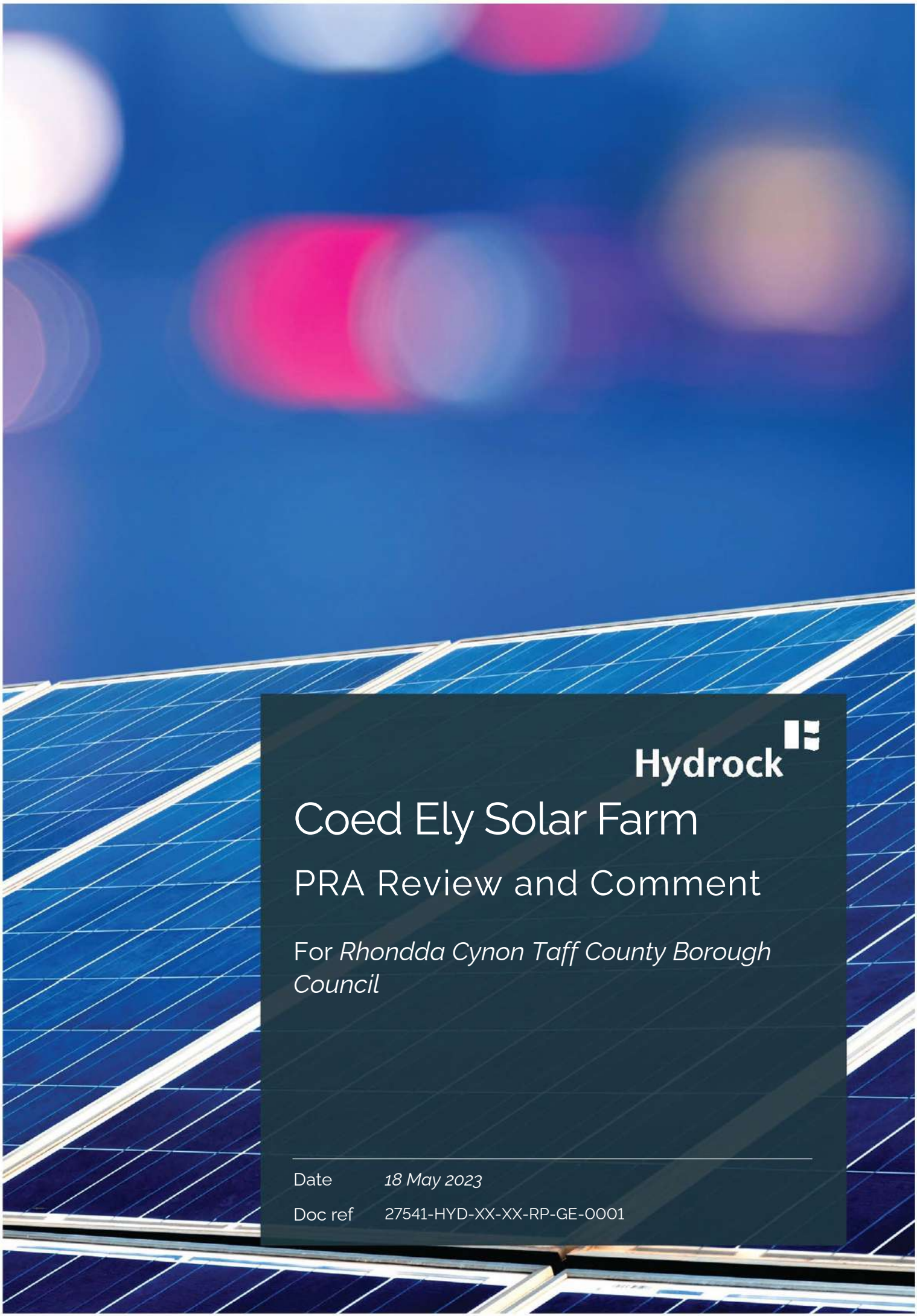

Hydrock

Coed Ely Solar Farm

PRA Review and Comment

For *Rhondda Cynon Taff County Borough Council*

Date *18 May 2023*

Doc ref 27541-HYD-XX-XX-RP-GE-0001

Document control sheet

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Contents

Figures

1. Introduction

1.1 Scope of Works

Hydrock has been commissioned by Rhondda Cynon Taf County Borough Council (RCTCBC) to produce the following report which fulfils Item 1.1 of the Technical Specification (issued November 2022) for the proposed solar farm at Coed-ely, namely the *review and comment on the existing reports and design listed as Preliminary Risk Assessment/Coal Mining Risk Assessment (Desk Study Report)*.

1.2 Background Information

Rhondda Cynon Taf County Borough Council (the Client) propose to develop a 45-hectare former colliery site near Tonyrefail into a 33kV + 11kV solar array, the 11kV array is to be connected to the Royal Glamorgan Hospital via a private wire connection.

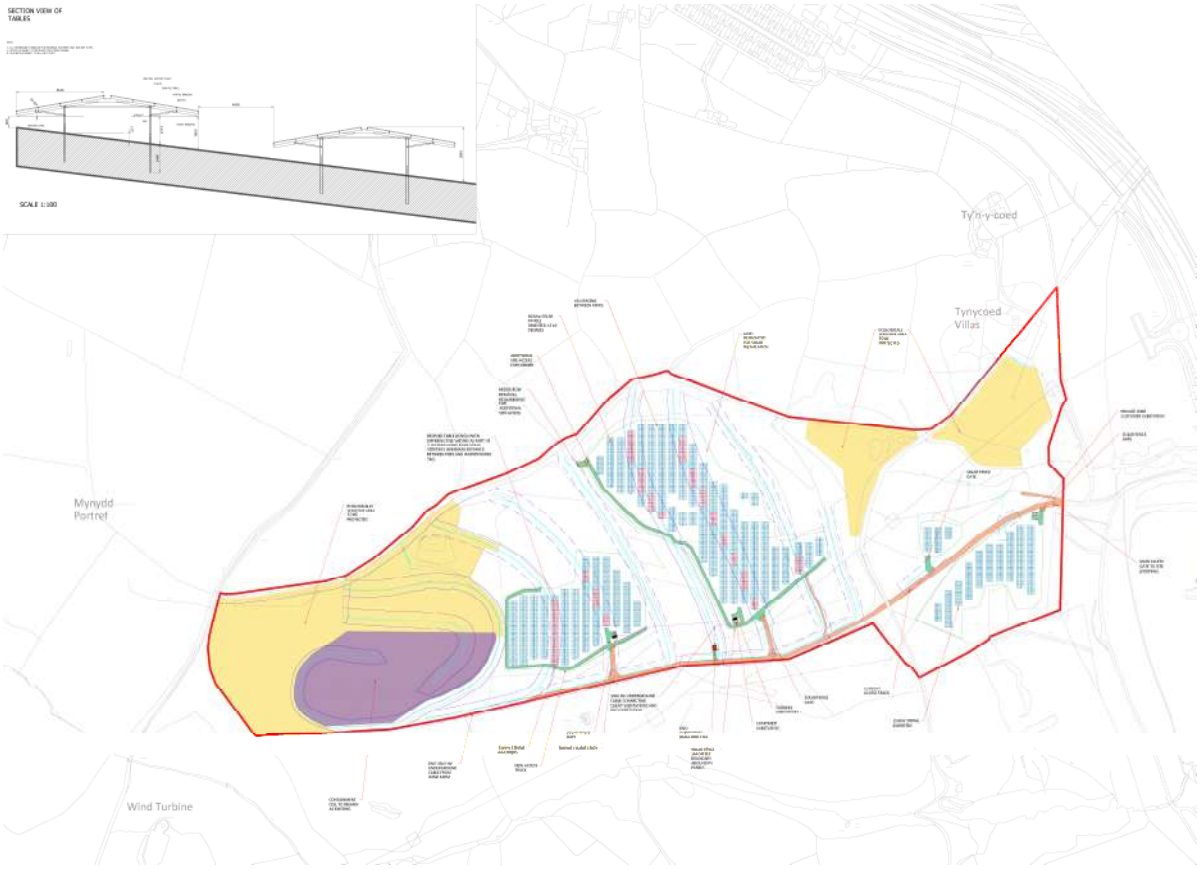


Figure 1.1: Proposed layout – solar array at Coed Ely (Hydrock drawing ref. 27541-HYD-XX-XX-DR-Y-002_S2_P04).

1.3 Historic Information

For reference, the following historic report/s were provided to Hydrock by the client (RCTCBC):

- Proposed Solar PV Array, Coed Ely, Rhondda Cynon Taf – Phase 1: Preliminary Risk Assessment and Coal Mining Risk Assessment (Desk Study) issued by Quantum Geotech, November 2021; Ref. Q0533
- 2D and 3D Topographical Survey for the proposed solar farm at Coed Ely produced by John Vincent Surveys on behalf of Quantum Geotechnical Ltd and issued January 2022. Drawing ref. 112A/21

- Coed Ely Reclamation Scheme – Encapsulation Cell Water Monitoring 1994 Baseline Report issued May 2008 by Environmental Services Group of RCT CBC, report number L17804. Note - the report does not contain any of the listed appendices.

2. Quantum Geotechnical Phase 1 Risk Assessment – Review

Quantum Ltd used various sources of information to form their preliminary assessment of the suitability of the site for the proposal:

- Groundsure Environ and Geo Insight reports;
- Historical and recent Ordnance Survey maps, geological maps and environmental info;
- Coal Authority records;
- BGS Published Geological Map for the site;
- Natural Resource Wales (NRW) website

2.1 Published Geology

The geological detail for the site is covered by BGS Sheet 248 at a scale of 1:50,000 (1975) and by the BGS on-line onshore Geology of Britain Viewer and includes:

- Superficial geology as Till/Diamicton – a mixed deposit comprising clay to boulder sized material (thickness unrecorded) over;
- Solid geology as Brithdir Member from the Upper Coal Measures – includes sandstones with subordinate mudstones, siltstones and productive coal seams;
- Two coal seams are present as outcrops to the north and south of the site – the Brithdir (south) and Brithdir Rider (north). Strata appear to dip at angles of 15 degrees to 20 degrees north to north east implying that the Brithdir seam will underlie the site.

2.2 Historic Land-use

- Significant historic land uses highlighted within the report include Tramway Sidings, Old Trial Shaft, Colliery and Refuse Heap.

2.3 Mining, Ground Works and Natural Cavities – General

- No naturally occurring cavities are recorded to be present at the site;
- One entry of a pit is recorded (surface mineral working for sandstone) named Mynydd Portref – status is now 'ceased';
- Underground workings are reported as being present at the site in the form of Old Trial Shaft/s and a colliery;
- Coal mining is listed as being present on-site.

2.4 Coal Mining Risk Assessment – Detailed

A Coal Authority Consultants Report was obtained by Quantum Geotechnical (Ref. 51002544865001) for areas of the site west of the service road. The report confirms the items identified in Item 2.3 of this report however additional detail reveals that:

- Only the Brithdir Rider coal outcrop is indicated as being present to the north of the site, the Brithdir coal seam is omitted as it is likely to fall outside of any surface influence;

- A fault running north-south through the site, displaces the Brithdir Rider seam marginally;
- The report lists multiple entries of past underground recorded workings beneath the site however the shallowest seam recorded is the No.2 Rhondda seam which was last worked in 1956 at a depth of 290m below the ground level at that time;
- Hydrock concur with the recommendation that seams identified in the Mining Report plan have no workings beneath the site;
- Two mine shafts recorded as ME 300185-001 and ME 300185-010 are indicated to lie within the site but there is no detail regarding size or condition;
- No recorded underground workings are found to be within the sequence of coal seams that outcrop on or adjacent to the site.

A second Coal Authority Consultants Report was obtained by Hydrock (Ref. 51003347703001) for the additional areas for potential development east of the service road. A summary of the report findings is listed below:

- The Tillery Brithdir coal outcrop is indicated as being present 2m from this area of the site boundary in the southeast;
- No fault lines, fissures or breaklines were recorded;
- The report lists several entries for past underground recorded workings beneath the site, where the shallowest seam recorded is the No.2 Rhondda seam which was last worked in 1952 and is situated at a depth of 254m below the ground level at that time;
- No mine shafts were recorded within 100m of the site;
- No recorded underground workings are found to be within the Tillery Brithdir coal seam that outcrops close to the southeast boundary of the site.

Aerial photography supplied by The GeoInformation Group shows the site as it was on the 01.01.2001. The photograph shows extensive earthworks occurring on-site during this period. An excavation is noted in the far west of the site area which appears to be related to the 'waste cell' which we assume is now capped. The photograph also shows significant excavations into the historic colliery spoil.

Areas immediately west of the service road appear to be untouched, however Hydrock suggests that this area had already been upfilled historically with colliery spoil and at the time of the photograph has been landscaped as the operation moved from east to west across the site. The land in the southeast appears to have been landscaped meanwhile the land to the north of this appears to be unmodified.

Quantum Ltd conclude a MODERATE RISK to the site from potential unrecorded shallow mine workings within the two seams present and that additional site investigation is considered necessary.

Hydrock have reviewed the information from the new Mining Report (covering areas east of the service road) in conjunction with the BGS 1:50,000 geological map and the Tillery Brithdir outcrop to the southeast of the site is expected to dip towards the north, beneath the site. In this instance, it is possible that unrecorded shallow mine workings are present beneath this part of the site.

Considering the proposed development of solar array will have very shallow foundations, and due to the historic earthworks and upfilling at the site Hydrock suggests that any unrecorded shallow workings, and mine entries are unlikely to affect stability at surface for this development.

Figure 2.1: Aerial photograph of the site taken on the 01.01.2001 (The GeoInformation Group, 2001[1]).

The area of the waste/containment cell appears to have been excavated to a significant depth below the original ground level and a concrete caisson formed to house waste from various sources. The excavation was filled and capped to the present levels however the thickness and composition of the capping layer is not known and should be confirmed at the site investigation stage of the process along with geotechnical parameters to produce a site-specific foundation option for the array.

2.5 Natural Ground Subsidence - Landslides

The Groundsure Location Database shows the steepest areas of the site as susceptible to a HIGH risk of subsidence with the majority of the site area defined as MODERATE however this classification uses the BGS 1:50,000 digital map database for the site which classifies the superficial deposits as Diamicton. This is not the case as the site has been used extensively as a colliery spoil tip and Hydrock would suggest the susceptibility of the site is less onerous then suggested.

2.6 Surface Water Flooding

The Quantum report models the site to be susceptible to a flood as a result of a 1 in 30-year extreme flood event and would result in surface flood water depths of between 0.30m and 1.00m. Assuming a mini-piled foundation is likely for the array panel units (TBC) a monitoring programme should be considered to check for localised erosion after heavy rainfall events.

[1] ©The GeoInformation Group, image date: 01/01/2001 (Sourced from Google Earth Pro).

3. Site Investigation – Comment

The site investigation scope of works should aim to derive characteristic geotechnical parameters for the unconstrained area of the capped location as well as the remainder of the proposed site area for the solar PV array. This will include driven section axial pull out and lateral load tests at various depths as well as trial pits and dynamic probing. The information gathered during the site investigation will be used to produce the ground investigation and design report.

The investigation on the area of the capped containment cell will need to establish the thickness of the cap in order to understand whether the proposed foundations for the solar array will impact the continuity/integrity of the capping system.

The site investigation should include the procurement of a UAV survey of the site area to produce LiDAR imagery and photogrammetry which can be used to more accurately assess potential ground instability.

Figure 2.2: Axial load testing for solar PV array using a driven steel section pile. Ref. elaborex@elaborex.es

Figure 2.3: Micrometer installed for measuring the displacement of the section during lateral load test. Ref. Camara J, Marin F. Technical Specifications for the Realisation of Static Load Tests for the Foundation of Photovoltaic Plants (Undated Online Paper).

4. Geo-Environmental Constraints

The western area of the site contains a waste cell where we understand from an Environment Agency review (16/01/2012) was filled with mixed waste, inert/non-hazardous non-bio-degradable/non-hazardous bio-degradable and hazardous. We assume once filling was complete it was capped, but we have no details of the waste inputs or the capping system used.

The area was installed with 18 boreholes, 5 of which were used for gas monitoring purposes, in order to monitor groundwater prior to the start of filling and then for on-going monitoring. Further to this, a below ground tank, leachate sump and balancing pond/lagoon were constructed together with associated manholes and riser enclosures. The leachate flows to an outlet point at the northern site boundary and into a lined channel which is also fed by surface water from the site.

Prior to the filling of the waste/containment cell with the contaminated material, Celtic Technologies undertook sampling of the groundwater on a weekly basis during the period 21.09.94 – 30.11.94, a total of 11 weeks.

A baseline report was then produced by Land Reclamation and Engineering Ltd stating the baseline was in 1994 but the date of the report is 2008. Hydrock have not been provided with any other monitoring results after the baseline information was gathered and therefore cannot comment on the status of any gas or leachate generation, compliance with discharge consents or the status of the landfill. We understand it was recorded as closed in October 2002 but we have not seen a licence surrender and therefore assume that the landfill is still active.

The report concludes that the baseline data for each borehole should be compared against on-going monitoring data however, no further testing results have been provided to us and therefore we cannot comment on whether the landfill is affecting the local groundwater quality.

There is a NRW EPR Compliance Assessment Report dated 21 May 2014 which states that they are aware that self-monitoring is on-going and being submitted to them and are satisfied that they (RCT) are in compliance with the descriptive conditions in the discharge permit. It also states they were not able to observe the outfall to the River Ely.

Information from RCT's GIS suggests that the eastern and parts of the southern borders of the site are affected by invasive species (the species is not detailed). The presence of any invasive species can affect the ability to excavate / carry out works as it is illegal to disturb, move or potentially cause the spread of these species. Therefore, the stage of any treatment should be confirmed and any presence/identification of such species referred to a specialist.

5. QGIS Output

Hydrock has used available LiDAR data sourced from the Geo Lle Portal for Wales http://lle.gov.wales/home to assess the following data:

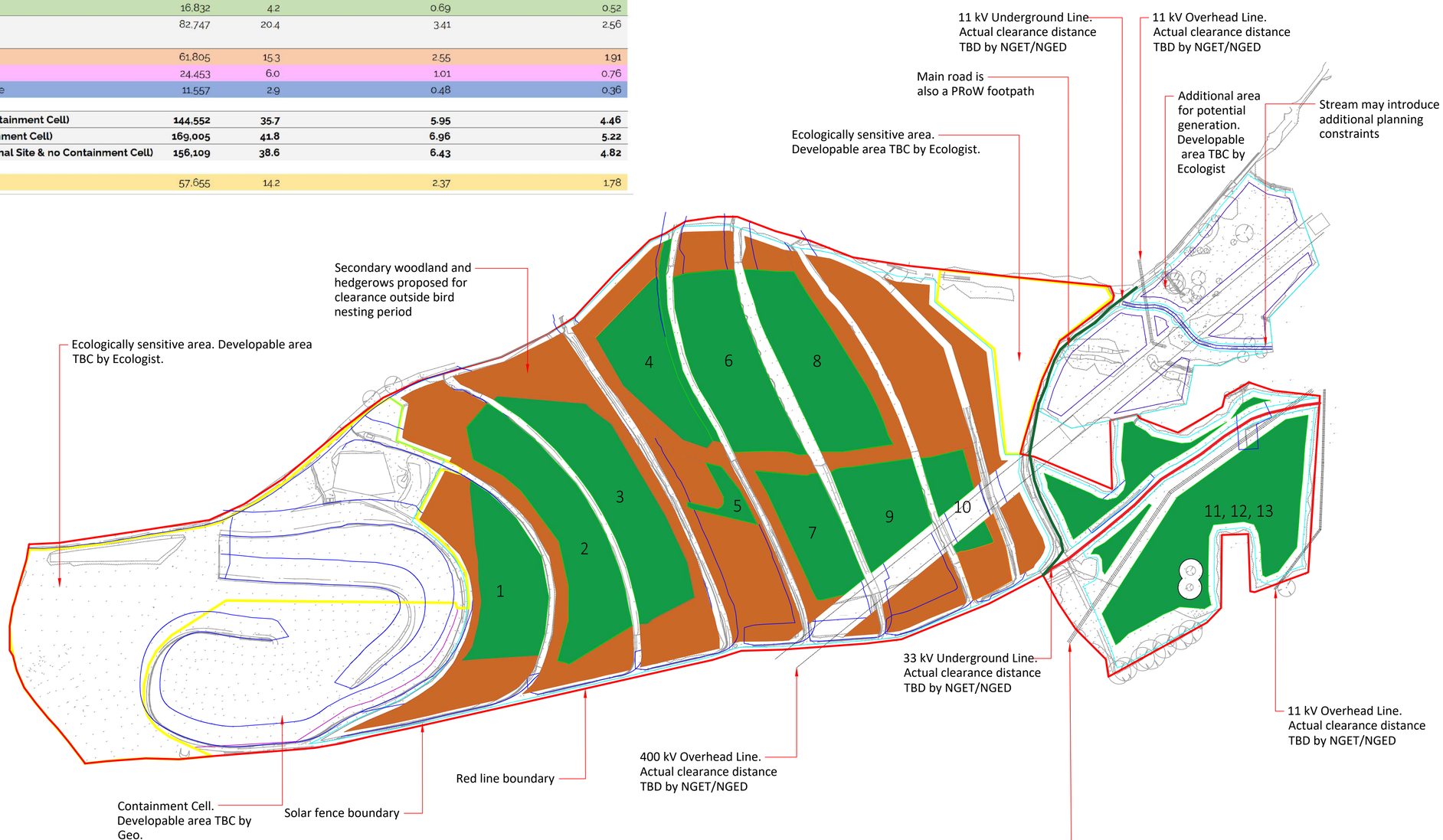
- The projected solar radiance for the site for 2023. Solar radiance is measured in average watts/m^2;
- Contour plot based on existing LiDAR information only;
- Ground movement/deflection plot for the site based on 8 datum points using both the Sentinel 1 Standard Aperture Radar SAR) and European Ground Motion Service (EGMS) which shows negligible deflection between a max of approximately 12mm (+) and a max of 12mm (-) in the vertical plane through the years 2016-2022. The extent of vegetation interference on the readings unknown.

Please see Appendix 3.5 and 3.6 for the drawing output.

Appendices

Appendix 3.1: Hydrock Constraints Plan

Plot number	Area (m2)	Area (Acres)	PV Capacity (MW) 1 MW/6 acres	PV Capacity (MW) 1 MW/8 acres
1	7,203	1.8	0.30	0.22
2	10,195	2.5	0.42	0.31
3	10,288	2.5	0.42	0.32
4	6,824	1.7	0.28	0.21
5	990	0.2	0.04	0.03
6	9,227	2.3	0.38	0.29
7	8,989	2.2	0.37	0.28
8	5,130	1.3	0.21	0.16
9	5,046	1.2	0.21	0.16
10	2,023	0.5	0.08	0.06
11,12,13 (private wire)	16,832	4.2	0.69	0.52
1-13 Site Total	82,747	20.4	3.41	2.56
Secondary Woodland	61,805	15.3	2.55	1.91
Containment Cell	24,453	6.0	1.01	0.76
Additional Proposed Site	11,557	2.9	0.48	0.36
Site Total (Without Containment Cell)	**144,552**	**35.7**	**5.95**	**4.46**
Site Total (With Containment Cell)	**169,005**	**41.8**	**6.96**	**5.22**
Site Total (With Additional Site & no Containment Cell)	**156,109**	**38.6**	**6.43**	**4.82**
Conservation areas	57,655	14.2	2.37	1.78



KEY PLAN

Watercourse: Any works within an 8m of the top of the bank of the watercourse (and associated structures) subject to ordinary watercourse consent

NOTES

ASSUMPTIONS:

- CLEARANCE DISTANCE FROM HEDGEROWS (GREEN) : 5 M (STANDARD PRACTICE)
- MINIMUM ACCESS TRACK WIDTH: 6M (STANDARD PRACTICE)
- INTERNAL DISTANCE FROM FENCE PERIMETER TO PV ARRAY: 5M (STANDARD PRACTICE)
- CLEARANCE DISTANCE BETWEEN MAIN ROAD AND PERIMETER FENCE: 2M (STANDARD PRACTICE)
- CLEARANCE DISTANCE FROM 33KV/11KV OVERHEAD LINE: 4.3 M (WPD Company Directive STANDARD TECHNIQUE: 0H1A/4)
- CLEARANCE DISTANCE FROM 400KV OVERHEAD LINE: 5.3M (NATIONAL GRID: TECHNICAL GUIDANCE NOTE 287)
- CLEARANCE DISTANCE / MAINTENANCE WORKS DISTANCE FROM 400KV TOWER: 30M RADIAL (NATIONAL GRID: TECHNICAL GUIDANCE NOTE 287)

REVISIONS

REV						
P02	ISSUED FOR INFORMATION					
	G.TRIGG	22/02/2023	T.SHILTON	22/02/2023		
P01	ISSUED FOR INFORMATION					
	G.TRIGG	14/02/2023	T.SHILTON	14/02/2023		
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT

Rhondda Cynon Taf County Borough Council

PROJECT

COED-ELY SOLAR

TITLE

CONSTRAINTS PLAN

HYDROCK PROJECT NO.	SCALE @ A1
27541	1:2000

STATUS DESCRIPTION	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
27541-HYD-XX-XX-DR-Y-0001	P02

Appendix 3.2: Quantum Desk Study Report

PROPOSED SOLAR PV ARRAY, COED ELY, RHONDDA CYNON TAF

Phase 1: Preliminary Risk Assessment & Coal Mining Risk Assessment (Desk Study)

Report No. Q0533/PRA-CMRA November 2021

DOCUMENT CONTROL

Contract Name:	**Proposed Solar Farm, Coed Ely**
Contract Reference:	**Q0533**
Report Type:	**Preliminary Risk Assessment / Coal Mining Risk Assessment (Desk Study Report)**
Report Reference:	**Q0533/PRA-CMRA**
Date of Report:	**10th November 2021**
Client:	**Rhondda Cynon Taf CBC**

Version:	Date:	Prepared by:	Checked by:	Approved by:
1st Issue	10/11/21	J. Stark	R. McDermott	J. Stark
				
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CONTENTS

FOREWORD

The following Conditions and Notes on Site Investigation Procedures should be read in conjunction with this report.

The recommendations made and opinions expressed in the report are based upon the study of historical Ordnance Survey maps of the area, GroundSure® report, and geological maps where available.

Where other plan sources, and published data are considered, these are specifically referred to in the text.

We regret that no responsibility can be held for conditions, which have not been revealed by the plan sources referred to. Whilst the report may suggest the likely configuration of strata below the site, this is only indicative and no liability can be accepted for its accuracy.

1.0 INTRODUCTION

1.1 General

Upon the instructions of Rhondda Cynon Taf County Borough Council (the Client), Quantum Geotechnic Ltd (QGL) has been commissioned to undertake a Phase 1 Preliminary Risk Assessment of an area of land west of Coed Ely, Porth, for a proposed solar panel array.

The proposed site at Coed Ely is a 25-hectare terraced former colliery site near Tonyrefail. RCTCBC is keen to continue to explore the potential for renewable generation developments on this land holding.

The overall site area is indicated on the topographic plan included in Appendix I, which has been surveyed as part of this commission. The series of Ordnance Survey plans included in Appendix II and aerial photograph contained in the Groundsure report in Appendix III show the site area and history.

This report presents a desk-based assessment of the geotechnical and environmental setting of the site to provide an initial conceptual site model (CSM) to identify and assess any potential geo-environmental and geotechnical risks or hazards that could constrain the development of the site for the intended purpose.

General notes on the techniques employed by Quantum Geotechnic Ltd are described in the Foreword together with the limitations inherent in this type of work.

1.2 Purpose

The purpose of the desk study is to provide a preliminary assessment of the land quality and assess the site's suitability for development in terms of its geotechnical and geo-environmental setting. This report aims to achieve this by providing the following points:

- An early indication of possible land quality issues that could impact on the development proposals;
- A conceptual model of the site detailing potential contamination source pathways and receptors;
- A geotechnical, mining and geo-environmental appraisal of any issue highlighted and its significance;
- Recommendations on further steps to allow the design of an appropriate intrusive (Phase 2) ground investigation (if deemed necessary).

1.3 Scope

In order to achieve its objectives, this study compiles a range of information pertinent to the development site. This targets its locality and includes archival and current data from the following sources:

- Site specific database searches provided by Groundsure *Enviro+Geo-Insight* Report
- Historical and recent ordnance survey maps, geological maps and environmental information
- Coal mining setting from Coal Authority records.
- Published Geological Map for the area: Sheet ###.
- British Geological Survey Website.
- Natural Resources Wales Website.

The Report does not extend to advice on flooding, drainage, infrastructure or ecological matters.

2.0 SITE DETAIL

2.1 Site Setting

The area under review lies on land to the west of Coed Ely in the Rhondda Fach Valley. The site is an irregular parcel of open grassed land, with stepped terraces formed by remedial earthworks to the area in the past.

The approximate National Grid Reference of the site is 300740E 185980N. The elevation of the site rises from c.160mAOD at the eastern boundary to c.250mAOD at the western boundary.

The extent of the development area is indicated on the aerial photograph presented below. The overall site area covers around 25 hectares.

An aerial view of the site from current on-line mapping is presented below. Aerial photographs of the site are also included in the Groundsure report presented in Appendix III.

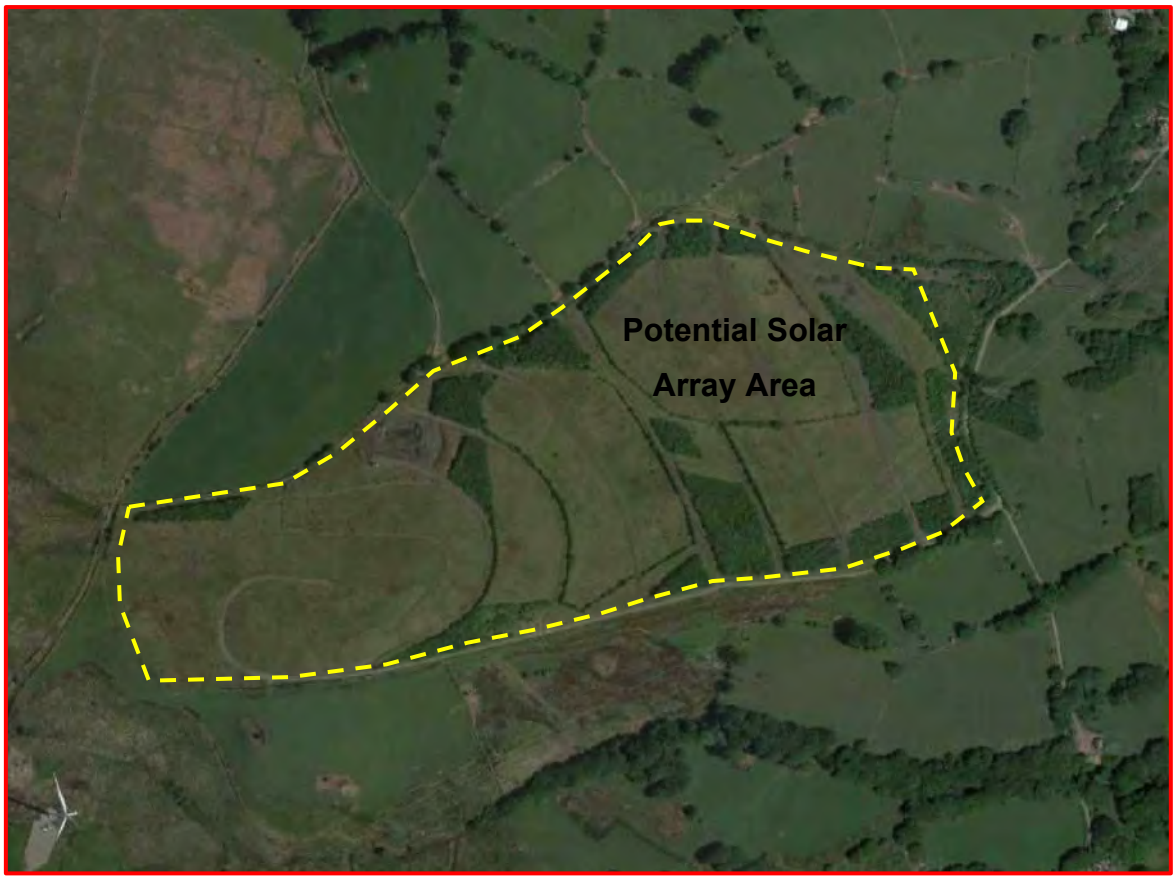


Figure 1: Aerial Image of Approximate Overall Site [NTS]

3.0 GEOLOGY & SITE HISTORY

3.1 Published Geology

Details of the geology of the overall site are provided by British Geological Survey (BGS) Sheet 248 'Pontypridd', Drift edition at 1:50,000 scale (1975), and BGS's on-line resource Geology of Britain Viewer. Mapping at the larger scale of 1:10,000 is not available for this area.

The superficial geology mapped within the site area shows the site to be mostly covered by Till from the Devensian Glacial period; comprising of Diamicton in current terminology, a mixed deposit ranging from clay to boulder sized material. The thickness of these deposits is not indicated, but no superficial cover is indicated on the western limit of the site area. The extent of superficial deposits is indicated within Section 15.4 (page 110) of the Groundsure Report (Appendix III).

The geological mapping indicates the solid geology beneath the entire site to be the from the Brithdir Member from the Upper Coal Measures (formerly the Lower Pennant Measures). These are predominantly Sandstones with subordinate Mudstones and Siltstones with productive coal seams.

Two coal seams are mapped outcropping to the south and north of the site; the *Brithdir* and *Brithdir Rider* seams respectively. The strata are shown dipping at angles of between 15° and 20° in a north to north-easterly direction, implying that the *Brithdir* seam will underlie the site.

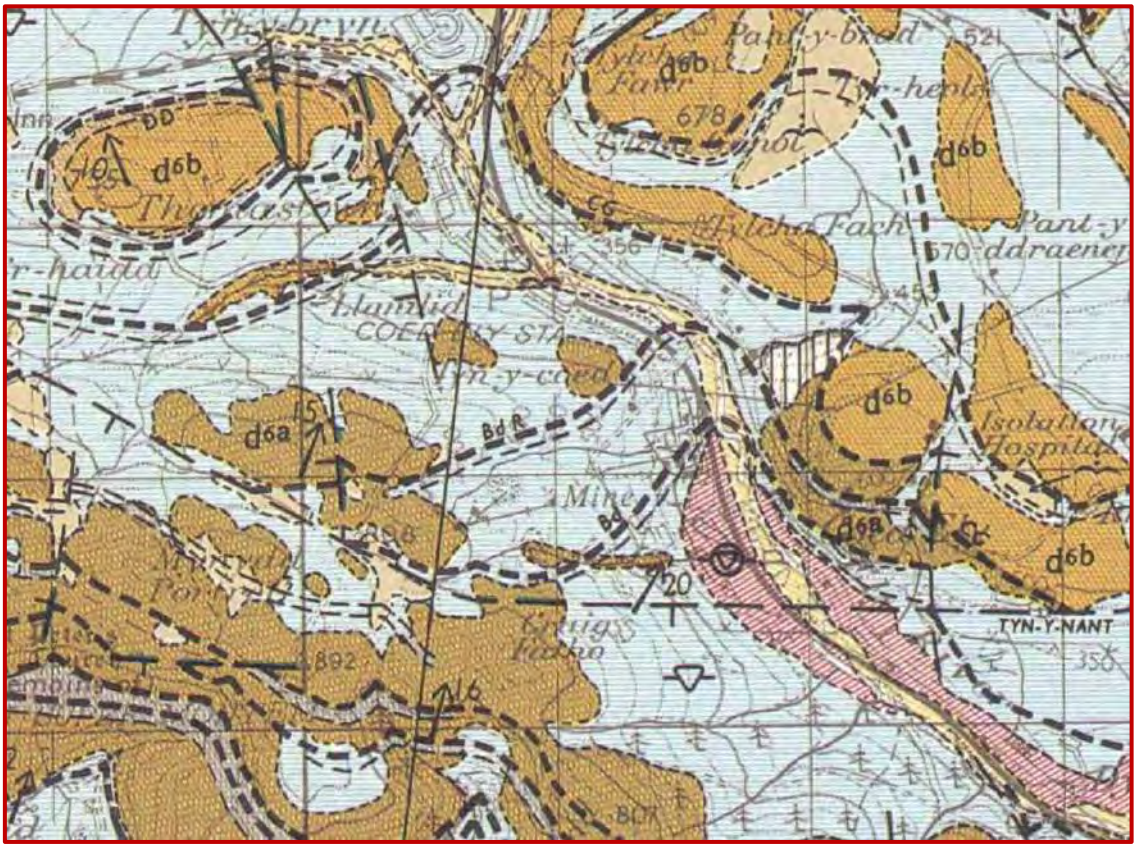


Figure 2: BGS Sheet 248 Extract [NTS] © BGS NERC

Further details of the site geology are included in Section 15 of the *Groundsure Enviro+Geo Insight* Report.

3.2 Site History

A review of the site history has been undertaken based on archive and recent maps provided by GroundSure and presented in Appendix II. These present a series of maps at scales of 1:2,500 and 1:10,560/1:10,000.

A summary of the details of the overall site area contained within the smaller scale Ordnance Survey maps is provided in Table 1. The larger scale maps are also included in Appendix II, but do not show any features of significance in any greater detail.

Table 1: Historical Mapping Review

Map Edition	Observations
1875	The site area shows no development. The area is mapped as being entirely pasture or moorland. A *Spring* is noted in the central western part of the site, flowing to the east, and a *Trial Shaft* centrally within the site.
1897-98	The site shows no change to the 1st Edition mapping. *Old Trial Shafts* and an *Old Quarry* are recorded outside the site.
1915	The site extent shows no change in land use by 1915. However, the *Coed Ely Colliery* has been developed to the east of the site to a significant level.
1921	No changes to the site are noted.
1948	By 1948 a *Tramway* from the *Coed Ely Colliery* has extended from the east onto the site along its southern margins, with spurs off this depositing mine spoil into parts of the site.
1964-65	The 1964/5 edition map shows a significant amount of spoil over the eastern half of the site, with an elongated embankment fill feature extended towards the western boundary of the site. A *Drain* is recorded around the northern fringe of the tip.
1972-74	The 1974 mapping notes the *Tip* as being *Disused*. The extent of tipping is roughly similar to the limits mapped in 1965. The *Spring* noted on earlier edition maps in the central western part of the site is still recorded.
1987-92	The mapping makes no reference to the site being a former Tip. The contours show the landform of the tipped area. The *Spring* recorded on site appears to flow to the west now.
2001 to 2021	The three maps covering this period show very little detail of the site land use. The larger scale mapping is not available after c.1993, so no better detail can be surmised.

The Groundsure report (pages 8 to 12) presents a series of aerial photographs of the site from the year 2000 to 2020. These show the site in a partially remediated state in the image from 2000.

4.0 GROUNDSURE DATASETS REVIEW

4.1 General

As part of the desk study, a combined environmental and geological/ground stability report has been obtained from GroundSure® which compiles the results of a current on-line database search using a range of national resources and datasets.

The Geo+Enviro Insight® report (Report Ref: HMD-213-7863463) provides details on the geology of the site as well as information relating to ground workings in the area of the site, mining, extraction, natural cavities and natural ground subsidence. It also provides details on site specific environmental issues including pollution incidents, discharge consents, flooding issues and any areas of significant contamination potential as well the risk to any existing or planned properties from the underlying ground conditions.

A summary and review of the data collected from within this report is detailed in the following sections. The full document provided by GroundSure® is included in Appendix III.

4.2 Data Review

4.2.1 Past Land Use

Twenty-three past *Historical Industrial Land Use* entries are recorded on the site, with a further seventeen within 50m.

The past land uses recorded on the site include *Tramway Sidings, Old Trial Shaft, Colliery* and a *Refuse Heap*. Of the twenty-three entries, many are repeat entries on different age mapping.

No *Historical Tanks*, *Historical Energy Features, Historical Petrol Stations,* or *Historical Garages* are recorded within 50m of the site boundary.

4.2.2 Waste and Landfill

There is one *Active or Recent Landfill* recorded on the site. This is located in the western central area of the site and operated by Rhondda Cynon Taf CBC as part of the Coedely Reclamation & Development Scheme, referenced as a 'Co-Disposal Landfill Site'.

There are no other *Historical Landfill* or *Historical Waste Sites* on or within 500m of the site.

The searches have flagged up seven entries for *Licensed Waste Sites* on the site, all of which relate to the same Landfill described above.

There are fourteen *Waste Exemptions* within 500m of the site, but none on the site itself.

4.2.3 Current Industrial Land Use

The report identifies no *Recent Industrial Land Uses* on the site, with two up to 50m from the site, including a *Disused Trial Shaft* and electricity *Pylon*.

The site is not determined as 'Contaminated Land' under the Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

Of the other headings within Section 4 of the searches, no features are recorded within 250m of the site boundary.

4.2.4 Hydrogeology

The Groundsure report indicates that the superficial soil deposits mantling the site are a 'Secondary Undifferentiated' classification Aquifer. The classification is assigned where it is not possible to attribute either category A or B to a rock type. These layers have previously been designated as both minor and non-aquifers.

Bedrock on site has also been identified as a 'Secondary A' aquifer which is described as exhibiting permeable layers capable of supporting water supplies at a local rather than strategic scale and in some cases forming an important source of base flows to rivers.

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 is presented. 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.

The characterisation of vulnerability to groundwater by a pollutant discharged at ground level is recorded in the Groundsure report as ranging between 'Low' to 'Medium' vulnerability for the superficial geology and 'Medium' and 'High' vulnerability for the bedrock. The groundwater is not classed as being vulnerable to soluble rock risk.

Groundwater and *Surface Water Abstractions* are recorded but all over 250m distant from the site boundary. There are no *Potable Water Abstractions* or *Source Protection Zones* within 500m of the site.

4.2.5 Hydrology

A total of twenty-one *Water Network* features are recorded from OS mapping on the site. These are identified predominantly as the drainage channel (*watercourse*) around the northern perimeter of the site. These are also classified as *Surface Water Features*.

A single *Surface Water Body Catchment* as defined by the Water Framework Directive (WFD) is present on the site, being within the catchment of the Ely River; as is a WFD *Groundwater Body* (the 'SE Valleys Carboniferous Coal Measures').

4.2.6 River and Coastal Flooding

The is no risk of flooding from rivers and/or the sea (RoFRaS) on site; nor any records of *Historical Flood Events*, *Flood Defences*, *Areas Benefiting From Flood Defences* or is within a *Flood Storage Area*.

The site does not lie in areas classified as *Flood Zone 2* or *3*.

4.2.7 Surface Water Flooding

The site is modelled to be susceptible to flood as a result of a 1 in 30-year extreme rainfall event. This is estimated to possibly result in flood depths of between 0.3m and 1.0m.

4.2.8 Groundwater Flooding

The potential for groundwater flooding, caused by unusually high groundwater levels, is classed as 'Low'.

4.2.9 Environmental Designations

Of the schedule of Environmental Designations listed, no entries are recorded on the site.

4.2.10 Visual and Cultural Designations

There are no records within 250m of the site of Visual and Cultural Designations, i.e., *Areas of Outstanding Beauty, National Parks, Listed Buildings*.

4.2.11 Agricultural Designations

The site area is classified as 'very poor', 'poor' and 'moderate' quality agricultural land; Grade 5 to 3b.

4.2.12 Habitat Designations

There are no records in relation to *Habitat Designations*.

4.2.13 Geology

No records of the geology on site are listed at a scale of 1:10,000. The British Geological Survey mapping at a scale of 1:50,000 is presented.

No *Artificial and made ground* is recorded from the geological search sources or *Artificial Ground Permeability*.

The superficial geology is recorded as *Devensian Till* (boulder clay) covering the eastern two-thirds of the site, as noted in Section 3.1 of this Report. Peat is noted close to the south-west and west of the site boundary. The superficial deposit permeability is classified as 'High' to 'Low' by mixed flow.

There no records of *Landslip* on or close to the site; hence no *Landslip Permeability* data.

The bedrock on the site is recorded as *Brithdir Member Mudstone, Siltstone and Sandstone* as well as *Brithdir Member Sandstone*. The bedrock permeability is estimated to range from 'Low' to 'High' by 'Fracture' flow.

One coal seam is inferred to be present on the site.

4.2.14 Boreholes

British Geological Survey records three boreholes close to the site, the nearest being some 35m east of the site. These borehole logs are confidential on the BGS on-line database, so unavailable but relate to the electricity pylons adjacent to the site.

4.2.15 Natural Ground Subsidence

The Groundsure report identifies a range of 'Natural Ground Subsidence' datasets supplied by the BGS. Each hazard has a 'hazard rating' and corresponding description which are summarised in Table 2 below.

Table 2: On Site Natural Ground Hazard Summary

Hazard	Hazard Rating	Details
Shrink - Swell Clays	Negligible to Very Low	Ground conditions predominantly low plasticity and non-plastic
Running Sands	Negligible to Very Low	Running sand conditions not thought to, or are unlikely to, occur. No identified constraints on land use due to running conditions unless water table rises rapidly.
Compressible deposits	Negligible	Compressible strata are either not thought to occur.

Hazard	Hazard Rating	Details
Collapsible deposits	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
Landslides	Very Low to Moderate	Slope instability problems range from being not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered; to probably or have occurred in the past.
Soluble Rocks	Negligible	Soluble rocks either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

4.2.16 Mining, Ground Works and Natural Cavities

No natural cavities are recorded to be present on site.

One entry of a *Pit* is recorded from the Groundsure searches on site; a surface mineral working for Sandstone, named Mynydd Portref. Its status is noted as 'ceased'. The same reference is noted to the south of the site.

Eleven *Surface Ground Workings* are reported on the site. These include multiple entries of a *Colliery* and *Refuse Heap,* along with an *Unspecified Disused Pit* from OS mapping sources.

Underground Workings are reported as being present on the site in the form of *Old Trial Shaft(s)* and a *Colliery*.

Coal Mining is listed as being present on-site. This is discussed in detail in Section 6 of this Report.

4.2.17 Radon Data

The report states that the property is in area where it is estimated that less than 1% properties are above the Radon Action Level.

4.2.18 Estimated Background Soil Chemistry

The report identifies records of the estimated background soil chemistry on the overall site. A summary of these records is presented in Table 3.

Table 3: Estimated Geometric Mean Soil Concentrations (all figures in mg/kg)

Location	Arsenic (As)	Bio accessible Arsenic	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)	Bio accessible Lead
On site	15 - 35	No Data	1.8	60-90	15-30	100	60

4.2.19 Railways Infrastructure and Projects

There are three *Historical Railway and Tunnel Features* recorded on the site (Railway Sidings & Tramway Sidings) as highlighted in this Report Section 3.2.

4.3 Data Review Summary

From review of the geotechnical and geo-environmental data collected from all sources (including geology, site history and the Groundsure report), a number of features regarding historical land use within the locality have been identified that may have the potential to influence the site. A summary of these features and potential hazards associated with each are as follows:

- Historical coal mining legacy; mine entries and spoil tips
- Historical mapping has identified previous land uses such as tramways and sidings.

While the datasets have not specifically recorded the remediation that has taken place on the site, the re-engineering of the whole site will significantly affect the historical constraints that have been highlighted in the foregoing discussion.

5.0 CONCEPTUAL SITE MODEL

5.1 Legal Framework for Contaminated Land

Under Part 2A of the Environmental Protection Act 1990, contaminated land is defined as the presence of substances in, on, or under the land in which significant harm or pollution to controlled waters is being caused, or there is significant possibility of such harm or pollution to controlled waters being caused.

Under the Planning regime, land contamination is therefore a material consideration. A Local Authority has the duty to consider potential implications of contamination when it is considering applications for planning permission. A planning authority may require investigations to be undertaken where there is potential contamination or contamination is known to exist at a site before granting planning permission. Alternatively, planning permission may be conditional requiring appropriate investigation and, if necessary, remediation.

The potential risks to this development have been assessed by consideration of the potential contaminant linkages (PCLs) in accordance with DEFRA 2020 Land Contamination Risk Management (LCRM) guidance. LCRM enables the application of a risk management process for identifying and remediating contamination through a technical framework.

For a risk to exist there must be a source of contamination, a receptor that may be harmed, and a pathway by which the receptor could be exposed to the contaminant. Only when all three factors are present can a contamination linkage, and consequently an unacceptable risk, exist. A conceptual site model (CSM) considers all three elements and the potential for contaminant linkages that may exist for the site, including:

- Potential sources of contamination on-site and off-site;
- Potential pathways between sources and receptors, natural or man-made;
- Receptors such as humans, controlled water, ecological systems, and property.

The following assessment hierarchy, as provided in the LCRM, is followed to assess the risks to human health and controlled water:

- Tier 1: Preliminary Risk Assessment, including preliminary CSM;
- Tier 2: Generic Quantitative Risk Assessment, using appropriate Generic Assessment Criteria (GAC);
- Tier 3: Detailed Quantitative Risk Assessment, using derived Site-Specific Assessment Criteria (SSACs).

This PRA presents the Tier 1 preliminary CSM.

5.2 Conceptual Site Model

The Conceptual Site Model (CSM) is a representation of the current understanding of the site and its surrounding environment with regards to geology, groundwater, surface waters, and potential contamination on-site and adjacent off-site and any migration pathways.

The potential risks to the proposed development and adjacent land have been assessed by consideration of the potential pollution linkages. For a risk to exist there must be a source of contamination, a receptor that may be harmed, and a pathway by which the receptor could be exposed to the contaminant. Only when all three factors are present (i.e., source-pathway-receptor) can a pollution linkage, and consequently an unacceptable risk, exist. The CSM considers all three elements and the potential for pollution linkages that may exist. If no linkage is identified, then there is considered to be no or negligible risk.

The CSM has been developed for the proposed end use of this site as a Solar PV Array, essentially a *commercial* development. Each factor has been assessed in terms of its relative position (on-site/off-site).

Sources

The site has been identified to have formerly had spoil heaps, refuse tip and railway/tramway sidings within the boundary. There are potentially contaminative processes associated with materials that have been deposited on site.

However, a major phase of remediation of the whole site was undertake by RTCCBC in the last twenty years, as such the residues from the historical land uses identified may no longer be present, and therefore a risk.

Pathways

The sources identified have to be able to affect the receptors in some way and typically fall into the following categories assessed for this site:

- Direct contact – including dermal contact and ingestion
- Surface Waters – flows from flooding events
- Leaching of contaminants into groundwater and controlled waters

Receptors

Considering the proposed commercial site end use, a number of receptors have been identified at risk during and subsequent to the proposed development on-site: Any structures, Site workers and end users, groundwater; and in the surrounding areas off-site: Controlled waters.

These can be summarised in tabular form:

Table 4: Summary Source-Pathway-Receptor Model

Source		Pathway		Receptor	
S1	Contaminated Soils	P1	Direct Contact	R1	New structures on site
		P2	Surface Water	R2	Site Workers
		P3	Groundwater	R3	End Users
				R4	Groundwater/Controlled Waters

The Conceptual Site Model can therefore be developed as tabulated over page.

Table 5: Conceptual Site Model Summary

Sources		
S1	Soils on Site	Soils are present on site that could be contaminated with residues from the former land uses. Ground gases could be generated from any made ground depending on its constituent parts and any organic or contaminated soils present.
Pathways		
P1	Direct Contact	Direct contact with soils will possibly occur during the development of the site by Groundworkers. Mitigation by site protocols, use of the correct PPE and welfare arrangement will limit this risk. Post development, there should be no pathways present to allow direct contact as the development will be capped with hardstanding or sufficient soil cover.
P2	Surface Water	The construction work will be 'capped' by the construction with appropriate drainage design and as such surface water from run-off should be managed by the drainage strategy adopted for the development.
P3	Groundwater	Percolation of surface water and run-off may permeate into the ground and mobilise any leachable contaminants, if present. This should be mitigated by a robust drainage strategy for the development.
Receptors		
R1	Structures	Any buildings should be designed such that any elevated concentrations of contaminants found that may affect building materials are accommodated for in the design.
R2	Site Workers	Workers may come into contact with the soils on site. Therefore, good practice and correct handling protocols should be established as part of any Construction Phase Plan use of the correct PPE and welfare arrangements provided to reduce and minimise any potential contact with the soils.
R3	End Users	Post development, there should be no pathways present to allow direct contact with users of the site, as the development will effectively be capped by development. Any capping should mitigate against the migration of any ground gases within any made ground.
R4	Controlled Waters	The residues and leachability of such residues within the soils may potentially migrate into controlled waters. This needs assessment as part of a ground investigation and quantified risk assessment. No controlled waters are expected to be impacted by the construction works. Any drainage strategy should ensure measures are in place to mitigate percolation of waters through the underlying fill material into the ground or water courses.

6.0 COAL MINING RISK ASSESSMENT

6.1. Published Mining Geology

Large-scale mapping of the site area at 1:10,000 is not available. The British Geological Survey sheet that covers the site area (Sheet 248 Pontypridd), at a scale of 1:50,000, shows the site to be underlain at surface by solid strata of the *Upper Coal Measures*. These strata typically comprise of sandstones, mudstones and productive coal seams. Glacial soils are shown mantling the eastern two-thirds of the site.

The map shows evidence of former mining activity both on and in the wider area of the site, as highlighted in Section 4.2.16.

Two coal seams are mapped outcropping to the south and north of the site; the *Brithdir* and *Brithdir Rider* seams respectively. The strata are shown dipping at angles of between 15° and 20° in a north to north-easterly direction, implying that the *Brithdir* seam will underlie the site.

6.2. Coal Authority Mining Report

A Coal Authority Consultants Coal Mining Report has been obtained for the site (Ref: 51002544865001). A copy of this is included in Appendix IV of this Report.

This lists the recorded coal workings beneath the site area as well as the known mine entries. The site history has been reviewed (see Section 3.2) and the historical mining legacy been identified.

Mine entries are recorded on site in the central and southern area and one coal seam outcropping on the site.

An extract of the summary findings plan included within the Consultants Coal Mining Report is presented over page.

The seam that outcrops on the northern half of the site is noted as the *Brithdir Rider*. The *Brithdir* coal seam, to the south of the site, is not indicated, as it probably falls outside any surface influence on the site. A fault strikes through the site, displacing the outcrop of the *Brithdir Rider* marginally.

The Mining Report lists multiple entries of past underground recorded workings beneath the site area. The shallowest seam recorded is the *No.2 Rhondda* coal seam, last worked in 1956 at a depth of 290m.

The inference from this is that the seams identified in the Mining Report plan have no recorded workings beneath the site area. This does not however rule out the possibility of unrecorded workings in these seams.

The two mine shafts are indicated to lie within the site, but the Coal Authority have no records of their size, condition or if they are treated in any way.

Figure 5: Summary Plan Extract from CA Consultants Coal Mining Report

As part of the extended searches for this coal mining risk assessment we have reviewed the Coal Authority Interactive Map Viewer (http://mapapps2.bgs.ac.uk/coalauthority/home.html). This shows detail of coal outcrops, known and suspected underground workings as well as opencast mines.

From review of this added information, none of the recorded underground workings are within the sequence of coal seams that outcrop on or close to the overall site.

6.4. Discussion of Mining Risks

6.4.1. Ground Conditions

The published geological mapping indicates that soils mantle the majority of the site. Made ground or engineered fill, is likely to be present as the site has been remediated within the last 25 years.

6.4.2. Shallow Mine Workings

The Coal Authority Mining Report states that recorded mine workings are present beneath the site, but at a significant depth of 290m, that will not affect any development of the site.

The outcrop of the *Brithdir Rider* coal seam is indicated by Coal Authority and geological mapping to outcrop across the north of the site, dipping northwards. This will underlie the site at shallow depth north of the outcrop. The next lower seam indicated on the Coal Authority interactive mapping, likely to be the *Brithdir* seam, is estimated to lie at a depth of around 20m to 30m depth at the southern boundary of the site based on the position of the outcrop and the regional dip of the strata.

Two mine entries are recorded on the site which suggests that some workings may have been prosecuted in the shallower seams that underlie the site.

6.4.3. Mine Entries

Two mine entries have been recorded to be present on the site, as shown in Figure 5 above. The shaft referenced 300185-001 is referenced as an *Old Trial Shaft* at the approximate position of the feature noted on the historical OS maps. The shaft referenced 300185-010 has no further details accorded to it. Neither shaft

have details of whether they are treated/

Our extended searches have found no evidence of other potential mine entries to those indicated in the Coal Authority report.

6.4.4. Opencast Working

The Coal Authority report indicates that the site does not lie within the boundary of a former opencast site.

6.5. Conclusions

A summary of the conclusions from the Coal Authority Mining Report and our extended assessment are: -

- The Coal Authority Report shows recorded coal workings beneath the site at significant depth;
- The coal seams outcropping across the site and south of the site may have been worked in the past, but as unrecorded, and as such present a risk that may need quantifying given the type of structures proposed for the site;
- Two mine entries are recorded by Coal Authority on the site;
- Given that the site has been remediated in the last 25 years, the presence and condition of these shafts is uncertain. Records of the remediation works held by RCTCBC may contain information as to whether these shafts were identified and treated at all.

We conclude that there is a MODERATE RISK to the site from potential unrecorded shallow mine workings in the two seams present. In order to quantify this risk, physical investigation by boreholes is considered necessary.

The risk from the two shafts would normally require quantifying by physical investigation or prescribing a sterile zone around which no development takes place. However, from the photographic records of the site during remediation, there is a possibility that if the se shafts were present, that all evidence of them will have been destroyed as part of the earthworks operation.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary of Findings

Following the Phase 1 Preliminary Risk Assessment/Desk Study the following observations and conclusions have been identified:

Geotechnical:

- The geological map for the overall site area indicates the site is to be partially mantled by Glacial Till. The depth of these is not known.
- The bedrock geology on the site study area is from the Upper Coal Measures strata.
- One coal seam is recorded outcropping across the site.
- Historic mine workings are recorded in multiple coal seams beneath the site. The shallowest of these is at 250m depth in the No.2 Rhondda seam.
- Shallower unrecorded workings may be present in higher seams in the local sequence.
- Two mine entries are recorded on the site. The condition of these is not known.
- The site was a former tip and has undergone significant remediation by way of re-grading and drainage works. The engineering properties of the shallow soils therefore require validating.
- The remediation may well have revealed the two mine shafts indicated to be on the site. Further discussion within RCTCBC may be required to provide some clarity as to whether these features were discovered during the remedial works and if these were treated to any specification at that time.

Geo-Environmental:

- The potential for land contamination to exist on the overall site is considered moderate to high due to past land use as a spoil tip. However, as the site has been remediated within the last 25 years, the made ground forming the former tip may have been removed from the site as part of that work, or been treated.
- If the pre-existing soils were used as [art of the remediation, some potential contaminants may still be present in the soils on site.
- Potential for off-site sources of contamination to the site are considered negligible to very low.
- There is a possibility of leaching of any potentially contaminated soils into the groundwater that will need quantifying.
- Ground gas emissions from organic soils and Made Ground on site sources could be a risk, albeit considered very low, to future site end users.

7.2 Recommendations

A number of potential geotechnical and geo-environmental issues have been identified within this study. The following recommendations are made:

- In relation to any geo-environmental/contaminated land issues, the desk study has identified the possibility of Made Ground being present on the site. The risk from this may well have been reduced by the remediation of the site. However, at this stage in the project there remains a potential risk of a source of contamination that could pose a risk to site workers and controlled waters. Sampling and testing of soils in the area will be necessary to classify the soils for human health risks, leaching potential.

- The risk from potential unrecorded shallow mineworkings in the areas north of the coal seam outcrops will need to be quantified. Rotary drilled boreholes under a Coal Authority Permit will be necessary unless the proposed land use is considered to be at low risk from shallow mine workings by the Coal Authority.

- Records of the remediation works undertaken should be obtained, if available, to ascertain whether the two mine shafts on the site were identified and treated.

- A ground investigation to derive characteristic geotechnical parameters for design of the Solar PV Array foundations will be necessary.

