

Parc Solar Caenewydd, Swansea

Phase 1 Geoenvironmental Report and Coal Mining Risk Assessment

Development of National Significance in the Renewable Energy Sector
Full Re-Consultation before Applying for Planning Permission





Phase 1 Geoenvironmental Report and Coal Mining Risk Assessment


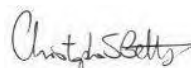
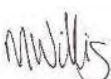
Gowerton

Land fronting the A484 and Swansea Road (B4560)
at Gowerton, Swansea SA4 4LE

on Behalf of

Taiyo Power Storage Limited

Quality Management

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1 Introduction

1.1 Introduction and Site Background

Hydrogeo Limited (Hydrogeo) has been appointed by Taiyo Power Storage Limited (herein referred to as “The Applicant”) to undertake a combined Phase I Geo-environmental Desk Based Study and Coal Mining Risk Assessment for a proposed Non-EA utility-scale solar and battery storage facility on land fronting the A484 and Swansea Road (B4560) at Gowerton, Swansea.

This Phase I Geo-environmental Desk Based Study and Coal Mining Risk Assessment is being published to accompany a second phase of statutory pre-application consultation carried out under Articles 8 and 9 of the Development of National Significance (Procedure) (Wales) Order 2016. The first phase of statutory consultation was carried out between June and August 2023. The applicant is now undertaking a full re-consultation in light of the changes introduced to the planning application boundary and development description.

This combined Phase I Geo-environmental Desk Based Study and Coal Mining Risk Assessment is being published to accompany a pre-application consultation carried out under Articles 8 and 9 of the Development of National Significance (procedure) (Wales) Order 2016.

This report is a revision of an earlier completed draft version (2021). The combined Phase I Geoenvironmental Desk-Based Study and Coal Mining Risk Assessment has now been updated following amendments to the proposed site layout, and initial pre-application consultation from the relevant consultees (The Coal Authority, Natural Resources Wales, and Swansea City Council). This assessment considers the ground conditions present across the Site as a result of the coal mining legacy of the area, as well as the potential for any risk posed to identified sensitive receptors from potential contaminants across the Site.

1.2 Report Objectives

The objectives of this study are to review site history, land use, available pre-existing information, data and reports of the Site. This information will aim to identify any potential environmental or human health risks associated with the development of the Site.

As the Site is within a Coal Authority defined Development High Risk Area, a Coal Mining Risk Assessment has also been undertaken as part of this report. A review of the proposed development layout in relation to known mine entries has also been undertaken.

The study will serve as a preliminary assessment of any potential environmental and contaminated land issues that will need to be considered during the development of the Site in line with the Welsh Planning Policy, Edition 11 (PPW 11 February 2021).

1.3 Summary of Consultee Responses

Informal pre-application consultee comments have been received, with comments from the relevant consultees in relation to the initial draft of the Hydrogeo Phase I Geoenvironmental and Coal Mining Risk Assessment Report summarised below:

The Coal Authority

The Coal Authority correspondence details that the Coal Mining Risk Assessment has been informed by appropriate geological and mining information.

The Coal Authority are of the opinion that it would be sufficient to accompany any subsequent planning application to meet the requirements of Welsh Policy.

The Coal Authority recommendation is no objections, subject to the imposition of a planning condition to ensure the investigations and the completion of any necessary remedial/mitigatory measures.

Natural Resources Wales (NRW)

Following a review of the initial draft Phase I Geo-Environmental Desk Based Study Report during a pre-application advice request, NRW provided comment in regard to the report.

NRW indicate that a robust Construction Environment Management Plan (CEMP) should be implemented to protect the protected sites and the wider environment from pollution during the construction phase. The CEMP shall then be implemented as approved during site preparation and construction phases of development.

NRW note that there is a significant potential for contaminated surface water to be generated, with dirty water run-off into the onsite streams.

NRW advised that due to the environmental risk level being low, this could be controlled via appropriately worded planning conditions on any permissions granted.

1.4 Scope of Works

The scope of work for this study comprises:

- A review of available environmental and geological site reports, containing descriptions of past and current land use, with data sourced from Groundsure™;
- A review of historical Ordnance Survey maps;
- A review of current Geological and Hydrogeological Maps;
- A review of detailed site walkover photographs as supplied by the applicant team;
- A preliminary site conceptual model and risk assessment;
- A review of Coal Authority and BGS data and a coal mining risk assessment;
- A summary of the above findings and the provision of recommendations for site development.

1.5 Information sources

The following sources of information have been used in the production of this report:

- Site photographic records provided by the applicant team;
- British Geological Survey map Sheet 247 – Swansea, BGS, (2012);
- Geology of the Swansea District: A brief explanation of the geological map sheet 247 (2011);
- The geology of the South Wales Coalfield: being an account of the region comprised in sheet 247.
- British Geological Survey borehole logs;
- Groundsure EnviroInsight and GeoInsight data report;
- Groundsure MapInsight Historical Maps;
- Coal Authority Consultants Coal Mining Report, Reference: 51002744314001.
- Zetica UXO Risk Maps.
- Magnitude Surveys – Geophysical Survey Report – MSSS1328, January 2023.

2 Site Geoenvironmental Setting

2.1 Site Location and Description

The Site is located off of the A484 and B4620 – Swansea Road. The National Grid Reference (NGR) for the centre of the Site is 260432, 196889, and the closest postcode to the Site is SA4 4LE. The surrounding land use consists of a mix of residential, agricultural and industrial areas.

The location of the Site is presented in Figure 2-1, and is referred to as ‘the Site’ within the report.

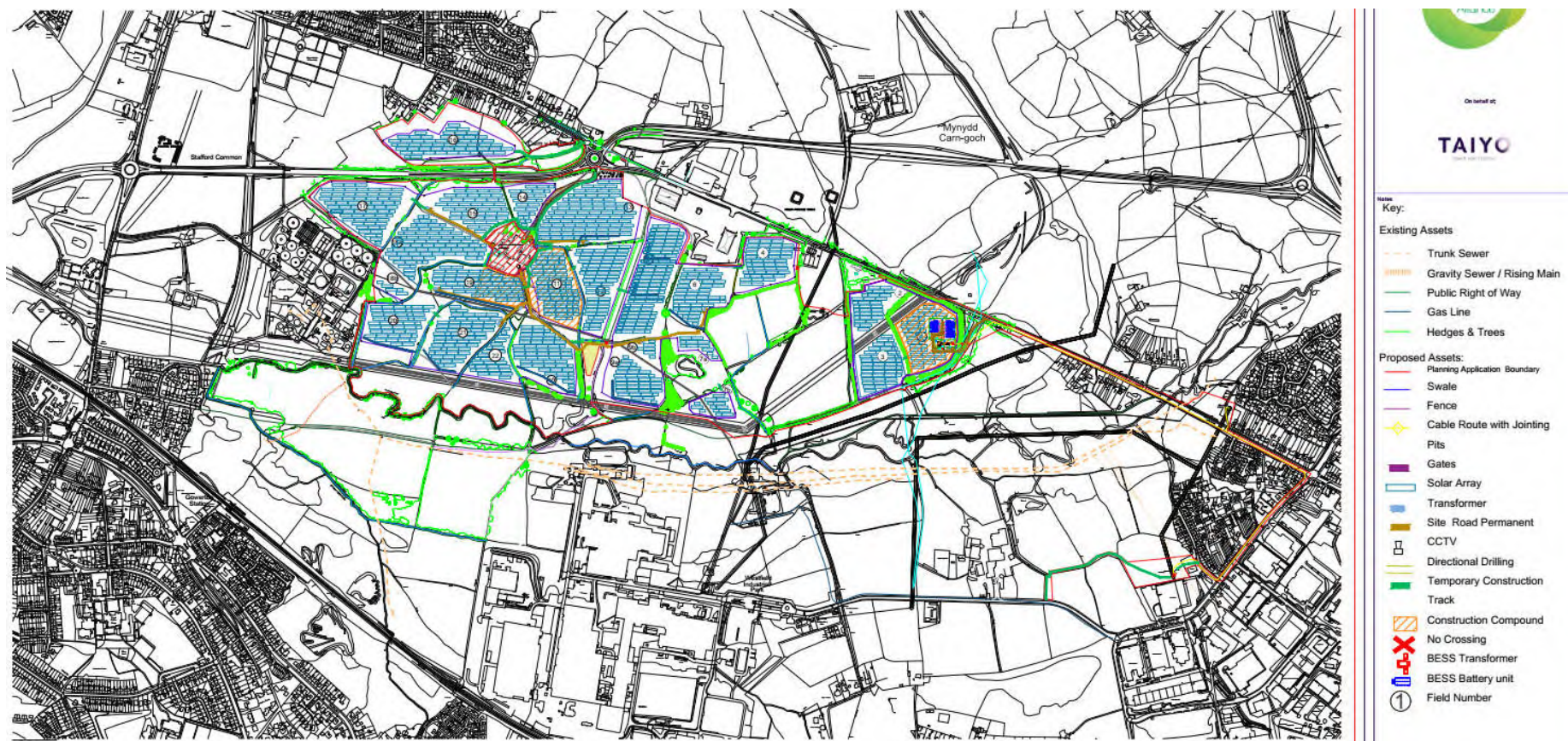
Figure 2-1 – Site Location, Crown copyright reserved, Licence No. 100047852



2.2 Proposed Development

The proposal consists of the development of a solar farm and associated infrastructure on the previously undeveloped agricultural farmland. The development of the Site will also include ecological enhancements to the area.

The development associated with the Site is temporary in nature.

Figure 2-2 Proposed Development Plan

2.3 Topography

A topographical survey of the Site has been undertaken and shows levels vary across the Site with levels to the north-east at 41.18mAOD falling to levels of 8.67mAOD to the south-west.

Topographic levels do reach approximately 45mAOD within the upper (northern) fields between the roundabout and Days Garage.

2.4 Current Site Condition

The Site currently consists of a number of individual, undeveloped open fields. The Site is bordered by Gors-Fawr Brook to the south, Gowerton Sewage Treatment Works to the west, agricultural land to the east, a business park, and the B4560 and A484 roads to the north.

The roads also separate the Site area, with a smaller area of undeveloped land located to the north and just south of residential dwellings along the B4620.

Photos supplied to Hydrogeo by the applicant team indicate a number of access tracks, electricity pylons and associated overhead lines, drainage ditches and channels. A number of photographs supplied by the Applicant to Hydrogeo have been included in Table 3-1 of this report.

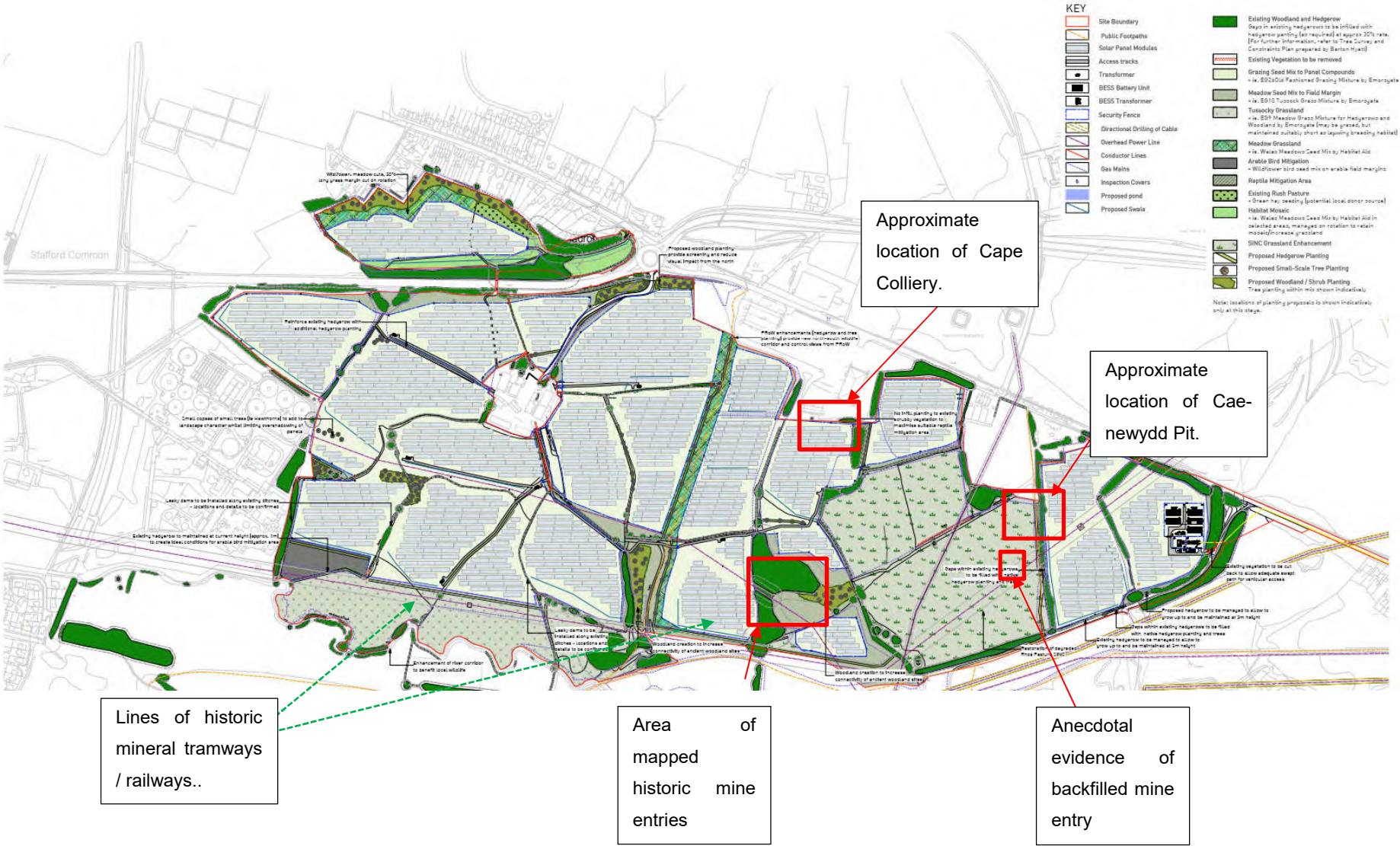
2.5 Historical Land Use

A summary of previous land uses for the Site and the immediate surrounding area has been determined using the historic Ordnance Survey maps, and additional maps provided by the Applicant Team dated between 1838 and 2021, provided by Groundsure. The maps can be viewed in Appendix C of this report, with the findings summarised in Table 2-1.

Drawing 1 presents the Site and its individual numbered fields. It is advised that this drawing is viewed in conjunction with this historical land use section to aid location and land use understanding.

Figure 2-3 presents the Gowerton Field Numbers, with key historic land uses and features identified.

Figure 2-3 Field Numbers with Key Land Use Features Identified



From a review of the historic Ordnance Survey maps it is clear that all key land uses and developments / changes on Site are located within the central, southern and eastern site areas. The western site area (including fields west of 13, 12 and 9c) remains as undeveloped agricultural farmland throughout the mapping dates (1838 – 2021). Although, some changes are shown on the historic OS maps including land drains, draining the agricultural fields into the Afon Llan to the south. Therefore, Table 2-1 only details and addresses the land uses and changes to land occurring within and to the east of fields 13, 12 and 9c.

Table 2-1 – Summary of Historical Land Use

Map Year (Scale)	Land Use on Site	Land Use in Vicinity of Site
1838/29 Tithe map	Pen-y-Fodau Farm and associated fields. Penclawdd Canal intersects between fields 23 and 24	Surrounding land use completely grassed lands.
1878 (1:10560)	Cae-newydd Pit, associated engine house and shaft located in eastern Site area, between fields 2 & 5 as shown in Figure 2-3. Associated tramway runs from Cae-newydd Pit, west to join the London northwest Rail line. Well mapped to the west of the buildings associated with Pen-y-fodau-fawr farm Canal trending east-west across area adjacent to mineral railway / tramway. Canal connects to Afon Llan immediately west of the Site boundary.	Garn-goch Pit and associated infrastructure located immediately north-east of the Site boundary Disused colliery mapped approximately 50m south of the Site. South of Site area marked as field 3. Area south west of the Site boundary already heavily developed industrially with mapping indicating disused steel works, chemical works, brick fields and rail developments. Areas east of the Site boundary are less industrialised, with majority of land remaining agricultural. Gwalia colliery and old coal pit within 100m of the Site.
1897 (1:10560)	Cae-newydd Pit no longer mapped, but tramway and rectangular building structures remain.	Coal pit and air shaft mapped Immediately north / north east of fields 6 & 8. Continued expansion and development of Garn-goch colliery.
1889 (1:10560)	Old shaft and old coal pit, with surface workings located at land between fields 6 and 7a-b. Cape colliery connected to existing mineral railway by a tramway. Junction of the lines located south of fields 9a-c.	Coal Pit and air shaft no longer mapped to the north / northeast of fields 6 & 8. Cape Colliery and associated buildings mapped immediately north of field 8 and east of field 13.
1900 (1:10560)	No significant changes to Site use to note.	Number of clay pits and brick fields still mapped, as well as an iron foundry to the southwest of the Site. No other significant land use changes.
1905 (1:10560)	No significant changes to Site use to note.	No significant land use changes to note.

Map Year (Scale)	Land Use on Site	Land Use in Vicinity of Site
1838/29 Tithe map	Pen-y-Fodau Farm and associated fields. Penclawdd Canal intersects between fields 23 and 24	Surrounding land use completely grassed lands.
1913 (1:10560)	Canal appears to be mapped as marshy ground conditions, indicating the potential infilling of the canal.	No significant land use changes to note.
1921 (1:10560)	Well associated with Pen-y-fodau-fawr farm no longer mapped.	No significant land use changes to note.
1938 (1:10560)	Former tramway connecting Cape Colliery now indicated as a footpath. Old drift and associated surface workings indicated along southern site boundary, south of fields 9a-c, southeast of field 10. Well associated with Pen-y-fodau-fawr farm no longer mapped.	Cape Colliery no longer mapped immediately north of the Site Sewage works constructed immediately west of the Site boundary. Area to southwest of the Site continued to be dominated by industrial land uses.
1948 (1:10560)	No significant changes to Site use to note.	By mapping in 1948, only steel and tin plate works still mapped as present to southwest of the Site. No areas of clay or brick fields. Continued residential development of the surrounding area.
1964 (1:10560)	A number of drains and footpaths now mapped on site. Footpaths mapped in former areas of tramways indicating the complete dismantling. Mineral railway running west across southern site boundary still mapped as present. Number of land drains mapped as draining agricultural fields in the western site area. Particularly fields 110, 11, 18a, 18b, 19 20, 21 and 22a.	Garn-goch Colliery now mapped as disused, alongside the associated railway / tramway lines.
1968 (1:10560)	No significant land use changes to note.	Main railway line trending north – south now mapped as dismantled.
1974 (1:10,000)	No significant changes to Site use to note.	Land to southwest now dominated by residential development, with an unlisted works structure remaining.
1980 (1:10,000)	Mineral railway along southern site boundary no longer mapped and presumed to have been dismantled sometime 1964 - 1980.	No significant land use changes to note.
1988 (1:10,000)	No significant changes to Site use to note.	No significant land use changes to note.
1994 (1:10,000)	Site appears roughly as is present today.	No significant land use changes to note.
2001 (1:10,000)	No significant land use changes to note.	Surrounding land use appears similar to present day, with land use mostly consisting of residential.
2010 (1:10,000)	No significant land use changes to note.	Surrounding land use appears similar to present day, with land use mostly consisting of residential
2021 (1:10,000)	No significant land use changes to note.	No significant changes to note.

2.6 Site Geology

The 1:50,000 British Geological Survey (BGS) Sheet Map for the area (Swansea – Sheet 247) alongside the BGS OnShore GeoIndex viewer and the Geology of the Swansea district: a brief explanation of the geological map Sheet 247 Swansea have been reviewed in order to assess the geological conditions of the Site and surrounding land.

Additionally, a review of BGS borehole logs has been undertaken to prove the sub-surface geology.

Artificial Ground

Artificial ground consists of areas where the surface geology has been significantly modified by man, through extraction or infilling of the natural geology.

Superficial Deposits

Superficial deposits consist of loose deposits of geological materials which have not yet formed into competent rocks.

The Site is underlain Devensian Till and Alluvium superficial deposits.

The BGS describe Devensian Till deposits as “unsorted and unstratified drift, generally over consolidated, deposited directly by and underneath a glacier without subsequent reworking by water from the glacier. Consisting of a heterogeneous mixture of clay, sand, gravel and boulders varying widely in size and shape (diamicton)”.

The BGS describe Alluvium deposits as “the general term for clay, silt, sand and gravel. It is unconsolidated detrital material deposited by a river, stream or other body of running water as a sorted or semi-sorted sediment in the bed of the stream or on its floodplain or delta”.

Bedrock Geology

The BGS data indicates that the Site is underlain by the Grovesend Formation, comprising mudstone, siltstone and sandstones.

The BGS describe the Grovesend Formation as “predominantly argillaceous, comprising mudstones and siltstones, with well-developed coals; minor lithic (Pennant) sandstones; locally developed red mudstones in the area”.

Geological Structure

The Site occupies an area surrounding a number of faults, namely the Bryngwyn Fault and the Tirdonkin Fault. Other smaller faults are mapped in the area but are unnamed. The Site is located on the Gowerton Synclinal Axis.

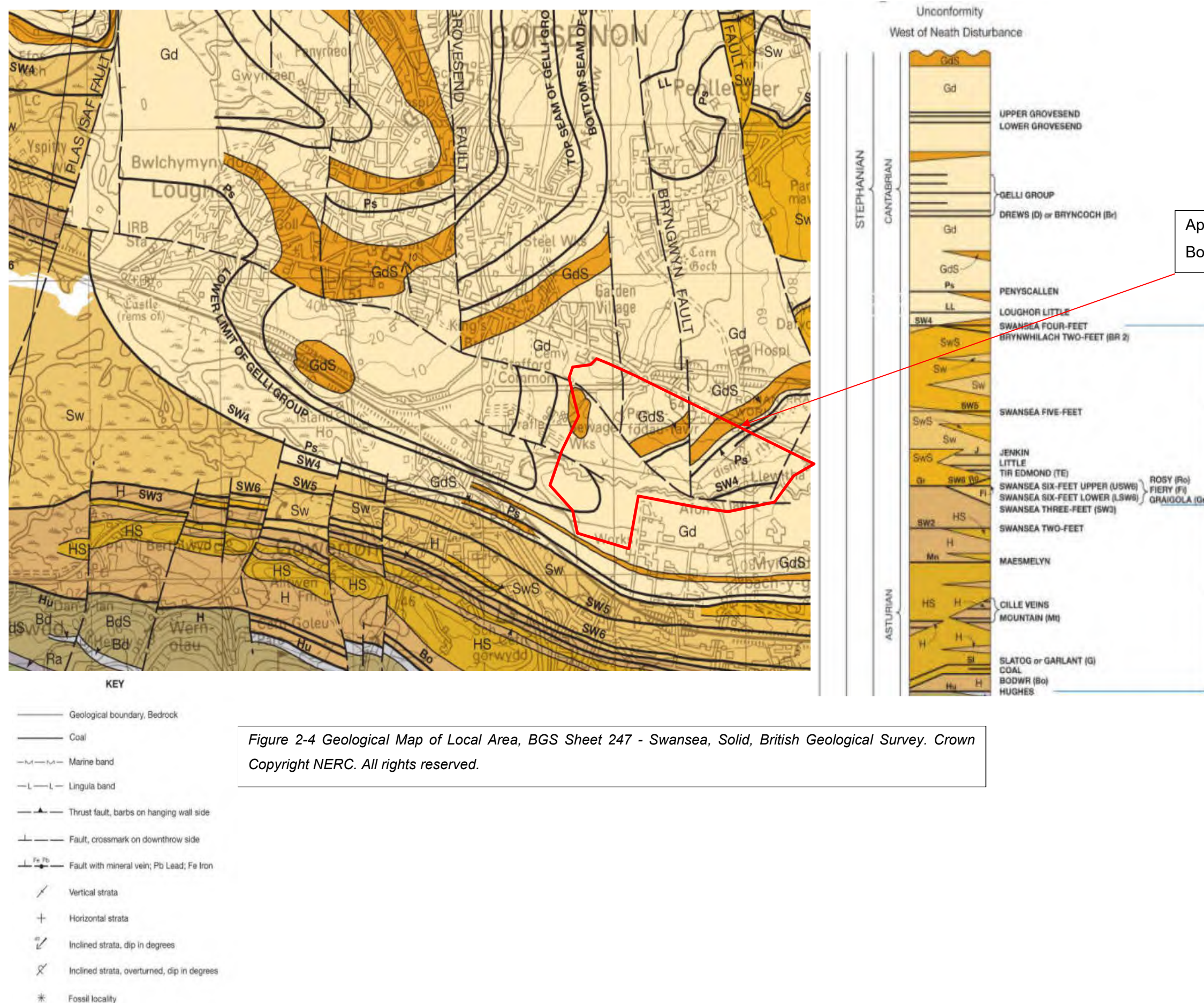
Coal Seams

Two named coal seams, the Swansea Four-Foot, and the Penyscallen Coal Seam both outcrop within the Site Boundary. These seams are addressed further within the Coal Mining Risk Assessment section of this report (Section 4).

Borehole records

A number of BGS borehole records are located within the Site boundaries, these relate to coal mining activities associated with Oaklands O/C Site and Cape Colliery. Numerous other borehole records are present beyond the Site boundary, mostly associated with Garngoch Colliery and the development of the Llanelli Link Road (A484).

The borehole logs associated with the 2no. on-site boreholes are unavailable.



2.7 Ground Stability Hazards

Natural Ground subsidence data has been sourced from the Groundsure Report. The data is compiled by the BGS and classifies six separate natural ground subsidence hazards derived from the BGS digital Geological map of Great Britain at 1:50,000 scale. The Natural Ground Subsidence Hazard data assesses potential ground stability issues related to natural geological conditions only and does not cover any man-made hazards, such as contaminated land, or mining. The only exception to this is the Compressible Ground hazard layer, which does consider man-made ground e.g. landfill. The report can be viewed in Section 17 of Appendix B.

The potential for ground stability hazards based on natural subsidence data is detailed and discussed in Table 2-2.

Table 2-2 - Ground Stability Hazards

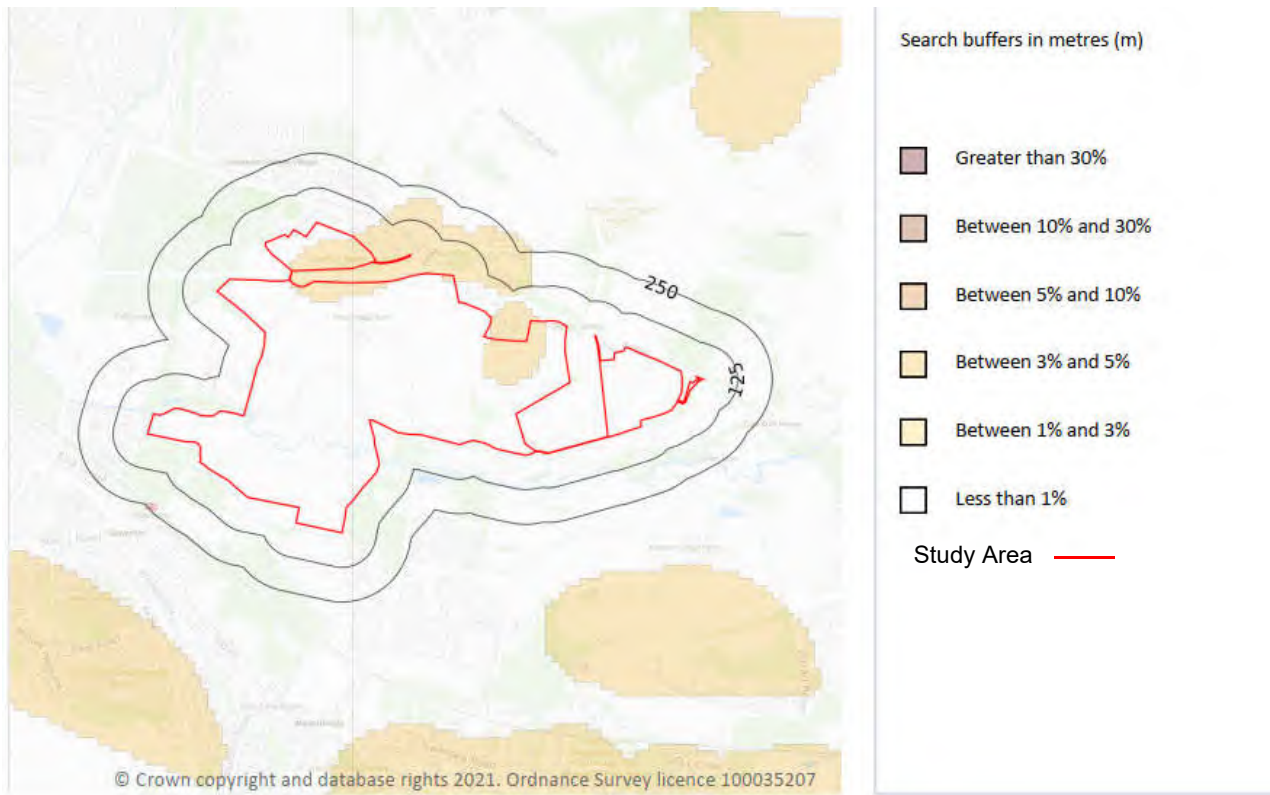
Hazard	Rating	Details
Shrink Swell Clay	Negligible	Ground conditions predominantly non plastic.
	Very Low	Ground conditions predominantly low plasticity
Landslides	Very Low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the Site should always be considered.
	Low	Slope instability problems may be present or anticipated. Site Investigation should consider specifically the slope stability of the Site.
Soluble Rocks	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.
Compressible Ground	Negligible	Compressible strata are not thought to occur.
	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the Site.
Collapsible Rocks	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
Running Sand	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on land use due to running conditions.
	Very Low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless the water table rises rapidly.
	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavations and the removal of water.

2.8 Radon

The Groundsure report indicates that the Site covers 2no. Radon risk areas as shown in Figure 2-5.

Some parts of the Site are not within a Radon Affected Area, as it is estimated that less than 1% of properties are affected by radon above the action level. Other areas of the Site have been estimated by Groundsure to have between 3% and 5% of properties affected and require basic protection measures required.

Figure 2-5 Radon Records



2.9 Mining

The Groundsure Report has indicated the Site is located within a coal mining area.

The Groundsure report did not identify any records pertaining to the following mining categories:

- Tin mining onsite;
- Clay mining onsite;
- Gypsum areas on site
- Brine areas on site;
- JPB mining areas on site;
- Mining cavities within 1000m;
- Non-coal mining within 1000m;
- Historical Mineral Planning Areas within 500m;
- Natural cavities within 500m.

Surface Ground Workings

The Groundsure report has identified 240 no. surface ground workings within 250m of the Site, 34 of which occur on Site.

The surface ground workings on site relate to the following activities:

- Collieries
- Cuttings
- Unspecified heap and refuse heaps,
- Disused drifts
- Coal and unspecified pits

Underground Workings

The Groundsure report has identified 80no. underground workings within 1000m of the Site, 3no. of these records are located on Site. All mining-related records can be viewed within the GroundSure report under Section 18, page 178. The details of the onsite records are as follows:

- Old Coal Pit – mapped 1913 at 1:10560 scale.
- Unspecified disused drift – mapped 1964 at 1:10560 scale.
- Unspecified disused drift – mapped 1968 at 1:10560 scale.

Britpits

The Groundsure report indicates that there are 10no. Britpits within 500m of the Site. 2no. of these records are located within the Site. Both records pertain to Cape Colliery.

Further details relating to the mining legacy of the Site are presented in Section 3 of this report.

2.10 Landfilling and Waste Sites

There are no records identified within the Groundsure report pertaining to the following landfill and waste categories:

- BGS historical landfill records within 500m;
- Historical waste sites within 500m.

Landfill

There is no record of landfill active or recent landfill within the Site boundary. There are 3no. records of active or recent landfill sites within 500m all pertain to a single operator, the details of which are as follows:

- 41m – 219m southeast Timet UK Ltd Titanium plant – accepting industrial waste.

Historical Landfill Sites (LA/mapping records)

The Local Authority and mapping records indicate 5no. historical landfill sites within 500m of the Site. The details of the closest 3 are detailed below:

- 215m South – refuse tip – 1971 mapping
- 219m south – refuse tip – 1965 mapping
- 316m south – refuse tip- 1965 mapping.

Historical Landfill Sites (EA/NRW records)

The EA / NRW indicates 3no. historical landfill sites within 500m of the Site. 2no. of the records pertain to a single waste site as detailed below:

- 134m south east – Alcoa Manufacturing GB Ltd, waste type: inert, industrial environmental permitting.
- 163m southeast – 223m southeast – IMI Titanium and Alcoa No.1, waste type: inert, industrial environmental permitting.

Licensed Waste Sites

EA / NRW records indicate that there are 16no. active or recently closed licensed waste sites within 500m of the Site. The details of the closest 3no. sites are highlighted below:

- 198m south – Timet Lagoon, size: approx. 75000 tonnes.
- 238m east – Timet Landfill, size: unknown, effective date: 08/08/1977
- 265m southeast – Alcoa Manufacturing GB Ltd, type of waste: Industrial waste landfill (factory curtilage), size: approx. 25000 tonnes.

Waste Exemptions

The Groundsure report has identified 21no. waste exemptions within 500m of the Site. The details of the 3no. closest exemptions are detailed as follows:

- 78m north - 48 Swansea Road, using waste exemption – the use of waste in construction.
- 176m north – City & County of Swansea, using waste exemption, not on a farm, use of waste within construction.
- 194m northwest – Morgan Sindall Construction & Infrastructure Ltd, storing waste exemption, not on a farm, storage of waste in a secured place.

2.11 Hydrogeology

The Groundsure report has not identified any records pertaining to the following categories on Site:

- Soluble rock risk
- Local datasets of groundwater vulnerability.

Superficial Aquifer

The superficial Alluvium underlying the Site is classified by the Environment Agency as a Secondary A Aquifer, these are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

The superficial Glacial Till (Diamicton) underlying the Site is classified by the Environment Agency as a Secondary Undifferentiated Aquifer, these are assigned where it is not possible to attribute either category A or B to a geological unit. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the geology.

Bedrock Aquifer

The Site is underlain by the Grovesend Formation classified by the Environment Agency as a Secondary A Aquifer, these are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

The mine workings, adits and shafts may have permanently altered the Site hydrogeology by artificially draining the bedrock.

Groundwater Vulnerability

The Groundsure report has identified 11no. groundwater vulnerability classifications on Site which have been summarised as follows:

- Secondary Aquifer – low to medium vulnerability.
- Bedrock Aquifer – productive bedrock aquifer
- Leaching Class – low to high
- Infiltration value: 40% - 70%
- Dilution value: >550mm/year
- Overall vulnerability: low to medium.

2.12 Hydrology and Drainage

Watercourses

The Groundsure Report has identified 2no. named watercourses within 500m of the Site. These are the Afon Llan River and the Gors-Fawr Brook.

The Groundsure report has identified 140no. water network features within 500m of the Site, these include:

- Inland river not influenced by normal tidal action and lake, loch or reservoirs.

WFD Surface waterbody catchments

The Groundsure report indicates that the Site is located within the following Water Framework Directive Surface waterbody catchment:

- Llan – headwaters to tidal limit, waterbody ID: GB110059032070. Catchment: Loughor, management catchment: Carmarthen Bay and the Gower.

WFD Surface waterbodies

The Groundsure report indicates 1no. record of a surface water body directive, the details of the directive are as follows:

- River Llan – headwaters to tidal limit. Waterbody ID: GB110059032070. Overall rating: Good. Chemical Rating: Good. Ecological Rating: Good. Year:2016.

WFD Groundwater bodies

The Groundsure report indicates that the Site is located within the Carmarthen Carboniferous Coal Measures groundwater directive. Waterbody ID: BG41002G200600. Overall rating: Poor. Chemical rating: Poor. Year: 2016.

2.13 Flooding and Flood Zones

A Flood Risk Assessment is being progressed under separate cover to the Hydrogeo Phase I and Coal Mining Risk Assessment and will be submitted to support the proposed development.

2.14 Abstractions and Source Protection Zones

The Groundsure report has not identified any records pertaining to the following abstraction and source protection zone categories:

- Groundwater abstractions within 2000m;
- Potable abstractions within 2000m;
- Source Protection Zones within 500m;
- Source Protection Zones for confined aquifers within 500m.

Licensed Surface Water Abstractions

The Groundsure report has identified 5no. surface water abstractions within 2000m of the Site. The details of the closest 3 are as follows:

- 110m south, historic – non-evaporative cooling at Alcoa Manufacturing GB Ltd. Annual volume (m³) 763728.
- 510m northwest, historical – make-up or top-up water at Bromham Leisure Ltd. Annual volume (m³): 22730.
- 877m northwest, historical – general use relating to British Steel Plc. Unknown volumes.

2.15 Environmental Designations

The following environmental designations were not identified within the Groundsure report:

- Green belt within 2000m;
- Marine conservation zones within 2000m;
- Forest parks within 2000m;
- Biosphere reserves within 2000m;
- Proposed Ramsar sites within 2000m;
- Possible special areas of conservation (pSAC) within 2000m;
- Potential special protection areas (pSPA) within 2000m;
- Nitrate sensitive areas within 2000m;
- Nitrate vulnerable zones within 2000m;
- SSSI impact risk zones on site;
- SSSI units within 2000m;
- National nature reserves (NNR) within 2000m.

