Intestinal Phase	N	2630	mg/kg	N/A	0.37			
As Barge Bioaccessible Fraction	N	2630	%	N/A	0.70			

Test Methods

SOP	Title	Parameters included	Method summary
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2630	PBET	PBET	Extraction at 37C / ICP-MS

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com