8.0 REFERENCES

British Geological Survey:

- British Geological Survey (BGS) Sheet 248 'Pontypridd' 1:50,000.
- BGS Lexicon of Named Rock Units (www.bgs.ac.uk/lexicon)
- BGS Geology of Britain Viewer (www.bgs.ac.uk)

Environmental and Ground Stability:

- GroundSure® Enviro+Geo Insight Report Ref; HMD-213-7863463

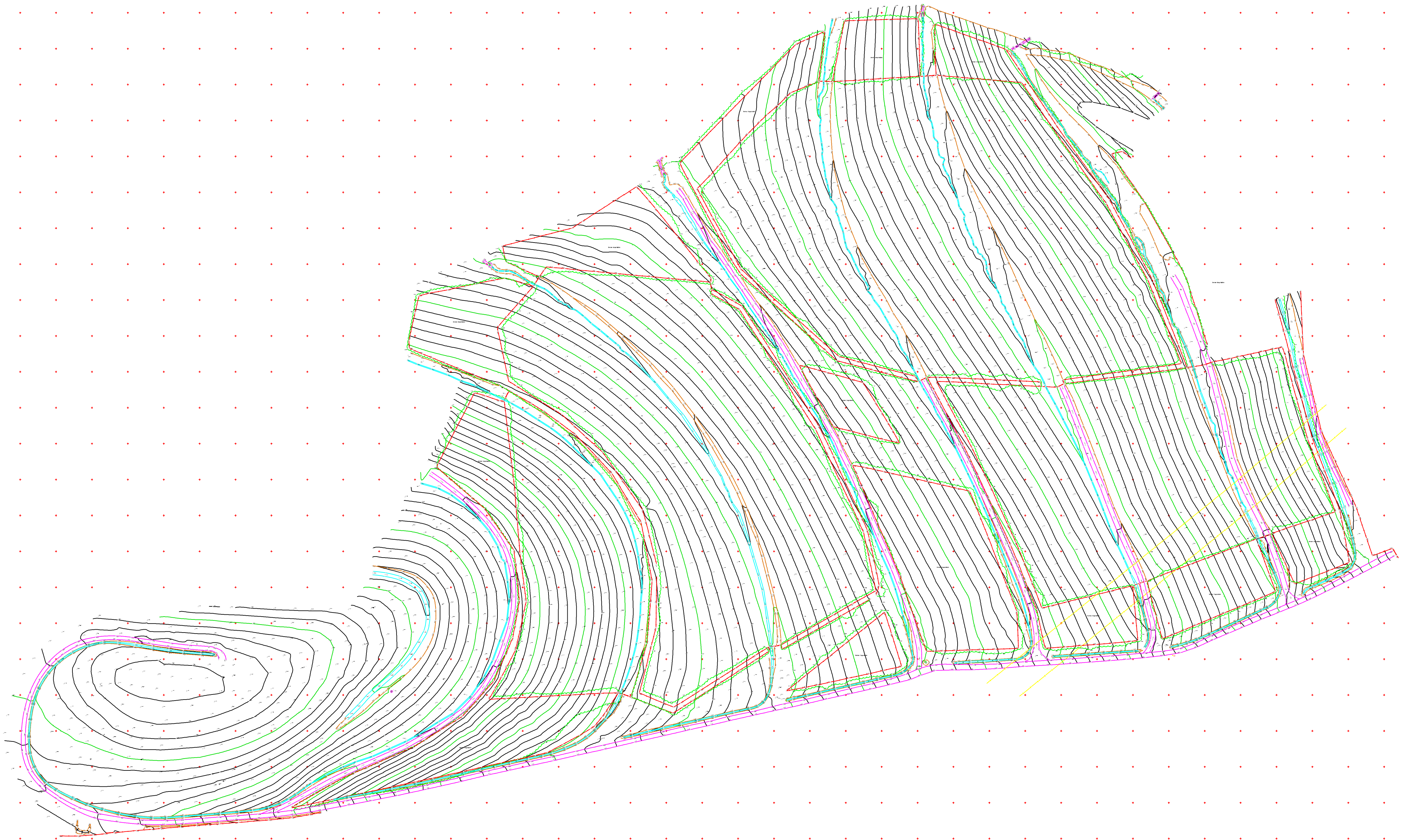
Ordnance Survey Plans:

- Collection of Historical Plans from 1888 to 2020, at 1:500, 1:1,250, 1:2,500, 1:10,560 and 1:10,000 scale.

Coal Authority:

- Consultants Coal Mining Report 51002544865001.

APPENDIX I – SITE LOCATION PLAN



SURVEY BY
JOHN VINCENT SURVEYS LTD
NIBERIAN HOUSE
MONASTERY ROAD
NEATH ABBEY BUSINESS PARK
NEATH SA10 7DR

DATE JUNE 2021 DRAWING No. 113/21

PROPOSED SOLAR FARM

COED ELY

SITE SURVEY

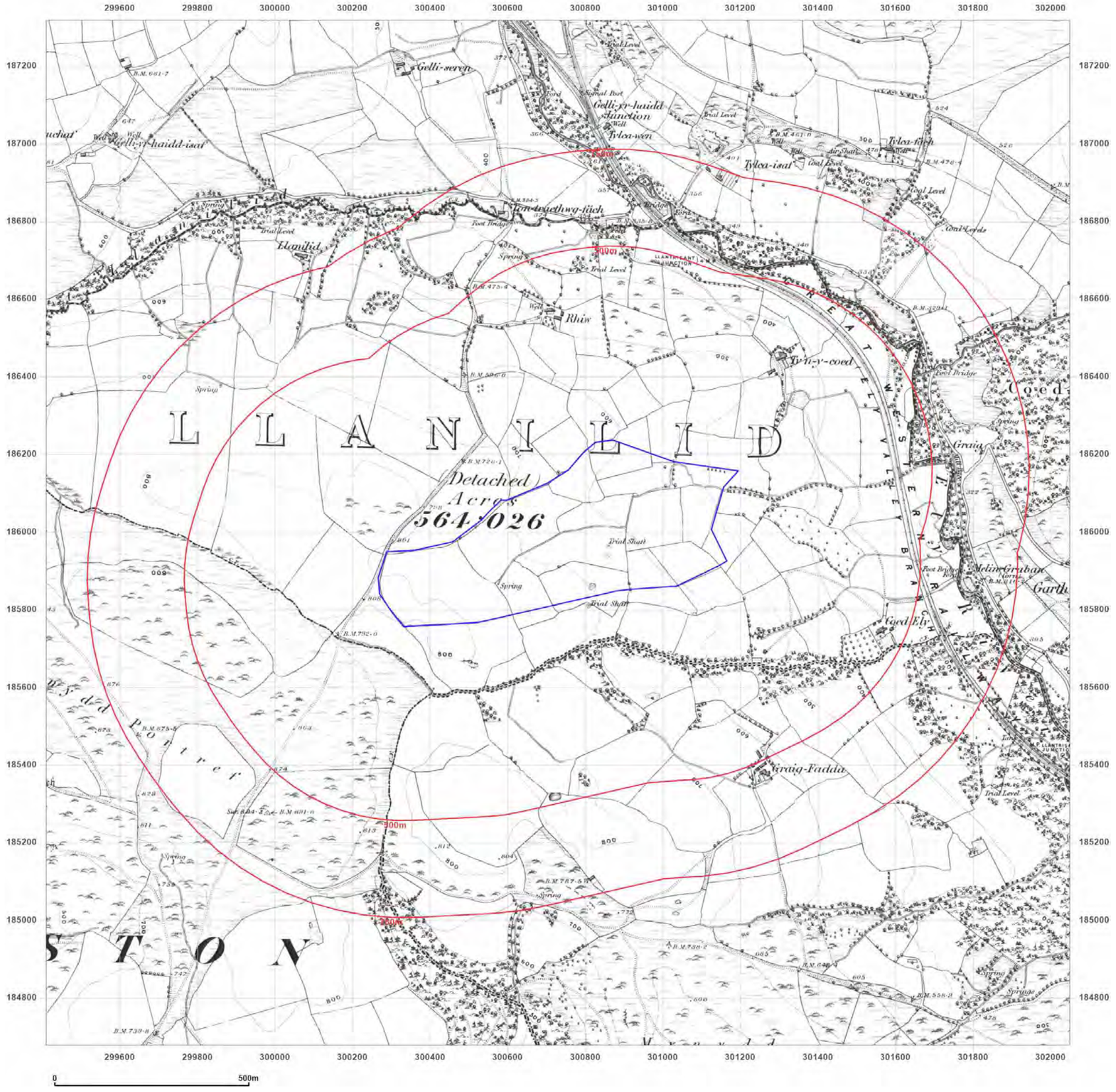
QUANTUM GEOTECHNICAL
PLAS NEWYDD
LLANEDI
PONTARDDULAIS
SA4 0FQ

SCALE 1/200 @ UNDEFINED

LEVELS RELATED TO ORDNANCE SURVEY O.D.S. DATUM

CAD REFERENCE COED ELY

APPENDIX II – HISTORICAL ORDNANCE SURVEY MAPS



Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series
Map date: **1875**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed 1875
Revised 1875
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

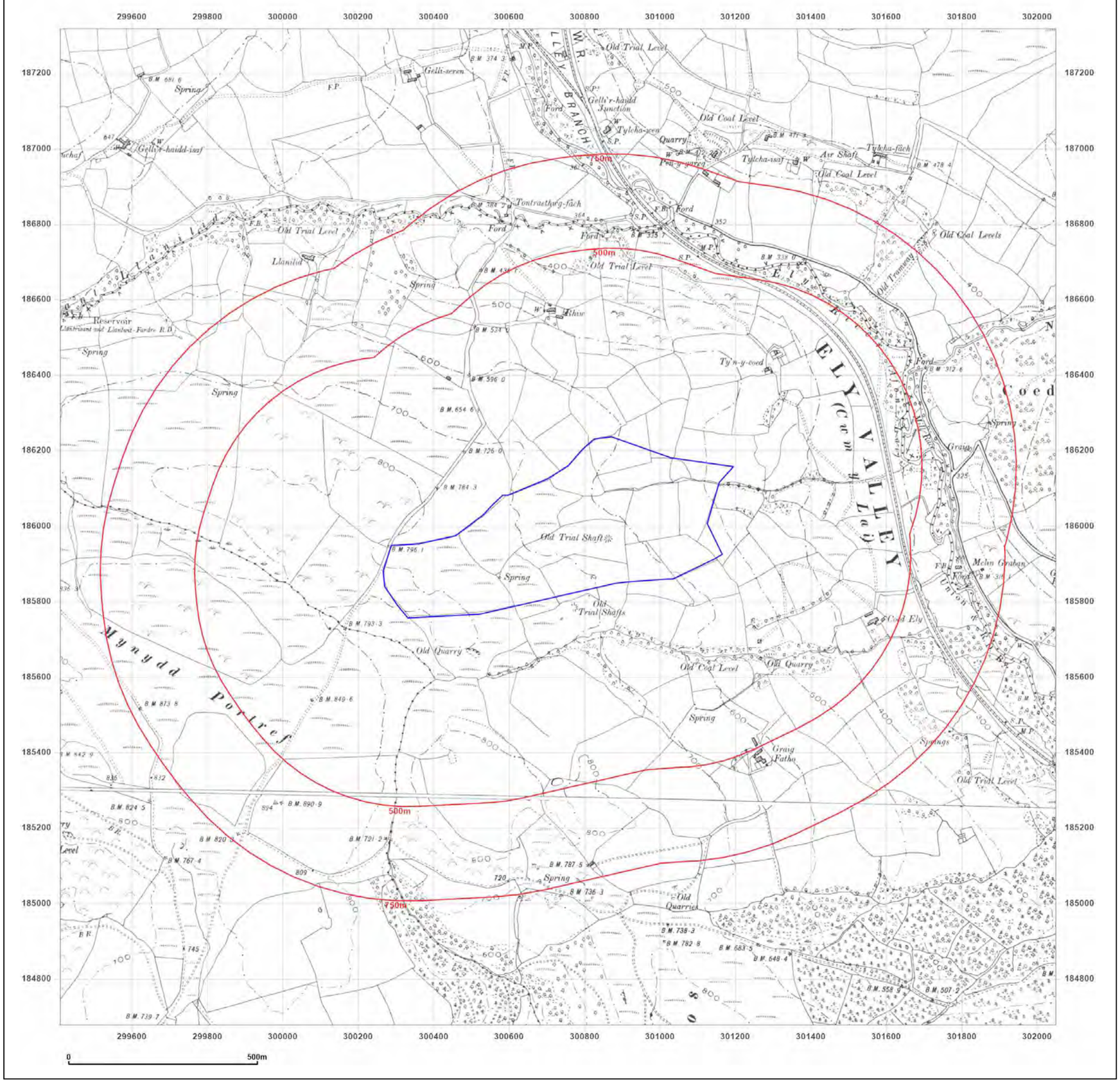
Produced by
Groundsure Insights
www.groundsure.com

Powered by

Supplied by:
Quantum Geotechnical
www.quantum-geotech.co.uk

Production date: 17 May 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series

Map date: **1897-1898**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1875
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

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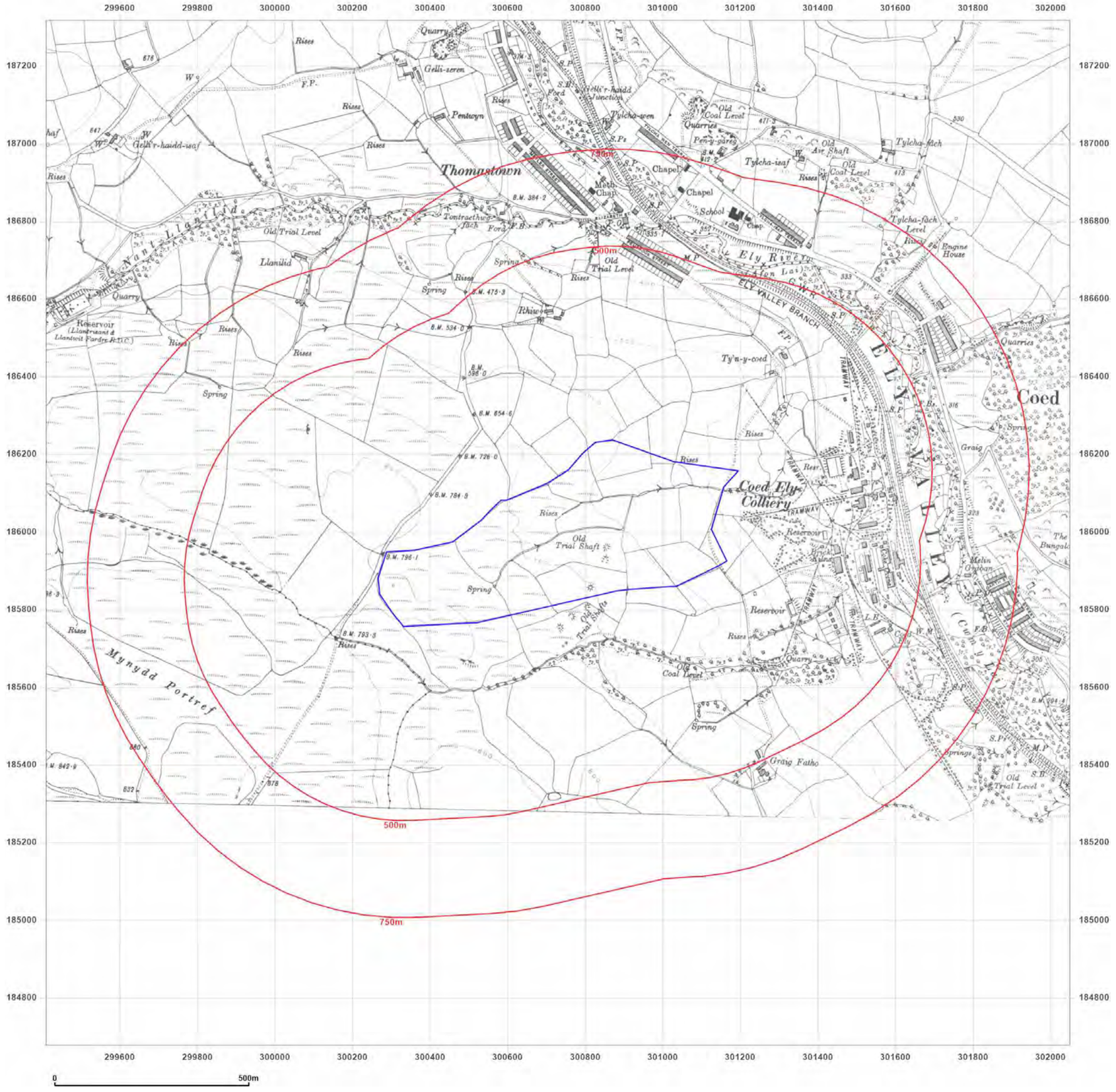
Production date: 17 May 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series

Map date: **1915**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1874
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

Produced by
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Supplied by:
Quantum Geotechnical
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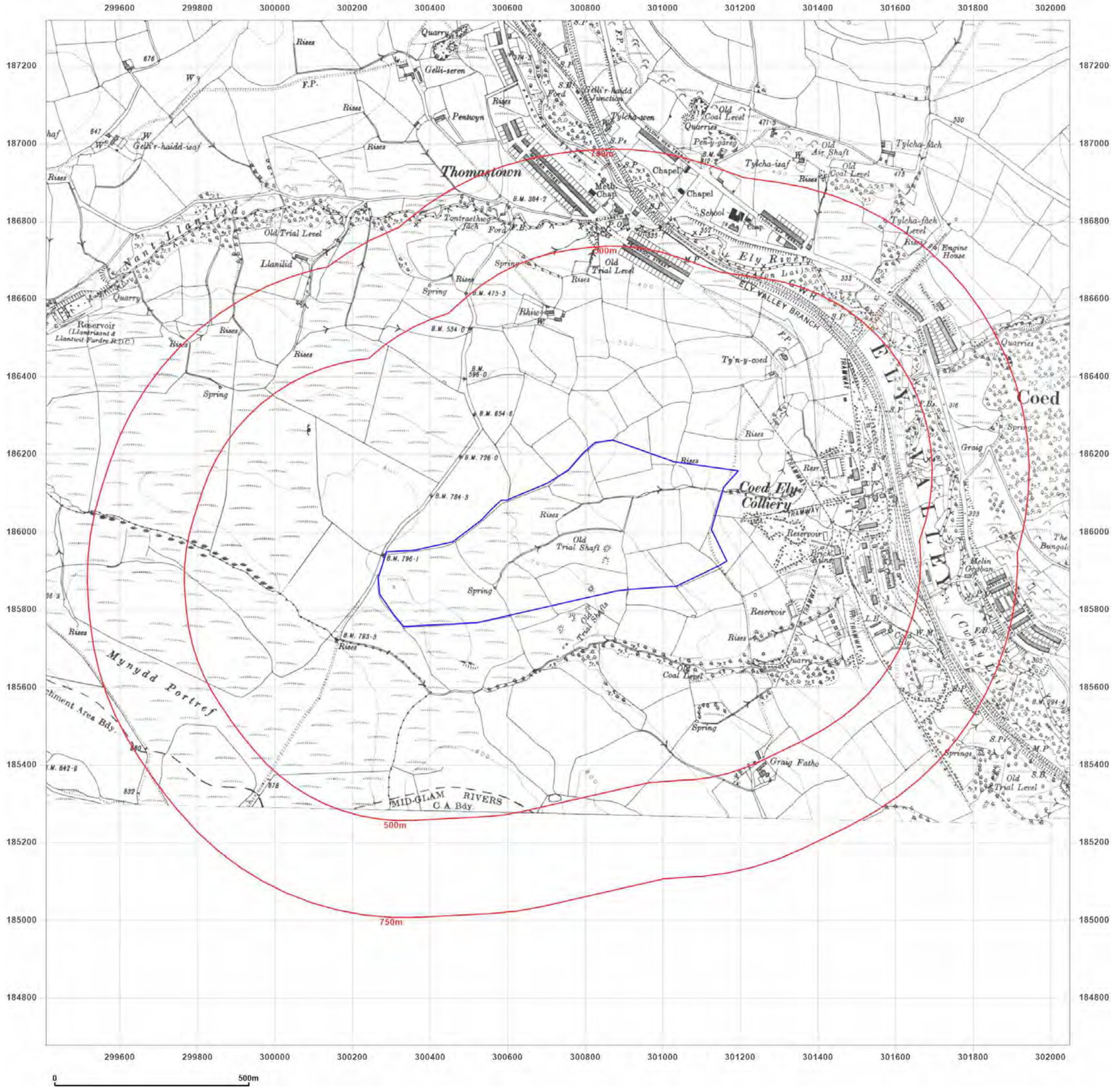
Production date: 17 May 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series

Map date: **1915**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1874
Revised 1915
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

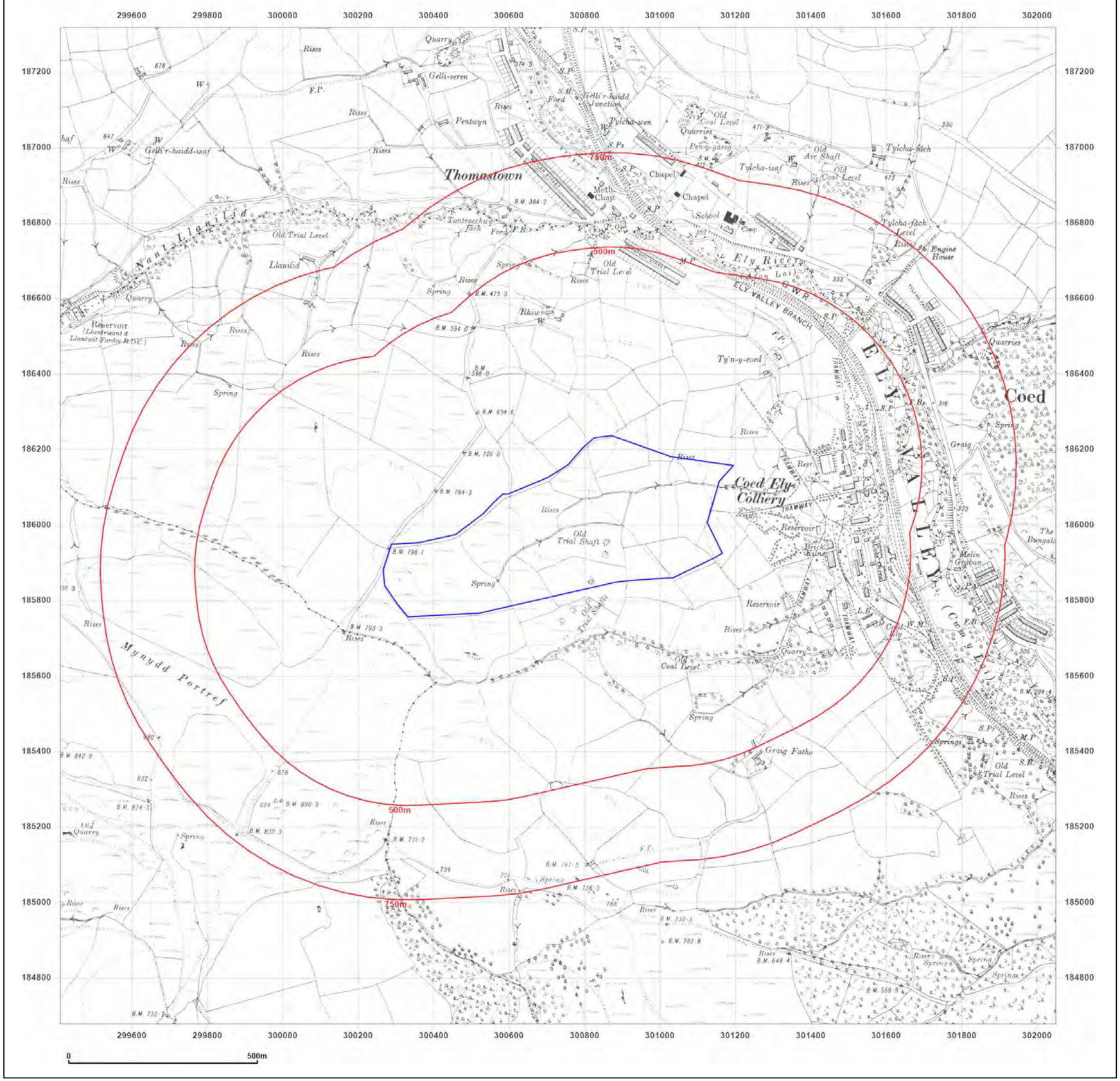
Produced by
Groundsure Insights
www.groundsure.com

Powered by OS

Supplied by:
Quantum Geotechnical
www.quantum-geotech.co.uk

Production date: 17 May 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series

Map date: **1921**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1875
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

Powered by OS

Supplied by:
Quantum Geotechnical
www.quantum-geotech.co.uk

Production date: 17 May 2021

Map legend available at:
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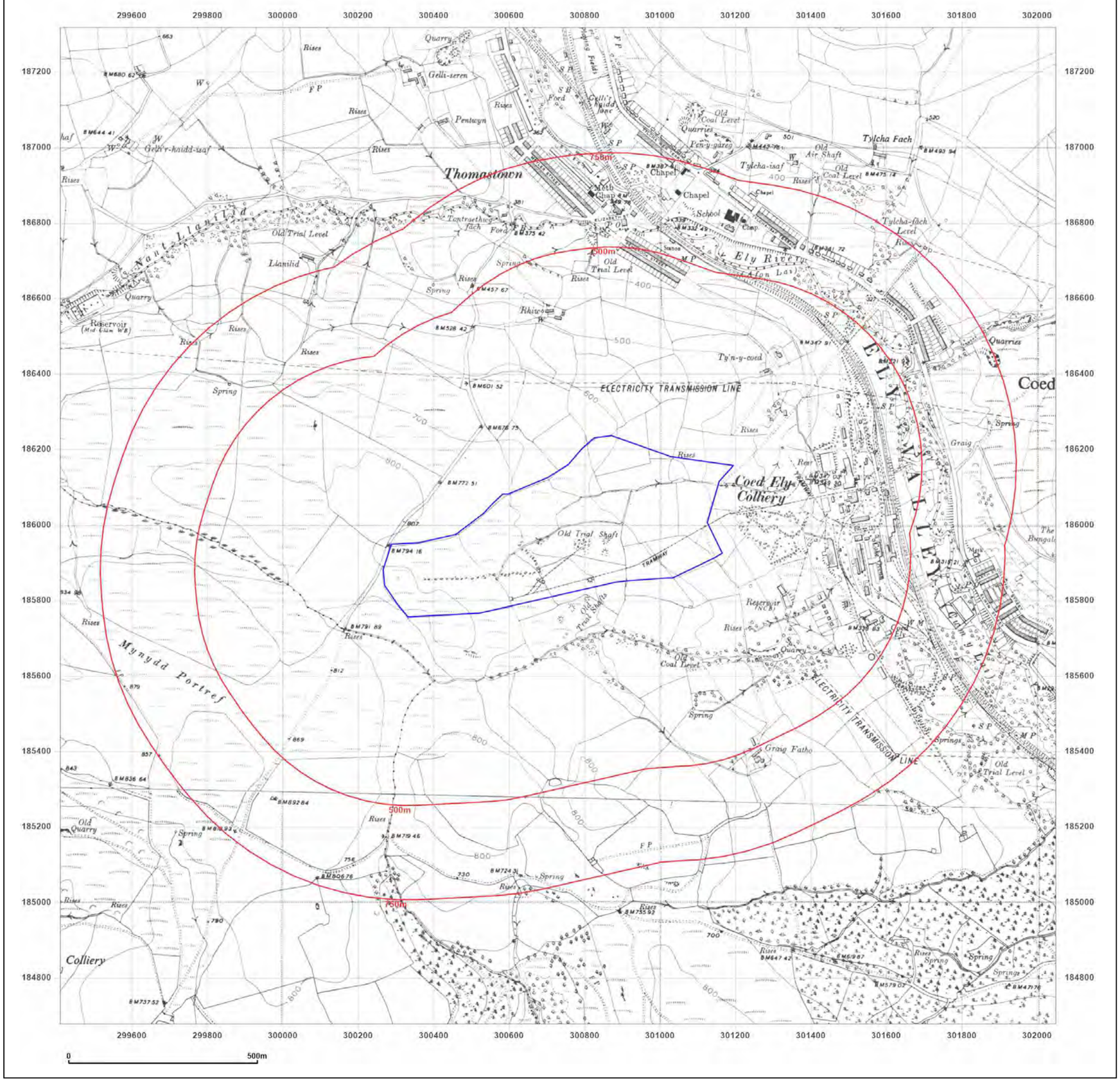

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

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Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1874
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1874
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

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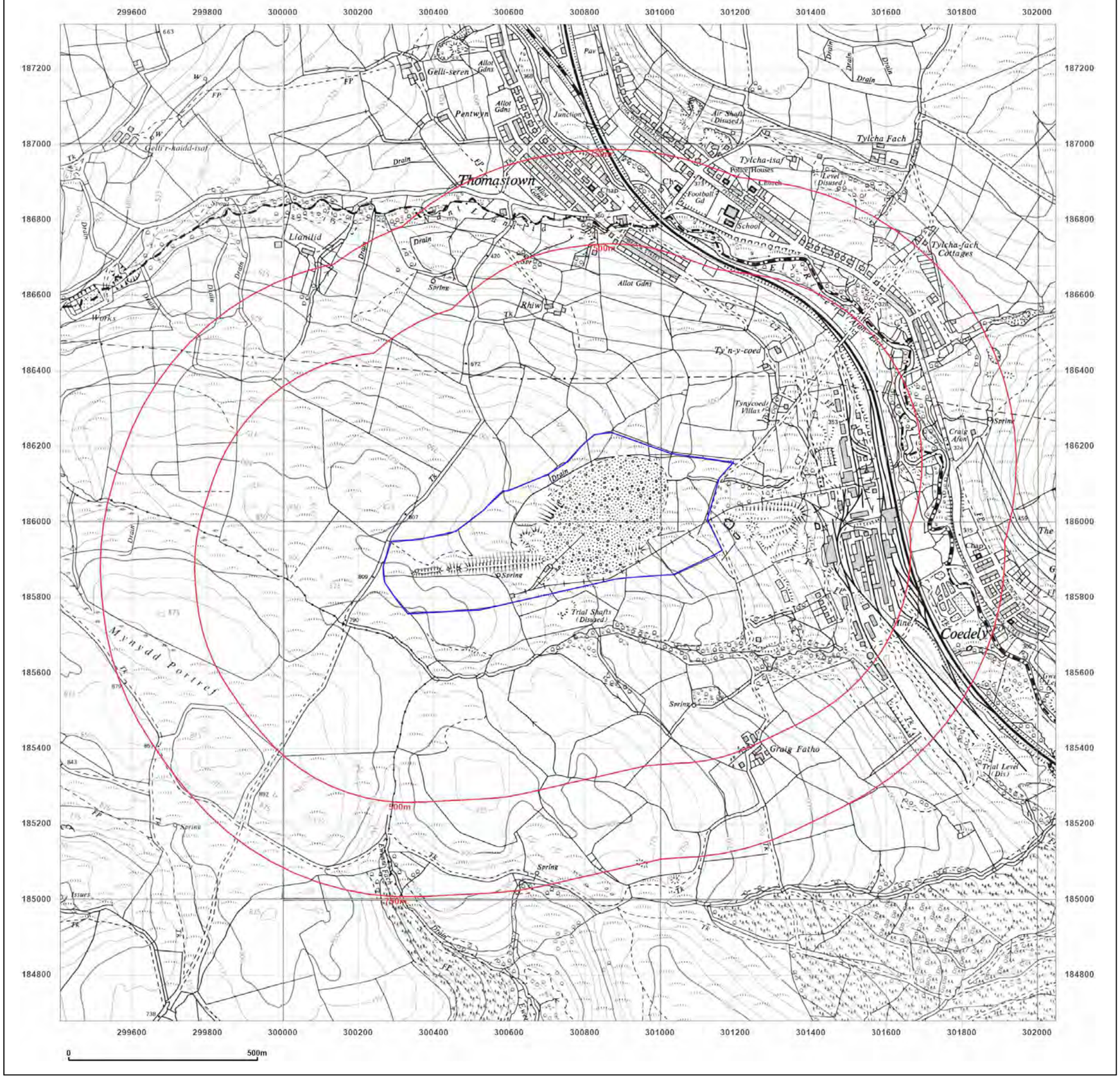

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: Provisional

Map date: **1964-1965**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1875
Revised 1963
Edition N/A
Copyright 1964
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

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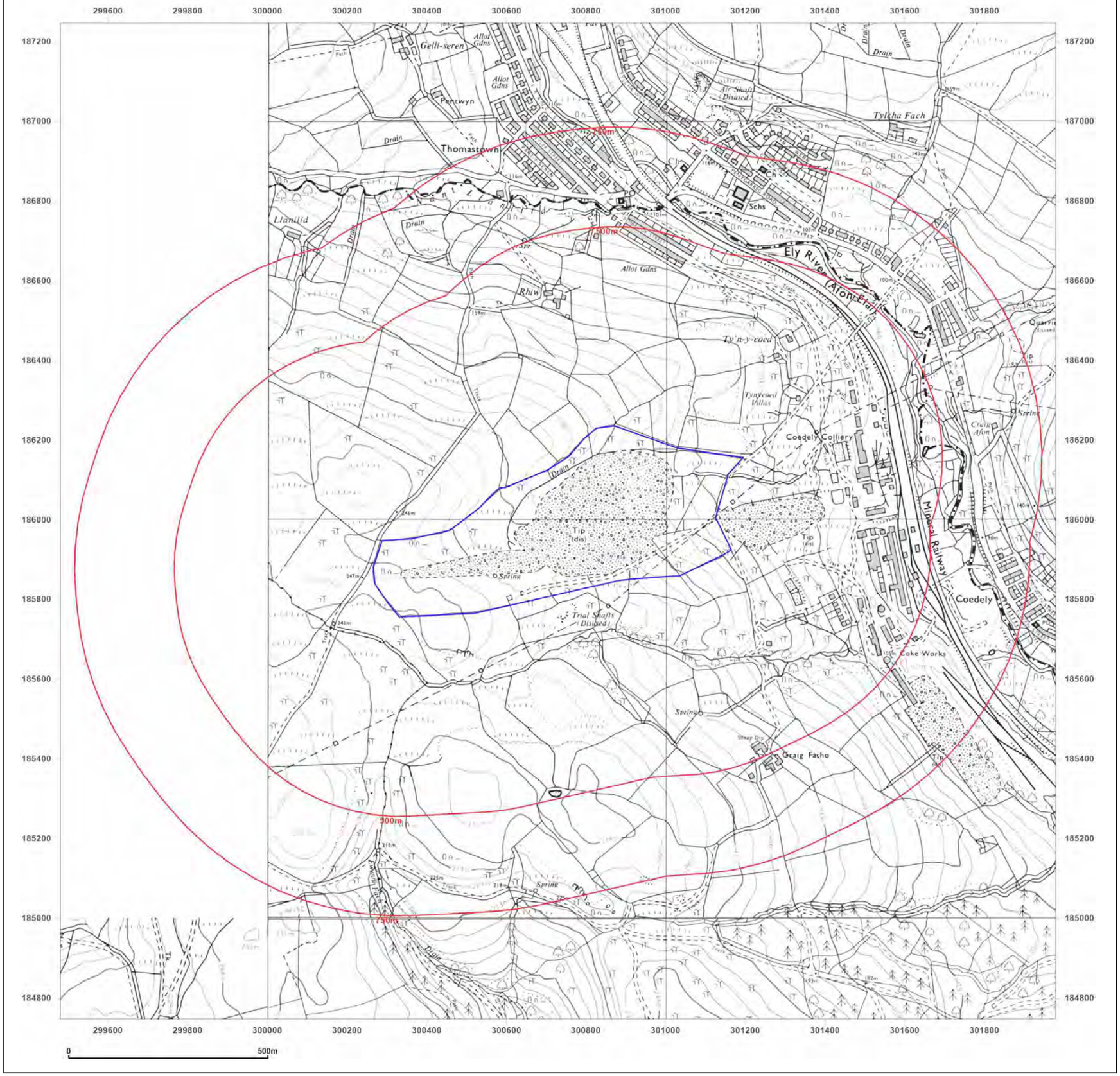

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: National Grid

Map date: **1972-1974**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

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

Surveyed 1971
Revised 1972
Edition N/A
Copyright 1972
Levelled 1964

Surveyed 1971
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

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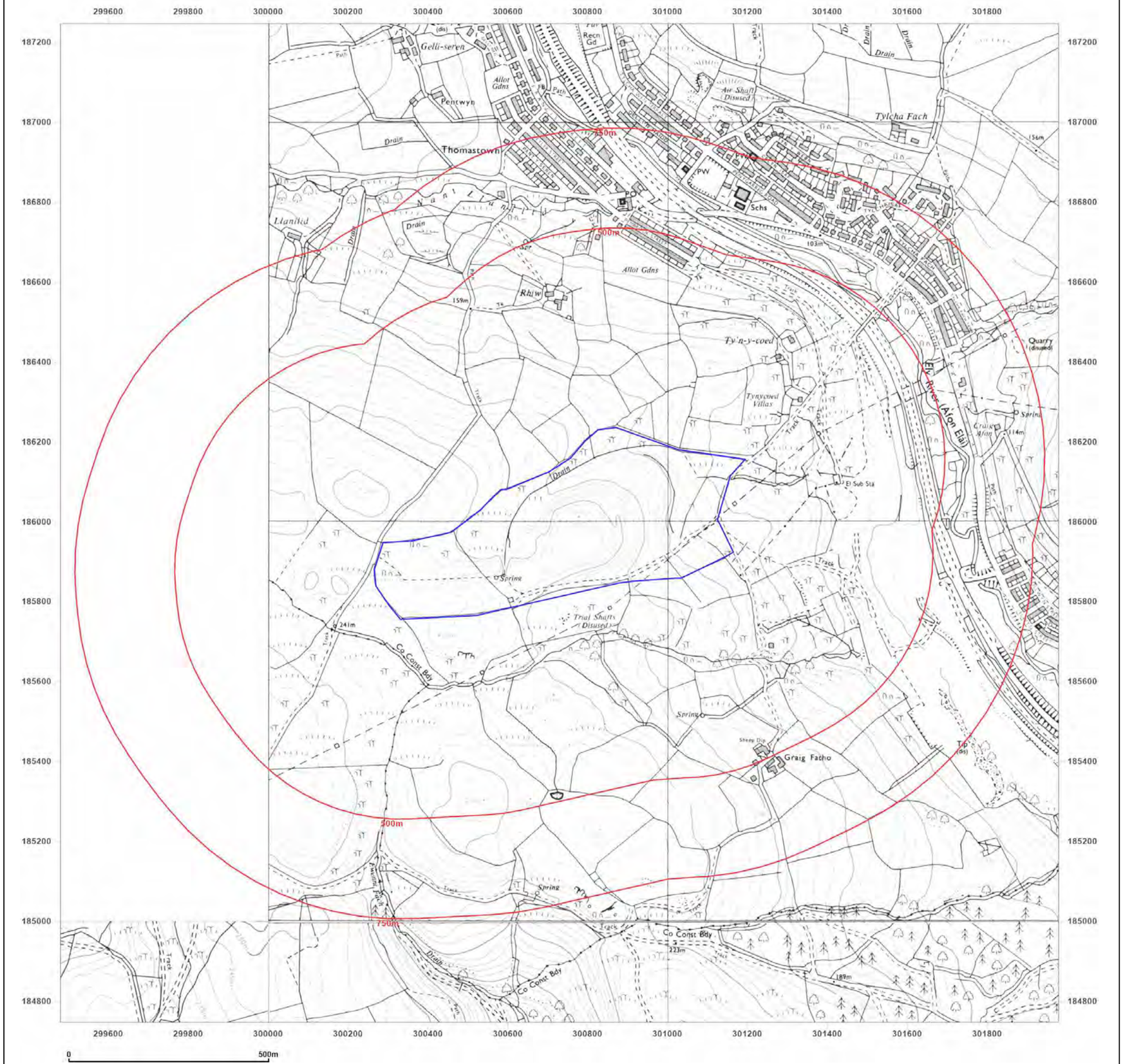

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM, COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1973
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1979
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1978
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

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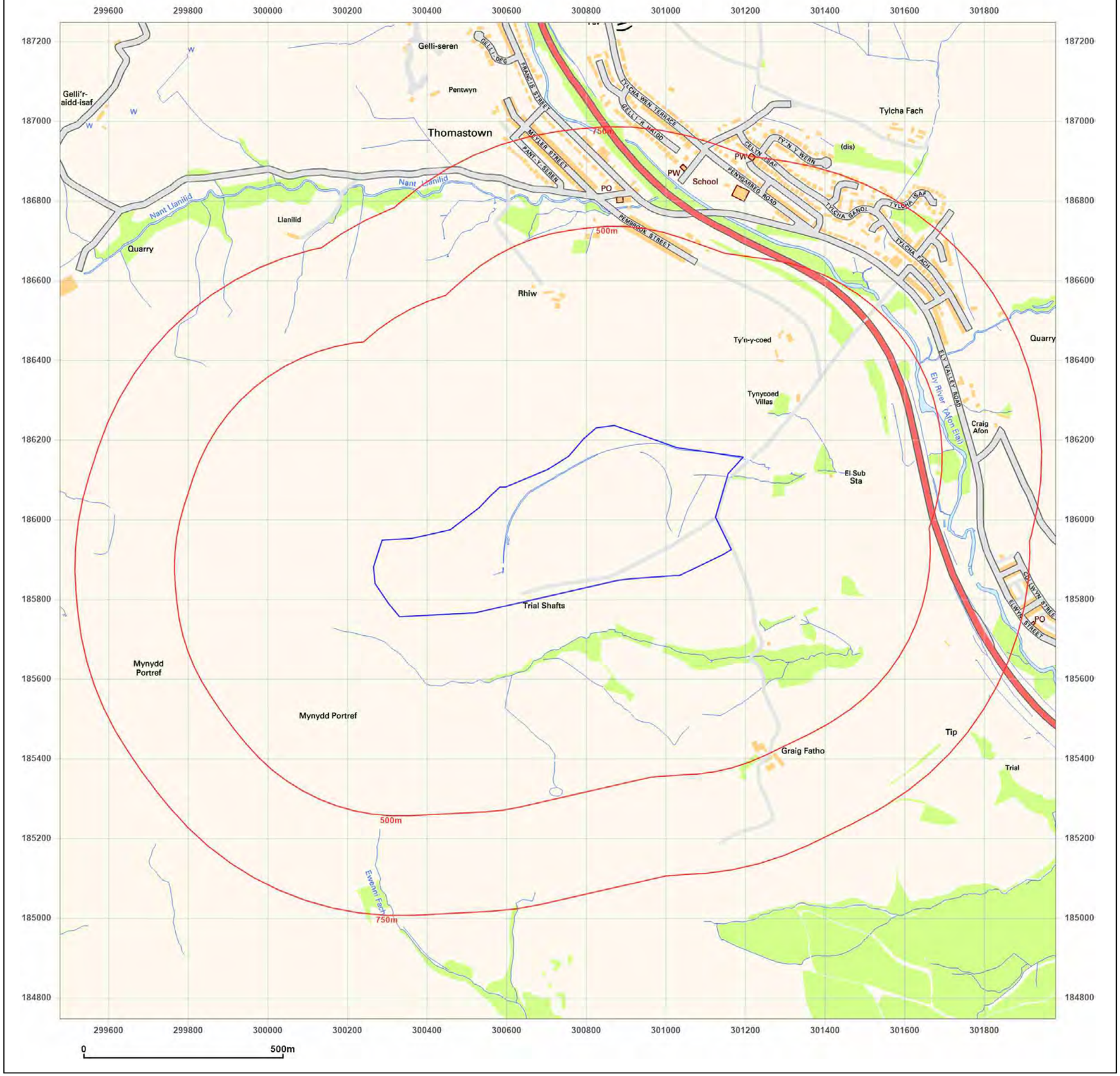

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: National Grid
Map date: **2001**
Scale: 1:10,000
Printed at: 1:10,000

N
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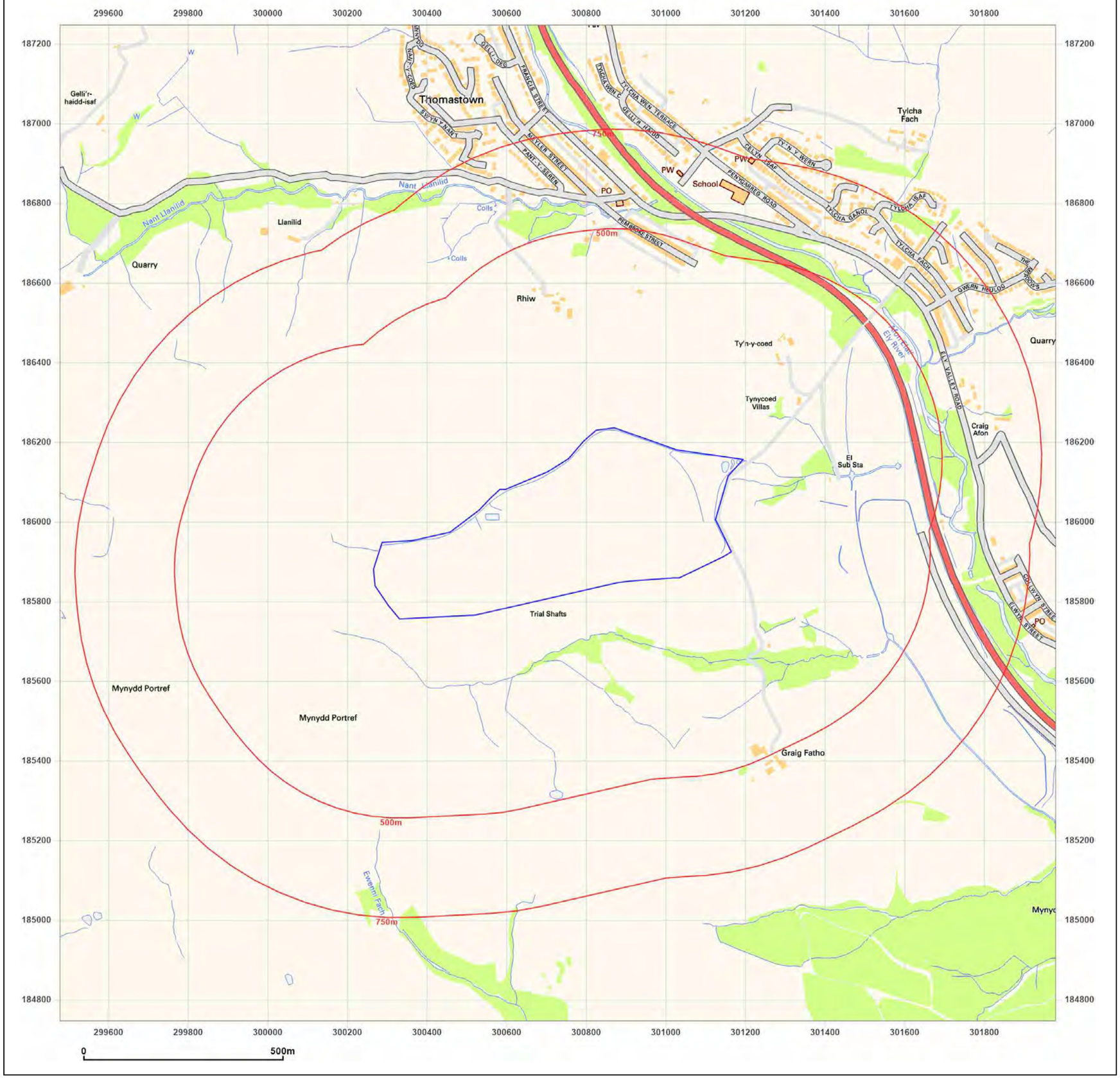

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM, COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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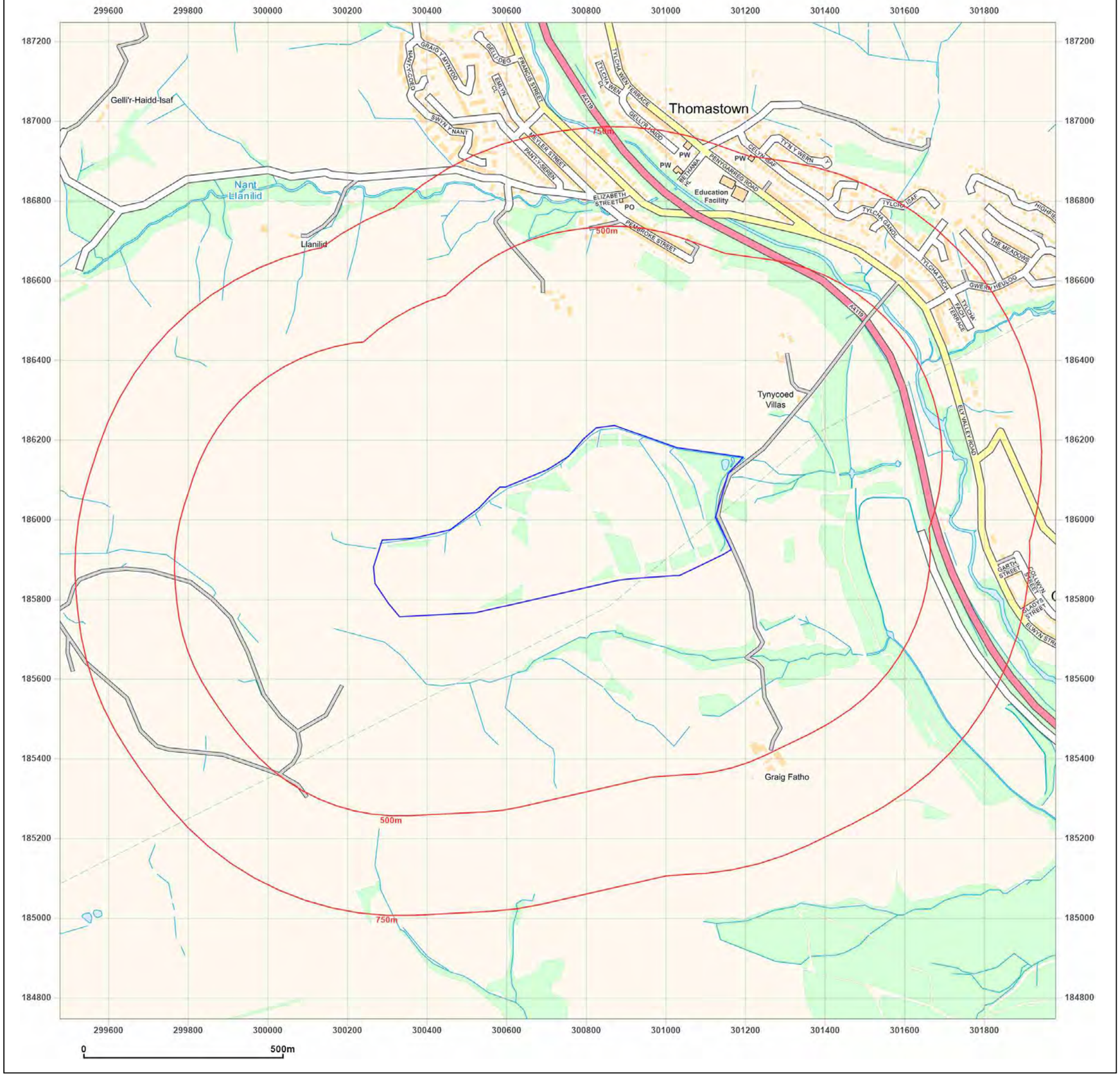

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462
Grid Ref: 300729, 185997

Map Name: National Grid
Map date: **2021**
Scale: 1:10,000
Printed at: 1:10,000

N
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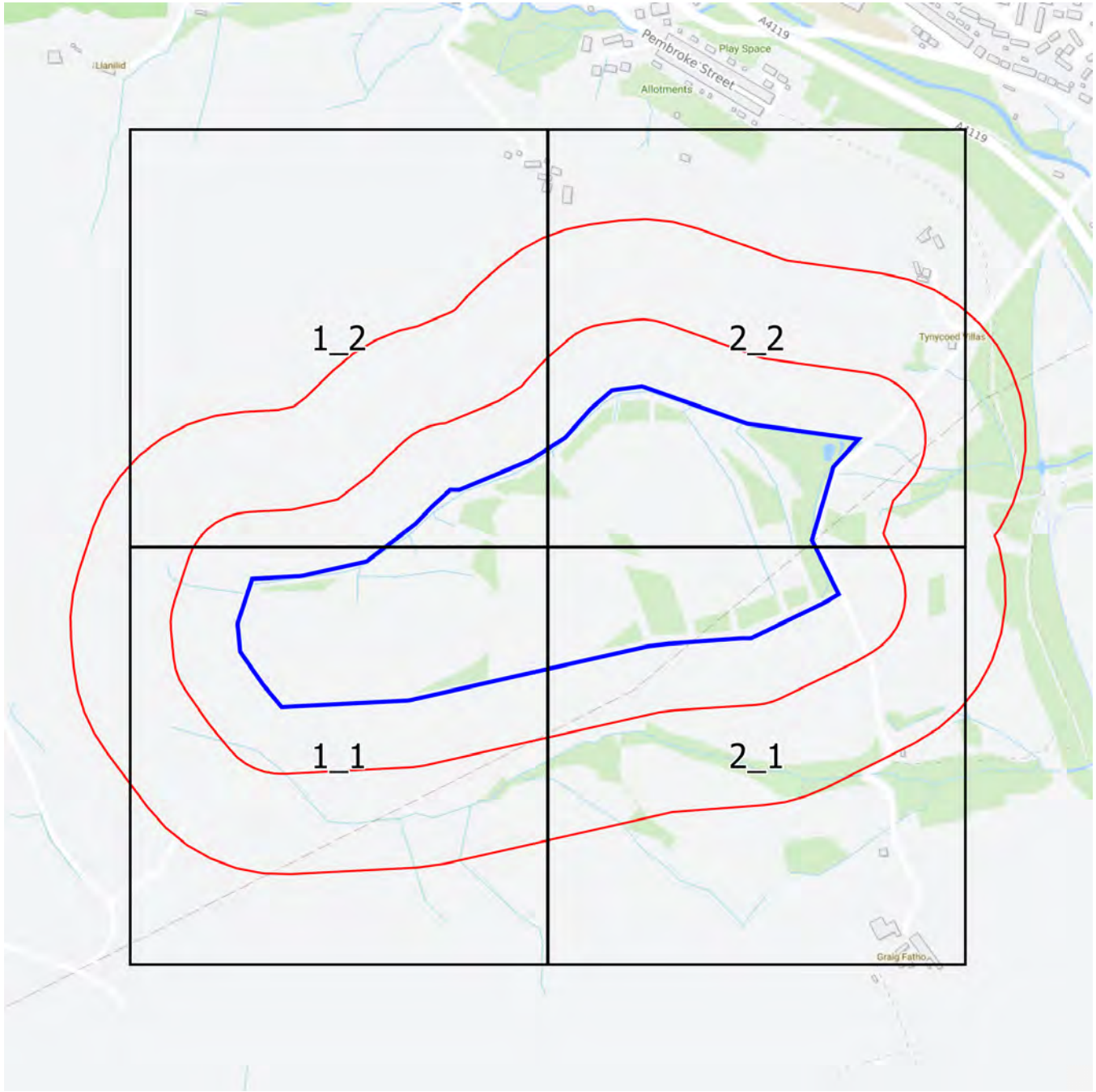

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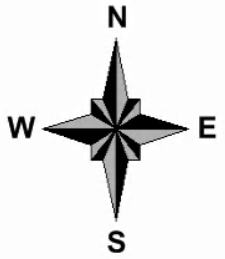
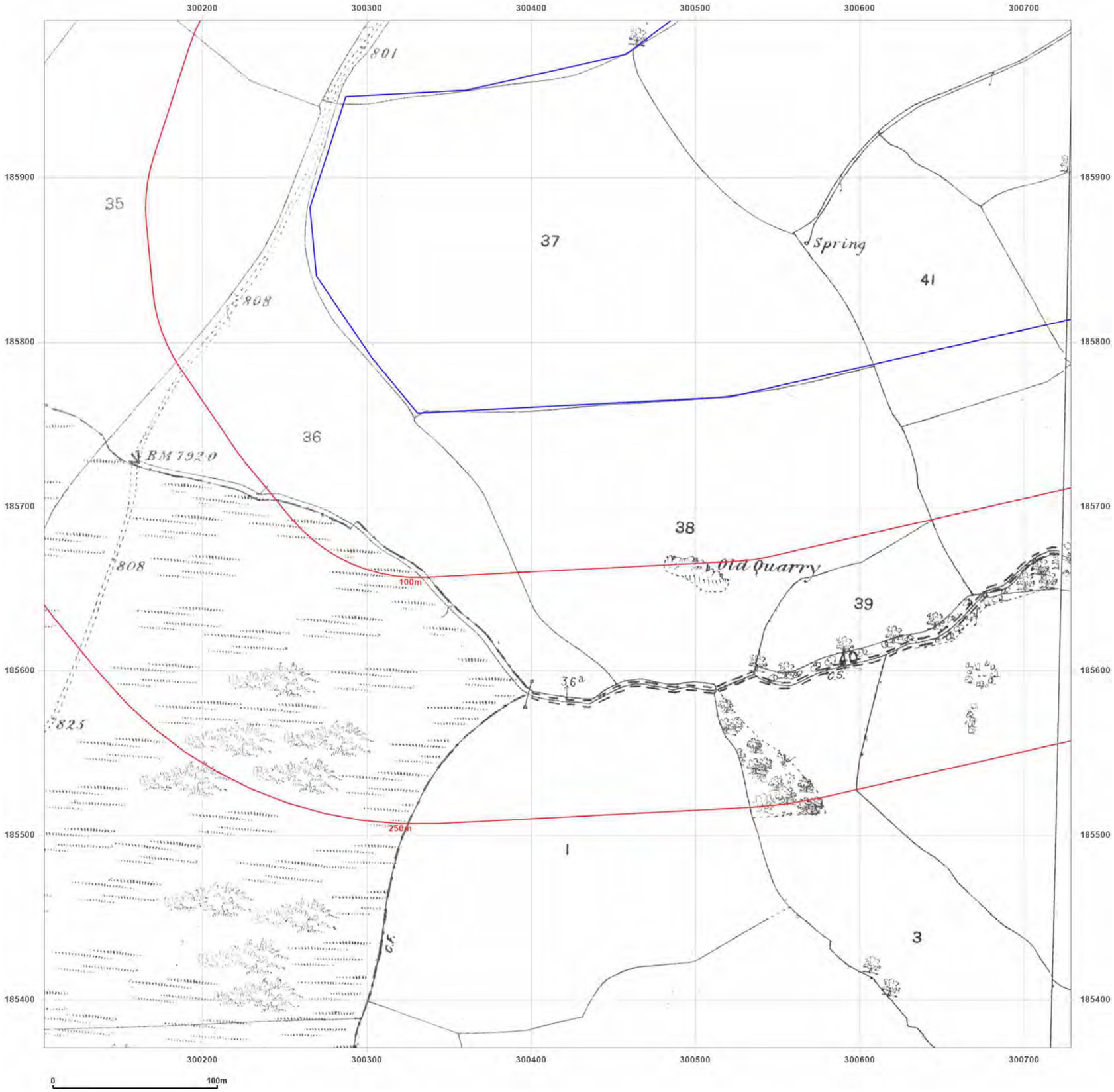
1:2,500 Scale Grid Index





Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

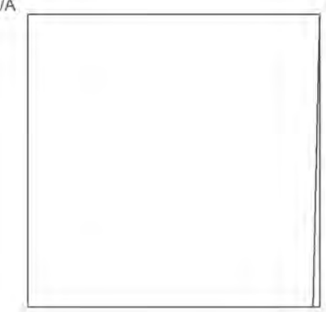
Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: County Series
Map date: **1877-1878**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A



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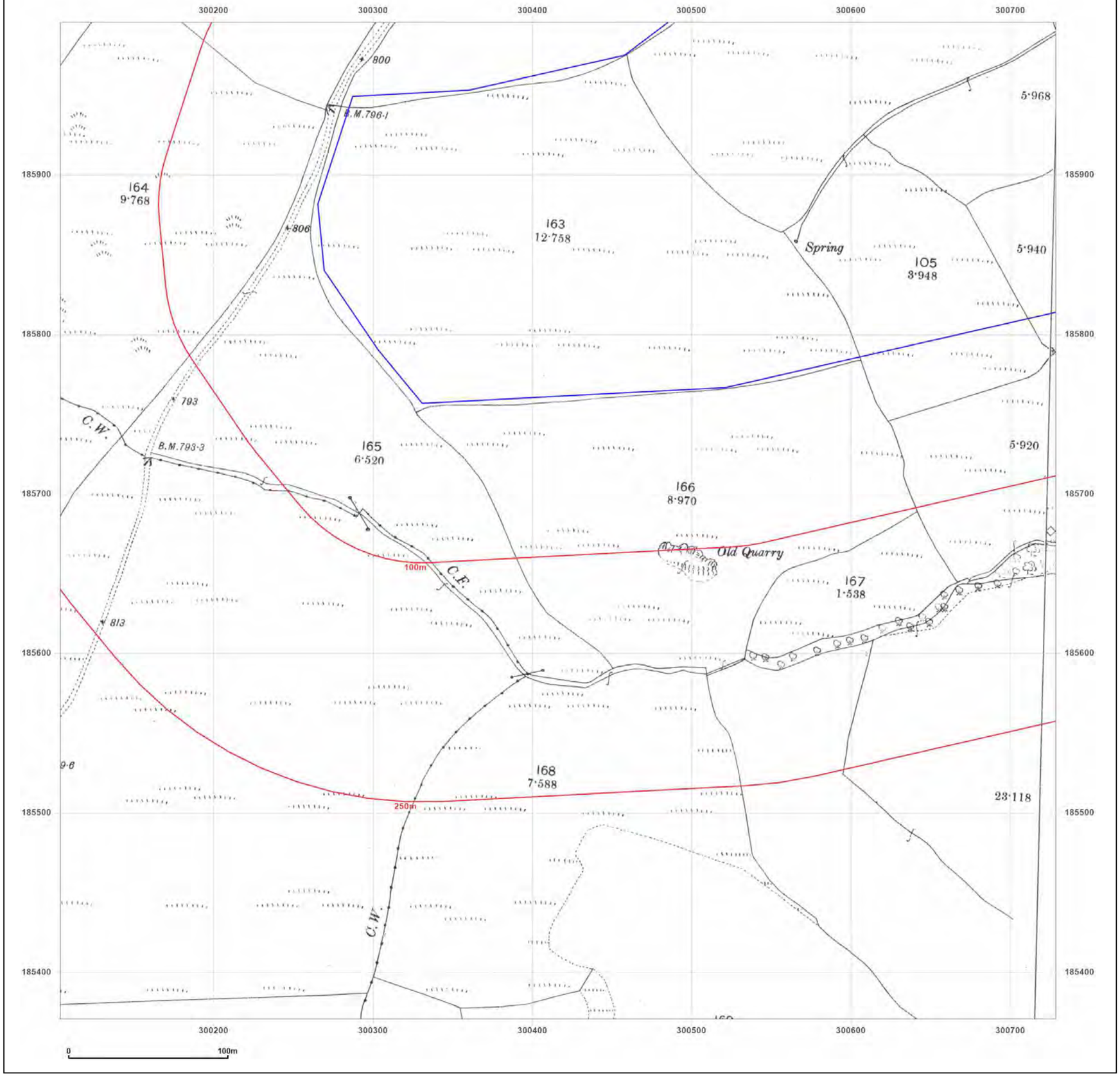