Sites of Special Scientific Interest (SSSI)

Groundsure has identified 3no. SSSIs within 200m of the Site. The details of the SSSIs are shown below:

- 1392m west – Burry inlet and Loughor Estuary
- 1679m northeast – Penplas Grasslands
- 1871m west - Burry inlet and Loughor Estuary

Conserved wetland sites (Ramsar sites)

The Groundsure report has identified the Burry inlet as a conserved wetland site. Burry inlet is a large estuarine complex located between the Gower Peninsula and Llanelli. It includes extensive areas of intertidal sand and mudflats, together with large sand dune systems at the mouth of the estuary.

Special Areas of Conservation (SAC)

Groundsure has identified Carmarthen Bay and Estuaries, 1392m west of the Site as a Special Area of Conservation.

Special Protection Areas (SPA)

Burry Inlet located approximately 1392m west of the Site is a Special Protection Area due to a number of species of interest.

Local Nature Reserves (LNR)

Groundsure has identified 2 no. Local Nature Reserves within 2000m of the Site, the details of both are as follows:

- 1297m east – Cadle Heath.
- 1764m southeast – Cwmlilwyd Wood

Designated Ancient Woodlands

There are 70no. records of ancient woodland within 2000m of the Site, 2 of which are located on Site, the records pertaining to the on-site woodlands are detailed below:

- Ancient semi-natural woodland;
- Restored ancient woodland site.

Special Landscape Areas (SLA)

Review of the DataMapWales Explorer has indicated the Site is located within a Special Landscape Area associated with the Garngoch and Lower Afon Llan Valley

Green wedge

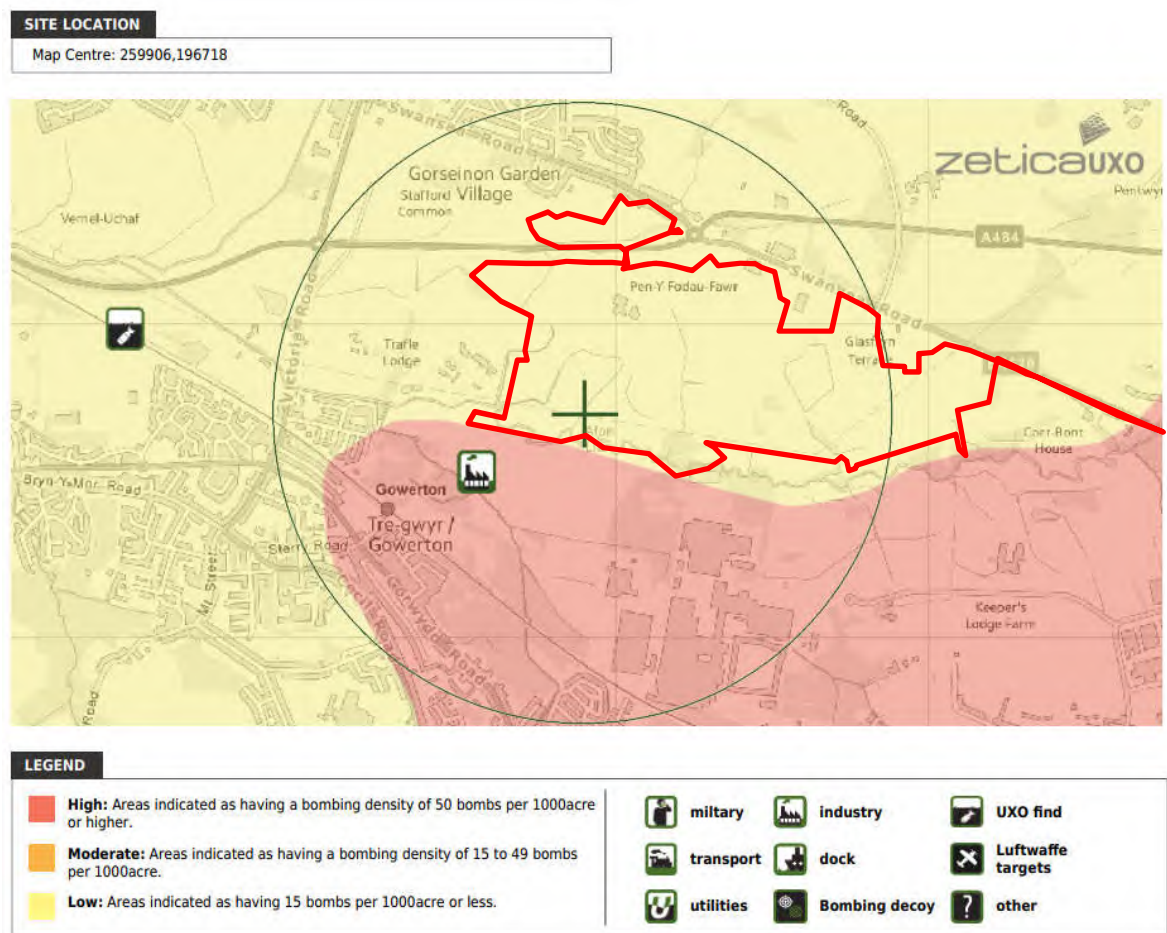
The Site is located within the green wedge, as designated by Swansea City Council, which is covered in the Swansea Local Development Plan.

2.16 Unexploded Ordnance (UXO)

Review of the Zetica Online UXO Risk Maps indicates that the southern site area (Fields 23, 24 & 25) is mapped within a bombing High Risk Area. The map indicates the potential for UXO to be present as a result of World War Two (WWII) Bombing.

The risk boundaries are a guide, compiled from data based on political areas for which records are held. Zetica generally recommends a detailed UXO desk study and Risk Assessment is undertaken for sites mapped within moderate or high risk areas.

Figure 2-6 Zetica UXO Risk Map



2.17 Other Records in Relation to Potential Contamination

The Groundsure EnviroInsight report was reviewed, and relevant details of potential contaminant sources are detailed below in **Table 2-3**. The Groundsure report can be viewed in Appendix B.

Table 2-3 - Environmental Records

Record / Source of Information	Details
Records of Part A(2) and Part B Activities and Enforcements	One record within 500m. 71m north of the Site. CEM Days Ltd. Process: Respraying of road vehicles.
Records of Licensed Discharge Consents	21no. records, closest 21m north. Unspecified effluent to land.
Potentially Contaminated Sites	No other sites identified other than the farm, colliery and electrical features already identified from historical mapping.
Historical tanks	<p>76no. records. The closest is 2m west of the Site. This tank is associated with the sewage treatment works.</p> <p>The majority of tanks identified within the Groundsure report are located to the west of the Site, and are associated with the sewage treatment works which is off-site.</p> <p>A number of historical tanks have been identified from historic OS maps. The tanks are unspecified and located at distances >250m south and southeast of the Site.</p>
Pollution Incidents	<p>54no. records within 500m of site. 1no. record on Site. Incident date: 10/08/2015, Category 3 (minor) land impact.</p> <p>Location of on-site pollution event is mapped south of field 22b, alongside the Afon Llan.</p> <p>The majority of off-site pollution incidents are associated with the sewage works to the west of the Site, and the industrial unit to the south of the Site.</p>
Records of Category 3 or 4 Radioactive Substances	No records within 500m of the Site.
Petrol and Fuel Sites	None found within 500m of the Site.
Underground High Pressure Oil and Gas Pipelines and High Voltage Electric Cables	<p>None Found within 500m of the Site.</p> <p>Site walkover photos and anecdotal evidence indicates the presence of a high pressure gas main to the east of Field 1.</p>

3 Site Walkover

Photos for the Site walkover were supplied by the applicant team. Drawing 1 of this report shows the positions and viewpoints of the photos and should be viewed in conjunction with this site walkover section.

Photographs and notes of site conditions encountered are presented in Table 3-1. Upon inspection of the Site, the applicant team did not identify any grossly contaminated grounds. However, based upon the historic site use, such contaminants may be identified in specific site areas.

Table 3-1 Site Walkover Photographs



Photo Reference	Description	Photograph
1	Looking southeast from the electricity pylon between fields 2 & 3. View across field 3 and toward south eastern site boundary.	
2	Taken from south of field 2, looking north toward A454 to the rear of houses.	

Photo Reference	Description	Photograph
3	Taken from within field 4 looking west toward Days Rental buildings. Area of former Cape Colliery Site.	
4	Looking south within field 5 looking at a potential backfilled shaft (anecdotal evidence supplied to Hydrogeo). Stone-filled ditch anecdotally draining overflow water from within shaft.	



Photo Reference	Description	Photograph
5	Looking north within field 5 along stone filled trench which we are anecdotally advised drains the former mine shaft	
6	Taken from northwest corner of field 5 looking south.	




Photo Reference	Description	Photograph
7	Photo taken from within field 6, looking south.	
8	Taken from within field 6, looking north towards field boundary. Photos shows field boundary lined with Japanese Knotweed.	
9	Photo taken from within field 9c, looking south along access track. Visible areas of spoil heaps in background.	



Photo Reference	Description	Photograph
10	<p>Photo taken from south of 9c, looking back north at water feature.</p>	
11	<p>Looking west at exposed ground conditions on slope face. Change in levels is recognised. No noted exposed evidence of tipped or spoil materials associated with coal mining legacy.</p>	





Photo Reference	Description	Photograph
12	Photo looking at stream between fields 15 & 17. Black silty sediment noted in the base of the drainage channel.	
13	Taken from field 15 looking northwest across A454 main road toward field 16 with residential properties beyond.	
14	Photo from field 19, looking northwest toward buildings associated with Pen-y-fodau-fawr Farm.	

Photo Reference	Description	Photograph
15	View east/southeast across fields 23 and 24.	

4 Coal Mining Risk Assessment

In accordance with the Welsh Planning Policy, Edition 11 (PPW 11 February 2021), all sites located within Coal Authority Referral Areas subject to planning applications require a Coal Mining Risk Assessment (CMRA). The Application Site lies within a Coal Authority designated Coal Mining Consultation Area, and therefore a Coal Mining Risk Assessment is required to support the planning application.

Coal Mining Risk Assessments are prepared to identify coal mining features present and that these could pose to the development. The CMRA should also detail any investigatory works and remedial or mitigation measures.

This risk assessment has been written in general accordance with the Coal Mining Risk Assessment Model Report Template (Version 4, 2017), and intends to demonstrate to the Local Planning Authority (LPA) that the Site is, or can be, made safe and stable.

A Coal Authority Coal Mining Consultants Report (ref. 51002744314001) was purchased from The Coal Authority and was used in the production of this risk assessment. The report and accompanying map of Coal Authority data can be viewed in Appendix A.

4.1 Coal Authority Guidance for Developers

The Coal Authority's guidance document 'Risk Based Approach to Development Management, Guidance for Developers' notes that:

'The overall process aims to provide a consistent approach to assessing development proposals across the coalfields. It is recognised that flexibility and discretion is a necessary part of the planning system and as such there may be exemptions to the requirement for an applicant to submit a desk based Coal Mining Risk Assessment in support of a development proposal within the Development High Risk Area'

The exceptions list is noted to fall into two parts based on the type of application (e.g. householder development, heritage consent) and Nature Development (e.g. change of use, non-permanent works with no groundworks).

The explanation for Nature of Development exemptions note:

*'There may also be exemptions made for the nature of development, **where the building and/or engineering operations are minimal and therefore would not require the***

applicant to obtain a Coal Authority Permit for groundworks that intersect coal workings’.

It should be noted that one of the examples used for a Nature of Development exemption for a ‘non-permanent works with no groundworks’ is a solar array. The justification for this exemption is noted as ‘no significant groundworks’.

Although it is likely this proposed development will include some groundworks, these are not thought to be excessive and will likely include shallow trenching for shallow cable burial.

4.2 Identification of Site-Specific Risks

Table 4-1 below summarises the potential risks associated with the coal mining legacy at the Site, identified from the initial desk-based review.

Table 4-1 – Potential Coal Mining Legacy Issues

Coal Mining Legacy	Yes	No	Risk Assessment
Underground coal mining (recorded at shallow depths)	X		Required
Underground coal mining (probable at shallow depths)		X	Not Required
Mine entries (shafts and adits)	X		Required
Coal mining geology (fissures)	X		Required
Record of past mine gas emissions		X	Not required
Recorded coal mining surface hazard		X	Not required
Surface mining (opencast workings)		X	Not Required

For those coal mining issues identified as “yes” a more detailed discussion and assessment of the risks, both individually and cumulatively, to the application site and the proposed development is detailed within the following sections.

4.3 Coal Seams

The Coal Authority Consultants Coal Mining Report indicates 8no. records of coal seams that outcrop within the Site. The 8no. records relate to 3no. named coal seams and a single unnamed seam. The details are presented in Table 4-2.

Table 4-2 Coal Seam Outcrops

Seam Name	Mineral	Workable	Bearing of Outcrop (degrees)
Mynyddislwyn Big Rider	Coal	Yes	20
Mynyddislwyn Big Rider	Coal	Yes	27
Mynyddislwyn Big Rider	Coal	Yes	99
Mynyddislwyn Top Leaf	Coal	Yes	58
Mynyddislwyn Top Leaf	Coal	Yes	65
Pennyscallen	Coal	Yes	59
Pennyscallen	Coal	Yes	60
Unnamed	Coal	No	22

Table 4-2 shows that 8no. coal seams outcrop within the Site boundaries. The positions of these outcrops are presented in the 'Summary of Findings Coal Authority Map' included as Appendix A of this report.

Review of available borehole logs on the BGS GeoIndex relating to the development of the Llanelli Link Road, to the north of the Site shows that the area is underlain by a maximum thickness of 7m of superficial Glacial Till. Therefore it is estimated, that the coal seams on-site sub-crop beneath a maximum Till thickness of 7m.

However, the Llanelli Link Road is located to the north of the Site on elevated ground, so the actual superficial geology thickness underlying the Site may vary.

Due to the dip direction of the geology in the area (northwest) and the outcrop positions of the coal seams, the depth to coal and associated workings will be deeper to the north of the outcrop, and shallower the closer to the outcrop.

The Coal Authority Report indicates that 10no. coal seams underlying the Site have recorded workings within 40mbgl, and therefore may pose a High Risk to any proposed development works on the Site.

4.4 Previous Site Investigations in the Surrounding area

A number of Site investigation reports and information associated with developments in the surrounding area have been reviewed to gain further insight into the expected ground conditions on site.

Tan-Yr-Arwel Bungalow Site Investigation

A Site investigation report was prepared for a residential development at a parcel of land at Tan yr Arwel Bungalow, Swansea Road. The Site investigation, conducted by Blandford Consulting consisted of 5no. rotary boreholes advanced to a maximum depth of 30mbgl and monitored for the presence of mine gases. The Site investigation was designed and carried out under the terms of a Coal Authority Permit.

The Site investigation positions encountered made ground, boulder clay, coal measures, and a number of coal seams. The investigation indicates that the Penscallen Seam was encountered in all 5no. boreholes at depths between 25.40mbgl and 28.80mbgl. The Penscallen Seam was found to have been worked in borehole 3, with 0.9m of backfilled workings encountered.

The report summarised that there were no recognised risks to the proposed development from the underlying geology or from past underground mining operations. Risks associated with the potential collapse of the on-site disused mineshaft are present and required additional investigation.

Coal Authority Consultation response (9th September 2020) accepted that based on the findings of the report and site investigation that there is sufficient competent rock present above coal seams to provide surface instability at this site. Accordingly, no remedial or mitigation measures are considered necessary relating to shallow coal mining.

The Consultation response did require additional site investigations (trial trenching) in order to establish the condition of the on-site mine entry. The findings of the trial trenching

were to inform the development layout to ensure adequate separation between mine entry and development structures.

Day's Motor Park and associated buildings Site Investigation

An email summarising an additional phase of Site Investigation works associated with Days Motor Homes and Days Rental property located immediately north of the proposed the Site also documents the presence of coal seams of thickness between 0.7m and 0.9m, encountered at depths greater than 16mbgl. The email states that it is ***“generally that if the depth of rock above the coal seam is greater than 10 time the thickness of the seam, there will be no significant risk to development at ground level”***.

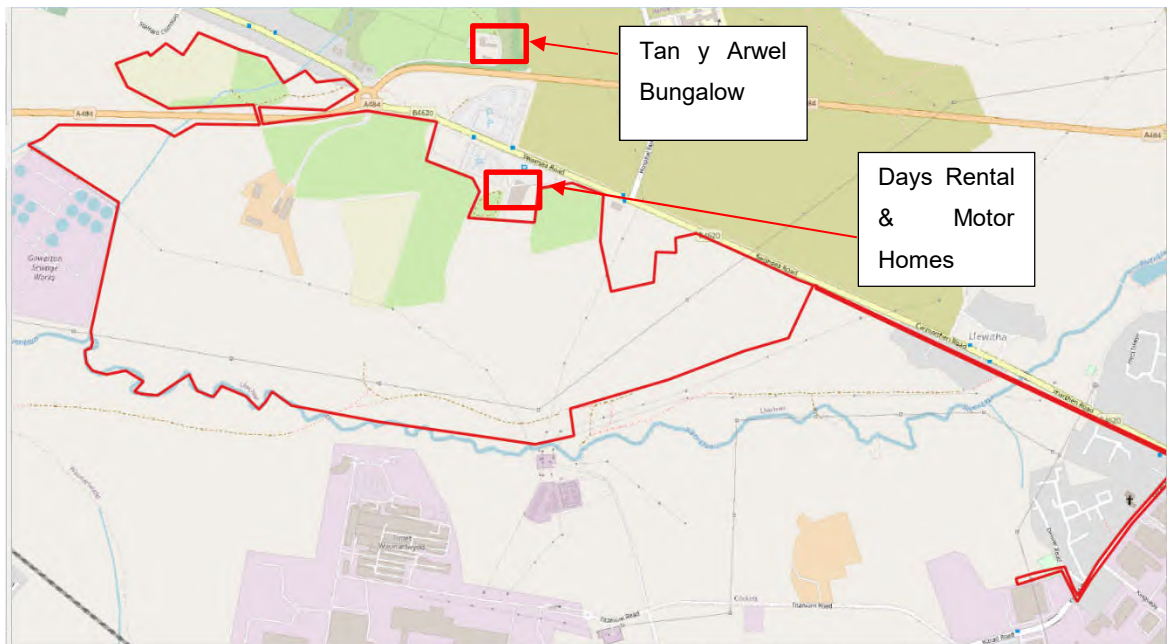
Coal Authority Consultant response (October 2014) to the Site investigation accepted that the report discounts the potential risk of stability to the development posed by shallow recorded workings.

The Coal Authority considered that the proposed watching brief and remedial measures should be extended to establishing the condition and precise location of these mine entries, with appropriate stabilisation to be undertaken where necessary. Where physical investigation of any mine entries would remain impractical, a 30m radius 'no build zone' was proposed from the approximate mine entries.

It is important to note that due to the dip of the geology (northwest), and the location of coal seam outcrops, the coal seams and associated coal workings are likely to be at a shallower depth on-site than identified within these off-site investigations which are located north of the Site.

Figure 4-1 indicates the areas of previous investigation summarised in this report.

Figure 4-1 Areas of previous Site Investigation



4.5 Mining Features

Mining features have been identified from the historic Ordnance Survey Maps, presented in Appendix C, as well as the Site Walkover photographs supplied to Hydrogeo by the Applicant Team, and available information on the Coal Authority Interactive viewer.

The earliest available OS map (1878) shows that coal mining activities were already well established on-site, indicating that extensive coal mining operations pre-date this earliest OS map. Mining features mapped on the Ordnance Survey maps include, colliery buildings, engine houses etc., wheel houses, mine entries (shafts & adits) as well as associated rail and tramway infrastructures.

The above mining features relate to Cae-newydd Pit, Cape Colliery and a number of unlisted workings.

The Site walkover pictures as presented in Table 3-1 have identified a number of remaining mining features present on site today. These features include embanked grounds along the positions of former tram and mineral railway and sidings, potential mine entries, spoil heaps & tipped ground, and the remains of a possible wheelhouse building.

4.6 Historical Records

The earliest available OS map (1878) shows that coal mining activities were already well established on-site, indicating that extensive coal mining operations pre-date this earliest

OS map. Coal Authority data indicates that the earliest recorded working date on site as 1870.

Although it may be possible that workings pre-date 1870, through unrecorded shallow workings and bell pits.

The Coal Authority Online Interactive Viewer indicates that all coal mining operations on site ceased in the 1950s.

An online search for information relating to the Cape Colliery and Cae-newydd Pit found the following information regarding the mining operations:

“Cape Colliery consisted of a pit and a slant sunk between 1899 and 1904 by the Glassbrook Brothers. It was listed under the ownership of David Rees of Forest Fach, Swansea, 1908-1915, and it employed 13 men in 1909, 17 men in 1911, 40 men in 1913 and 60 men in 1915 producing house and manufacturing coals. The Penscallen seam was abandoned in April 1911, and the Four-Foot seam in October 1925. It was still listed in 1930, but as closed”.

No information was available relating to the Cae-Newydd Pit.

The Coal Authority Report does not indicate the presence of opencast workings on site or within 500m of the Site. Although workings of coal seams are recorded at depths as shallow as 1m, as presented within Section 1 of the Appended Coal Authority Consultants Coal Mining Report (Appendix A), which indicates that the Pennyscallen Coal Seam has been worked at 1m depth, with an extraction thickness of 0.8m. Past underground mining of the Mynyddislwyn Lower Leaf coal seam is also recorded at its shallowest 24m depth with an extracted thickness of 200cm, therefore confirmation of the depth to bedrock would be recommended to ensure sufficient rock cover above the workings.

4.7 Borehole Records

The BGS Onshore GeoIndex online viewer indicates a number of boreholes on-site and within the vicinity of the Site. The majority of the boreholes are associated with the development of the A484 Llanelli Link Road, which intersects the Site to the north.

Borehole SS69NW318, was advanced immediately north of the Site in 1987 to a maximum depth of 37mbgl. The borehole encountered made ground conditions to 31.90mbgl, indicating the interception of a mine shaft. Sandstone was encountered in the base of the borehole between 31.9mbgl and 37mbgl.

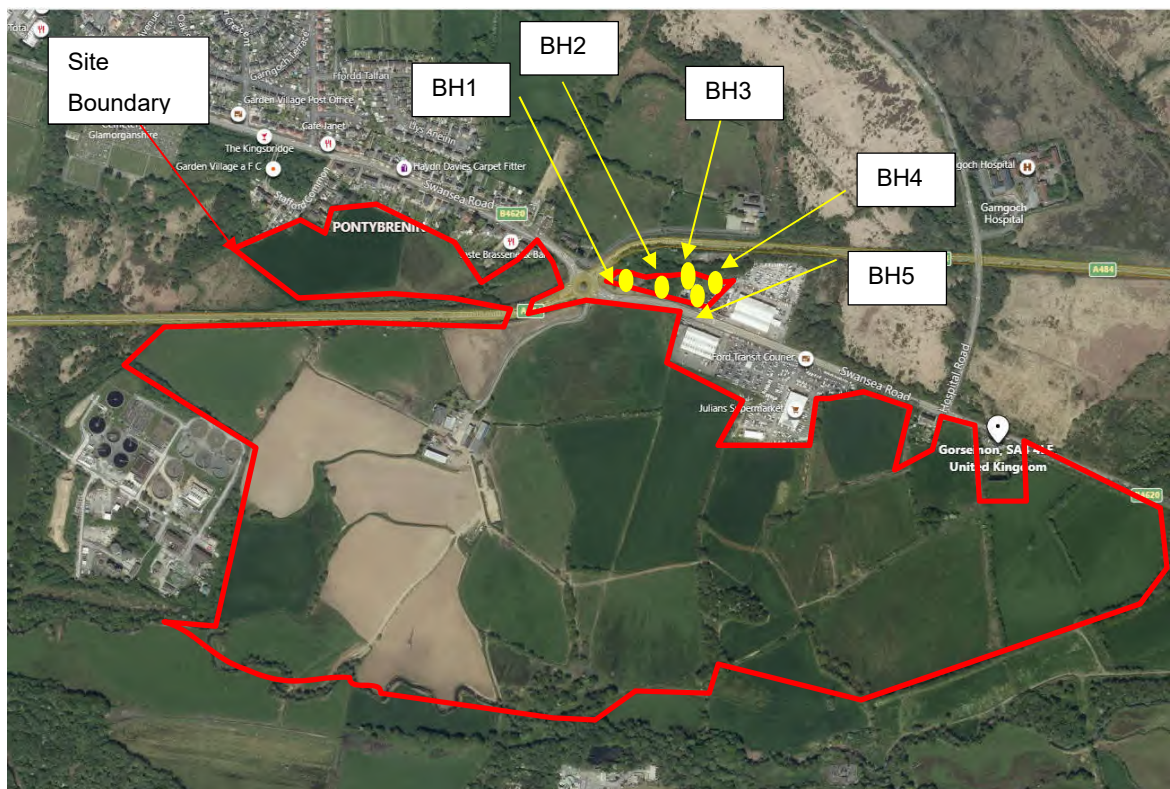
Another borehole (SS69NW319), again immediately north of the Site was advanced in 1987 to a maximum depth of 35mbgl. The borehole encountered Grovesend Formation geology, consisting of interbedded mudstones, siltstones, sandstones and coal seams. 4no coal seams were identified during the advancement at the following depths and thicknesses:

- Coal 12.50mbgl -12.70mbgl (0.2m thick);
- Coal 16.10mbgl – 16.6mbgl (0.5m thick);
- Coal 19.40mbgl – 19.9mbgl (0.5m thick);
- Coal 20.90mbgl – 30.80mbgl (0.9m thick).

The borehole log did not refer to any workings or voids intercepted within the coal seams identified.

Borehole logs associated with the Site Investigation as discussed in Section 4.4, at land at Tan y Arwel Bungalow, Swansea Road (immediately north of the Site) has been summarised as follows. A plan of the borehole locations advanced during the Tan-Yr-Arwel Site investigation is included in Figure 4-2

Figure 4-2 Plan of Boreholes advanced across the Tan-Yr-Arwel Site Investigation



BH1:

- Coal 16.3mbgl - 16.8mbgl (0.5m thick)
- Coal 28.80mbgl – 29.40mbgl (0.6m thick)

BH2:

- Coal & interbedded mudstone 14mbgl – 15.6mbgl (1.6m thick)
- Coal 27.60mbgl – 28,5mbgl (0.90m thick)

BH3:

- Coal 13.40mbgl - 13.60mbgl (0.2m thick)
- Backfilled workings 26.9mbgl – 27.8mbgl (0.9m thick)

BH4:

- Coal 13.60mbgl – 13.80mbgl (0.2m thick)
- Coal 27.30mbgl – 28.10mbgl (0.8m thick)

BH5:

- Coal 13.30mbgl – 13.50mbgl (0.2m thick)
- Coal 19.40mbgl – 19.70mbgl (0.3m thick)
- Coal 25.4mbgl – 26.2mbgl (0.8m thick)

4.8 Coal Authority Data

Potential coal mining legacy risks to the Site have been identified by the Coal Authority Consultants Mining Report, which confirms:

- The Site is underlain by Past Underground Mining. A total of 46no. coal seam workings are detailed ranging from depths of 1m below ground level to 321mbgl.
- Shallow (<30m) workings are confirmed within the Pennyscallen seam (extraction thickness up to 80cm) and Mynddislwyn Lower Leaf seam (extraction thickness up to 200cm).
- In terms of 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) there are reportedly None. Therefore it appears the extent of workings is reasonably well documented beneath the Site.

- There are 3no. spine roadways at shallow depths, 2 of which are within the Site boundary.
- The Coal Authority report indicates that there are 41no. mine entries within the Site boundary or within 20m, 28 mine shafts and 13 adits.
- No opencast mines are recorded within 500m of the Site boundary.
- No Coal Authority managed tips are recorded within 500m of the boundary.
- 2no. Site Investigations have been identified within the Coal Authority Consultants report. These Site Investigations relate to areas 21.8m and 47.3m north-east of the Site. The Site Investigation areas are shown in the Summary of Findings, included as Appendix A of this report.
- 8no. remediated sites have been identified within 50m of the Site boundary, 4 of which are located onsite. The locations of these remediated areas on site are unknown. However, anecdotal evidence suggests that one of the Sites could possibly be a shaft mine entrance located within field 5 of the Site that has been backfilled following settlement of infill and overflowing of waters.
- There is a single claim within 50m of the property in relation to coal mining subsidence. The claim area is presented in the Summary of Findings in Appendix A of this report.
- There is no current Stop Notice delaying the start of remedial works or repairs on the property.
- The Coal Authority is not aware of any request having been made to carry out preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.
- There is no record of mine gas emission requiring action by the Coal Authority within 500m of the Site boundary.
- There are no water treatment schemes located within 500m of the Site boundary.

The Coal Authority report can be viewed in Appendix A.

4.9 Mine entries

As previously stated the Coal Authority Consultants Report has indicated a total of 41no. mine entries located within or within 20m of the Site boundary (28 shafts & 13 Adits). The position of all of the mine entries are shown in the Coal Authority Summary of Findings presented in Appendix A of this report.

Of these entries, The Coal Authority indicates that 3no. shafts 261196-001, 261196-002 and 261196-039 have been treated.

Shaft 261196-001 is located to the north of the Site, immediately over the B4620. This shaft has been documented by the Coal Authority as historically filled, on an unknown date, and to an unknown specification. The shaft was fenced, which was repaired in 1999 by IMC. The shaft was topped up and mounded with clean stone by the Coal Authority in 2014.

Shaft 261196-002 is also located to the north of the Site, immediately over the B4620 road. The shaft was historically filled, on an unknown date, to an unknown specification. A concrete slab cap was installed over the shaft in November 1967, although there are no details on the construction of the cap. The shaft is fenced and was topped up and mounded with clean stone by the Coal Authority in 2016.

Shaft 261196-039 is located immediately south of the southern boundary of the Site and was backfilled with the previously excavated materials following the settlement of previous fill material and topped up with clean stone and the Site fenced. These works were undertaken by IMCL on behalf of the Coal Authority on 11/11/1998.

The Coal Authority has calculated a zone of influence buffer surrounding each of the entries. These buffer areas represent the area of ground that might be affected if subsidence of the mine entry was to occur. The calculation takes into account the size of the mine entry entrance, the superficial geology for the area and the original source from which the mine entry was captured.

The Coal Authority mine entry zones of influence can be seen in Figure 4-3

Figure 4-3 – Onsite and nearby mine entries with corresponding zones of influence



4.10 Assessment of Mining Risk

Based on the information obtained in the desk-based study, a risk assessment has been formulated which identifies plausible risks at the Site in the context of the proposed development. Mitigation strategies for each coal mining risk are proposed. These are detailed in Table 4-3.

Table 4-3 - Identified Risks and Mitigation Strategy

Risk Source	Assessment of Risk Significance	Overall Risk	Mitigation Strategy Requirements
Underground Mine workings	<p>Coal Authority data indicates that the Site is underlain by 46no. coal seam workings ranging from depths of 1m below ground level to 321mbgl. Of concern, <u>there are 10no. seams with recorded workings within 40mbgl.</u></p> <p>The Coal Authority recorded workings occur in the Pennyscallen and the Mynyddislwyn Lower Leaf Coal seams. The seams were worked between 1897 and 1928.</p> <p>The most recent workings occurred in the Swansea 6Ft seam in 1954. These more recent workings are present below the Site at depths in excess of 300mbgl, and therefore are unlikely to pose any risk to the proposed development.</p> <p>The Coal Authority report indicates 8no. coal seams to outcrop within the Site boundary as named in Table 4-2</p> <p>The recorded extraction thicknesses of these coal workings range from 0.7m to 2.7m.</p> <p>Considering the recorded extraction thicknesses and the resultant voids at shallow depths, the risk to the proposed development is High.</p>	High	<p>Former workings may have the potential to cause localised differential/consolidation settlement or bearing capacity failure, which may cause disruption to construction plant. Therefore it would be prudent to investigate and design appropriate pavement and development platforms in high risk areas.</p> <p>A geophysical survey of the proposed the Site has been progressed which has identified magnetic anomalies, which have the potential to represent historic mining features (shallow workings). The geophysical survey is being reviewed further by the survey team and will be utilised to assist in the targeted intrusive site investigation in areas. Intrusive investigations may also be further informed from Coal Authority Mine Abandonment Plans.</p> <p>Site Investigation will then inform any remedial works and/or mitigation measures that may be necessary.</p> <p>Permission is required from the Coal Authority Permit and Licensing Team before undertaking any activity such as ground investigation and groundworks which may disturb coal property.</p> <p>The above identified mitigation measures (site Investigation) should be progressed at an early stage in order to inform development layout and construction works.</p> <p>During construction, a watching brief should be in place such that all formations, trenches and other excavations should be inspected to confirm the absence of anomalous features. Additionally a watching brief should be maintained during operational lifespan for any unforeseen ground conditions such as unrecorded shafts and where required the mitigation measures implemented.</p> <p>Hydrogeo believe that the identified mitigation measures will adequately address the identified potential risks posed to the Site.</p>

Risk Source	Assessment of Risk Significance	Overall Risk	Mitigation Strategy Requirements
Mine entries.	<p>48no. mine entries (shafts and adits) located on-site and within 20m of the Site boundary.</p> <p>3no. shafts are documented as treated by the Coal Authority.</p> <p>Anecdotal evidence supplied to Hydrogeo suggests that a shaft present on site (located within field 5) has been remediated by the Coal Authority following settlement of the previous infill material.</p> <p>A large number of mine entries remain present on site with unknown remediation details.</p>	Moderate	<p>It is advised that all remaining mine entries are identified and located on a Site plan to assess their present-day condition. Once identified and marked these entries should either be secured through the fencing of the entry and its entire zone of influence (stability and drainage) or subject to treatment works to ensure safety and stability, such as capping.</p> <p>The proposed development plan has considered the location of historic mine entries on the Site and has included no-development zones within the proposal to avoid these recorded entries.</p> <p>A geophysical Survey has been progressed across the development area, which has identified a number of mine shaft features, and a number of possible shallow worked areas, based upon magnetic anomalies. The survey can also be used to target site investigation to inform site development.</p> <p>Ongoing drainage from mine entries should be investigated and characterised to prevent disruption during site development.</p> <p>These mine entries and zones of influence should be maintained as devoid (panels and supporting infrastructure) and inaccessible for the lifetime of the proposed development, in order to ensure no risks arise to safety. Should the use of land be required then it will be necessary to design and construct adequate capping. The design of such features should be completed by an adequately experienced Chartered Engineer.</p> <p>Remedial / capping works will incur a significant cost to the project due to the number of mine entries on Site.</p> <p>The above identified mitigation measures (site Investigation) should be progressed at an early stage in order to inform development layout and construction works.</p> <p>Hydrogeo believe that the identified mitigation measures adequately address the identified potential risks posed to the Site.</p>
Coal Mining geology (fissures)	The Site is located in an area crossed by multiple faults and known to be subject to deep underground mining.	Low	<p>Deep underground mining at the Site ceased in the 1940s, and any associated ground movement with the mining is anticipated to have ceased.</p> <p>The property is in an area where notices to withdraw support were given in 1946, with no requirement to revoke the consent since. This suggests that there are no longer concerns about the risk of ground movements at the Site in relation to deep underground mining and fault reactivation.</p> <p>Upon Site clearance areas marked on the British Geological Map as faulted, should be investigated further.</p> <p>The above identified mitigation measures (site Investigation) should be progressed at an early stage in order to inform development layout and construction works.</p> <p>Hydrogeo believe that the identified mitigation measures adequately address the identified potential risks posed to the Site.</p>

4.11 Coal Mining Risk Assessment Conclusions

Considering the number of historic mine entries (shafts and adits) across the Site, and their zones of influence, as well as the recorded shallow workings underlying the Site, historic coal mining activities may pose a potential high risk to the proposed development.

The risks during the construction of the Site can be mitigated and managed through further studies and site investigation with the mitigation measures presented in Table 4-3.

Risks during the Site operational phase are considered to be limited by the nature of the development, which consists of several solar arrays, associated cable routes, and small buildings.

Any buried concrete structures may require some degree of protection in these (likely) slightly acidic ground conditions. It is anticipated that site investigation and testing of ground conditions would be progressed in order to inform future design.

The coal mining related risks posed to the Site are not expected to preclude development, provided that the appropriate site investigation and mitigation measures as outlined are discussed, agreed upon with the Coal Authority and implemented.

The Coal Authority consultee correspondence indicates that they would have no objections, subject to the imposition of a condition to ensure the investigations and the completion of any necessary remedial/migratory measures.

4.12 Pre-Application Formal Correspondence

A draft of this report was initially prepared in 2021, the report was revised following changes to the overall site layout and was issued to the Coal Authority and external consultees in September 2022. The Coal Authority provided a consultee response following a review of the Draft Phase 1 Geoenvironmental Report and Coal Mining Risk Assessment.

The Coal Authority indicate that the Coal Mining Risk assessment has been informed from appropriate geological and mining information. The Coal Authority note the proposed development layout, which they state 'appears to have been designed around the recorded mine entries'.

5 Phase I Contaminated Land Assessment

5.1 Natural Resources Wales (NRW Consultee Correspondence)

Following a review of the initial draft Phase I Geo-Environmental Desk Based Study Report during a pre-application advice request, NRW provided comment in regard to the report.

NRW noted that the land is currently agricultural and has been for about 100 years since mining ceased in the late 19th Century. NRW advise that there is potential for land contamination from the mining activities, and although this risk to controlled waters could be considered low, the risk would still need to be considered during the proposed development.

NRW advise that due to the risk level being low, this could be controlled via an appropriately worded planning conditions on any permissions granted.

NRW indicate that a robust Construction Environment Management Plan (CEMP) should be implemented to protect the protected sites and the wider environment from pollution during the construction phase.

The CEMP should include details on; Construction methods, surface water pollution, biodiversity management, soil management, CEMP Masterplan, Control of nuisances, Resources Management, traffic management and pollution prevention.

The CEMP shall then be implemented as approved during site preparation and construction phases of development.

NRW note that there is a significant potential for contaminated surface water to be generated, with dirty water run-off into the onsite streams.

5.2 Development of the Conceptual Model – Hazard Identification

The following section sets out a Conceptual Site Model, which qualitatively describes the potential contaminant sources present, receptors upon which contaminants could have an impact and also pathways that may exist to allow contaminants to impact upon the identified receptors. The model is based on the future site use of the development area; that is continued usage as a commercial property.

A guide to contaminated land risk assessment is set out in CLR 552. The Conceptual Site Model has been developed using current UK guidelines including CLR 552 and CLR11, and developed using the information provided in available desk-based information as described in the previous sections.

Following the procedures of CLR 11, to assess the potential impact of any contamination identified at the Site on receptors a risk assessment approach has been used. In order for a risk to be present at the Site three components must exist:

- Contaminant(s) must be present at concentrations capable of causing adverse effects on groundwater and human health (**Source**);
- A receptor must be present (**Receptor**); such a receptor could be environmental (e.g. a stream, groundwater), or the end user of the Site.
- There must be an exposure migration pathway by which the receptor comes into contact with the contaminant (**Pollutant Linkage**).

The source-pathway-receptor scenario is a useful means to generate a conceptual model, which can be used to identify critical pathways that a more detailed quantitative analysis may be undertaken if necessary. The first stage of the process is to determine the presence or absence of any contaminant(s) of concern (source) at the Site, followed by the most likely pathways that these contaminants would take in the environment and finally the potential receptors of concern.

5.3 Sources of Contamination

Table 5-1 summarises the potential sources of contamination identified during the desk study and review of site walkover photographs provided by the applicant team.

Table 5-1 - Potential Contaminant Sources

Land Use	Activities/Contamination Sources	Potential Contaminants
<u>Historical Coal Mining Activity in the vicinity of the Site</u>	Colliery & Coal Pit sites.	Total Petroleum Hydrocarbons (TPH)
	Spreading of spoil. Spillages and disposal of colliery waste.	Poly Aromatic Hydrocarbons (PAH)
	Mine entries (shafts & adits)	Asbestos
	Tramways / railways & sidings.	Toxic Metals
	Backfilling of on-site canal.	
	Generation of harmful ground gas from coal measures.	Carbon dioxide
<u>Agricultural activities</u>	Storage of machinery and waste activities	Methane
		Total Petroleum Hydrocarbons (TPH)
		Poly Aromatic Hydrocarbons (PAH)
		Herbicides / Pesticides.
<u>Enabling and Construction Works Phases.</u>	Preparation and clearance of the Site prior to construction works phase.	Asbestos
		Total Petroleum Hydrocarbons (TPH)
	Construction works phase.	Poly Aromatic Hydrocarbons (PAH)
		Engine / lubricating oils.

5.4 Potential Contamination Transport Pathways

Construction workers may come into direct contact with soils during construction; airborne routes (inhalation of volatile compounds, inhalation or ingestion of dust created during construction).

Contaminants may leach from the soil and migrate through the unsaturated zone to underlying aquifers and surface waterbodies.

Surface water run-off during enabling and construction phase works collecting potential contaminants and transporting contaminants to surface water ditches / drains on-site.

Where piling or ground disturbance is required for foundation solutions, this may create a preferential pathway for the migration of shallows contaminants within the made ground to migrate deeper into the underlying natural strata and groundwater.

5.5 Potential Human, Environmental and Other Receptors

Human Health Receptors

Human health receptors comprise only construction workers, as the Site will not require any permanent end users.

Environmental Receptors

The bedrock and superficial geology underlying the Site are classified as Secondary A Aquifers, and may be affected by the leaching of contaminants.

The Afon Llan intersects the southern Site area and may also be affected by the leaching and runoff of contamination. The Gors-Fawr Brook bounds the Site to the south and may also be affected by the leaching and runoff of contamination.

Built Receptors

Possible built receptors include sub-surface concrete structures site buildings and constructed piles where required.

5.6 Revised Conceptual Model

The Site Conceptual Model has been revised as a result of the statutory consultee's initial pre-application responses.

Table 5-2 sets out the identified sources of contamination, the potential contaminants present, the potential transport pathways of contamination migration & movements, and the potential receptors of potential contaminants.

Table 5-2 – Revised Conceptual Site Model

Source	Potential Contaminants	Potential Transport Pathway	Potential Receptor
S1: Historical Coal Mining and associated activities and infrastructure S2: Agricultural activities and waste activities	TPH PAHs Asbestos Toxic Metals	P1: Direct contact, ingestion and inhalation of soils and dust	R1: Construction Workers.
	TPH PAHs Herbicides / pesticides Toxic Metals	P2: Leaching of contaminants or spillages to ground	R2: Water Environment: Bedrock & Superficial Secondary A Aquifers. Afon Llan and Groes-Fawr Brook.
	Methane Carbon Dioxide	P3: Gas migration through permeable ground and preferential pathways.	R1: Construction Workers. R3: Built Receptors.

Source	Potential Contaminants	Potential Transport Pathway	Potential Receptor
S3: Enabling and Construction Works Phases.	TPH PAHs Engine / lubricating oils	P2: Leaching of contaminants or spillages to ground P4: Surface water runoff	R2: Water Environment: Bedrock & Superficial Secondary A Aquifers. Afon Llan and Groes-Fawr Brook.

5.7 Risk Estimation and Risk Evaluation

The term risk is widely used in different contexts and circumstances, often with differing definitions. In UK Government publications about the environment, the standard definition is that “Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence”.

Following the development of the conceptual model and the identification of potential pollutant linkages, a preliminary assessment can be made of risk estimation and risk evaluation, as discussed in CLR 11 and CIRIA C552, to determine whether an unacceptable contamination risk is likely to exist.

CLR 11 defines risk estimation as predicting the magnitude (or consequence) and probability of the risk occurring that may arise as a result of that hazard. This is also identified in CIRIA C552 in which the risk assessment methodology uses qualitative descriptors of consequence, probability and risk. These descriptors are adopted for the purposes of this risk assessment. The “hazard” or consequence of a risk occurring is classified into the following categories:

- Severe
- Medium
- Mild
- Minor

The probability or “likelihood” of a risk occurring is classified into the following categories:

- High Likelihood
- Likely
- Low Likelihood
- Unlikely

For each potential pollutant linkage identified in the conceptual model, the potential risk can be evaluated qualitatively, based on the following principle:

Overall contamination risk = Probability of event occurring x Consequence of event

This relationship can be represented in a matrix (Table 5-3), which is adapted from the CIRIA guidance.

Table 5-3 - Risk Assessment Matrix

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Low Risk
	Likely	High Risk	Moderate Risk	Moderate Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate Risk	Low Risk	Very Low Risk
	Unlikely	Low Risk	Low Risk	Very Low Risk	Very Low Risk

The following preliminary qualitative risk evaluation can therefore be made for each significant pollutant linkage at this site, based on the defined conceptual model and the risk estimation process discussed above.

Table 5-4 presents the preliminary risk evaluation with justifications.

Table 5-4 – Preliminary Risk Assessment

Source	Contaminant	Transport Pathway	Receptor	Hazard	Probability	Consequence	Justification/ Mitigation	Consequence with mitigation
S1: Historical Coal Mining	TPH PAHs Asbestos Toxic Metals	P1: Direct contact, ingestion and inhalation of soils and dust	R1: Construction Workers.	Medium	Low Likelihood	Moderate risk	<p>Construction workers during enabling, development and maintenance phases may be at risk of disturbing made ground and potentially contaminated soils across the Site, potentially allowing for direct contact with contaminants or inhalation of vapours and airborne dust.</p> <p>Ahead of any proposed development, limited Site investigation and soil sampling/analysis, risk assessment and remedial measures (if required).</p> <p>Contractors should be made aware of the slightly increased risk during any ground disturbance works.</p> <p>Risks to be controlled by the contractor as part of Construction Design & Management (CDM) obligations.</p> <p>The use of appropriate Personal Protective Equipment (PPE), including dust masks, and eye protection.</p> <p>Hydrogeo should be contacted in the event of any grossly contaminated or malodorous / hydrocarbon-impacted soils.</p>	Low Risk

Source	Contaminant	Transport Pathway	Receptor	Hazard	Probability	Consequence	Justification/ Mitigation	Consequence with mitigation
		P2: Leaching of contaminants.	R2: Water environment: Bedrock and Superficial Secondary A Aquifer. Afon Llan & Gros-Fawr Brook.	Medium	Low Likelihood	Moderate risk	<p>Glacial Till underlying the Site usually consists of low-permeability clays and silts which will reduce the likelihood of any lateral and vertical migration of potential contaminants.</p> <p>Existing Site drainage trenches and channels reduce the infiltration of waters to the ground, further preventing lateral and vertical migration.</p>	Low Risk
	Methane Carbon Dioxide Radon	P3: Gas migration through permeable ground and preferential pathways.	R1: Construction Workers. R3: Built Receptors	Severe	Unlikely	Low risk	<p>The Coal Authority report indicates that there are no reports of mine gas emissions within 500m of the Site.</p> <p>Due to the nature of the solar farm development, it is unlikely that gas will be able to build up within confined spaces to present an asphyxiation or explosive risk.</p> <p>Any site buildings should be located outside of the areas identified as requiring basic radon protection measures.</p> <p>Where buildings are required with Radon Risk Zones as shown in Figure 2-5, Basic Radon Mitigation Measures will be required, including the installation of a well-sealed damp proof membrane.</p>	Low Risk

Source	Contaminant	Transport Pathway	Receptor	Hazard	Probability	Consequence	Justification/ Mitigation	Consequence with mitigation
S2: Agricultural activities and waste activities	TPHs PAHs Asbestos Herbicides / pesticides.	P1: Direct contact, ingestion and inhalation of soils and dust	R1: Construction workers	Medium	Low Likelihood	Moderate Risk	<p>Construction workers during enabling, development and maintenance phases may be at risk of disturbing made ground and potentially contaminated soils across the Site, potentially allowing for direct contact with contaminants or inhalation of vapours and airborne dust.</p> <p>Ahead of any proposed development, limited Site investigation and soil sampling/analysis, risk assessment and remedial measures (if required).</p> <p>Contractors should be made aware of the slightly increased risk during any ground disturbance works.</p> <p>Risks to be controlled by the contractor as part of Construction Design & Management (CDM) obligations.</p> <p>The use of appropriate Personal Protective Equipment (PPE), including dust masks, and eye protection.</p>	Low Risk

Source	Contaminant	Transport Pathway	Receptor	Hazard	Probability	Consequence	Justification/ Mitigation	Consequence with mitigation
		P2: Leaching of contaminants.	R2: Water environment: Bedrock and Superficial Secondary A Aquifer. Afon Llan & Gros-Fawr Brook.	Medium	Low Likelihood	Moderate risk	<p>Glacial Till underlying the Site usually consists of low-permeability clays and silts which will reduce the likelihood of any lateral and vertical migration of potential contaminants.</p> <p>Existing Site drainage trenches and channels reduce the infiltration of waters to the ground, further preventing lateral and vertical migration.</p> <p>A drainage survey should be progressed following site clearance in order to map any existing iron staining / or impacted waters and ensure a short circuit drainage pathway is not created through reprofiling of the Site so as to impact site surface waters</p>	Low Risk
S3: Enabling and Construction Works Phases	PAHs – Fuels TPHs Engine / Lubricating oils	P2: Leaching of contaminants.	R2: Water environment: Bedrock and Superficial Secondary A Aquifer. Afon Llan & Gros-Fawr Brook.	Medium	Likely	Moderate Risk	<p>Justification:</p> <p>During enabling and construction works phases there will be a lot of vehicular movements on site.</p>	Low Risk

Source	Contaminant	Transport Pathway	Receptor	Hazard	Probability	Consequence	Justification/ Mitigation	Consequence with mitigation
		P4: Surface water runoff					<p>Enabling and construction phase works may extend into wetter winter months where more surface water runoff will be generated.</p> <p>Mitigation:</p> <p>Attenuation/ settlement ponds should be considered to cater for road run off at strategic points.</p> <p>Consultee comments indicate the requirement for a CEMP to be in place for the enabling and construction phases of works.</p> <p>Following site investigation works and where required a remediation strategy can be progressed to detail any remedial and mitigation works needed across the Site.</p> <p>The development of a construction surface water management plan to provide information on how surface waters are to be dealt with, and treated where required.</p> <p>It is understood that a SuDs Drainage Strategy is being progressed as part of the planning application.</p>	

6 Conclusion and Recommendations

A Phase I Desk Based Study, Coal Mining Risk Assessment and review of Site Walkover photographs as provided by the applicant team has been undertaken for the Site located at Pen-y-fodau-fawr farm, and surrounding agricultural lands. Planning permission is sought from a Welsh Minister for the development of the proposed nationally significant solar power, storage and green infrastructure facility.

A review of British Geological Survey data and nearby borehole logs indicate that the Site is underlain by the Grovesend Formation, comprising predominantly argillaceous, comprising mudstones and siltstones, with well-developed coals; minor lithic (Pennant) sandstones; locally developed red mudstones in the area”.

Flood Risk

The proposed the Site (fields 22b, 23, 24 & 25) is indicated to lie within Flood Zones 2 & 3 of the Afon Llan.

A Flood Risk Assessment for the proposed the Site is being progressed under separate cover to the Hydrogeo Phase I and Coal Mining Risk Assessment.

Unexploded Ordnance (UXO)

Review of the Zetica Online Unexploded Ordnance (UXO) Risk Maps has indicated that the southern site area (fields 23, 24 & 25) is located within Bomb High Risk Areas, as shown in Figure 2-6.

Zetica generally recommends a detailed UXO desk study and Risk Assessment is undertaken for sites mapped within moderate or high risk areas.

Radon

Some areas of the Site, as indicated in Figure 2-5 of the report are located within areas requiring radon protection measures. The highest Radon protection requirement mapped on the Site is Basic.

It is recommended that any Site buildings or potential small confined spaces are located outside of these areas. If any site buildings are required within these Radon impacted areas, then basic protection measures will need to be incorporated into the building design.

Basic Radon Protection Measures usually consist of a well-sealed damp proof membrane. Further guidance notes on Basic Radon Protection measures can be found within the BRE Good Building Guide GRG 37 Part 1, Part 2 & Part 3.

Backfilling of On-Site Canal

Historic OS maps indicate the presence of a canal transport route. The canal is mapped alongside the mineral tramway on site, and trends east – west, to join the Afon Llan to the west of field 23. By mapping from 1948, the area of the canal is marked as marshy grounds, indicating the backfilling of the canal route.

The canal, is likely to have been backfilled with unknown material, to an unknown specification and therefore presents a risk to the identified sensitive receptors.

Coal Mining Risk Assessment

The Site is located within the South Wales Coalfield. There are a high density of historic collieries and other mining related features on-site and in the surrounding area.

Coal Authority Development High Risk Areas are present on Site, as presented in Drawing 2. These high risk areas coincide with Coal Authority Records of recorded past shallow mine workings, mapped coal seams outcrops, and mine entries (shafts & adits). Intrusive investigations can be further informed through a review of additional mine abandonment plans and discussion with the Coal Authority. Hydrogeo has liaised with the Coal Authority and confirmed which abandonment plans would be prudent to purchase and review in order to inform targeted site investigation works.

The proposed development plan has taken into account the mine entry positions, with no-development zones in the vicinity of these entries. Geophysical investigation works have progressed which have identified a number of magnetically anomalous readings, which may represent historical mining features (entries and shallow workings). The survey will be reviewed further to inform targeted site investigation which is recommended to more accurately pinpoint the location of mine shafts within the planning site area. Site investigation data will inform zones that as a minimum are secured by fencing and left devoid of structures for the lifetime of the development.

The Coal Authority Consultants Report (Appendix A) indicates that the Coal Authority believes there to be no probable unrecorded shallow workings (less than 30m deep). However, the presence of outcrops on site and also past underground mining is well documented within the report. Section 1 details past underground mining with the Pennyscalen coal seam and Mynyddislwyn Lower Leaf confirmed to have been worked at very shallow depths beneath the property.

It is recommended that Hydrogeo visit the Site prior to Site Investigation works. Site investigation works to consist of a number of targeted rotary boreholes to 30mbgl-40mbgl to investigate ground conditions, and identify coal seam condition. In addition targeted trial trenching would be recommended in order to accurately determine the positions of former mine entries within the development boundary.

Permission is required from the Coal Authority Permit and Licensing Team before undertaking any activity such as ground investigation and groundworks which may disturb coal property.

Consultation with the Coal authority is underway regarding additional information (Mine abandonment plans etc), as well as the requirement for ongoing consultation throughout the progression of the project.

It should be recognised that during the construction phase works all formations, trenches and other excavations should be inspected by suitably qualified personnel to confirm the absence of anomalous features. Where any unforeseen ground conditions are identified these should be highlighted to the project team and Coal Authority in the instance of unrecorded mine entries.

Contaminative Risk

A review of historical and current Ordnance Survey mapping and environmental registers has indicated that potential contaminative current and historic land uses are present at the Site. These land uses include the historic coal mining legacy of the Site, historic backfilling of the on-site canal, as well as agricultural and farming land uses.

The proposed development is of low sensitivity, with no permanent site occupants.

A conceptual model detailing potential source-pathway-receptor pollutant linkages has been produced. Potential sources of contamination are related to the historic coal mining extent and the present day agricultural activities. Potential contaminants associated with these land uses include Asbestos, TPHs, PAHs, Toxic Metals and pesticides/herbicides. Potential transport pathways of the identified contaminants include direct contact and ingestion, as well as the leaching of contaminants.

Receptors of the identified potential contaminants include site workers during enabling, construction and maintenance work phases, as well as water environment features, including the underlying Secondary A bedrock and Superficial aquifers. The Afon Llan and Gors-fawr Brook are surface water receptors.

The presence of low permeability Glacial Till underlying the Site restricts the potential for lateral and vertical migration of contaminants into the identified aquifer and surface water units. Drainage trenches/ditches present on Site reduce the infiltration of waters to the ground, further preventing the movement of contaminants

Mitigation measures to reduce the potential risks posed by the contaminants to the susceptible receptors are presented in the Preliminary Risk Assessment, Table 5-4. The mitigation measures include the standard use of PPE, including eye protection and dust masks. Construction, Design and Management obligations, as well as limited Site Investigation and soil sampling/leachability and groundwater analysis at an early stage in order to inform overall site development which must include the risk presented to controlled waters through construction and site development.

The Site Investigation and soil sampling/analysis and monitoring will inform a revised risk assessment, a Construction Environmental Management Plan (CEMP) and where required a Remediation Strategy.

Following implementation of the identified mitigation measures, it is not thought that the potential risks posed during and following development of the Site should not preclude the proposed development.

Appendices

Appendix A

Coal Authority Consultants Coal Mining Report & Summary of Findings

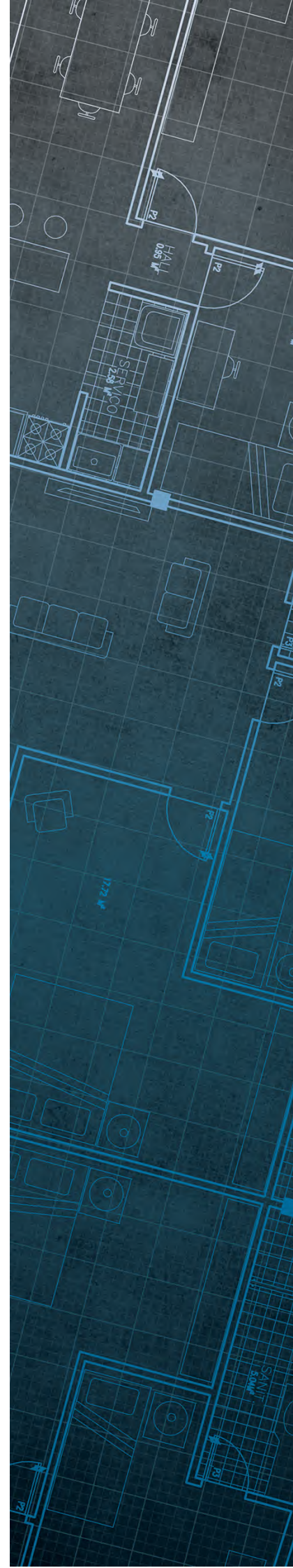


The Coal
Authority

Consultants Coal Mining Report

Penyfodau Fawr Farm
Swansea

Date of enquiry:	3 December 2021
Date enquiry received:	3 December 2021
Issue date:	3 December 2021
Our reference:	51002744314001
Your reference:	PO-21-058



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.

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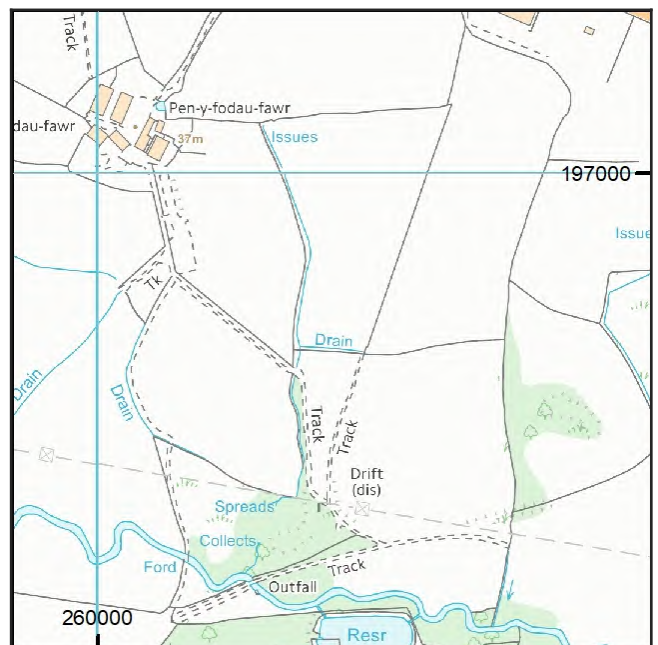
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Approximate position of property



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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	PENNYSCAL LEN	Coal	4DDH	1	Beneath Property	4.5	West	80	1908
unnamed	PENNYSCAL LEN	Coal	4DDK	5	Beneath Property	3.0	West	70	1928
unnamed	PENNYSCAL LEN	Coal	4DFB	6	Beneath Property	4.5	West	80	1900
unnamed	PENNYSCAL LEN	Coal	4DF9	8	Beneath Property	4.8	West	80	1903
unnamed	PENNYSCAL LEN	Coal	4DFA	9	Beneath Property	4.5	West	80	1903
unnamed	PENNYSCAL LEN	Coal	4DF8	11	Beneath Property	4.5	West	80	1906
unnamed	PENNYSCAL LEN	Coal	4DDJ	11	Beneath Property	5.1	West	80	1897
unnamed	PENNYSCAL LEN	Coal	4DFC	12	Beneath Property	3.5	West	70	1926
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DF4	24	North-East	0.0	East	200	1907
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DE1	39	Beneath Property	4.3	North-West	130	1924
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DF2	47	Beneath Property	5.5	South-West	120	1880
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DE3	54	Beneath Property	6.2	West	120	1907
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DF1	56	Beneath Property	5.3	South-West	120	1879
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DEY	58	Beneath Property	3.8	North-West	130	1916
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DF0	58	Beneath Property	8.2	North-West	130	1910

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	MYNYDDISL WYN LOWER LEAF	Coal	4DEZ	63	Beneath Property	3.8	North-West	130	1923
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DD4	67	Beneath Property	7.8	South-West	130	1878
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4DE5	71	Beneath Property	5.4	West	130	1924
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4ZYS	109	Beneath Property	27.8	North-East	150	1890
unnamed	PENNYSCAL LEN	Coal	4ZYV	117	Beneath Property	29.2	North	160	1908
unnamed	PENNYSCAL LEN	Coal	4DF5	130	South-East	0.0	East	160	1841
unnamed	UNNAMED	Coal	4DDY	134	Beneath Property	9.0	North-West	180	1906
unnamed	PENNYSCAL LEN	Coal	4ZYG	137	Beneath Property	10.3	North-East	160	1872
unnamed	UNNAMED	Coal	4DDZ	139	Beneath Property	2.1	North-West	180	1900
unnamed	MYNYDDISL WYN TOP LEAF	Coal	4ZYJ	139	Beneath Property	27.8	North-East	170	1872
unnamed	UNNAMED	Coal	4DEV	147	Beneath Property	2.1	North-West	150	1900
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4ZYT	153	South	27.8	North-East	160	1873
unnamed	PENNYSCAL LEN	Coal	4ZYW	159	Beneath Property	29.4	North	160	1877
unnamed	UNNAMED	Coal	4DEU	161	Beneath Property	2.1	North-West	150	1900
unnamed	UNNAMED	Coal	4E1N	163	Beneath Property	8.6	North-West	193	1911
unnamed	UNNAMED	Coal	4ZZ9	216	South	30.5	North-East	270	1880
unnamed	UNNAMED	Coal	4DET	227	Beneath Property	6.3	South-West	220	1945
unnamed	UNNAMED	Coal	4ZZC	227	Beneath Property	7.9	West	270	1934
unnamed	UNNAMED	Coal	4ZZB	233	Beneath Property	7.4	West	270	1939
unnamed	SWANSEA 6FT	Coal	4DDS	239	Beneath Property	5.3	South-West	179	1928
unnamed	SWANSEA 6FT	Coal	4DDP	247	Beneath Property	6.7	North-West	179	1930

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	SWANSEA 6FT	Coal	4DDR	249	North-East	5.6	North-West	179	1928
unnamed	UNNAMED	Coal	4ZYM	249	South-West	30.5	North-East	150	1877
unnamed	SWANSEA NO.3	Coal	4DDL	262	Beneath Property	4.1	West	70	1946
unnamed	SWANSEA NO.3	Coal	4DEQ	262	Beneath Property	3.9	South-East	70	1939
unnamed	MYNYDDISL WYN LOWER LEAF	Coal	4ZYR	264	Beneath Property	27.8	North-East	120	1885
unnamed	SWANSEA 6FT	Coal	4DDV	265	North-East	3.3	West	179	1924
unnamed	SWANSEA NO.3	Coal	4DEP	270	Beneath Property	2.1	West	70	1937
unnamed	SWANSEA NO.3	Coal	4DER	271	Beneath Property	3.9	South-East	70	1946
unnamed	SWANSEA NO.3	Coal	4DEO	271	Beneath Property	2.1	West	70	1940
unnamed	SWANSEA NO.3	Coal	4DDN	272	North-East	1.1	West	70	1941
unnamed	SWANSEA 6FT	Coal	4DES	273	Beneath Property	2.1	South	180	1937
unnamed	UNNAMED	Coal	4ZYK	273	South-West	30.5	North-East	150	1880
unnamed	UNNAMED	Coal	4E1P	276	Beneath Property	5.0	West	220	1935
unnamed	SWANSEA 6FT	Coal	4DDT	276	Beneath Property	0.0	East	179	1918
unnamed	UNNAMED	Coal	4ZYL	276	South-West	30.5	North-East	150	1879
unnamed	SWANSEA NO.3	Coal	4DDM	281	North-East	2.7	South-West	70	1941
unnamed	UNNAMED	Coal	4ZZA	284	Beneath Property	30.5	North-East	270	1885
unnamed	SWANSEA 6FT	Coal	4DDQ	287	Beneath Property	9.2	West	179	1930
unnamed	SWANSEA 6FT	Coal	4E1U	301	Beneath Property	6.2	North-West	120	1954
unnamed	SWANSEA 6FT	Coal	4E1T	306	North-East	6.8	North-West	120	1954
unnamed	SWANSEA 6FT	Coal	4E1W	319	Beneath Property	4.7	North-West	120	1950
unnamed	SWANSEA 6FT	Coal	4E1V	321	Beneath Property	2.1	North-West	120	1930

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

Distance to spine roadway (m)	Direction to spine roadway
Within	N/A
9.4	South-East
Within	N/A

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	260196-004	260248 196648		Coal	
Shaft	260196-005	260843 196898		Coal	
Shaft	260196-006	260444 196884		Coal	
Adit	260196-007	260450 196841		Coal	
Shaft	260196-008	260857 196998		Coal	
Adit	260196-009	260221 196742		Coal	
Shaft	260196-010	260227 196812		Coal	
Shaft	260196-016	260532 196734		Coal	
Shaft	260196-017	260579 196737		Coal	
Shaft	260196-018	260825 196886		Coal	
Adit	260196-020	260216 196735		Coal	
Shaft	260196-021	260221 196819		Coal	
Shaft	260196-022	260234 196804		Coal	
Adit	260196-023	260425 196713		Coal	
Adit	260196-024	260437 196827		Coal	
Adit	260196-025	260449 196856		Coal	
Adit	260196-026	260573 196703		Coal	
Shaft	260196-027	260804 196903		Coal	
Shaft	260196-028	260880 196896		Coal	
Shaft	260196-033	260590 196857		Coal	
Adit	260196-034	260587 196705		Coal	
Adit	260196-035	260889 196916		Coal	
Shaft	260196-036	260888 196564		Coal	
Shaft	260197-003	260304 197312		Coal	
Shaft	260197-004	260500 197043		Coal	
Shaft	260197-005	260488 197188		Coal	

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	260197-006	260536 197027		Coal	
Adit	260197-007	260858 197017		Coal	
Shaft	260197-008	260420 197201		Coal	C.E.M. Day Ltd 59 St. Helens Rd Swansea 19/05/1954
Shaft	260197-010	260479 197012		Coal	
Shaft	260197-011	260480 197039		Coal	
Shaft	260197-012	260946 197102		Coal	
Shaft	261196-001	261217 196951	This shaft was filled at some time in the past. There are no details on the fill material or date of filling. This shaft was also fenced which was repaired in 1999 by IMC. The shaft was topped up and mounded with clean stone by the Coal Authority in 2014	Coal	
Shaft	261196-002	261224 196937	This shaft was filled at some time in the past. There are no details of the fill material or date of filling. A concrete slab was installed over this shaft in November 1967 although there are no details on the construction of the cap. The shaft is fenced and was topped up and mounded with clean stone by the Coal Authority in 2016	Coal	
Shaft	261196-012	261191 196648		Coal	
Shaft	261196-013	261050 196670		Coal	
Adit	261196-015	261035 196637		Coal	
Shaft	261196-019	261033 196664		Coal	
Shaft	261196-037	261058 196656		Coal	
Adit	261196-038	261037 196631		Coal	
Shaft	261196-039	261043 196653	After settlement of fill material the area was backfilled with the previously excavated material and topped up with clean stone and the site fenced. These works were undertaken by IMCL on behalf of the Coal Authority in 1998	Coal	

Abandoned mine plan catalogue numbers

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

4483	5864	SW2239
8640	SWR2778	SWR2710
SW153	SW2232	SWR2221

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
MYNYDDISLWYN BIG RIDER	Coal	Yes	Within	N/A	20
MYNYDDISLWYN BIG RIDER	Coal	Yes	Within	N/A	27
MYNYDDISLWYN BIG RIDER	Coal	Yes	Within	N/A	99
MYNYDDISLWYN TOP LEAF	Coal	Yes	Within	N/A	58
MYNYDDISLWYN TOP LEAF	Coal	Yes	Within	N/A	65
PENNYSCALLEN	Coal	Yes	Within	N/A	59
PENNYSCALLEN	Coal	Yes	Within	N/A	60
UNNAMED	Coal	No	Within	N/A	22

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

Distance to site investigation (m)	Direction
47.3	North-East
21.8	North-East

See Section 4 for further information.

Remediated sites

Distance to site remediation (m)	Direction
Within	N/A
37.9	South-East
Within	N/A
46.5	West
Within	N/A
28.8	South-East
44.4	North-East
Within	N/A

See Section 4 for further information.

Coal mining subsidence

There are 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

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.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

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 in an area where notices to withdraw support were given in 1946.

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.

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.

Remediated sites

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and where necessary remediated mine entries and/or shallow coal mine workings following specific reported hazards.

The site requires further investigation and may influence your risk assessment. We recommend that you order the Coal Authority **Surface Hazards Incident Report**, which will include more information about the hazard.

Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

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.