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

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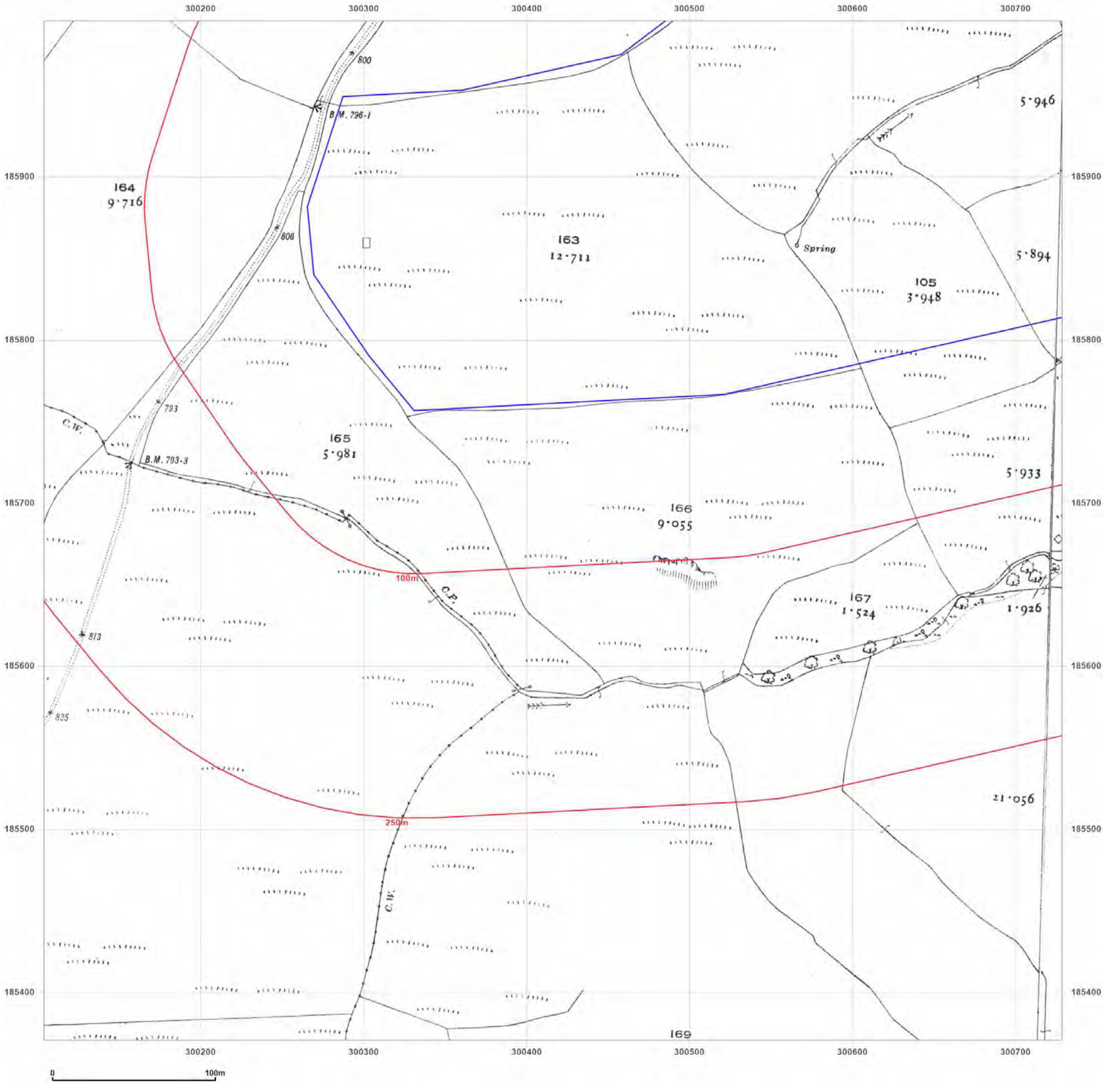

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: County Series

Map date: **1919-1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
Levelled N/A

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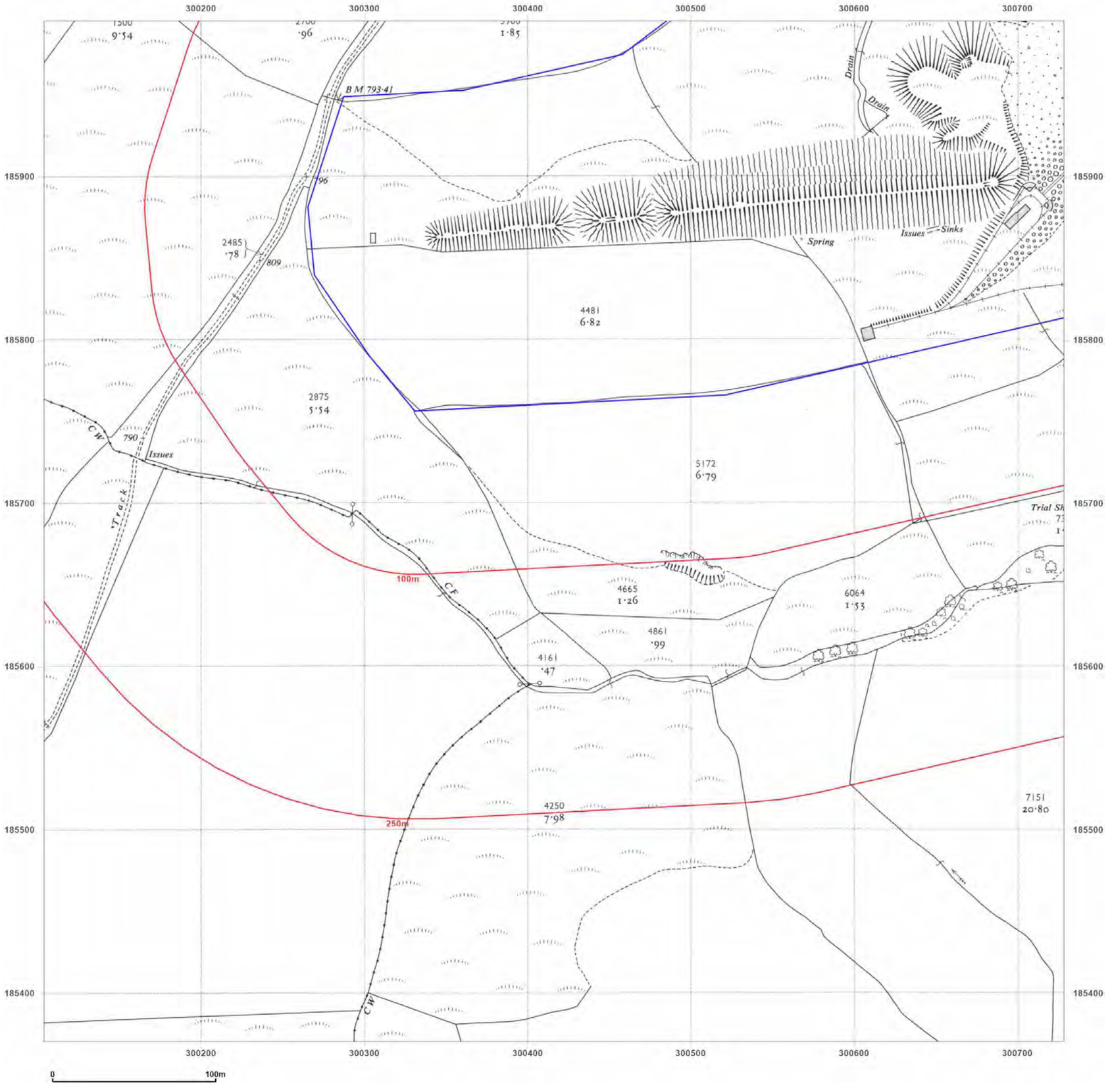

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1960**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

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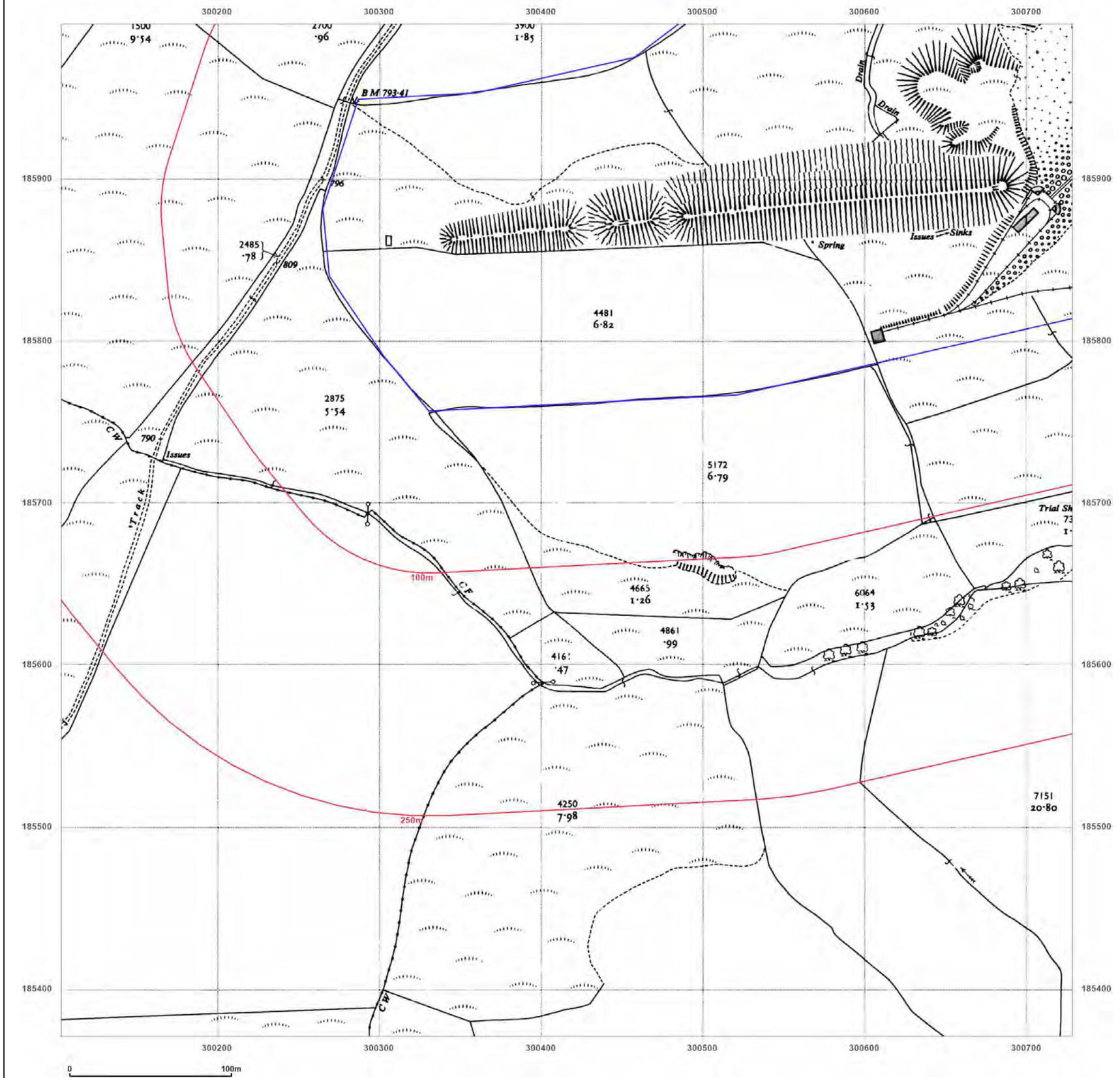

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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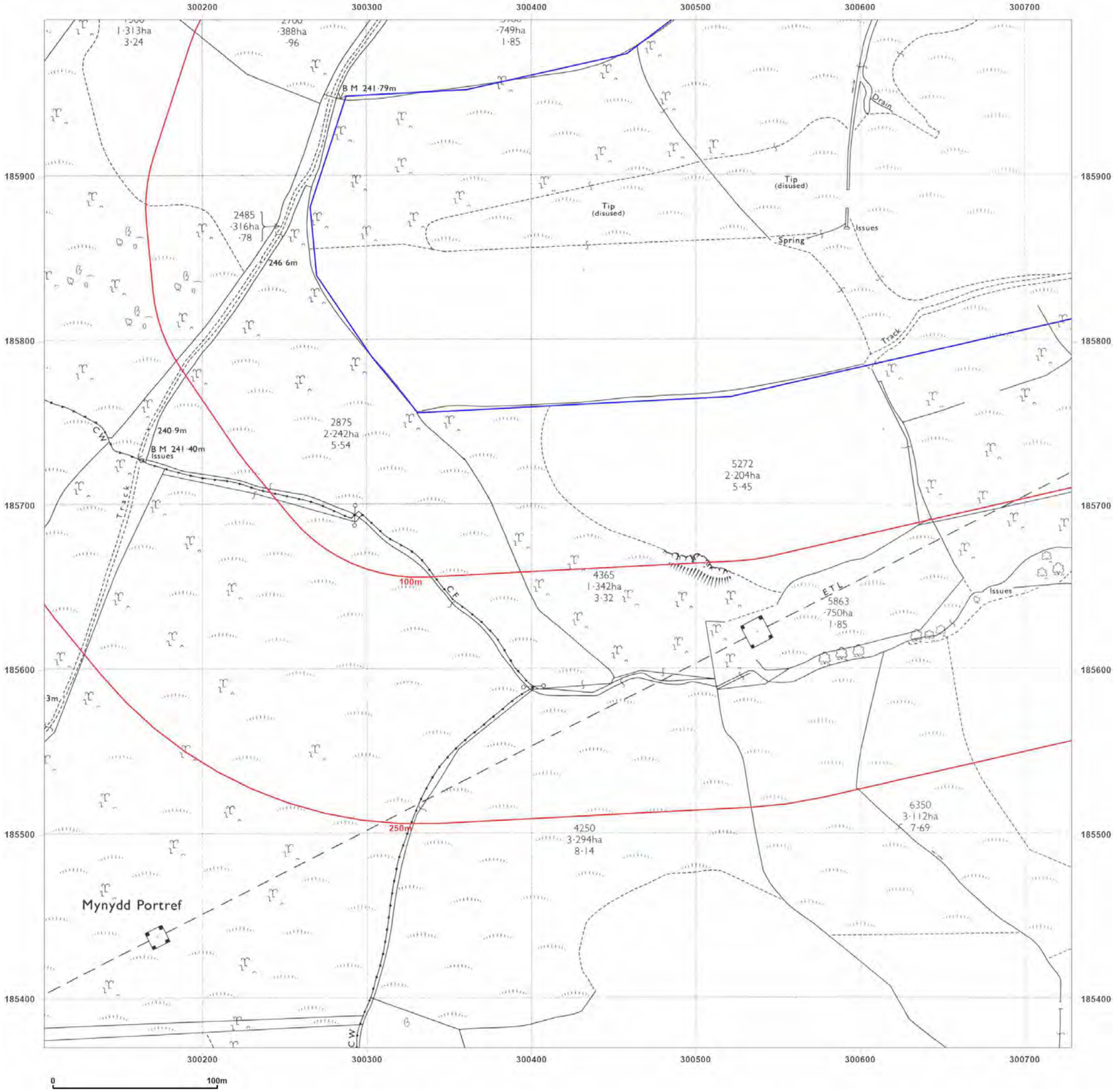

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1973**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1873
Revised 1973
Edition N/A
Copyright 1974
Levelled 1965

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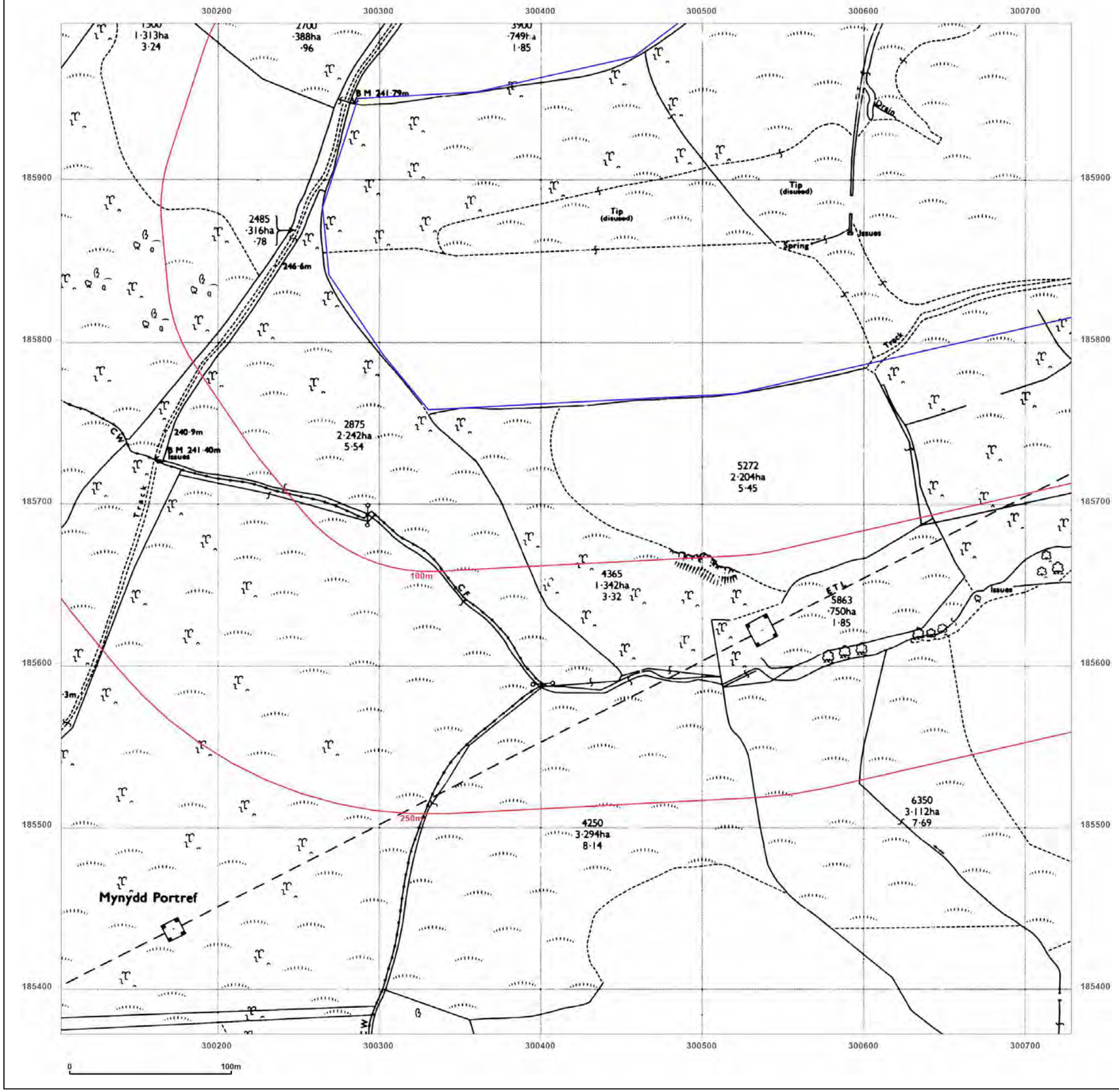

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1974**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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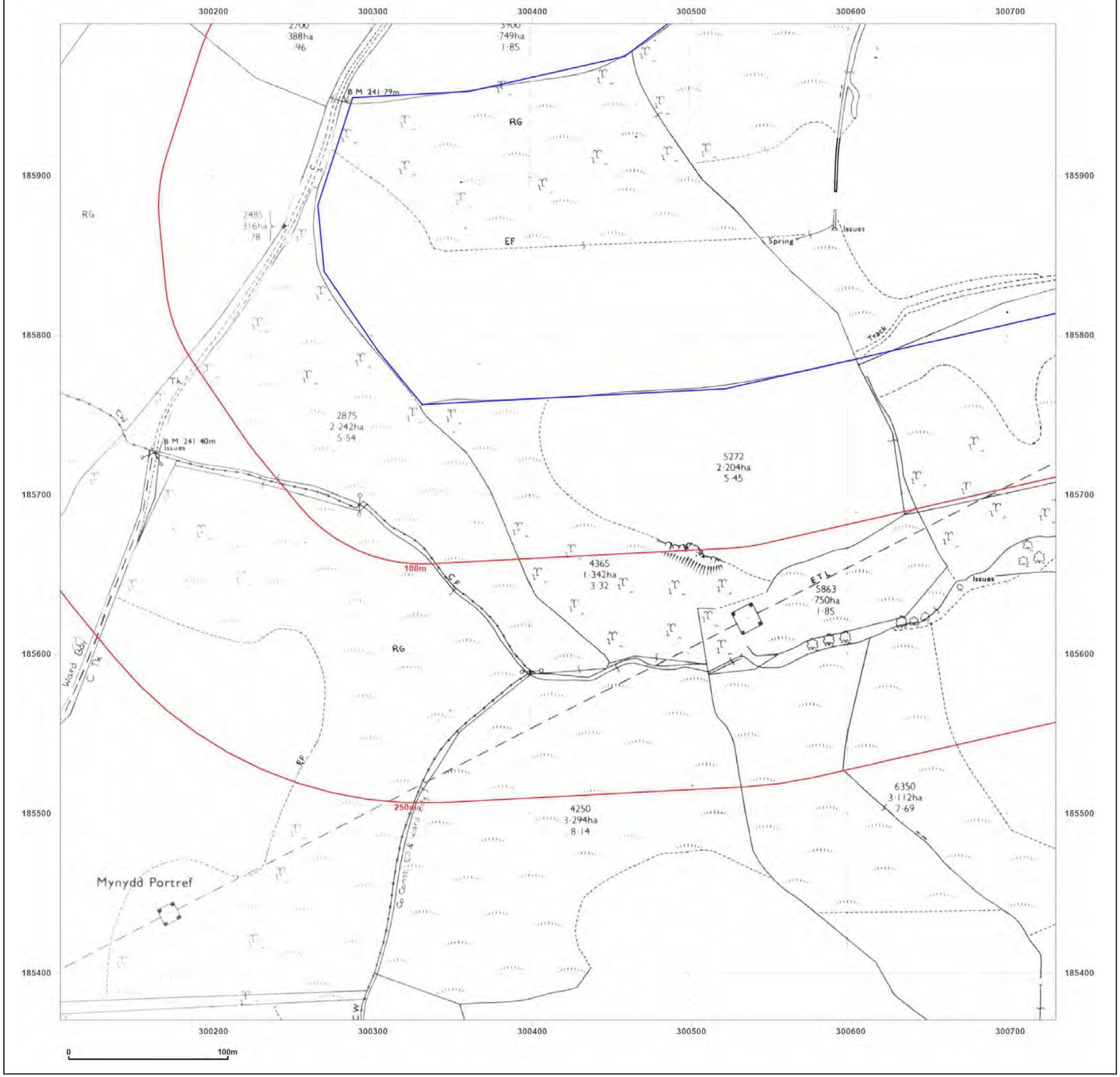

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1992**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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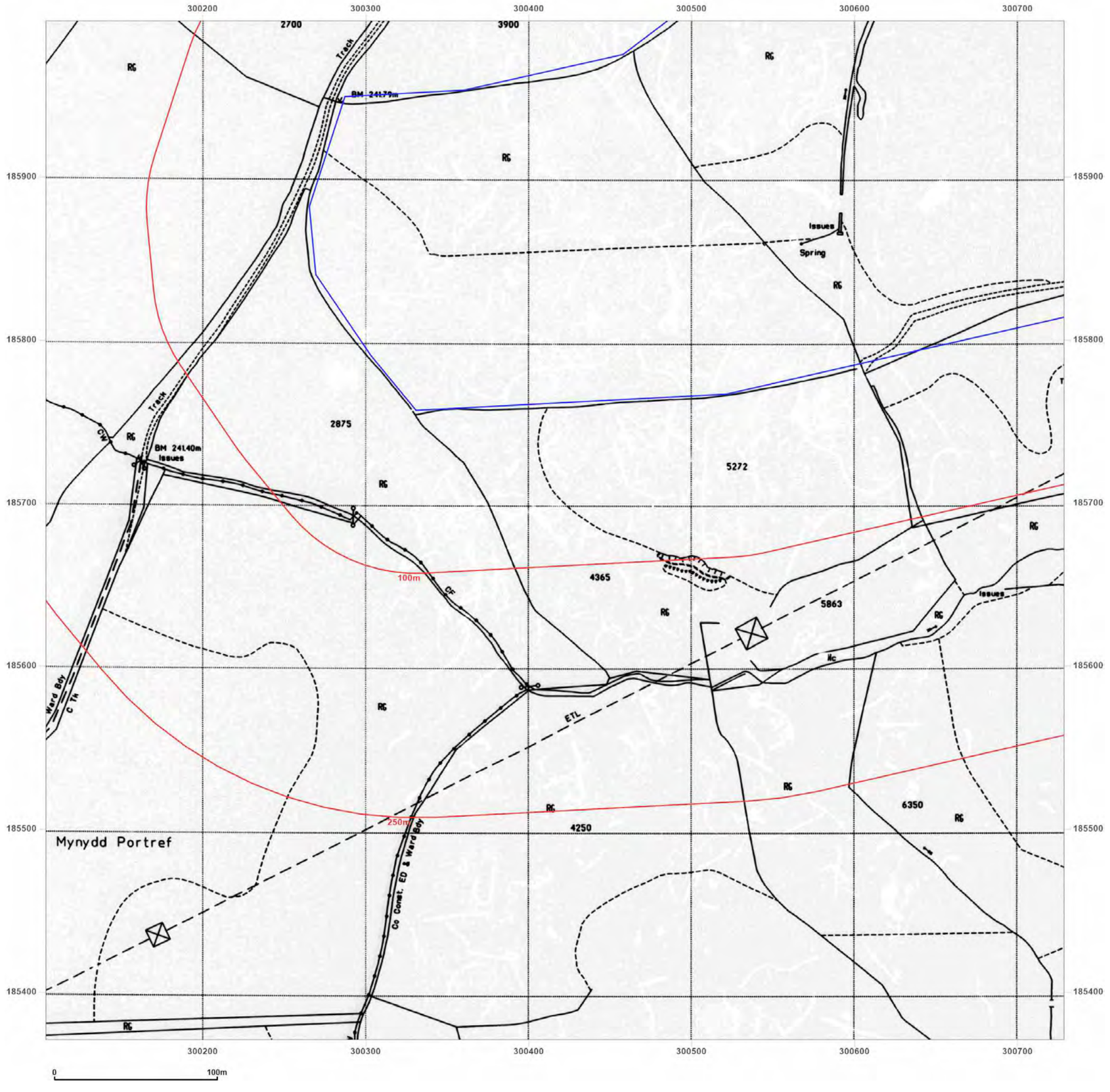

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_1
Grid Ref: 300416, 185683

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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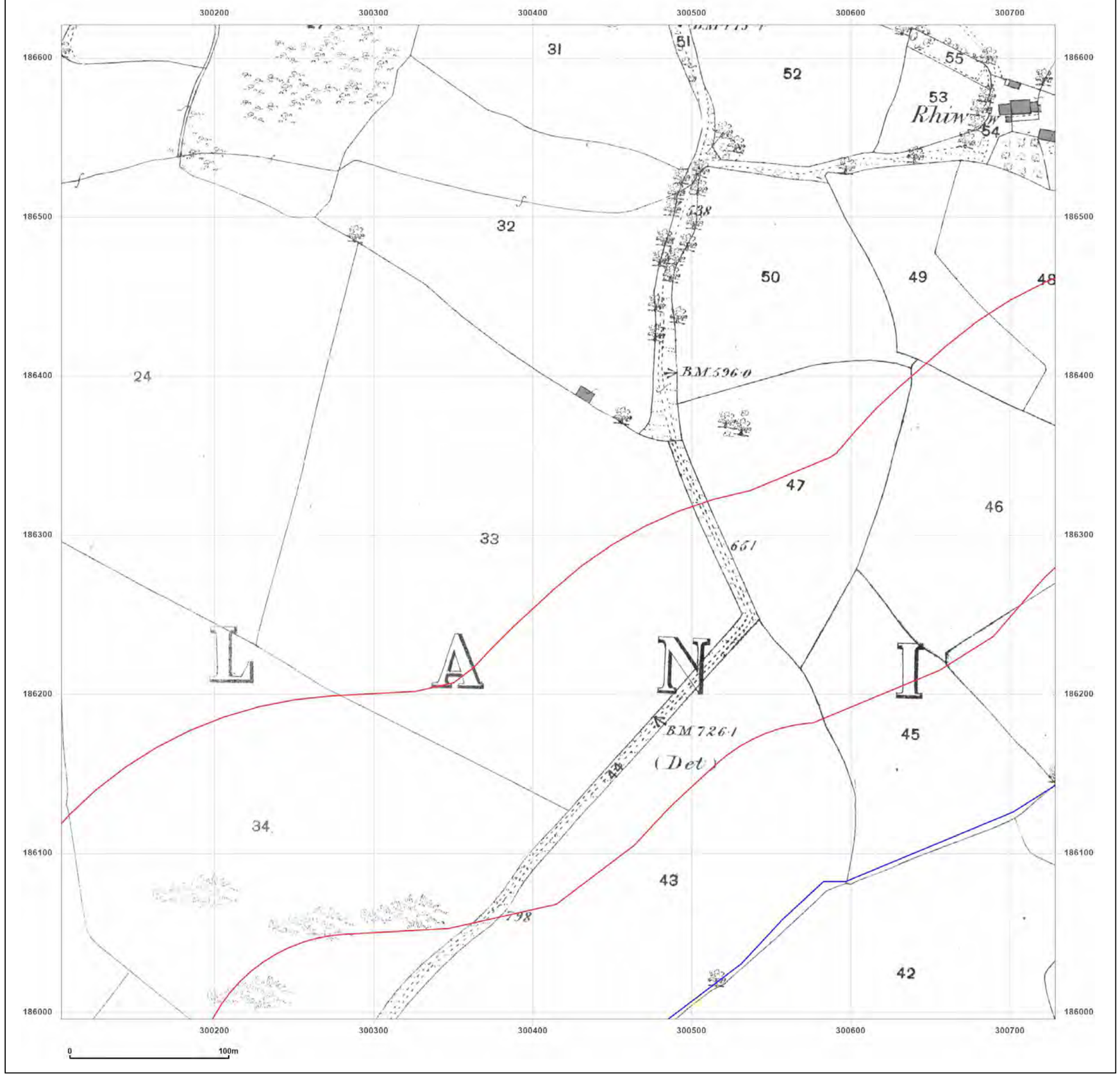

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: County Series
Map date: **1877**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

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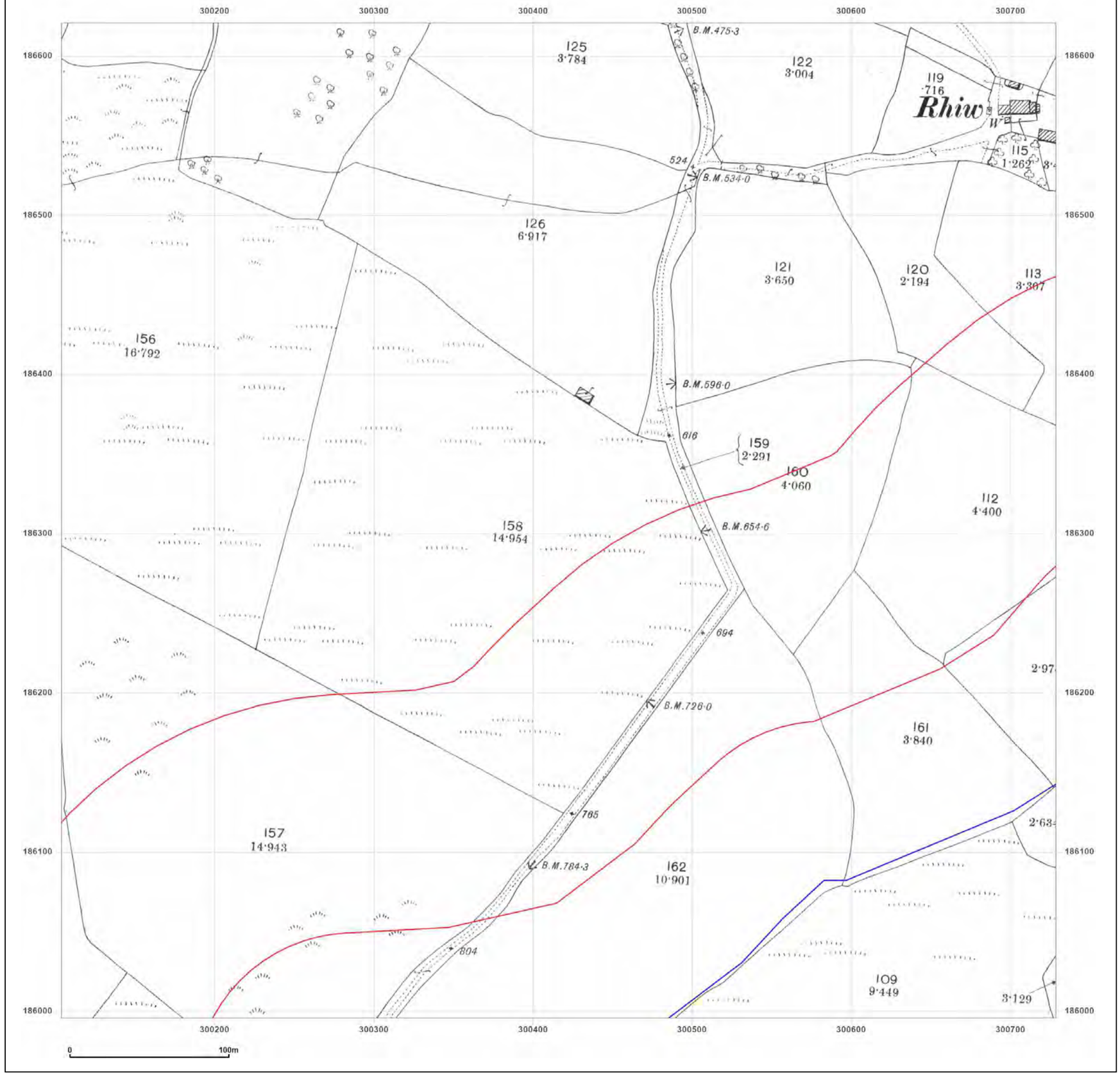

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

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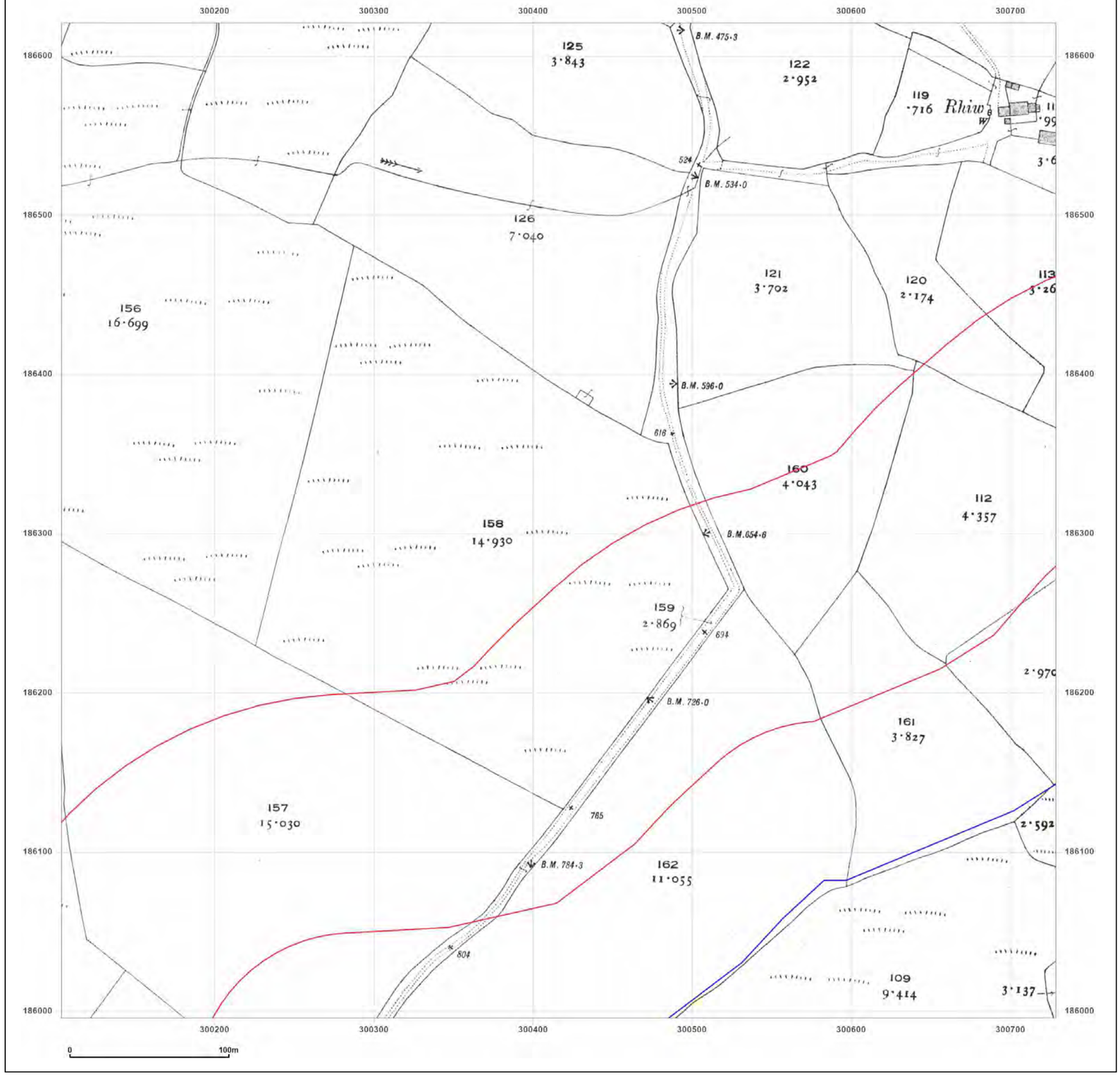

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

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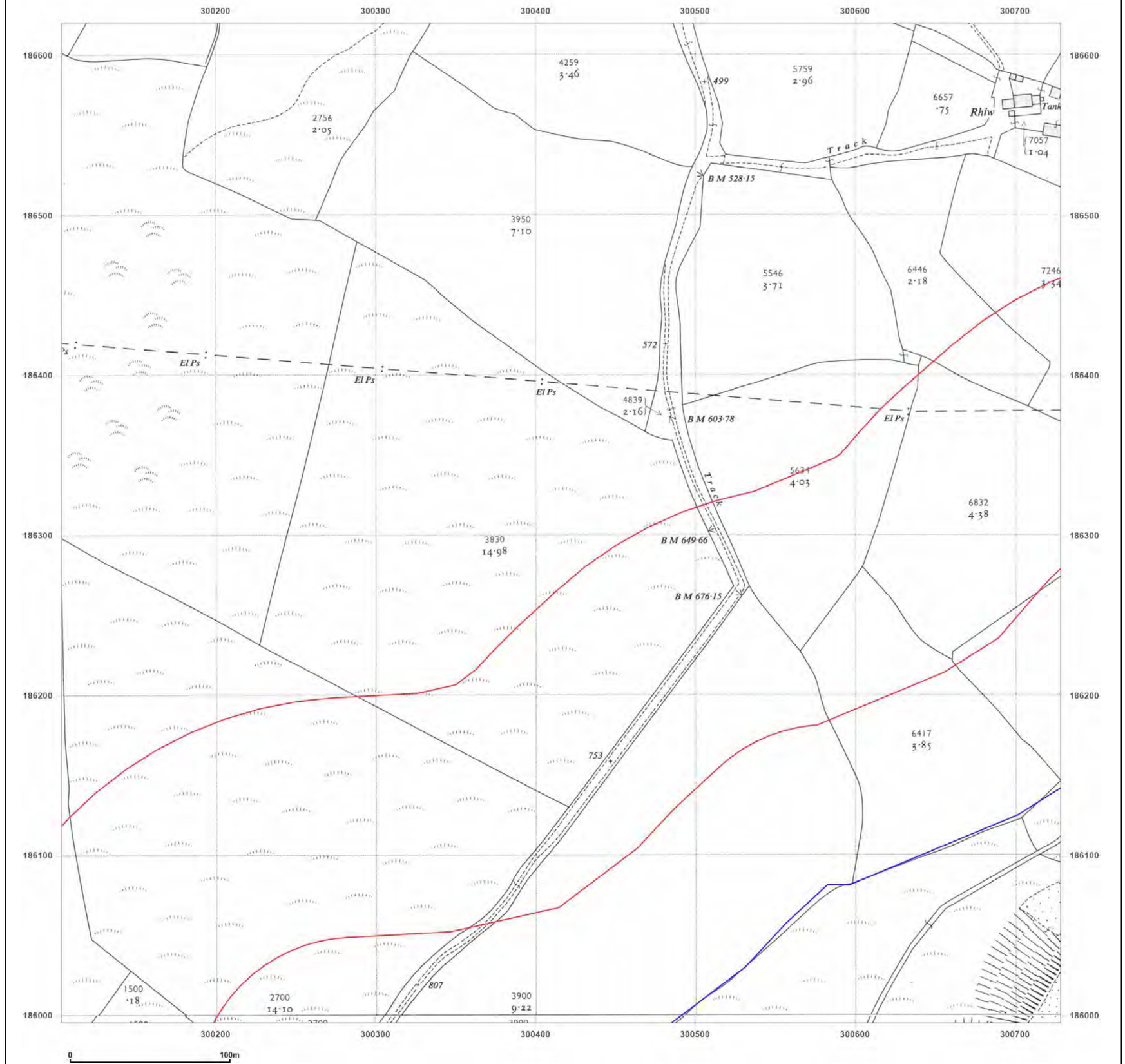

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1960**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

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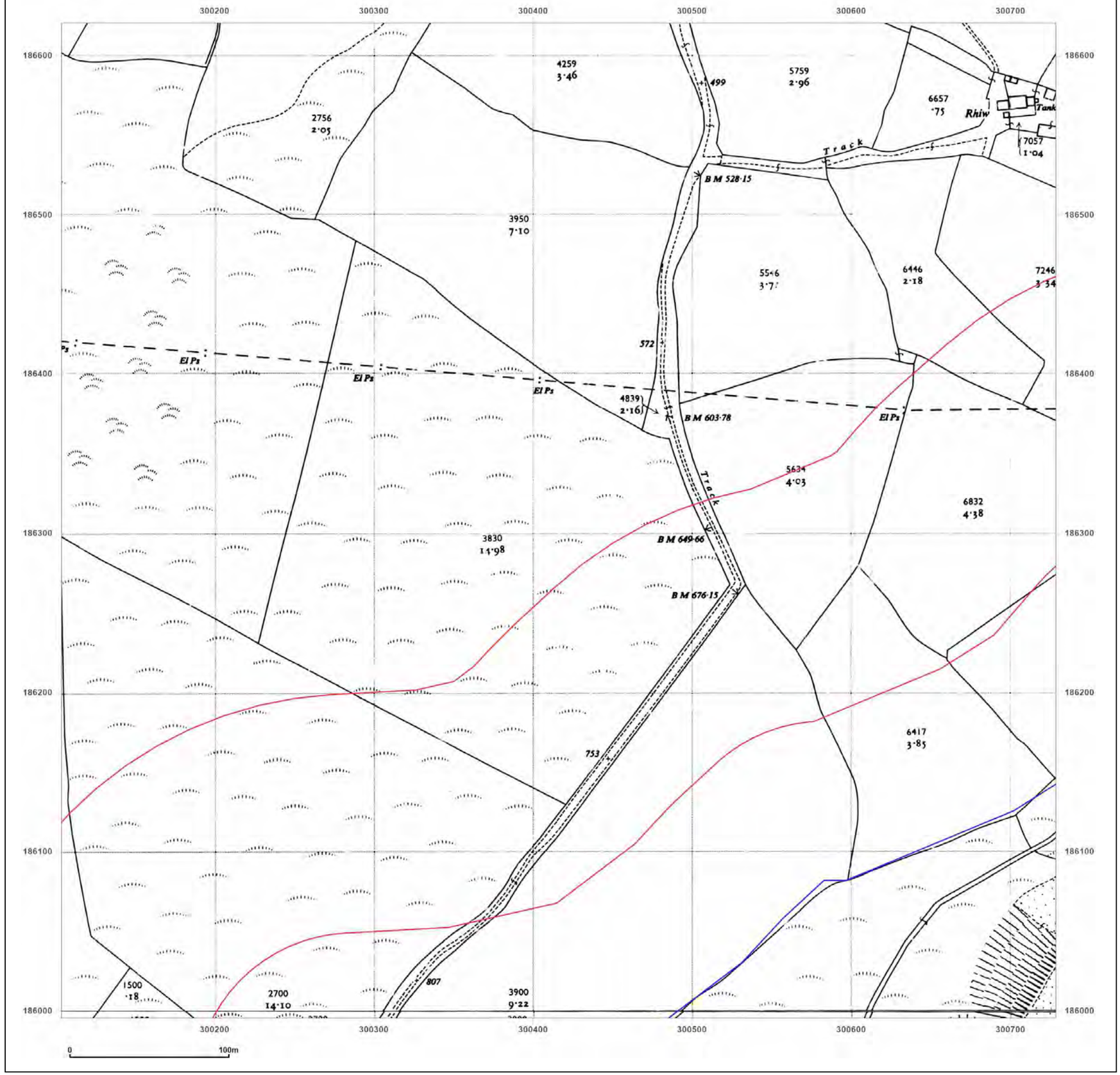

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

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

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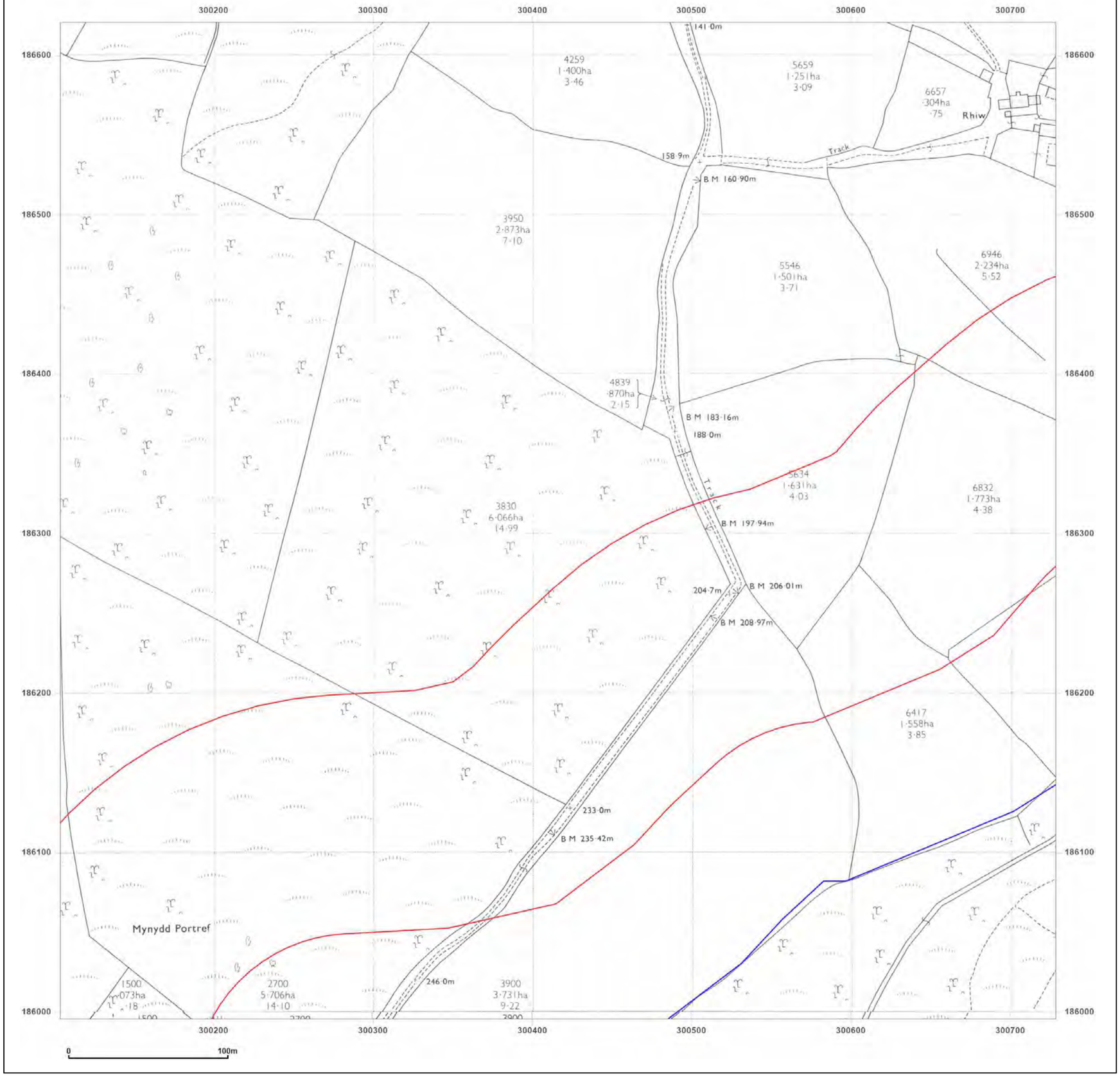

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1972-1973**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1972
Revised 1972
Edition N/A
Copyright 1973
Levelled 1965

Surveyed 1973
Revised 1973
Edition N/A
Copyright 1974
Levelled 1965

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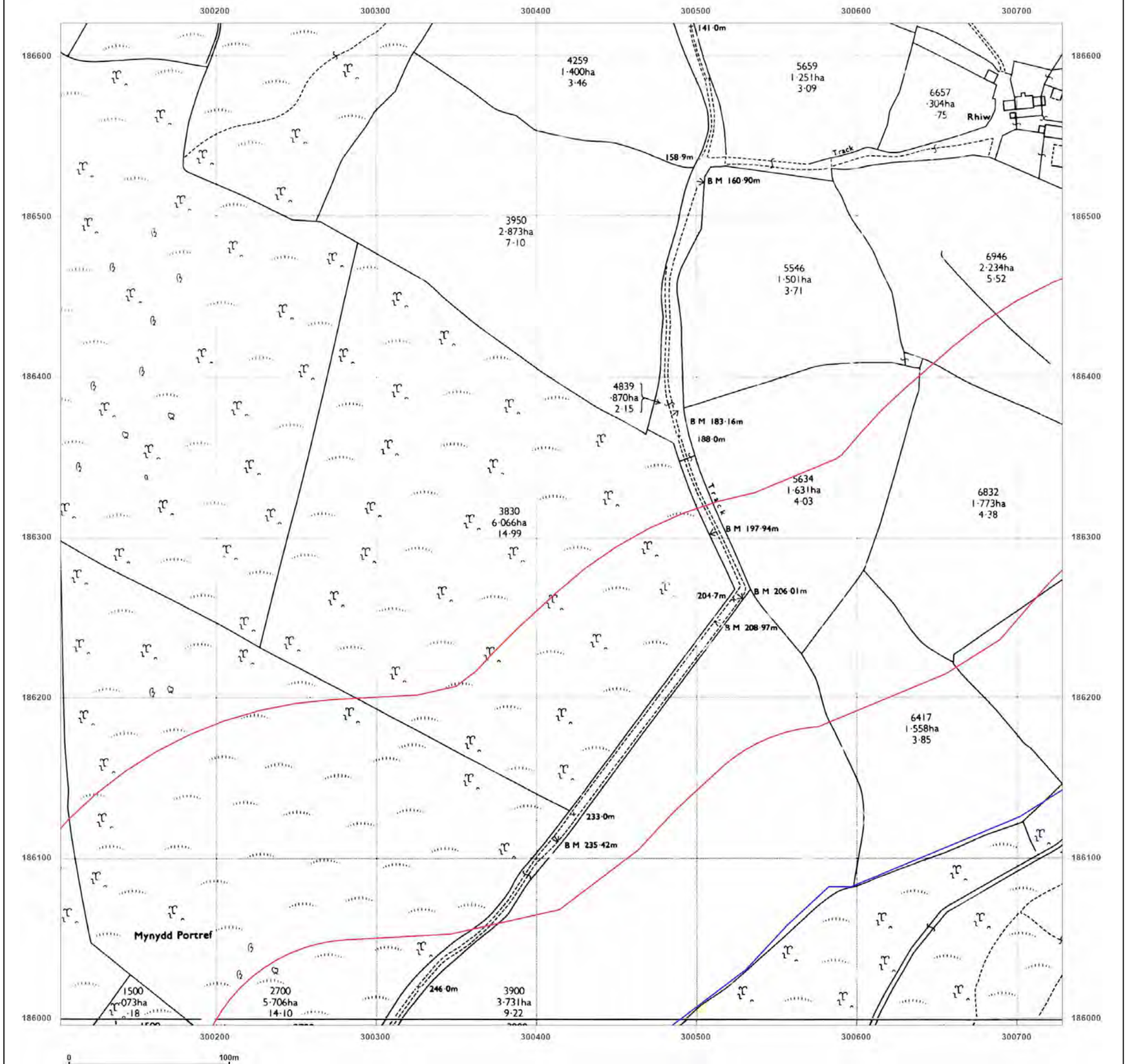

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1973-1974**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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

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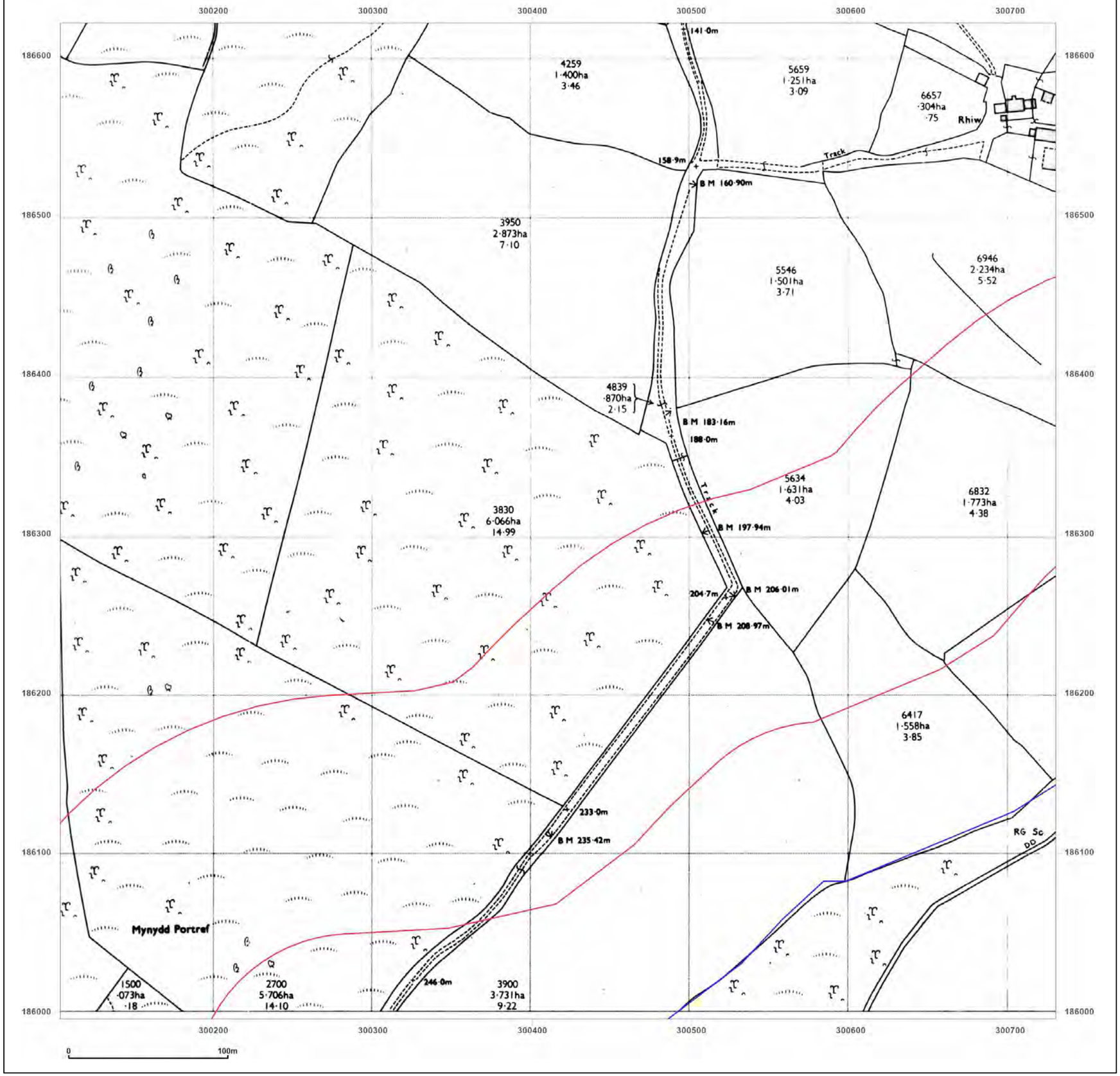

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1988**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1965
Revised 1988
Edition N/A
Copyright 1988
Levelled 1965

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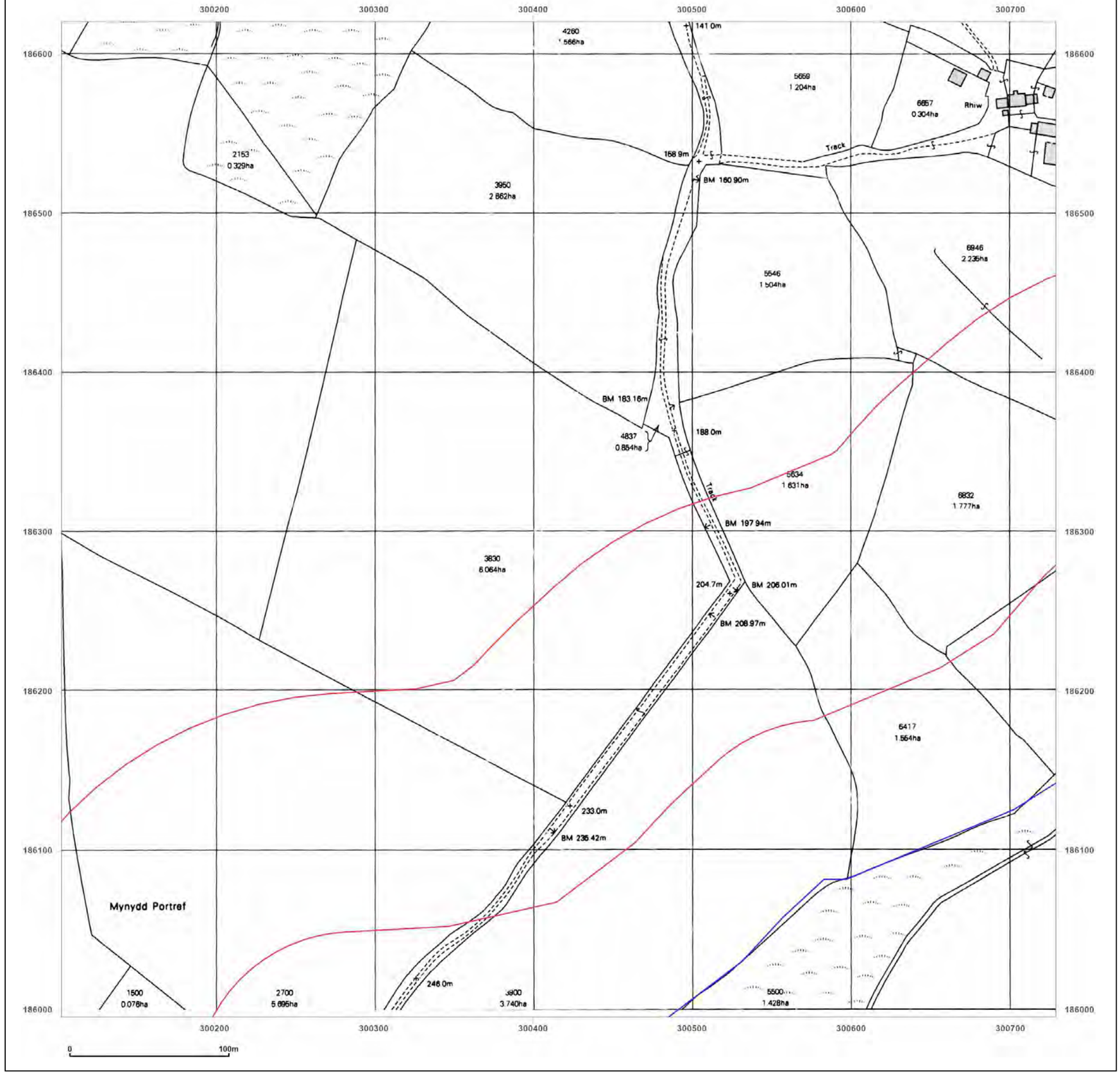