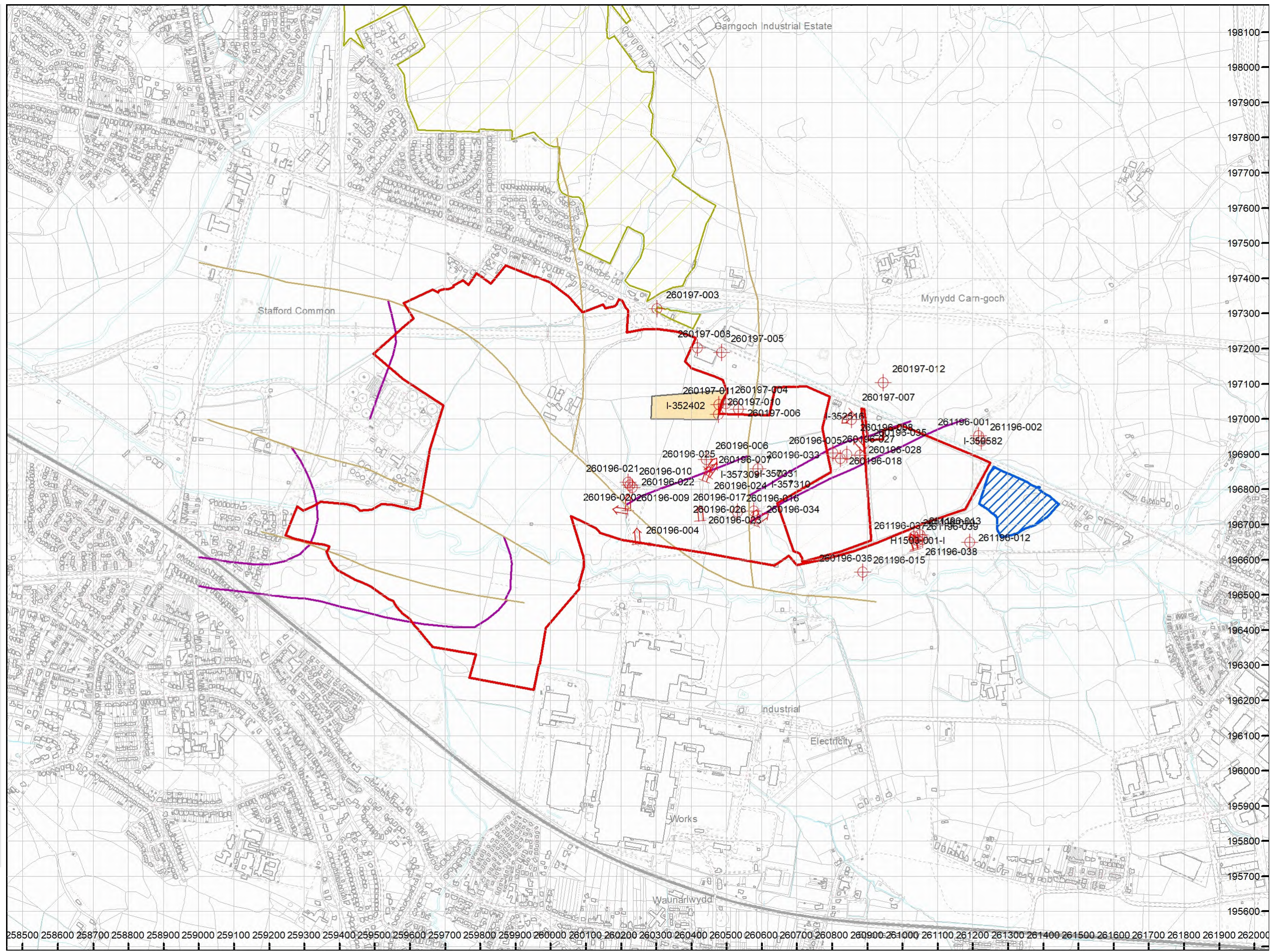
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Disused adit 
- Outcrop (Proven) 
- Geological faults 
- Site investigations 
- Remediated sites 
- Coal claim 

How to contact us

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



Appendix B

GroundSure Report

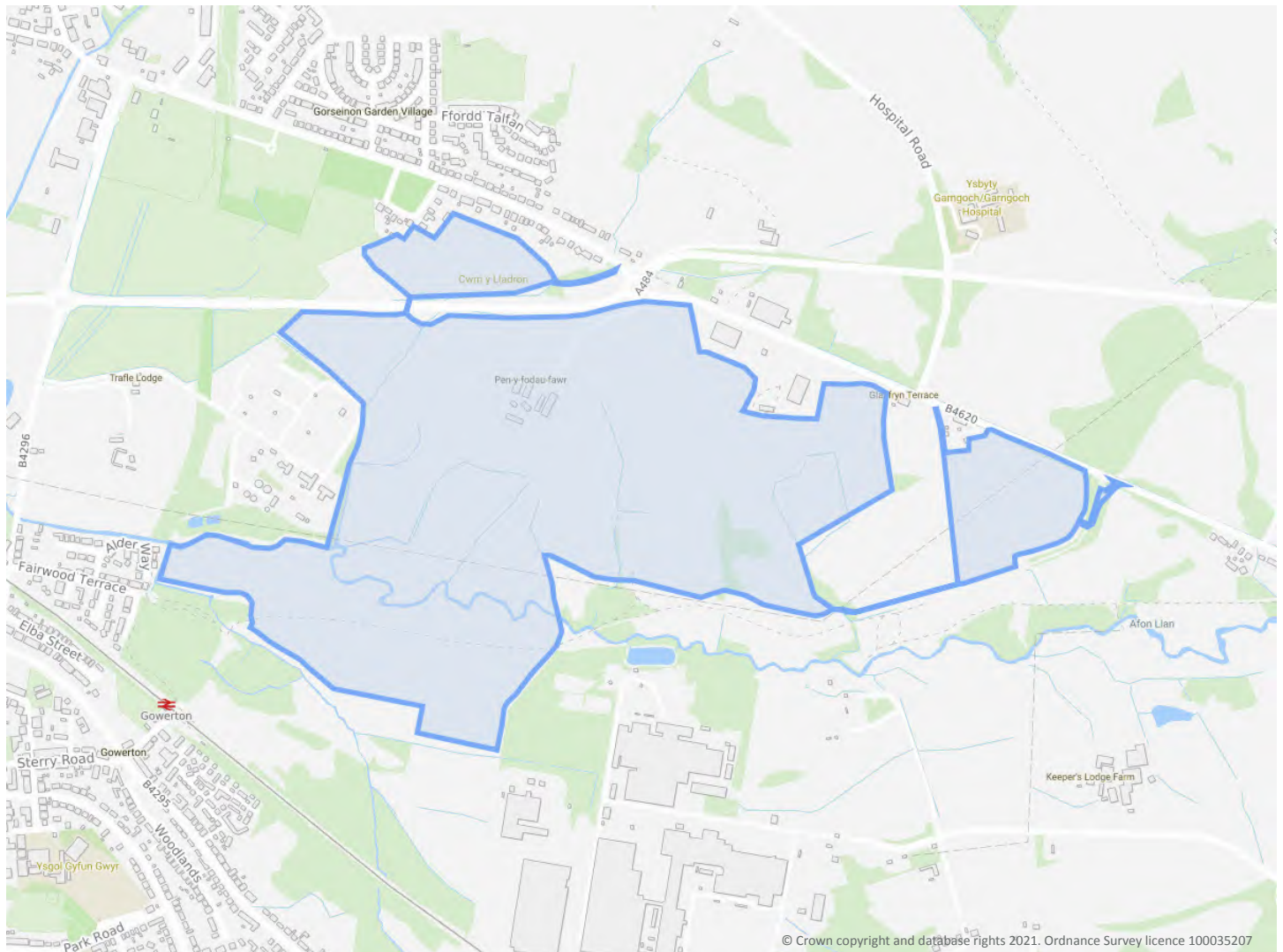
260113.56612636862, 196868.91884575313

Order Details

Date: 30/11/2021
Your ref: PO-21-056
Our Ref: HYG1-8369499
Client: Hydrogeo Ltd

Site Details

Location: 260320 196906
Area: 86.52 ha
Authority: [Abertawe - Swansea City and Borough Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide

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
<u>13</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	55	53	162	209	-
<u>31</u>	<u>1.2</u>	<u>Historical tanks</u>	0	9	19	48	-
<u>34</u>	<u>1.3</u>	<u>Historical energy features</u>	0	0	4	13	-
35	1.4	Historical petrol stations	0	0	0	0	-
<u>35</u>	<u>1.5</u>	<u>Historical garages</u>	0	2	1	1	-
36	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
<u>37</u>	<u>2.1</u>	<u>Historical industrial land uses</u>	74	83	226	270	-
<u>61</u>	<u>2.2</u>	<u>Historical tanks</u>	0	14	34	70	-
<u>65</u>	<u>2.3</u>	<u>Historical energy features</u>	0	0	8	25	-
67	2.4	Historical petrol stations	0	0	0	0	-
<u>67</u>	<u>2.5</u>	<u>Historical garages</u>	0	3	2	1	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
<u>68</u>	<u>3.1</u>	<u>Active or recent landfill</u>	0	1	2	0	-
69	3.2	Historical landfill (BGS records)	0	0	0	0	-
<u>69</u>	<u>3.3</u>	<u>Historical landfill (LA/mapping records)</u>	0	0	2	3	-
<u>70</u>	<u>3.4</u>	<u>Historical landfill (EA/NRW records)</u>	0	0	3	0	-
70	3.5	Historical waste sites	0	0	0	0	-
<u>71</u>	<u>3.6</u>	<u>Licensed waste sites</u>	0	0	13	3	-
<u>75</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	0	5	16	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>78</u>	<u>4.1</u>	<u>Recent industrial land uses</u>	2	7	15	-	-
<u>80</u>	<u>4.2</u>	<u>Current or recent petrol stations</u>	1	0	0	0	-
80	4.3	Electricity cables	0	0	0	0	-
80	4.4	Gas pipelines	0	0	0	0	-
81	4.5	Sites determined as Contaminated Land	0	0	0	0	-



81	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
81	4.7	Regulated explosive sites	0	0	0	0	-
81	4.8	<u>Hazardous substance storage/usage</u>	0	0	0	1	-
82	4.9	<u>Historical licensed industrial activities (IPC)</u>	0	0	1	7	-
83	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	7	19	-
87	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	1	0	-
87	4.12	Radioactive Substance Authorisations	0	0	0	0	-
87	4.13	<u>Licensed Discharges to controlled waters</u>	0	5	8	8	-
91	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
91	4.15	Pollutant release to public sewer	0	0	0	0	-
91	4.16	List 1 Dangerous Substances	0	0	0	0	-
91	4.17	<u>List 2 Dangerous Substances</u>	0	0	0	5	-
92	4.18	<u>Pollution Incidents (EA/NRW)</u>	1	3	39	11	-
97	4.19	Pollution inventory substances	0	0	0	0	-
98	4.20	Pollution inventory waste transfers	0	0	0	0	-
98	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
99	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
101	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
103	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
106	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
106	5.5	Groundwater vulnerability- local information	None (within 0m)				
107	5.6	Groundwater abstractions	0	0	0	0	0
108	5.7	<u>Surface water abstractions</u>	0	0	1	0	4
109	5.8	Potable abstractions	0	0	0	0	0
109	5.9	Source Protection Zones	0	0	0	0	-
109	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
110	6.1	<u>Water Network (OS MasterMap)</u>	44	35	61	-	-



<u>121</u>	<u>6.2</u>	<u>Surface water features</u>	1	21	27	-	-
<u>122</u>	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
<u>122</u>	<u>6.4</u>	<u>WFD Surface water bodies</u>	1	0	0	-	-
<u>122</u>	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
<u>124</u>	<u>7.1</u>	<u>Risk of flooding from rivers and the sea</u>	High (within 50m)				
125	7.2	Historical Flood Events	0	0	0	-	-
<u>125</u>	<u>7.3</u>	<u>Flood Defences</u>	0	0	1	-	-
<u>125</u>	<u>7.4</u>	<u>Areas Benefiting from Flood Defences</u>	0	1	0	-	-
126	7.5	Flood Storage Areas	0	0	0	-	-
<u>127</u>	<u>7.6</u>	<u>Flood Zone 2</u>	Identified (within 50m)				
<u>128</u>	<u>7.7</u>	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
<u>129</u>	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
<u>131</u>	<u>9.1</u>	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
<u>132</u>	<u>10.1</u>	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	3
<u>133</u>	<u>10.2</u>	<u>Conserved wetland sites (Ramsar sites)</u>	0	0	0	0	1
<u>133</u>	<u>10.3</u>	<u>Special Areas of Conservation (SAC)</u>	0	0	0	0	1
<u>134</u>	<u>10.4</u>	<u>Special Protection Areas (SPA)</u>	0	0	0	0	1
134	10.5	National Nature Reserves (NNR)	0	0	0	0	0
<u>135</u>	<u>10.6</u>	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	2
<u>135</u>	<u>10.7</u>	<u>Designated Ancient Woodland</u>	2	3	4	1	60
138	10.8	Biosphere Reserves	0	0	0	0	0
138	10.9	Forest Parks	0	0	0	0	0
138	10.10	Marine Conservation Zones	0	0	0	0	0
138	10.11	Green Belt	0	0	0	0	0
139	10.12	Proposed Ramsar sites	0	0	0	0	0



139	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
139	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
139	10.15	Nitrate Sensitive Areas	0	0	0	0	0
140	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
141	10.17	SSSI Impact Risk Zones	0	-	-	-	-
141	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
142	11.1	World Heritage Sites	0	0	0	-	-
143	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
143	11.3	National Parks	0	0	0	-	-
143	11.4	Listed Buildings	0	0	0	-	-
143	11.5	Conservation Areas	0	0	0	-	-
144	11.6	<u>Scheduled Ancient Monuments</u>	0	0	1	-	-
144	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
145	12.1	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
146	12.2	<u>Open Access Land</u>	1	7	3	-	-
147	12.3	Tree Felling Licences	0	0	0	-	-
147	12.4	Environmental Stewardship Schemes	0	0	0	-	-
147	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
148	13.1	Priority Habitat Inventory	0	0	0	-	-
148	13.2	Habitat Networks	0	0	0	-	-
148	13.3	Open Mosaic Habitat	0	0	0	-	-
148	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
149	14.1	<u>10k Availability</u>	Identified (within 500m)				
150	14.2	<u>Artificial and made ground (10k)</u>	7	10	17	15	-
153	14.3	<u>Superficial geology (10k)</u>	4	0	2	0	-



154	14.4	Landslip (10k)	0	0	0	0	-
155	14.5	<u>Bedrock geology (10k)</u>	12	0	2	7	-
156	14.6	<u>Bedrock faults and other linear features (10k)</u>	12	1	7	7	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
158	15.1	<u>50k Availability</u>	Identified (within 500m)				
159	15.2	<u>Artificial and made ground (50k)</u>	1	3	1	4	-
160	15.3	<u>Artificial ground permeability (50k)</u>	1	3	-	-	-
161	15.4	<u>Superficial geology (50k)</u>	2	0	0	0	-
162	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
162	15.6	Landslip (50k)	0	0	0	0	-
162	15.7	Landslip permeability (50k)	None (within 50m)				
163	15.8	<u>Bedrock geology (50k)</u>	8	0	1	4	-
164	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
165	15.10	<u>Bedrock faults and other linear features (50k)</u>	11	1	6	4	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
166	16.1	<u>BGS Boreholes</u>	2	8	11	-	-
Page	Section	Natural ground subsidence					
168	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
169	17.2	<u>Running sands</u>	Low (within 50m)				
171	17.3	<u>Compressible deposits</u>	Moderate (within 50m)				
173	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
174	17.5	<u>Landslides</u>	Low (within 50m)				
176	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
178	18.1	Natural cavities	0	0	0	0	-
179	18.2	<u>BritPits</u>	2	3	4	1	-
181	18.3	<u>Surface ground workings</u>	36	54	150	-	-
190	18.4	<u>Underground workings</u>	3	12	15	7	43
193	18.5	Historical Mineral Planning Areas	0	0	0	0	-



193	18.6	Non-coal mining	0	0	0	0	0
193	18.7	Mining cavities	0	0	0	0	0
194	18.8	JPB mining areas	None (within 0m)				
194	18.9	<u>Coal mining</u>	Identified (within 0m)				
194	18.10	Brine areas	None (within 0m)				
194	18.11	Gypsum areas	None (within 0m)				
195	18.12	Tin mining	None (within 0m)				
195	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
196	19.1	<u>Radon</u>	Between 3% and 5% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
198	20.1	<u>BGS Estimated Background Soil Chemistry</u>	54	15	-	-	-
202	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
202	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
203	21.1	Underground railways (London)	0	0	0	-	-
203	21.2	Underground railways (Non-London)	0	0	0	-	-
204	21.3	Railway tunnels	0	0	0	-	-
204	21.4	<u>Historical railway and tunnel features</u>	23	11	42	-	-
207	21.5	Royal Mail tunnels	0	0	0	-	-
207	21.6	<u>Historical railways</u>	4	7	5	-	-
208	21.7	<u>Railways</u>	0	0	4	-	-
208	21.8	Crossrail 1	0	0	0	0	-
209	21.9	Crossrail 2	0	0	0	0	-
209	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 13/04/2020

Site Area: 86.52ha



Recent site history - 2017 aerial photograph



Capture Date: 25/05/2017

Site Area: 86.52ha



Recent site history - 2009 aerial photograph



Capture Date: 12/10/2009

Site Area: 86.52ha



Recent site history - 2001 aerial photograph



Capture Date: 07/05/2001

Site Area: 86.52ha



Recent site history - 2000 aerial photograph

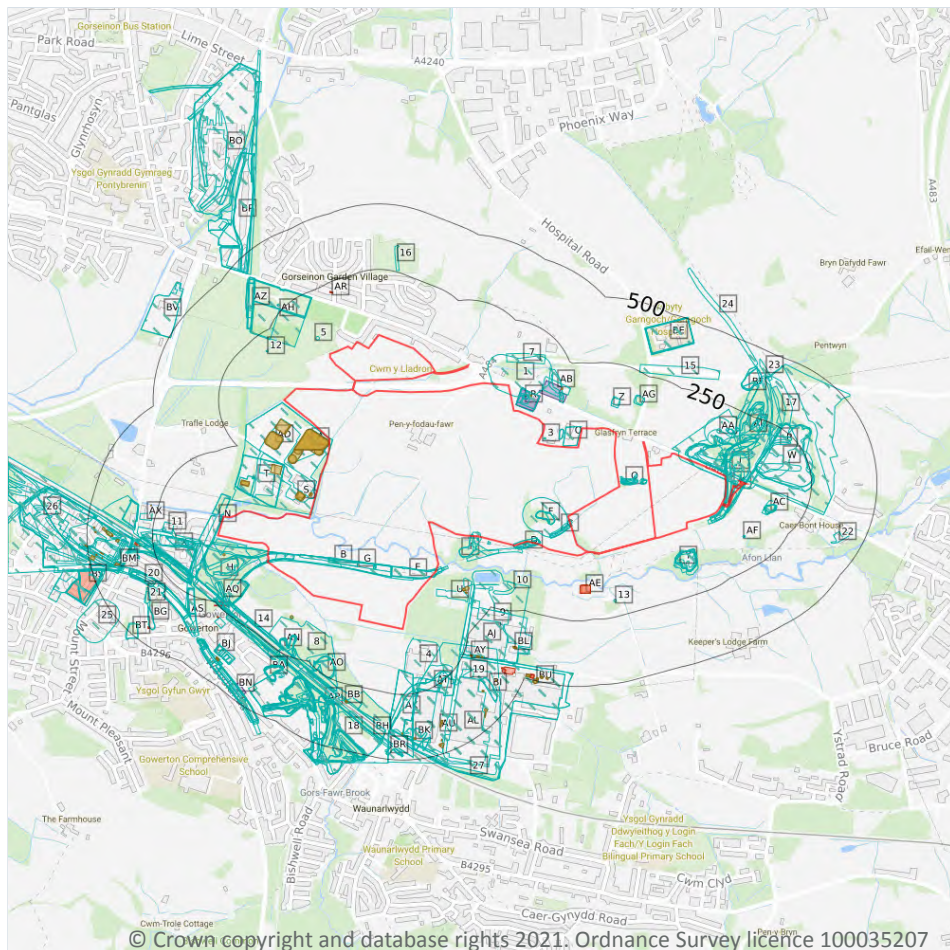


Capture Date: 24/08/2000

Site Area: 86.52ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

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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	Disused Colliery	1878	322641



ID	Location	Land use	Dates present	Group ID
2	On site	Mineral Railway Sidings	1900 - 1905	362597
A	On site	Unspecified Tanks	1988 - 1992	360388
A	On site	Sewage Works	1988	363287
A	On site	Sewage Works	1992	366351
B	On site	Railway Buildings	1948	319075
B	On site	Railway Building	1938	323421
B	On site	Railway Building	1900	339964
B	On site	Mineral Railway Sidings	1905	342935
B	On site	Railway Building	1905 - 1913	374270
C	On site	Old Coal Pit	1913	321371
C	On site	Unspecified Pit	1897	335487
C	On site	Unspecified Pits	1938	342286
C	On site	Unspecified Pits	1936	356939
D	On site	Cuttings	1878	336891
D	On site	Unspecified Ground Workings	1897	354634
D	On site	Unspecified Heap	1936	370751
D	On site	Unspecified Heap	1913	375066
D	On site	Unspecified Heap	1938	376081
D	On site	Unspecified Ground Workings	1947	376461
E	On site	Railway Sidings	1936	337507
E	On site	Mineral Railway Sidings	1938 - 1947	347038
F	On site	Unspecified Old Shaft	1913	337696
F	On site	Unspecified Heap	1938	349329
F	On site	Unspecified Heap	1938	352466
F	On site	Unspecified Heap	1936	364088
F	On site	Unspecified Heap	1947 - 1964	366385
F	On site	Unspecified Heap	1968 - 1994	367228
G	On site	Mineral Railway Sidings	1900	339236



ID	Location	Land use	Dates present	Group ID
G	On site	Railway Sidings	1936	370372
H	On site	Tin Plate Works	1905	343245
H	On site	Tin Plate Works	1900	352463
H	On site	Tin Plate Works	1948	364620
H	On site	Tin Plate Works	1913	380083
I	On site	Unspecified Heap	1936 - 1947	348503
I	On site	Unspecified Heap	1980 - 1994	351035
I	On site	Unspecified Disused Drift	1964 - 1968	369531
J	On site	Coal Pit	1878	320463
J	On site	Colliery	1936 - 1947	349362
J	On site	Mineral Railway Sidings	1938	352782
J	On site	Mineral Railway Sidings	1897 - 1913	359838
J	On site	Mineral Railway Sidings	1968	362574
J	On site	Colliery	1913	365698
J	On site	Mineral Railway Sidings	1936	369363
J	On site	Railway Sidings	1947 - 1964	379791
K	On site	Railway Building	1938	323420
K	On site	Refuse Heap	1938	351312
K	On site	Mineral Railway Sidings	1964	361736
K	On site	Refuse Heap	1947	364562
K	On site	Refuse Heap	1936	368935
L	On site	Mineral Railway Sidings	1938 - 1964	352030
L	On site	Mineral Railway Sidings	1913	355057
L	On site	Railway Sidings	1948	371264
M	On site	Railway Building	1938 - 1948	352233
M	On site	Railway Building	1900 - 1913	373560
A	1m W	Unspecified Tanks	1974	345574
N	1m W	Engine House	1878	348853



ID	Location	Land use	Dates present	Group ID
N	3m W	Engine House	1889	361447
O	3m N	Unspecified Commercial/Industrial	1994	331130
O	3m N	Unspecified Warehouse	1980	338073
P	4m N	Unspecified Disused Mine	1964 - 1968	343170
K	5m N	Railway Building	1938	323418
I	7m S	Unspecified Old Drift	1938 - 1947	366702
Q	7m E	Unspecified Heap	1964	351944
I	8m S	Unspecified Old Drift	1936	360887
Q	8m W	Unspecified Heap	1936 - 1938	347965
Q	8m E	Unspecified Ground Workings	1947	351822
J	9m N	Unspecified Ground Workings	1913	378871
Q	9m E	Unspecified Ground Workings	1913	354642
Q	9m W	Unspecified Heap	1947	357108
I	10m S	Unspecified Disused Drift	1980 - 1994	364829
Q	10m E	Unspecified Heap	1968 - 1994	364741
Q	10m W	Unspecified Heap	1964	375945
Q	10m E	Unspecified Ground Workings	1897	363052
Q	10m W	Unspecified Heap	1968	358832
J	11m N	Railway Buildings	1938	319077
Q	11m E	Unspecified Ground Workings	1938	367290
J	11m NE	Unspecified Ground Workings	1947	348749
Q	11m E	Unspecified Heap	1936	374193
I	12m S	Railway Sidings	1938 - 1947	353553
J	12m N	Unspecified Heaps	1936	363717
J	12m NE	Unspecified Heaps	1938	365221
R	13m E	Garage	1964	369573
3	13m SE	Coal Pit	1897	320464
H	13m S	Unspecified Works	1964 - 1967	346174



ID	Location	Land use	Dates present	Group ID
J	13m N	Colliery	1897	378307
A	14m W	Sewage Works	1974	374847
R	19m E	Tramway Sidings	1913	324130
R	19m E	Colliery	1913	330864
Q	19m W	Coal Pit	1878	320462
I	21m S	Mineral Railway Sidings	1913	332670
H	23m W	Tin Plate Works	1936 - 1938	344012
O	28m N	Unspecified Heap	1936 - 1947	365089
R	29m N	Garage	1968 - 1994	376334
O	30m N	Unspecified Heap	1913	362005
J	33m N	Unspecified Heap	1897	326967
H	34m W	Railway Sidings	1936	372731
J	38m N	Unspecified Ground Workings	1968 - 1994	346121
S	38m W	Unspecified Tanks	1974 - 1992	352884
J	38m NE	Unspecified Shaft	1878	322448
T	42m N	Sewage Works	1948	348424
T	42m N	Sewage Works	1938	361975
R	42m E	Refuse Heap	1947	338796
R	43m E	Gravel Pit	1938	328653
Q	44m W	Engine House	1878	320393
T	44m N	Corporation Sewage Works	1936	326341
U	47m SE	Sludge Beds	1980 - 1994	360261
J	49m NE	Cuttings	1936 - 1938	375514
Q	51m W	Unspecified Shaft	1878	322445
J	52m NE	Cuttings	1964 - 1968	352237
J	52m NE	Unspecified Pit	1980 - 1994	362872
4	53m SE	Refuse Heap	1992 - 1994	367553
J	55m NE	Engine House	1878	320392



ID	Location	Land use	Dates present	Group ID
H	60m S	Unspecified Disused Tip	1988 - 1992	363397
T	60m N	Unspecified Works	1964	320876
T	60m N	Sewage Works	1967	378674
W	62m NE	Refuse Heap	1947	375368
W	62m NE	Refuse Heap	1936	360742
J	65m NE	Refuse Heap	1938	339694
W	67m NE	Unspecified Heaps	1964	322256
W	68m NE	Refuse Heap	1938	355651
5	70m NW	Unspecified Pit	1878	335489
X	70m SW	Iron Foundry	1905 - 1913	351170
X	71m W	Corn Mill	1878	377276
Y	73m S	Unspecified Ground Workings	1897	333527
Y	75m S	Unspecified Heap	1980 - 1994	340272
Y	78m S	Unspecified Heap	1964	340803
Y	79m S	Unspecified Heap	1913 - 1936	351229
6	80m NE	Unspecified Ground Workings	1913	333636
Y	81m S	Unspecified Heap	1947	362221
X	83m SW	Unspecified Works	1974	320880
Y	83m S	Unspecified Heap	1938	378700
J	84m NE	Unspecified Heap	1897	326968
Z	87m N	Unspecified Ground Workings	1913	333530
Y	88m S	Disused Colliery	1878	322642
7	89m N	Cuttings	1994	336889
AA	89m NE	Unspecified Shaft	1936	356341
X	90m SW	Unspecified Heap	1974	366212
X	92m W	Unspecified Ground Workings	1936	376604
X	94m W	Unspecified Heap	1948	368174
X	94m W	Unspecified Heap	1938	361056



ID	Location	Land use	Dates present	Group ID
Z	95m N	Unspecified Works	1980 - 1994	375564
X	100m SW	Iron Foundry	1900	373460
8	102m S	Colliery	1913	330846
X	103m SW	Corn Mill	1889	341063
X	104m SW	Unspecified Industrial/Commercial	1936	320563
AB	105m NE	Unspecified Heap	1878	326969
X	107m SW	Unspecified Heap	1913	326887
9	109m S	Unspecified Works	1968	362328
AB	110m NE	Garage	1980 - 1994	350835
AC	110m SE	Colliery	1913	330865
U	110m E	Refuse Heap	1980	338759
AC	113m SE	Unspecified Heap	1913	354063
L	113m SW	Unspecified Tank	1938	319913
AC	113m SE	Unspecified Heap	1936	348808
AC	113m SE	Unspecified Heap	1947	359313
AD	113m SW	Unspecified Tanks	1974 - 1992	376454
AC	114m SE	Unspecified Heap	1968 - 1994	346690
AB	114m NE	Unspecified Quarry	1897 - 1913	374585
AC	114m SE	Unspecified Heap	1938	374623
X	116m W	Unspecified Ground Workings	1913	376299
AC	116m SE	Unspecified Heap	1964	342926
U	121m SE	Unspecified Tank	1964 - 1968	379478
J	122m NE	Unspecified Pit	1968 - 1994	340913
T	126m N	Pump House	1948	369470
T	126m N	Pump House	1938	345388
AF	127m SE	Old Coal Pit	1913	321370
T	128m N	Pump House	1936	346090
AF	128m SE	Unspecified Old Pit	1936 - 1947	339482



ID	Location	Land use	Dates present	Group ID
AG	135m NE	Unspecified Ground Workings	1913	333529
AH	136m W	Cemetery	1967 - 1992	345255
AA	138m NE	Unspecified Shaft	1938	367663
AI	139m NE	Refuse Heaps	1936	349815
10	140m S	Gravel Pit	1968	328651
AG	141m NE	Unspecified Works	1980 - 1994	357727
AI	143m NE	Refuse Heaps	1938	339868
AJ	147m E	Unspecified Works	1964	378118
AA	153m NE	Unspecified Shaft	1947	353247
AA	155m NE	Refuse Heap	1936	378027
AA	156m NE	Refuse Heap	1938	371286
AK	156m S	Unspecified Works	1974	372920
AL	156m S	Unspecified Works	1980	339373
AL	156m S	Unspecified Works	1988	339374
AA	158m NE	Unspecified Disused Shaft	1980 - 1994	340330
AM	159m SE	Metal Works	1947	318672
AJ	160m E	Unspecified Commercial/Industrial	1994	331129
AN	166m SW	Unspecified Heap	1948	357232
AN	166m SW	Unspecified Heap	1913	373010
AH	166m NW	Cemetery	1964	379548
AH	168m NW	Cemetery	1936 - 1938	351257
AO	168m SW	Unspecified Slant	1913	337786
AP	169m S	Railway Sidings	1878 - 1967	368751
AN	171m SW	Unspecified Heap	1967 - 1992	368369
AN	172m SW	Unspecified Heap	1936	367059
AH	172m NW	Burial Ground	1913	331045
AH	172m NW	Cemetery	1948	350722
AN	173m SW	Unspecified Heap	1964	364060



ID	Location	Land use	Dates present	Group ID
AN	174m SW	Unspecified Heap	1938	343381
11	174m W	Unspecified Disused Mill	1913	329056
AM	175m SE	Unspecified Works	1964 - 1967	368204
AQ	176m S	Railway Sidings	1889	354942
AA	177m NE	Drift	1936	371114
AA	177m NE	Drift	1947	369186
AJ	177m SE	Unspecified Factory	1980	320633
AA	178m NE	Unspecified Drift	1938	326299
12	178m NW	Old Coal Pit	1900 - 1905	366944
X	178m SW	Mineral Railway Sidings	1905	357952
AQ	179m S	Railway Sidings	1878	348315
X	181m SW	Cuttings	1913	347441
X	181m SW	Mineral Railway Sidings	1913	349088
X	181m SW	Cuttings	1964 - 1992	358569
X	182m SW	Cuttings	1878 - 1889	346002
AO	183m SW	Unspecified Heap	1938 - 1948	372899
X	183m SW	Cuttings	1938	346740
X	183m SW	Railway Sidings	1938 - 1948	371953
X	183m SW	Cuttings	1948	363074
X	183m SW	Cuttings	1878	353035
AO	183m SW	Unspecified Ground Workings	1974 - 1988	360242
AO	184m SW	Unspecified Heap	1936	354315
AQ	184m SW	Cuttings	1913	371289
AQ	184m S	Railway Sidings	1948	377173
13	185m S	Unspecified Tank	1964	319910
AQ	187m SW	Cuttings	1948	343359
AO	187m SW	Unspecified Heap	1992	357379
AQ	187m SW	Cuttings	1938	353434



ID	Location	Land use	Dates present	Group ID
P	188m NE	Unspecified Heap	1897	326970
X	189m SW	Railway Sidings	1948	358781
X	193m SW	Mineral Railway Sidings	1900	360758
X	195m SW	Railway Sidings	1936	364054
AI	201m N	Unspecified Heap	1964	326966
AI	202m N	Unspecified Ground Workings	1968	333633
AI	202m N	Unspecified Disused Drift	1980 - 1994	355324
X	208m SW	Cuttings	1948	342042
14	208m SW	Railway Sidings	1936	373303
AS	213m SW	Cuttings	1936	379206
AT	214m S	Gravel Pit	1968	328652
AN	214m SW	Railway Sidings	1900	371458
AT	215m S	Refuse Heap	1964	363508
AK	216m S	Refuse Heap	1988	344288
AK	216m S	Refuse Heap	1974	373502
X	219m W	Railway Sidings	1967	356858
X	219m W	Railway Sidings	1964	371904
AU	221m SE	Railway Sidings	1947	378009
AV	222m SW	Cuttings	1948	359307
AV	222m SW	Cuttings	1913	369239
AV	223m SW	Cuttings	1938	363977
AQ	225m SW	Cuttings	1913	336885
AW	225m SW	Cuttings	1889	366327
AW	226m SW	Cuttings	1878	379303
AV	228m SW	Railway Sidings	1878 - 1964	362226
AN	231m SW	Railway Building	1905	323432
AL	233m S	Unspecified Works	1994	339316
AL	233m S	Unspecified Works	1992	339317



ID	Location	Land use	Dates present	Group ID
X	236m W	Cuttings	1878	354925
AQ	237m SW	Railway Station	1974 - 1992	374228
AQ	237m SW	Railway Station	1900	363115
AQ	237m SW	Railway Sidings	1936	372124
AU	237m S	Unspecified Works	1968	357417
X	237m W	Cuttings	1889	361322
AQ	237m SW	Railway Building	1900 - 1913	344958
AQ	237m SW	Railway Station	1889	360428
AQ	237m SW	Railway Station	1964 - 1967	349841
AW	239m SW	Railway Sidings	1936	367635
AQ	240m SW	Railway Station	1878	365773
AQ	240m SW	Railway Station	1905 - 1913	374229
AQ	242m SW	Railway Station	1938 - 1948	340666
AQ	244m SW	Railway Building	1913	323429
AQ	244m SW	Railway Buildings	1938 - 1948	359628
15	247m NE	Cuttings	1994	336890
AN	247m S	Railway Building	1878	323431
AN	251m SW	Railway Sidings	1889	351119
AQ	252m SW	Railway Building	1964	323430
AP	253m SW	Railway Sidings	1936	342244
16	255m N	Unspecified Ground Workings	1988 - 1992	348991
AN	258m SW	Railway Building	1936	359976
X	258m W	Cuttings	1878	349694
AN	260m SW	Railway Buildings	1938 - 1948	355844
17	260m NE	Unspecified Ground Workings	1913	333632
AX	260m W	Disused Chemical Works	1905	337992
18	263m S	Colliery	1878 - 1889	379571
AN	264m SW	Railway Building	1964	342651



ID	Location	Land use	Dates present	Group ID
AN	264m SW	Railway Building	1913	323355
AW	266m SW	Cattle Pens	1936	331095
AH	268m NW	Old Coal Pit	1900 - 1905	364707
AN	268m SW	Unspecified Heap	1913	326877
AP	277m S	Disused Colliery	1900 - 1905	353217
X	277m W	Unspecified Heap	1913	326886
AS	279m SW	Cuttings	1948	358879
AS	279m SW	Cuttings	1913	364682
AS	279m SW	Cuttings	1938	355580
AP	279m S	Disused Colliery	1913	374715
AS	280m SW	Cuttings	1878 - 1889	365613
AS	280m SW	Cuttings	1992	362819
AQ	280m SW	Telephone Exchange	1974 - 1992	367980
AZ	281m NW	Cuttings	1878	352197
AS	281m SW	Cuttings	1878	356761
AS	283m SW	Cuttings	1964	375384
AS	283m SW	Cuttings	1967	375529
AL	284m SE	Unspecified Works	1968	369787
AZ	285m NW	Cuttings	1889	360948
AZ	288m NW	Cuttings	1878	345264
AP	290m S	Railway Sidings	1889	363260
19	291m SE	Unspecified Pit	1964	335482
BA	294m SW	Unspecified Heap	1900	369218
BA	295m SW	Unspecified Ground Workings	1936	333511
BA	295m SW	Unspecified Heap	1948	362704
BA	295m SW	Unspecified Heap	1905 - 1913	374249
BA	298m SW	Unspecified Heap	1938	357704
BA	298m SW	Unspecified Heap	1938	379447



ID	Location	Land use	Dates present	Group ID
BA	299m SW	Unspecified Heap	1974 - 1992	347795
BA	300m SW	Unspecified Heap	1964 - 1967	353107
20	305m SW	Railway Sidings	1936	369360
AP	306m SW	Railway Building	1938 - 1948	348619
AP	309m S	Unspecified Ground Workings	1900	365648
BB	309m S	Railway Building	1938 - 1948	351513
BB	309m S	Unspecified Tank	1913	319911
X	311m W	Unspecified Heap	1948	365024
X	312m W	Unspecified Heap	1936	343438
AP	312m S	Unspecified Heaps	1948	350946
AP	312m S	Unspecified Heaps	1905 - 1913	377963
X	312m W	Unspecified Heap	1938	347145
AP	312m SW	Unspecified Ground Workings	1938	339245
AP	312m SW	Unspecified Ground Workings	1938	339246
AP	312m SW	Unspecified Ground Workings	1936	339247
AP	313m SW	Unspecified Ground Workings	1936	344382
AP	313m SW	Unspecified Heap	1974	340932
BC	313m W	Disused Chemical Works	1878	343177
AP	314m SW	Unspecified Heaps	1988 - 1992	341965
BB	314m S	Unspecified Tank	1936 - 1938	358838
AP	315m SW	Unspecified Heap	1964 - 1967	373970
BC	315m W	Disused Chemical Works	1889	366983
BB	316m S	Unspecified Tank	1948	349351
BB	316m S	Unspecified Tank	1913	368565
BC	316m W	Disused Chemical Works	1878	363520
BC	318m W	Disused Chemical Works	1900	374811
X	321m W	Railway Sidings	1936	339861
X	321m W	Steel Works	1936	358839



ID	Location	Land use	Dates present	Group ID
AZ	321m NW	Cuttings	1913	368941
X	323m W	Steel Works	1900	378411
X	323m W	Steel Works	1905 - 1913	363366
BD	323m SW	Unspecified Heaps	1913	359209
BD	323m SW	Unspecified Heaps	1948	363995
X	324m W	Disused Steel Works	1878	366274
X	325m W	Disused Steel Works	1889	341712
X	327m W	Unspecified Works	1964	352267
X	327m W	Steel Works	1938 - 1948	371380
BD	327m S	Unspecified Ground Workings	1900	373037
BE	327m NE	Hospital	1964	341177
BE	328m NE	Hospital	1968 - 1994	344260
BD	328m S	Unspecified Disused Tip	1988	332844
X	328m W	Unspecified Works	1967 - 1974	345499
BD	329m S	Unspecified Heaps	1905	371941
BF	330m NE	Unspecified Heap	1964	364058
BE	332m NE	Isolation Hospital	1936	342104
BE	332m NE	Isolation Hospital	1947	372277
BF	333m NE	Unspecified Heap	1980 - 1994	349386
BE	333m NE	Isolation Hospital	1913	343222
BG	333m SW	Unspecified Heaps	1878 - 1889	347797
BD	333m S	Unspecified Heap	1974	340956
BE	333m NE	Isolation Hospital	1938	340257
BD	334m S	Unspecified Ground Workings	1964	369613
BD	334m S	Unspecified Heap	1967	370127
BF	334m NE	Unspecified Ground Workings	1913	346771
BF	334m NE	Unspecified Ground Workings	1947	379583
BF	335m NE	Unspecified Heaps	1938	347503



ID	Location	Land use	Dates present	Group ID
BF	335m NE	Unspecified Heap	1936	342318
AP	336m S	Unspecified Heap	1878 - 1889	357870
AZ	340m NW	Cuttings	1974	364936
21	341m SW	Unspecified Heap	1878	326878
AZ	341m NW	Cuttings	1964 - 1967	364978
X	346m W	Railway Sidings	1878	348319
BH	347m S	Railway Sidings	1878	379187
AP	348m SW	Unspecified Heap	1878	339679
AP	349m SW	Unspecified Heap	1889	365674
X	350m W	Boiler	1889	320450
BI	351m SE	Refuse Heap	1964	338751
X	354m W	Railway Sidings	1889	359935
BI	356m SE	Gravel Pit	1968	328650
AP	357m S	Unspecified Tanks	1878 - 1889	342689
AP	357m S	Unspecified Tank	1878	319916
AP	357m SW	Unspecified Heap	1878	356566
AP	357m SW	Unspecified Ground Workings	1889	341118
BJ	360m SW	Police Station	1905	356977
BJ	364m SW	Police Station	1936	351928
BJ	365m SW	Police Station	1900	372874
BJ	366m SW	Police Station	1938	344731
BJ	366m SW	Police Station	1948	368235
X	367m W	Refuse Heap	1913	338760
BJ	368m SW	Police Station	1913	375477
AP	373m S	Unspecified Tank	1878	319902
BJ	376m SW	Police Station	1992	362498
BJ	377m SW	Police Station	1974 - 1988	365234
X	378m W	Unspecified Tank	1974	368985



ID	Location	Land use	Dates present	Group ID
BH	378m S	Unspecified Pit	1974	335481
BJ	378m SW	Police Station	1964 - 1967	379901
BK	380m S	Unspecified Heaps	1938	353878
BG	380m SW	Unspecified Heap	1878	326879
BK	381m S	Unspecified Heap	1936	326875
BJ	382m S	Railway Building	1938 - 1948	353984
BJ	383m SW	Railway Station	1889	346075
BJ	383m SW	Railway Station	1900	363029
X	384m W	Unspecified Tank	1938	346018
BJ	385m SW	Railway Station	1905	366406
BJ	385m SW	Railway Station	1878	373965
BJ	385m SW	Railway Station	1936	341028
BJ	385m SW	Railway Station	1913	361317
BJ	385m SW	Railway Station	1938 - 1964	360075
AP	387m SW	Cuttings	1878 - 1889	366284
22	387m SE	Unspecified Factory	1897	320635
BK	387m S	Railway Sidings	1974	349828
AP	388m SW	Cuttings	1878	342709
AP	389m SW	Unspecified Tank	1889	319914
BJ	393m SW	Cuttings	1889	363381
BJ	394m SW	Cuttings	1878	370848
BJ	395m SW	Cuttings	1878	366395
BJ	396m SW	Cuttings	1913	370289
AP	398m S	Unspecified Tank	1878	319915
23	399m N	Unspecified Pit	1913	335488
BJ	407m SW	Railway Building	1938 - 1948	368871
BJ	408m SW	Unspecified Tank	1913	319917
X	409m W	Unspecified Tank	1936	319912



ID	Location	Land use	Dates present	Group ID
BJ	410m SW	Railway Buildings	1905	319060
BJ	416m SW	Railway Building	1948	323356
AP	419m SW	Smithy	1878 - 1889	369518
AP	419m SW	Smithy	1878	356066
X	421m W	Unspecified Ground Workings	1878	333531
BJ	421m SW	Cuttings	1938 - 1948	347533
BN	422m SW	Railway Sidings	1900	365433
BN	424m SW	Railway Sidings	1905	376050
BK	425m S	Unspecified Pit	1938	349818
BD	427m S	Unspecified Heap	1878	356074
BN	427m SW	Railway Sidings	1936	370018
BK	428m S	Unspecified Pit	1936	379996
24	428m NE	Cuttings	1913	336888
BO	428m NW	Unspecified Works	1964	379815
BN	430m SW	Railway Sidings	1948	359028
BN	431m SW	Railway Sidings	1913	364834
BN	432m SW	Railway Sidings	1938	372383
BD	432m S	Unspecified Heap	1878 - 1889	371395
BO	441m NW	Railway Sidings	1938	343637
BP	441m NW	Abattoir	1938	338022
BO	442m NW	Steel Works	1948	345471
BO	442m NW	Railway Sidings	1948	369809
BP	442m NW	Tin Plate Works	1948	361584
BP	442m NW	Tin Plate Works	1913	368831
BD	446m S	Unspecified Pit	1974	335480
BR	447m S	Furnace	1878	321756
X	449m W	Chimneys	1967 - 1974	375938
BS	452m W	Brick Field	1889	368315



ID	Location	Land use	Dates present	Group ID
BN	453m SW	Railway Sidings	1878	362219
BO	453m NW	Railway Sidings	1936	364464
BS	454m W	Gas Works	1913	321787
BS	454m W	Brick Field	1878	355110
BT	455m SW	Burial Ground	1878 - 1889	377779
BT	456m SW	Burial Ground	1878	351597
BS	456m W	Unspecified Disused Works	1974	326419
BR	456m S	Unspecified Heap	1936	375866
BS	457m W	Unspecified Commercial/Industrial	1948	369898
BO	457m NW	Railway Sidings	1913	361755
BR	457m S	Unspecified Heap	1947	360380
BR	457m S	Unspecified Ground Workings	1938	378405
BS	457m W	Unspecified Commercial/Industrial	1964	371751
BS	457m W	Unspecified Commercial/Industrial	1938	358600
BS	458m W	Unspecified Commercial/Industrial	1936	379615
BS	458m W	Unspecified Works	1967	366554
BS	458m W	Unspecified Works	1988 - 1992	371823
AP	460m S	Sawmill	1878 - 1889	379429
AP	460m S	Sawmill	1878	362590
BR	463m S	Old Lime Kiln	1913	332123
BS	467m W	Unspecified Kiln	1878 - 1889	363293
BS	467m W	Unspecified Kiln	1878	377890
25	473m SW	Smithy	1905	332467
26	477m W	Manure Works	1938	364109
BU	491m S	Unspecified Tank	1980 - 1994	372495
BV	495m NW	Unspecified Factory	1974	350801
BV	495m NW	Unspecified Factory	1988 - 1992	364144
27	495m S	Unspecified Ground Workings	1964	333516



ID	Location	Land use	Dates present	Group ID
X	497m W	Chimneys	1967 - 1974	342562
BS	499m W	Unspecified Kiln	1889	356367

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

76

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
A	2m W	Tanks	1984	40116
A	3m W	Tanks	1995	41267
A	5m W	Tanks	1991	40551
S	13m W	Tanks	1993	41685
S	17m W	Tanks	1988	44657
A	20m W	Tanks	1993	39438
A	24m W	Unspecified Tank	1988	40797
S	37m W	Tanks	1993	43835
S	42m W	Tanks	1988	43894
V	58m SW	Tanks	1984	41332
V	61m SW	Tanks	1991	43415
H	64m S	Unspecified Tank	1958 - 1965	41677
R	71m N	Unspecified Tank	1946	37758
T	95m N	Tanks	1965	39441
T	97m N	Settling Tanks	1935	39841
A	97m W	Tanks	1993	39437



ID	Location	Land use	Dates present	Group ID
A	100m W	Unspecified Tank	1988	44129
A	108m NW	Unspecified Tank	1988	41379
L	110m SW	Unspecified Tank	1935	37765
AD	115m SW	Tanks	1984 - 1995	41222
AD	117m SW	Tanks	1991	42275
U	122m SE	Unspecified Tank	1958 - 1990	40651
U	123m SE	Tanks	1993	39434
U	138m SE	Unspecified Tank	1986 - 1993	44525
U	140m SE	Unspecified Tank	1958 - 1971	43522
AB	143m NE	Unspecified Tank	1988 - 1992	41364
A	151m N	Tanks	1965	39440
AT	249m SE	Unspecified Tank	1990 - 1993	42404
AX	275m W	Unspecified Tank	1879	37793
AY	276m E	Tanks	1971 - 1993	44263
AY	299m E	Tanks	1971 - 1990	43608
AY	302m E	Tanks	1993	40530
BB	310m S	Unspecified Tank	1935 - 1965	44536
BB	313m S	Unspecified Tank	1916	41766
AY	319m E	Unspecified Tank	1971	37759
X	377m W	Unspecified Tank	1965	37792
AU	378m SE	Tanks	1971 - 1982	42914
AU	379m SE	Tanks	1986	42199
BI	383m SE	Unspecified Tank	1971 - 1986	41844
BL	385m S	Unspecified Tank	1990	37761
BL	389m S	Unspecified Tank	1993	37760
BM	392m W	Unspecified Tank	1916	37779
AU	392m S	Tanks	1971 - 1982	40893
AU	393m S	Tanks	1986	44289



ID	Location	Land use	Dates present	Group ID
BM	394m W	Tanks	1935	39443
BK	397m S	Unspecified Tank	1965	37766
X	401m W	Unspecified Tank	1935	43030
X	401m W	Unspecified Tank	1958 - 1965	44508
X	403m W	Tanks	1965	39447
BI	404m SE	Tanks	1971	39423
BJ	406m SW	Unspecified Tank	1916 - 1935	41868
BJ	409m SW	Unspecified Tank	1958	42705
BK	417m S	Unspecified Tank	1971	37767
X	427m W	Tanks	1965	39446
AL	437m SE	Unspecified Tank	1990 - 1993	42746
X	443m W	Tanks	1879	39445
BQ	445m S	Unspecified Tank	1971	37768
AL	448m SE	Tanks	1971	39424
X	449m W	Unspecified Tank	1958	37780
BQ	461m S	Tanks	1971 - 1994	42857
BQ	462m S	Unspecified Tank	1982	37769
X	465m W	Unspecified Tank	1958	37794
X	468m W	Unspecified Tank	1958	37781
X	471m W	Unspecified Tank	1958	37795
X	472m W	Unspecified Tank	1935	37789
X	475m W	Unspecified Tank	1965	37783
BU	477m S	Unspecified Tank	1986 - 1990	42443
BU	477m S	Unspecified Tank	1986 - 1990	42736
BU	479m S	Unspecified Tank	1993	40858
BU	480m S	Unspecified Tank	1993	41194
BU	481m S	Unspecified Tank	1986 - 1990	42826
BU	482m S	Unspecified Tank	1993	42553



ID	Location	Land use	Dates present	Group ID
BU	487m S	Unspecified Tank	1986 - 1993	41624
BU	496m S	Unspecified Tank	1986 - 1990	41573
BU	498m S	Unspecified Tank	1993	41930
X	500m W	Unspecified Tank	1935	37788

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

17

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
AE	113m S	Electricity Substation	1971 - 1990	21507
AE	115m S	Electricity Substation	1993	21174
AR	207m NW	Electricity Substation	1995	23231
AR	212m NW	Electricity Substation	1991	21933
AQ	281m SW	Electricity Substation	1993	20768
AQ	282m SW	Electricity Substation	1988	22176
X	297m W	Electricity Substation	1986 - 1990	21793
X	309m W	Electricity Substation	1998	23116
BI	405m E	Electricity Substation	1986 - 1990	20380
BI	412m E	Electricity Substation	1993	22295
BG	436m SW	Electricity Substation	1986 - 1998	20218
BS	458m W	Disused Gas Works	1965	19705
BN	463m SW	Electricity Substation	1988	20752
BN	471m SW	Electricity Substation	1993	19164



ID	Location	Land use	Dates present	Group ID
BU	478m S	Electricity Substation	1986 - 1990	21027
BU	480m S	Electricity Substation	1993	21828
BS	491m W	Gas Governor	1986 - 1998	22153

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

4

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'.

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

ID	Location	Land use	Dates present	Group ID
R	13m E	Garage	1988 - 1992	7778
R	13m E	Garage	1946	7069
AB	96m N	Garage	1988 - 1992	7573
BN	438m SW	Garage	1965	6627

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

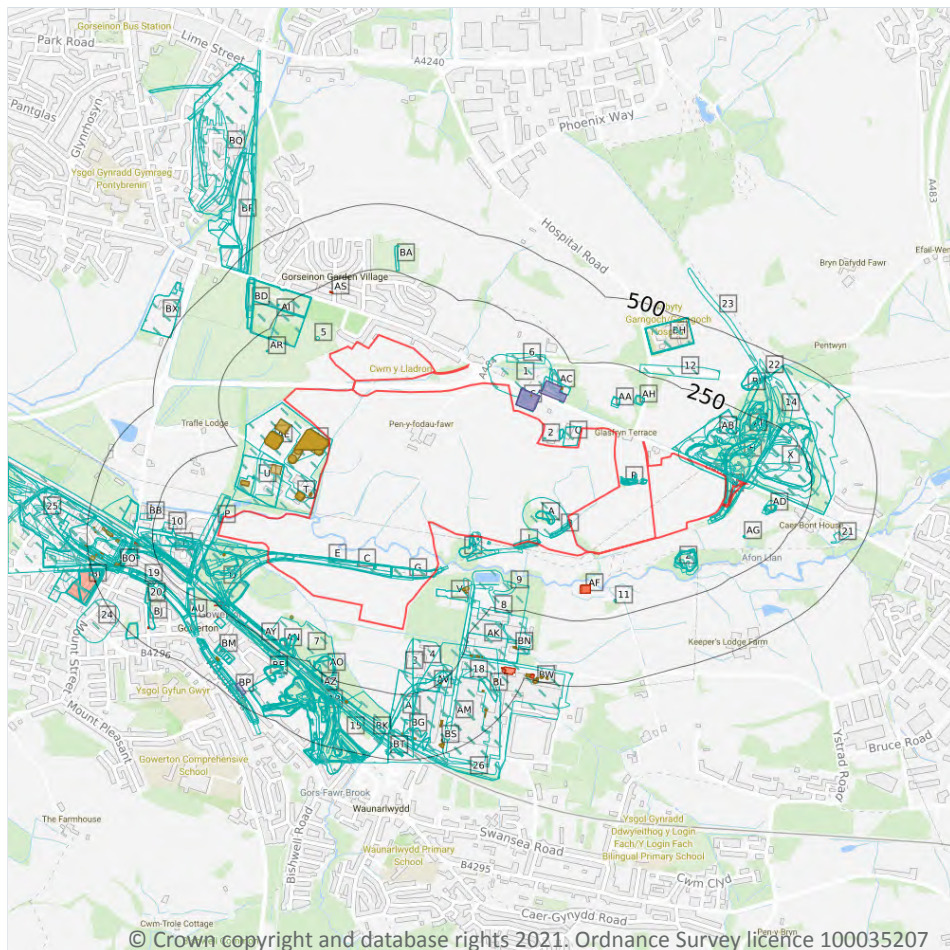
0

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
- Historical garages

2.1 Historical industrial land uses

Records within 500m

653

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 37**

ID	Location	Land Use	Date	Group ID
1	On site	Disused Colliery	1878	322641
A	On site	Unspecified Old Shaft	1913	337696
A	On site	Unspecified Heap	1994	367228



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1964	366385
A	On site	Unspecified Heap	1936	364088
A	On site	Unspecified Heap	1947	366385
A	On site	Unspecified Heap	1980	367228
A	On site	Unspecified Heap	1968	367228
A	On site	Unspecified Heap	1938	349329
A	On site	Unspecified Heap	1938	352466
B	On site	Old Coal Pit	1913	321371
B	On site	Unspecified Pit	1897	335487
B	On site	Unspecified Pits	1936	356939
B	On site	Unspecified Pits	1938	342286
B	On site	Unspecified Pits	1938	342286
C	On site	Mineral Railway Sidings	1900	339236
C	On site	Railway Sidings	1936	370372
D	On site	Mineral Railway Sidings	1900	362597
D	On site	Tin Plate Works	1900	352463
D	On site	Tin Plate Works	1948	364620
D	On site	Tin Plate Works	1913	380083
D	On site	Tin Plate Works	1905	343245
E	On site	Railway Building	1900	339964
E	On site	Railway Buildings	1948	319075
E	On site	Railway Building	1913	374270
E	On site	Mineral Railway Sidings	1905	342935
E	On site	Railway Building	1905	374270
E	On site	Railway Building	1938	323421
F	On site	Railway Building	1900	373560
F	On site	Railway Building	1948	352233
F	On site	Railway Building	1913	373560



ID	Location	Land Use	Date	Group ID
F	On site	Railway Building	1905	373560
F	On site	Railway Building	1938	352233
G	On site	Mineral Railway Sidings	1913	355057
G	On site	Mineral Railway Sidings	1964	352030
G	On site	Railway Sidings	1936	337507
G	On site	Mineral Railway Sidings	1947	347038
G	On site	Mineral Railway Sidings	1938	347038
H	On site	Mineral Railway Sidings	1897	359838
H	On site	Colliery	1947	349362
H	On site	Coal Pit	1878	320463
H	On site	Mineral Railway Sidings	1936	369363
H	On site	Railway Sidings	1947	379791
H	On site	Mineral Railway Sidings	1968	362574
H	On site	Mineral Railway Sidings	1938	352782
H	On site	Colliery	1913	365698
I	On site	Unspecified Ground Workings	1897	354634
I	On site	Unspecified Heap	1913	375066
I	On site	Cuttings	1878	336891
I	On site	Unspecified Heap	1936	370751
I	On site	Unspecified Ground Workings	1947	376461
I	On site	Unspecified Heap	1938	376081
I	On site	Unspecified Heap	1938	376081
J	On site	Railway Sidings	1948	371264
J	On site	Mineral Railway Sidings	1913	355057
J	On site	Mineral Railway Sidings	1938	352030
K	On site	Mineral Railway Sidings	1905	362597
L	On site	Unspecified Tanks	1992	360388
L	On site	Sewage Works	1992	366351



ID	Location	Land Use	Date	Group ID
L	On site	Unspecified Tanks	1988	360388
L	On site	Sewage Works	1988	363287
M	On site	Unspecified Heap	1994	351035
M	On site	Unspecified Disused Drift	1964	369531
M	On site	Unspecified Heap	1936	348503
M	On site	Unspecified Heap	1947	348503
M	On site	Unspecified Heap	1980	351035
M	On site	Unspecified Disused Drift	1968	369531
N	On site	Mineral Railway Sidings	1964	361736
N	On site	Refuse Heap	1936	368935
N	On site	Refuse Heap	1947	364562
N	On site	Refuse Heap	1938	351312
N	On site	Railway Building	1938	323420
N	On site	Refuse Heap	1938	351312
O	On site	Mineral Railway Sidings	1964	352030
L	1m W	Unspecified Tanks	1974	345574
P	1m W	Engine House	1878	348853
P	3m W	Engine House	1889	361447
Q	3m N	Unspecified Commercial/Industrial	1994	331130
Q	3m N	Unspecified Warehouse	1980	338073
P	4m W	Engine House	1878	348853
H	4m N	Unspecified Disused Mine	1964	343170
H	4m N	Railway Sidings	1964	379791
N	5m N	Railway Building	1938	323418
M	7m S	Unspecified Old Drift	1938	366702
M	7m S	Unspecified Old Drift	1938	366702
R	7m E	Unspecified Heap	1964	351944
H	7m N	Mineral Railway Sidings	1913	359838



ID	Location	Land Use	Date	Group ID
M	8m S	Unspecified Old Drift	1936	360887
M	8m S	Unspecified Old Drift	1947	366702
R	8m E	Unspecified Ground Workings	1947	351822
R	8m W	Unspecified Heap	1938	347965
R	8m W	Unspecified Heap	1938	347965
R	9m W	Unspecified Heap	1936	347965
H	9m N	Unspecified Ground Workings	1913	378871
R	9m E	Unspecified Ground Workings	1913	354642
H	9m N	Colliery	1936	349362
R	9m W	Unspecified Heap	1947	357108
H	9m N	Colliery	1938	349362
H	9m N	Colliery	1938	349362
M	10m S	Unspecified Disused Drift	1994	364829
M	10m S	Unspecified Disused Drift	1980	364829
R	10m E	Unspecified Heap	1994	364741
R	10m E	Unspecified Heap	1980	364741
R	10m E	Unspecified Heap	1968	364741
R	10m W	Unspecified Heap	1964	375945
R	10m E	Unspecified Ground Workings	1897	363052
R	10m W	Unspecified Heap	1968	358832
H	11m N	Railway Buildings	1938	319077
R	11m E	Unspecified Ground Workings	1938	367290
R	11m E	Unspecified Ground Workings	1938	367290
H	11m NE	Unspecified Ground Workings	1947	348749
R	11m E	Unspecified Heap	1936	374193
M	12m S	Railway Sidings	1947	353553
H	12m N	Unspecified Heaps	1936	363717
H	12m NE	Unspecified Heaps	1938	365221



ID	Location	Land Use	Date	Group ID
H	12m NE	Unspecified Heaps	1938	365221
S	13m E	Garage	1964	369573
2	13m SE	Coal Pit	1897	320464
D	13m S	Unspecified Works	1964	346174
H	13m N	Colliery	1897	378307
L	14m W	Sewage Works	1974	374847
S	19m E	Colliery	1913	330864
S	19m E	Tramway Sidings	1913	324130
R	19m W	Coal Pit	1878	320462
M	21m S	Mineral Railway Sidings	1913	332670
D	23m W	Tin Plate Works	1936	344012
Q	28m N	Unspecified Heap	1936	365089
Q	28m N	Unspecified Heap	1947	365089
S	29m N	Garage	1994	376334
S	29m N	Garage	1980	376334
S	29m N	Garage	1968	376334
Q	30m N	Unspecified Heap	1913	362005
M	30m S	Unspecified Heap	1938	348503
M	30m S	Unspecified Heap	1938	348503
Q	31m N	Unspecified Heap	1938	365089
Q	31m N	Unspecified Heap	1938	365089
H	33m N	Unspecified Heap	1897	326967
D	34m W	Railway Sidings	1936	372731
M	36m S	Railway Sidings	1938	353553
D	37m SW	Tin Plate Works	1938	344012
H	38m N	Unspecified Ground Workings	1994	346121
H	38m N	Unspecified Ground Workings	1980	346121
H	38m N	Unspecified Ground Workings	1968	346121

ID	Location	Land Use	Date	Group ID
T	38m W	Unspecified Tanks	1992	352884
T	38m W	Unspecified Tanks	1988	352884
T	38m W	Unspecified Tanks	1974	352884
H	38m NE	Unspecified Shaft	1878	322448
U	42m N	Sewage Works	1948	348424
U	42m N	Sewage Works	1938	361975
U	42m N	Sewage Works	1938	361975
S	42m E	Refuse Heap	1947	338796
S	43m E	Gravel Pit	1938	328653
R	44m W	Engine House	1878	320393
U	44m N	Corporation Sewage Works	1936	326341
V	47m SE	Sludge Beds	1994	360261
V	47m SE	Sludge Beds	1980	360261
H	49m NE	Cuttings	1936	375514
R	51m W	Unspecified Shaft	1878	322445
H	52m NE	Cuttings	1968	352237
H	52m NE	Unspecified Pit	1994	362872
H	52m NE	Unspecified Pit	1980	362872
3	53m SE	Refuse Heap	1992	367553
4	54m SE	Refuse Heap	1994	367553
H	55m NE	Engine House	1878	320392
D	60m S	Unspecified Disused Tip	1992	363397
D	60m S	Unspecified Disused Tip	1988	363397
H	60m NE	Cuttings	1964	352237
U	60m N	Unspecified Works	1964	320876
U	60m N	Sewage Works	1967	378674
X	62m NE	Refuse Heap	1947	375368
X	62m NE	Refuse Heap	1936	360742



ID	Location	Land Use	Date	Group ID
H	65m NE	Refuse Heap	1938	339694
H	65m NE	Refuse Heap	1938	339694
X	67m NE	Unspecified Heaps	1964	322256
X	68m NE	Refuse Heap	1938	355651
X	68m NE	Refuse Heap	1938	355651
X	70m NE	Unspecified Disused Mine	1968	343170
5	70m NW	Unspecified Pit	1878	335489
Y	70m SW	Iron Foundry	1913	351170
Y	70m SW	Iron Foundry	1905	351170
Y	71m W	Corn Mill	1878	377276
Z	73m S	Unspecified Ground Workings	1897	333527
H	74m NE	Cuttings	1938	375514
Z	75m S	Unspecified Heap	1994	340272
Z	75m S	Unspecified Heap	1980	340272
Y	77m SW	Corn Mill	1878	377276
D	77m S	Unspecified Works	1967	346174
Z	78m S	Unspecified Heap	1964	340803
Z	79m S	Unspecified Heap	1913	351229
H	80m NE	Unspecified Ground Workings	1913	333636
Z	81m S	Unspecified Heap	1936	351229
Z	81m S	Unspecified Heap	1947	362221
Y	83m SW	Unspecified Works	1974	320880
Z	83m S	Unspecified Heap	1938	378700
Z	83m S	Unspecified Heap	1938	378700
H	84m NE	Unspecified Heap	1897	326968
AA	87m N	Unspecified Ground Workings	1913	333530
Z	88m S	Disused Colliery	1878	322642
6	89m N	Cuttings	1994	336889



ID	Location	Land Use	Date	Group ID
AB	89m NE	Unspecified Shaft	1936	356341
Y	90m SW	Unspecified Heap	1974	366212
Y	92m W	Unspecified Ground Workings	1936	376604
Y	94m W	Unspecified Heap	1948	368174
Y	94m W	Unspecified Heap	1938	361056
Y	94m W	Unspecified Heap	1938	361056
AA	95m N	Unspecified Works	1994	375564
AA	95m N	Unspecified Works	1980	375564
Y	100m SW	Iron Foundry	1900	373460
7	102m S	Colliery	1913	330846
Y	103m SW	Corn Mill	1889	341063
Y	104m SW	Unspecified Industrial/Commercial	1936	320563
AC	105m NE	Unspecified Heap	1878	326969
Y	107m SW	Unspecified Heap	1913	326887
8	109m S	Unspecified Works	1968	362328
AC	110m NE	Garage	1994	350835
AC	110m NE	Garage	1980	350835
AD	110m SE	Colliery	1913	330865
V	110m E	Refuse Heap	1980	338759
AD	113m SE	Unspecified Heap	1913	354063
O	113m SW	Unspecified Tank	1938	319913
AD	113m SE	Unspecified Heap	1936	348808
AD	113m SE	Unspecified Heap	1947	359313
AE	113m SW	Unspecified Tanks	1992	376454
AE	113m SW	Unspecified Tanks	1988	376454
AE	113m SW	Unspecified Tanks	1974	376454
AD	114m SE	Unspecified Heap	1994	346690
AD	114m SE	Unspecified Heap	1980	346690



ID	Location	Land Use	Date	Group ID
AD	114m SE	Unspecified Heap	1968	346690
AC	114m NE	Unspecified Quarry	1897	374585
AD	114m SE	Unspecified Heap	1938	374623
AD	114m SE	Unspecified Heap	1938	374623
Y	116m W	Unspecified Ground Workings	1913	376299
AD	116m SE	Unspecified Heap	1964	342926
AC	121m NE	Unspecified Quarry	1913	374585
V	121m SE	Unspecified Tank	1964	379478
H	122m NE	Unspecified Pit	1994	340913
H	122m NE	Unspecified Pit	1980	340913
H	122m NE	Unspecified Pit	1968	340913
V	122m SE	Unspecified Tank	1968	379478
U	126m N	Pump House	1948	369470
U	126m N	Pump House	1938	345388
AG	127m SE	Old Coal Pit	1913	321370
U	128m N	Pump House	1936	346090
AG	128m SE	Unspecified Old Pit	1947	339482
AG	128m SE	Unspecified Old Pit	1936	339482
AG	129m SE	Unspecified Old Pit	1938	339482
AG	129m SE	Unspecified Old Pit	1938	339482
AH	135m NE	Unspecified Ground Workings	1913	333529
AI	136m W	Cemetery	1992	345255
AI	136m W	Cemetery	1988	345255
AI	136m W	Cemetery	1974	345255
AI	138m W	Cemetery	1967	345255
AB	138m NE	Unspecified Shaft	1938	367663
AB	138m NE	Unspecified Shaft	1938	367663
AJ	139m NE	Refuse Heaps	1936	349815



ID	Location	Land Use	Date	Group ID
9	140m S	Gravel Pit	1968	328651
AH	141m NE	Unspecified Works	1994	357727
AH	141m NE	Unspecified Works	1980	357727
AJ	143m NE	Refuse Heaps	1938	339868
AJ	143m NE	Refuse Heaps	1938	339868
AK	147m E	Unspecified Works	1964	378118
AB	153m NE	Unspecified Shaft	1947	353247
AB	155m NE	Refuse Heap	1936	378027
AB	156m NE	Refuse Heap	1938	371286
AB	156m NE	Refuse Heap	1938	371286
AL	156m S	Unspecified Works	1988	339374
AL	156m S	Unspecified Works	1974	372920
AB	158m NE	Unspecified Disused Shaft	1994	340330
AB	158m NE	Unspecified Disused Shaft	1980	340330
AM	159m SE	Metal Works	1947	318672
AK	160m E	Unspecified Commercial/Industrial	1994	331129
AN	166m SW	Unspecified Heap	1948	357232
AN	166m SW	Unspecified Heap	1913	373010
AI	166m NW	Cemetery	1964	379548
AI	168m NW	Cemetery	1936	351257
AO	168m SW	Unspecified Slant	1913	337786
AP	169m S	Railway Sidings	1878	368751
AI	170m NW	Cemetery	1938	351257
AN	171m SW	Unspecified Heap	1992	368369
AN	171m SW	Unspecified Heap	1988	368369
AN	171m SW	Unspecified Heap	1974	368369
AN	172m SW	Unspecified Heap	1936	367059
AI	172m NW	Cemetery	1948	350722



ID	Location	Land Use	Date	Group ID
AI	172m NW	Burial Ground	1913	331045
AN	173m SW	Unspecified Heap	1964	364060
AN	173m SW	Unspecified Heap	1967	368369
AN	174m SW	Unspecified Heap	1938	343381
AN	174m SW	Unspecified Heap	1938	343381
10	174m W	Unspecified Disused Mill	1913	329056
AM	175m SE	Unspecified Works	1964	368204
AQ	176m S	Railway Sidings	1889	354942
AB	177m NE	Drift	1936	371114
AB	177m NE	Drift	1947	369186
AK	177m SE	Unspecified Factory	1980	320633
AB	178m NE	Unspecified Drift	1938	326299
Y	178m SW	Mineral Railway Sidings	1905	357952
AR	178m NW	Old Coal Pit	1905	366944
AQ	179m S	Railway Sidings	1878	348315
AR	179m NW	Old Coal Pit	1900	366944
Y	181m SW	Cuttings	1913	347441
Y	181m SW	Mineral Railway Sidings	1913	349088
Y	181m SW	Cuttings	1992	358569
Y	181m SW	Cuttings	1988	358569
Y	181m SW	Cuttings	1974	358569
Y	182m SW	Cuttings	1889	346002
AO	183m SW	Unspecified Heap	1948	372899
Y	183m SW	Railway Sidings	1938	371953
Y	183m SW	Cuttings	1938	346740
Y	183m SW	Cuttings	1878	346002
Y	183m SW	Cuttings	1948	363074
Y	183m SW	Cuttings	1878	353035



ID	Location	Land Use	Date	Group ID
AO	183m SW	Unspecified Ground Workings	1988	360242
AO	183m SW	Unspecified Ground Workings	1974	360242
AO	184m SW	Unspecified Heap	1936	354315
AQ	184m SW	Cuttings	1913	371289
AQ	184m S	Railway Sidings	1948	377173
11	185m S	Unspecified Tank	1964	319910
AO	185m SW	Unspecified Heap	1938	372899
AO	185m SW	Unspecified Heap	1938	372899
Y	185m SW	Cuttings	1964	358569
Y	185m SW	Cuttings	1967	358569
AQ	187m SW	Cuttings	1948	343359
AO	187m SW	Unspecified Heap	1992	357379
AQ	187m SW	Cuttings	1938	353434
H	188m NE	Unspecified Heap	1897	326970
Y	189m SW	Railway Sidings	1948	358781
Y	189m SW	Railway Sidings	1948	371953
Y	193m SW	Mineral Railway Sidings	1900	360758
Y	195m SW	Railway Sidings	1936	364054
AJ	201m N	Unspecified Heap	1964	326966
AJ	202m N	Unspecified Disused Drift	1994	355324
AJ	202m N	Unspecified Disused Drift	1980	355324
AJ	202m N	Unspecified Ground Workings	1968	333633
Y	208m SW	Cuttings	1948	342042
K	208m SW	Railway Sidings	1936	373303
AT	211m SE	Unspecified Works	1980	339373
AU	213m SW	Cuttings	1936	379206
AV	214m S	Gravel Pit	1968	328652
AN	214m SW	Railway Sidings	1900	371458



ID	Location	Land Use	Date	Group ID
AV	215m S	Refuse Heap	1964	363508
AL	216m S	Refuse Heap	1988	344288
AL	216m S	Refuse Heap	1974	373502
Y	219m W	Railway Sidings	1964	371904
Y	219m W	Railway Sidings	1967	356858
AW	221m SE	Railway Sidings	1947	378009
AX	222m SW	Cuttings	1948	359307
AX	222m SW	Cuttings	1913	369239
AX	223m SW	Cuttings	1938	363977
AQ	225m SW	Cuttings	1913	336885
AY	225m SW	Cuttings	1889	366327
AY	226m SW	Cuttings	1878	379303
AY	226m SW	Cuttings	1878	379303
AX	228m SW	Railway Sidings	1878	362226
AZ	231m SW	Railway Sidings	1967	368751
AN	231m SW	Railway Building	1905	323432
AT	233m S	Unspecified Works	1994	339316
Y	236m W	Cuttings	1878	354925
AQ	237m SW	Railway Station	1992	374228
AQ	237m SW	Railway Station	1988	374228
AQ	237m SW	Railway Station	1974	374228
AQ	237m SW	Railway Station	1900	363115
AQ	237m SW	Railway Sidings	1936	372124
AW	237m S	Unspecified Works	1968	357417
Y	237m W	Cuttings	1889	361322
AQ	237m SW	Railway Building	1900	344958
AQ	237m SW	Railway Station	1889	360428
AQ	237m SW	Railway Station	1964	349841



ID	Location	Land Use	Date	Group ID
AQ	237m SW	Railway Station	1967	349841
AY	239m SW	Railway Sidings	1936	367635
AQ	240m SW	Railway Station	1913	374229
AQ	240m SW	Railway Station	1905	374229
AQ	240m SW	Railway Station	1878	365773
AQ	240m SW	Railway Building	1913	344958
AQ	240m SW	Railway Building	1905	344958
AQ	241m SW	Railway Station	1878	365773
AQ	242m SW	Railway Station	1948	340666
AQ	242m SW	Railway Station	1938	340666
AQ	244m SW	Railway Building	1913	323429
AQ	244m SW	Railway Buildings	1948	359628
AK	245m SE	Unspecified Works	1968	362328
AQ	245m SW	Railway Buildings	1938	359628
12	247m NE	Cuttings	1994	336890
AN	247m S	Railway Building	1878	323431
AN	251m SW	Railway Sidings	1889	351119
AQ	252m SW	Railway Building	1964	323430
13	253m SW	Railway Sidings	1936	342244
BA	255m N	Unspecified Ground Workings	1992	348991
BA	255m N	Unspecified Ground Workings	1988	348991
AN	258m SW	Railway Building	1936	359976
Y	258m W	Cuttings	1878	349694
AN	260m SW	Railway Buildings	1938	355844
14	260m NE	Unspecified Ground Workings	1913	333632
BB	260m W	Disused Chemical Works	1905	337992
AN	260m SW	Railway Buildings	1948	355844
15	263m S	Colliery	1878	379571



ID	Location	Land Use	Date	Group ID
AN	264m SW	Railway Building	1964	342651
AN	264m SW	Railway Building	1913	323355
AY	266m SW	Cattle Pens	1936	331095
AI	268m NW	Old Coal Pit	1905	364707
AN	268m SW	Unspecified Heap	1913	326877
AI	270m NW	Old Coal Pit	1900	364707
AP	275m S	Colliery	1889	379571
AP	277m S	Disused Colliery	1900	353217
Y	277m W	Unspecified Heap	1913	326886
AU	279m SW	Cuttings	1948	358879
AU	279m SW	Cuttings	1913	364682
AP	279m S	Disused Colliery	1905	353217
AU	279m SW	Cuttings	1938	355580
AP	279m S	Disused Colliery	1913	374715
AU	280m SW	Cuttings	1889	365613
AU	280m SW	Cuttings	1992	362819
AQ	280m SW	Telephone Exchange	1992	367980
AQ	280m SW	Telephone Exchange	1988	367980
AQ	280m SW	Telephone Exchange	1974	367980
BD	281m NW	Cuttings	1878	352197
AU	281m SW	Cuttings	1878	356761
AU	282m SW	Cuttings	1878	365613
AU	283m SW	Cuttings	1964	375384
AU	283m SW	Cuttings	1967	375529
16	284m SE	Unspecified Works	1968	369787
BD	285m NW	Cuttings	1889	360948
BD	288m NW	Cuttings	1878	345264
17	289m SW	Railway Sidings	1964	362226



ID	Location	Land Use	Date	Group ID
AP	290m S	Railway Sidings	1889	363260
18	291m SE	Unspecified Pit	1964	335482
AP	291m S	Railway Sidings	1878	368751
BE	294m SW	Unspecified Heap	1900	369218
BE	295m SW	Unspecified Ground Workings	1936	333511
BE	295m SW	Unspecified Heap	1948	362704
BE	295m SW	Unspecified Heap	1913	374249
BE	295m SW	Unspecified Heap	1905	374249
BE	298m SW	Unspecified Heap	1938	379447
BE	298m SW	Unspecified Heap	1938	357704
AP	298m SW	Colliery	1878	379571
BE	299m SW	Unspecified Heap	1992	347795
BE	299m SW	Unspecified Heap	1988	347795
BE	299m SW	Unspecified Heap	1974	347795
BE	300m SW	Unspecified Heap	1964	353107
BE	300m SW	Unspecified Heap	1967	353107
19	305m SW	Railway Sidings	1936	369360
AP	306m SW	Railway Building	1948	348619
AP	308m SW	Railway Building	1938	348619
AP	309m S	Unspecified Ground Workings	1900	365648
AZ	309m S	Railway Building	1938	351513
AZ	309m S	Railway Building	1948	351513
AZ	309m S	Unspecified Tank	1913	319911
Y	311m W	Unspecified Heap	1948	365024
Y	312m W	Unspecified Heap	1936	343438
AP	312m S	Unspecified Heaps	1948	350946
AP	312m S	Unspecified Heaps	1913	377963
AP	312m S	Unspecified Heaps	1905	377963