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1991**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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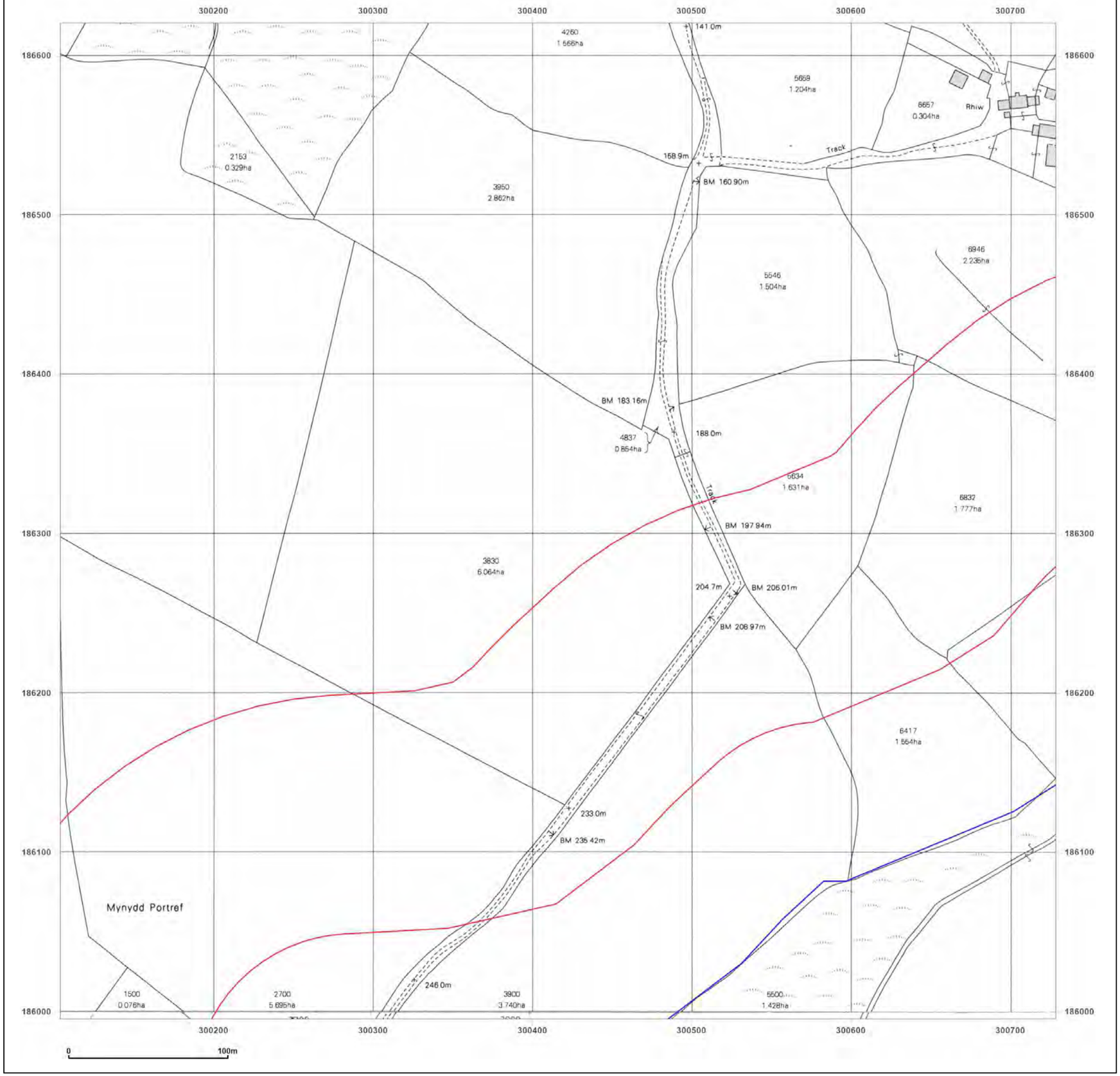

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1990-1992**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1990
Revised 1990
Edition N/A
Copyright 1991
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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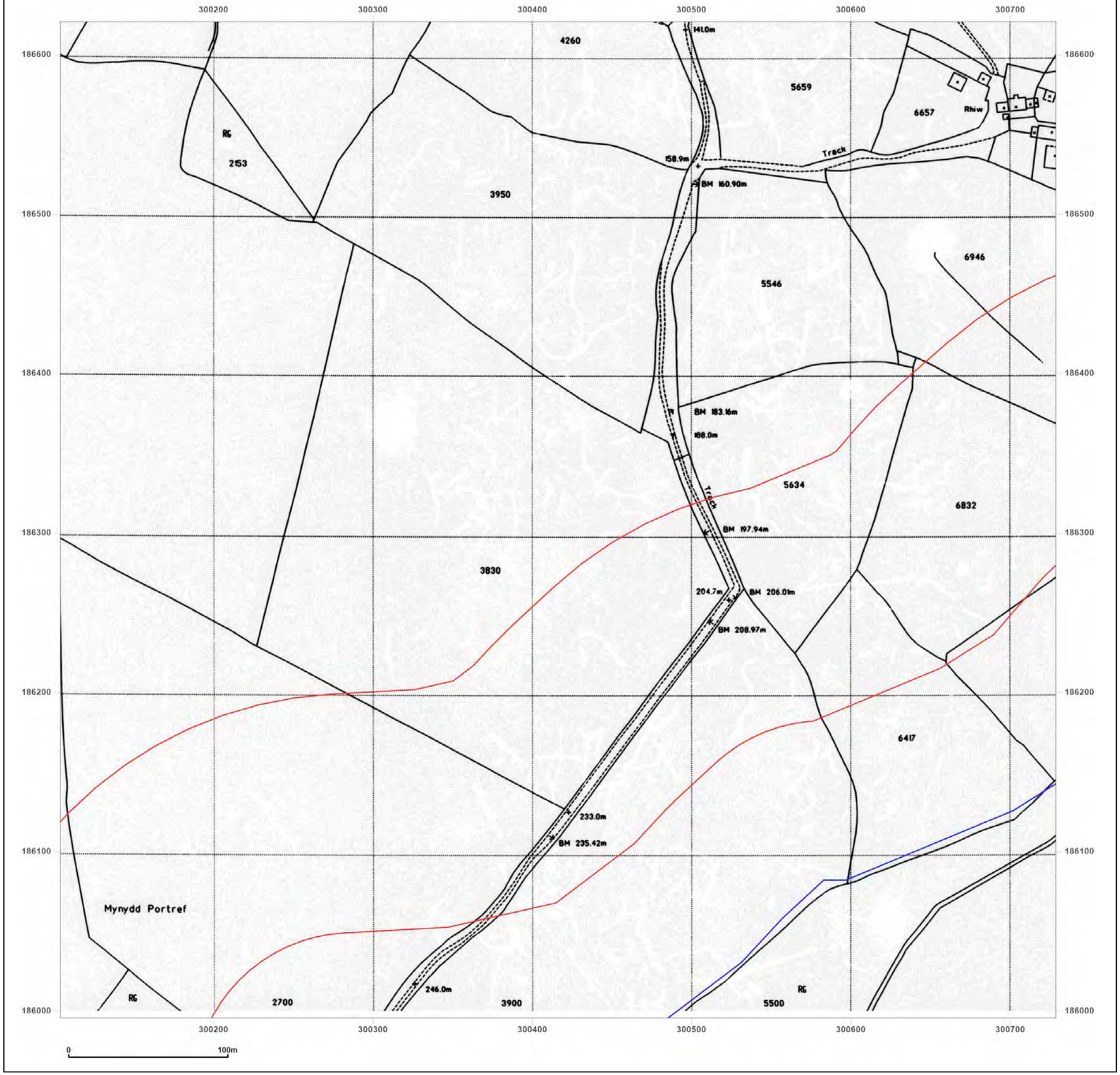

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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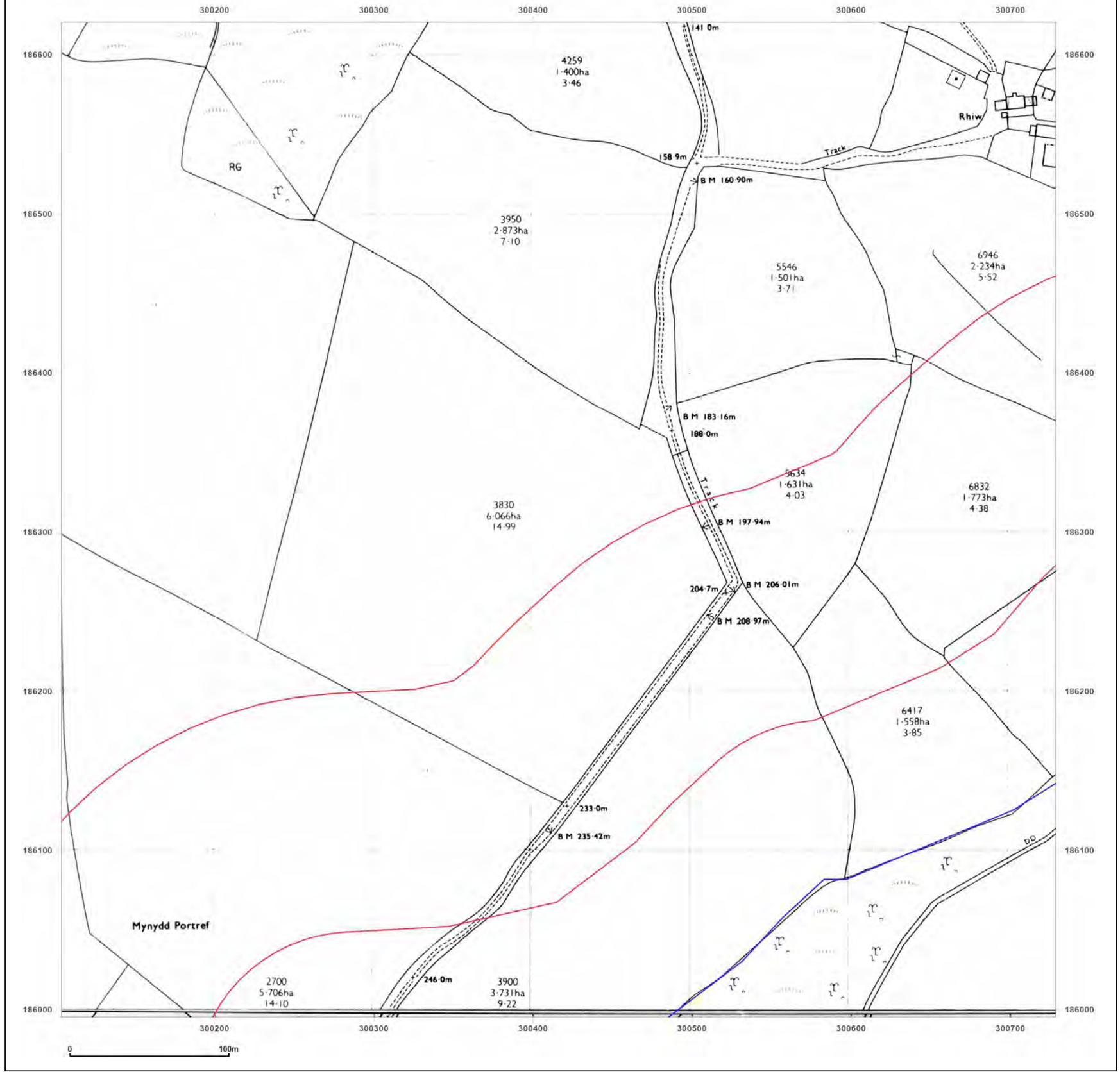

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_1_2
Grid Ref: 300416, 186308

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1965
Revised 1990
Edition N/A
Copyright 1990
Levelled 1965

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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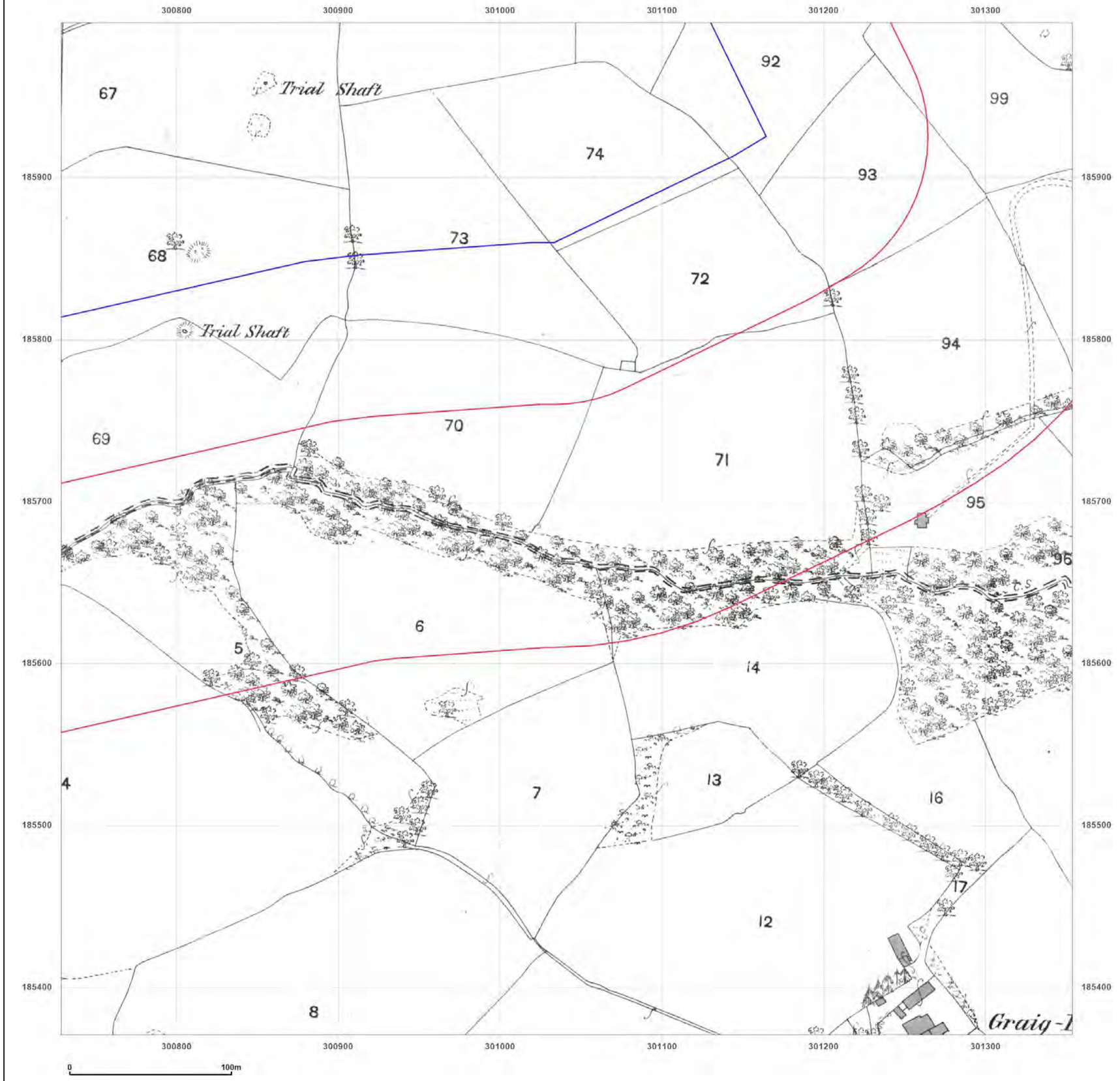

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: County Series
Map date: **1877-1878**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1877
Revised 1877
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1878
Revised 1878
Edition N/A
Copyright N/A
Levelled N/A

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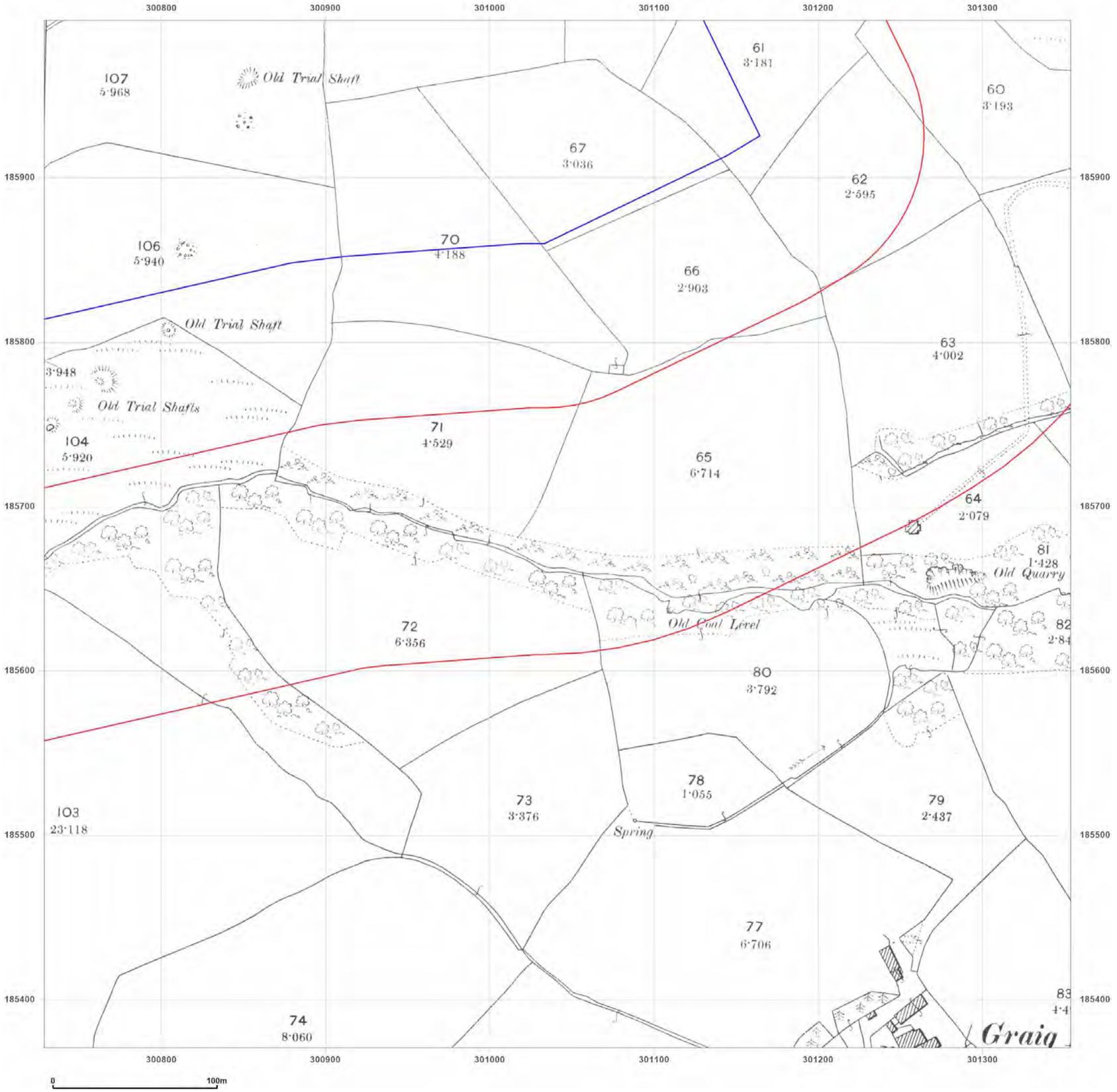

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1899
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

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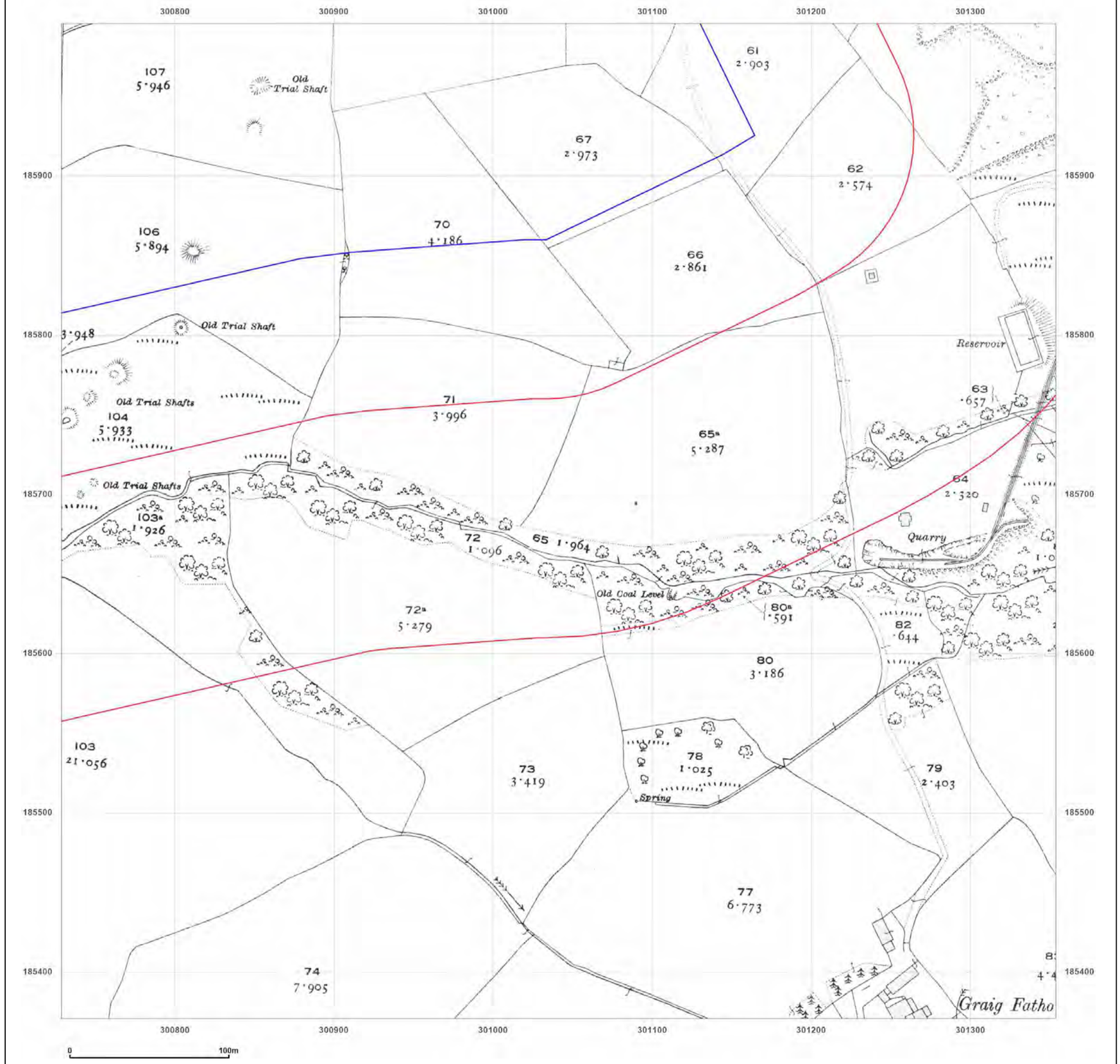

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: County Series

Map date: **1919-1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1920
Revised 1920
Edition N/A
Copyright N/A
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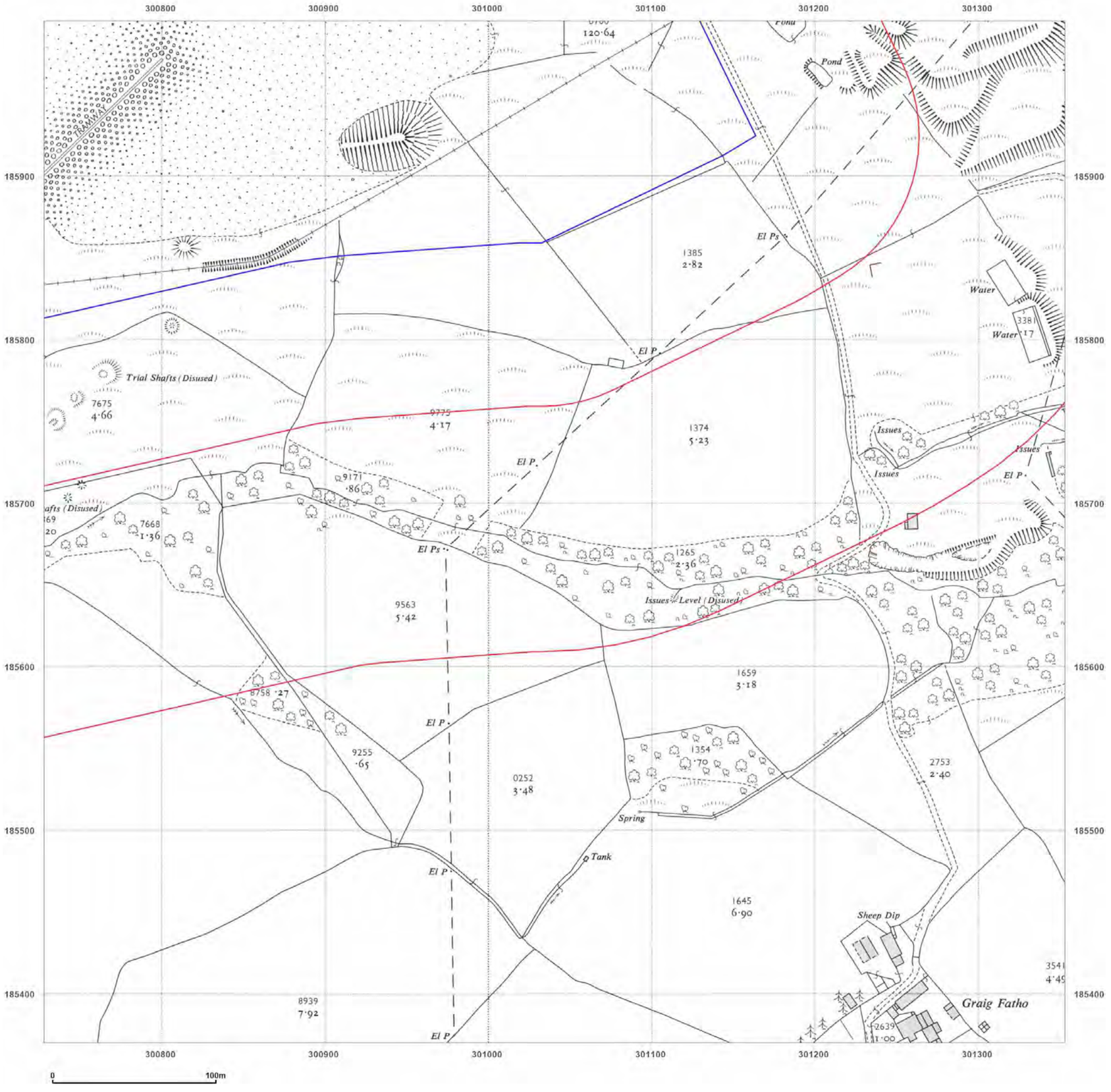

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid

Map date: **1960**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

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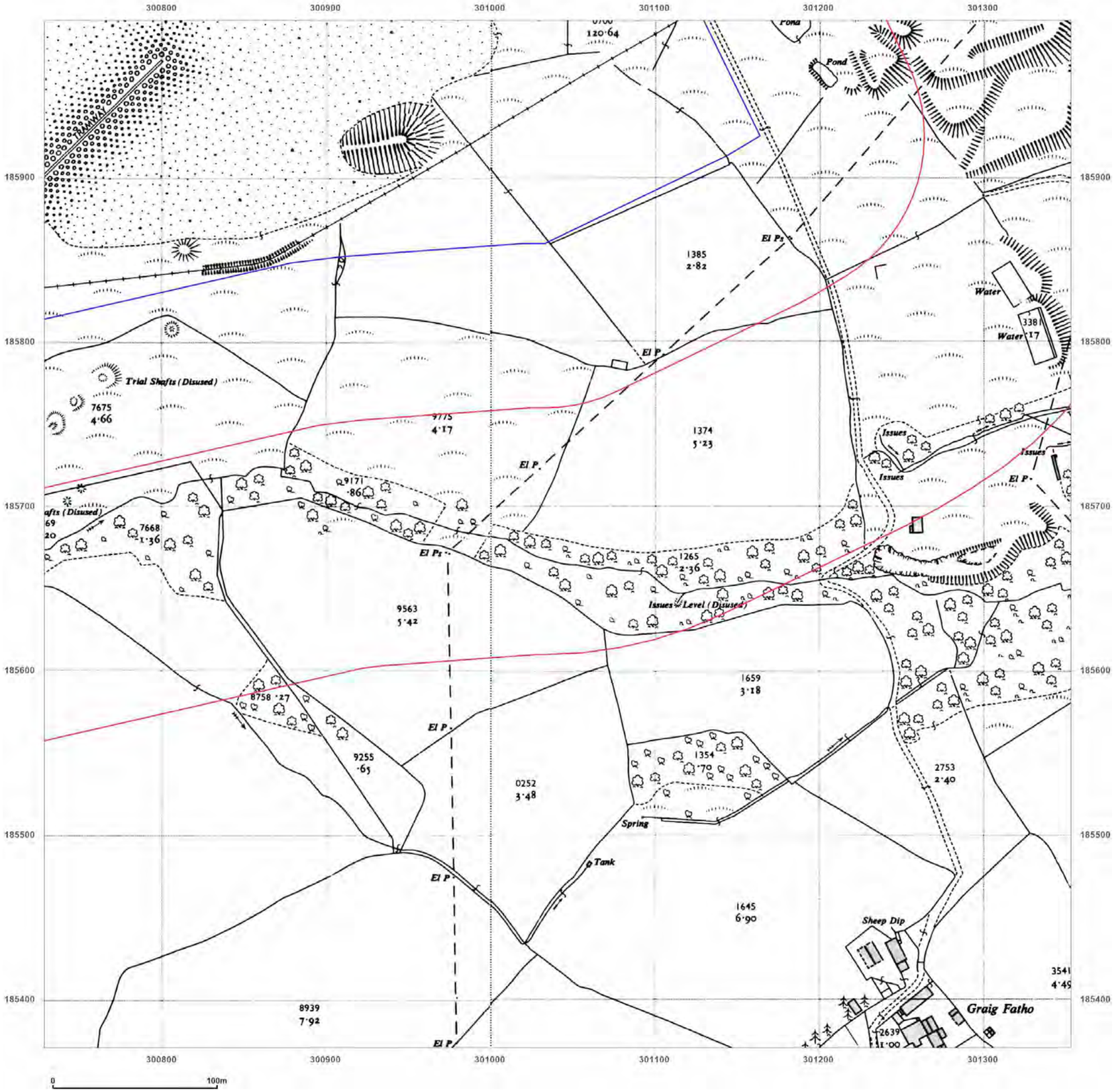

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid
Map date: **1961**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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

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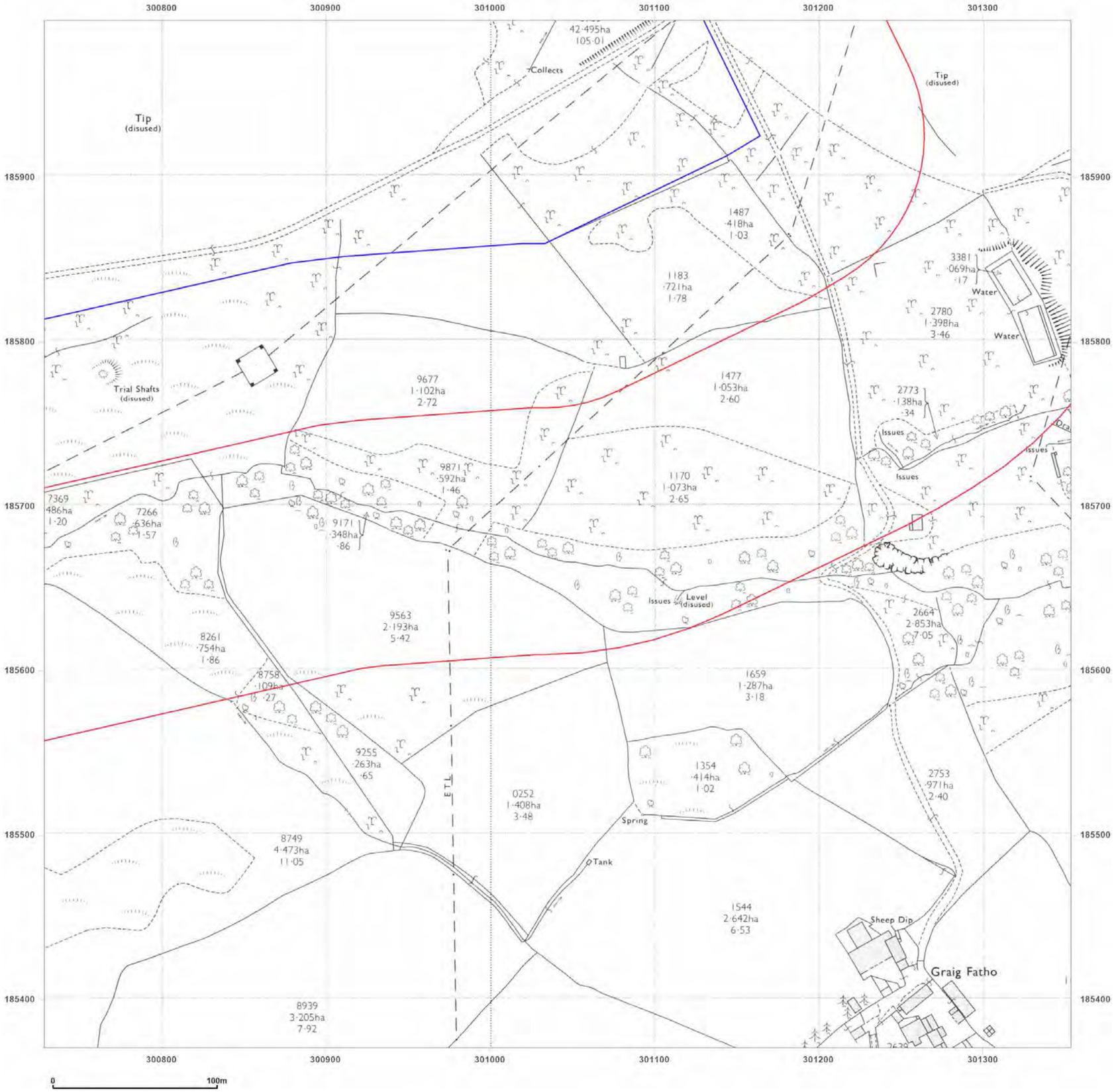

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid

Map date: **1973**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1973
Revised 1973
Edition N/A
Copyright 1974
Levelled 1965

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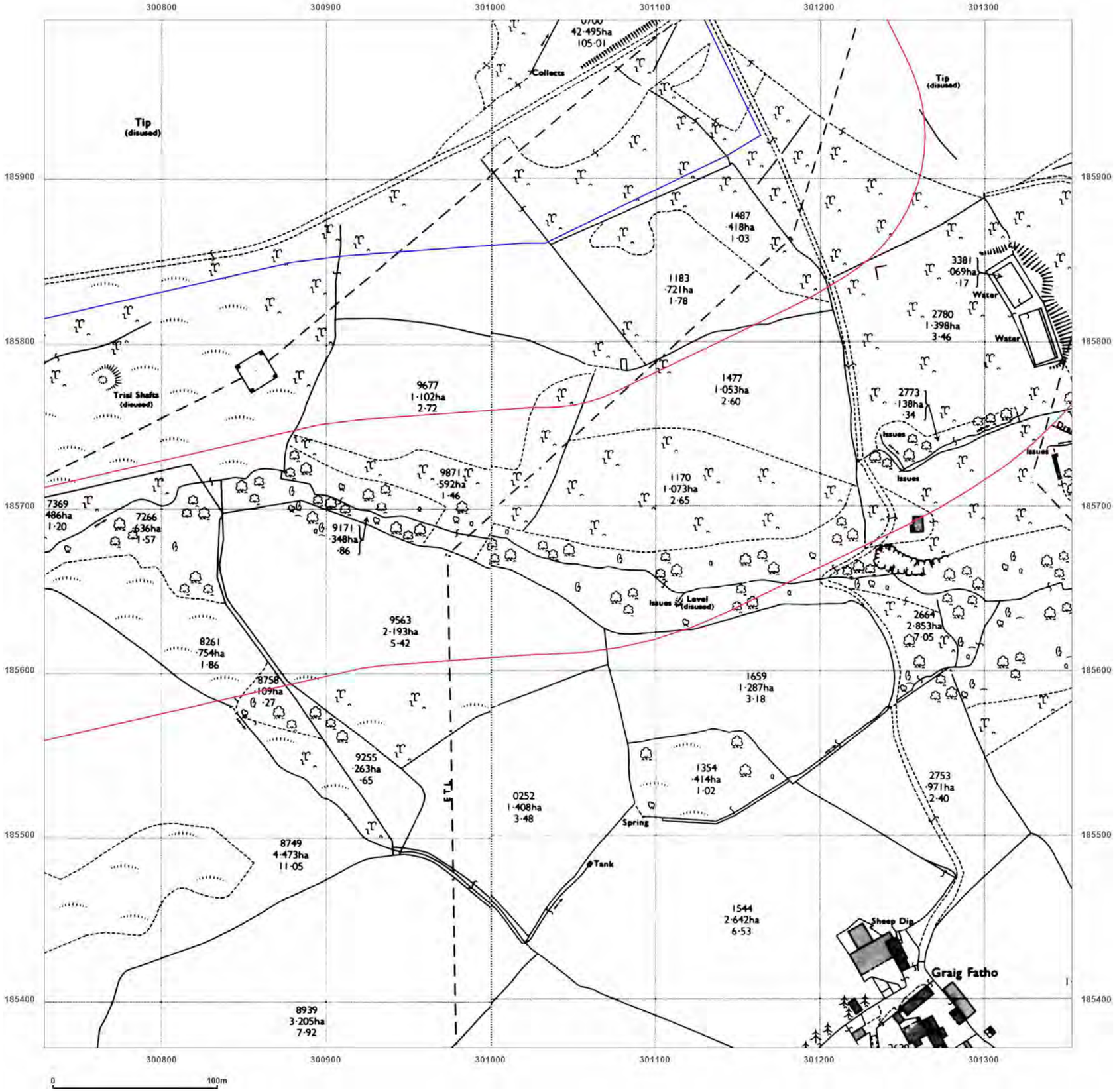

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid

Map date: **1974**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

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

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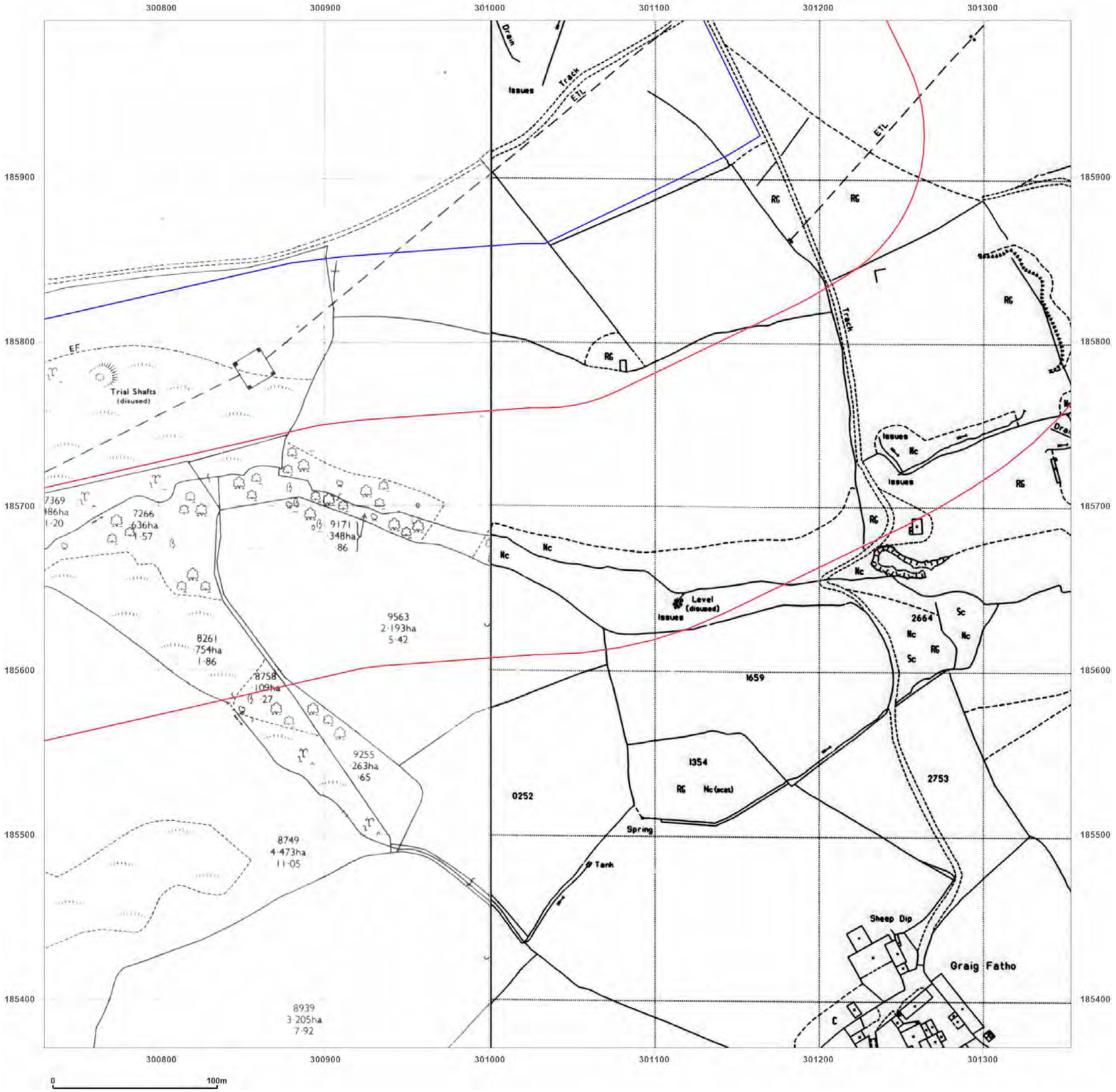

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid

Map date: **1992-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
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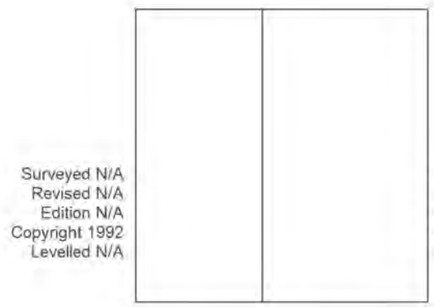

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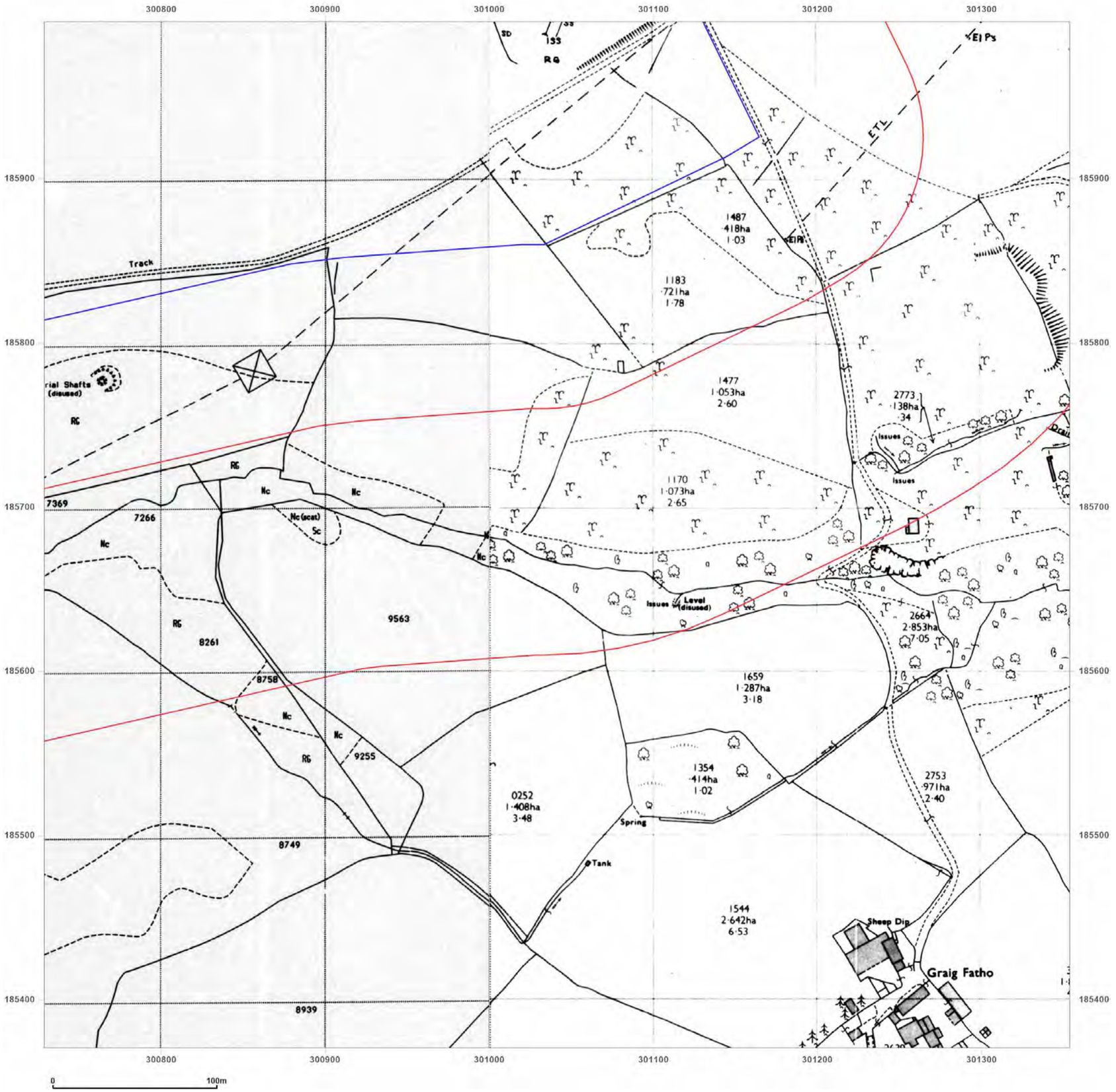

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_1
Grid Ref: 301041, 185683

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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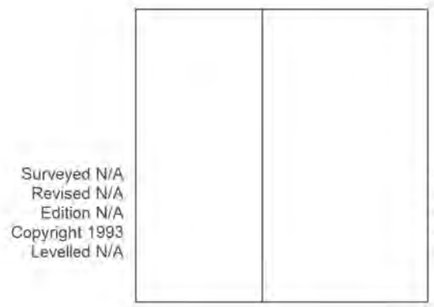

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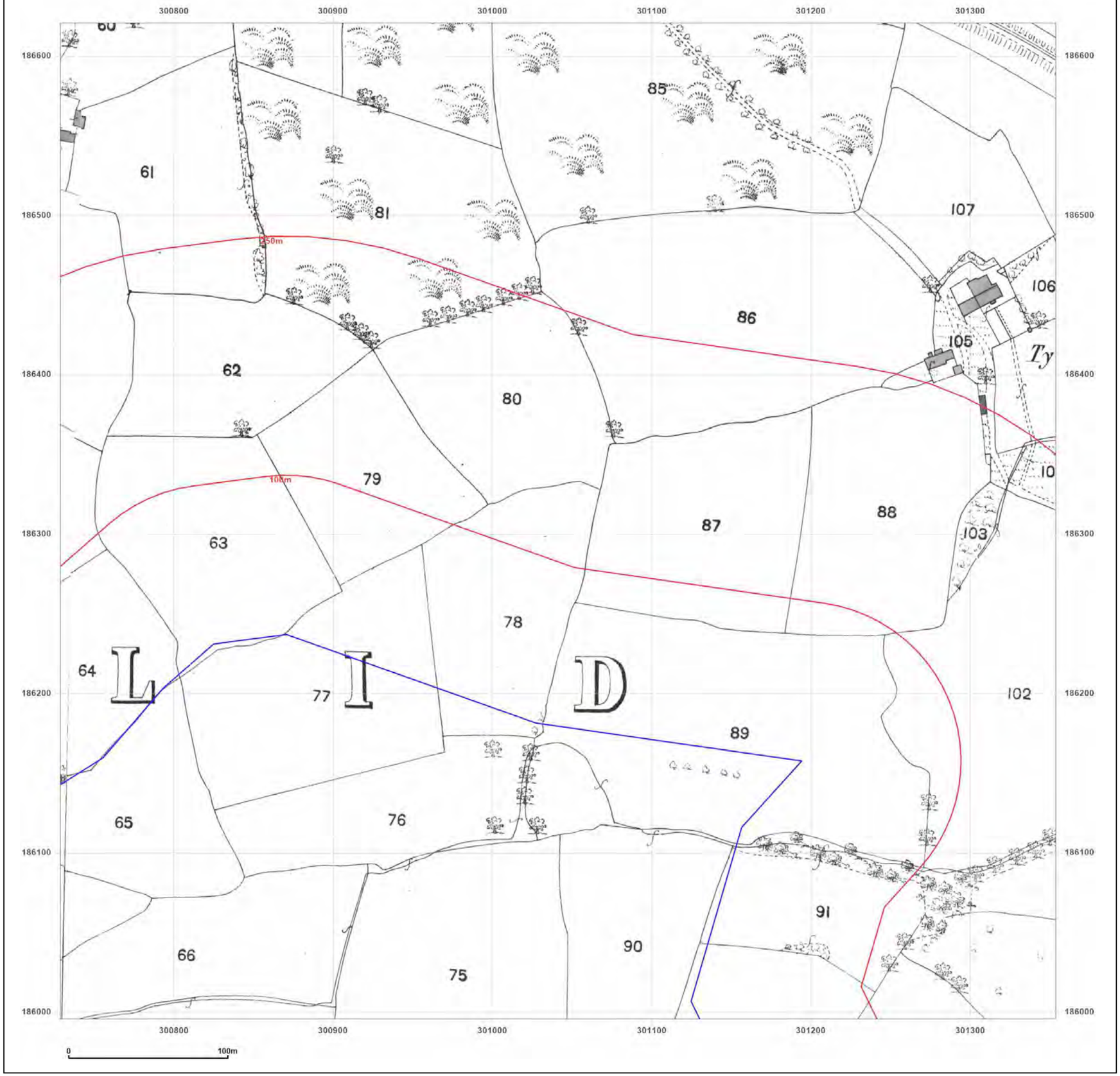

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: County Series
Map date: **1877-1878**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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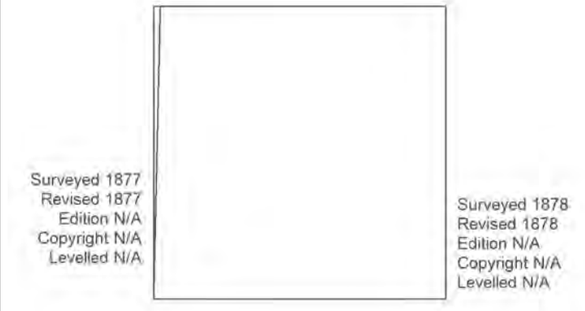

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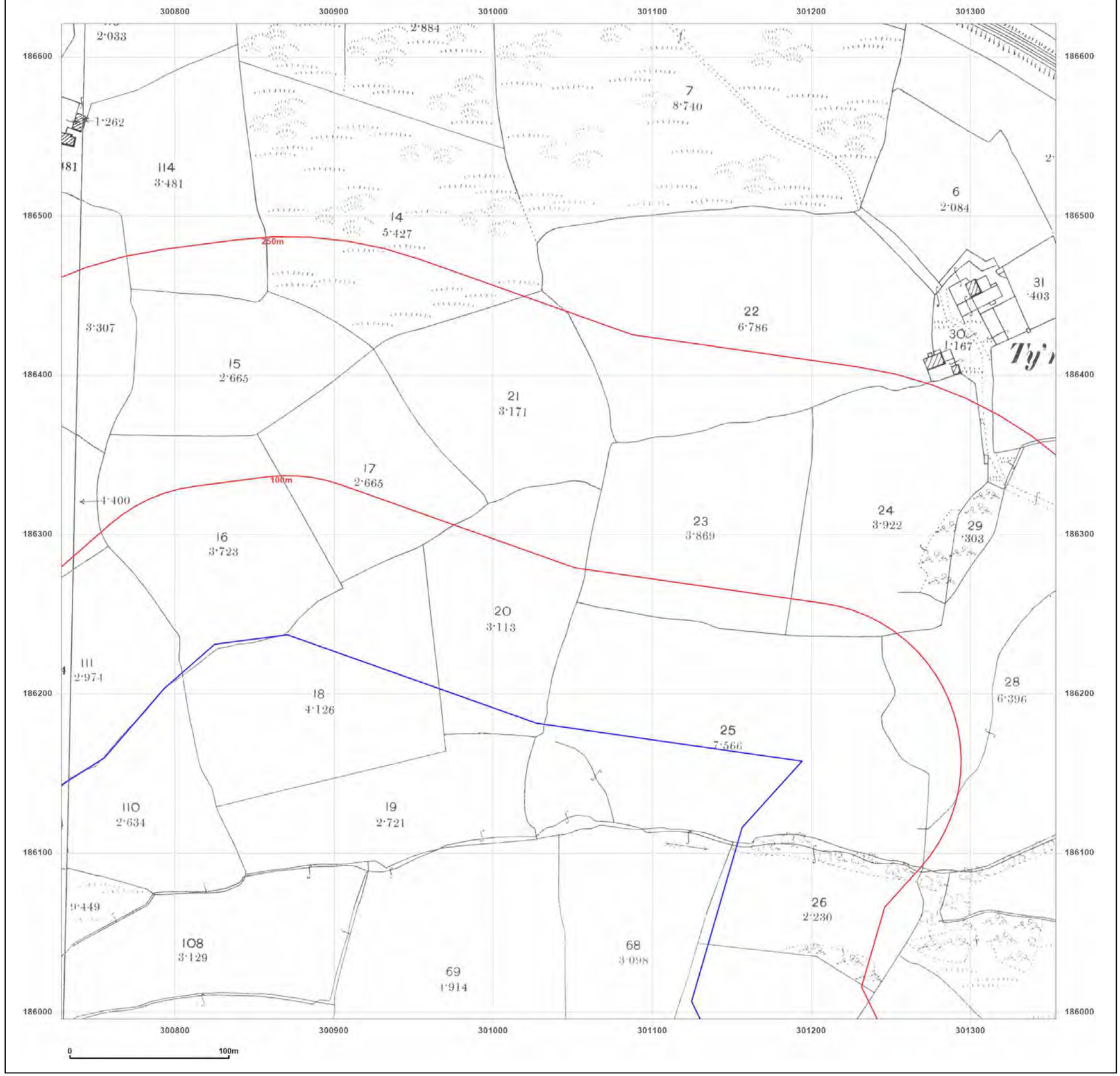

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: County Series

Map date: **1899**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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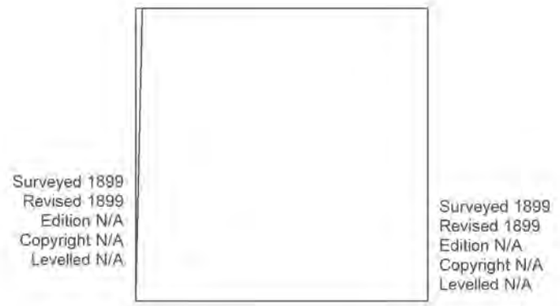

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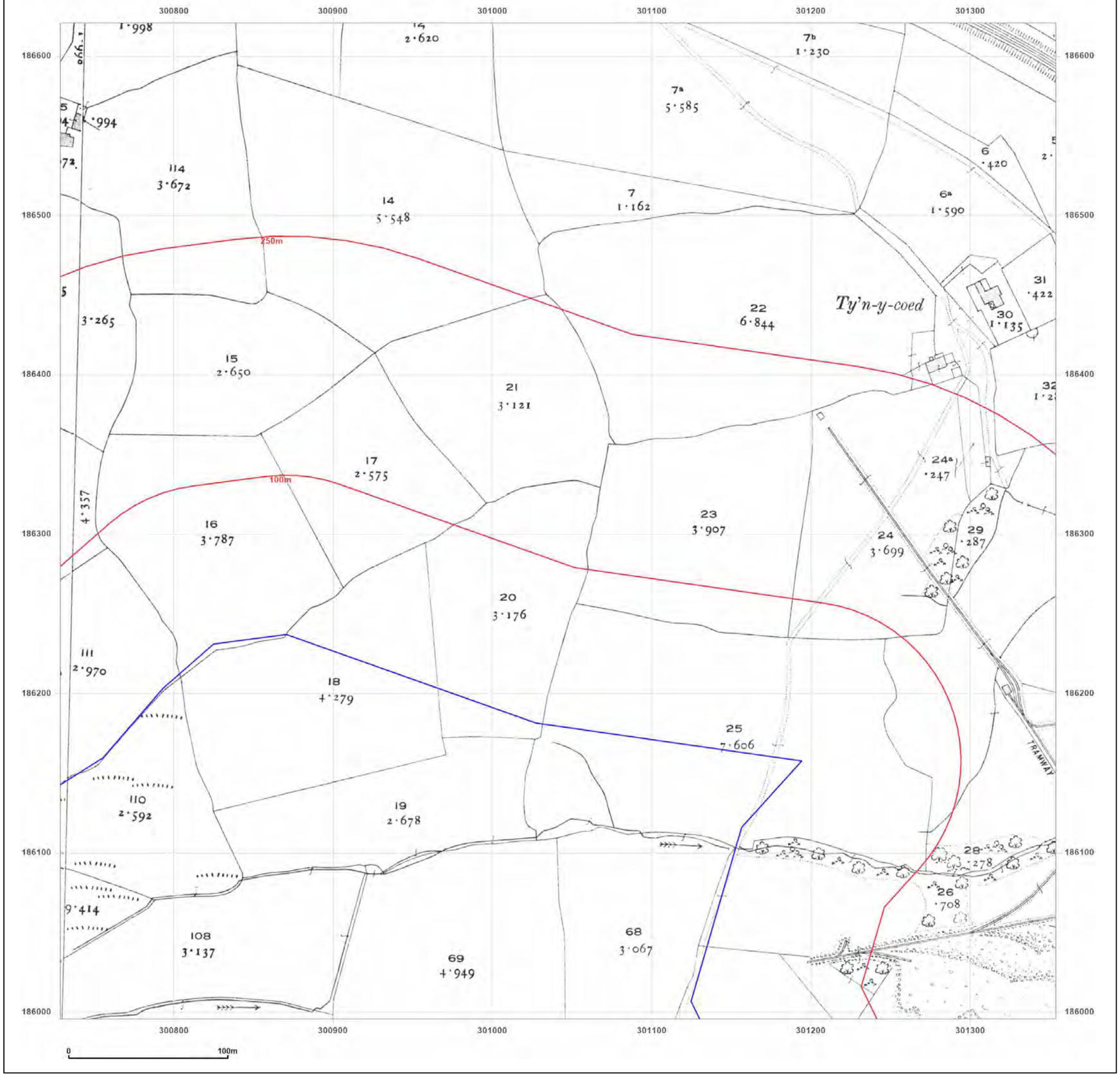


Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

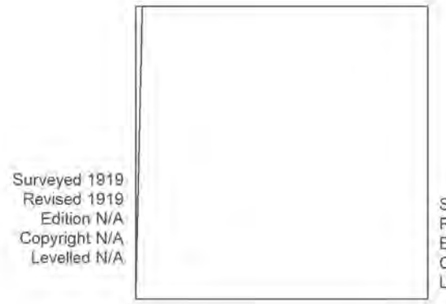
Map Name: County Series

Map date: **1919-1920**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



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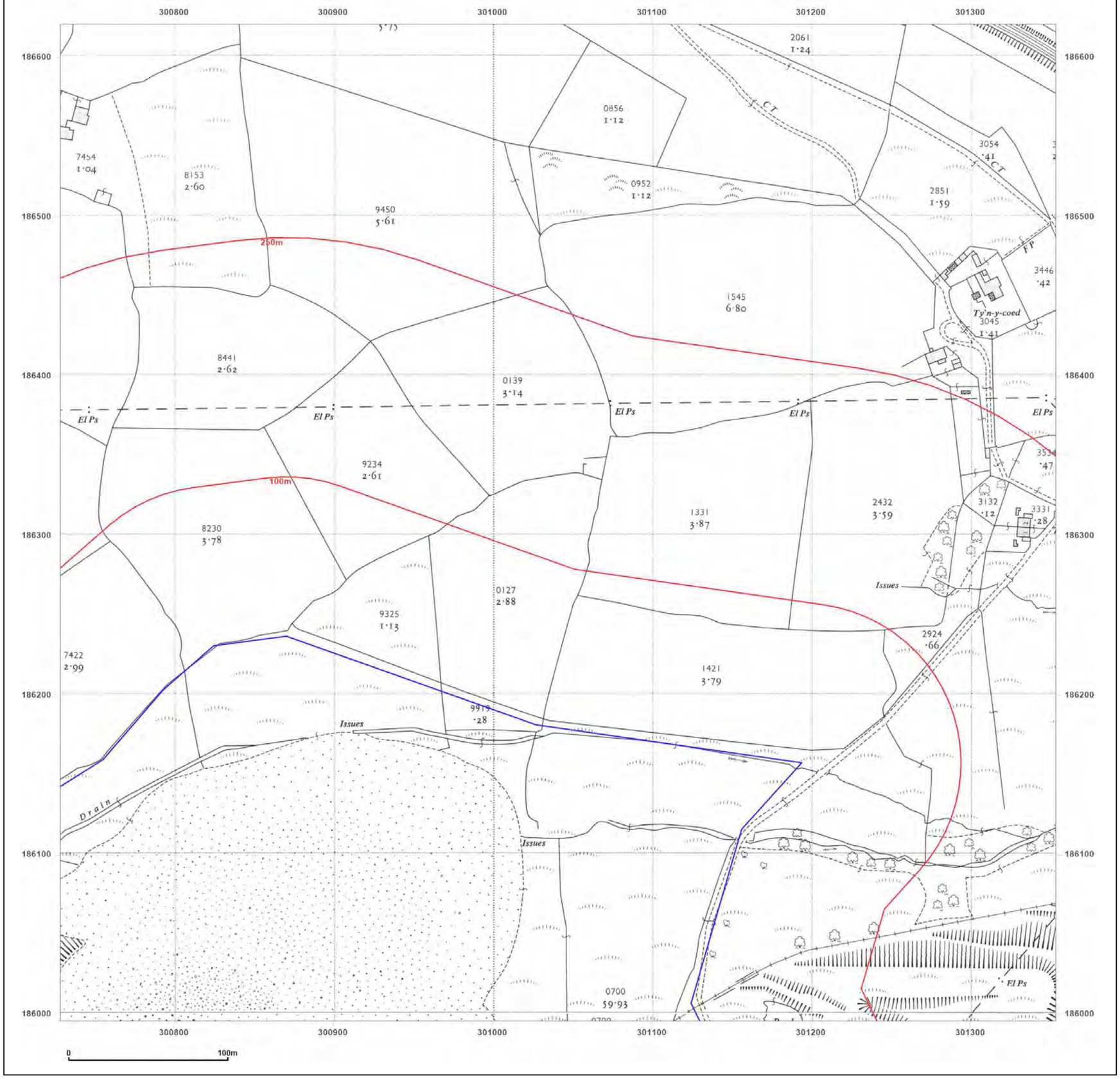