ID	Location	Land Use	Date	Group ID
Y	312m W	Unspecified Heap	1938	347145
Y	312m W	Unspecified Heap	1938	347145
AP	312m SW	Unspecified Ground Workings	1938	339246
AP	312m SW	Unspecified Ground Workings	1938	339245
AP	313m SW	Unspecified Ground Workings	1936	344382
AP	313m SW	Unspecified Heap	1974	340932
BF	313m W	Disused Chemical Works	1878	343177
AP	314m SW	Unspecified Heaps	1992	341965
AP	314m SW	Unspecified Heaps	1988	341965
AZ	314m S	Unspecified Tank	1936	358838
AZ	314m S	Unspecified Tank	1938	358838
AP	315m SW	Unspecified Heap	1964	373970
AP	315m SW	Unspecified Heap	1967	373970
BF	315m W	Disused Chemical Works	1889	366983
AZ	316m S	Unspecified Tank	1948	349351
AZ	316m S	Unspecified Tank	1913	368565
BF	316m W	Disused Chemical Works	1878	363520
BF	318m W	Disused Chemical Works	1900	374811
Y	321m W	Railway Sidings	1936	339861
Y	321m W	Steel Works	1936	358839
BD	321m NW	Cuttings	1913	368941
Y	323m W	Steel Works	1900	378411
Y	323m W	Steel Works	1905	363366
AP	323m SW	Unspecified Heaps	1948	363995
AP	323m SW	Unspecified Heaps	1913	359209
BG	324m S	Unspecified Works	1992	339317
Y	324m W	Disused Steel Works	1878	366274
Y	325m W	Steel Works	1913	363366



ID	Location	Land Use	Date	Group ID
Y	325m W	Disused Steel Works	1889	341712
AP	326m SW	Unspecified Ground Workings	1936	339247
Y	327m W	Unspecified Works	1964	352267
Y	327m W	Steel Works	1938	371380
Y	327m W	Steel Works	1948	371380
Y	327m W	Disused Steel Works	1878	366274
AP	327m S	Unspecified Ground Workings	1900	373037
BH	327m NE	Hospital	1964	341177
BH	328m NE	Hospital	1994	344260
BH	328m NE	Hospital	1980	344260
BH	328m NE	Hospital	1968	344260
AP	328m S	Unspecified Disused Tip	1988	332844
Y	328m W	Unspecified Works	1974	345499
AP	329m S	Unspecified Heaps	1905	371941
Y	330m W	Unspecified Works	1967	345499
BI	330m NE	Unspecified Heap	1964	364058
BH	332m NE	Isolation Hospital	1936	342104
BH	332m NE	Isolation Hospital	1947	372277
BI	333m NE	Unspecified Heap	1994	349386
BI	333m NE	Unspecified Heap	1980	349386
BH	333m NE	Isolation Hospital	1913	343222
BJ	333m SW	Unspecified Heaps	1889	347797
AP	333m S	Unspecified Heap	1974	340956
BH	333m NE	Isolation Hospital	1938	340257
AP	334m S	Unspecified Ground Workings	1964	369613
AP	334m S	Unspecified Heap	1967	370127
BI	334m NE	Unspecified Ground Workings	1913	346771
BI	334m NE	Unspecified Ground Workings	1947	379583



ID	Location	Land Use	Date	Group ID
BG	334m S	Unspecified Works	1967	368204
BJ	335m SW	Unspecified Heaps	1878	347797
BI	335m NE	Unspecified Heaps	1938	347503
BI	335m NE	Unspecified Heaps	1938	347503
BI	335m NE	Unspecified Heap	1936	342318
AP	336m S	Unspecified Heap	1878	357870
BD	340m NW	Cuttings	1974	364936
20	341m SW	Unspecified Heap	1878	326878
BD	341m NW	Cuttings	1964	364978
BD	341m NW	Cuttings	1967	364978
Y	346m W	Railway Sidings	1878	348319
BK	347m S	Railway Sidings	1878	379187
AP	348m SW	Unspecified Heap	1878	339679
AP	349m SW	Unspecified Heap	1889	365674
Y	349m W	Railway Sidings	1878	348319
Y	350m W	Boiler	1889	320450
BL	351m SE	Refuse Heap	1964	338751
Y	354m W	Railway Sidings	1889	359935
BL	356m SE	Gravel Pit	1968	328650
AP	357m S	Unspecified Tanks	1889	342689
AP	357m S	Unspecified Tanks	1878	342689
AP	357m S	Unspecified Tank	1878	319916
AP	357m SW	Unspecified Heap	1878	356566
AP	357m SW	Unspecified Ground Workings	1889	341118
AP	359m SW	Unspecified Heap	1878	356566
BM	360m SW	Police Station	1905	356977
BM	364m SW	Police Station	1936	351928
BM	365m SW	Police Station	1900	372874



ID	Location	Land Use	Date	Group ID
BM	366m SW	Police Station	1938	344731
BM	366m SW	Police Station	1948	368235
Y	367m W	Refuse Heap	1913	338760
BM	368m SW	Police Station	1913	375477
AP	368m S	Unspecified Heap	1889	357870
AP	373m S	Unspecified Tank	1878	319902
BM	376m SW	Police Station	1992	362498
BM	377m SW	Police Station	1988	365234
BM	377m SW	Police Station	1974	365234
Y	378m W	Unspecified Tank	1974	368985
BK	378m S	Unspecified Pit	1974	335481
BM	378m SW	Police Station	1964	379901
BM	378m SW	Police Station	1967	379901
BG	380m S	Unspecified Heaps	1938	353878
BG	380m S	Unspecified Heaps	1938	353878
BJ	380m SW	Unspecified Heap	1878	326879
BG	381m S	Unspecified Heap	1936	326875
BM	382m S	Railway Building	1938	353984
BM	382m S	Railway Building	1948	353984
BM	383m SW	Railway Station	1889	346075
BM	383m SW	Railway Station	1900	363029
Y	384m W	Unspecified Tank	1938	346018
BM	385m SW	Railway Station	1905	366406
BM	385m SW	Railway Station	1878	373965
BM	385m SW	Railway Station	1878	373965
BM	385m SW	Railway Station	1936	341028
BM	385m SW	Railway Station	1913	361317
BM	385m SW	Railway Station	1938	360075



ID	Location	Land Use	Date	Group ID
BM	386m SW	Railway Station	1948	360075
AP	387m SW	Cuttings	1889	366284
21	387m SE	Unspecified Factory	1897	320635
AP	387m SW	Cuttings	1878	366284
BG	387m S	Railway Sidings	1974	349828
AP	388m SW	Cuttings	1878	342709
AP	389m SW	Unspecified Tank	1889	319914
BM	390m SW	Railway Station	1964	360075
BM	393m SW	Cuttings	1889	363381
BM	394m SW	Cuttings	1878	370848
BM	395m SW	Cuttings	1878	366395
BM	396m SW	Cuttings	1913	370289
AP	398m S	Unspecified Tank	1878	319915
22	399m N	Unspecified Pit	1913	335488
BM	407m SW	Railway Building	1938	368871
BM	408m SW	Railway Building	1948	368871
BM	408m SW	Unspecified Tank	1913	319917
Y	409m W	Unspecified Tank	1936	319912
BM	410m SW	Railway Buildings	1905	319060
BM	416m SW	Railway Building	1948	323356
AP	419m SW	Smithy	1889	369518
AP	419m SW	Smithy	1878	356066
Y	421m W	Unspecified Ground Workings	1878	333531
BM	421m SW	Cuttings	1938	347533
BM	422m SW	Cuttings	1948	347533
AP	422m SW	Smithy	1878	369518
BP	422m SW	Railway Sidings	1900	365433
BP	424m SW	Railway Sidings	1905	376050



ID	Location	Land Use	Date	Group ID
BG	425m S	Unspecified Pit	1938	349818
BG	425m S	Unspecified Pit	1938	349818
AP	427m S	Unspecified Heap	1878	356074
BP	427m SW	Railway Sidings	1936	370018
BG	428m S	Unspecified Pit	1936	379996
23	428m NE	Cuttings	1913	336888
BQ	428m NW	Unspecified Works	1964	379815
BP	430m SW	Railway Sidings	1948	359028
BP	431m SW	Railway Sidings	1913	364834
BP	432m SW	Railway Sidings	1938	372383
AP	432m S	Unspecified Heap	1889	371395
AP	433m S	Unspecified Heap	1878	371395
BQ	441m NW	Railway Sidings	1938	343637
BR	441m NW	Abattoir	1938	338022
BQ	442m NW	Steel Works	1948	345471
BQ	442m NW	Railway Sidings	1948	369809
BR	442m NW	Tin Plate Works	1948	361584
BR	442m NW	Tin Plate Works	1913	368831
AP	446m S	Unspecified Pit	1974	335480
BT	447m S	Furnace	1878	321756
Y	449m W	Chimneys	1967	375938
Y	449m W	Chimneys	1974	375938
BU	452m W	Brick Field	1889	368315
BP	453m SW	Railway Sidings	1878	362219
BQ	453m NW	Railway Sidings	1936	364464
BU	454m W	Gas Works	1913	321787
BU	454m W	Brick Field	1878	355110
BV	455m SW	Burial Ground	1889	377779



ID	Location	Land Use	Date	Group ID
BU	455m W	Brick Field	1878	355110
BV	456m SW	Burial Ground	1878	377779
BV	456m SW	Burial Ground	1878	351597
BU	456m W	Unspecified Disused Works	1974	326419
BT	456m S	Unspecified Heap	1936	375866
BU	457m W	Unspecified Commercial/Industrial	1948	369898
BQ	457m NW	Railway Sidings	1913	361755
BT	457m S	Unspecified Heap	1947	360380
BT	457m S	Unspecified Ground Workings	1938	378405
BT	457m S	Unspecified Ground Workings	1938	378405
BU	457m W	Unspecified Commercial/Industrial	1964	371751
BU	457m W	Unspecified Commercial/Industrial	1938	358600
BU	458m W	Unspecified Commercial/Industrial	1936	379615
BU	458m W	Unspecified Works	1992	371823
BU	458m W	Unspecified Works	1988	371823
BU	458m W	Unspecified Works	1967	366554
AP	460m S	Sawmill	1889	379429
AP	460m S	Sawmill	1878	362590
BT	463m S	Old Lime Kiln	1913	332123
AP	464m S	Sawmill	1878	379429
BU	467m W	Unspecified Kiln	1889	363293
BU	467m W	Unspecified Kiln	1878	377890
BU	470m W	Unspecified Kiln	1878	363293
24	473m SW	Smithy	1905	332467
25	477m W	Manure Works	1938	364109
BW	491m S	Unspecified Tank	1994	372495
BW	491m S	Unspecified Tank	1980	372495
BX	495m NW	Unspecified Factory	1992	364144



ID	Location	Land Use	Date	Group ID
BX	495m NW	Unspecified Factory	1988	364144
BX	495m NW	Unspecified Factory	1974	350801
26	495m S	Unspecified Ground Workings	1964	333516
Y	497m W	Chimneys	1967	342562
Y	498m W	Chimneys	1974	342562
BU	499m W	Unspecified Kiln	1889	356367

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

118

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 37**

ID	Location	Land Use	Date	Group ID
L	2m W	Tanks	1984	40116
L	3m W	Tanks	1995	41267
L	3m W	Tanks	1995	41267
L	5m W	Tanks	1991	40551
L	5m W	Tanks	1991	40551
T	13m W	Tanks	1993	41685
T	17m W	Tanks	1988	44657
T	17m W	Tanks	1988	44657
L	20m W	Tanks	1993	39438
L	24m W	Unspecified Tank	1988	40797
L	24m W	Unspecified Tank	1988	40797
T	37m W	Tanks	1993	43835
T	42m W	Tanks	1988	43894
T	42m W	Tanks	1988	43894



ID	Location	Land Use	Date	Group ID
W	58m SW	Tanks	1984	41332
W	61m SW	Tanks	1991	43415
W	61m SW	Tanks	1991	43415
D	64m S	Unspecified Tank	1958	41677
D	64m S	Unspecified Tank	1965	41677
S	71m N	Unspecified Tank	1946	37758
U	95m N	Tanks	1965	39441
U	97m N	Settling Tanks	1935	39841
L	97m W	Tanks	1993	39437
L	100m W	Unspecified Tank	1988	44129
L	100m W	Unspecified Tank	1988	44129
L	108m NW	Unspecified Tank	1988	41379
L	108m NW	Unspecified Tank	1988	41379
O	110m SW	Unspecified Tank	1935	37765
AE	115m SW	Tanks	1984	41222
AE	116m SW	Tanks	1995	41222
AE	116m SW	Tanks	1995	41222
AE	117m SW	Tanks	1991	42275
AE	117m SW	Tanks	1991	42275
V	122m SE	Unspecified Tank	1986	40651
V	122m SE	Unspecified Tank	1990	40651
V	123m SE	Unspecified Tank	1971	40651
V	123m SE	Unspecified Tank	1958	40651
V	123m SE	Tanks	1993	39434
V	138m SE	Unspecified Tank	1986	44525
V	138m SE	Unspecified Tank	1990	44525
V	140m SE	Unspecified Tank	1971	43522
V	140m SE	Unspecified Tank	1958	43522

ID	Location	Land Use	Date	Group ID
V	140m SE	Unspecified Tank	1993	44525
AC	143m NE	Unspecified Tank	1988	41364
AC	143m NE	Unspecified Tank	1992	41364
L	151m N	Tanks	1965	39440
AV	249m SE	Unspecified Tank	1990	42404
AV	250m SE	Unspecified Tank	1993	42404
BB	275m W	Unspecified Tank	1879	37793
BC	276m E	Tanks	1986	44263
BC	276m E	Tanks	1990	44263
BC	278m E	Tanks	1971	44263
BC	279m E	Tanks	1993	44263
BC	299m E	Tanks	1986	43608
BC	299m E	Tanks	1990	43608
BC	300m E	Tanks	1971	43608
BC	302m E	Tanks	1993	40530
AZ	310m S	Unspecified Tank	1935	44536
AZ	313m S	Unspecified Tank	1916	41766
AZ	314m S	Unspecified Tank	1958	44536
AZ	314m S	Unspecified Tank	1965	44536
BC	319m E	Unspecified Tank	1971	37759
Y	377m W	Unspecified Tank	1965	37792
AW	378m SE	Tanks	1982	42914
AW	378m SE	Tanks	1971	42914
AW	379m SE	Tanks	1986	42199
BL	383m SE	Unspecified Tank	1986	41844
BL	385m SE	Unspecified Tank	1971	41844
BN	385m S	Unspecified Tank	1990	37761
BN	389m S	Unspecified Tank	1993	37760



ID	Location	Land Use	Date	Group ID
BO	392m W	Unspecified Tank	1916	37779
AW	392m S	Tanks	1982	40893
AW	392m S	Tanks	1971	40893
AW	393m S	Tanks	1986	44289
BO	394m W	Tanks	1935	39443
BG	397m S	Unspecified Tank	1965	37766
Y	401m W	Unspecified Tank	1935	43030
Y	401m W	Unspecified Tank	1965	44508
Y	401m W	Unspecified Tank	1958	44508
Y	403m W	Tanks	1965	39447
BL	404m SE	Tanks	1971	39423
BM	406m SW	Unspecified Tank	1916	41868
BM	406m SW	Unspecified Tank	1935	41868
BM	409m SW	Unspecified Tank	1958	42705
BG	417m S	Unspecified Tank	1971	37767
Y	427m W	Tanks	1965	39446
AT	437m SE	Unspecified Tank	1990	42746
AT	441m SE	Unspecified Tank	1993	42746
Y	443m W	Tanks	1879	39445
BS	445m S	Unspecified Tank	1971	37768
AT	448m SE	Tanks	1971	39424
Y	449m W	Unspecified Tank	1958	37780
BS	461m S	Tanks	1994	42857
BS	462m S	Unspecified Tank	1982	37769
BS	462m S	Tanks	1982	42857
BS	462m S	Tanks	1971	42857
BS	462m S	Tanks	1986	42857
Y	465m W	Unspecified Tank	1958	37794

ID	Location	Land Use	Date	Group ID
Y	468m W	Unspecified Tank	1958	37781
Y	471m W	Unspecified Tank	1958	37795
Y	472m W	Unspecified Tank	1935	37789
Y	475m W	Unspecified Tank	1965	37783
BW	477m S	Unspecified Tank	1986	42443
BW	477m S	Unspecified Tank	1990	42443
BW	477m S	Unspecified Tank	1986	42736
BW	477m S	Unspecified Tank	1990	42736
BW	479m S	Unspecified Tank	1993	40858
BW	480m S	Unspecified Tank	1993	41194
BW	481m S	Unspecified Tank	1986	42826
BW	481m S	Unspecified Tank	1990	42826
BW	482m S	Unspecified Tank	1993	42553
BW	487m S	Unspecified Tank	1986	41624
BW	487m S	Unspecified Tank	1990	41624
BW	489m S	Unspecified Tank	1993	41624
BW	496m S	Unspecified Tank	1986	41573
BW	496m S	Unspecified Tank	1990	41573
BW	498m S	Unspecified Tank	1993	41930
Y	500m W	Unspecified Tank	1935	37788

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

33

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 37**



ID	Location	Land Use	Date	Group ID
AF	113m S	Electricity Substation	1986	21507
AF	113m S	Electricity Substation	1990	21507
AF	114m S	Electricity Substation	1971	21507
AF	115m S	Electricity Substation	1993	21174
AS	207m NW	Electricity Substation	1995	23231
AS	207m NW	Electricity Substation	1995	23231
AS	212m NW	Electricity Substation	1991	21933
AS	212m NW	Electricity Substation	1991	21933
AQ	281m SW	Electricity Substation	1993	20768
AQ	282m SW	Electricity Substation	1988	22176
AQ	282m SW	Electricity Substation	1988	22176
Y	297m W	Electricity Substation	1988	21793
Y	297m W	Electricity Substation	1986	21793
Y	297m W	Electricity Substation	1990	21793
Y	309m W	Electricity Substation	1998	23116
BL	405m E	Electricity Substation	1986	20380
BL	405m E	Electricity Substation	1990	20380
BL	412m E	Electricity Substation	1993	22295
BJ	436m SW	Electricity Substation	1998	20218
BJ	438m SW	Electricity Substation	1988	20218
BJ	438m SW	Electricity Substation	1986	20218
BJ	438m SW	Electricity Substation	1990	20218
BU	458m W	Disused Gas Works	1965	19705
BP	463m SW	Electricity Substation	1988	20752
BP	463m SW	Electricity Substation	1988	20752
BP	471m SW	Electricity Substation	1993	19164
BW	478m S	Electricity Substation	1986	21027
BW	478m S	Electricity Substation	1990	21027



ID	Location	Land Use	Date	Group ID
BW	480m S	Electricity Substation	1993	21828
BU	491m W	Gas Governor	1998	22153
BU	493m W	Gas Governor	1988	22153
BU	493m W	Gas Governor	1986	22153
BU	493m W	Gas Governor	1990	22153

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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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	6
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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'.

Features are displayed on the Past land use - un-grouped map on **page 37**

ID	Location	Land Use	Date	Group ID
S	13m E	Garage	1988	7778
S	13m E	Garage	1992	7778
S	13m E	Garage	1946	7069
AC	96m N	Garage	1988	7573
AC	96m N	Garage	1992	7573
BP	438m SW	Garage	1965	6627

This data is sourced from Ordnance Survey / Groundsure.



[illegible]

- Site Outline**
- Search buffers in metres (m)
- Active or recent landfill
 - Historical landfill (EA/NRW)
 - Historical landfill (LA/OS)
 - Licensed waste sites
 - Waste exemptions

Records within 500m	3
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ID	Location	Details	
1	41m SE	Operator: Timet U K Ltd Site Address: Titanium Plant, Waunarlwydd, SA1 1XD	WML Number: 34005 EPR Reference: IMP003 Landfill type: A7 : Industrial Waste Landfill (Factory curtilage) Status: Closure IPPC Reference: - EPR Number: EAEPR\EA/EPR/YP3895FY/A001

ID	Location	Details	
A	162m S	Operator: Timet U K Ltd Site Address: Titanium Plant, Waunarlwyyd, SA1 1XD	WML Number: 34005 EPR Reference: IMP003 Landfill type: A7 : Industrial Waste Landfill (Factory curtilage) Status: Closure IPPC Reference: - EPR Number: EAEPR\EA/EPR/YP3895FY/A001
C	219m SE	Operator: Timet U K Ltd Site Address: Titanium Plant, Waunarlwyyd, SA1 1XD	WML Number: 34005 EPR Reference: IMP003 Landfill type: A7 : Industrial Waste Landfill (Factory curtilage) Status: Closure IPPC Reference: - EPR Number: EAEPR\EA/EPR/YP3895FY/A001

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

3.2 Historical landfill (BGS records)

Records within 500m	0
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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	5
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Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 68**

ID	Location	Site address	Source	Data type
7	215m S	Refuse Tip	1971 mapping	Polygon
8	219m S	Refuse Tip	1965 mapping	Polygon
E	316m S	Refuse Tip	1965 mapping	Polygon
E	316m S	Refuse Tip	1974 mapping	Polygon
10	388m W	Refuse Tip	1965 mapping	Polygon

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



3.4 Historical landfill (EA/NRW records)

Records within 500m

3

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.

Features are displayed on the Waste and landfill map on **page 68**

ID	Location	Details		
3	134m SE	Site Address: Alcoa Manufacturing G B Limited Licence Holder Address: Waunarlwydd Works, PO Box 68, Waunarlwydd, Swansea	Waste Licence: Yes Site Reference: EC7/77, L1/7, 6855/0048 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: WV1/L/ALC001 Licence Issue: 07/09/1977 Licence Surrender: 23/11/2001	Operator: - Licence Holder: Alcoa Manufacturing GB Limited First Recorded - Last Recorded: -
A	163m S	Site Address: IMI Titanium And Alcoa No.1 Licence Holder Address: Titanium Plant, Waunarlwydd, Swansea	Waste Licence: Yes Site Reference: L1/4, SWW 6L SW, W/24/L Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 22/03/1977 Licence Surrender: -	Operator: - Licence Holder: Imperial Metal Industries Limited First Recorded 31/12/1957 Last Recorded: -
C	223m SE	Site Address: IMI Titanium And Alcoa No.1 Licence Holder Address: Titanium Plant, Waunarlwydd, Swansea	Waste Licence: Yes Site Reference: L1/4, SWW 6L SW, W/24/L Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 22/03/1977 Licence Surrender: -	Operator: - Licence Holder: Imperial Metal Industries Limited First Recorded 31/12/1957 Last Recorded: -

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

16

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

Features are displayed on the Waste and landfill map on **page 68**

ID	Location	Details		
6	198m S	Site Name: Timet Lagoon (formerly I M I Titanium Ltd) Site Address: - Correspondence Address: Po Box 704, Witton, Birmingham, B6 7UR	Type of Site: Lagoon Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: IMP002 EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34004 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
D	238m E	Site Name: - Site Address: Timet Landfill, Waunarlwydd, Swansea, SA1 1XD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3895FY EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
D	238m E	Site Name: - Site Address: - Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3895FY EPR reference: - Operator: - Waste Management licence No: 34005 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	238m E	Site Name: - Site Address: Timet Landfill, Waunarlwydd, Swansea, SA1 1XD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3895FY EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34005 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective



ID	Location	Details		
D	238m E	Site Name: - Site Address: Timet Landfill, Waunarwydd, SA1 1XD Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3895FY EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34005 Annual Tonnage: -	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	238m E	Site Name: - Site Address: Timet Landfill, Waunarwydd, SA1 1XD Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3895FY EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34005 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	239m E	Site Name: Timet Landfill Site Address: - Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: IMP003 EPR reference: YP3895FY/A001 Operator: Timet U K Ltd Waste Management licence No: 34005 Annual Tonnage: 368	Issue Date: 08/08/1977 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Closure
D	240m E	Site Name: - Site Address: Timet Lagoon, Waunarwydd, Swansea, SA1 1XD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3595FE EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
D	240m E	Site Name: - Site Address: - Correspondence Address: -	Type of Site: Lagoon Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3595FE EPR reference: - Operator: - Waste Management licence No: 34004 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	240m E	Site Name: - Site Address: Timet Lagoon, Waunarwydd, Swansea, SA1 1XD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: YP3595FE EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34004 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	240m E	Site Name: - Site Address: Timet Lagoon, Waunarwydd, SA1 1XD Correspondence Address: -	Type of Site: Lagoon Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3595FE EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34004 Annual Tonnage: -	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective
D	240m E	Site Name: - Site Address: Timet Lagoon, Waunarwydd, SA1 1XD Correspondence Address: -	Type of Site: Lagoon Size: - Environmental Permitting Regulations (Waste) Licence Number: YP3595FE EPR reference: - Operator: Timet U K Ltd Waste Management licence No: 34004 Annual Tonnage: 0	Issue Date: 08/08/1977 Effective Date: 08/08/1977 Modified: - Surrendered Date: - Expiry Date: 21/05/2002 Cancelled Date: - Status: Effective



ID	Location	Details		
D	241m E	Site Name: Timet Lagoon Site Address: - Correspondence Address: -	Type of Site: Lagoon Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: IMP002 EPR reference: YP3595FE/A001 Operator: Timet U K Ltd Waste Management licence No: 34004 Annual Tonnage: 800	Issue Date: 08/08/1977 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Closure
D	265m SE	Site Name: Alcoa Manuafacturing G B Ltd Site Address: P O Box 68, Waunarlwydd, Swansea, SA1 1XH Correspondence Address: P O Box 68, Waunarlwydd, Swansea, SA1 1XH	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC001 EPR reference: - Operator: Alcoa Manufacturing G B Ltd Waste Management licence No: 34021 Annual Tonnage: 0	Issue Date: 30/11/1988 Effective Date: - Modified: - Surrendered Date: 23/11/2001 Expiry Date: - Cancelled Date: - Status: Surrendered
D	265m SE	Site Name: Alcoa Manuafacturing G B Ltd Site Address: P O Box 68, Waunarlwydd, Swansea, SA1 1XH Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC001 EPR reference: JP3795FM/S002 Operator: Alcoa Manufacturing G B Ltd Waste Management licence No: 34021 Annual Tonnage: 75000	Issue Date: 30/11/1988 Effective Date: - Modified: - Surrendered Date: 2.00111e+016 Expiry Date: 0 Cancelled Date: 0 Status: Surrendered
D	265m SE	Site Name: Alcoa Manuafacturing G B Ltd Site Address: P O Box 68, Waunarlwydd, Swansea, SA1 1XH Correspondence Address: -	Type of Site: Industrial Waste Landfill (Factory curtilage) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: ALC001 EPR reference: EA/EPR/JP3795FM/S002 Operator: Alcoa Manufacturing G B Ltd Waste Management licence No: 34021 Annual Tonnage: 75000	Issue Date: 30/11/1988 Effective Date: - Modified: - Surrendered Date: 23/11/2001 Expiry Date: - Cancelled Date: - Status: Surrendered



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

3.7 Waste exemptions

Records within 500m	21
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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 68**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	78m N	48 Swansea Road, Gorseinon, Swansea, Abertawe, sa4 4he	NRW-WME001804	Using waste exemption	Waste Exemption - Non-Agricultural	Use of waste in construction
4	176m N	City & County of Swansea Council, Kingsbridge to Gowerton Cycle Link, Trafle Farm, Gowerton, Swansea, Abertawe, SA4 3AA	NRW-WME050759	Using waste exemption	Not on a farm	Use of waste in construction
B	194m NW	Morgan Sindall Construction & Infrastructure Ltd, Gowerton, Swansea, SA4, SA43AA	NRW-WME033676	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	194m NW	Morgan Sindall Construction & Infrastructure Ltd, Gowerton, Swansea, SA4, SA43AA	NRW-WME033677	Using waste exemption	Not on a farm	Use of waste in construction
5	195m N	52 St Pauls terrace Garden Village swansea swansea sa44ez	NRW-WME031644	Using waste exemption	Not on a farm	Use of waste for a specified purpose
9	345m W	ALJ Pharma Ltd, ALJ Pharma Ltd T/A Gowerton Pharmacy, 22 Mill Street, Gowerton, Swansea, West Glamorgan, SA4 3ED	NRW-WME063458	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
F	348m NW	Morgan Sindall Construction & Infrastructure Ltd, Gowerton Waste Water Treatment Works, Victoria Road, Gowerton, Swansea, SA4 3AB	NRW-WME050394	Storing waste exemption	Not on a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
F	348m NW	DCWW, Trafle Farm, Victoria Road, Gowerton, Abertawe, SA43AB	NRW-WME022689	Storing waste exemption	Not on a farm	Storage of sludge
F	348m NW	Dwr Cymru Welsh Water, Victoria Road, Swansea, Abertawe, SA4 3AB	NRW-WME001076	Storing waste exemption	Waste Exemption - Agricultural	Storage of sludge
G	418m SE	Fiberight Limited, Unit 1, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME063605	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
G	418m SE	Fiberight Limited, Unit 1, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME063605	Storing waste exemption	Not on a farm	Storage of waste in a secure place
G	418m SE	Fiberight Limited, Unit 1, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME063605	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
G	418m SE	Fiberight Limited, Unit 1, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME063605	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
H	459m S	Eg power ltd, eg power, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME051087	Treating waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
H	459m S	Eg power ltd, eg power, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA5 4SF	NRW-WME051088	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Burning of waste as a fuel in a small appliance
H	459m S	THE TREAMENT HUB LTD, BUILDING 2, WESTFIELD IND PARK, SWANSEA, SWANSEA, SWANSEA, SA5 4SF	NRW-WME043843	Storing waste exemption	Not on a farm	Storage of waste in a secure place
H	459m S	THE TREAMENT HUB LTD, BUILDING 2, WESTFIELD IND PARK, SWANSEA, SWANSEA, SWANSEA, SA5 4SF	NRW-WME043843	Storing waste exemption	Not on a farm	Storage of waste in secure containers

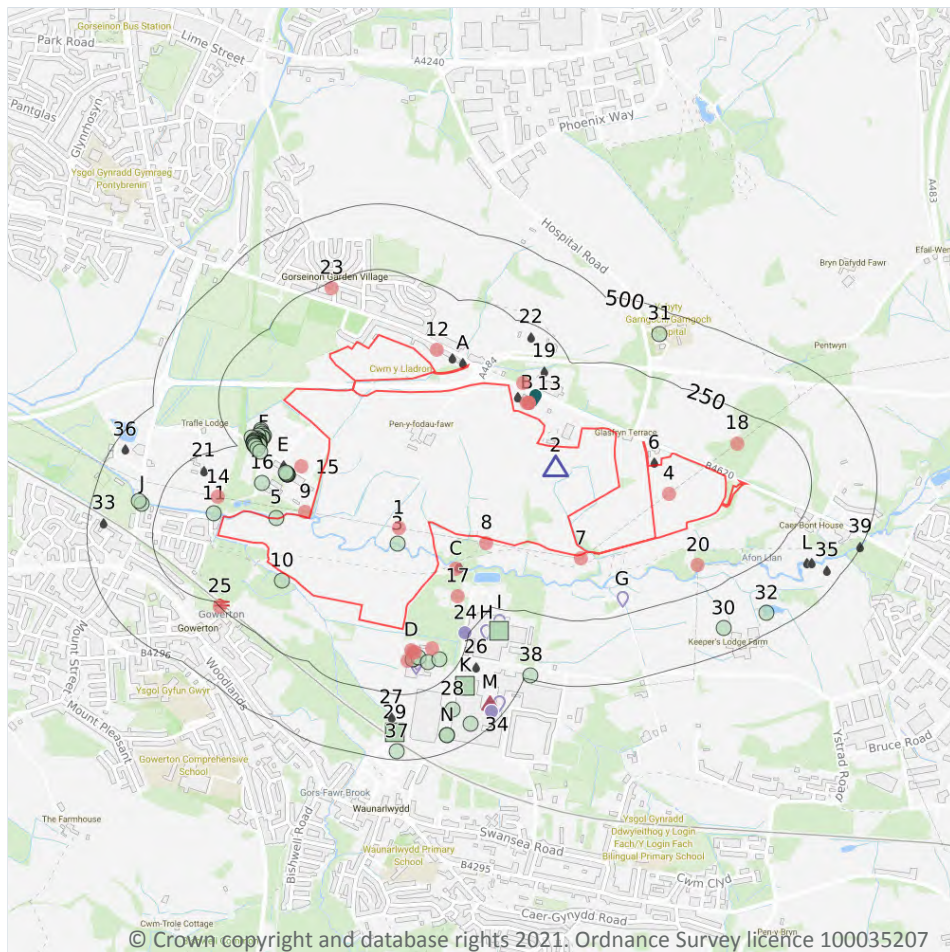


ID	Location	Site	Reference	Category	Sub-Category	Description
H	459m S	THE TREAMENT HUB LTD, BUILDING 2, WESTFIELD IND PARK, SWANSEA, SWANSEA, SWANSEA, SA5 4SF	NRW- WME043843	Using waste exemption	Not on a farm	Use of waste in construction
H	459m S	Hill Group, Hill Insulation Ltd, Unit 7, Westfield Industrial Park, Waunarlwydd, Swansea, Abertawe, SA54SF	NRW- WME035392	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance
I	480m S	DCWW, Keepers Lodge Farm Field 16, Waunarlwydd, Swansea, Abertawe, SA54NQ	NRW- WME030026	Storing waste exemption	Not on a farm	Storage of sludge
I	480m S	DCWW, Keepers Lodge Farm Field 10, Waunarlwydd, Swansea, Abertawe, SA54NQ	NRW- WME030028	Storing waste exemption	Not on a farm	Storage of sludge

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
- △ Current or recent petrol stations
- ▲ Hazardous substance storage/usage
- Historical licensed industrial activities
- Part A(1) industrial activities
- ◆ Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

24

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
4	On site	Pylon	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
7	14m S	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
8	17m S	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities
9	19m N	Pylon	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
B	41m N	Days Fleet	Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4LL	Vehicle Hire and Rental	Hire Services
B	44m N	Days Rental	Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4LL	Vehicle Hire and Rental	Hire Services
B	45m N	C E M Day's Ltd	Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4LL	New Vehicles	Motoring
B	45m N	HiQ Centre	Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4LL	Vehicle Repair, Testing and Servicing	Repair and Servicing
12	56m NE	Raw2k - Scrap My Car	7, Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4HF	Scrap Metal Merchants	Recycling Services
13	56m E	Gower Mini Travel	White Lodge, Swansea Road, Gorseinon, Swansea, West Glamorgan, SA4 4LQ	Vehicle Hire and Rental	Hire Services
C	69m E	Outfall	West Glamorgan, SA5	Waste Storage, Processing and Disposal	Infrastructure and Facilities
14	77m N	Pylon	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
15	82m W	Sewage Works	West Glamorgan, SA4	Waste Storage, Processing and Disposal	Infrastructure and Facilities
D	86m S	Silo	West Glamorgan, SA5	Hoppers and Silos	Farming
D	95m SE	Silo	West Glamorgan, SA5	Hoppers and Silos	Farming
D	98m SE	Silo	West Glamorgan, SA5	Hoppers and Silos	Farming
D	124m S	Tip	West Glamorgan, SA5	Refuse Disposal Facilities	Infrastructure and Facilities
17	124m SE	Sludge	West Glamorgan, SA5	Waste Storage, Processing and Disposal	Infrastructure and Facilities
18	133m NE	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities
D	133m SE	Chimney	West Glamorgan, SA5	Chimneys	Industrial Features



ID	Location	Company	Address	Activity	Category
20	146m S	Pylon	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
23	227m NW	Electricity Sub Station	West Glamorgan, SA4	Electrical Features	Infrastructure and Facilities
25	249m SW	Gowerton Rail Station	West Glamorgan, SA4	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Company	Address	LPG	Status
2	On site	OBSOLETE	Swansea Road, Garden Village, Swansea, Swansea, SA4 4LL	Not Applicable	Obsolete

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

1

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.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Details	
M	435m SE	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Timet UK Ltd, PO Box 57, Waunarlwydd, Swansea, SA1 1XD	Details: No Details Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

8

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.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Details	
24	237m E	Operator: Timet UK (export) Ltd Address: PO Box 57, Waunarlwydd, Swansea, West Glamorgan, SA1 1XD Process: Acid Processes Permit Number: AL8355	Original Permit Number: IPCAPP Date Approved: 18-5-1994 Effective Date: 31-5-1994 Status: Referred To La
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: AX6168	Original Permit Number: IPCAPP Date Approved: 11-6-1997 Effective Date: 17-6-1997 Status: Superseded By Variation
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: AZ6037	Original Permit Number: IPCMAJVAR Date Approved: 4-12-1997 Effective Date: 7-12-1997 Status: Superseded By Variation
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: BE1011	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: BH8888	Original Permit Number: IPCMINVAR Date Approved: 18-4-2000 Effective Date: 12-5-2000 Status: Superseded By Variation
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: BK9601	Original Permit Number: IPCMINVAR Date Approved: 25-6-2001 Effective Date: 28-6-2001 Status: Superseded By Variation
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarlwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: BQ4467	Original Permit Number: IPCMINVAR Date Approved: 21-5-2002 Effective Date: 28-5-2002 Status: Superseded By Variation



ID	Location	Details	
M	462m SE	Operator: Aleris Recycling (swansea) Ltd Address: Waunarwydd Works, Waunarlwydd, Swansea, SA5 4SF Process: Non-ferrous Metals Permit Number: BU6077	Original Permit Number: IPCMINVAR Date Approved: 7-5-2003 Effective Date: 9-5-2003 Status: Revoked - Now Ippc

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

26

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

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Details	
D	140m S	Operator: REAL ALLOY UK LIMITED Installation Name: REAL ALLOY UK LTD Process: - Permit Number: EP3935UC Original Permit Number: -	EPR Reference: - Issue Date: 31/01/2018 Effective Date: 31/01/2018 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
D	140m S	Operator: REAL ALLOY UK LIMITED Installation Name: REAL ALLOY UK LTD Process: MELTING, INCLUDING MAKING ALLOYS OF, NON-FERROUS METALS, INCLUDING RECOVERED PRODUCTS AND THE OPERATION OF NON-FERROUS METAL FOUNDRIES WHERE THE PLANT HAS A MELTING CAPACITY OF MORE THAN 4 TONNES PER DAY FOR LEAD OR CADMIUM OR 20 TONNES PER DAY FOR ALL OTHER METALS Permit Number: EP3935UC Original Permit Number: -	EPR Reference: - Issue Date: 27/01/2020 Effective Date: 27/01/2020 Last date noted as effective: 01/07/2021 Status: EFFECTIVE
D	153m S	Operator: TIMET UK LTD Installation Name: TIMET WAUNARLWYDD Process: ASSOCIATED PROCESS Permit Number: TP3637MW Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 27/07/2007 Effective Date: 27/07/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
D	153m S	Operator: TIMET UK LTD Installation Name: TIMET WAUNARLWYDD Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: TP3637MW Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 27/07/2007 Effective Date: 27/07/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED



ID	Location	Details	
G	191m S	Operator: VIRIDIS 178 LTD Installation Name: VIRIDIS 178 SWANSEA POWER PLANT Process: BURNING ANY FUEL IN AN APPLIANCE Permit Number: AB3393CP Original Permit Number: CP3630AJ	EPR Reference: - Issue Date: 10/01/2017 Effective Date: 10/01/2017 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
G	191m S	Operator: VIRIDIS 178 LTD Installation Name: VIRIDIS 178 SWANSEA POWER PLANT Process: - Permit Number: AB3393CP Original Permit Number: -	EPR Reference: - Issue Date: 10/01/2017 Effective Date: 10/01/2017 Last date noted as effective: 01/04/2017 Status: ISSUED
G	191m S	Operator: VIRIDIS 178 LTD Installation Name: VIRIDIS 178 SWANSEA POWER PLANT Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: AB3393CP Original Permit Number: CP3630AJ	EPR Reference: - Issue Date: 26/02/2021 Effective Date: 26/02/2021 Last date noted as effective: 01/07/2021 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: TIMET WAUNARLWYDD Process: ASSOCIATED PROCESS Permit Number: GP3836FQ Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 16/07/2012 Effective Date: 16/07/2012 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
H	299m SE	Operator: TIMET UK LTD Installation Name: TIMET WAUNARLWYDD Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: GP3836FQ Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 16/07/2012 Effective Date: 16/07/2012 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: ASSOCIATED PROCESS Permit Number: XP3730WR Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: XP3730WR Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 17/11/2015 Status: EFFECTIVE



ID	Location	Details	
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: - Permit Number: BX9846ID Original Permit Number: XP3730WR	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BX9846ID Original Permit Number: XP3730WR	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: UNLESS FALLING WITHIN PART A2 OF THIS SECTION, SURFACE TREATING METALS AND PLAST... Permit Number: BX9846ID Original Permit Number: XP3730WR	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 01/04/2018 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: - Permit Number: BX9846ID Original Permit Number: XP3730WR	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 01/07/2021 Status: EFFECTIVE
H	299m SE	Operator: TIMET UK LTD Installation Name: WAUNARLWYDD EPR/BX9846ID Process: UNLESS FALLING WITHIN PART A(2) OF THIS SECTION, SURFACE TREATING METALS AND PLASTIC MATERIALS USING AN ELECTROLYTIC OR CHEMICAL PROCESS WHERE THE AGGREGATED VOLUME OF THE TREATMENT VATS IS MORE THAN 30M3 Permit Number: BX9846ID Original Permit Number: XP3730WR	EPR Reference: - Issue Date: 20/01/2015 Effective Date: 20/01/2015 Last date noted as effective: 01/07/2021 Status: EFFECTIVE
I	300m S	Operator: TIMET UK LTD Installation Name: TIMET WAUNARLWYDD Process: SURFACE TREATING METALS AND PLASTICS; ELECTROLYTIC/CHEMICAL >30 CU M Permit Number: BX9846ID Original Permit Number: BX9846ID	EPR Reference: - Issue Date: 10/01/2005 Effective Date: 10/01/2005 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
M	462m SE	Operator: ALCOA MANUFACTURING (G.B.) LIMITED Installation Name: WAUNARLWYDD NON FERROUS METALS EA/EPR/BM1377IT/S009 Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BM1377IT Original Permit Number: BM1377IT	EPR Reference: - Issue Date: 12/08/2003 Effective Date: 12/08/2003 Last date noted as effective: 17/11/2015 Status: SUPERCEDED



ID	Location	Details	
M	462m SE	Operator: ALCOA MANUFACTURING (G.B.) LIMITED Installation Name: WAUNARLWYDD NON FERROUS METALS Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BP3739LM Original Permit Number: BM1377IT	EPR Reference: - Issue Date: 09/01/2006 Effective Date: 10/01/2006 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
M	462m SE	Operator: ALCOA MANUFACTURING (G.B.) LIMITED Installation Name: WAUNARLWYDD NON FERROUS METALS Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BX1713IB Original Permit Number: BM1377IT	EPR Reference: - Issue Date: 24/12/2003 Effective Date: 29/12/2003 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
M	462m SE	Operator: ALCOA MANUFACTURING (G.B.) LIMITED Installation Name: WAUNARLWYDD NON FERROUS METALS Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: BX6928IY Original Permit Number: BM1377IT	EPR Reference: - Issue Date: 07/04/2004 Effective Date: 09/04/2004 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
M	462m SE	Operator: ALCOA MANUFACTURING (G.B.) LIMITED Installation Name: WAUNARLWYDD NON FERROUS METALS Process: NON-FERROUS METALS; MELTING WITH CAPACITY >4T/D LEAD/CADMIUM OR 20T/D OTHERS Permit Number: EP3337PQ Original Permit Number: BM1377IT	EPR Reference: - Issue Date: 11/08/2004 Effective Date: 13/08/2004 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
M	466m SE	Operator: THE TREATMENT HUB LIMITED Installation Name: THE TRAETMENT HUB SWANSEA EPR/ZP3933NJ Process: RECOVERY OF WASTE; HAZARDOUS WASTE >10T/D BY RECYCLING INORGANICS (NOT METALS) Permit Number: ZP3933NJ Original Permit Number: ZP3933NJ	EPR Reference: - Issue Date: 30/09/2013 Effective Date: 30/09/2013 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
M	466m SE	Operator: THE TREATMENT HUB LIMITED Installation Name: BUILDING 2 Process: - Permit Number: ZP3933NJ Original Permit Number: ZP3933NJ	EPR Reference: - Issue Date: 30/09/2013 Effective Date: 30/09/2013 Last date noted as effective: 01/12/2016 Status: EFFECTIVE
M	466m SE	Operator: THE TREATMENT HUB LIMITED Installation Name: BUILDING 2 Process: - Permit Number: ZP3933NJ Original Permit Number: ZP3933NJ	EPR Reference: - Issue Date: 30/09/2013 Effective Date: 30/09/2013 Last date noted as effective: 01/07/2021 Status: EFFECTIVE



ID	Location	Details	
M	466m SE	Operator: THE TREATMENT HUB LIMITED Installation Name: BUILDING 2 Process: - Permit Number: ZP3933NJ Original Permit Number: ZP3933NJ	EPR Reference: - Issue Date: 30/09/2013 Effective Date: 30/09/2013 Last date noted as effective: 01/04/2018 Status: EFFECTIVE

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

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

Records within 500m	1
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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.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Address	Details	
B	71m N	CEM Days Ltd, Llanelli Road, Garngoch, Swansea, SA4 2LL	Process: Respraying of Road Vehicles Status: Current Permit Permit Type: Part B	Enforcement: No Enforcemets Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
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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	21
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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 78**

ID	Location	Address	Details	
6	10m N	CAE-NEWYDD FARM SWANSEA RD. GORSEIN, CAE-NEWYDD FARM SWANSEA RD. GORS, SWANSEA RD. GORSEINON., GORSEINON., UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BP0108001 Permit Version: 1 Receiving Water: TO LAND	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/11/1988 Effective Date: 14/11/1988 Revocation Date: 29/07/1994
A	16m N	SSO. CWM LLADRON P.S. GORSEINON, SSO. CWM LLADRON P.S. GORSEINON, GORSEINON, UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BW2302301 Permit Version: 1 Receiving Water: UNNAMED STREAM	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 19/10/1989 Effective Date: 19/10/1989 Revocation Date: 14/03/1994
B	24m E	CAR WASH WATER DIS. FROM C.E.M, CAR WASH WATER DIS. FROM C.E.M, UNKNOWN, UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BC0007201 Permit Version: 1 Receiving Water: TRIBUTARY OF THE RIVER LLAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 27/06/1968 Effective Date: 27/06/1968 Revocation Date: 23/10/1992
B	24m E	CAR WASH WATER DIS. FROM C.E.M, CAR WASH WATER DIS. FROM C.E.M, UNKNOWN, UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BC0007202 Permit Version: 1 Receiving Water: TRIBUTARY OF THE RIVER LLAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 27/06/1968 Effective Date: 27/06/1968 Revocation Date: 19/10/1992
A	48m N	HOUSE ADJ NO. 1 SWANSEA ROAD UPLAND, HOUSE ADJ NO. 1 SWANSEA ROAD UPL, UPLANDS GORSEINON SWANSEA, GORSEINON SWANSEA, SWANSEA, SWANSEA	Effluent Type: UNSPECIFIED Permit Number: BE0001201 Permit Version: 1 Receiving Water: TO LAND NEAR RIVER LLAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 17/02/1967 Effective Date: 17/02/1967 Revocation Date: 31/01/1994
C	74m E	WAUNARLWYDD WORKS SWANSEA, WAUNARLWYDD WORKS SWANSEA, SWANSEA, SWANSEA, SWANSEA	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BP0227801 Permit Version: 1 Receiving Water: AFON LLAN	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 21/04/1993 Effective Date: 21/04/1993 Revocation Date: 06/02/2007
C	83m E	WAUNARLWYDD WORKS SWANSEA, WAUNARLWYDD WORKS SWANSEA, SWANSEA, SWANSEA, SWANSEA, SWANSEA	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BC0012101 Permit Version: 1 Receiving Water: UNNAMED TRIBUTARY OF THE GORS	Status: REVOKED - UNSPECIFIED Issue date: 28/07/1970 Effective Date: 28/07/1970 Revocation Date: 24/04/1997
19	145m E	SEPTIC TANK AT GARAGE CEM DAY, SEPTIC TANK AT GARAGE CEM DAY, UNKNOWN, UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BC0002301 Permit Version: 1 Receiving Water: SMALL POOL GARNGOCH COMMON	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 11/05/1966 Effective Date: 11/05/1966 Revocation Date: 22/05/1996



ID	Location	Address	Details	
E	150m W	GOWERTON WwTW, GOWERTON WwTW, Victoria Road, GOWERTON, Swansea, SA4 3AB	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: BC0003001 Permit Version: 10 Receiving Water: LOUGHOR ESTUARY	Status: Effective Issue date: 31/07/2018 Effective Date: 31/12/2020 Revocation Date: -
F	176m SW	GOWERTON WwTW, GOWERTON WwTW, Victoria Road, GOWERTON, Swansea, SA4 3AB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: BC0003001 Permit Version: 10 Receiving Water: LOUGHOR ESTUARY	Status: Effective Issue date: 31/07/2018 Effective Date: 31/12/2020 Revocation Date: -
F	176m SW	GOWERTON WwTW, GOWERTON WwTW, VICTORIA ROAD, GOWERTON, Swansea, SA4 3AB	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: BC0003001 Permit Version: 9 Receiving Water: LOUGHOR ESTUARY	Status: Effective Issue date: 08/12/2017 Effective Date: 08/12/2017 Revocation Date: -
21	191m NW	TRAFLE FM VICTORIS RD GOWERTON., TRAFLE FM VICTORIS RD GOWERTON., VICTORIS RD GOWERTON., GOWERTON., UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BM0019301 Permit Version: 1 Receiving Water: UNDERGROUND STRATA	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 29/10/1981 Effective Date: 29/10/1981 Revocation Date: 10/10/1994
22	202m NE	PEN Y WAUN FARM GARNGOCH GORSEINON, PEN Y WAUN FARM GARNGOCH GORSEIN, GARNGOCH GORSEINON SWANSEA, GORSEINON SWANSEA, SWANSEA, SWANSEA	Effluent Type: UNSPECIFIED Permit Number: BM0028001 Permit Version: 1 Receiving Water: UNDERGROUND STRATA	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 08/02/1983 Effective Date: 08/02/1983 Revocation Date: 02/07/1994
26	314m SE	WAUNARLWYDD WORKS SWANSEA, WAUNARLWYDD WORKS SWANSEA, SWANSEA, SWANSEA, SWANSEA, SWANSEA	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BC0012101 Permit Version: 2 Receiving Water: UNNAMED TRIBUTARY OF THE GORS	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 24/04/1997 Effective Date: 25/04/1997 Revocation Date: 02/04/2009
27	340m S	FORMER WASTE TIPPING, ALCOA EXTRUSIONS UK LIMITED, WAUNARLWYDD WORKS, PO BOX 42, SWANSEA, SA1 1YD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: BP0294301 Permit Version: 1 Receiving Water: TRIB OF GORS FAWR BROOK	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 28/03/2002 Effective Date: 28/03/2002 Revocation Date: 06/02/2007



ID	Location	Address	Details	
L	370m SE	DENVER ROAD CSO FFORESTFACH SWANSEA, COMBINED SEWER OVERFLOW, DENVER ROAD, FFORESTFACH, SWANSEA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0305401 Permit Version: 1 Receiving Water: THE AFON LLAN	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 21/03/2003 Effective Date: 31/03/2003 Revocation Date: 31/03/2010
L	382m SE	DENVER R'D INTO CULVERT SWANSEA, DENVER ROAD INTO CULVERT, SWANSEA ROAD, SWANSEA, Swansea	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0320801 Permit Version: 2 Receiving Water: RIVER LLAN	Status: Effective Issue date: 11/02/2010 Effective Date: 31/03/2010 Revocation Date: -
33	438m W	COOL'G WATER/BOILER BLOW DOWN ELBA, COOL'G WATER/BOILER BLOW DOWN EL, ELBA WKS (ABANDONED), UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BE0020601 Permit Version: 1 Receiving Water: UNNAMED TRIB RIVER LLAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 24/07/1969 Effective Date: 24/07/1969 Revocation Date: 09/03/1992
35	447m SE	SWO.NEAR LLEWITHA BRIDGE (POIN, SWO.NEAR LLEWITHA BRIDGE (POIN, UNKNOWN, UNKNOWN, UNKNOWN, UNKNOWN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BW4106301 Permit Version: 2 Receiving Water: River Llan	Status: Effective Issue date: 08/09/2010 Effective Date: 08/09/2010 Revocation Date: -
36	455m NW	SITE OFF. OPP.NO.13 VICTORIA RD. GO, SITE OFF. OPP.NO.13 VICTORIA RD., OPP.NO.13 VICTORIA RD. GOWERTON., GOWERTON., UNKNOWN, UNKNOWN	Effluent Type: UNSPECIFIED Permit Number: BP0121401 Permit Version: 1 Receiving Water: TO LAND	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 20/04/1989 Effective Date: 20/04/1989 Revocation Date: 07/07/1997
39	497m SE	LLIWITHA ROAD CSO, LLIWITHA ROAD CSO, LLIWITHA ROAD, OFF CARMARTHEN ROAD, Swansea	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: BP0296601 Permit Version: 1 Receiving Water: AFON LLAN	Status: Effective Issue date: 25/03/2002 Effective Date: 25/03/2002 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

5

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.

Features are displayed on the Current industrial land use map on **page 78**

ID	Location	Name	Status	Receiving Water	Authorised Substances
K	322m SE	Alcoa Gb Ltd, Cooling Tower 810c, Waunarwydd Wrks, Swansea	Not Active	Loughor Estuary	Chromium, Copper, Lead, Nickel, Zinc
K	322m SE	Alcoa Gb Ltd, Cooling Tower 814g, Waunarwydd Wrks, Swansea	Not Active	Loughor Estuary	Chromium, Copper, Lead, Nickel, Zinc
K	322m SE	Alcoa Gb Ltd, Cooling Tower 818b, Waunarwydd Wrks, Swansea	Not Active	Loughor Estuary	Chromium, Copper, Lead, Nickel, Zinc
I	330m S	Timet Waunarlydd, Swansea	Not Active	Loughor Estuary	Chromium, Copper, Nickel, Zinc
29	397m S	Alcoa Extruded Products Waunarlydd Swansea	Not Active	Loughor Estuary	Chromium, Copper, Lead, Nickel, Zinc



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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

54

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 78**

ID	Location	Details	
3	On site	Incident Date: 10/08/2015 Incident Identification: 1363114 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
5	3m N	Incident Date: 21/08/2014 Incident Identification: 1270283 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	28m SW	Incident Date: 16/10/2014 Incident Identification: 1287241 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
11	38m W	Incident Date: 08/11/2013 Incident Identification: 1174751 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -
16	118m N	Incident Date: 11/12/2013 Incident Identification: 1183007 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	121m S	Incident Date: 20/07/2001 Incident Identification: 23032 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
D	121m S	Incident Date: 20/07/2001 Incident Identification: 23026 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
D	124m SE	Incident Date: 22/11/2013 Incident Identification: 1177998 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Chemical Odour	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)



ID	Location	Details	
E	125m W	Incident Date: 13/02/2015 Incident Identification: 1313488 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	125m W	Incident Date: 24/07/2014 Incident Identification: 1260310 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	125m W	Incident Date: 15/02/2015 Incident Identification: 1313901 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	127m W	Incident Date: 23/11/2015 Incident Identification: 1389597 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	128m W	Incident Date: 15/04/2014 Incident Identification: 1227334 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	134m W	Incident Date: 14/04/2015 Incident Identification: 1328566 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	143m SW	Incident Date: 17/12/2013 Incident Identification: 1184255 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	150m SW	Incident Date: 09/11/2014 Incident Identification: 1293186 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	153m SW	Incident Date: 01/04/2014 Incident Identification: 1223238 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	154m SW	Incident Date: 09/11/2014 Incident Identification: 1293037 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
D	158m SE	Incident Date: 28/07/2014 Incident Identification: 1261680 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	161m SW	Incident Date: 18/03/2015 Incident Identification: 1321333 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	165m SW	Incident Date: 30/04/2015 Incident Identification: 1333420 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	167m SW	Incident Date: 10/07/2013 Incident Identification: 1131134 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	178m SW	Incident Date: 25/11/2014 Incident Identification: 1297295 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	180m SE	Incident Date: 14/06/2001 Incident Identification: 9260 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	182m SW	Incident Date: 29/07/2013 Incident Identification: 1140726 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	182m SW	Incident Date: 14/02/2014 Incident Identification: 1208102 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	185m SW	Incident Date: 30/09/2014 Incident Identification: 1282545 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	185m SW	Incident Date: 12/06/2014 Incident Identification: 1244607 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)



ID	Location	Details	
F	186m SW	Incident Date: 23/06/2014 Incident Identification: 1248196 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	189m SW	Incident Date: 26/11/2013 Incident Identification: 1178934 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	190m SW	Incident Date: 13/01/2016 Incident Identification: 1402878 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	190m SW	Incident Date: 05/12/2014 Incident Identification: 1299493 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	192m SW	Incident Date: 15/12/2014 Incident Identification: 1301249 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	194m SW	Incident Date: 23/10/2014 Incident Identification: 1288957 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	195m SW	Incident Date: 11/12/2014 Incident Identification: 1300416 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	200m SW	Incident Date: 13/08/2014 Incident Identification: 1268006 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	200m SW	Incident Date: 26/06/2014 Incident Identification: 1249868 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	201m SW	Incident Date: 02/12/2014 Incident Identification: 1298862 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

ID	Location	Details	
F	202m SW	Incident Date: 20/01/2015 Incident Identification: 1307868 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	202m SW	Incident Date: 20/01/2015 Incident Identification: 1307869 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	204m SW	Incident Date: 25/11/2013 Incident Identification: 1178591 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	207m SW	Incident Date: 23/01/2014 Incident Identification: 1197491 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	210m SW	Incident Date: 12/06/2014 Incident Identification: 1244707 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	312m W	Incident Date: 27/03/2015 Incident Identification: 1324137 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	326m W	Incident Date: 29/04/2015 Incident Identification: 1333256 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
28	359m SE	Incident Date: 15/10/2002 Incident Identification: 123733 Pollutant: Inorganic Chemicals/Products Pollutant Description: Alkalis	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
30	405m S	Incident Date: 20/02/2002 Incident Identification: 59475 Pollutant: Inorganic Chemicals/Products Pollutant Description: Ammonia Solutions	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 3 (Minor)
31	412m NE	Incident Date: 15/05/2014 Incident Identification: 1235346 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
32	429m SE	Incident Date: 09/04/2003 Incident Identification: 149881 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Effects on Humans	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
N	439m SE	Incident Date: 12/07/2001 Incident Identification: 15774 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
N	439m SE	Incident Date: 12/07/2001 Incident Identification: 15774 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
34	444m SE	Incident Date: 14/01/2015 Incident Identification: 1306549 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
37	468m S	Incident Date: 10/11/2003 Incident Identification: 200717 Pollutant: Other Pollutant Pollutant Description: Noise	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
38	483m S	Incident Date: 05/04/2013 Incident Identification: 1099781 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

4.19 Pollution inventory substances

Records within 500m	0
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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

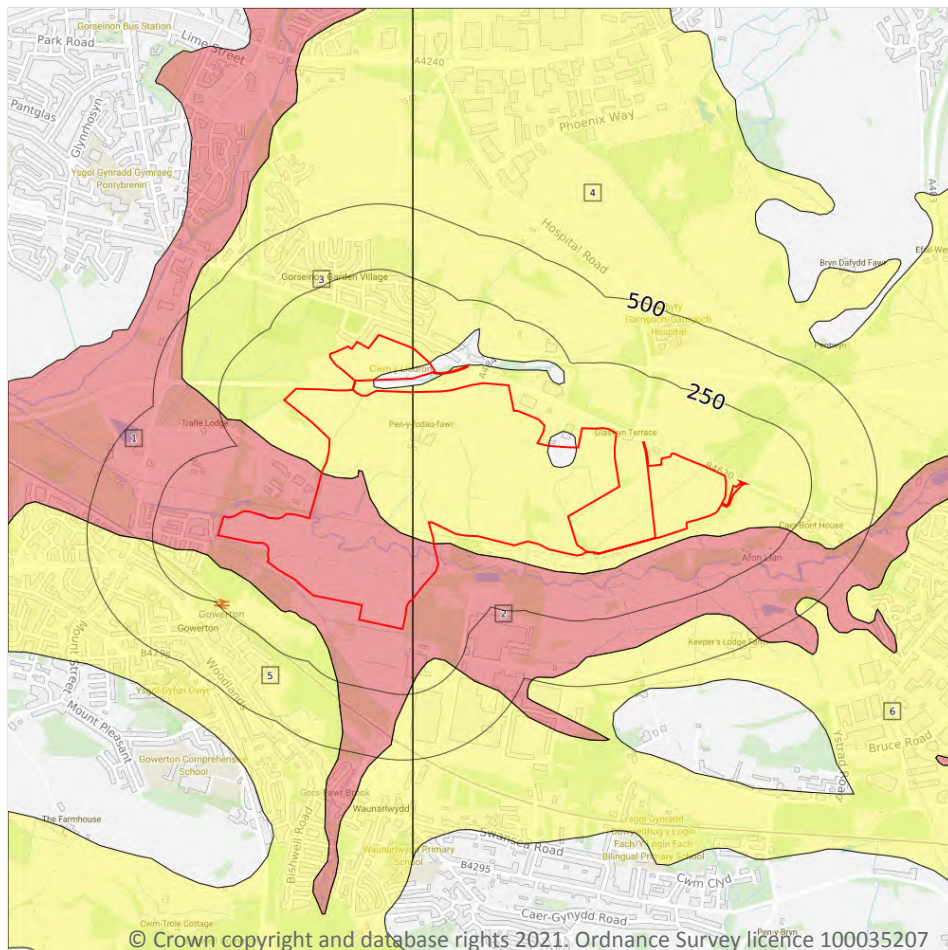
Records within 500m**0**

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

6

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 99**

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	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

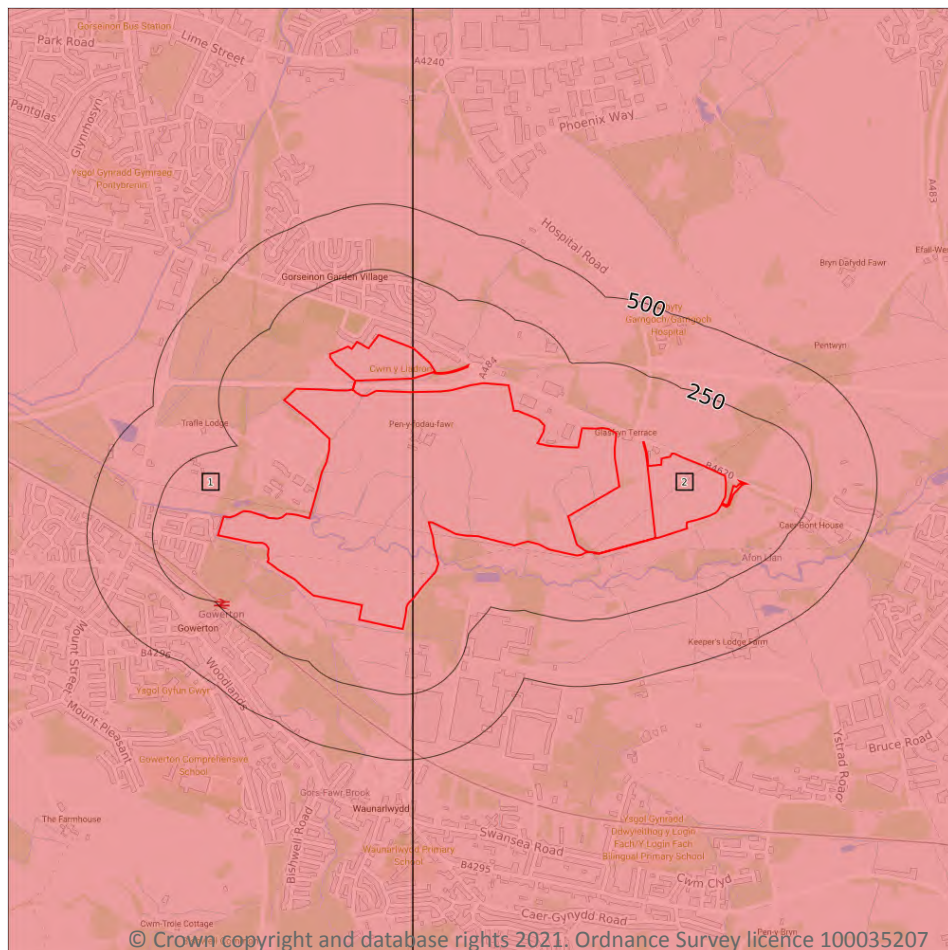


ID	Location	Designation	Description
3	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	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
5	85m SW	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
6	158m SE	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

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 101**

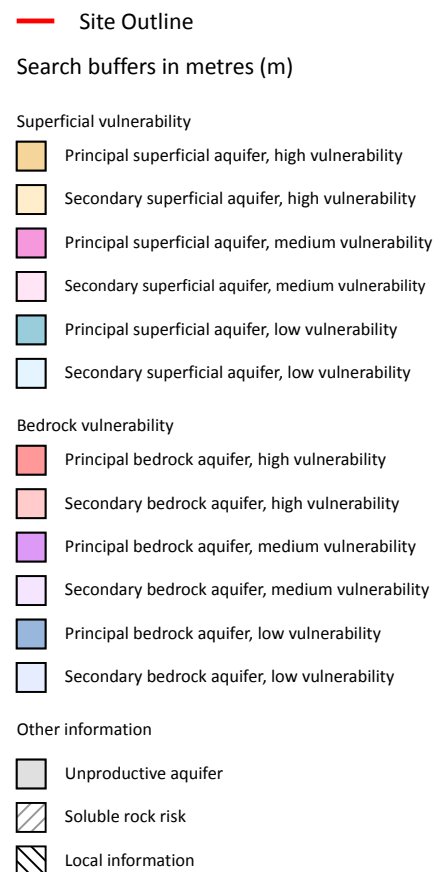
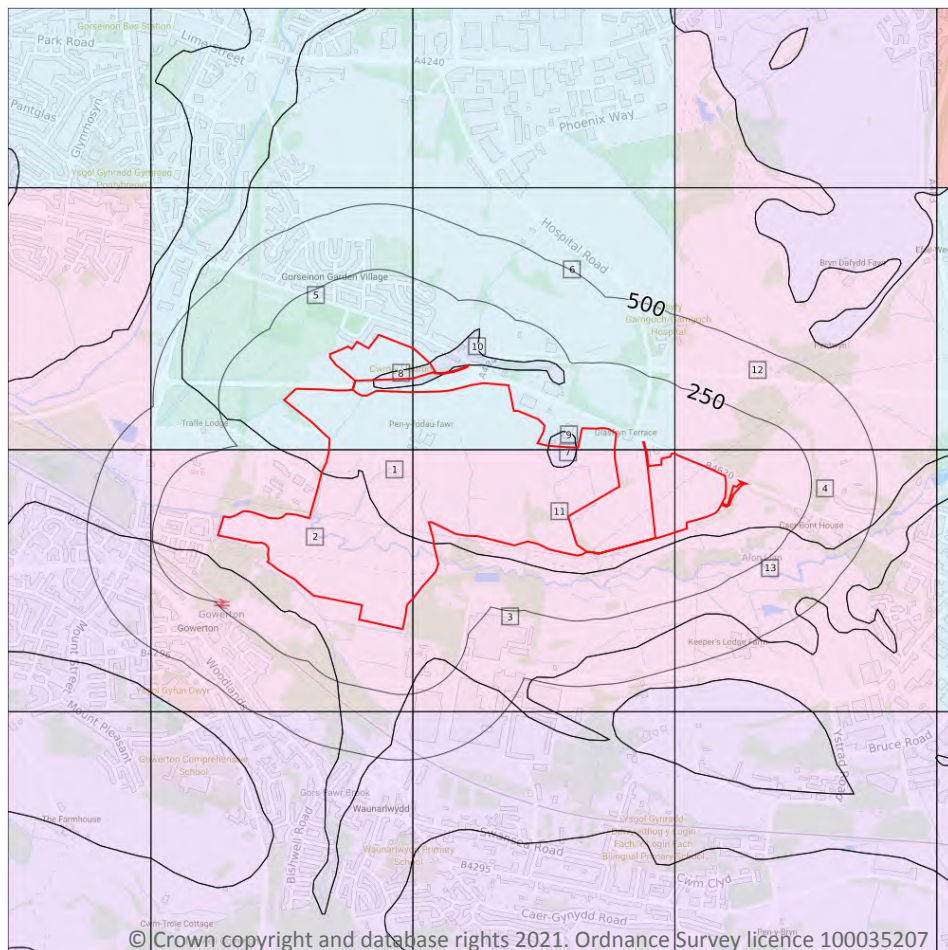
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary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



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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

13

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 103**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
5	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
6	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



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: 40-70% 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
8	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
9	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
10	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
11	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
12	14m N	Summary Classification: Secondary superficial aquifer - Medium 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: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
13	34m S	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: 40- 70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary 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

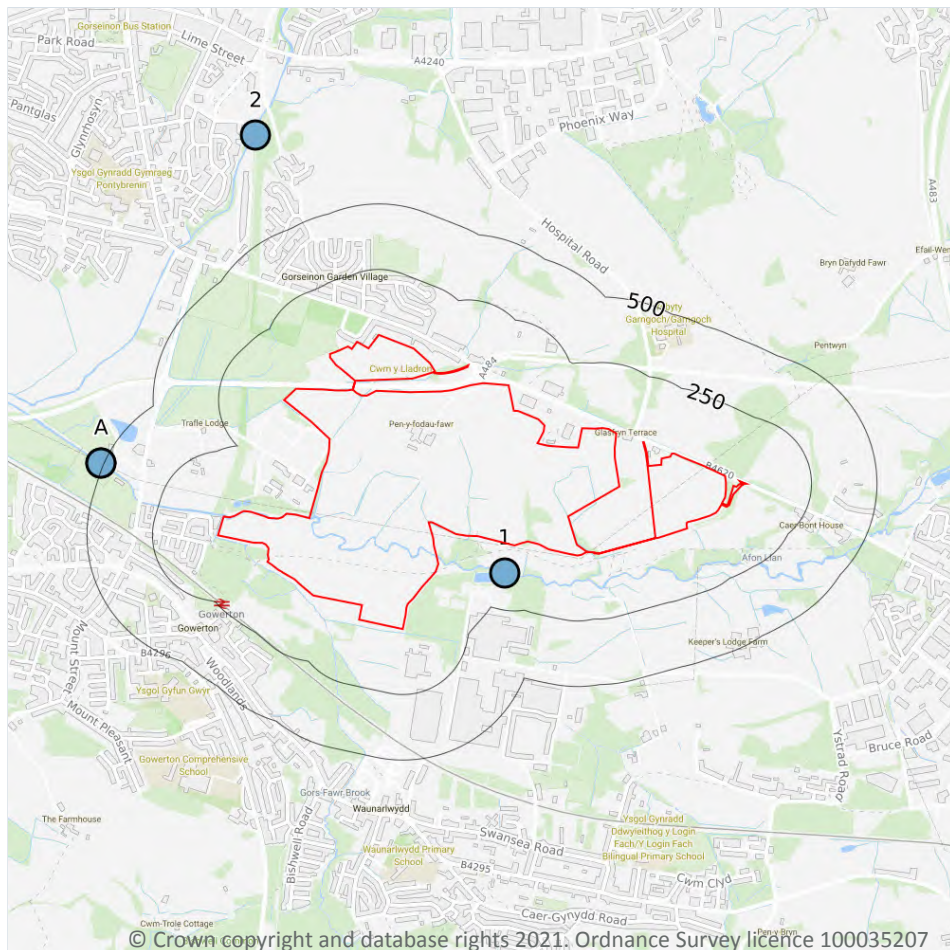
Records on site

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
Point 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

0

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.

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



5.7 Surface water abstractions

Records within 2000m

5

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 107**

ID	Location	Details	
1	110m S	Status: Historical Licence No: 22/59/4/0029 Details: Non-Evaporative Cooling Direct Source: EAW Surface Water Point: AFON LLAN NEAR WAUNARLWYDD Data Type: Point Name: Alcoa Manufacturing (GB) Ltd Easting: 260350 Northing: 196530	Annual Volume (m ³): 763728 Max Daily Volume (m ³): 2182.08 Original Application No: - Original Start Date: 28/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/02/1966 Version End Date: -
A	510m NW	Status: Historical Licence No: 22/59/4/0085 Details: Make-Up Or Top Up Water Direct Source: EAW Surface Water Point: AFON LLAN AT LLWCHWR Data Type: Point Name: Bromham Leisure Ltd Easting: 258810 Northing: 196950	Annual Volume (m ³): 22730 Max Daily Volume (m ³): 170.5 Original Application No: - Original Start Date: 23/10/1997 Expiry Date: - Issue No: 101 Version Start Date: 04/09/2008 Version End Date: -
A	510m NW	Status: Active Licence No: 22/59/4/0085 Details: Make-up or Top-up Water - High Direct Source: - Point: - Data Type: Point Name: - Easting: 258810 Northing: 196950	Annual Volume (m ³): 22,730 Max Daily Volume (m ³): 340.80 Original Application No: - Original Start Date: 2008-09-04 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
2	877m NW	Status: Historical Licence No: 22/59/4/0053 Details: General use relating to Secondary Category (Medium Loss) Direct Source: EAW Surface Water Point: RIVER LLIW AT POINT C Data Type: Point Name: British Steel Plc Easting: 259400 Northing: 198200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 04/01/2001 Version End Date: -



ID	Location	Details	
-	1939m NE	Status: Historical Licence No: 22/59/4/0087 Details: Lake & Pond Throughflow Direct Source: EAW Surface Water Point: AFON LLAN, PENLLERGAER, SWANSEA Data Type: Point Name: Bellway Homes (Wales Division) Easting: 262780 Northing: 198090	Annual Volume (m ³): 3,153,600 Max Daily Volume (m ³): 8640 Original Application No: - Original Start Date: 28/06/2000 Expiry Date: 27/6/2015 Issue No: 1 Version Start Date: 01/04/2004 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0
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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
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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.