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1960**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1957

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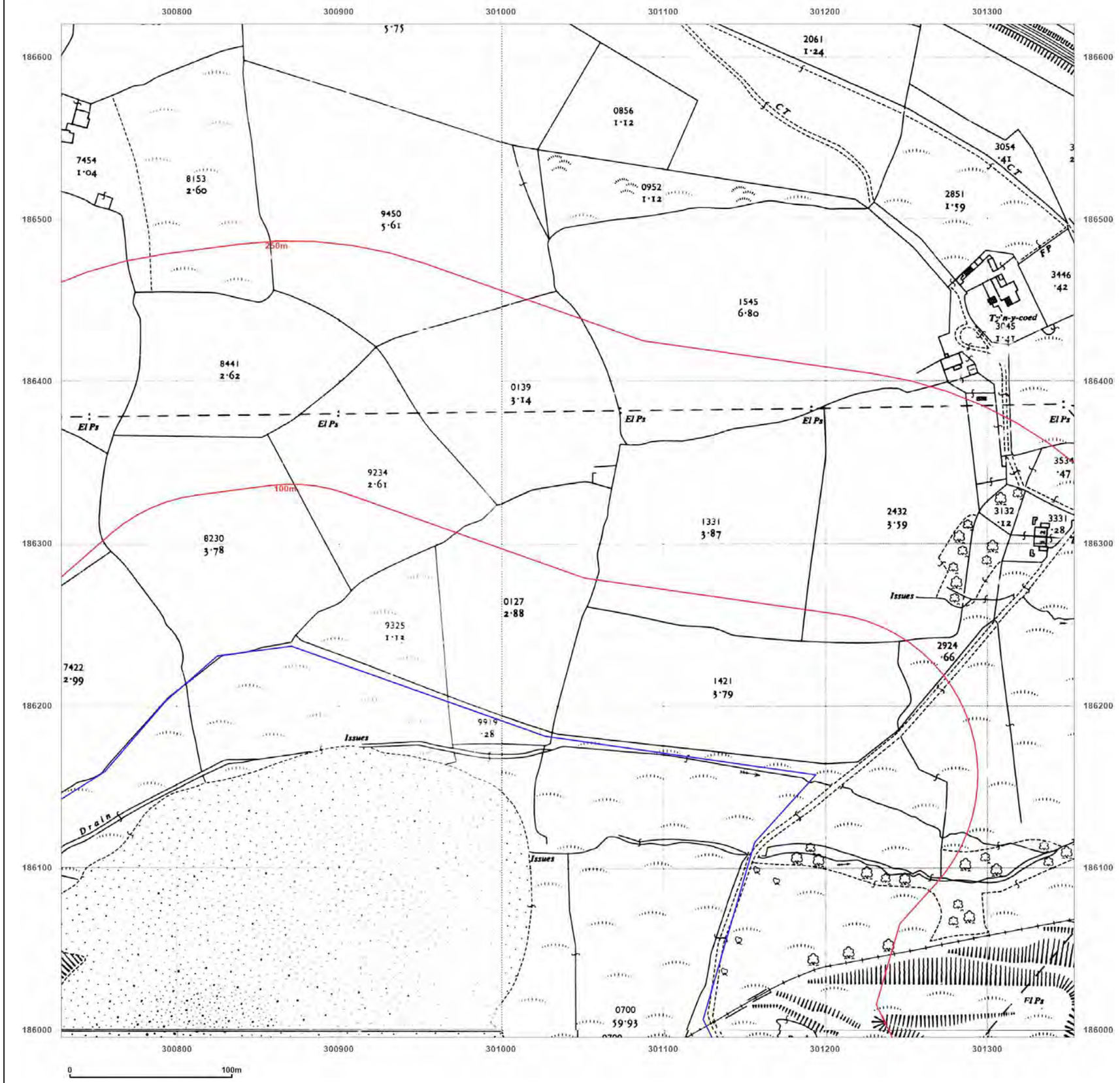

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

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

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

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Edition N/A
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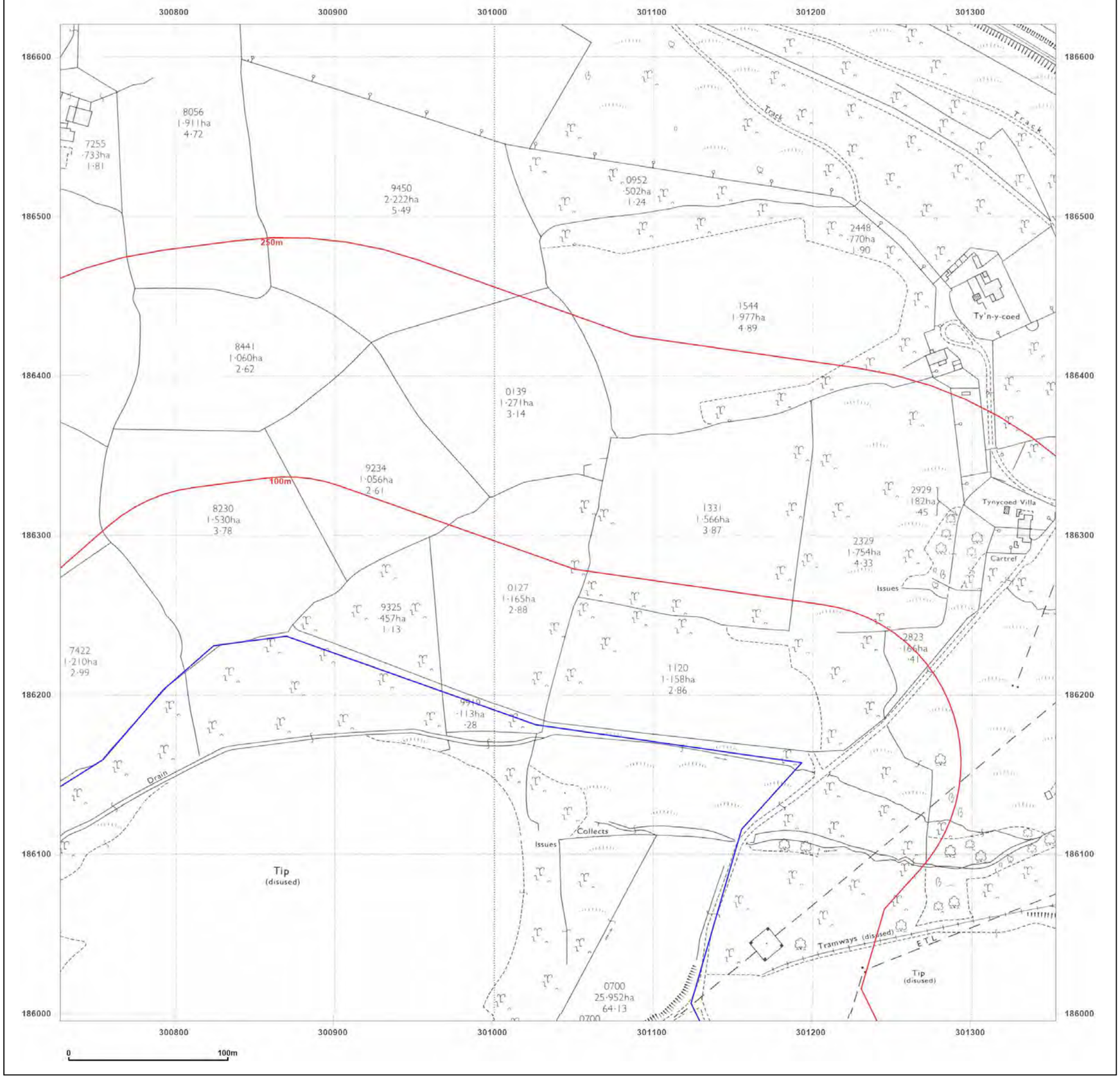

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1972-1973**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1972
Revised 1972
Edition N/A
Copyright 1973
Levelled 1965

Surveyed 1973
Revised 1973
Edition N/A
Copyright 1974
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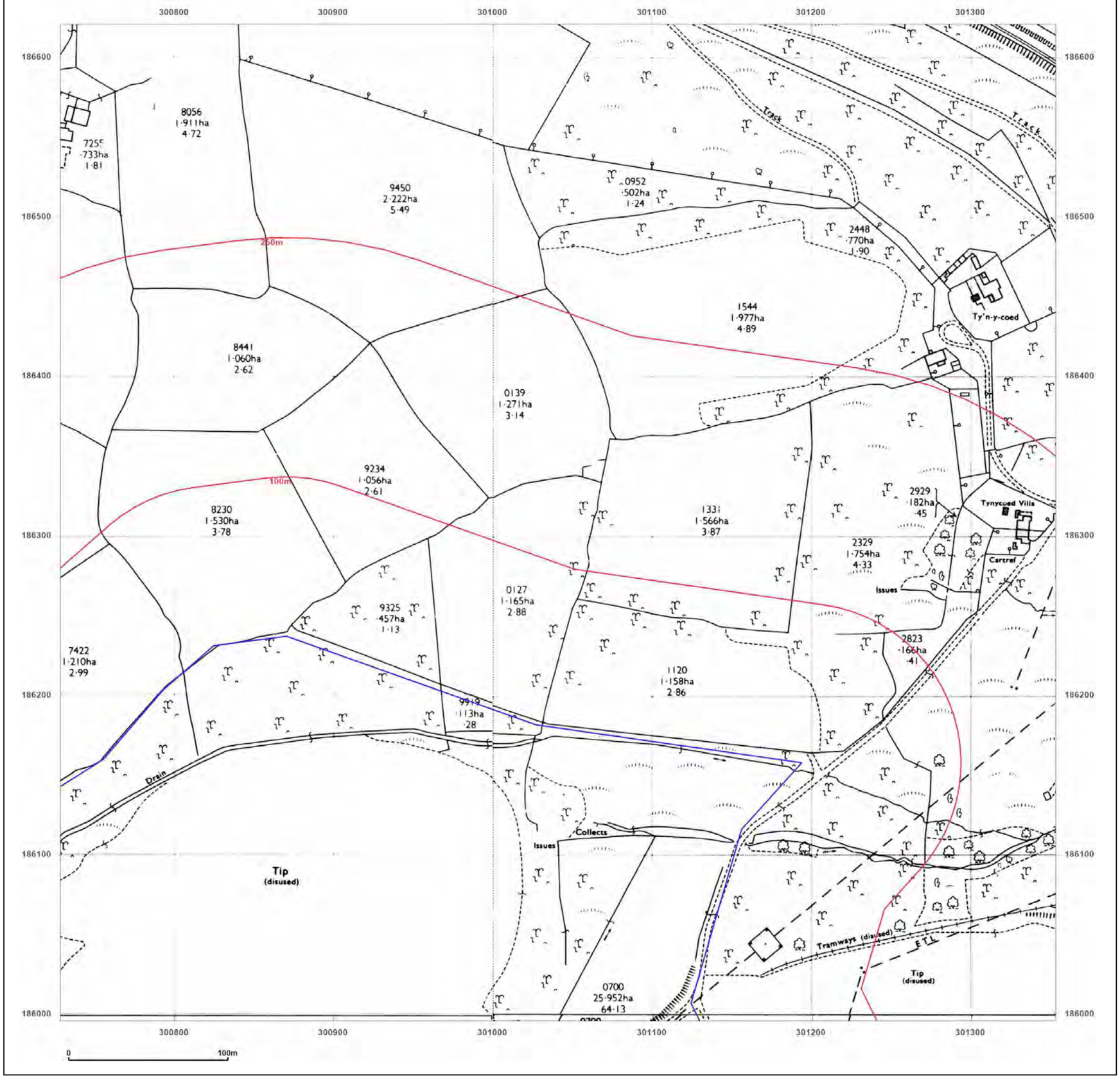

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1973-1974**

Scale: 1:2,500

Printed at: 1:2,500

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

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
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Surveyed N/A
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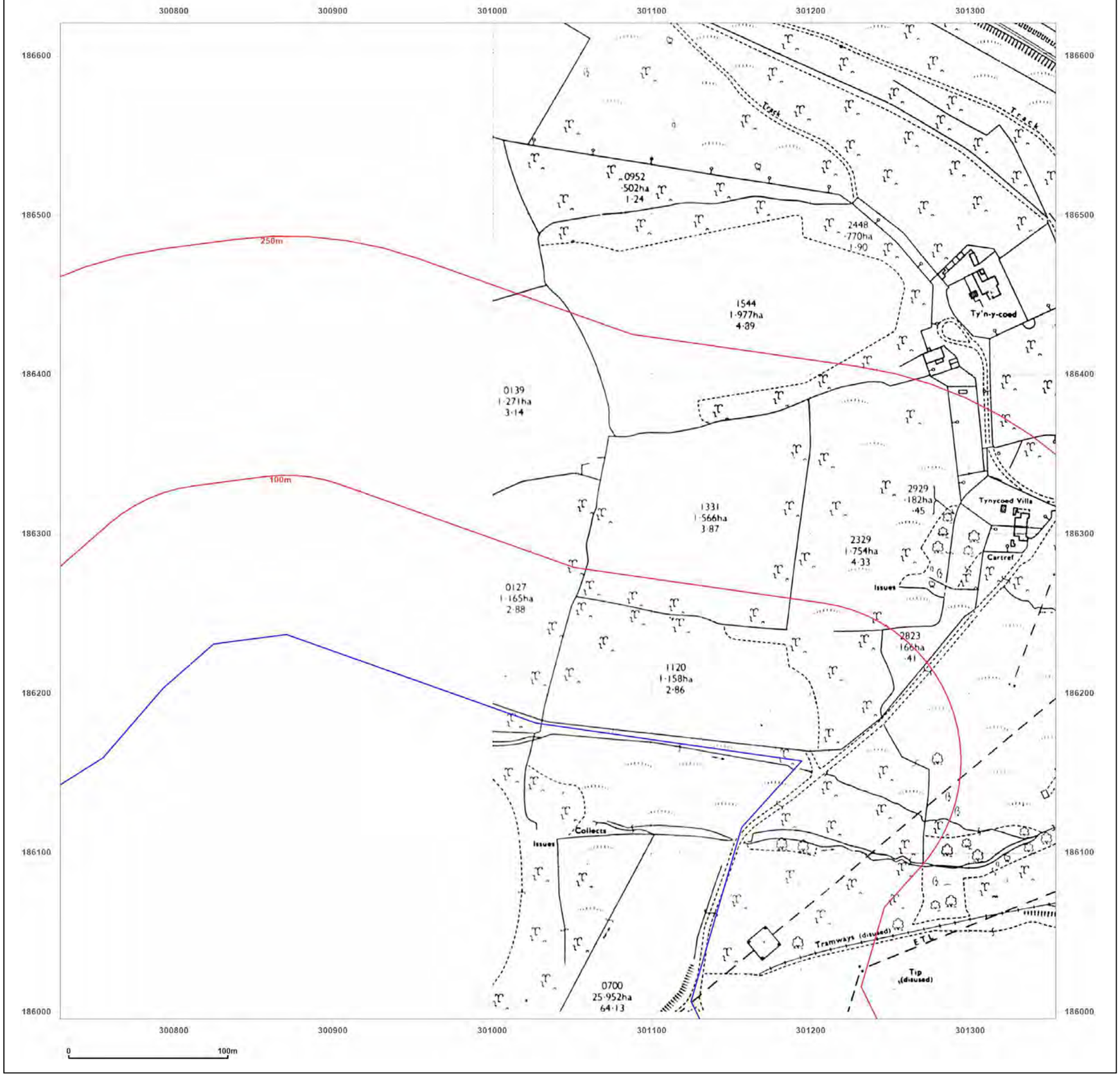

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1979**

Scale: 1:2,500

Printed at: 1:2,500

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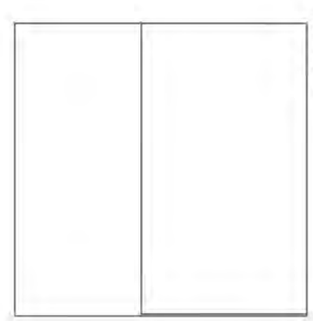

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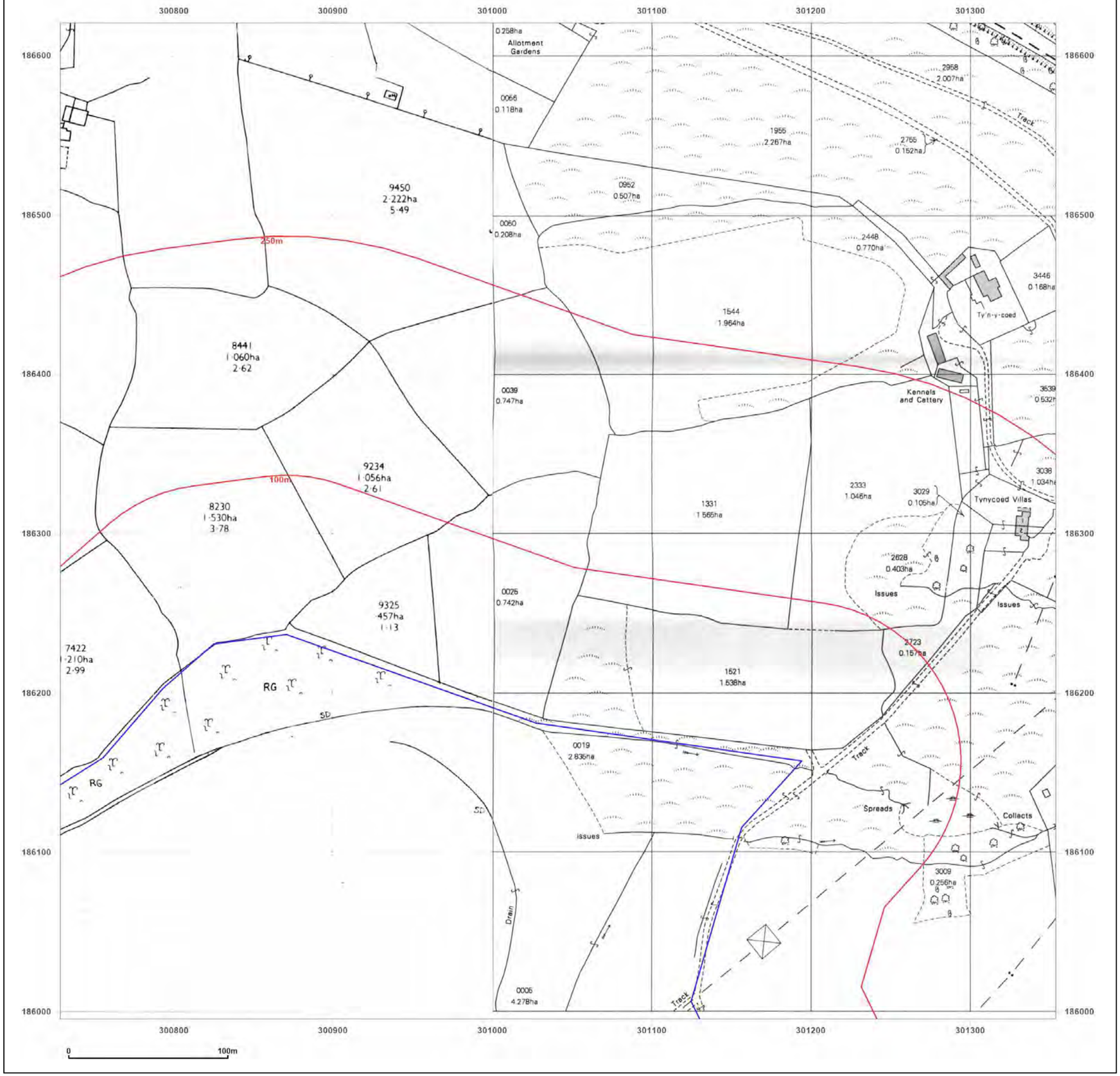

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1990**

Scale: 1:2,500

Printed at: 1:2,500

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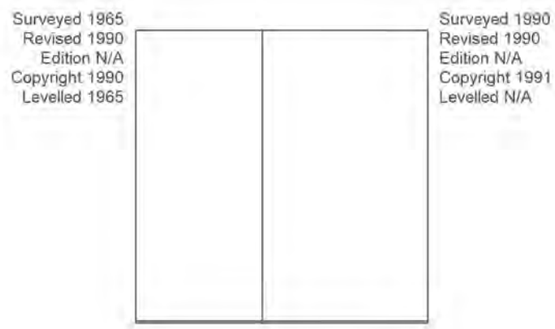

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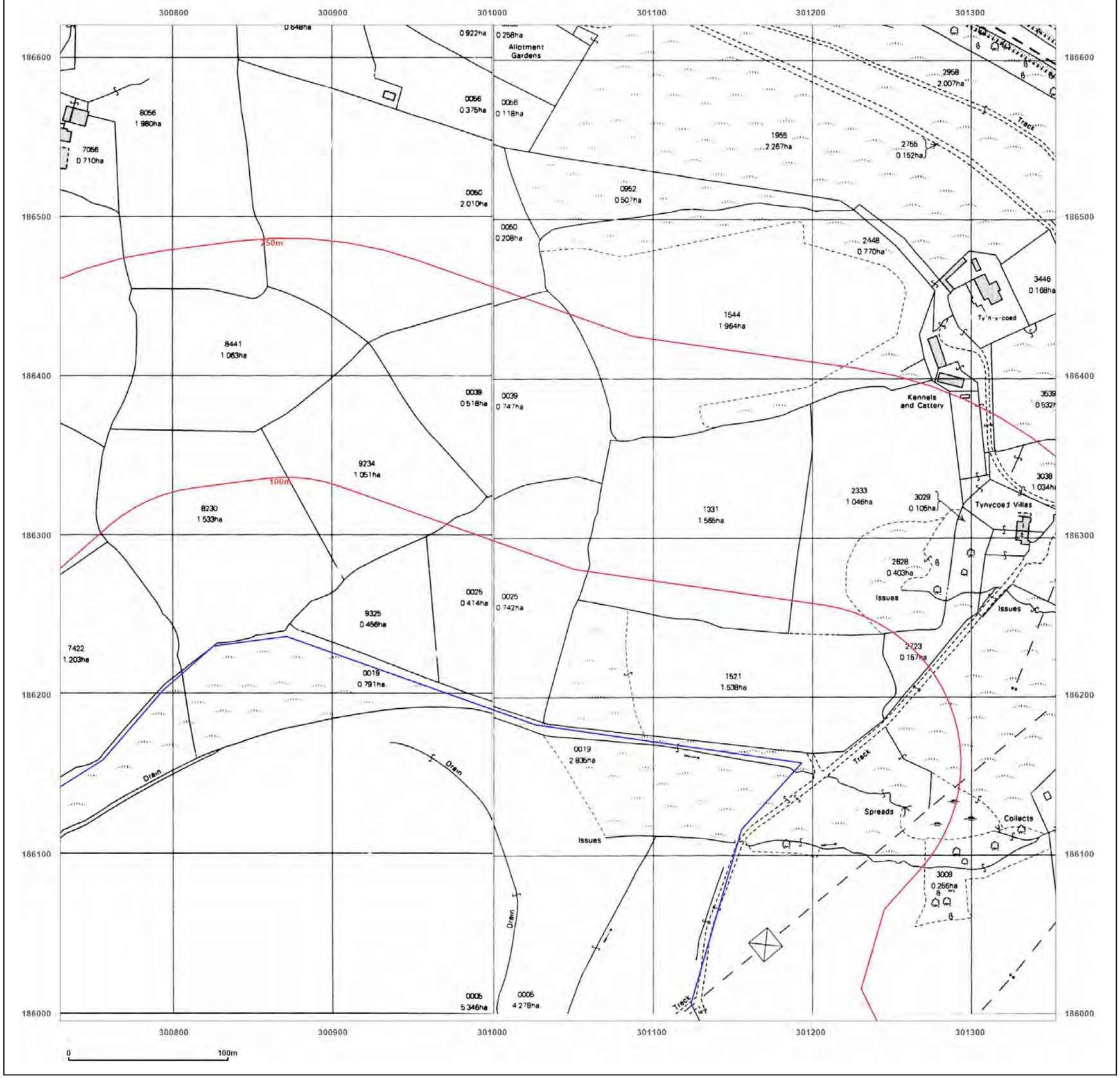

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Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1991**

Scale: 1:2,500

Printed at: 1:2,500

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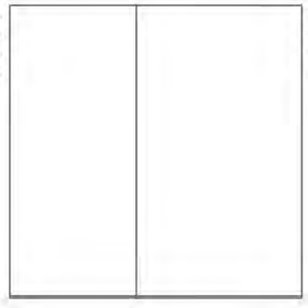
Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A



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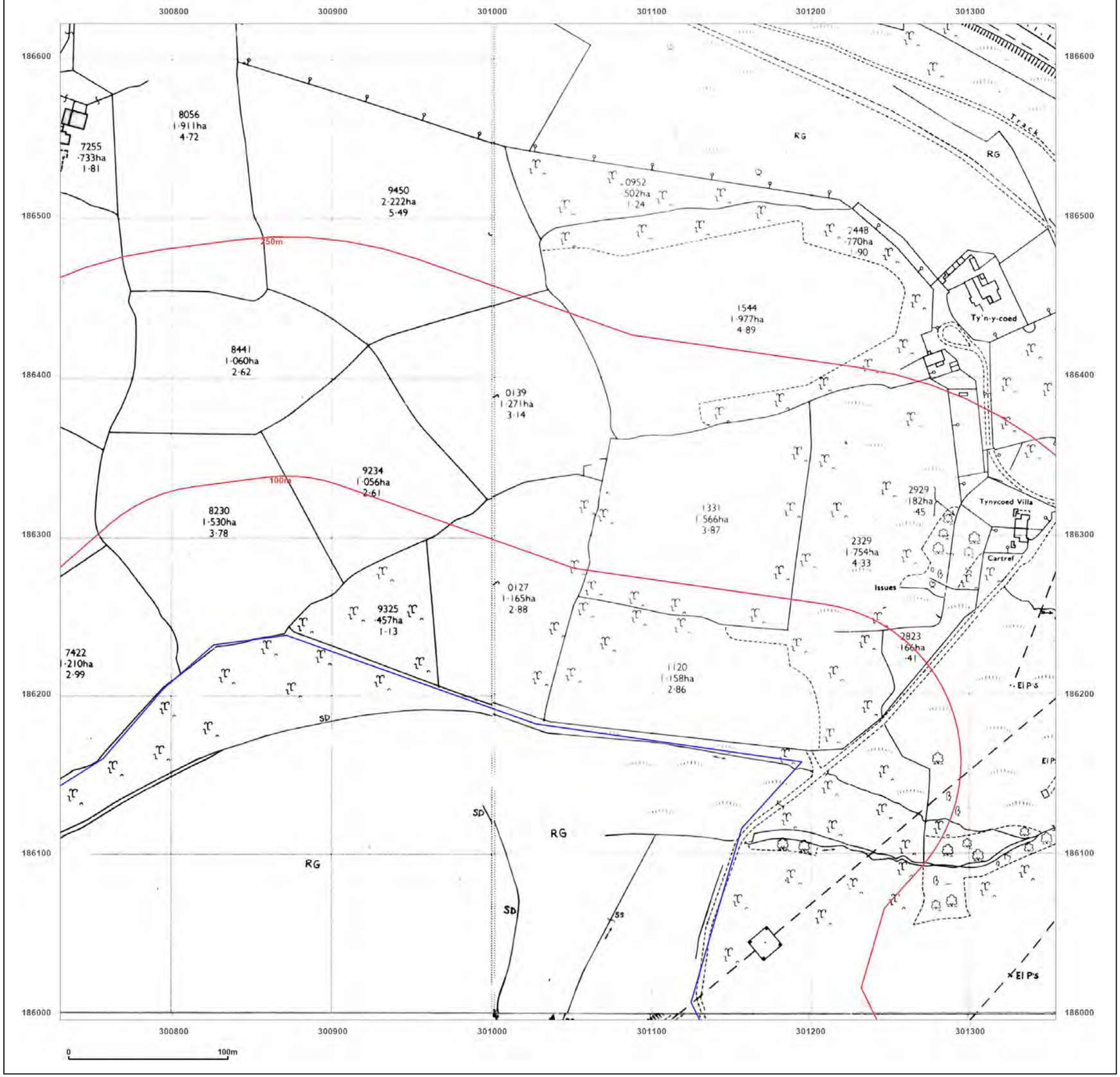

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1988-1992**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed 1965 Revised 1988 Edition N/A Copyright 1988 Levelled 1965

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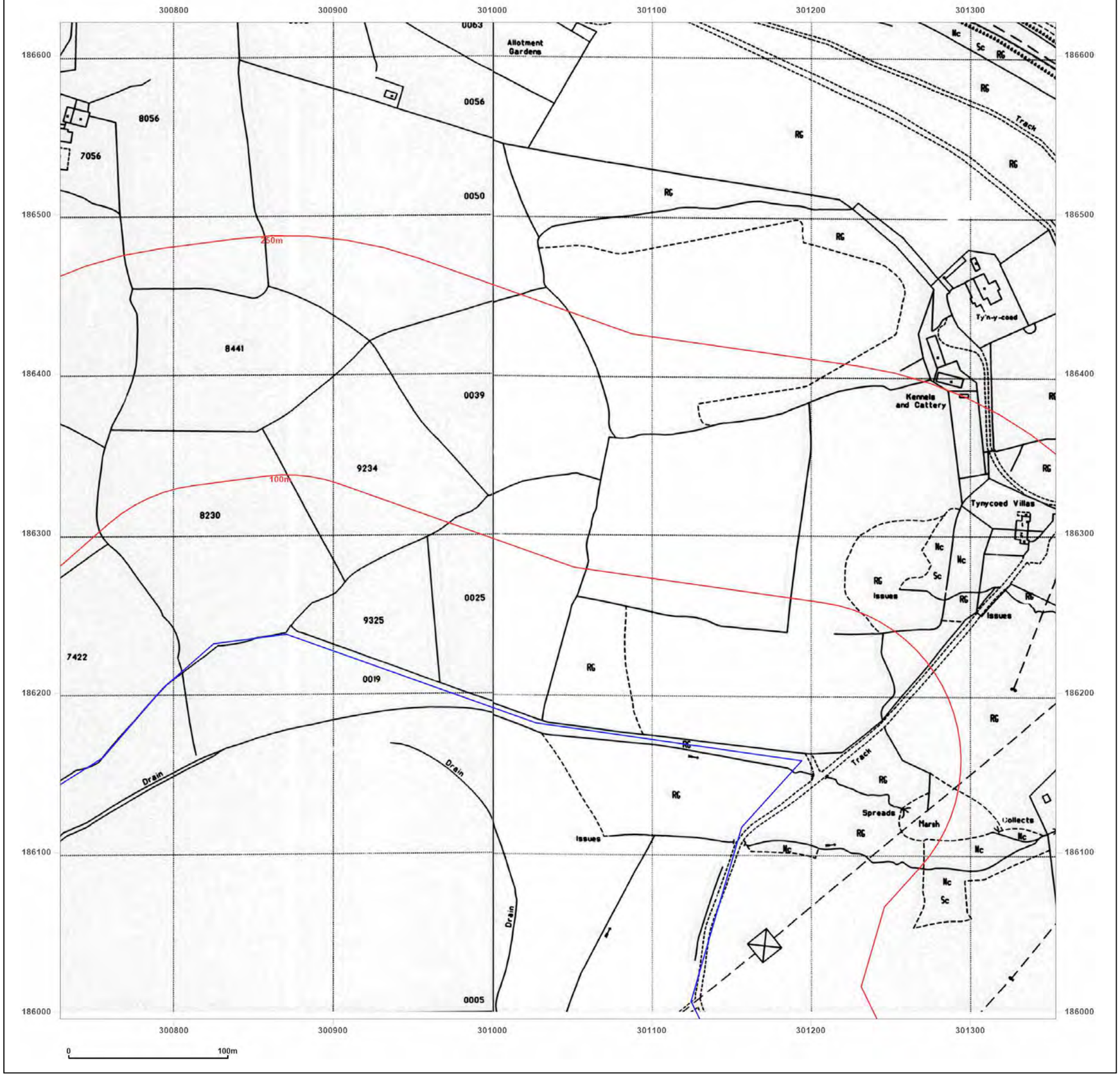

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39 8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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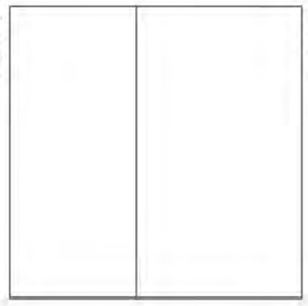
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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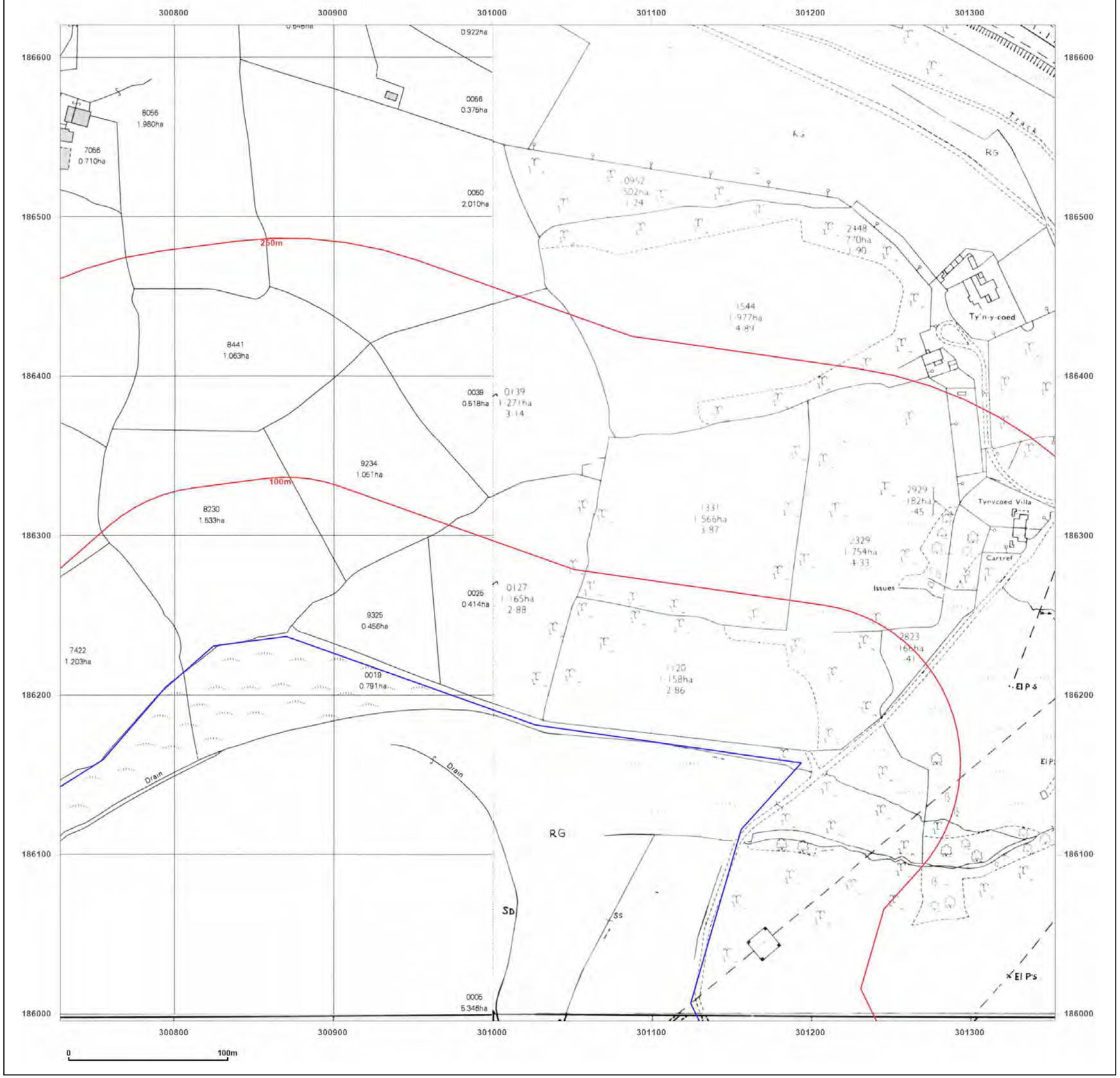

Quantum Geotechnical

Site Details:

PROPOSED SOLAR FARM,
COEDELY, TONYREFAIL, CF39
8EX

Client Ref: Q0533
Report Ref: HMD-213-7863462_LS_2_2
Grid Ref: 301041, 186308

Map Name: National Grid

Map date: **1989-1993**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1990 Revised 1990 Edition N/A Copyright 1991 Levelled N/A	Surveyed 1965 Revised 1989 Edition N/A Copyright 1989 Levelled 1965
Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A

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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.

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insight@groundsure.com
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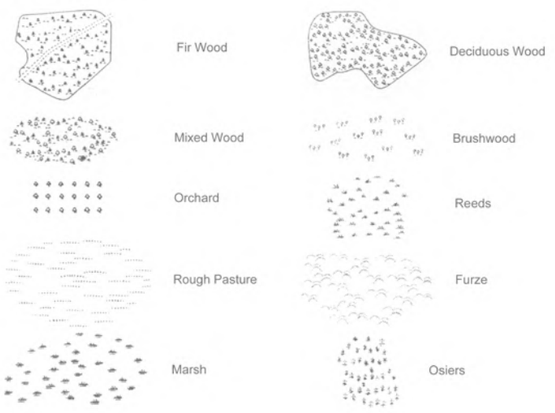
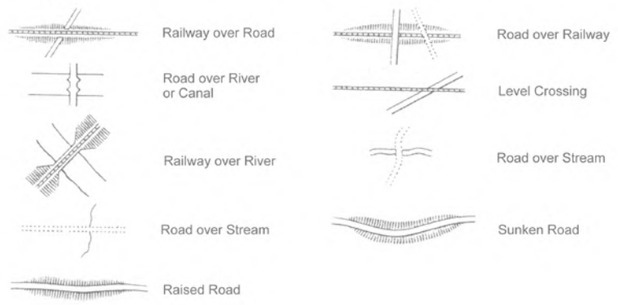
COUNTY SERIES 1:10,560

VEGETATION

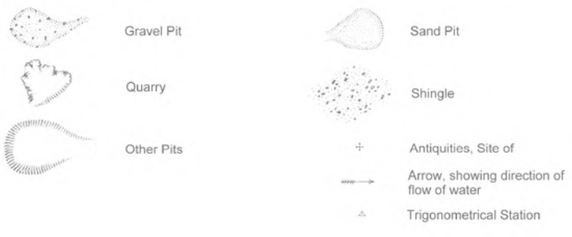


ROADS



RAILWAYS

GENERAL FEATURES



BOUNDARIES

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

HEIGHTS (METRES)

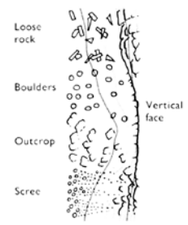
Values are given in metres above mean sea level at Newlyn.

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.

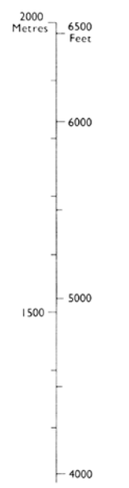
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

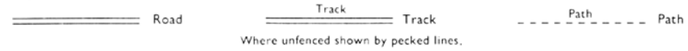
Metres - Feet



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



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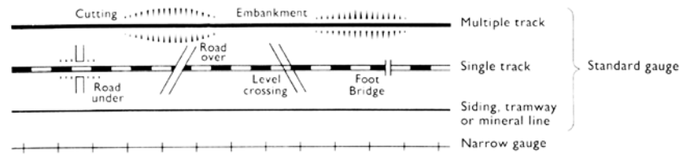
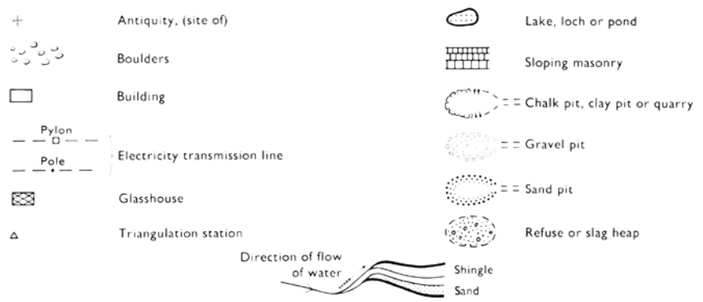
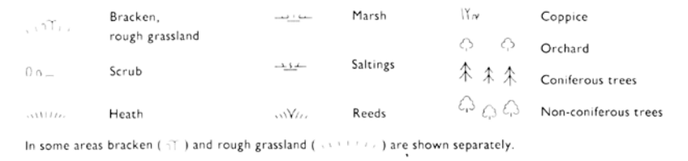


GENERAL FEATURES



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

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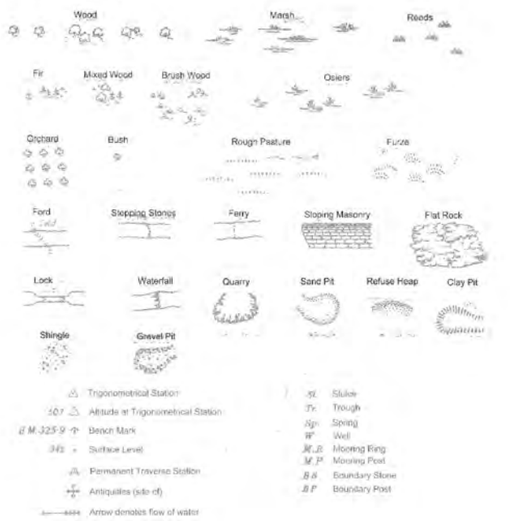
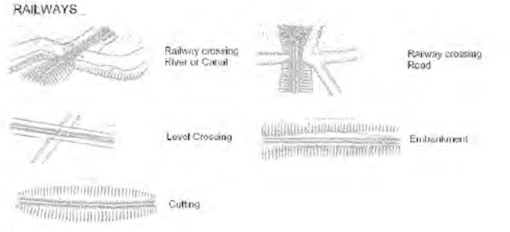
COUNTY SERIES 1:2,500

GENERAL FEATURES

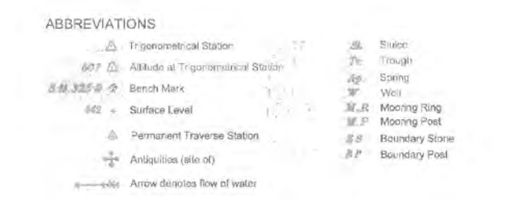


ROADS

RAILWAYS

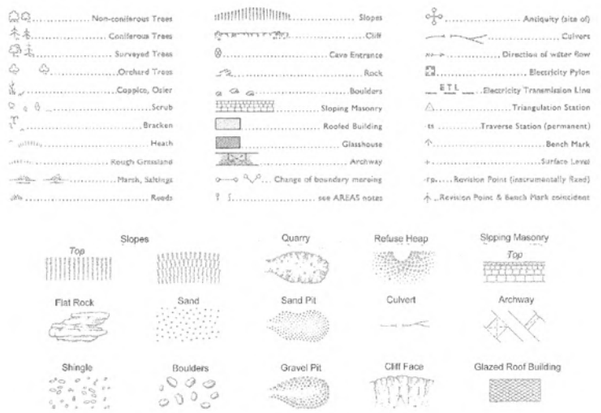


ABBREVIATIONS



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

GENERAL FEATURES



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 of City Bdy — County of the City Boundary * / †
- Burgh Bdy — Burgh Boundary * / †
- Dist Bdy — District Council Boundary * / †

* Not with parish † Coincident with parish

ABBREVIATIONS

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

APPENDIX III – GROUNDSURE ENVIRO+GEO INSIGHT REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

PROPOSED SOLAR FARM, COEDELY, TONYREFAIL, CF39 8EX

Order Details

Date: 17/05/2021

Your ref: Q0533

Our Ref: HMD-213-7863463

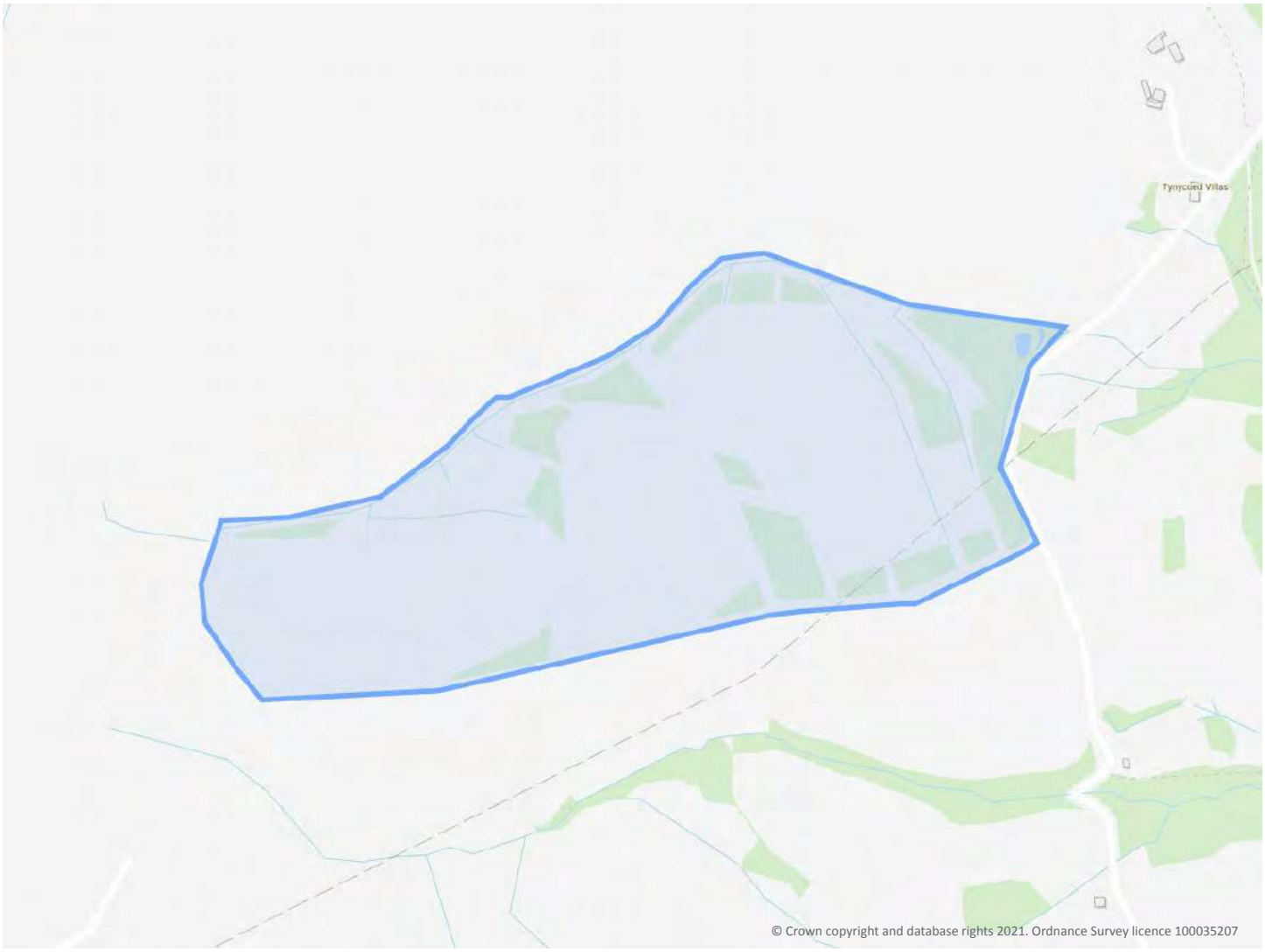
Client: Quantum Geotechnic Ltd

Site Details

Location: 300827 185993

Area: 25.49 ha

Authority: Rhondda Cynon Taf County Borough Council



Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	23	17	31	37	-
18	1.2	Historical tanks	0	0	0	16	-
19	1.3	Historical energy features	0	0	3	0	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	0	0	-
20	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
21	2.1	Historical industrial land uses	27	24	42	50	-
27	2.2	Historical tanks	0	0	0	24	-
28	2.3	Historical energy features	0	0	10	0	-
28	2.4	Historical petrol stations	0	0	0	0	-
29	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
30	3.1	Active or recent landfill	1	0	0	0	-
31	3.2	Historical landfill (BGS records)	0	0	0	0	-
31	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
31	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
31	3.5	Historical waste sites	0	0	0	0	-
31	3.6	Licensed waste sites	7	0	0	0	-
33	3.7	Waste exemptions	0	0	14	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
36	4.1	Recent industrial land uses	0	2	5	-	-
37	4.2	Current or recent petrol stations	0	0	0	0	-
37	4.3	Electricity cables	0	0	0	0	-
37	4.4	Gas pipelines	0	0	0	0	-
37	4.5	Sites determined as Contaminated Land	0	0	0	0	-

38	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
38	4.7	Regulated explosive sites	0	0	0	0	-
38	4.8	Hazardous substance storage/usage	0	0	0	0	-
38	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
38	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
39	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
39	4.12	Radioactive Substance Authorisations	0	0	0	0	-
39	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	1	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
40	4.15	Pollutant release to public sewer	0	0	0	0	-
40	4.16	List 1 Dangerous Substances	0	0	0	0	-
40	4.17	List 2 Dangerous Substances	0	0	0	0	-
40	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	1	-
41	4.19	Pollution inventory substances	0	0	0	0	-
41	4.20	Pollution inventory waste transfers	0	0	0	0	-
41	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
42	**5.1**	**Superficial aquifer**	Identified (within 500m)				
44	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
46	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
48	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
48	5.5	Groundwater vulnerability- local information	None (within 0m)				
49	**5.6**	**Groundwater abstractions**	0	0	0	0	1
50	**5.7**	**Surface water abstractions**	0	0	0	1	1
51	5.8	Potable abstractions	0	0	0	0	0
51	5.9	Source Protection Zones	0	0	0	0	-
51	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
52	**6.1**	**Water Network (OS MasterMap)**	21	8	23	-	-

57	6.2	Surface water features	1	3	17	-	-
57	6.3	WFD Surface water body catchments	1	-	-	-	-
57	6.4	WFD Surface water bodies	0	0	0	-	-
58	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
59	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
59	7.2	Historical Flood Events	0	0	0	-	-
59	7.3	Flood Defences	0	0	0	-	-
59	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
60	7.5	Flood Storage Areas	0	0	0	-	-
61	7.6	Flood Zone 2	None (within 50m)				
61	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
62	8.1	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding	
64	9.1	Groundwater flooding	Low (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
65	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	6
66	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
66	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
66	10.4	Special Protection Areas (SPA)	0	0	0	0	0
67	10.5	National Nature Reserves (NNR)	0	0	0	0	0
67	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
67	10.7	Designated Ancient Woodland	0	0	3	3	37
69	10.8	Biosphere Reserves	0	0	0	0	0
69	10.9	Forest Parks	0	0	0	0	0
69	10.10	Marine Conservation Zones	0	0	0	0	0
70	10.11	Green Belt	0	0	0	0	0
70	10.12	Proposed Ramsar sites	0	0	0	0	0

70	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
70	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
70	10.15	Nitrate Sensitive Areas	0	0	0	0	0
71	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
72	10.17	SSSI Impact Risk Zones	0	-	-	-	-
72	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
73	11.1	World Heritage Sites	0	0	0	-	-
73	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
73	11.3	National Parks	0	0	0	-	-
73	11.4	Listed Buildings	0	0	0	-	-
74	11.5	Conservation Areas	0	0	0	-	-
74	11.6	Scheduled Ancient Monuments	0	0	0	-	-
74	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
75	**12.1**	**Agricultural Land Classification**	Grade 3b (within 250m)				
76	12.2	Open Access Land	0	0	0	-	-
76	12.3	Tree Felling Licences	0	0	0	-	-
77	12.4	Environmental Stewardship Schemes	0	0	0	-	-
77	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
78	13.1	Priority Habitat Inventory	0	0	0	-	-
78	13.2	Habitat Networks	0	0	0	-	-
78	13.3	Open Mosaic Habitat	0	0	0	-	-
78	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
79	**14.1**	**10k Availability**	Identified (within 500m)				
80	14.2	Artificial and made ground (10k)	0	0	0	0	-
81	14.3	Superficial geology (10k)	0	0	0	0	-

81	14.4	Landslip (10k)	0	0	0	0	-
82	14.5	Bedrock geology (10k)	0	0	0	0	-
82	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
83	15.1	50k Availability	Identified (within 500m)				
84	15.2	Artificial and made ground (50k)	0	0	0	0	-
84	15.3	Artificial ground permeability (50k)	0	0	-	-	-
85	15.4	Superficial geology (50k)	1	2	1	3	-
86	15.5	Superficial permeability (50k)	Identified (within 50m)				
86	15.6	Landslip (50k)	0	0	0	0	-
86	15.7	Landslip permeability (50k)	None (within 50m)				
87	15.8	Bedrock geology (50k)	2	0	2	1	-
88	15.9	Bedrock permeability (50k)	Identified (within 50m)				
88	15.10	Bedrock faults and other linear features (50k)	1	3	4	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
90	16.1	BGS Boreholes	0	1	2	-	-
Page	Section	Natural ground subsidence					
92	17.1	Shrink swell clays	Very low (within 50m)				
94	17.2	Running sands	Very low (within 50m)				
96	17.3	Compressible deposits	High (within 50m)				
98	17.4	Collapsible deposits	Very low (within 50m)				
99	17.5	Landslides	Moderate (within 50m)				
101	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
103	18.1	Natural cavities	0	0	0	1	-
104	18.2	BritPits	1	1	2	3	-
105	18.3	Surface ground workings	11	5	40	-	-
108	18.4	Underground workings	12	14	7	1	40
111	18.5	Historical Mineral Planning Areas	0	0	0	0	-

111	18.6	Non-coal mining	0	0	0	0	0
111	18.7	Mining cavities	0	0	0	0	0
111	18.8	JPB mining areas	None (within 0m)				
111	**18.9**	**Coal mining**	Identified (within 0m)				
112	18.10	Brine areas	None (within 0m)				
112	18.11	Gypsum areas	None (within 0m)				
112	18.12	Tin mining	None (within 0m)				
112	18.13	Clay mining	None (within 0m)				

Page	Section	Radon					
113	**19.1**	**Radon**	Less than 1% (within 0m)				

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
114	**20.1**	**BGS Estimated Background Soil Chemistry**	17	7	-	-	-
115	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
116	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
117	21.1	Underground railways (London)	0	0	0	-	-
117	21.2	Underground railways (Non-London)	0	0	0	-	-
118	21.3	Railway tunnels	0	0	0	-	-
118	**21.4**	**Historical railway and tunnel features**	3	5	6	-	-
119	21.5	Royal Mail tunnels	0	0	0	-	-
119	21.6	Historical railways	0	0	0	-	-
119	21.7	Railways	0	0	0	-	-
119	21.8	Crossrail 1	0	0	0	0	-
119	21.9	Crossrail 2	0	0	0	0	-
120	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 14/04/2020

Site Area: 25.49ha

Recent site history - 2019 aerial photograph

Capture Date: 19/09/2019

Site Area: 25.49ha

Recent site history - 2016 aerial photograph

Capture Date: 19/07/2016

Site Area: 25.49ha

Recent site history - 2009 aerial photograph

Capture Date: 12/10/2009

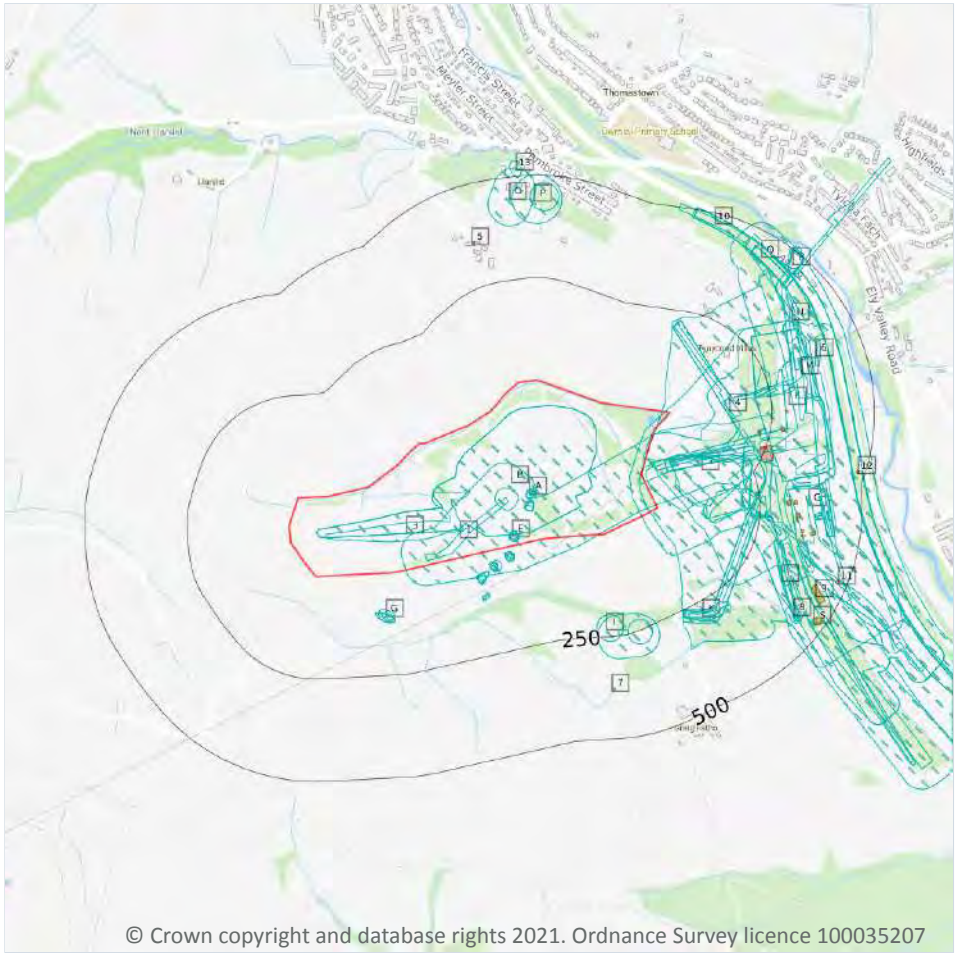
Site Area: 25.49ha

Recent site history - 2000 aerial photograph

Capture Date: 21/07/2000

Site Area: 25.49ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	108

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 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Tramway Sidings**	**1948**	**1173431**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Colliery**	**1948**	**1206637**
3	**On site**	**Refuse Heap**	**1948**	**1220196**
A	**On site**	**Trial Shaft**	**1875**	**1162060**
A	**On site**	**Unspecified Heap**	**1915**	**1162554**
A	**On site**	**Old Trial Shafts**	**1921**	**1164545**
A	**On site**	**Old Trial Shaft**	**1915**	**1195156**
A	**On site**	**Refuse Heap**	**1875**	**1213714**
A	**On site**	**Old Trial Shaft**	**1948**	**1222018**
A	**On site**	**Refuse Heap**	**1875**	**1236476**
A	**On site**	**Old Trial Shaft**	**1898 - 1948**	**1253227**
A	**On site**	**Old Trial Shaft**	**1915**	**1265272**
B	**On site**	**Unspecified Disused Tip**	**1974**	**1165219**
B	**On site**	**Refuse Heap**	**1948**	**1265363**
B	**On site**	**Refuse Heap**	**1965**	**1268972**
C	**On site**	**Unspecified Mine**	**1965**	**1187481**
C	**On site**	**Colliery**	**1921**	**1212140**
C	**On site**	**Colliery**	**1915**	**1231327**
D	**On site**	**Tramway Sidings**	**1948**	**1221567**
E	**On site**	**Unspecified Heap**	**1875**	**1162549**
E	**On site**	**Old Trial Shaft**	**1915**	**1222544**
E	**On site**	**Old Trial Shaft**	**1948**	**1223315**
E	**On site**	**Old Trial Shafts**	**1915 - 1921**	**1261373**
D	6m NE	Unspecified Disused Tip	1974	1165220
F	12m E	Mineral Railway Sidings	1974	1206739
E	12m S	Old Trial Shafts	1915	1190688
E	15m S	Unspecified Heap	1875	1162548
E	17m S	Old Trial Shafts	1915 - 1948	1249839
E	20m S	Trial Shaft	1875	1162058

ID	Location	Land use	Dates present	Group ID
E	25m S	Old Trial Shafts	1898	1215483
E	27m S	Old Trial Shafts	1915	1195142
E	29m S	Disused Trial Shafts	1965	1212934
E	30m S	Old Trial Shafts	1915 - 1948	1223157
E	36m S	Disused Trial Shafts	1974 - 1992	1193194
C	45m E	Tramway Sidings	1921	1198669
C	45m E	Tramway Sidings	1915	1206415
D	45m E	Refuse Heap	1915	1199945
E	46m S	Disused Trial Shafts	1965	1237602
E	48m S	Disused Trial Shafts	1974 - 1992	1213914
E	48m S	Old Trial Shafts	1898 - 1915	1247536
E	53m S	Old Trial Shafts	1915 - 1948	1263151
C	58m E	Tramway Sidings	1915	1243482
D	65m E	Refuse Heap	1921 - 1948	1209874
D	65m E	Unspecified Heaps	1965	1179530
G	89m S	Unspecified Old Quarry	1898	1180782
G	94m S	Unspecified Quarry	1875	1262587
G	95m S	Unspecified Ground Workings	1921 - 1948	1261904
G	95m S	Unspecified Quarry	1915	1270493
E	98m S	Old Trial Shafts	1915	1204860
E	101m S	Old Trial Shafts	1915	1246523
E	104m S	Old Trial Shafts	1915	1261117
C	130m E	Unspecified Heaps	1965	1179529
4	134m E	Tramway Sidings	1948	1260695
H	188m E	Railway Sidings	1965	1213249
I	196m S	Old Coal Level	1948	1253246
H	198m E	Unspecified Commercial/Industrial	1948	1159089
H	198m E	Railway Sidings	1948	1266422

ID	Location	Land use	Dates present	Group ID
I	199m S	Old Coal Level	1921	1231510
C	208m E	Unspecified Ground Workings	1948	1160323
J	211m E	Refuse Heap	1948	1177945
F	213m E	Colliery	1974	1193620
J	213m E	Unspecified Heap	1965	1162552
C	219m E	Unspecified Ground Workings	1948	1160324
F	222m E	Electric Substation	1992	1182181
I	224m S	Old Coal Level	1898	1211323
F	231m E	Refuse Heap	1915	1177946
I	237m S	Old Coal Level	1915	1265240
C	242m E	Brick Kilns	1915	1263373
C	243m E	Brick Kilns	1915 - 1921	1243117
C	245m E	Brick Kilns	1915 - 1921	1221175
K	249m SE	Unspecified Quarry	1915	1205880
K	255m SE	Unspecified Quarry	1915 - 1948	1233624
K	255m SE	Unspecified Quarry	1965	1242378
C	263m E	Unspecified Ground Workings	1948	1160322
K	286m SE	Unspecified Old Quarry	1898	1180781
L	297m E	Tramway Sidings	1921	1221568
L	307m E	Tramway Sidings	1915	1243501
M	307m E	Refuse Heap	1915	1202604
H	315m E	Coke Works	1974	1164439
H	324m E	Railway Sidings	1915	1213944
M	325m E	Refuse Heap	1948	1228969
L	342m E	Unspecified Ground Workings	1948	1160320
H	350m E	Railway Sidings	1974	1244544
N	371m NE	Refuse Heap	1915 - 1948	1202427
6	374m E	Railway Sidings	1915	1190563

ID	Location	Land use	Dates present	Group ID
L	378m E	Unspecified Heap	1965	1162551
O	382m N	Old Trial Level	1921	1197211
P	382m N	Old Trial Level	1915	1193606
H	386m E	Coke Ovens	1948	1227171
H	390m E	Coke Ovens	1915	1230406
H	390m E	Coke Ovens	1915 - 1921	1221317
L	393m E	Unspecified Tank	1974	1175736
N	399m NE	Cuttings	1915 - 1948	1211509
8	401m SE	Refuse Heap	1915 - 1948	1216528
Q	401m NE	Cuttings	1915	1199580
P	414m N	Old Trial Level	1898	1228045
Q	417m NE	Railway Sidings	1915	1228981
Q	417m NE	Railway Sidings	1948	1204774
Q	418m NE	Cuttings	1915 - 1948	1222858
O	444m N	Trial Level	1875	1189749
R	447m NE	Refuse Heap	1921	1265373
R	449m NE	Refuse Heap	1915	1235665
R	449m NE	Refuse Heap	1948	1258541
R	451m NE	Refuse Heap	1915	1271904
10	452m NE	Cuttings	1875	1266824
S	468m SE	Unspecified Tank	1965 - 1974	1221677
S	474m SE	Unspecified Tank	1948	1230009
13	496m N	Unspecified Heap	1915 - 1921	1221968

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	16

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 13**

ID	Location	Land use	Dates present	Group ID
F	274m E	Tanks	1972 - 1979	178296
F	282m E	Unspecified Tank	1972 - 1979	179459
H	316m E	Tanks	1973	169179
H	334m E	Unspecified Tank	1973	172648
H	339m E	Tanks	1973	169180
H	340m E	Unspecified Tank	1973	172649
H	355m E	Unspecified Tank	1960 - 1973	184822
H	357m E	Unspecified Tank	1973	172647
5	358m N	Unspecified Tank	1960	172656
H	365m E	Unspecified Tank	1960	172650
7	376m S	Unspecified Tank	1960 - 1988	191374
H	379m E	Unspecified Tank	1973	172651
9	423m SE	Unspecified Tank	1973	172639
S	472m SE	Unspecified Tank	1960 - 1973	189449
11	473m E	Unspecified Tank	1878	172638
12	479m E	Unspecified Tank	1960 - 1979	179987

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	3

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'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
F	221m E	Electricity Substation	1972 - 1993	109320
F	236m E	Electricity Substation	1979 - 1989	106597
F	246m E	Electricity Substation	1972	108906

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.

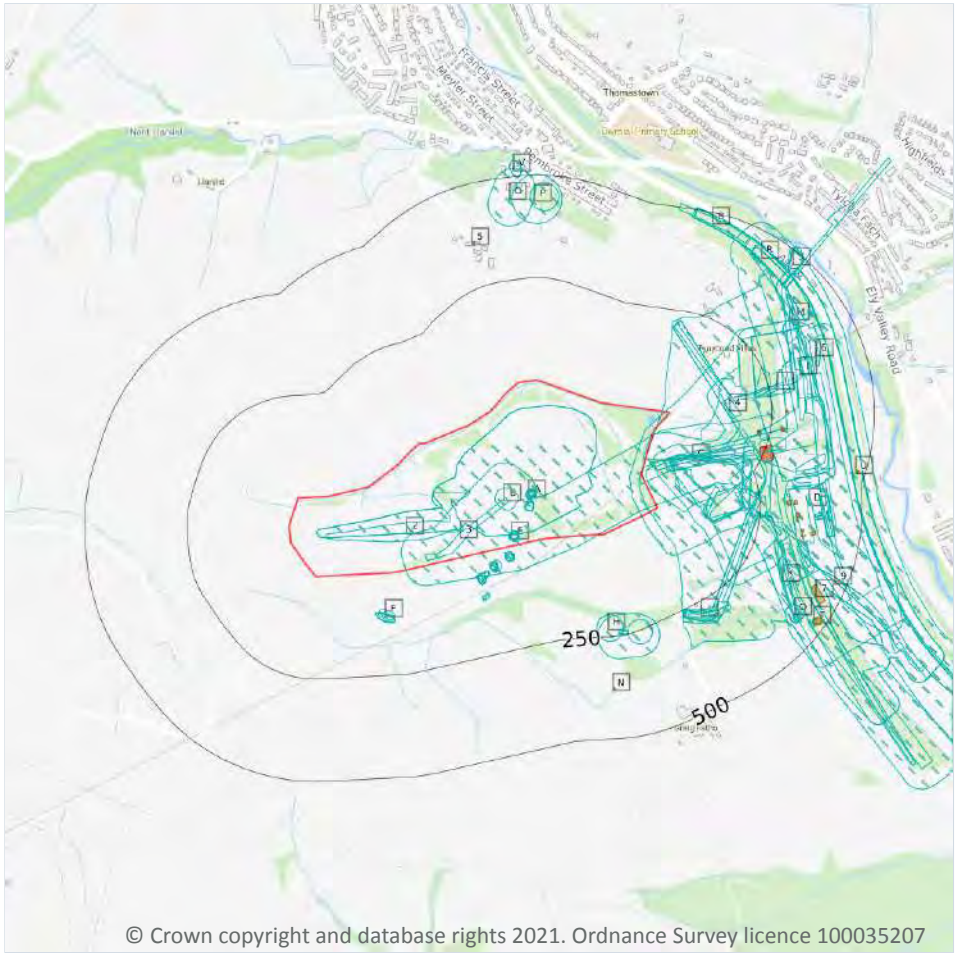
1.6 Historical military land

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

Historical energy features

2.1 Historical industrial land uses

Records within 500m	143

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 21**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Colliery**	**1948**	**1206637**
2	**On site**	**Refuse Heap**	**1948**	**1220196**
3	**On site**	**Tramway Sidings**	**1948**	**1173431**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Old Trial Shaft**	**1948**	**1253227**
A	**On site**	**Old Trial Shaft**	**1948**	**1222018**
A	**On site**	**Old Trial Shaft**	**1898**	**1253227**
A	**On site**	**Old Trial Shaft**	**1915**	**1265272**
A	**On site**	**Unspecified Heap**	**1915**	**1162554**
A	**On site**	**Old Trial Shaft**	**1921**	**1253227**
A	**On site**	**Old Trial Shafts**	**1921**	**1164545**
A	**On site**	**Refuse Heap**	**1875**	**1236476**
A	**On site**	**Refuse Heap**	**1875**	**1213714**
A	**On site**	**Trial Shaft**	**1875**	**1162060**
A	**On site**	**Old Trial Shaft**	**1915**	**1253227**
A	**On site**	**Old Trial Shaft**	**1915**	**1195156**
B	**On site**	**Refuse Heap**	**1948**	**1265363**
B	**On site**	**Unspecified Disused Tip**	**1974**	**1165219**
B	**On site**	**Refuse Heap**	**1965**	**1268972**
C	**On site**	**Tramway Sidings**	**1948**	**1221567**
D	**On site**	**Unspecified Mine**	**1965**	**1187481**
D	**On site**	**Colliery**	**1915**	**1231327**
D	**On site**	**Colliery**	**1921**	**1212140**
E	**On site**	**Old Trial Shaft**	**1948**	**1223315**
E	**On site**	**Old Trial Shafts**	**1915**	**1261373**
E	**On site**	**Old Trial Shafts**	**1921**	**1261373**
E	**On site**	**Unspecified Heap**	**1875**	**1162549**
E	**On site**	**Old Trial Shaft**	**1915**	**1222544**
C	6m NE	Unspecified Disused Tip	1974	1165220
D	12m E	Mineral Railway Sidings	1974	1206739
E	12m S	Old Trial Shafts	1915	1190688
E	15m S	Unspecified Heap	1875	1162548

ID	Location	Land Use	Date	Group ID
E	17m S	Old Trial Shafts	1948	1249839
E	17m S	Old Trial Shafts	1921	1249839
E	17m S	Old Trial Shafts	1915	1249839
E	20m S	Trial Shaft	1875	1162058
D	20m E	Colliery	1915	1231327
E	25m S	Old Trial Shafts	1898	1215483
E	27m S	Old Trial Shafts	1915	1195142
E	29m S	Disused Trial Shafts	1965	1212934
E	30m S	Old Trial Shafts	1948	1223157
E	30m S	Old Trial Shafts	1921	1223157
E	30m S	Old Trial Shafts	1915	1223157
E	36m S	Disused Trial Shafts	1992	1193194
E	36m S	Disused Trial Shafts	1974	1193194
C	45m E	Refuse Heap	1915	1199945
D	45m E	Tramway Sidings	1921	1198669
D	45m E	Tramway Sidings	1915	1206415
E	46m S	Disused Trial Shafts	1965	1237602
E	48m S	Disused Trial Shafts	1992	1213914
E	48m S	Disused Trial Shafts	1974	1213914
E	48m S	Old Trial Shafts	1915	1247536
E	53m S	Old Trial Shafts	1948	1263151
E	53m S	Old Trial Shafts	1921	1263151
E	53m S	Old Trial Shafts	1915	1263151
E	58m S	Old Trial Shafts	1898	1247536
D	58m E	Tramway Sidings	1915	1243482
C	64m E	Refuse Heap	1915	1199945
C	65m E	Refuse Heap	1948	1209874
C	65m E	Unspecified Heaps	1965	1179530

ID	Location	Land Use	Date	Group ID
C	70m E	Refuse Heap	1921	1209874
F	89m S	Unspecified Old Quarry	1898	1180782
F	94m S	Unspecified Quarry	1875	1262587
F	95m S	Unspecified Ground Workings	1948	1261904
F	95m S	Unspecified Quarry	1915	1270493
F	95m S	Unspecified Ground Workings	1921	1261904
E	98m S	Old Trial Shafts	1915	1204860
E	101m S	Old Trial Shafts	1915	1246523
E	104m S	Old Trial Shafts	1915	1261117
D	130m E	Unspecified Heaps	1965	1179529
4	134m E	Tramway Sidings	1948	1260695
G	188m E	Railway Sidings	1965	1213249
H	196m S	Old Coal Level	1948	1253246
G	198m E	Railway Sidings	1948	1266422
G	198m E	Unspecified Commercial/Industrial	1948	1159089
H	199m S	Old Coal Level	1921	1231510
D	208m E	Unspecified Ground Workings	1948	1160323
I	211m E	Refuse Heap	1948	1177945
D	213m E	Mineral Railway Sidings	1974	1206739
D	213m E	Colliery	1974	1193620
I	213m E	Unspecified Heap	1965	1162552
D	219m E	Unspecified Ground Workings	1948	1160324
D	222m E	Electric Substation	1992	1182181
H	224m S	Old Coal Level	1898	1211323
D	231m E	Refuse Heap	1915	1177946
H	237m S	Old Coal Level	1915	1265240
H	240m S	Old Coal Level	1915	1265240
D	242m E	Brick Kilns	1915	1263373

ID	Location	Land Use	Date	Group ID
D	243m E	Brick Kilns	1921	1243117
D	243m E	Brick Kilns	1915	1243117
D	245m E	Brick Kilns	1915	1221175
D	246m E	Brick Kilns	1921	1221175
D	246m E	Brick Kilns	1915	1221175
J	249m SE	Unspecified Quarry	1915	1205880
J	255m SE	Unspecified Quarry	1921	1233624
J	255m SE	Unspecified Quarry	1965	1242378
J	255m SE	Unspecified Quarry	1915	1233624
J	255m SE	Unspecified Quarry	1948	1233624
D	263m E	Unspecified Ground Workings	1948	1160322
J	286m SE	Unspecified Old Quarry	1898	1180781
K	297m E	Tramway Sidings	1921	1221568
K	307m E	Tramway Sidings	1915	1243501
L	307m E	Refuse Heap	1915	1202604
G	315m E	Coke Works	1974	1164439
G	324m E	Railway Sidings	1915	1213944
L	325m E	Refuse Heap	1948	1228969
K	342m E	Unspecified Ground Workings	1948	1160320
G	350m E	Railway Sidings	1974	1244544
M	371m NE	Refuse Heap	1948	1202427
M	371m NE	Refuse Heap	1921	1202427
M	371m NE	Refuse Heap	1915	1202427
6	374m E	Railway Sidings	1915	1190563
K	378m E	Unspecified Heap	1965	1162551
O	382m N	Old Trial Level	1921	1197211
P	382m N	Old Trial Level	1915	1193606
G	386m E	Coke Ovens	1948	1227171

ID	Location	Land Use	Date	Group ID
G	390m E	Coke Ovens	1915	1230406
G	390m E	Coke Ovens	1921	1221317
G	390m E	Coke Ovens	1915	1221317
K	393m E	Unspecified Tank	1974	1175736
M	399m NE	Cuttings	1921	1211509
M	399m NE	Cuttings	1915	1211509
M	399m NE	Cuttings	1948	1211509
Q	401m SE	Refuse Heap	1948	1216528
Q	401m SE	Refuse Heap	1921	1216528
Q	401m SE	Refuse Heap	1915	1216528
R	401m NE	Cuttings	1915	1199580
P	414m N	Old Trial Level	1898	1228045
R	417m NE	Railway Sidings	1948	1204774
R	417m NE	Railway Sidings	1915	1228981
R	418m NE	Cuttings	1921	1222858
R	418m NE	Cuttings	1915	1222858
R	418m NE	Cuttings	1948	1222858
O	444m N	Trial Level	1875	1189749
S	447m NE	Refuse Heap	1921	1265373
S	449m NE	Refuse Heap	1948	1258541
S	449m NE	Refuse Heap	1915	1235665
S	451m NE	Refuse Heap	1915	1271904
8	452m NE	Cuttings	1875	1266824
T	468m SE	Unspecified Tank	1974	1221677
T	468m SE	Unspecified Tank	1965	1221677
T	474m SE	Unspecified Tank	1948	1230009
V	496m N	Unspecified Heap	1921	1221968
V	496m N	Unspecified Heap	1915	1221968

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	24

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 21**

ID	Location	Land Use	Date	Group ID
D	274m E	Tanks	1979	178296
D	277m E	Tanks	1972	178296
D	282m E	Unspecified Tank	1979	179459
D	284m E	Unspecified Tank	1972	179459
G	316m E	Tanks	1973	169179
G	334m E	Unspecified Tank	1973	172648
G	339m E	Tanks	1973	169180
G	340m E	Unspecified Tank	1973	172649
G	355m E	Unspecified Tank	1960	184822
G	355m E	Unspecified Tank	1973	184822
G	357m E	Unspecified Tank	1973	172647
5	358m N	Unspecified Tank	1960	172656
G	365m E	Unspecified Tank	1960	172650
N	376m S	Unspecified Tank	1960	191374
N	376m S	Unspecified Tank	1973	191374
N	376m S	Unspecified Tank	1988	191374
G	379m E	Unspecified Tank	1973	172651
7	423m SE	Unspecified Tank	1973	172639
T	472m SE	Unspecified Tank	1960	189449
T	472m SE	Unspecified Tank	1973	189449
9	473m E	Unspecified Tank	1878	172638
U	479m E	Unspecified Tank	1979	179987
U	480m E	Unspecified Tank	1960	179987

ID	Location	Land Use	Date	Group ID
U	480m E	Unspecified Tank	1972	179987

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	10

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'.

Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
D	221m E	Electricity Substation	1990	109320
D	221m E	Electricity Substation	1979	109320
D	221m E	Electricity Substation	1988	109320
D	221m E	Electricity Substation	1989	109320
D	221m E	Electricity Substation	1993	109320
D	223m E	Electricity Substation	1972	109320
D	236m E	Electricity Substation	1979	106597
D	236m E	Electricity Substation	1988	106597
D	236m E	Electricity Substation	1989	106597
D	246m E	Electricity Substation	1972	108906

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.

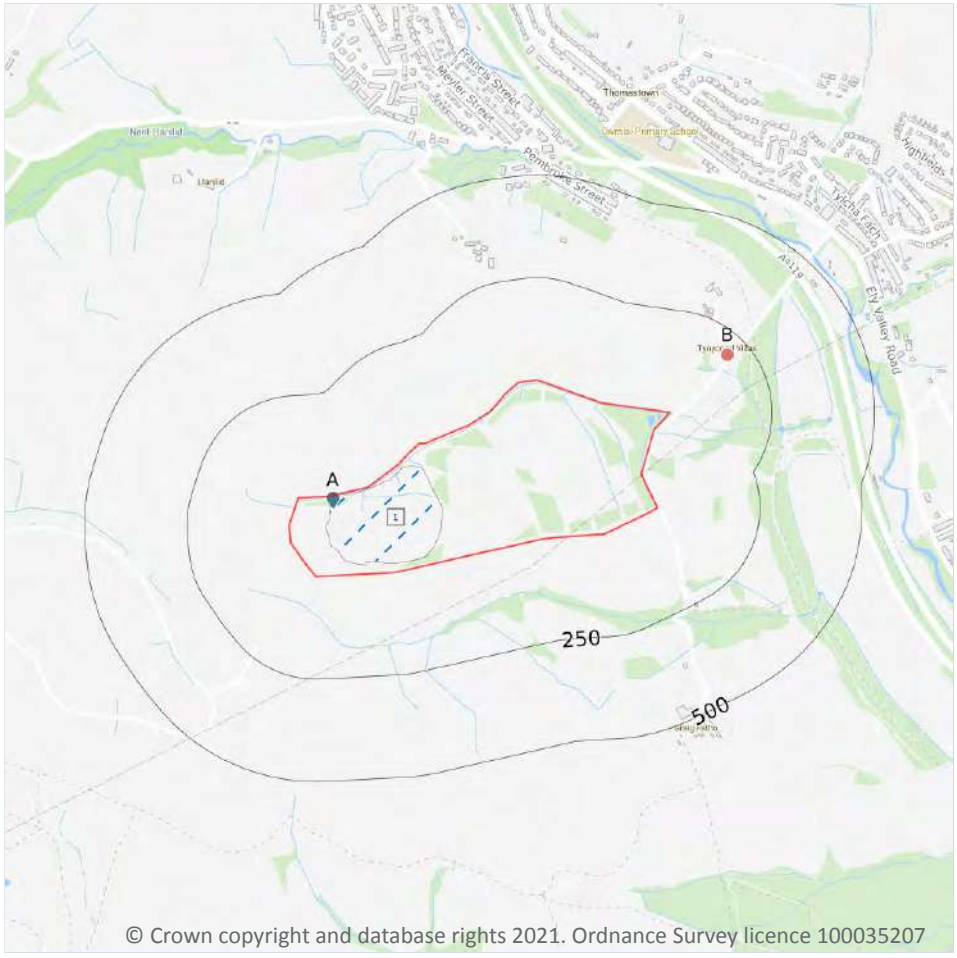
2.5 Historical garages

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)

Active or recent landfill

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 30**

ID	Location	Details	
1	**On site**	**Operator: Rhondda Cynon Taff County Borough Council** **Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX**	**WML Number: 30135** **EPR Reference: MID001** **Landfill type: A1 : Co-Disposal Landfill Site** **Status: Closure** **IPPC Reference: -** **EPR Number: EAEPR\EA/EPR/YP3199FE/V002**

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	7

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

Features are displayed on the Waste and landfill map on **page 30**

ID	Location	Details		
A	On site	Site Name: Coedely Reclamation & Development Scheme Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MID001 EPR reference: EA/EPR/YP3199FE/V002 Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 30135 Annual Tonnage: 750001	Issue Date: 27/06/1994 Effective Date: - Modified:: 13/07/2001 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
A	On site	Site Name: - Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, Rhondda Cynon Taff, CF39 8EX Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3199FE EPR reference: - Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 27/06/1994 Effective Date: 27/06/1994 Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	On site	Site Name: Coedely Reclamation & Development Scheme Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MID001 EPR reference: YP3199FE/V002 Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 30135 Annual Tonnage: 750001	Issue Date: 27/06/1994 Effective Date: - Modified:: 13/07/2001 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Closure
A	On site	Site Name: - Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3199FE EPR reference: - Operator: - Waste Management licence No: 30135 Annual Tonnage: 0	Issue Date: 27/06/1994 Effective Date: 27/06/1994 Modified:: - Surrendered Date: - Expiry Date: 03/03/2005 Cancelled Date: - Status: Effective

ID	Location	Details		
A	On site	Site Name: - Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3199FE EPR reference: - Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 30135 Annual Tonnage: 0	Issue Date: 27/06/1994 Effective Date: 27/06/1994 Modified:: - Surrendered Date: - Expiry Date: 03/03/2005 Cancelled Date: - Status: Effective
A	On site	Site Name: - Site Address: Coedely Reclamation & Development Scheme, Coed Ely, Tonyrefail, R C T, CF39 8EX Correspondence Address: -	Type of Site: Co-Disposal Landfill Site Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3199FE EPR reference: - Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 30135 Annual Tonnage: 0	Issue Date: 27/06/1994 Effective Date: 27/06/1994 Modified:: - Surrendered Date: - Expiry Date: 03/03/2005 Cancelled Date: - Status: Effective
A	On site	Site Name: - Site Address: Coedely Reclamation & Development Scheme, Coed Ely, R C T, Tonyrefail, Rhondda Cynon Taff, CF39 8EX Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3199FE EPR reference: - Operator: Rhondda Cynon Taff County Borough Council Waste Management licence No: 30135 Annual Tonnage: 0	Issue Date: 27/06/1994 Effective Date: 27/06/1994 Modified:: - Surrendered Date: - Expiry Date: 03/03/2005 Cancelled Date: - Status: Effective

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

3.7 Waste exemptions

Records within 500m	14

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.

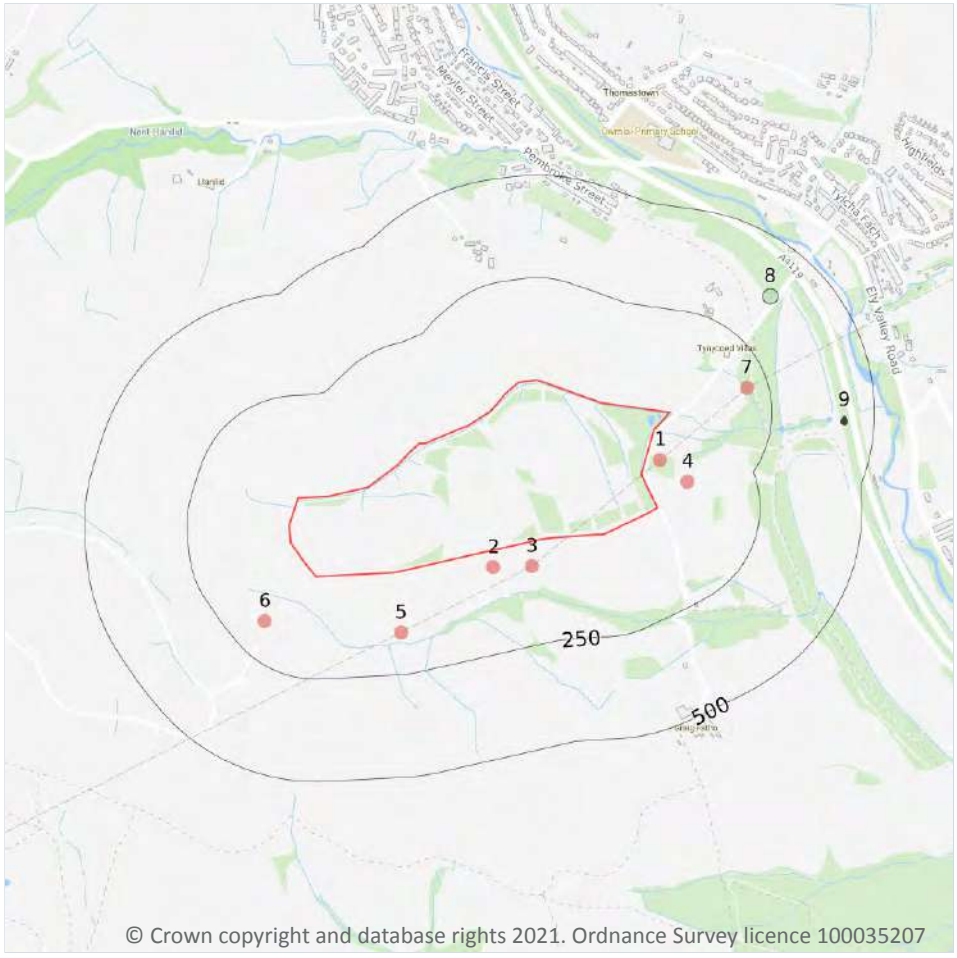
Features are displayed on the Waste and landfill map on **page 30**

ID	Location	Site	Reference	Category	Sub-Category	Description
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Using waste exemption	On a farm	Use of waste in construction
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Disposing of waste exemption	On a farm	Burning waste in the open
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Storing waste exemption	On a farm	Storage of waste in a secure place
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF39 8EX	NRW-WME050963	Using waste exemption	On a farm	Use of waste for a specified purpose
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF398EX	NRW-WME021801	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF398EX	NRW-WME021801	Disposing of waste exemption	On a farm	Burning waste in the open

ID	Location	Site	Reference	Category	Sub-Category	Description
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF398EX	NRW-WME021801	Using waste exemption	On a farm	Use of waste in construction
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF398EX	NRW-WME021801	Using waste exemption	On a farm	Use of waste for a specified purpose
B	198m NE	D R Howells & Son, Graig Fatha Farm, Coed Ely, Tonyrefail, Porth, Rhondda Cynon Taff, CF398EX	NRW-WME021801	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	198m NE	The Croft Coed Ely Porth Rhondda Cynon Taff CF398EX	NRW-WME025764	Using waste exemption	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)

Recent industrial land uses

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	7

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Company	Address	Activity	Category
1	35m E	Pylon	Mid Glamorgan, CF39	Electrical Features	Infrastructure and Facilities
2	41m S	Trial Shaft (Disused)	Mid Glamorgan, CF39	Unspecified Quarries Or Mines	Extractive Industries
3	59m S	Pylon	Mid Glamorgan, CF39	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
4	94m NE	Electricity Poles	Mid Glamorgan, CF39	Electrical Features	Infrastructure and Facilities
5	147m S	Pylon	Mid Glamorgan, CF39	Electrical Features	Infrastructure and Facilities
6	165m SW	Wind Turbine	Mid Glamorgan, CF39	Energy Production	Industrial Features
7	198m E	Pylon	Mid Glamorgan, CF39	Electrical Features	Infrastructure and Facilities

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	1

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 36**

ID	Location	Address	Details	
9	426m E	LAND RECLAMATION SCHEME FORMER COED, LAND RECLAMATION SCHEME, FORMER COEDELY COLLIERY PT 4, RHONDDA CYNON TAFF, WALES	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: AN0244804 Permit Version: 3 Receiving Water: River Ely	Status: Effective Issue date: 08/08/2000 Effective Date: 09/08/2000 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	1

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Details	
8	375m NE	Incident Date: 10/05/2014 Incident Identification: 1234222 Pollutant: Multiple Pollutants Pollutant Description: 3 Pollutants Including Not Identified	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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.

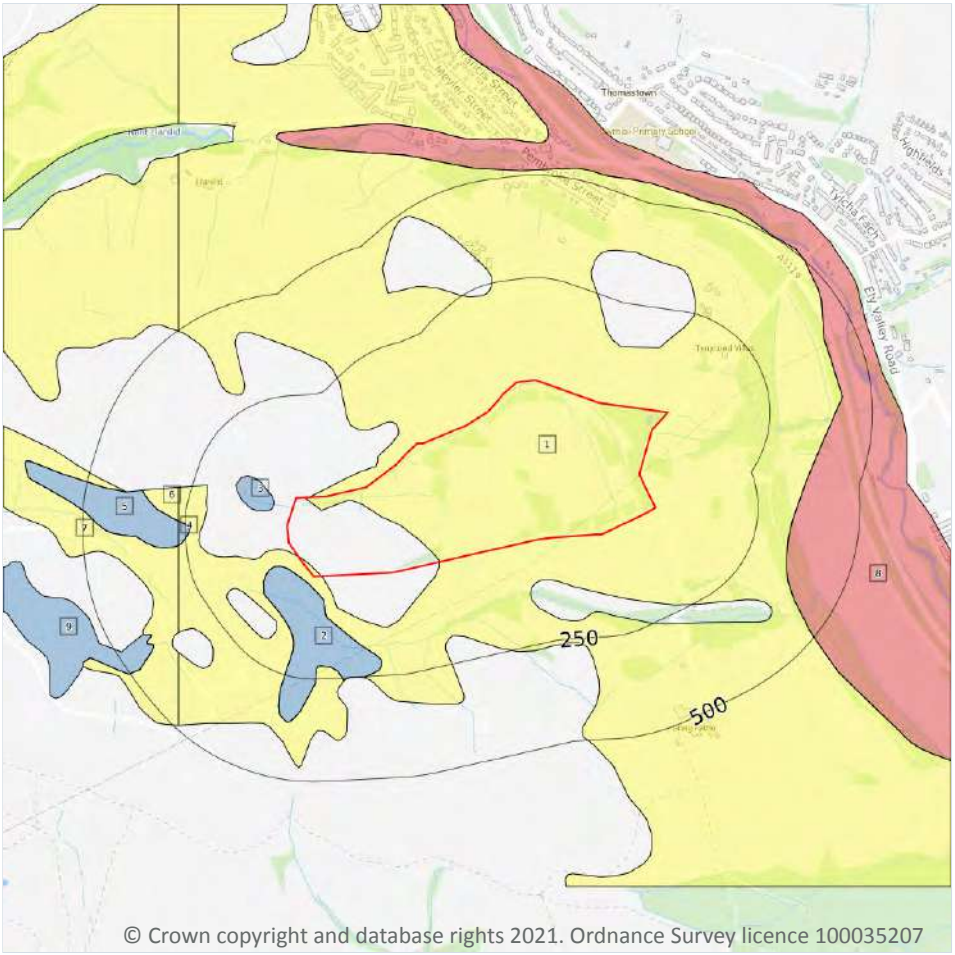
4.21 Pollution inventory radioactive waste

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	9

Aquifer status of groundwater held within superficial geology.

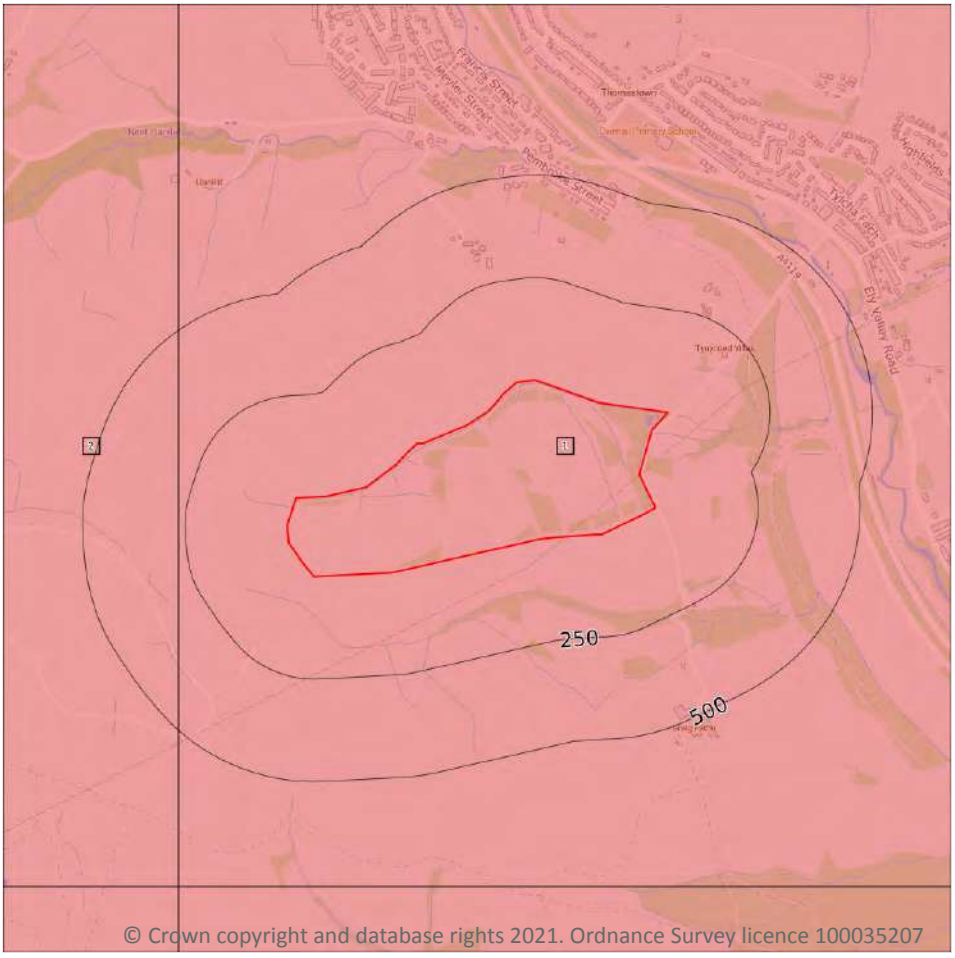
Features are displayed on the Hydrogeology map on **page 42**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**
2	22m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

ID	Location	Designation	Description
3	47m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	240m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
5	265m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	266m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7	269m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
8	333m E	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
9	404m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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	2

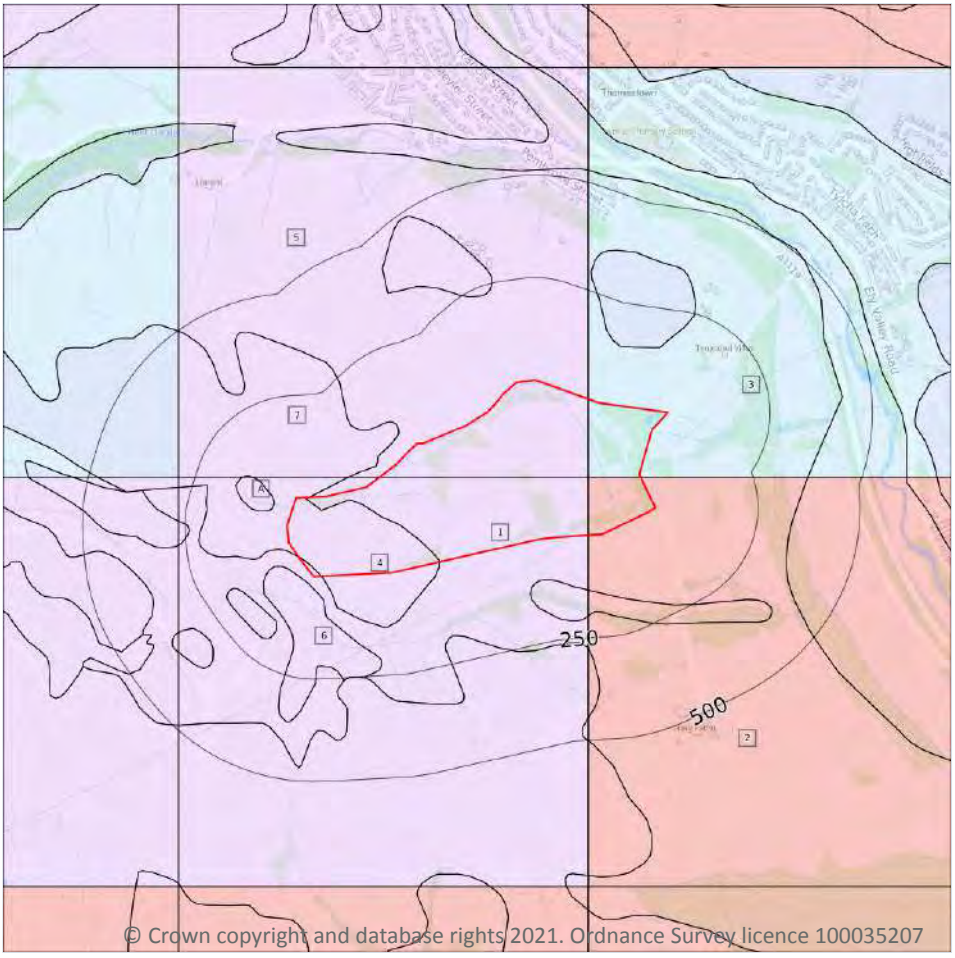
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 44**

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**
2	265m W	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	8

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 46**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
3	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
4	**On site**	**Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures**
5	**On site**	**Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium**	**Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures**
6	21m SW	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	26m NW	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
A	46m W	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium 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.

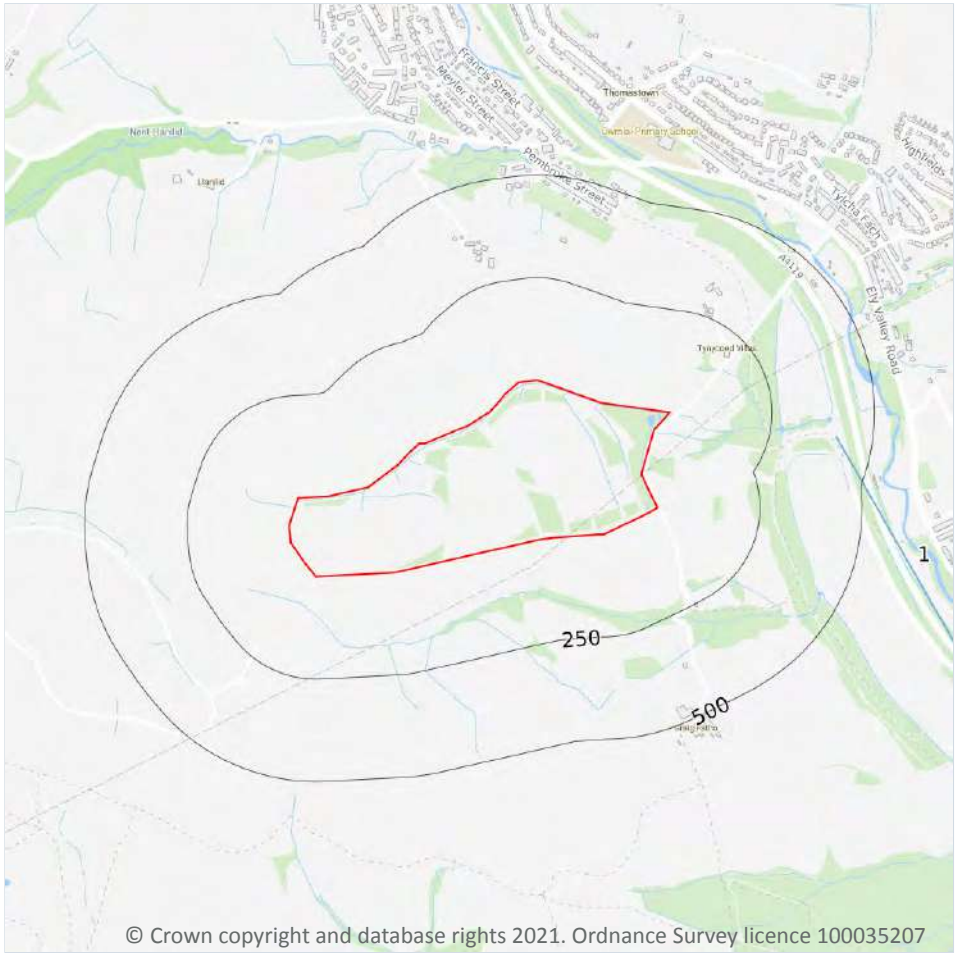
5.5 Groundwater vulnerability- local information

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	1

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 49**

ID	Location	Details	
-	1456m NW	Status: Historical Licence No: 21/57/31/0024 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: BOREHOLE NEAR GELLI'R HAIDD UCHAF Data Type: Point Name: Brunswick Developments Limited Easting: 299210 Northing: 186930	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/11/1993 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m **2**

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 49**

ID	Location	Details	
1	410m E	Status: Historical Licence No: 21/57/31/0063 Details: Dust suppression Direct Source: EAW Surface Water Point: RIVER ELY AT COED ELY Data Type: Line Name: Edmund Nuttall Limited Easting: 302030 Northing: 185350	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/08/2000 Expiry Date: 31/10/2001 Issue No: 1 Version Start Date: 22/08/2000 Version End Date: -
-	1353m SW	Status: Historical Licence No: 21/58/44/0013 Details: General Farming & Domestic Direct Source: EAW Surface Water Point: NANT LLANBAD Data Type: Point Name: Evans Easting: 299020 Northing: 185320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 07/07/1981 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.

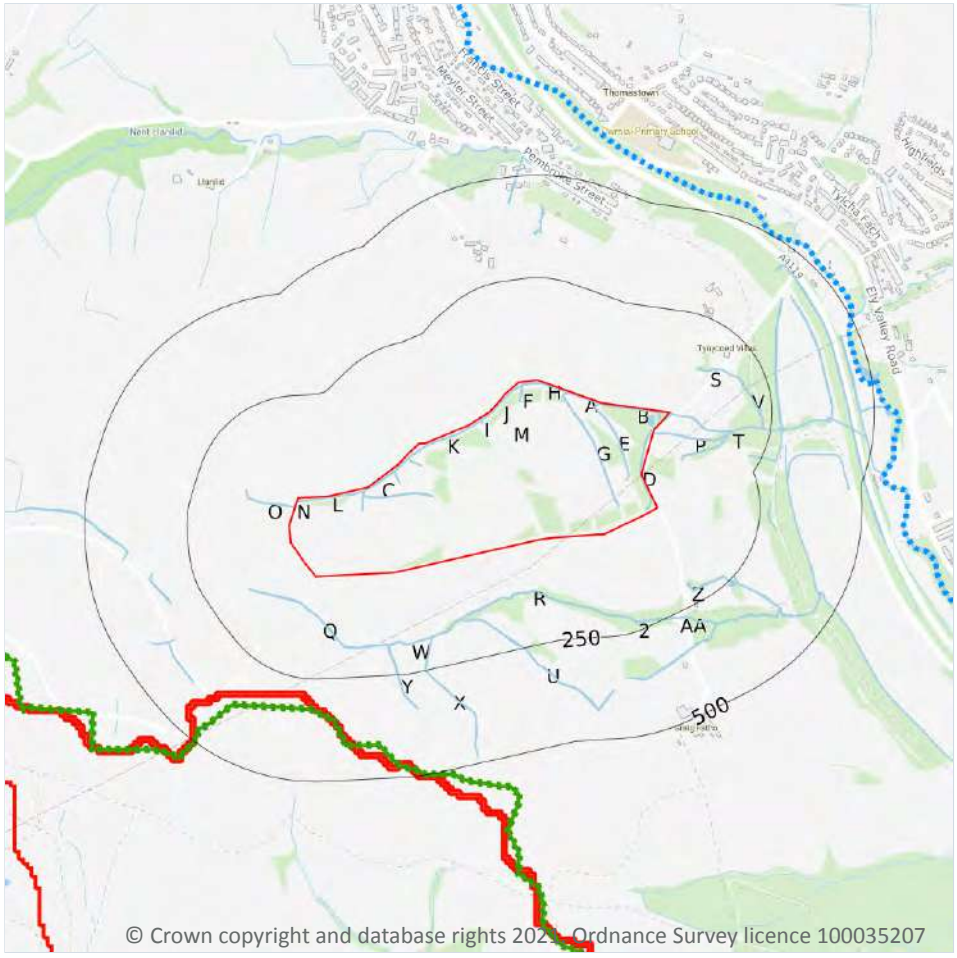
5.10 Source Protection Zones (confined aquifer)

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	**52**

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 52**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	**On site**	**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	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	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
F	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
G	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
H	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
I	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
J	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
K	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
L	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**
N	2m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
N	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	4m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	6m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	6m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	10m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
P	12m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	22m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	74m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	84m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	115m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	125m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	149m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	152m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	161m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
T	163m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	166m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	168m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	173m S	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
Y	175m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	193m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	217m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	219m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	219m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	228m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	228m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	230m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
T	234m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	239m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	242m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	247m E	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	21

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 52**

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 52**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
M	**On site**	**River WB catchment**	**Ely R - source to conf Nant Clun**	**GB109057027120**	**Ely**	**South East Valleys**

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.

Features are displayed on the Hydrology map on **page 52**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
AU	471m E	River	Ely R - source to conf Nant Clun	GB109057027120	Moderate	Good	Moderate	2016

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.

Features are displayed on the Hydrology map on **page 52**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
M	**On site**	**SE Valleys Carboniferous Coal Measures**	**GB40902G201900**	**Poor**	**Poor**	**Good**	**2016**

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 Sea (RoFRaS)

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

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.

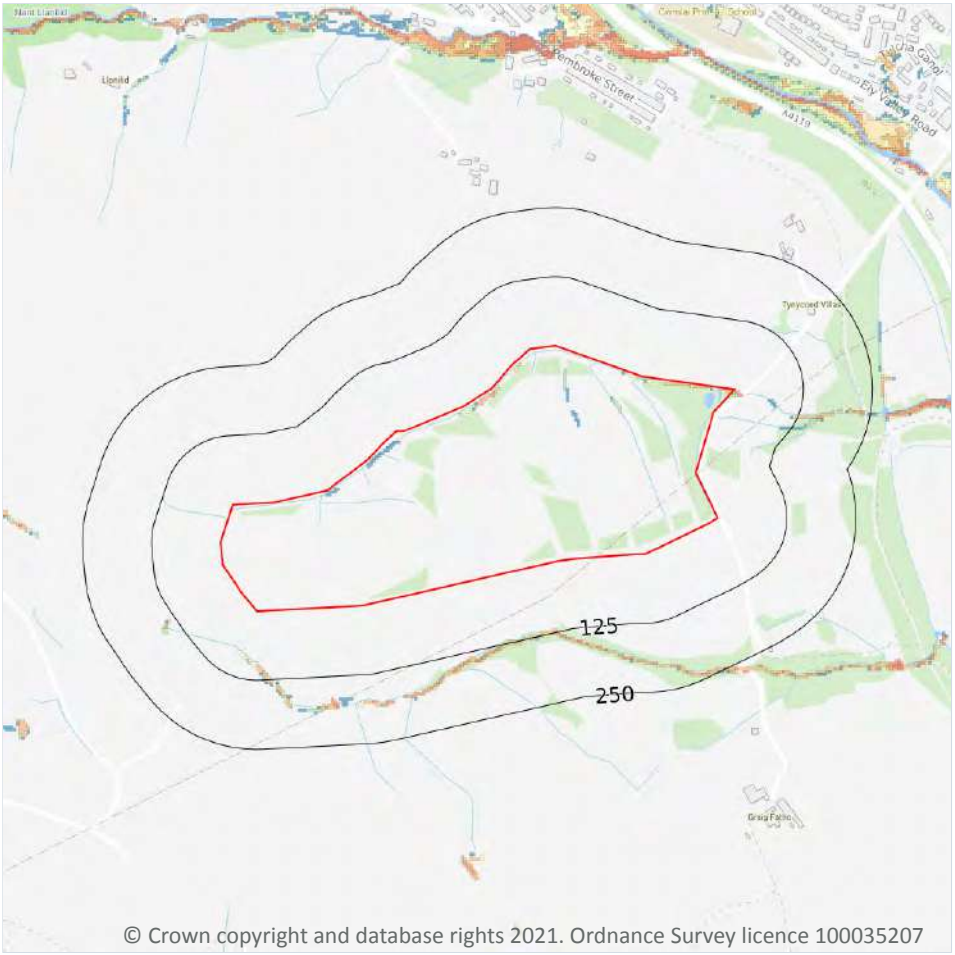
7.7 Flood Zone 3

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



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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.

Features are displayed on the Surface water flooding map on **page 62**

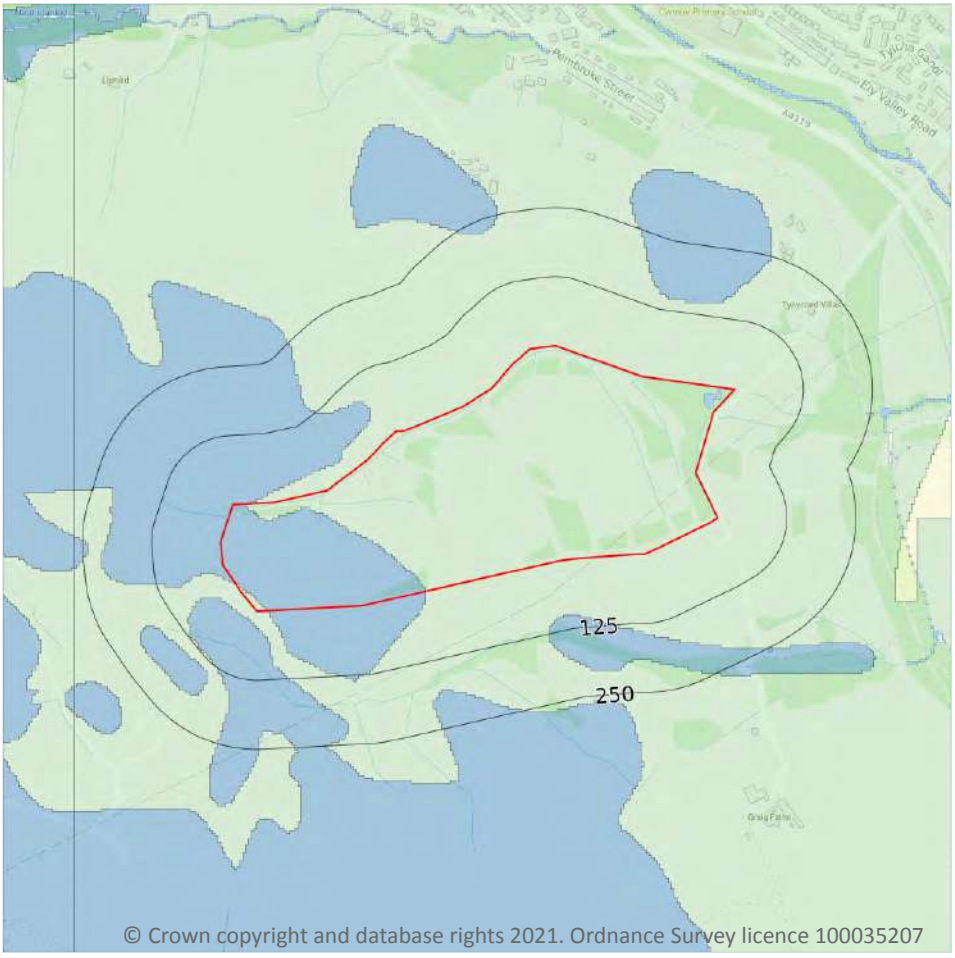
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

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

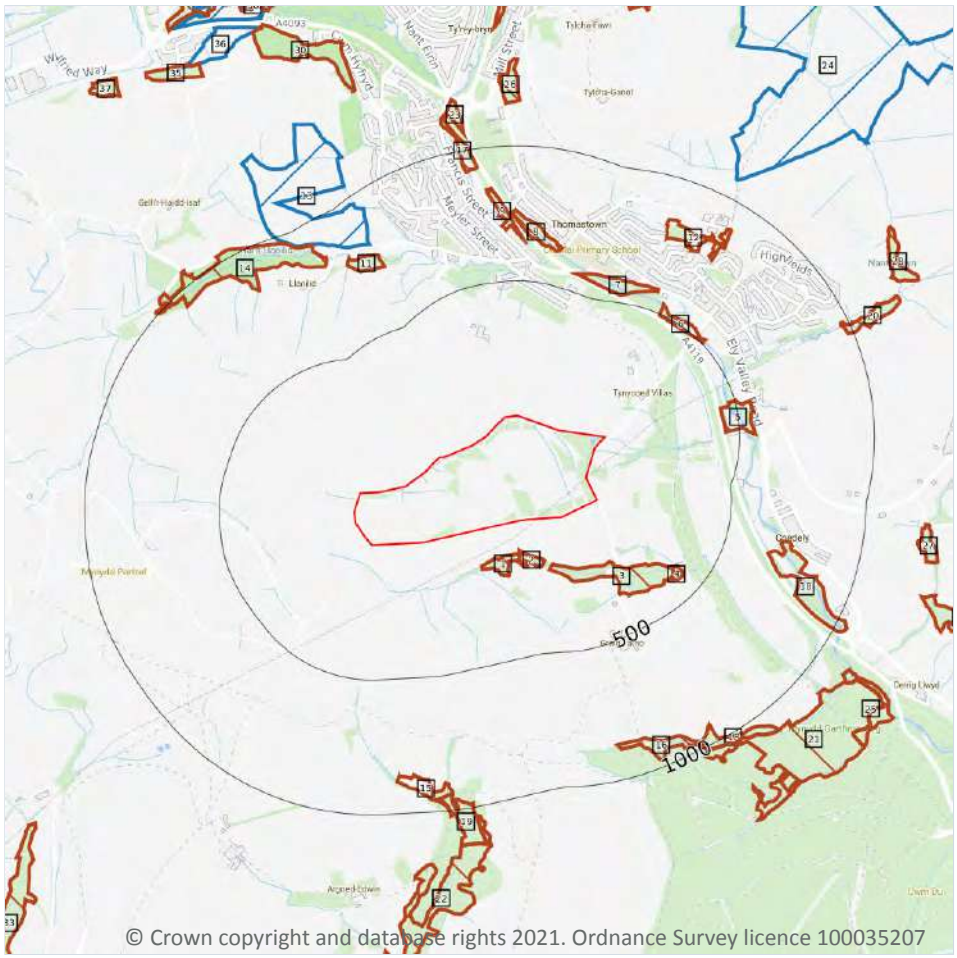
Highest risk on site	**Low**
Highest risk within 50m	**Low**

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 64**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	6

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.

Features are displayed on the Environmental designations map on **page 65**

ID	Location	Name	Data source
13	815m NW	Rhos Tonyrefail	Natural Resources Wales

ID	Location	Name	Data source
24	1072m NE	Rhos Tonyrefail	Natural Resources Wales
-	1619m N	Rhos Tonyrefail	Natural Resources Wales
-	1650m E	Rhos Tonyrefail	Natural Resources Wales
36	1684m NW	Rhos Tonyrefail	Natural Resources Wales
C	1735m NW	Rhos Tonyrefail	Natural Resources Wales

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	43

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 65**

ID	Location	Name	Woodland Type
1	107m S	Unknown	Ancient Semi Natural Woodland
2	119m S	Unknown	Ancient Semi Natural Woodland
3	171m S	Unknown	Ancient Semi Natural Woodland
4	375m SE	Unknown	Ancient Semi Natural Woodland
5	443m E	Unknown	Ancient Semi Natural Woodland
6	490m NE	Unknown	Ancient Semi Natural Woodland
7	528m N	Unknown	Ancient Semi Natural Woodland
8	627m N	Unknown	Ancient Semi Natural Woodland
9	657m N	Unknown	Ancient Semi Natural Woodland
10	666m E	Unknown	Ancient Semi Natural Woodland

ID	Location	Name	Woodland Type
11	715m NW	Unknown	Ancient Semi Natural Woodland
12	761m NE	Unknown	Ancient Semi Natural Woodland
14	826m NW	Unknown	Restored Ancient Woodland Site
15	859m S	Unknown	Ancient Semi Natural Woodland
16	869m S	Unknown	Plantation on Ancient Woodland Site
17	919m N	Unknown	Ancient Semi Natural Woodland
18	931m SE	Unknown	Ancient Semi Natural Woodland
19	938m S	Unknown	Ancient Semi Natural Woodland
20	969m NE	Unknown	Ancient Semi Natural Woodland
21	1012m SE	Unknown	Plantation on Ancient Woodland Site
22	1032m S	Unknown	Ancient Semi Natural Woodland
23	1065m N	Unknown	Ancient Semi Natural Woodland
25	1120m SE	Unknown	Restored Ancient Woodland Site
26	1157m N	Unknown	Ancient Semi Natural Woodland
27	1200m E	Unknown	Ancient Semi Natural Woodland
28	1217m NE	Unknown	Ancient Semi Natural Woodland
29	1258m E	Unknown	Ancient Semi Natural Woodland
30	1334m NW	Unknown	Ancient Semi Natural Woodland
31	1442m N	Unknown	Ancient Semi Natural Woodland
A	1563m N	Unknown	Restored Ancient Woodland Site
-	1604m E	Unknown	Restored Ancient Woodland Site
33	1619m SW	Unknown	Restored Ancient Woodland Site
35	1653m N	Unknown	Ancient Semi Natural Woodland
-	1666m N	Unknown	Restored Ancient Woodland Site
37	1722m NW	Unknown	Ancient Semi Natural Woodland
-	1727m SE	Unknown	Ancient Semi Natural Woodland
38	1746m NW	Unknown	Ancient Semi Natural Woodland
-	1768m SE	Unknown	Plantation on Ancient Woodland Site

ID	Location	Name	Woodland Type
C	1839m NW	Unknown	Ancient Semi Natural Woodland
-	1846m W	Unknown	Ancient Semi Natural Woodland
-	1860m SE	Unknown	Plantation on Ancient Woodland Site
-	1891m S	Unknown	Ancient Semi Natural Woodland
-	1976m N	Unknown	Restored Ancient Woodland Site

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	0

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.

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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.

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

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	0

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.

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	0

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.

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

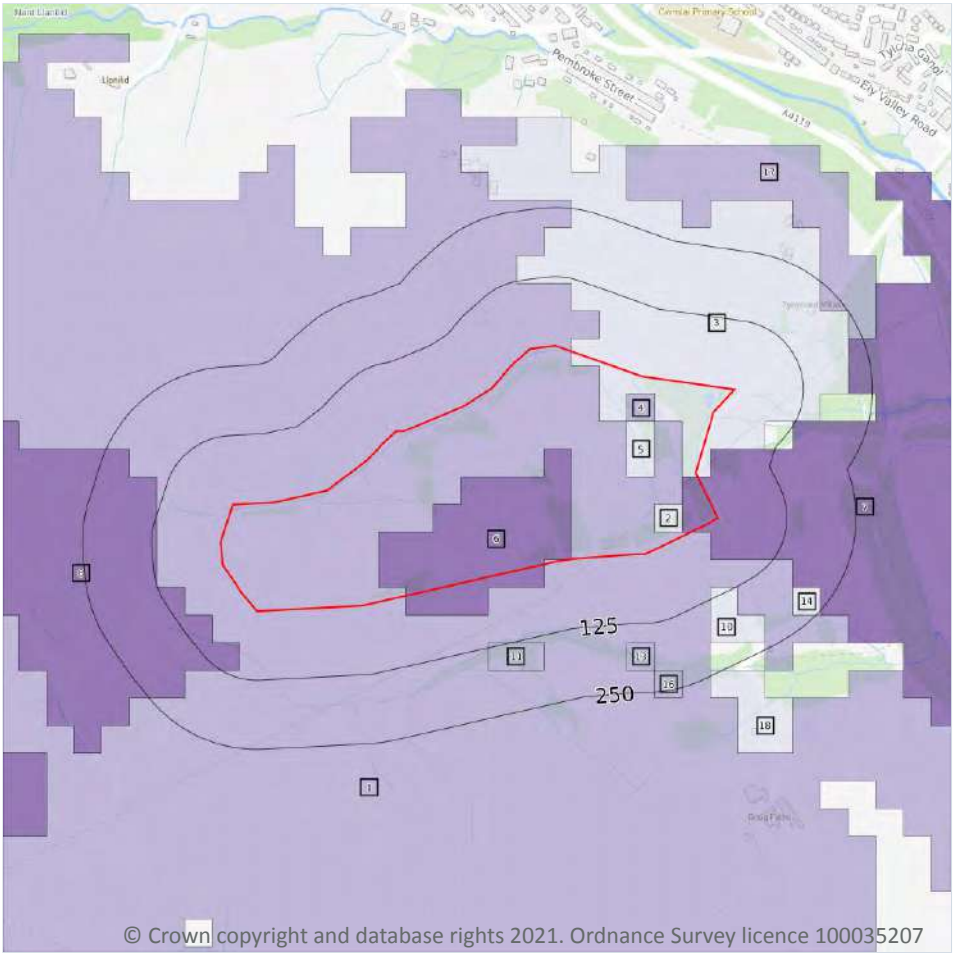
11.7 Registered Parks and Gardens

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 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	15

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 75**

ID	Location	Classification	Description
1	**On site**	**Grade 4**	**Poor quality agricultural land**
2	**On site**	**Grade 3b**	**Moderate quality agricultural land**
3	**On site**	**Grade 3b**	**Moderate quality agricultural land**

ID	Location	Classification	Description
4	**On site**	**Grade 4**	**Poor quality agricultural land**
5	**On site**	**Grade 3b**	**Moderate quality agricultural land**
6	**On site**	**Grade 5**	**Very poor quality agricultural land**
7	**On site**	**Grade 5**	**Very poor quality agricultural land**
8	65m SW	Grade 5	Very poor quality agricultural land
10	105m SE	Grade 3b	Moderate quality agricultural land
11	116m S	Grade 4	Poor quality agricultural land
13	158m S	Grade 4	Poor quality agricultural land
14	185m SE	Grade 3b	Moderate quality agricultural land
16	211m S	Grade 4	Poor quality agricultural land
17	211m NE	Grade 4	Poor quality agricultural land
18	240m SE	Grade 3b	Moderate quality agricultural land

This data is sourced from Natural Resources Wales.

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	0

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.

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.

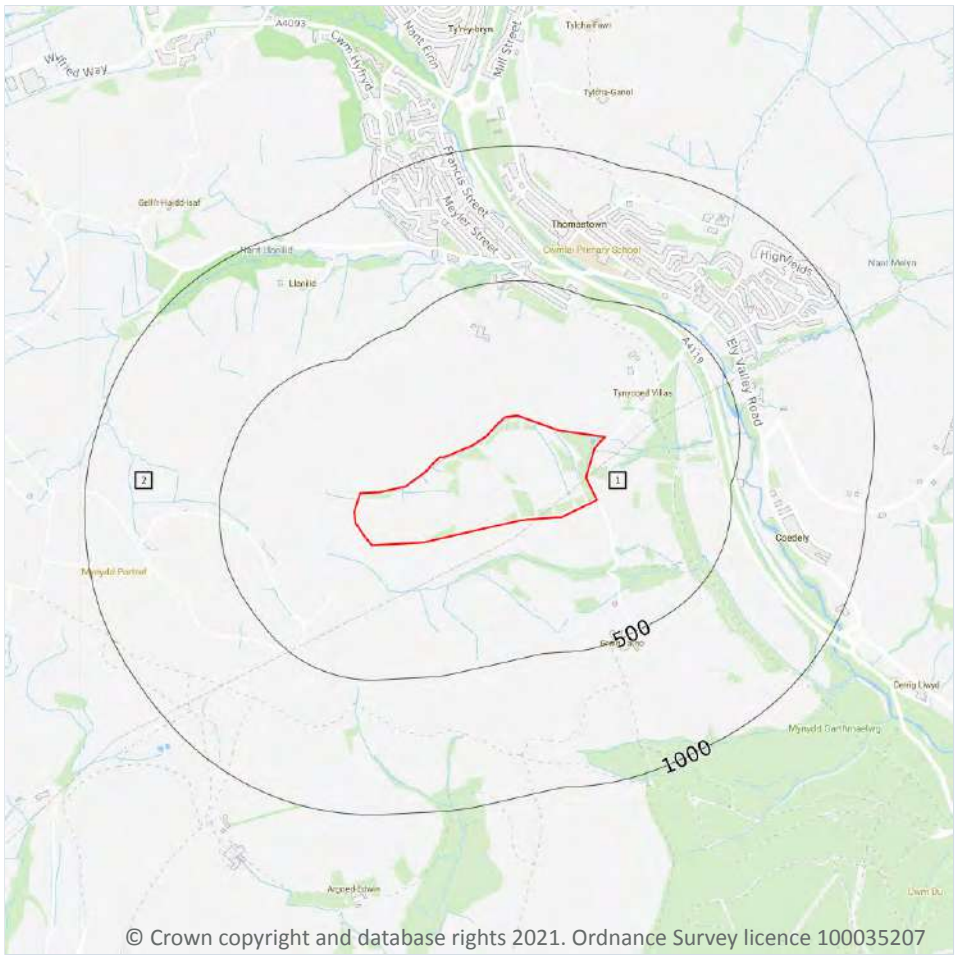
13.4 Limestone Pavement Orders

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	2

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 79**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**
2	265m W	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.

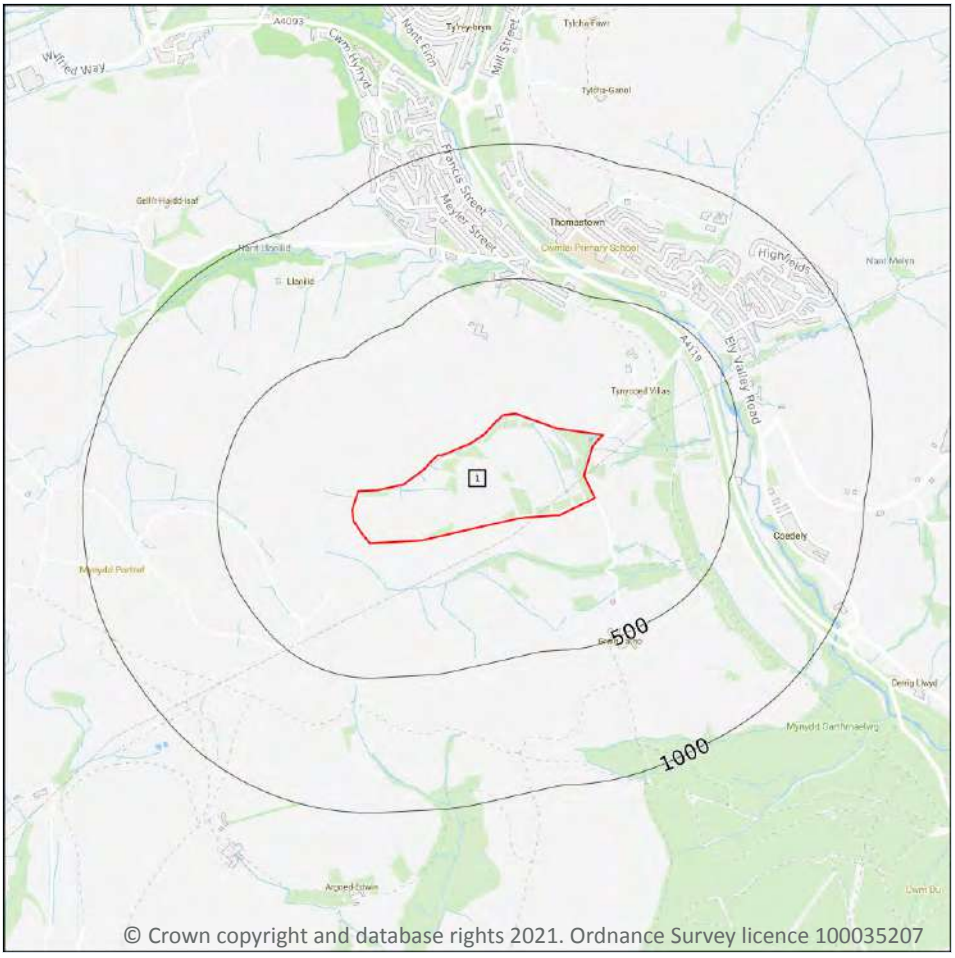
14.6 Bedrock faults and other linear features (10k)

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	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 83**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW248_pontypridd_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 **7**

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 85**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	22m SW	PEAT-P	PEAT	PEAT
3	47m W	PEAT-P	PEAT	PEAT

ID	Location	LEX Code	Description	Rock description
4	240m W	PEAT-P	PEAT	PEAT
5	333m E	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	404m SW	PEAT-P	PEAT	PEAT
7	419m E	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	**3**

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).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Low**
22m SW	Mixed	Low	Very Low
47m W	Mixed	Low	Very Low

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.

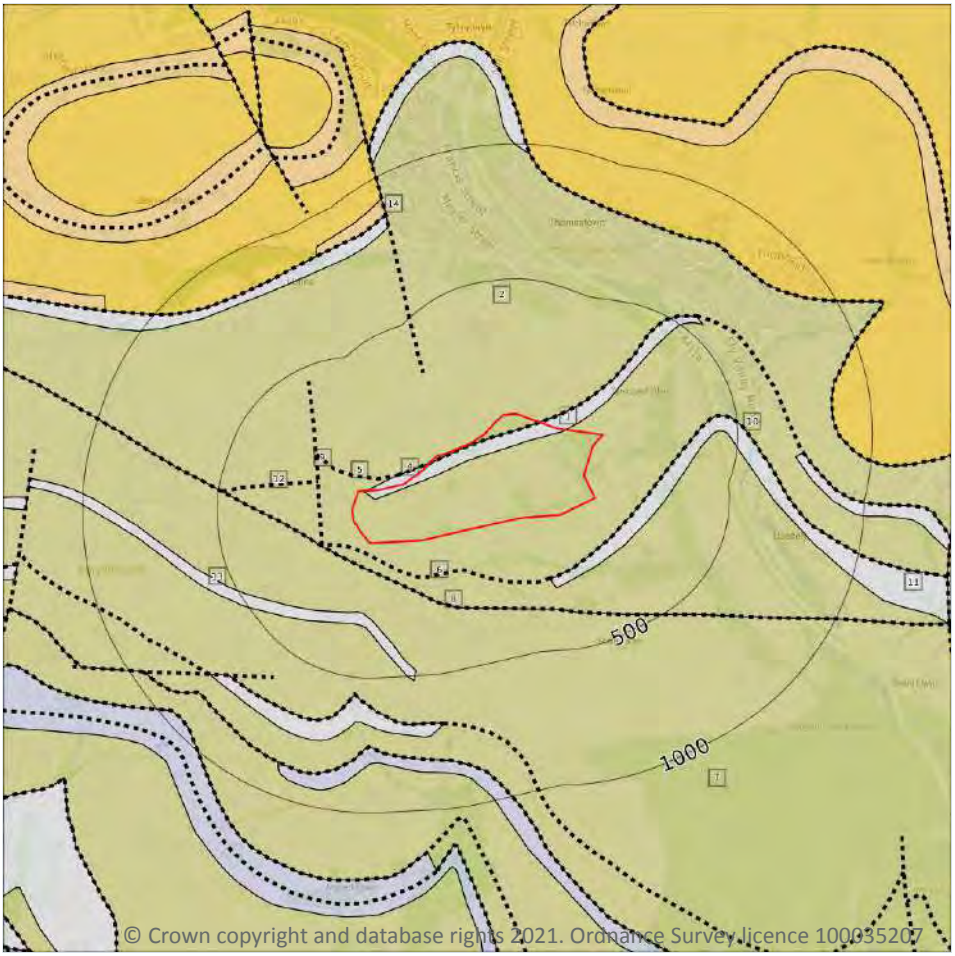
15.7 Landslip permeability (50k)

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	5

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 87**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BD-MDSS**	**BRITHDIR MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
2	**On site**	**BD-SDST**	**BRITHDIR MEMBER - SANDSTONE**	**WESTPHALIAN**
7	92m SW	BD-SDST	BRITHDIR MEMBER - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
11	144m SE	BD-MDSS	BRITHDIR MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	258m S	BD-MDSS	BRITHDIR MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

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**	**Moderate**	**Low**
On site	**Fracture**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**9**

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.

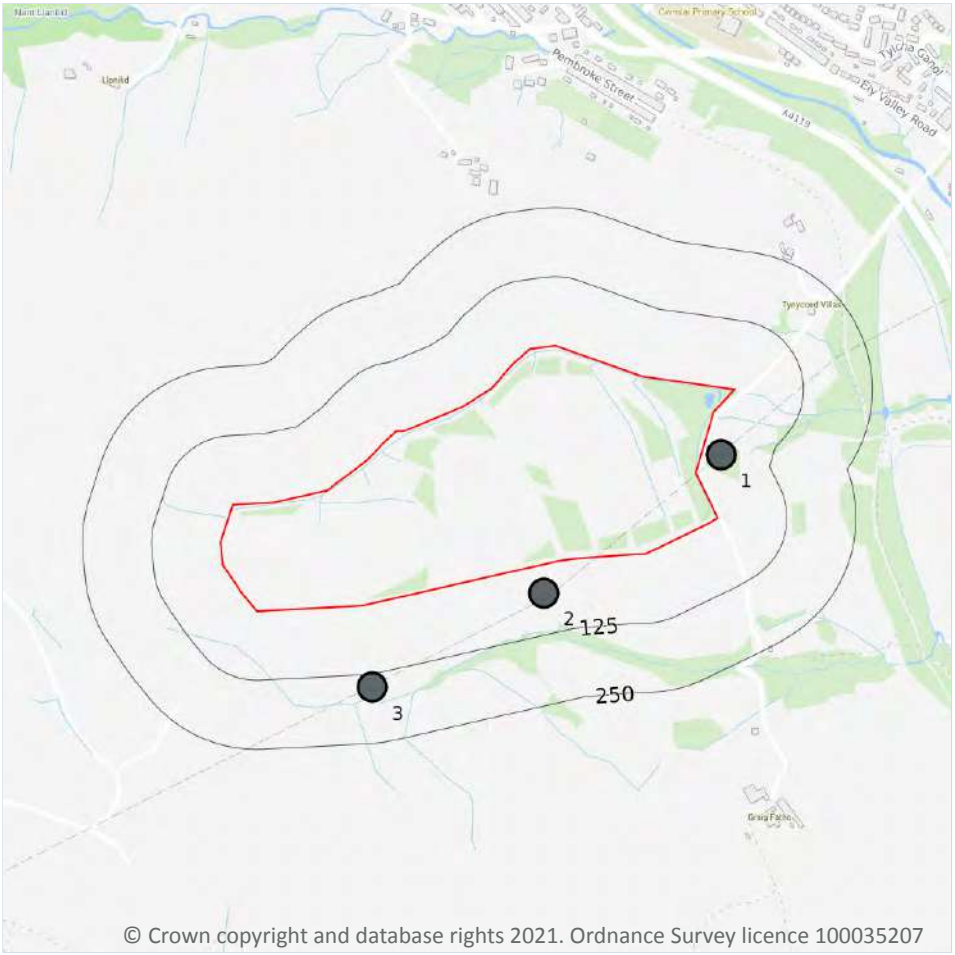
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 87**

ID	Location	Category	Description
3	**On site**	**ROCK**	**Coal seam, inferred**
4	27m NW	ROCK	Coal seam, inferred
5	39m N	ROCK	Coal seam, inferred
6	42m SW	ROCK	Coal seam, inferred
8	92m SW	FAULT	Fault, inferred, displacement unknown
9	121m W	FAULT	Fault, inferred, displacement unknown
10	144m SE	ROCK	Coal seam, inferred

ID	Location	Category	Description
12	152m W	ROCK	Coal seam, inferred
14	309m NW	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	3

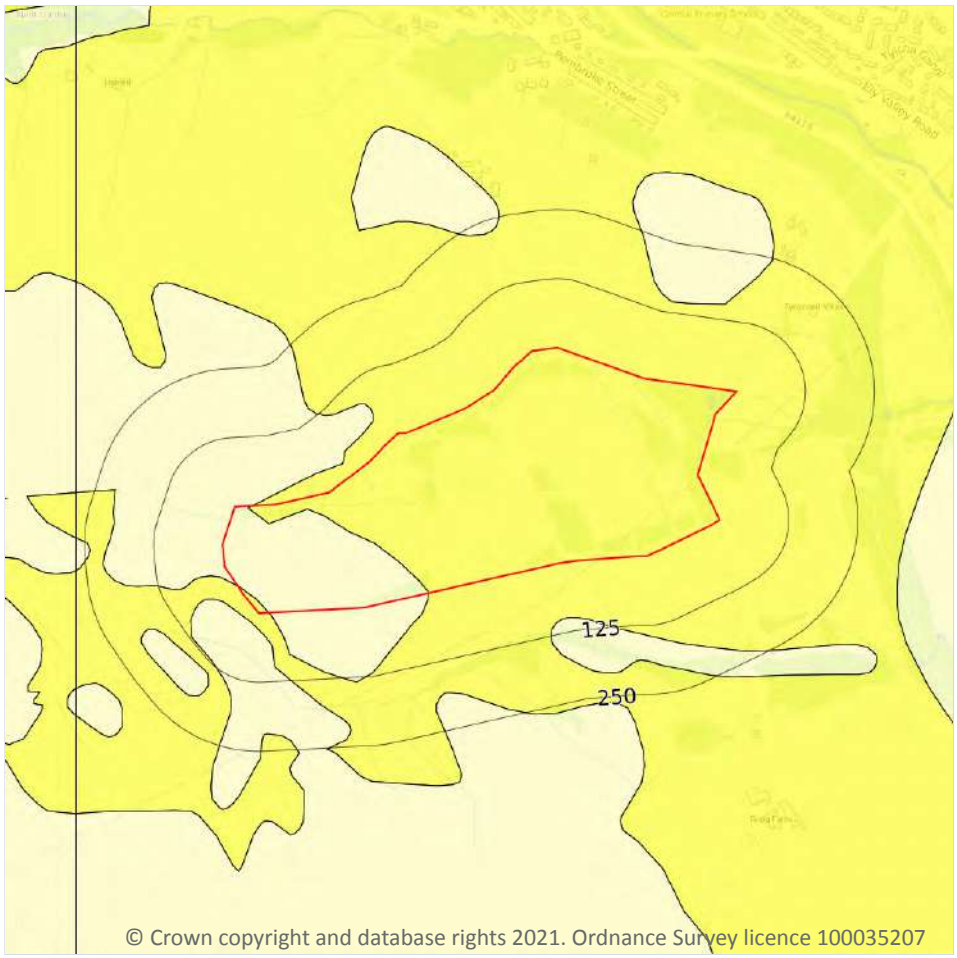
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 90**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	35m E	301170 186040	SOUTH WALES PYLONS 142	-	Y	N/A
2	50m S	300850 185790	SOUTH WALES PYLONS 141A	-	Y	N/A
3	148m S	300540 185620	SOUTH WALES PYLONS 140A	-	Y	N/A

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	3

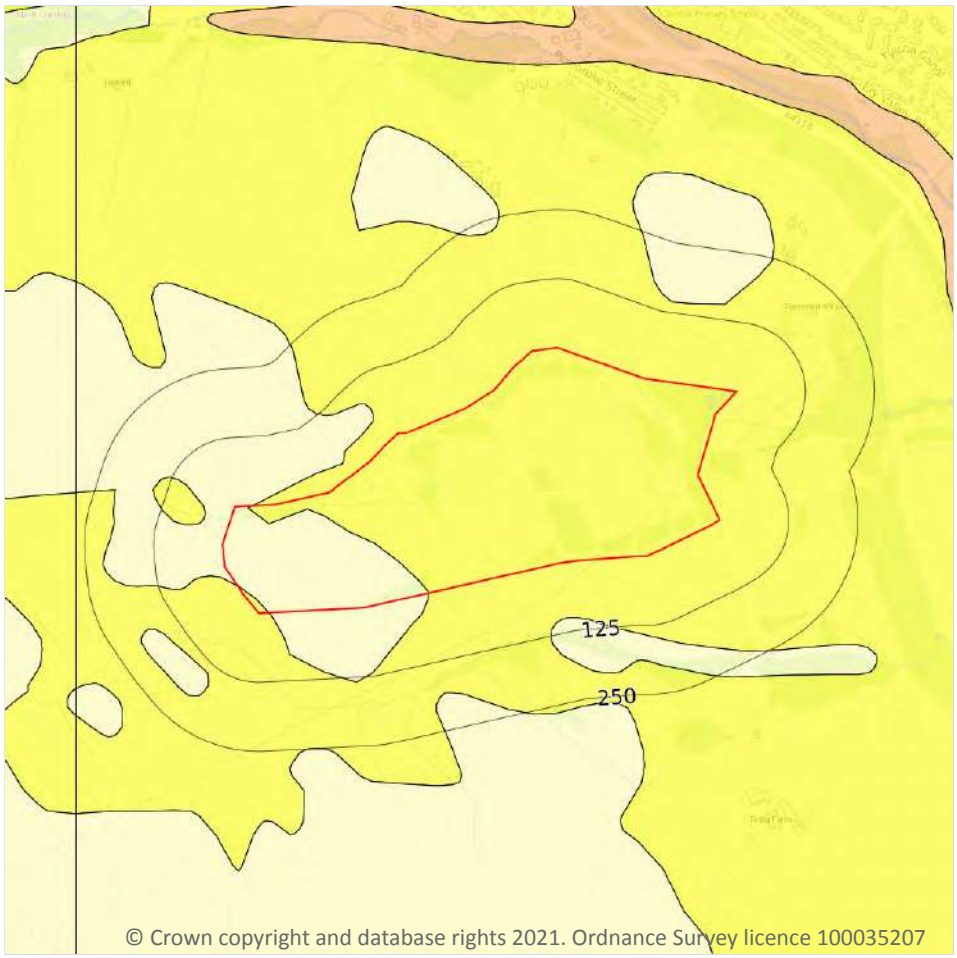
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 92**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**
22m SW	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	3

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.

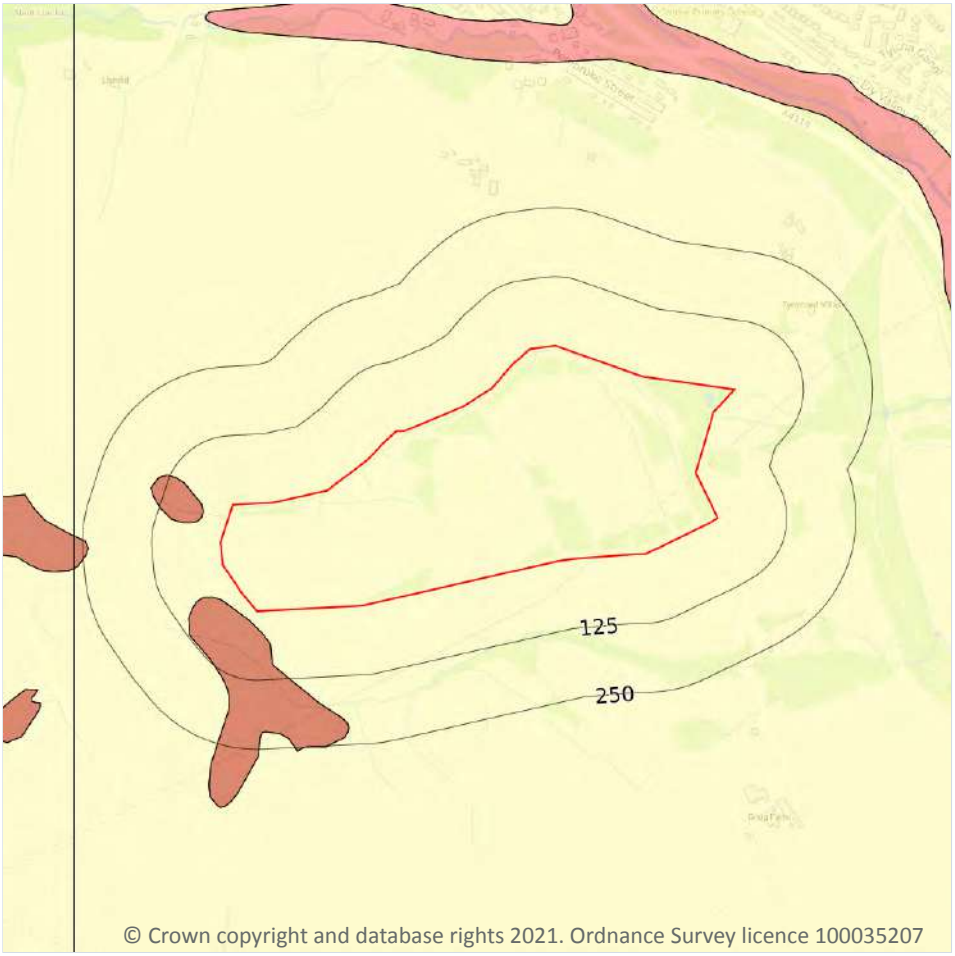
Features are displayed on the Natural ground subsidence - Running sands map on **page 94**

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.**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**
47m W	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

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	3

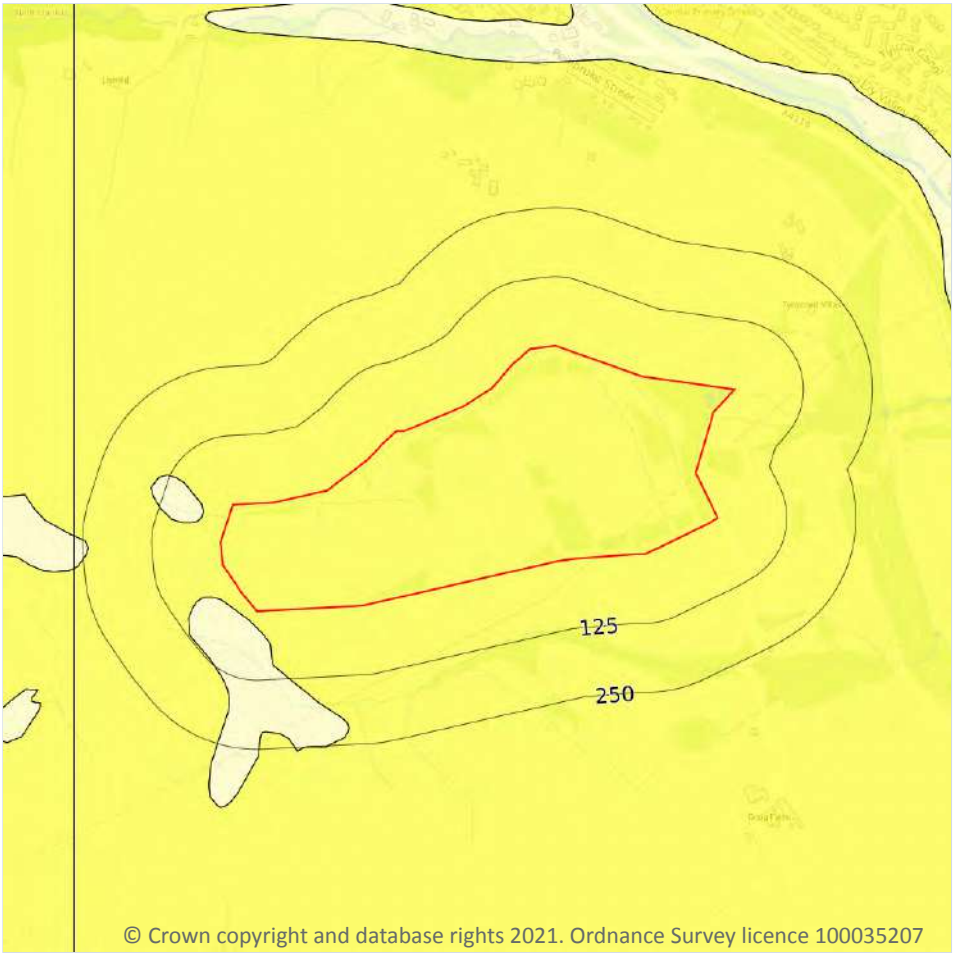
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 96**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
22m SW	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
47m W	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

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	**3**

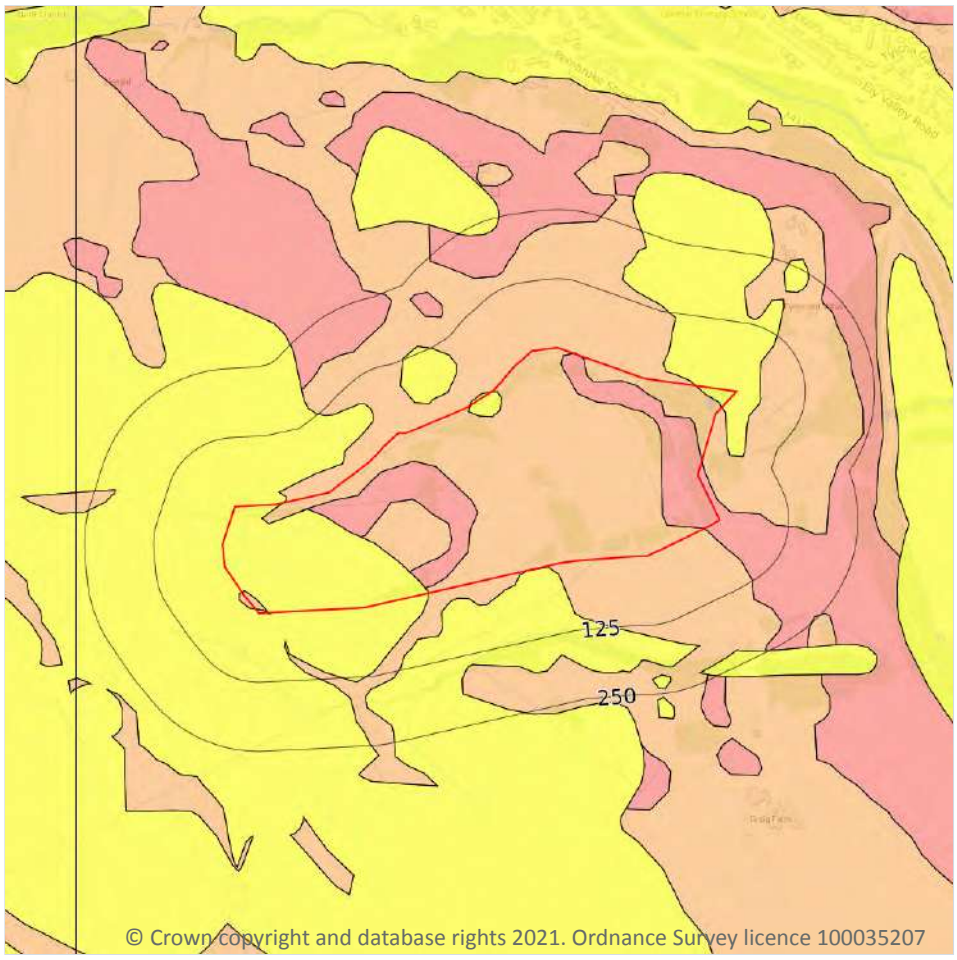
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 98**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
22m SW	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
47m W	Negligible	Deposits with potential to collapse when loaded and saturated are believed not 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	4

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.

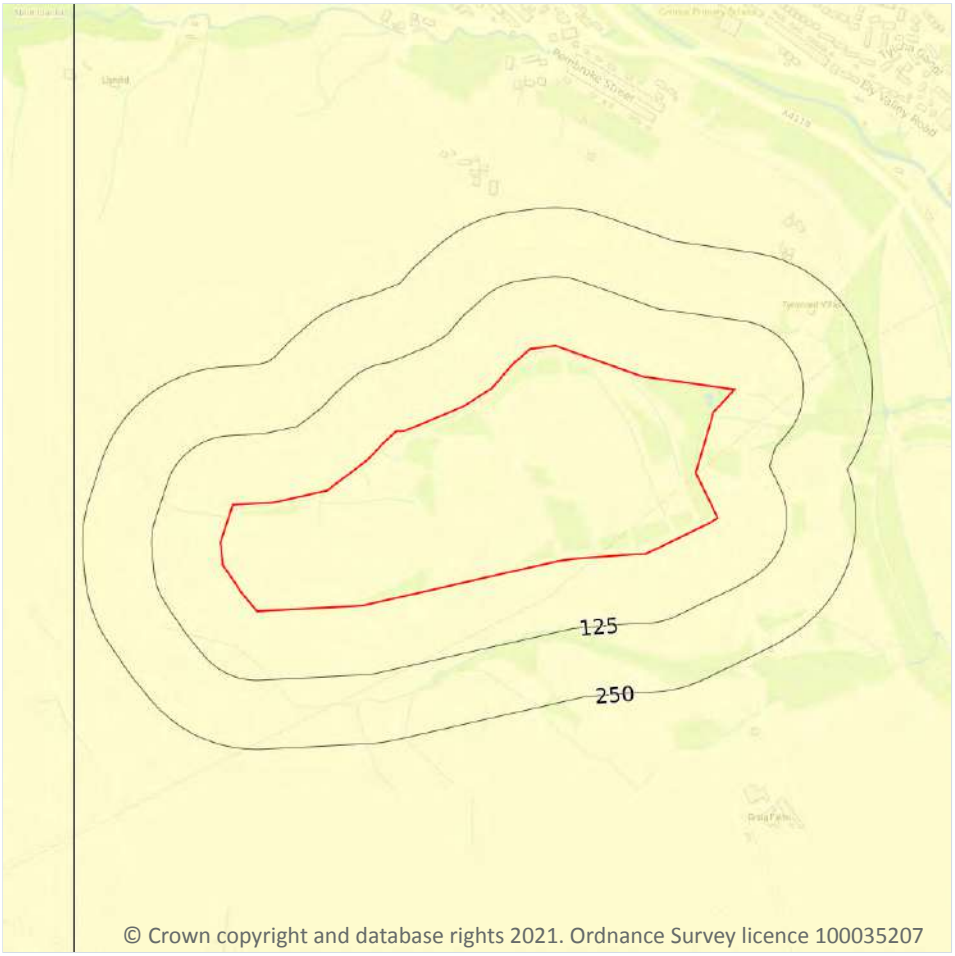
Features are displayed on the Natural ground subsidence - Landslides map on **page 99**

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.**

Location	Hazard rating	Details
On site	**Low**	**Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.**
On site	**Moderate**	**Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.**
33m NW	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

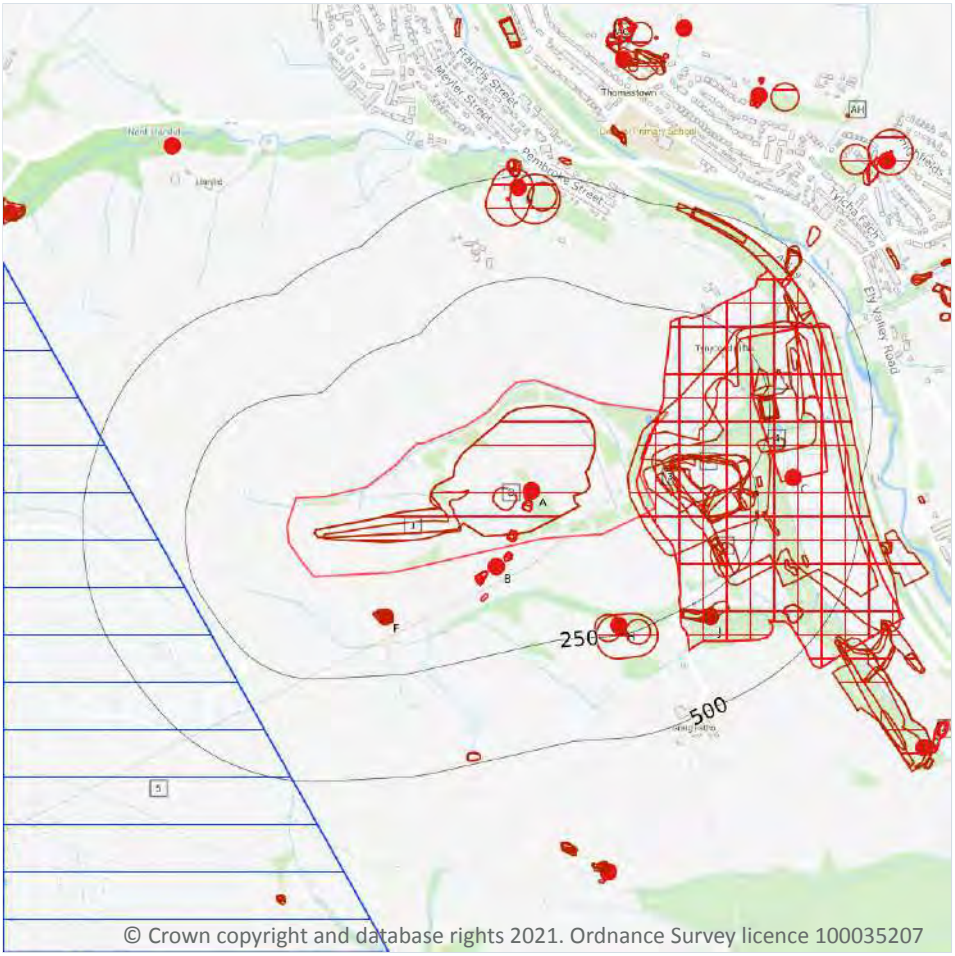
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 101**

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	1

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 103**

ID	Location	Details	Source
5	275m SW	Type: Sinkhole x 11 Superficial Geology: Glacial Till and morainic drift Bedrock Geology: Lower Carboniferous Limestone	Simple Bibliography: - Full Bibliography: EDMONDS, C.N., A review of Soluble Rocks in Britain and their Engineering Significance., 1981; Confidentiality: Data source can be revealed, data can be used freely

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	**7**

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 103**

ID	Location	Details	Description
A	**On site**	**Name: Mynydd Portref** **Address: Tonyrefail, LLANTRISANT, Mid Glamorgan** **Commodity: Sandstone** **Status: Ceased**	**Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site** **Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority**
B	42m S	Name: Mynydd Portref Address: Tonyrefail, LLANTRISANT, Mid Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
F	106m S	Name: Mynydd Portref Address: Tonyrefail, LLANTRISANT, Mid Glamorgan Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
H	224m S	Name: Coed Ely Address: Tonyrefail, LLANTRISANT, Mid Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	298m SE	Name: Coed Ely Address: Tonyrefail, LLANTRISANT, Mid Glamorgan Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	344m E	Name: Coedely Mine Address: PONTYPRIDD, Mid Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
N	471m N	Name: Tontracethwg-fach Address: Tonyrefail, LLANTRISANT, Mid Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	**56**

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 103**

ID	Location	Land Use	Year of mapping	Mapping scale
1	**On site**	**Refuse Heap**	**1948**	**1:10560**
2	**On site**	**Colliery**	**1948**	**1:10560**
A	**On site**	**Refuse Heap**	**1875**	**1:10560**
A	**On site**	**Refuse Heap**	**1875**	**1:10560**
A	**On site**	**Unspecified Heap**	**1915**	**1:10560**
B	**On site**	**Unspecified Heap**	**1875**	**1:10560**
C	**On site**	**Colliery**	**1921**	**1:10560**
C	**On site**	**Colliery**	**1915**	**1:10560**
D	**On site**	**Refuse Heap**	**1948**	**1:10560**
D	**On site**	**Unspecified Disused Tip**	**1974**	**1:10000**
D	**On site**	**Refuse Heap**	**1965**	**1:10560**
E	6m NE	Unspecified Disused Tip	1974	1:10000
B	15m S	Unspecified Heap	1875	1:10560
C	20m E	Colliery	1915	1:10560
3	33m NE	Ponds	1965	1:10560
E	45m E	Refuse Heap	1915	1:10560
E	64m E	Refuse Heap	1915	1:10560
E	65m E	Refuse Heap	1948	1:10560
E	65m E	Unspecified Heaps	1965	1:10560
E	70m E	Refuse Heap	1921	1:10560
F	89m S	Unspecified Old Quarry	1898	1:10560
F	94m S	Unspecified Quarry	1875	1:10560
F	95m S	Unspecified Ground Workings	1948	1:10560
F	95m S	Unspecified Quarry	1915	1:10560
F	95m S	Unspecified Ground Workings	1921	1:10560
C	130m E	Unspecified Heaps	1965	1:10560
G	156m SE	Ponds	1974	1:10000
G	161m SE	Ponds	1965	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	171m SE	Pond	1948	1:10560
G	171m SE	Reservoir	1948	1:10560
H	196m S	Old Coal Level	1948	1:10560
G	196m SE	Reservoir	1921	1:10560
G	196m SE	Reservoir	1915	1:10560
H	199m S	Old Coal Level	1921	1:10560
C	208m E	Unspecified Ground Workings	1948	1:10560
I	211m E	Refuse Heap	1948	1:10560
I	213m E	Colliery	1974	1:10000
I	213m E	Unspecified Heap	1965	1:10560
C	219m E	Unspecified Ground Workings	1948	1:10560
I	222m E	Ponds	1974	1:10000
H	224m S	Old Coal Level	1898	1:10560
I	227m E	Reservoir	1915	1:10560
I	229m E	Ponds	1965	1:10560
I	230m E	Reservoir	1948	1:10560
I	230m E	Reservoir	1921	1:10560
I	230m E	Reservoir	1915	1:10560
4	231m E	Refuse Heap	1915	1:10560
H	237m S	Old Coal Level	1915	1:10560
H	240m S	Old Coal Level	1915	1:10560
C	242m E	Brick Kilns	1915	1:10560
C	243m E	Brick Kilns	1915	1:10560
C	243m E	Brick Kilns	1921	1:10560
C	245m E	Brick Kilns	1915	1:10560
C	246m E	Brick Kilns	1915	1:10560
C	246m E	Brick Kilns	1921	1:10560
J	249m SE	Unspecified Quarry	1915	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	74

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 103**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Old Trial Shaft**	**1948**	**1:10560**
A	**On site**	**Old Trial Shaft**	**1948**	**1:10560**
A	**On site**	**Old Trial Shaft**	**1898**	**1:10560**
A	**On site**	**Old Trial Shaft**	**1921**	**1:10560**
A	**On site**	**Old Trial Shafts**	**1921**	**1:10560**
A	**On site**	**Trial Shaft**	**1875**	**1:10560**
A	**On site**	**Old Trial Shaft**	**1915**	**1:10560**
A	**On site**	**Old Trial Shaft**	**1915**	**1:10560**
B	**On site**	**Old Trial Shaft**	**1948**	**1:10560**
B	**On site**	**Old Trial Shafts**	**1921**	**1:10560**
B	**On site**	**Old Trial Shaft**	**1915**	**1:10560**
C	**On site**	**Colliery**	**1921**	**1:10560**
B	17m S	Old Trial Shafts	1948	1:10560
B	17m S	Old Trial Shafts	1921	1:10560
B	17m S	Old Trial Shafts	1915	1:10560
B	20m S	Trial Shaft	1875	1:10560
B	25m S	Old Trial Shafts	1898	1:10560
B	29m S	Disused Trial Shafts	1965	1:10560
B	30m S	Old Trial Shafts	1948	1:10560
B	30m S	Old Trial Shafts	1921	1:10560
B	30m S	Old Trial Shafts	1915	1:10560
B	36m S	Disused Trial Shafts	1992	1:10000
B	36m S	Disused Trial Shafts	1974	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
B	46m S	Disused Trial Shafts	1965	1:10560
B	48m S	Disused Trial Shafts	1992	1:10000
B	48m S	Disused Trial Shafts	1974	1:10000
B	53m S	Old Trial Shafts	1948	1:10560
B	53m S	Old Trial Shafts	1921	1:10560
B	53m S	Old Trial Shafts	1915	1:10560
B	58m S	Old Trial Shafts	1898	1:10560
B	101m S	Old Trial Shafts	1915	1:10560
I	213m E	Colliery	1974	1:10000
H	240m S	Old Coal Level	1915	1:10560
N	444m N	Trial Level	1875	1:10560
N	501m N	Old Trial Level	1948	1:10560
Z	748m NE	Old Coal Levels	1898	1:10560
AD	776m N	Coal Level	1875	1:10560
AD	777m N	Old Coal Level	1948	1:10560
AD	777m N	Old Coal Level	1921	1:10560
AD	777m N	Old Coal Level	1915	1:10560
AD	787m N	Unspecified Disused Level	1965	1:10560
Z	809m NE	Coal Levels	1875	1:10560
Z	827m NE	Coal Levels	1875	1:10560
Z	831m NE	Unspecified Level	1921	1:10560
AD	833m N	Old Air Shaft	1921	1:10560
AD	838m N	Old Air Shaft	1948	1:10560
AD	838m N	Air Shaft	1898	1:10560
AD	838m N	Old Air Shaft	1915	1:10560
AC	839m N	Old Coal Level	1948	1:10560
AD	842m N	Air Shaft	1875	1:10560
AH	845m NE	Coal Level	1875	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
AC	846m N	Disused Air Shaft	1992	1:10000
AC	846m N	Disused Air Shaft	1974	1:10000
AC	846m N	Disused Air Shaft	1965	1:10560
AC	855m N	Old Coal Level	1921	1:10560
AC	857m N	Trial Level	1875	1:10560
AI	874m SE	Old Trial Level	1948	1:10560
AI	874m SE	Old Trial Level	1921	1:10560
AI	874m SE	Old Trial Level	1915	1:10560
AI	875m SE	Old Trial Level	1898	1:10560
AI	875m SE	Disused Trial Level	1965	1:10560
AC	885m N	Old Coal Level	1915	1:10560
AJ	893m N	Old Trial Level	1898	1:10560
AJ	893m N	Old Trial Level	1948	1:10560
AJ	893m N	Old Trial Level	1921	1:10560
AJ	893m N	Old Trial Level	1915	1:10560
AI	898m SE	Trial Level	1875	1:10560
AJ	899m N	Trial Level	1875	1:10560
-	948m E	Old Trial Level	1948	1:10560
-	948m E	Old Trial Level	1921	1:10560
-	948m E	Old Trial Level	1915	1:10560
-	952m E	Unspecified Disused Level	1992	1:10000
-	952m E	Unspecified Disused Level	1974	1:10000
-	952m E	Disused Trial Level	1965	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	0

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).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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.

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	1

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

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

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	**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

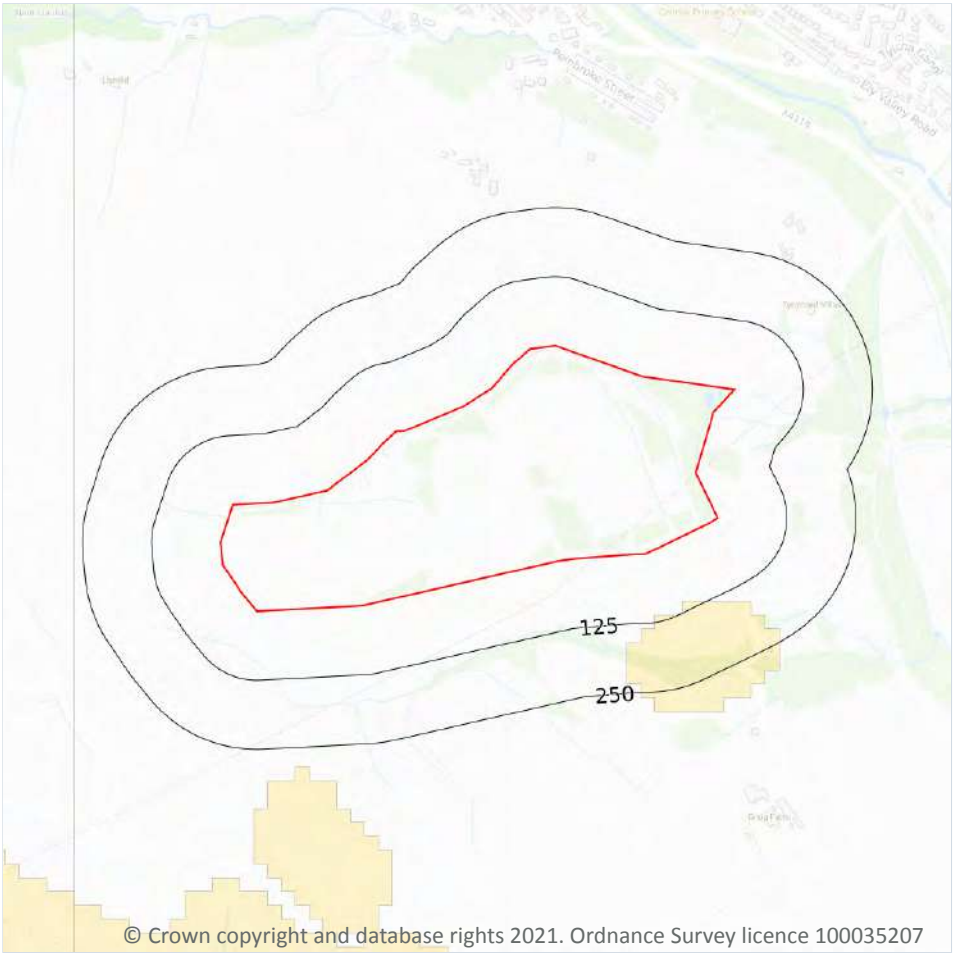
18.13 Clay mining

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	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 113**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m **24**

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	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
21m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m SW	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
27m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m NW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m W	25 - 35 mg/kg	No data	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.

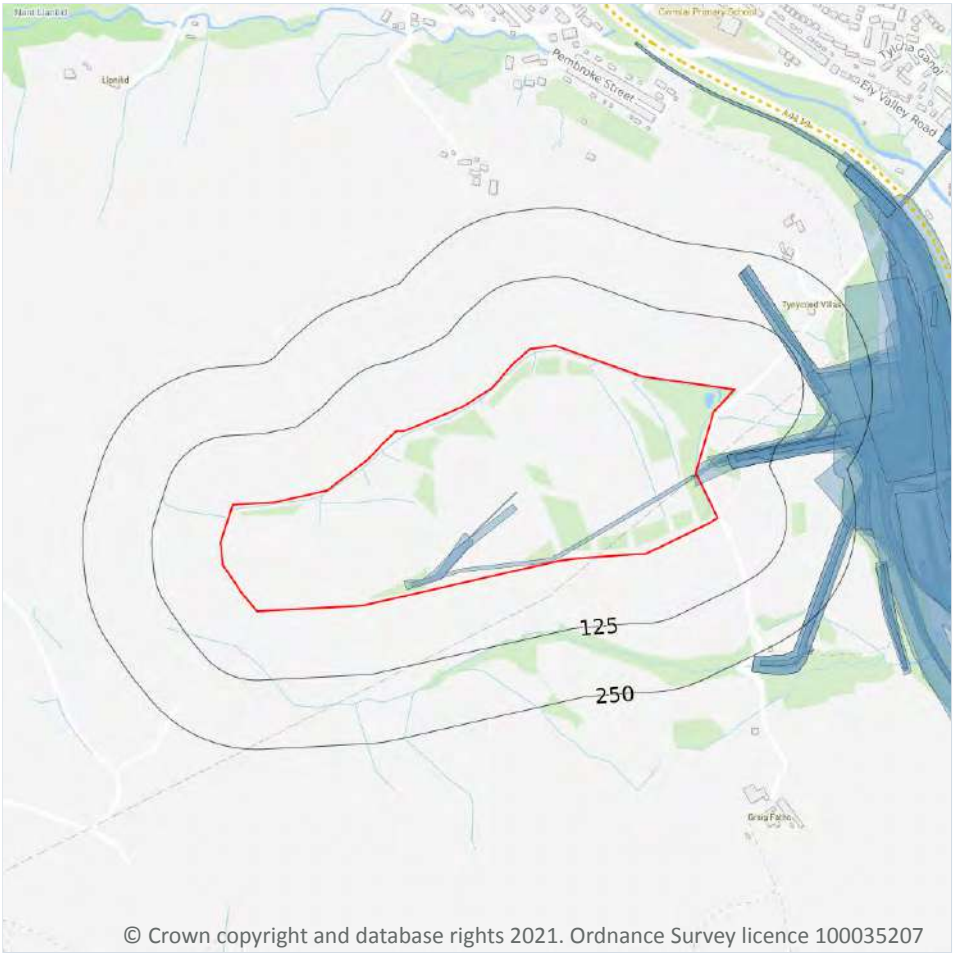
20.3 BGS Measured Urban Soil Chemistry

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



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

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	14

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.

Features are displayed on the Railway infrastructure and projects map on **page 117**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway Sidings**	**1960**	**2500**
On site	**Tramway Sidings**	**1960**	**2500**
On site	**Tramway Sidings**	**1948**	**10560**
12m E	Mineral Railway Sidings	1974	10000
33m E	Disused Tramway Sidings	1979	2500
34m E	Disused Tramway Sidings	1972	2500
45m E	Tramway Sidings	1915	10560
45m E	Tramway Sidings	1921	10560
58m E	Tramway Sidings	1915	10560
62m E	Tramway Sidings	1920	2500
134m E	Tramway Sidings	1948	10560
188m E	Railway Sidings	1965	10560
198m E	Railway Sidings	1948	10560
213m E	Mineral Railway Sidings	1974	10000

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/.

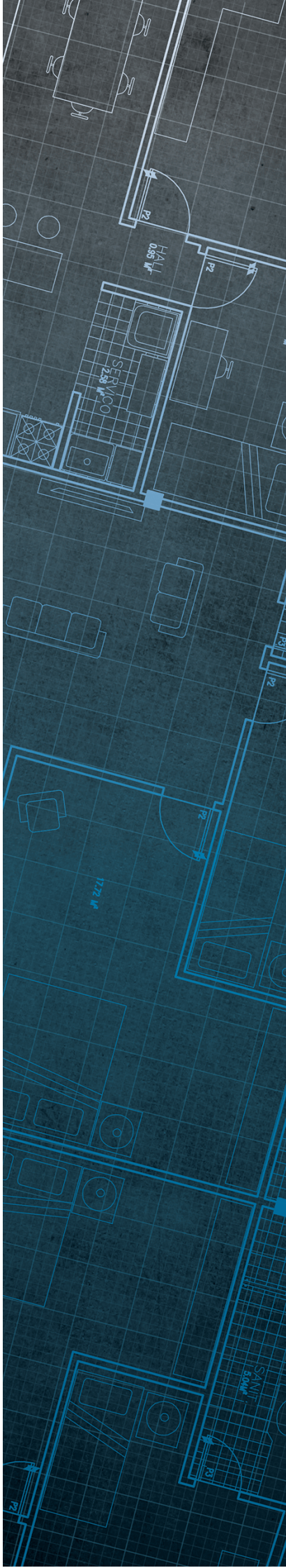
APPENDIX IV – CONSULTANTS COAL MINING REPORT

The Coal Authority

Consultants

Coal Mining Report

Proposed Solar Farm
Coedely
Tonyrefail
Rhondda Cynon Taf
CF39 8EX



Date of enquiry:	**17 May 2021**
Date enquiry received:	**17 May 2021**
Issue date:	**17 May 2021**
Our reference:	**51002544865001**
Your reference:	**Q0533**

Consultants

Coal Mining Report

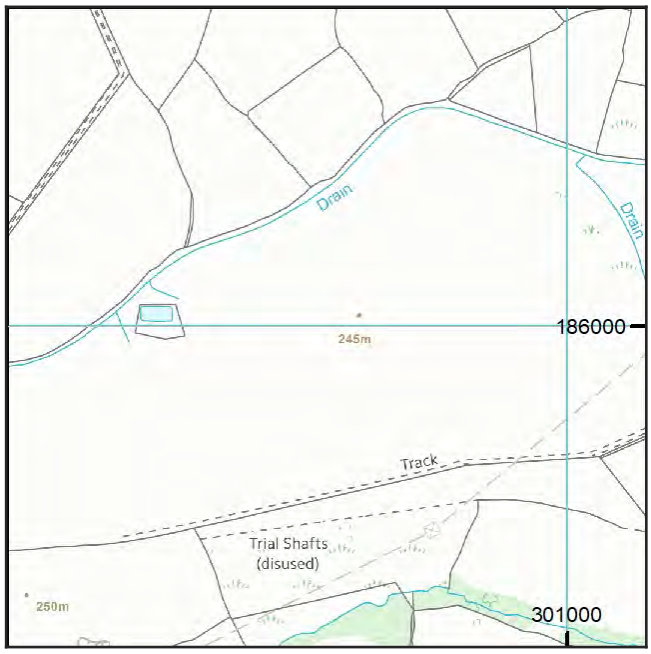
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

Quantum Geotechnic Ltd

Enquiry address

Proposed Solar Farm
Coedely
Tonyrefail
Rhondda Cynon Taf
CF39 8EX



Approximate position of property

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority
/company/the-coal-authority
/thecoalauthority
/thecoalauthority

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	NO.2 RHONDDA	Coal	459K	290	North-East	8.6	North	120	1956
unnamed	NO.2 RHONDDA	Coal	457P	304	North-East	8.8	North	120	1921
unnamed	NO.2 RHONDDA	Coal	457R	310	Beneath Property	11.8	North	120	1960
unnamed	NO.2 RHONDDA	Coal	459J	337	Beneath Property	9.8	North-East	120	1954
unnamed	NO.2 RHONDDA	Coal	457Q	339	Beneath Property	9.7	North-East	150	1957
unnamed	NO.3 RHONDDA	Coal	459C	389	South-West	10.8	North-East	90	1930
unnamed	NO.3 RHONDDA	Coal	459B	415	South	7.8	North-East	90	1930
unnamed	NO.3 RHONDDA	Coal	456O	458	Beneath Property	5.7	North	80	1923
unnamed	NO.3 RHONDDA	Coal	459F	459	Beneath Property	6.3	North	90	1925
unnamed	TWO FOOT NINE	Coal	456A	565	East	9.7	North-East	190	1929
unnamed	TWO FOOT NINE	Coal	456B	576	East	8.0	North	190	1929
unnamed	TWO FOOT NINE	Coal	4562	594	North-East	5.7	N/A	150	1931
unnamed	TWO FOOT NINE	Coal	4568	618	Beneath Property	9.3	North-East	190	1936
unnamed	UPPER FOUR FOOT	Coal	455X	622	North-East	8.5	South	110	1951
unnamed	TWO FOOT NINE	Coal	4569	623	Beneath Property	9.6	North	190	1929
unnamed	TWO FOOT NINE	Coal	49QB	628	West	15.8	North	161	1951
unnamed	TWO FOOT NINE	Coal	4563	629	Beneath Property	7.7	North	190	1949
unnamed	FIVE FOOT	Coal	4520	662	East	10.6	North	150	1921
unnamed	FOUR FOOT	Coal	455N	674	North-East	8.5	South	120	1961
unnamed	6FT BOTTOM LEAF	Coal	453S	679	Beneath Property	9.8	North	160	1971
unnamed	LOWER 9FT AND BUTE	Coal	452B	690	Beneath Property	18.1	North	300	1928
unnamed	FOUR FOOT	Coal	455O	692	North-West	0.0	East	90	1964

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	YARD	Coal	450I	707	Beneath Property	17.6	North	180	1924
unnamed	YARD	Coal	450J	719	Beneath Property	6.0	North	180	1928
unnamed	YARD	Coal	450H	736	Beneath Property	12.4	North	170	1932

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	300185-001	300858 185962		Coal	
Shaft	300185-002	300807 185809	This shaft is reported to have been capped in December 1948	Coal	
Shaft	300185-003	300764 185778	This shaft is reported as being capped in 1948	Coal	
Shaft	300185-004	300747 185765		Coal	
Shaft	300185-005	300733 185749		Coal	
Shaft	300185-010	300816 185857		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

SWA3812	SWA772	SWA2149
7387	SWT3292	14522
9962	SWA1082	SWR3827

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	51
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	76
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	101
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	236

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

Court orders
None recorded.

Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

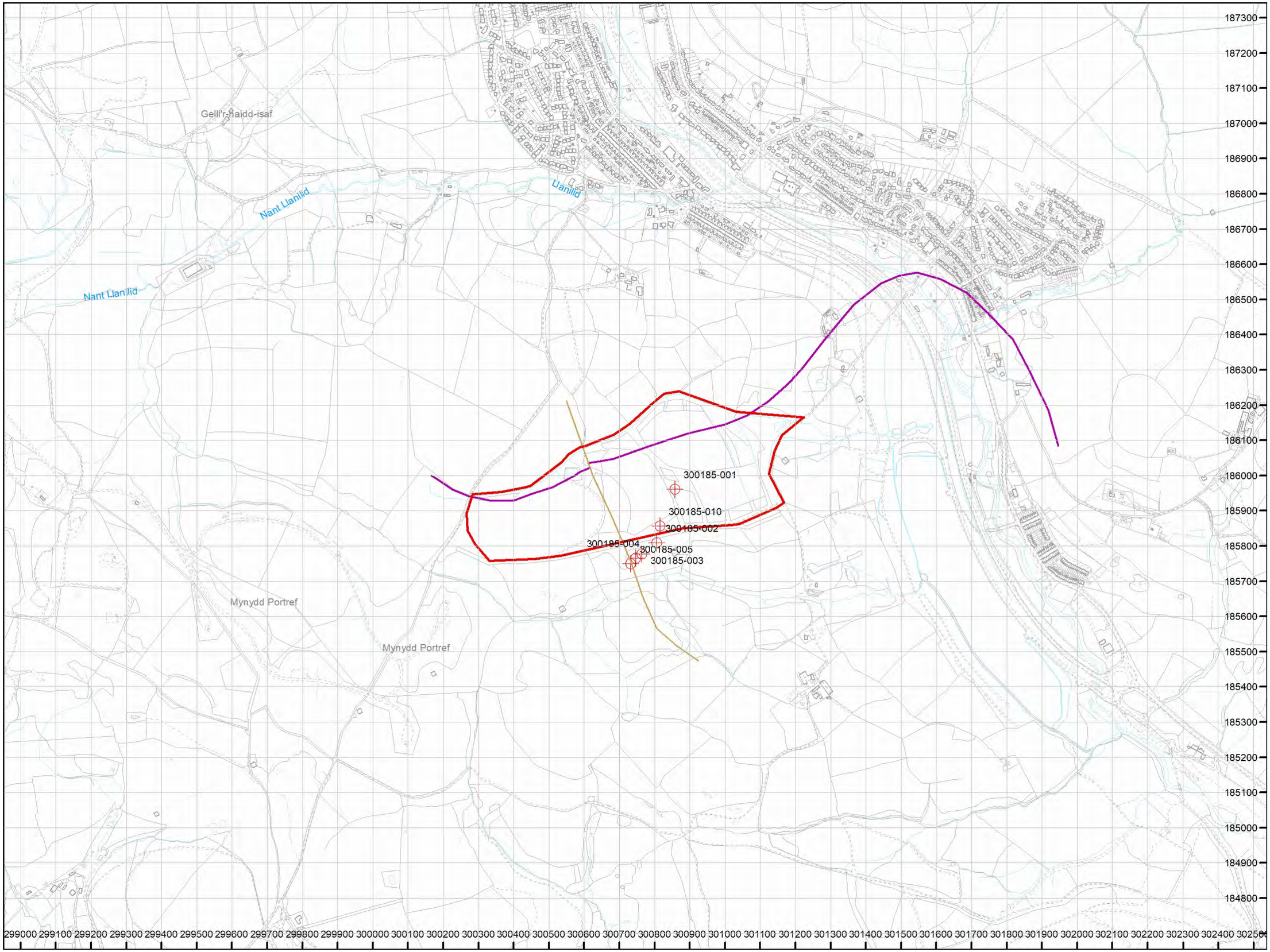
The Coal Authority

Summary of findings

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown
- Disused mine shaft
- Outcrop (Proven)
- Geological faults



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

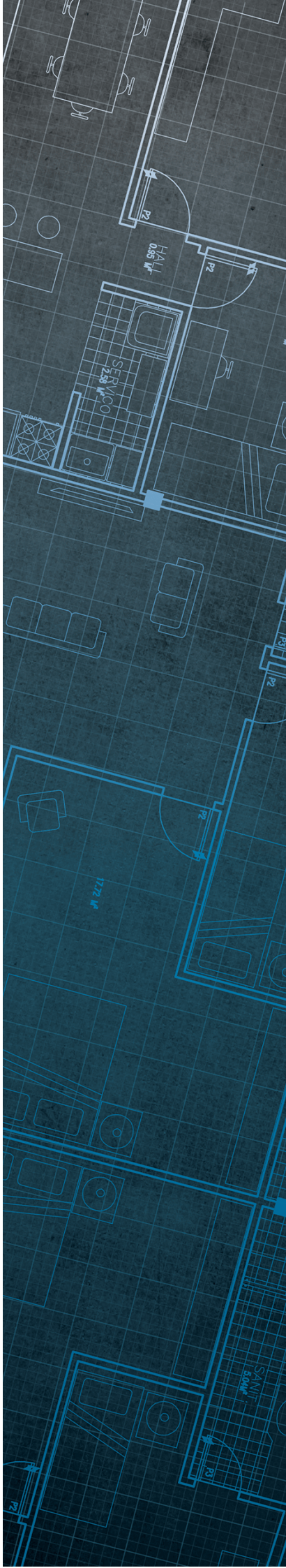
Appendix 3.3: Coal Authority Consultants Report (West)

The Coal Authority

Consultants

Coal Mining Report

Proposed Solar Farm
Coedely
Tonyrefail
Rhondda Cynon Taf
CF39 8EX



Date of enquiry:	**17 May 2021**
Date enquiry received:	**17 May 2021**
Issue date:	**17 May 2021**
Our reference:	**51002544865001**
Your reference:	**Q0533**

Consultants

Coal Mining Report

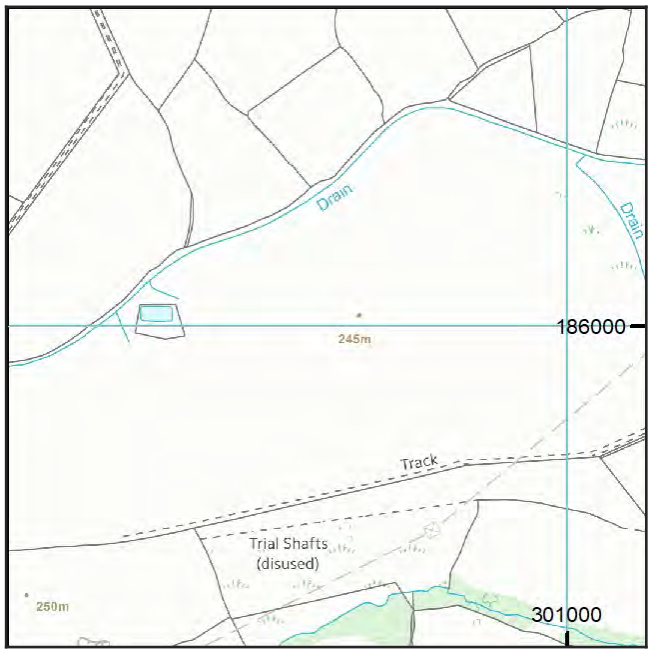
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

Quantum Geotechnic Ltd

Enquiry address

Proposed Solar Farm
Coedely
Tonyrefail
Rhondda Cynon Taf
CF39 8EX



Approximate position of property

How to contact us

0345 762 6848 (UK)
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200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

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/company/the-coal-authority
/thecoalauthority
/thecoalauthority

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	NO.2 RHONDDA	Coal	459K	290	North-East	8.6	North	120	1956
unnamed	NO.2 RHONDDA	Coal	457P	304	North-East	8.8	North	120	1921
unnamed	NO.2 RHONDDA	Coal	457R	310	Beneath Property	11.8	North	120	1960
unnamed	NO.2 RHONDDA	Coal	459J	337	Beneath Property	9.8	North-East	120	1954
unnamed	NO.2 RHONDDA	Coal	457Q	339	Beneath Property	9.7	North-East	150	1957
unnamed	NO.3 RHONDDA	Coal	459C	389	South-West	10.8	North-East	90	1930
unnamed	NO.3 RHONDDA	Coal	459B	415	South	7.8	North-East	90	1930
unnamed	NO.3 RHONDDA	Coal	456O	458	Beneath Property	5.7	North	80	1923
unnamed	NO.3 RHONDDA	Coal	459F	459	Beneath Property	6.3	North	90	1925
unnamed	TWO FOOT NINE	Coal	456A	565	East	9.7	North-East	190	1929
unnamed	TWO FOOT NINE	Coal	456B	576	East	8.0	North	190	1929
unnamed	TWO FOOT NINE	Coal	4562	594	North-East	5.7	N/A	150	1931
unnamed	TWO FOOT NINE	Coal	4568	618	Beneath Property	9.3	North-East	190	1936
unnamed	UPPER FOUR FOOT	Coal	455X	622	North-East	8.5	South	110	1951
unnamed	TWO FOOT NINE	Coal	4569	623	Beneath Property	9.6	North	190	1929
unnamed	TWO FOOT NINE	Coal	49QB	628	West	15.8	North	161	1951
unnamed	TWO FOOT NINE	Coal	4563	629	Beneath Property	7.7	North	190	1949
unnamed	FIVE FOOT	Coal	4520	662	East	10.6	North	150	1921
unnamed	FOUR FOOT	Coal	455N	674	North-East	8.5	South	120	1961
unnamed	6FT BOTTOM LEAF	Coal	453S	679	Beneath Property	9.8	North	160	1971
unnamed	LOWER 9FT AND BUTE	Coal	452B	690	Beneath Property	18.1	North	300	1928
unnamed	FOUR FOOT	Coal	455O	692	North-West	0.0	East	90	1964

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	YARD	Coal	450I	707	Beneath Property	17.6	North	180	1924
unnamed	YARD	Coal	450J	719	Beneath Property	6.0	North	180	1928
unnamed	YARD	Coal	450H	736	Beneath Property	12.4	North	170	1932

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	300185-001	300858 185962		Coal	
Shaft	300185-002	300807 185809	This shaft is reported to have been capped in December 1948	Coal	
Shaft	300185-003	300764 185778	This shaft is reported as being capped in 1948	Coal	
Shaft	300185-004	300747 185765		Coal	
Shaft	300185-005	300733 185749		Coal	
Shaft	300185-010	300816 185857		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

SWA3812	SWA772	SWA2149
7387	SWT3292	14522
9962	SWA1082	SWR3827

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	51
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	76
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	101
BRITHDIR RIDER GROUP	Coal	Yes	Within	N/A	236

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

Court orders
None recorded.

Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

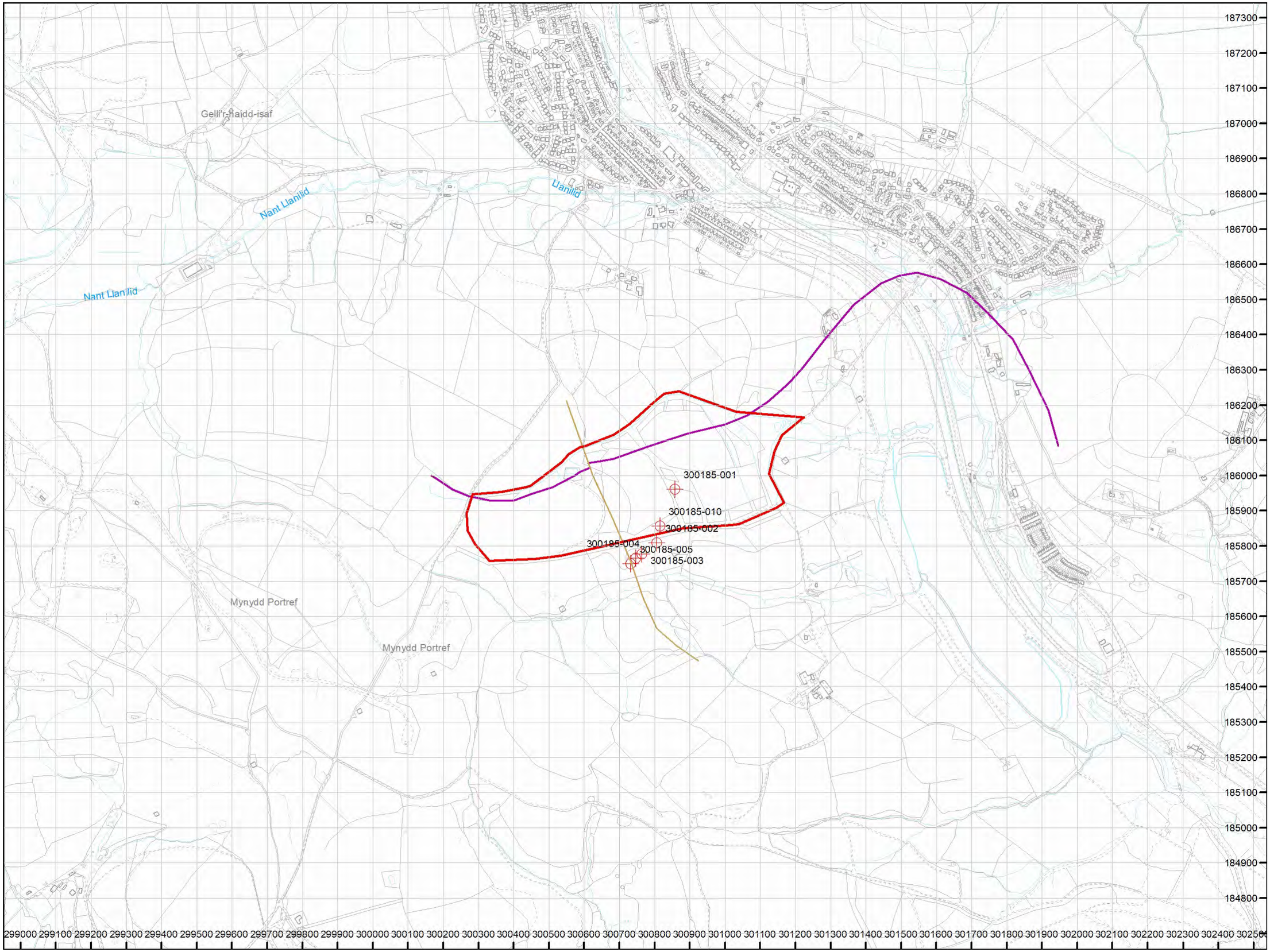
The Coal Authority

Summary of findings

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown
- Disused mine shaft
- Outcrop (Proven)
- Geological faults



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

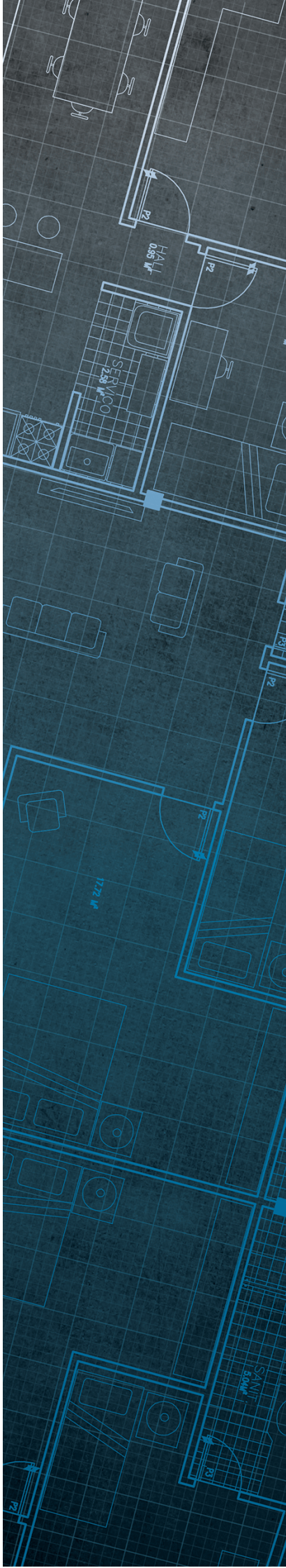
Appendix 3.4: Coal Authority Consultants Report (East)

The Coal Authority

Consultants

Coal Mining Report

Site At 301000, 186000
Rhondda Cynon Taff
CF39 8EX



Date of enquiry:	**3 April 2023**
Date enquiry received:	**3 April 2023**
Issue date:	**3 April 2023**
Our reference:	**51003347703001**
Your reference:	**309456960_2**

Consultants

Coal Mining Report

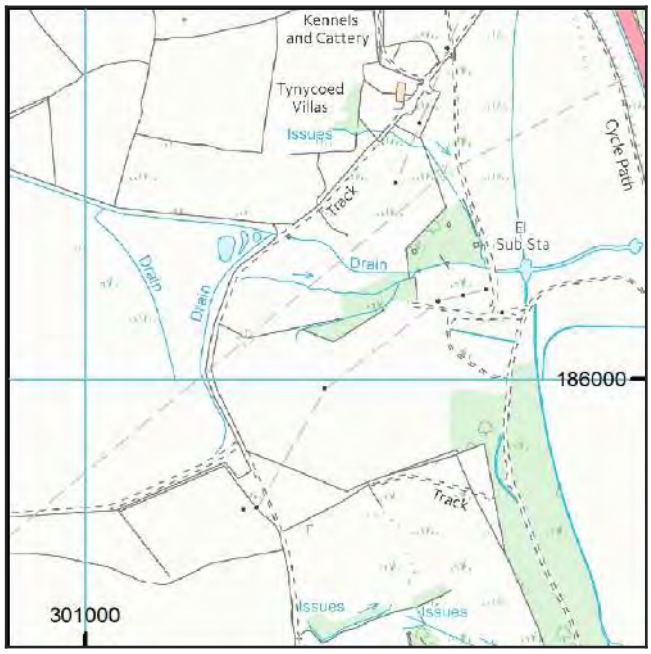
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

NLIS Hub

Enquiry address

Site At 301000, 186000
Rhondda Cynon Taff
CF39 8EX



Approximate position of property

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

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/company/the-coal-authority
/thecoalauthority
/thecoalauthority

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	NO.2 RHONDDA	Coal	459J	254	Beneath Property	9.8	North-East	120	1952
unnamed	NO.2 RHONDDA	Coal	457Q	267	Beneath Property	9.7	North-East	150	1956
unnamed	NO.2 RHONDDA	Coal	457R	270	Beneath Property	11.8	North	120	1960
unnamed	NO.2 RHONDDA	Coal	459K	270	Beneath Property	8.6	North	120	1956
unnamed	NO.2 RHONDDA	Coal	457P	274	Beneath Property	8.8	North	120	1922
unnamed	NO.3 RHONDDA	Coal	459F	339	Beneath Property	6.3	North	90	1921
unnamed	NO.3 RHONDDA	Coal	456O	346	Beneath Property	5.7	North	80	1915
unnamed	NO.3 RHONDDA	Coal	459G	350	East	4.7	North-East	90	1912
unnamed	TWO FOOT NINE	Coal	4563	516	Beneath Property	7.7	North	190	1949
unnamed	TWO FOOT NINE	Coal	4568	520	Beneath Property	9.3	North-East	190	1929
unnamed	TWO FOOT NINE	Coal	456A	524	Beneath Property	9.7	North-East	190	1929
unnamed	TWO FOOT NINE	Coal	456B	532	Beneath Property	8.0	North	190	1929
unnamed	TWO FOOT NINE	Coal	4562	570	North-East	5.7	N/A	150	1953
unnamed	6FT BOTTOM LEAF	Coal	453S	579	Beneath Property	9.8	North	160	1971
unnamed	UPPER FOUR FOOT	Coal	455X	602	North-East	8.5	South	110	1951
unnamed	LOWER 9FT AND BUTE	Coal	452B	605	Beneath Property	18.1	North	300	1928
unnamed	YARD	Coal	450I	607	Beneath Property	17.6	North	180	1924
unnamed	YARD	Coal	450J	620	West	6.0	North	180	1928
unnamed	FIVE FOOT	Coal	4520	642	East	10.6	North	150	1921
unnamed	FOUR FOOT	Coal	455N	652	North-East	8.5	South	120	1961
unnamed	YARD	Coal	450H	666	West	12.4	North	170	1928
unnamed	6FT BOTTOM LEAF	Coal	453Q	673	North	3.5	South-East	180	1976

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	YARD	Coal	450K	684	East	27.9	North	180	1922

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

SWA3812	SWA772	SWA2149
7387	SWT3292	14522
9962	SWA1082	SWR3827

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
TILLERY BRITHDIR	Coal	Yes	2.1	South-East	217

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

Distance to site investigation (m)	Direction
Within	N/A

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

Court orders
None recorded.

Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

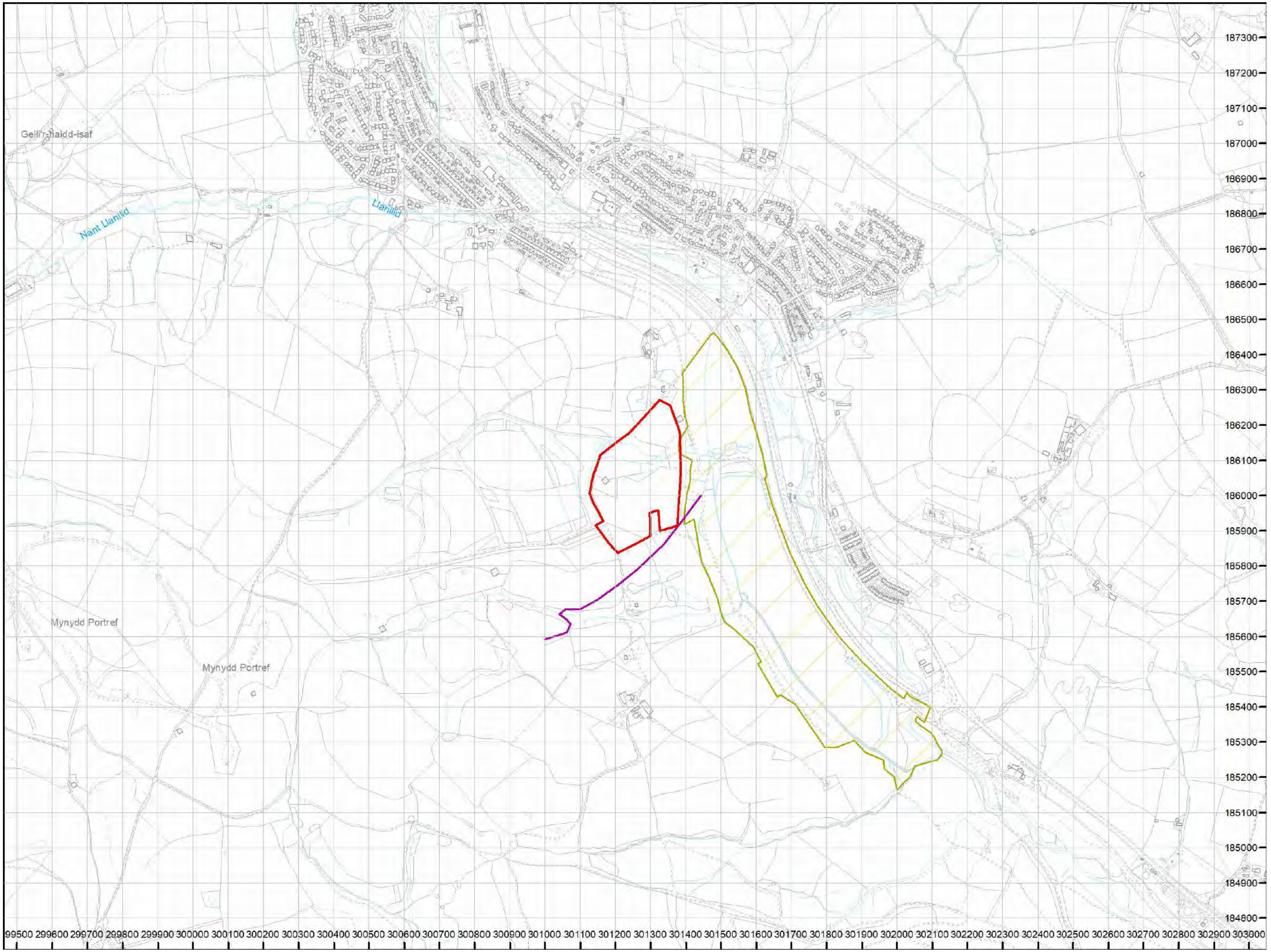
The Coal Authority

Summary of findings

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown
- Outcrop (Proven)
- Site investigations



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	PEAT	Peat	Peat	Not Supplied - Quaternary
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	BD	Brithdir Member	Sandstone	Not Supplied - Westphalian
	BD	Brithdir Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	H	Hughes Member	Sandstone	Not Supplied - Westphalian
	H	Hughes Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Sandstone	Not Supplied - Westphalian
	LLFB	Llynfi Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
		Rock Segments		
		Faults		

Hydrock

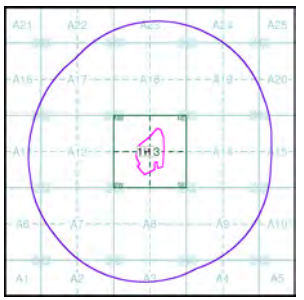
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**248**
Map Name:	**Pontypridd**
Map Date:	**1960**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Not Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A



Order Details:

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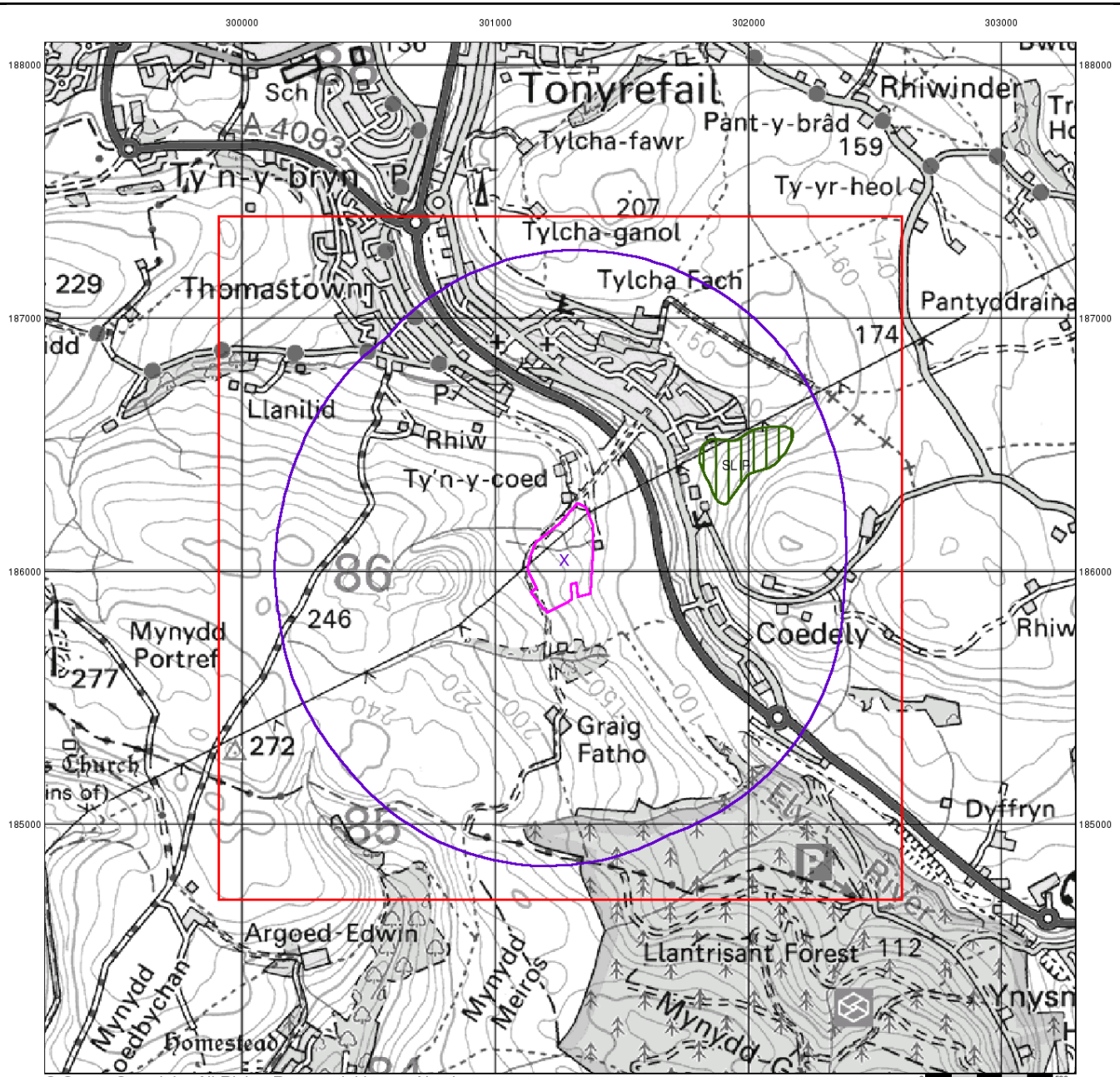
Customer Reference:	27541
National Grid Reference:	301270, 186050
Slice:	A
Site Area (Ha):	7.43
Search Buffer (m):	1000

Site Details:

Site at 301000, 186000

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Hydrock

Artificial Ground and Landslip

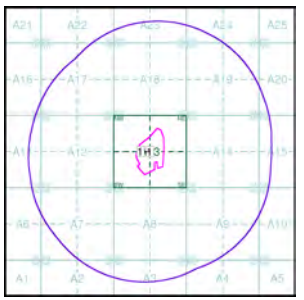
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

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Customer Reference:	27541
National Grid Reference:	301270, 186050
Slice:	A
Site Area (Ha):	7.43
Search Buffer (m):	1000

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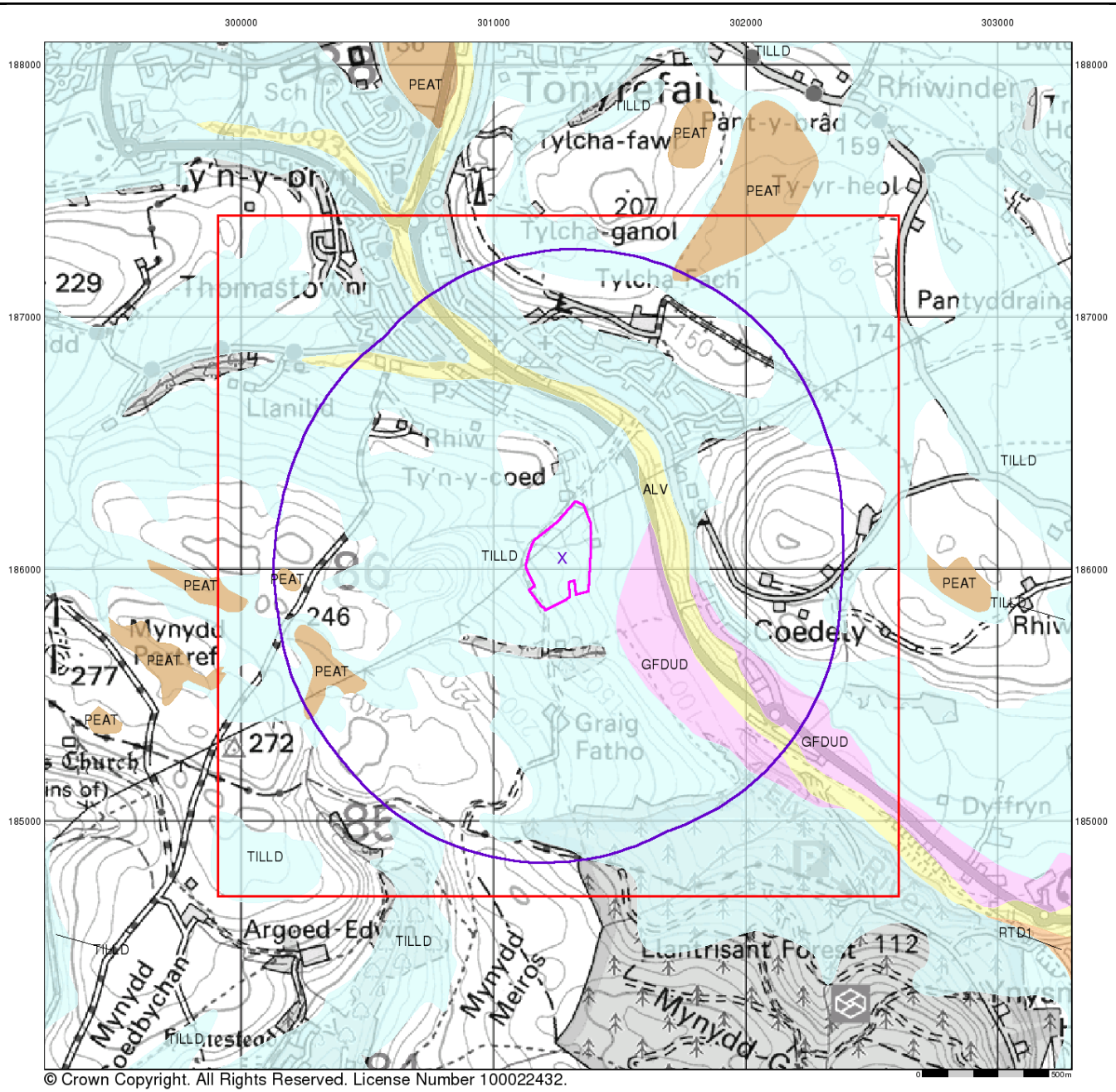


Hydrock

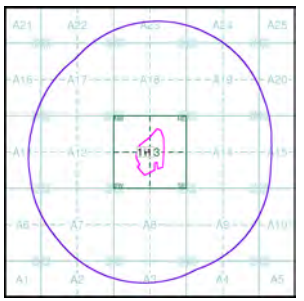
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

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Customer Reference:	27541
National Grid Reference:	301270, 186050
Slice:	A
Site Area (Ha):	7.43
Search Buffer (m):	1000

Site Details:

Site at 301000, 186000

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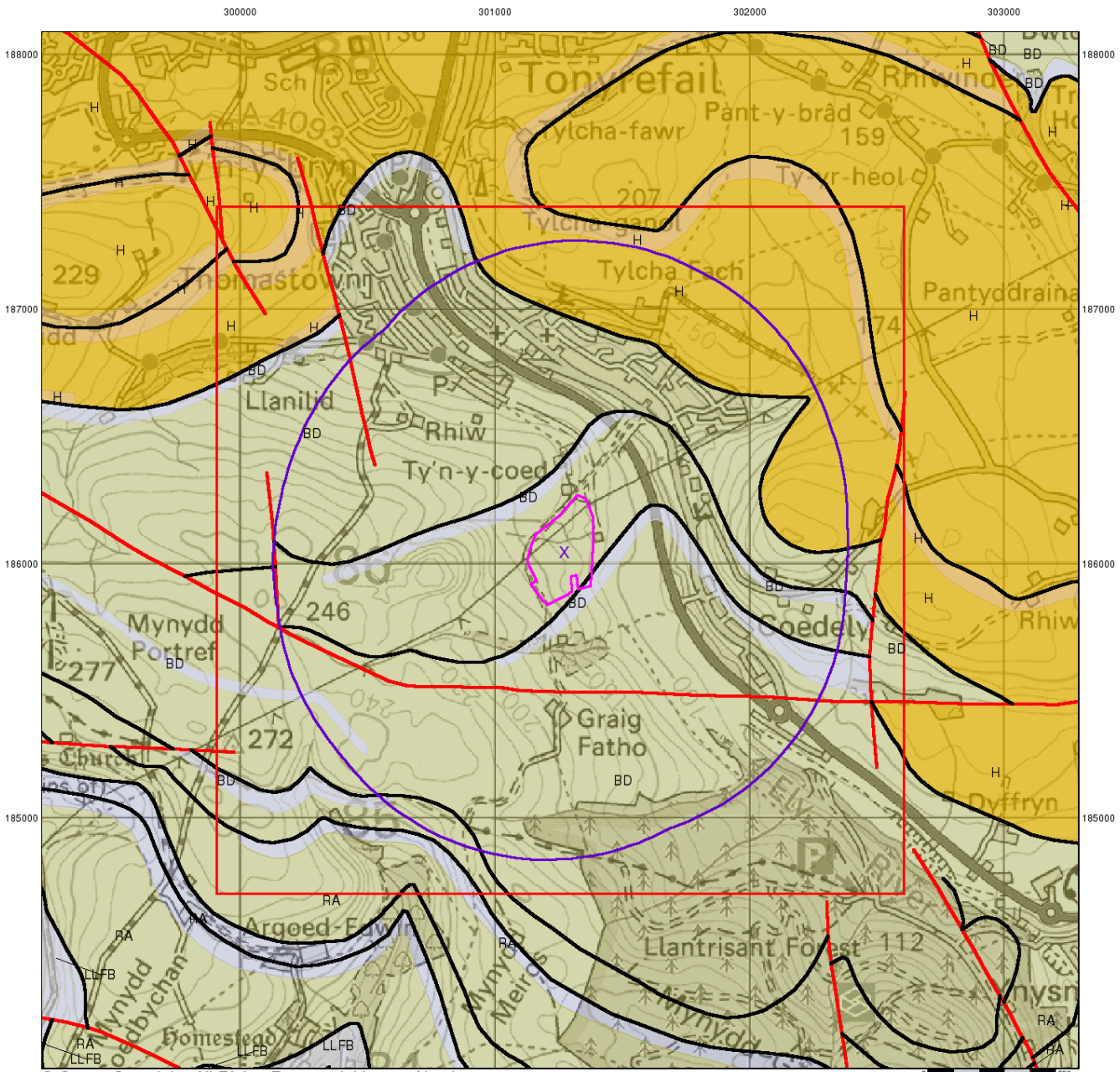


Hydrock

Bedrock and Faults

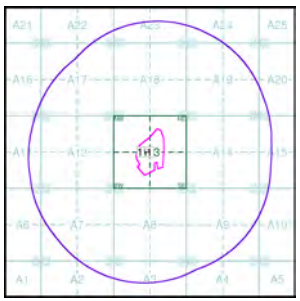
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



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Site Area (Ha):	7.43
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Site at 301000, 186000

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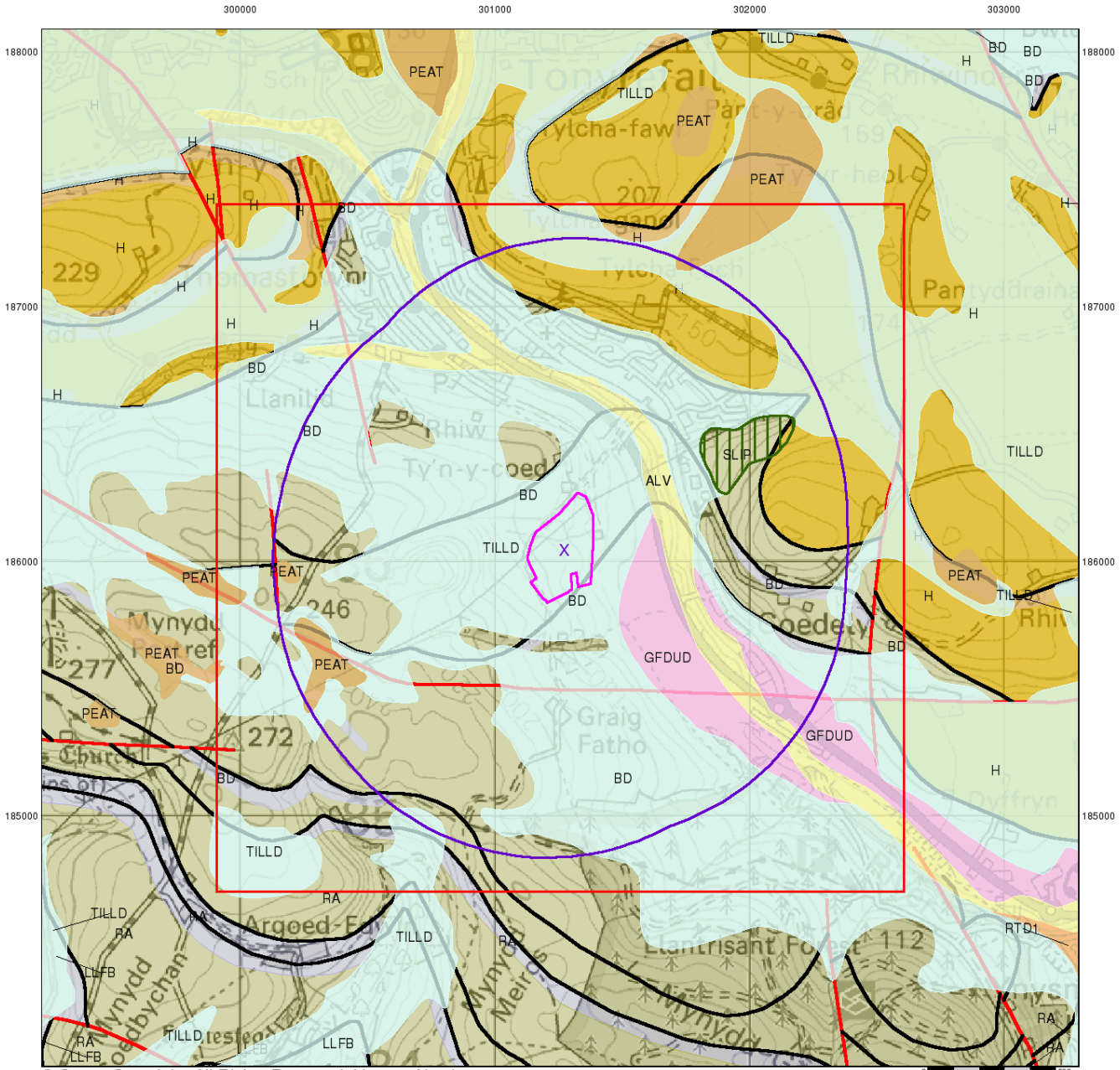


Hydrock

Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

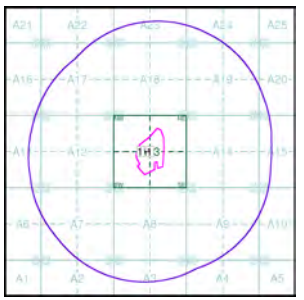
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

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Customer Reference:	27541
National Grid Reference:	301270, 186050
Slice:	A
Site Area (Ha):	7.43
Search Buffer (m):	1000

Site Details:

Site at 301000, 186000

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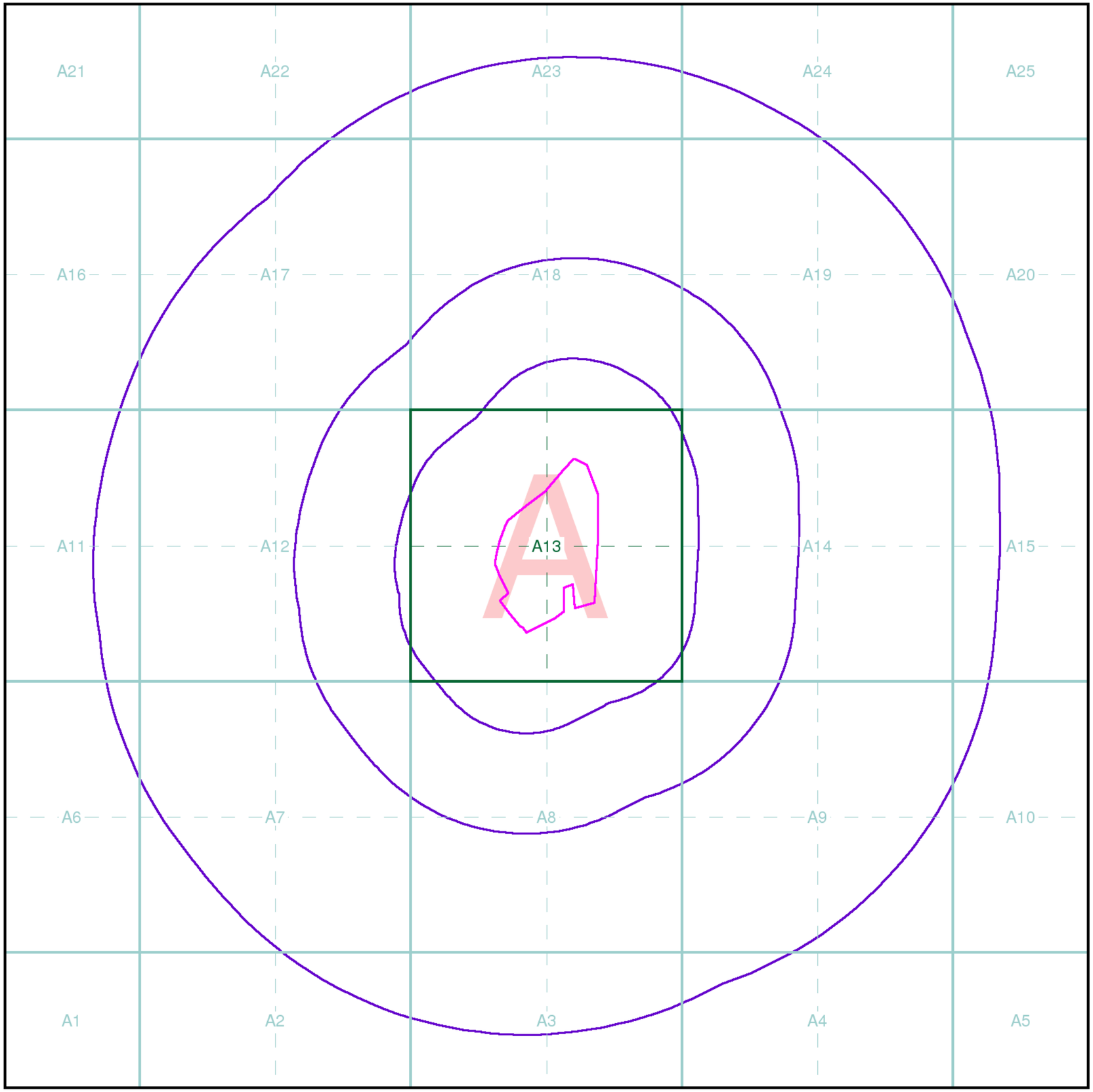

Hydrock

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Cyfoeth Naturiol Cymru
Natural Resources Wales

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr R Swayne, Hydrock Consultants, Over Court Barns, Over Lane, Almondsbury, Bristol, BS32 4DF

Order Details

Order Number:	309456960_1_1
Customer Ref:	27541
National Grid Reference:	301270, 186040
Site Area (Ha):	7.43
Search Buffer (m):	1000

Site Details

Site at 301000, 186000

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

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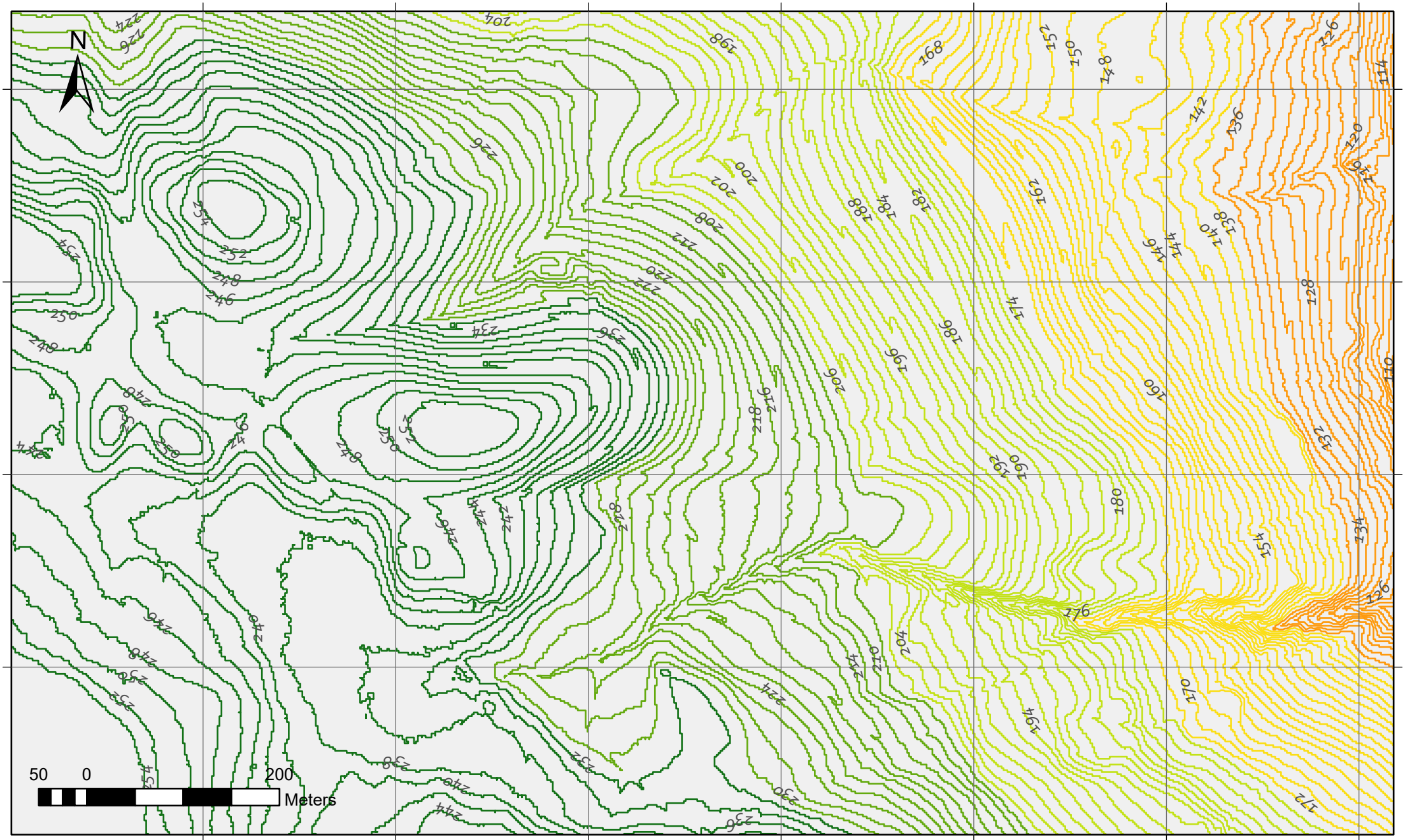
Appendix 3.5: QGIS Output - Lle Portal

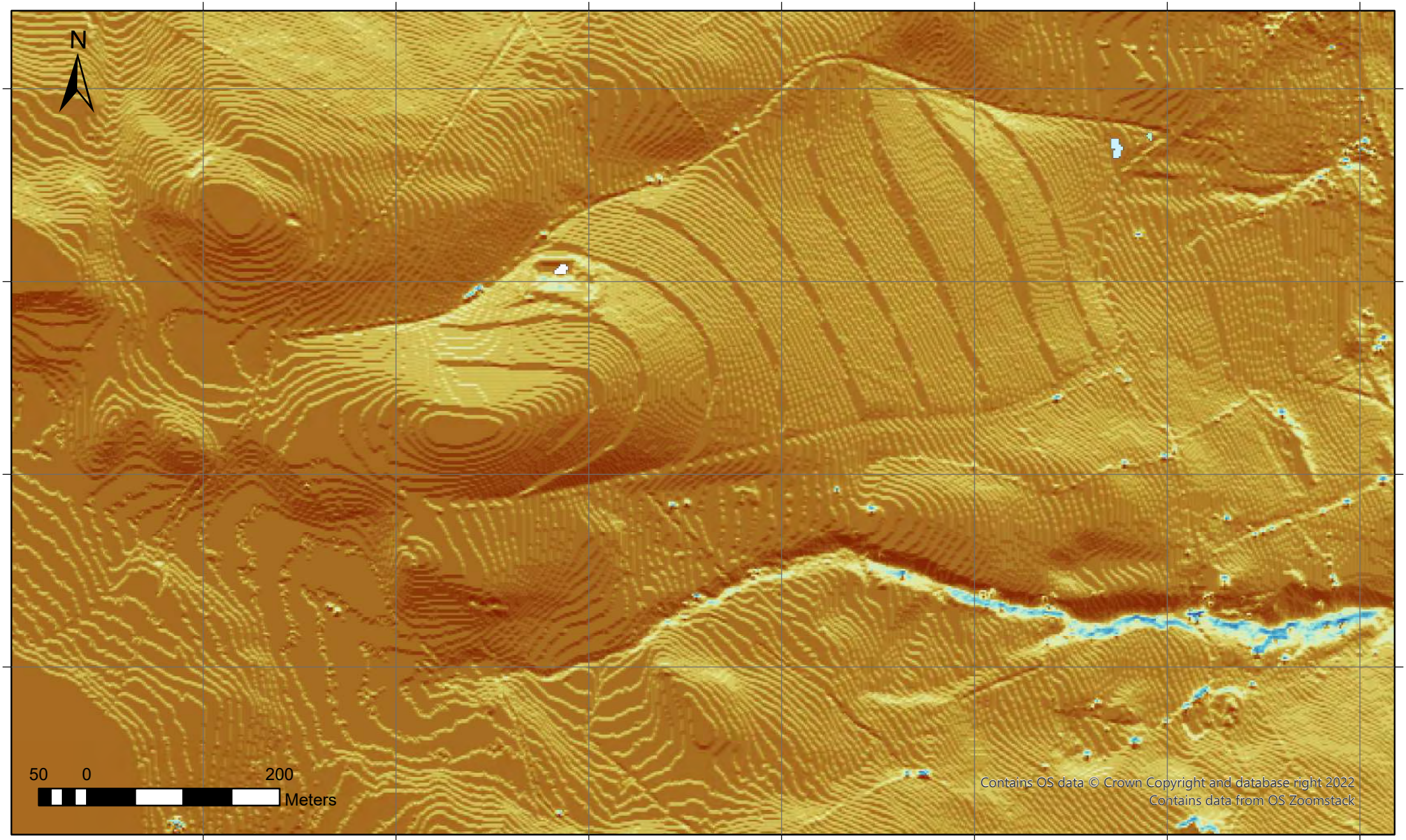


Notes
1. Contains OS data © Crown copyright and database right (2022)
2. Map Center: 300718E 185854N
3. Created by: MatthewHopton
PCS: British National Grid

Legend
Contour
82 - 104
104 - 136
136 - 172
172 - 206
206 - 230
230 - 254

Hydrock

Coed Ely Mean Solar Radiation		
Hydrock Project No. 27541	Scale at A4: 1:5,000	
Client: Rhondda Cynon Taf County Borough Council (RCTCBC)	Purpose of Issue: Information	Status S2
Project: Coed Ely Solar Farm	Figure Ref: 27541-HYD-XX-XX-DR-GE-1003-S2	Revision P01

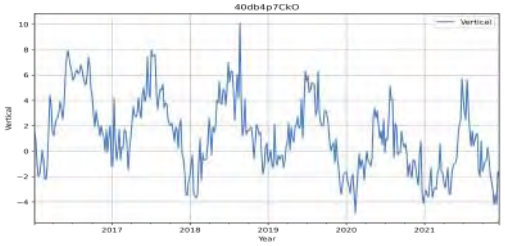


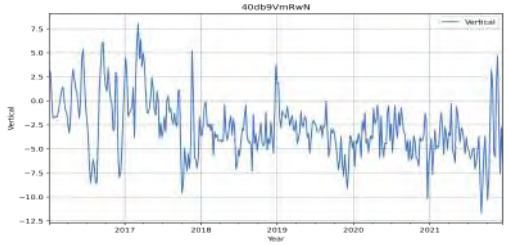
Notes
1. Contains OS data © Crown copyright and database right (2022)
2. Map Center: 300718E 185854N
3. Created by: MatthewHopton
PCS: British National Grid

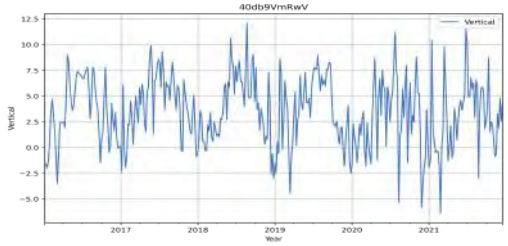
Legend
Year Average Watts per day m2
Value
124.154
1.98107

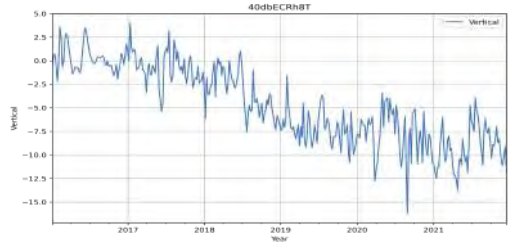
Hydrock

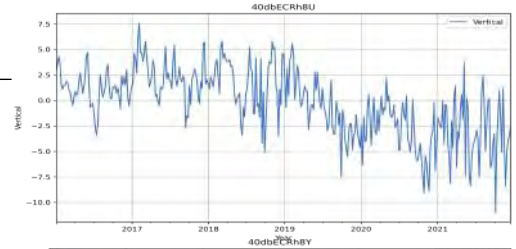
Coed Ely Mean Solar Radiation		
	Hydrock Project No. 27541	Scale at A4: 1:5,000
Client: Rhondda Cynon Taf County Borough Council (RCTCBC)	Purpose of Issue: Information	Status S2
Project: Coed Ely Solar Farm	Figure Ref: 27541-HYD-XX-XX-DR-GE-1002-S2	Revision P01

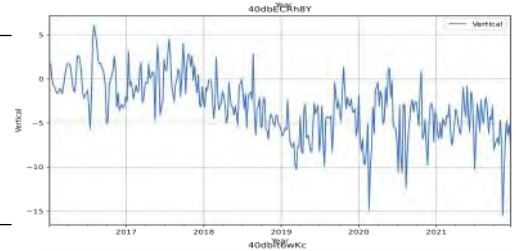


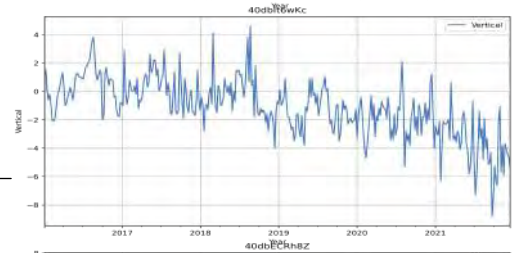


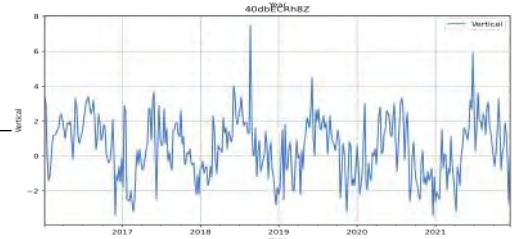


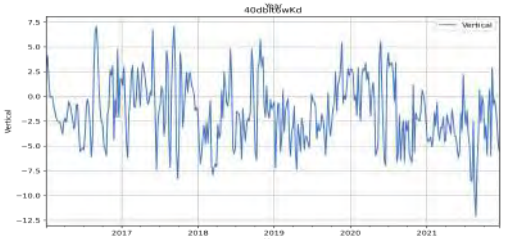












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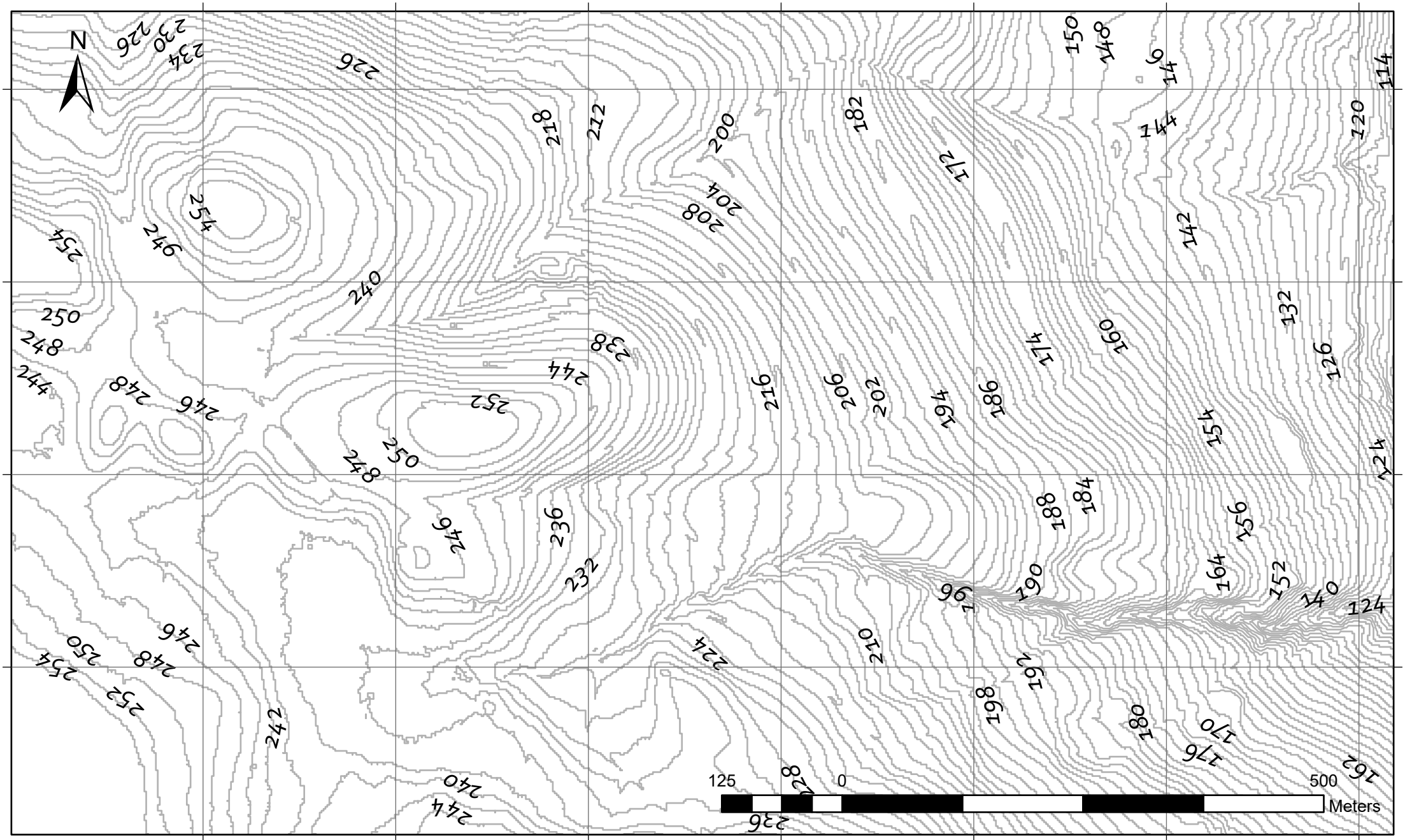
Hydrock

Coed Ely Solar SAR Ground Movement		
Hydrock Project No.	Scale at A4: 1:4,000	
Client: Rhondda Cynon Taf County Borough Council (RCTCBC)	Purpose of Issue: Information	Status S2
Project: Coed Ely Solar Farm	Figure Ref: 27541-HYD-XX-XX-DR-GE-1001-S2	Revision P01

Appendix 3.6: 2D Topographical Survey



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3. Created by: MatthewHopton
PCS: British National Grid

Legend
Coed Ely DTM 2m Contour

Hydrock

Coed Ely DTM Elevation		
	Hydrock Project No. 27541	Scale at A4: 1:5,000
Client	Purpose of Issue	Status S2
Project: Coed Ely Solar Farm	Figure PX	Revision P01

Appendix 3.7: Preliminary Geotechnical Risk Assessment

Geotechnical Hazard Identification – Following Ground Investigation

The preliminary Geotechnical Risk Register following Ground Investigation is set out in Table E.2.

The probability and impact of a hazard have been judged on a qualitative scale as set out in Table E.1. The degree of risk (R) is determined by combining tan assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard and associated mitigation it will require if it occurs (R = P x I).

Table E.1: Qualitative assessment of hazards and risks

P = Probability			I = Impact			R = Risk Rating (P x I)	
1	Very unlikely (VU)		1	Very Low		1 – 4	None / negligible
2	Unlikely (U)		2	Low		5 – 9	Minor
3	Plausible (P)		3	Medium		10 – 14	Moderate
4	Likely (Lk)		4	High		15 – 19	Substantial
5	Very Likely (VLk)		5	Very High		20 - 25	Severe

Table E.2: Preliminary Geo-Environmental Risk Assessment

Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Containment cell - thickness of capping layer below current ground level.	The thickness of the capping above the containment cell and potential variability is unknown.	Construction staff / site investigation staff.	Instability / contamination with hazardous substances.	3	4	12	Confirm thickness and variability (if required) during site investigation stage.
Shallow mine workings.	Two mine entrances and shallow workings within the site boundary .	Construction staff / foundation implications.	Foundation bearing capacity failure, settlement (total and differential).	2	4	8	Confirm suspected destruction of mine entrances and shallow workings during site investigation stage.
	Shallow workings within the Tillery Brithdir coal seam beneath the east of the site.	Construction staff / foundation implications.	Foundation bearing capacity failure, settlement (total and differential).	1	4	4	
Variable lateral and vertical changes in ground conditions.	Variable strength with depth in founding soils.	Array foundation.	Foundation bearing capacity failure, settlement (total and differential).	3	4	12	Design foundations to found below Made Ground or on Made Ground which has been improved. Design foundations to found below any loose relative density sand and gravel or soft clay, or improve the River Terrace Deposits prior to founding.

Hazard	Comments	Who is at Risk	Consequence	Risk Before Mitigation			Actions Required
				P	I	R	
Invasive Species (Plant).	Japanese Knotweed / Himalayan Balsam at southern boundary.	Local native plant species / contamination.	Spread of invasive species outside of site boundary.	3	3	9	Engage with specialist sub-contractor for assessment.