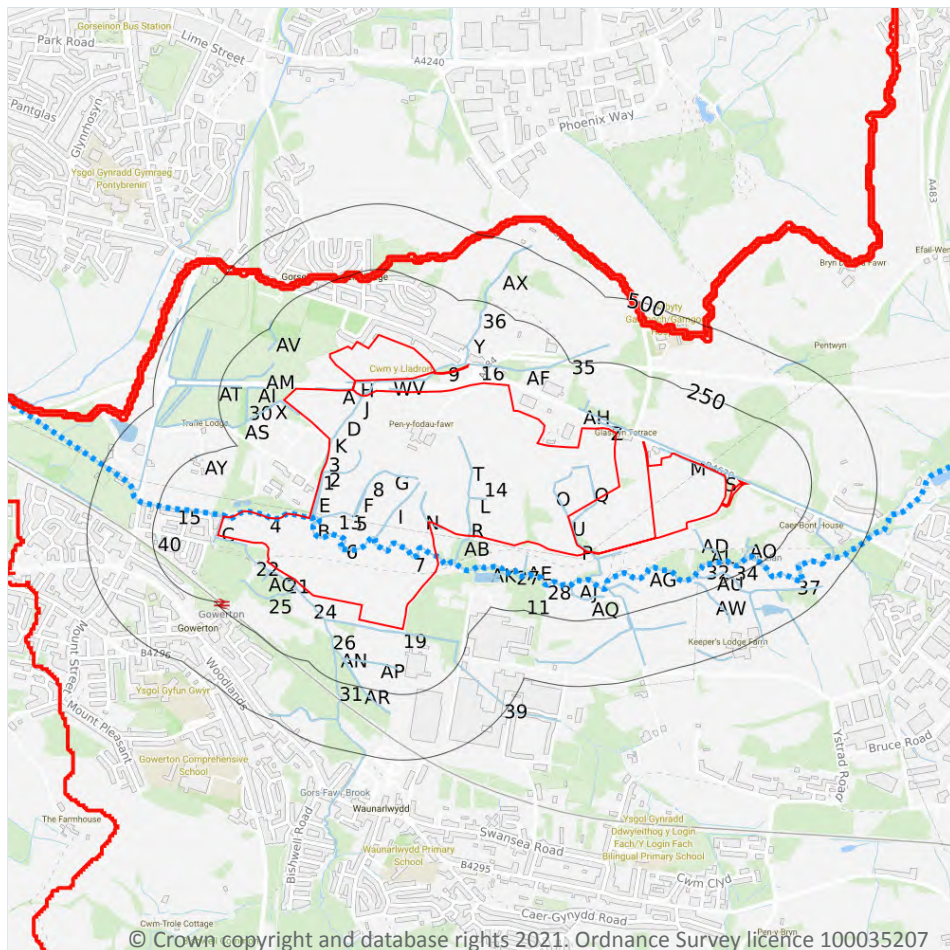
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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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

140

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 110**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	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
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
8	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	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.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan



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)	Afon Llan
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
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)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
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)	-
J	On site	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
J	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.	Underground	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	Underground	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)	-
L	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.	Underground	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	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
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
15	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
J	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	4m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
16	4m N	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
W	4m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	5m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
W	5m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	5m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	7m SW	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
S	9m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	10m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
Y	10m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	11m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	12m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	12m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	13m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
C	13m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
C	14m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	14m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
19	15m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
21	15m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
P	16m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	16m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
P	17m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	19m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
24	20m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
25	20m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	21m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	21m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	22m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	24m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	31m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	37m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	48m 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
AB	60m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AB	60m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	61m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	66m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	66m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	67m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	69m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
26	83m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
AI	88m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
27	93m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AJ	94m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AK	94m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AG	97m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan



ID	Location	Type of water feature	Ground level	Permanence	Name
P	98m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AL	102m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	109m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
28	111m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AJ	116m S	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
AM	122m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	126m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	131m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	132m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	132m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	137m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
30	142m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	143m 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
AI	146m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	147m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	147m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	147m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
31	149m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gors-Fawr Brook
32	150m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AL	151m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	152m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AN	152m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	154m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	159m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	159m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	160m SW	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
AR	160m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	164m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	168m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
AT	169m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	174m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	174m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	176m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	176m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
34	178m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AU	181m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AV	182m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	189m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	195m SW	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
35	198m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
36	204m N	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	204m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
37	206m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AX	208m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	228m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
39	231m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
40	234m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	248m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

49

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 110**

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 110**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
11	On site	River WB catchment	Llan - headwaters to tidal limit	GB110059032070	Loughor	Carmarthen Bay and the Gower

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 110**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
10	On site	River	Llan - headwaters to tidal limit	GB110059032070	Good	Good	Good	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 110**

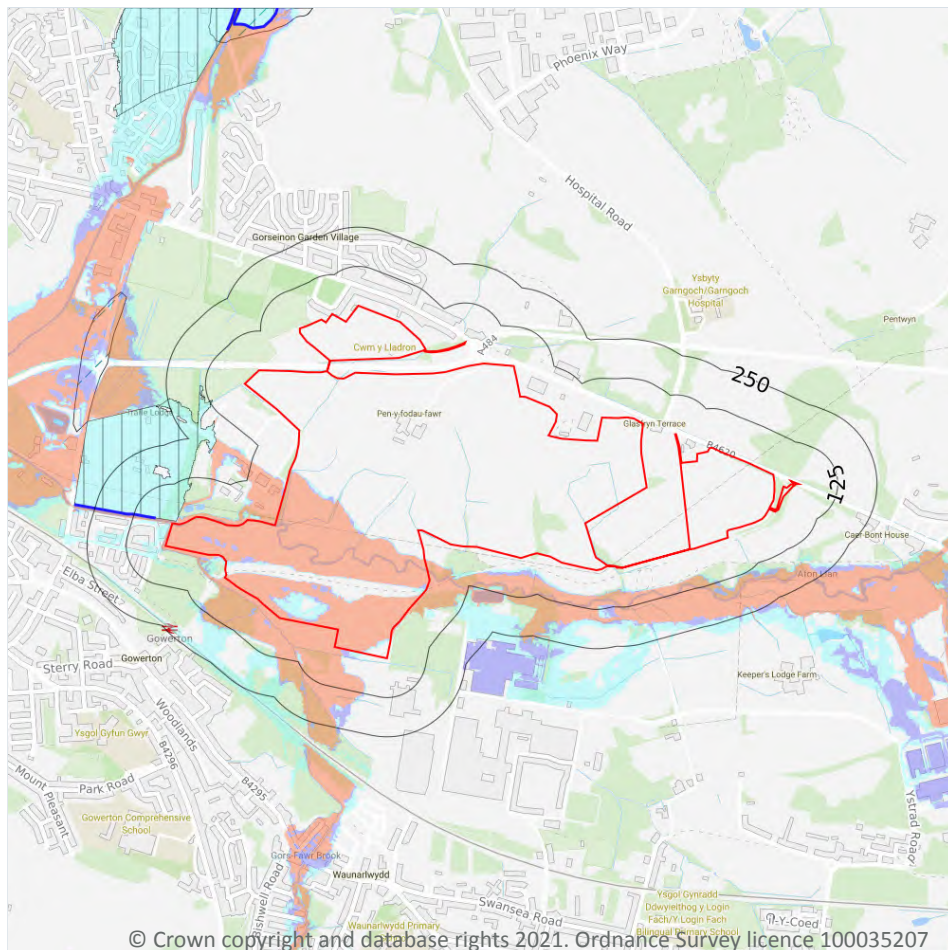


ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
14	On site	Carmarthen Carboniferous Coal Measures	GB41002G200600	Poor	Poor	Good	2017

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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

643

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

Features are displayed on the River and coastal flooding map on **page 124**



Distance	Flood risk category
On site	High
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	0
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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	1
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on **page 124**

ID	Location	Update
N	56m W	01/09/2021

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	1
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on **page 124**

ID	Location	
M	9m N	Area benefiting from flood defences

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

7.5 Flood Storage Areas

Records within 250m

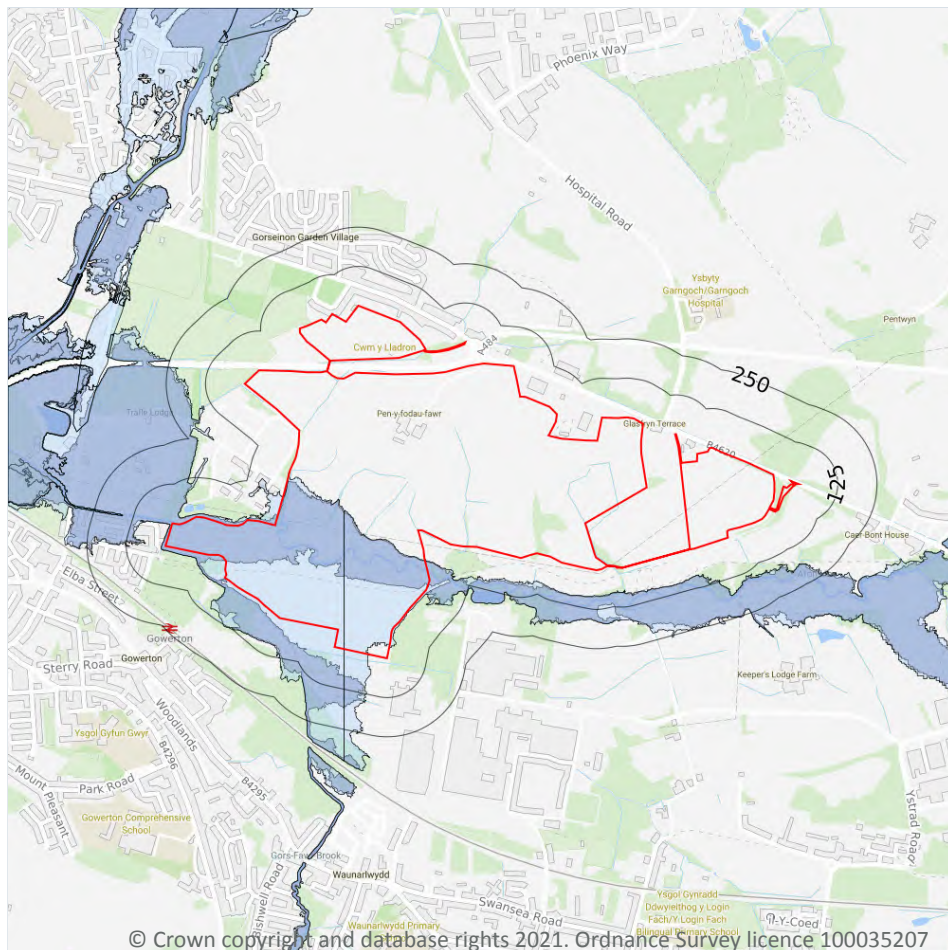
0

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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

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.

Features are displayed on the River and coastal flooding map on **page 124**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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.

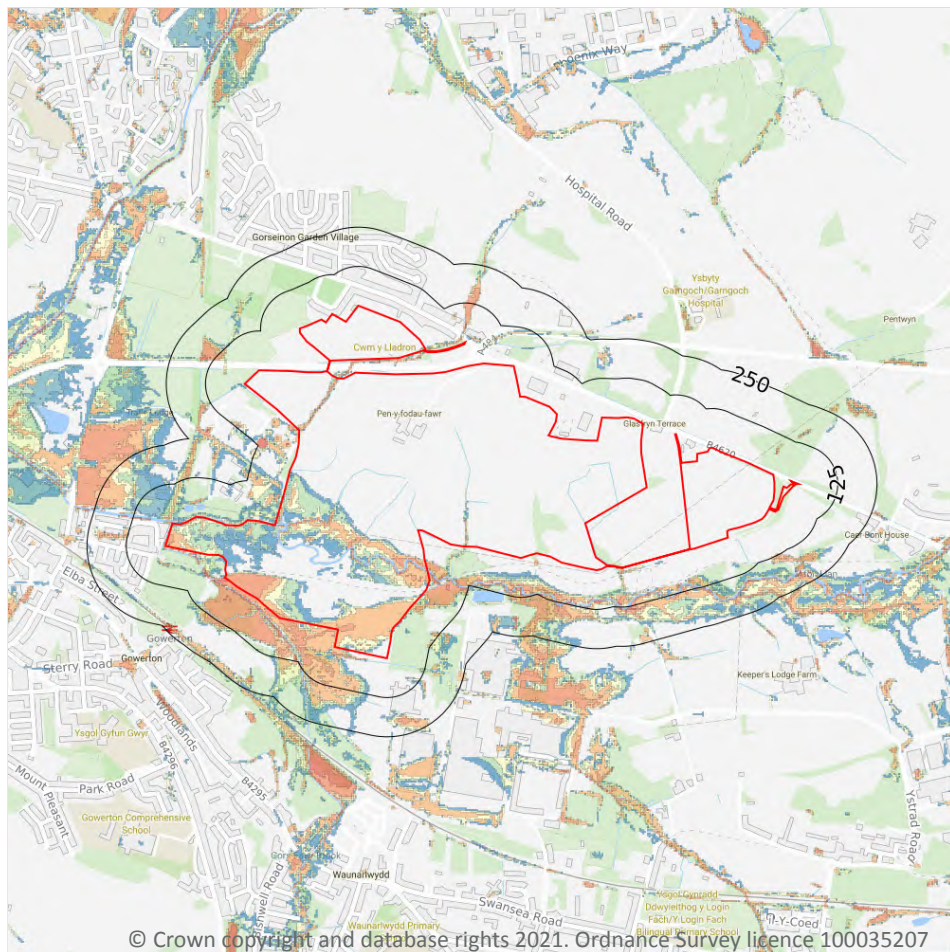
Features are displayed on the River and coastal flooding map on **page 124**

Location	Type
On site	Zone 3 - (Fluvial Models)

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, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 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 129**

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

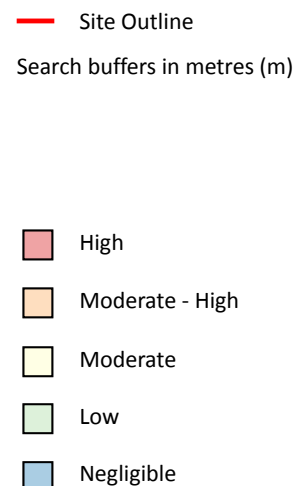
a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

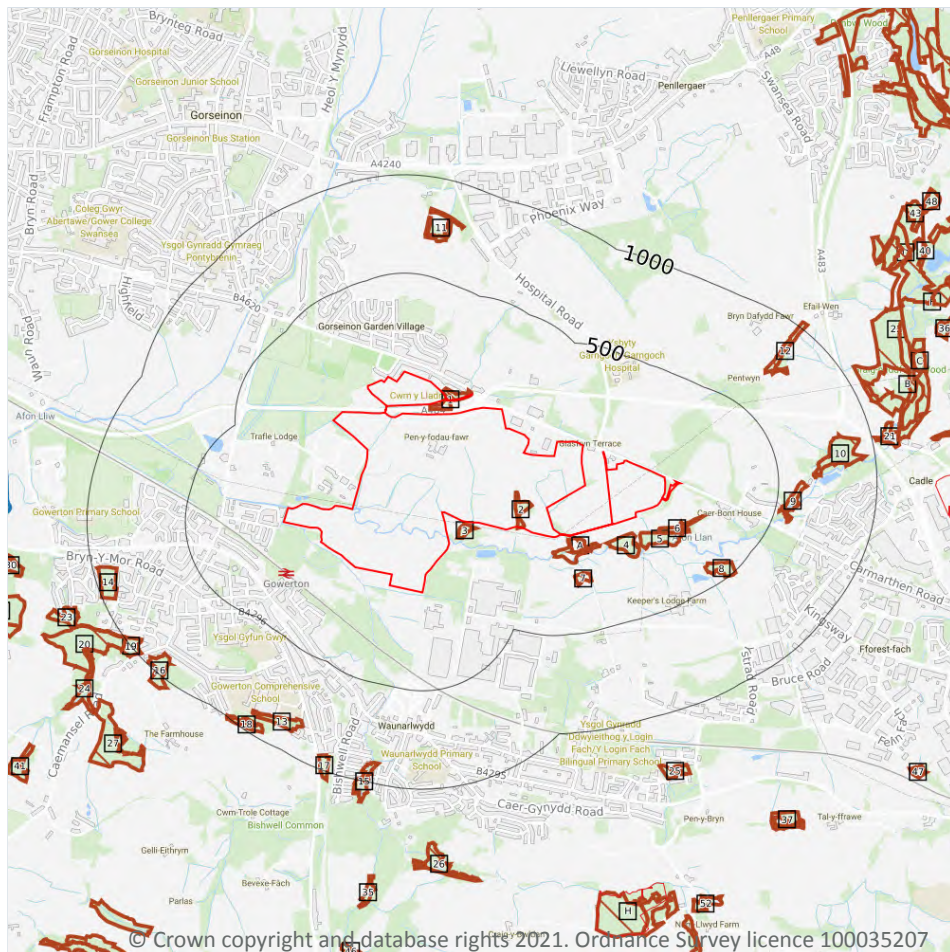
Low

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 131**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- ▣ Sites of Special Scientific Interest (SSSI)
- ⊗ Conserved wetland sites (Ramsar sites)
- ⊕ Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- ⊕ Local Nature Reserves (LNR)
- ▤ Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

3

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 132**

ID	Location	Name	Data source
33	1392m W	Burry Inlet And Loughor Estuary	Natural Resources Wales



ID	Location	Name	Data source
39	1679m NE	Penplas Grasslands	Natural Resources Wales
-	1871m W	Burry Inlet And Loughor Estuary	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

1

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.

Features are displayed on the Environmental designations map on **page 132**

ID	Location	Site	Details
E	1391m W	Name: Burry Inlet Site status: - Data source: Natural Resources Wales	Overview: Burry Inlet is a large estuarine complex located between the Gower Peninsula and Llanelli in South Wales. It includes extensive areas of intertidal sand and mud flats, together with large sand dune systems at the mouth of the estuary. The site contains the largest continuous area of saltmarsh in Wales (2,200 ha). The Burry Inlet regularly supports large numbers of wildfowl and waders. Ramsar criteria: -

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on **page 132**

ID	Location	Name	Features of interest	Habitat description	Data source
32	1392m W	Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Lagoons; Shallow inlets and bays; Glasswort and other annuals colonising mud and sand; Cord-grass swards; Atlantic salt meadows; Dunes with sea-buckthorn; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Lesser horseshoe bat; Greater horseshoe bat; Otter; Grey seal.	Shingle, Sea cliffs, Islets; Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Salt marshes, Salt pastures, Salt steppes	Natural Resources Wales

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

10.4 Special Protection Areas (SPA)

Records within 2000m

1

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.

Features are displayed on the Environmental designations map on **page 132**

ID	Location	Name	Species of interest	Habitat description	Data source
E	1392m W	Burry Inlet	Common shelduck; Eurasian wigeon; Eurasian teal; Northern pintail; Northern shoveler; Eurasian oystercatcher; Grey plover; Red knot; Eurasian curlew; Common redshank; Ruddy turnstone; Dunlin	Coniferous woodland; Salt marshes, Salt pastures, Salt steppes; Shingle, Sea cliffs, Islets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins); Coastal sand dunes, Sand beaches, Machair	

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

2

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.

Features are displayed on the Environmental designations map on **page 132**

ID	Location	Name	Data source
28	1297m E	CADLE HEATH	Natural Resources Wales
H	1764m SE	CWMLLWYD WOOD	Natural Resources Wales

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

10.7 Designated Ancient Woodland

Records within 2000m

70

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 132**

ID	Location	Name	Woodland Type
1	On site	Unknown	Ancient Semi Natural Woodland
2	On site	Unknown	Restored Ancient Woodland Site
3	12m S	Unknown	Ancient Semi Natural Woodland
A	17m S	Unknown	Restored Ancient Woodland Site
A	24m S	Unknown	Ancient Semi Natural Woodland
4	72m S	Unknown	Restored Ancient Woodland Site
5	85m S	Unknown	Restored Ancient Woodland Site
6	112m S	Unknown	Ancient Semi Natural Woodland
7	201m S	Unknown	Ancient Semi Natural Woodland
8	383m SE	Unknown	Restored Ancient Woodland Site



ID	Location	Name	Woodland Type
9	522m E	Unknown	Ancient Semi Natural Woodland
10	679m E	Unknown	Ancient Semi Natural Woodland
11	682m N	Unknown	Ancient Semi Natural Woodland
12	709m NE	Unknown	Restored Ancient Woodland Site
13	820m SW	Unknown	Ancient Semi Natural Woodland
14	880m W	Unknown	Restored Ancient Woodland Site
15	897m S	Unknown	Ancient Semi Natural Woodland
16	901m SW	Unknown	Ancient Semi Natural Woodland
17	921m S	Unknown	Ancient Semi Natural Woodland
18	934m SW	Unknown	Ancient Semi Natural Woodland
19	937m SW	Unknown	Ancient Semi Natural Woodland
20	994m SW	Unknown	Ancient Semi Natural Woodland
21	1015m E	Unknown	Ancient Semi Natural Woodland
22	1054m NE	Unknown	Restored Ancient Woodland Site
23	1083m SW	Unknown	Ancient Semi Natural Woodland
B	1132m E	Unknown	Restored Ancient Woodland Site
24	1186m SW	Unknown	Ancient Semi Natural Woodland
B	1243m E	Unknown	Ancient Semi Natural Woodland
25	1248m S	Unknown	Ancient Semi Natural Woodland
26	1273m S	Unknown	Ancient Semi Natural Woodland
27	1278m SW	Unknown	Ancient Semi Natural Woodland
29	1301m E	Unknown	Ancient Semi Natural Woodland
C	1330m NE	Unknown	Plantation on Ancient Woodland Site
30	1345m W	Unknown	Ancient Semi Natural Woodland
C	1361m NE	Unknown	Ancient Semi Natural Woodland
31	1379m W	Unknown	Restored Ancient Woodland Site
D	1385m NE	Unknown	Ancient Woodland Site of Unknown Category
34	1443m W	Unknown	Restored Ancient Woodland Site



ID	Location	Name	Woodland Type
35	1462m S	Unknown	Ancient Semi Natural Woodland
D	1498m NE	Unknown	Restored Ancient Woodland Site
D	1499m NE	Unknown	Restored Ancient Woodland Site
D	1500m NE	Unknown	Restored Ancient Woodland Site
36	1509m NE	Unknown	Ancient Semi Natural Woodland
D	1512m NE	Unknown	Ancient Woodland Site of Unknown Category
F	1560m NE	Unknown	Restored Ancient Woodland Site
F	1581m NE	Unknown	Plantation on Ancient Woodland Site
37	1658m SE	Unknown	Ancient Semi Natural Woodland
-	1660m W	Unknown	Restored Ancient Woodland Site
G	1676m NE	Unknown	Ancient Semi Natural Woodland
40	1679m NE	Unknown	Restored Ancient Woodland Site
G	1682m NE	Unknown	Restored Ancient Woodland Site
41	1710m SW	Unknown	Restored Ancient Woodland Site
G	1716m NE	Unknown	Plantation on Ancient Woodland Site
-	1744m W	Unknown	Restored Ancient Woodland Site
43	1747m NE	Unknown	Restored Ancient Woodland Site
44	1773m NE	Unknown	Restored Ancient Woodland Site
H	1779m SE	Unknown	Ancient Semi Natural Woodland
-	1822m SW	Unknown	Ancient Semi Natural Woodland
46	1824m S	Unknown	Ancient Semi Natural Woodland
47	1840m SE	Unknown	Ancient Semi Natural Woodland
48	1843m NE	Unknown	Restored Ancient Woodland Site
H	1868m S	Unknown	Ancient Semi Natural Woodland
H	1875m S	Unknown	Ancient Semi Natural Woodland
-	1881m NE	Unknown	Ancient Semi Natural Woodland
-	1886m NE	Unknown	Plantation on Ancient Woodland Site
-	1887m E	Unknown	Ancient Semi Natural Woodland

ID	Location	Name	Woodland Type
-	1925m NE	Unknown	Ancient Semi Natural Woodland
52	1942m S	Unknown	Ancient Semi Natural Woodland
-	1960m SW	Unknown	Restored Ancient Woodland Site
-	1960m SW	Unknown	Ancient Semi Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0
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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
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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
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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
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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
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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
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m**0**

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

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

11.3 National Parks

Records within 250m**0**

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

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

11.4 Listed Buildings

Records within 250m**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

1

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

Features are displayed on the Visual and cultural designations map on **page 142**

ID	Location	Ancient monument name	Reference number
1	74m NE	Mynydd Carn-Goch Roman Earthworks	3576

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

11.7 Registered Parks and Gardens

Records within 250m

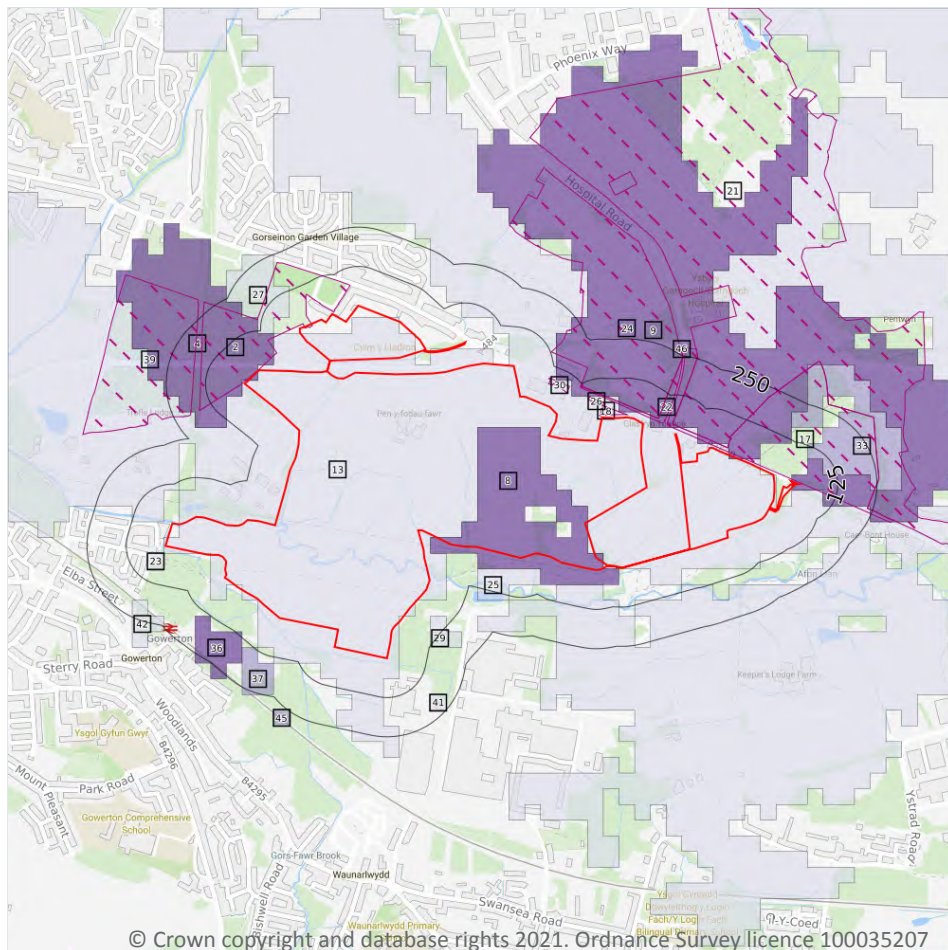
0

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

14

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 145**

ID	Location	Classification	Description
4	On site	Grade 5	Very poor quality agricultural land
8	On site	Grade 5	Very poor quality agricultural land
9	On site	Grade 5	Very poor quality agricultural land



ID	Location	Classification	Description
13	On site	Grade 3b	Moderate quality agricultural land
23	24m S	Grade 3b	Moderate quality agricultural land
25	35m S	Grade 3b	Moderate quality agricultural land
27	48m NW	Grade 3b	Moderate quality agricultural land
29	66m SE	Grade 3b	Moderate quality agricultural land
33	84m E	Grade 4	Poor quality agricultural land
36	110m SW	Grade 5	Very poor quality agricultural land
37	117m SW	Grade 4	Poor quality agricultural land
41	181m SE	Grade 3b	Moderate quality agricultural land
42	182m S	Grade 3b	Moderate quality agricultural land
45	248m SW	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m

11

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.

Features are displayed on the Agricultural designations map on **page 145**

ID	Location	Name	Classification	Other relevant legislation
2	On site	-	Open Access Other Statutory Access Land	-
17	6m NE	-	Open Access Open Country	-
18	7m N	-	Open Access Other Statutory Access Land	-
19	9m NW	-	Open Access Other Statutory Access Land	-
21	20m NE	-	Open Access Other Statutory Access Land	-
22	22m NE	-	Open Access Open Country	-
24	31m NE	-	Open Access Other Statutory Access Land	-
26	38m N	-	Open Access Other Statutory Access Land	-



ID	Location	Name	Classification	Other relevant legislation
30	67m N	-	Open Access Other Statutory Access Land	-
39	165m W	-	Open Access Other Statutory Access Land	-
46	250m N	-	Open Access Open Country	-

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

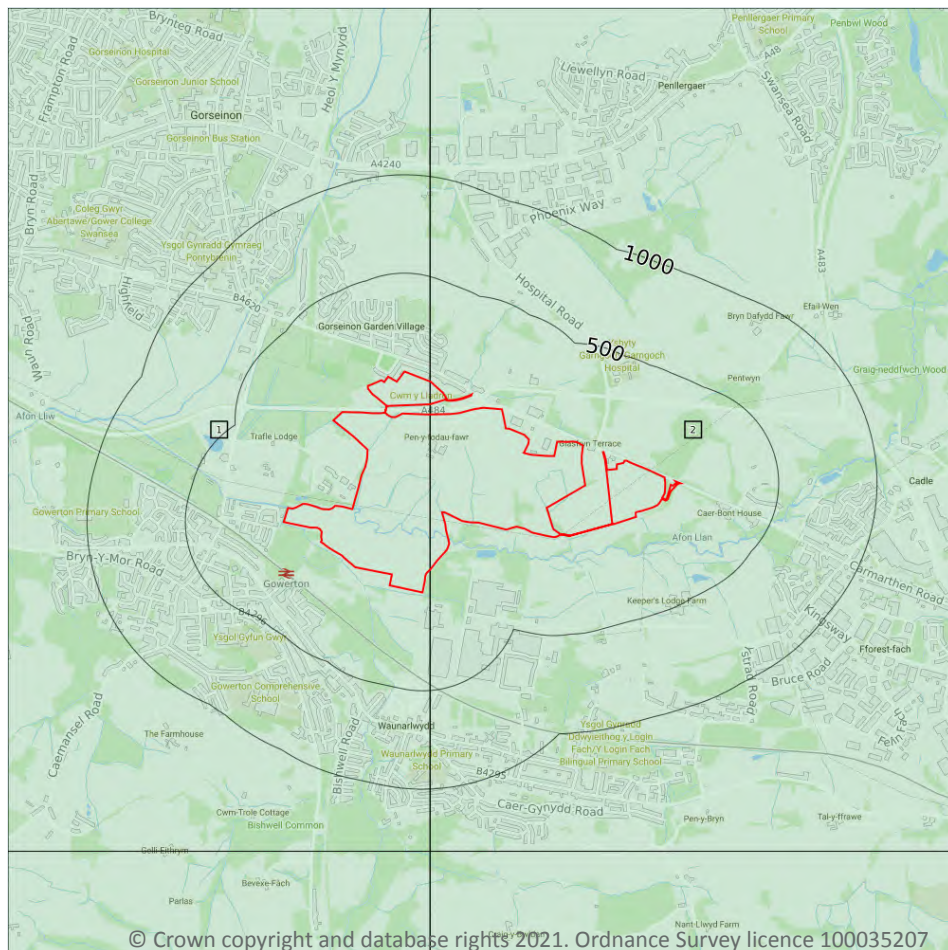
Records within 250m**0**

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

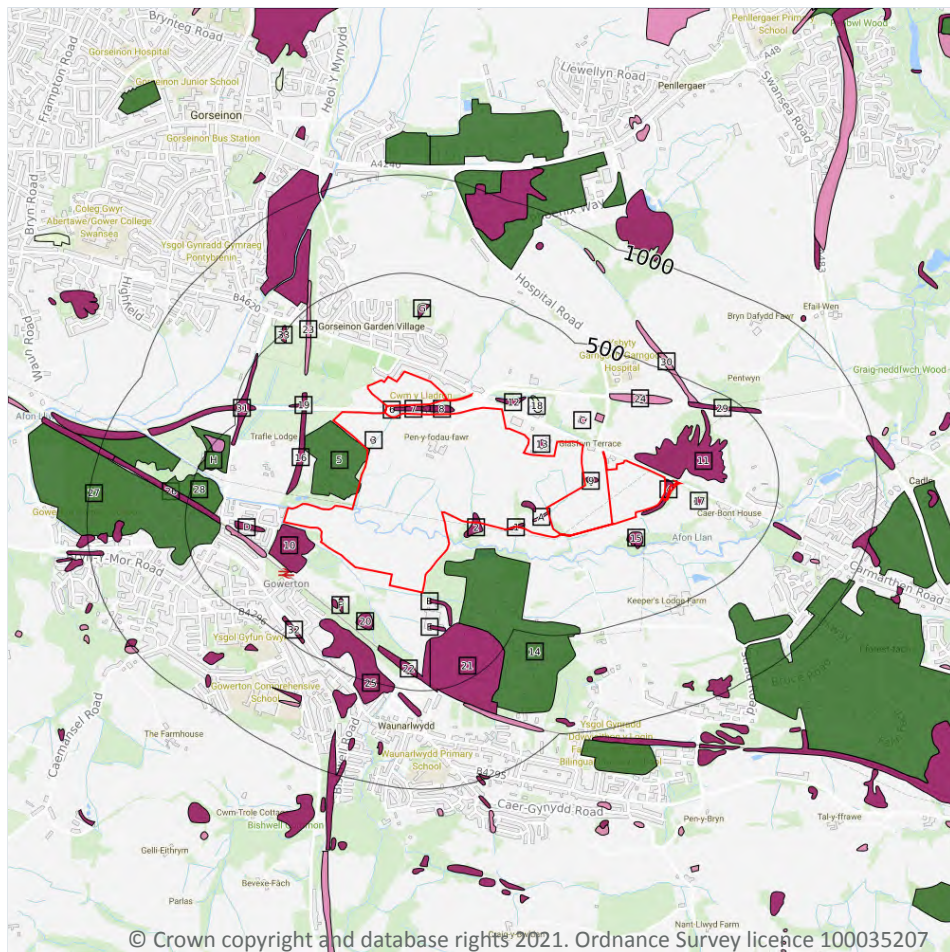
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme. Features are displayed on the Geology 1:10,000 scale - Availability map on **page 149**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SS59NE
2	On site	Full	Full	Full	Full	SS69NW

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

49

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.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 150**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	On site	WGR-VOID	Worked Ground (Undivided)	Void
4	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit



ID	Location	LEX Code	Description	Rock description
5	On site	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
A	On site	WGR-VOID	Worked Ground (Undivided)	Void
A	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	7m S	WGR-VOID	Worked Ground (Undivided)	Void
7	7m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	7m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	10m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	11m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
11	16m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12	34m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
13	35m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
14	36m SE	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
B	47m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	51m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
15	68m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
16	69m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	98m N	WGR-VOID	Worked Ground (Undivided)	Void
D	104m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
17	112m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
18	131m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
C	144m NE	WGR-VOID	Worked Ground (Undivided)	Void
19	150m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
E	170m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
E	170m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
F	172m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	176m SW	WGR-VOID	Worked Ground (Undivided)	Void
20	176m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
F	195m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

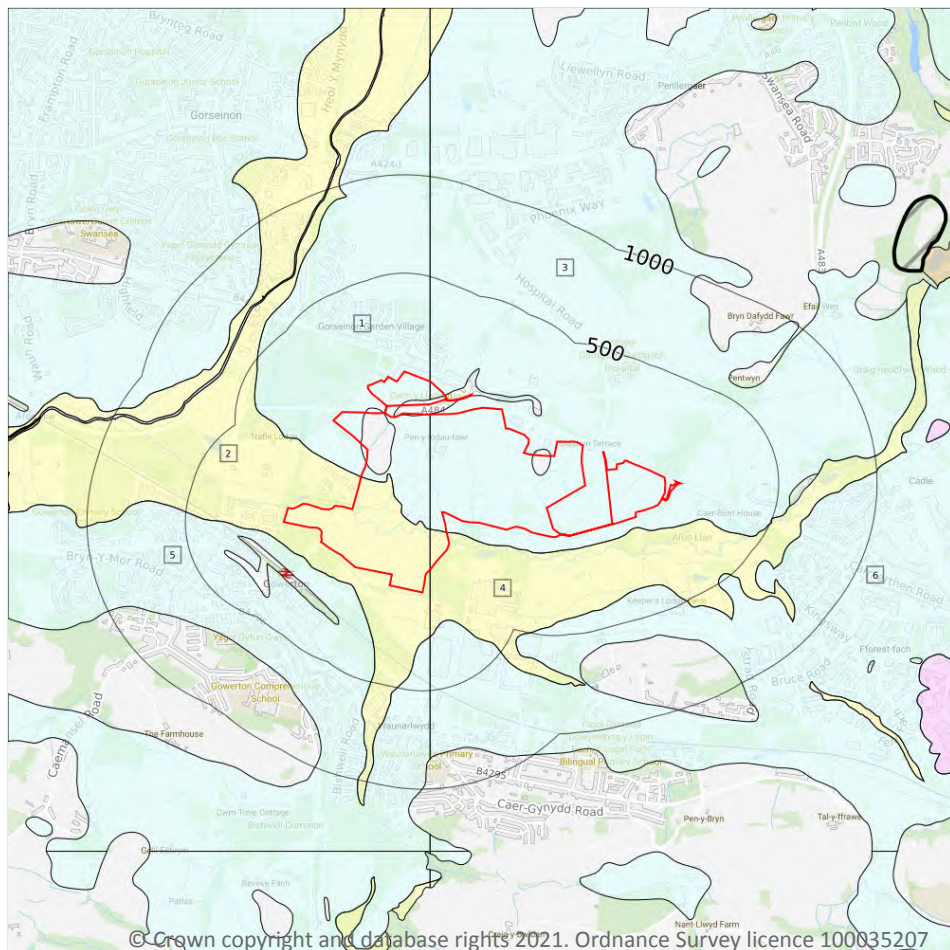


ID	Location	LEX Code	Description	Rock description
21	226m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
22	240m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
23	263m NW	WGR-VOID	Worked Ground (Undivided)	Void
24	271m N	WGR-VOID	Worked Ground (Undivided)	Void
G	276m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
25	292m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
26	322m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
27	322m W	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
28	329m W	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
H	360m NW	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
G	360m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
29	383m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
30	398m NE	WGR-VOID	Worked Ground (Undivided)	Void
31	399m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
32	413m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
H	440m NW	WGR-VOID	Worked Ground (Undivided)	Void
33	454m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

6

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 153**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton



ID	Location	LEX Code	Description	Rock description
4	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
5	90m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
6	181m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

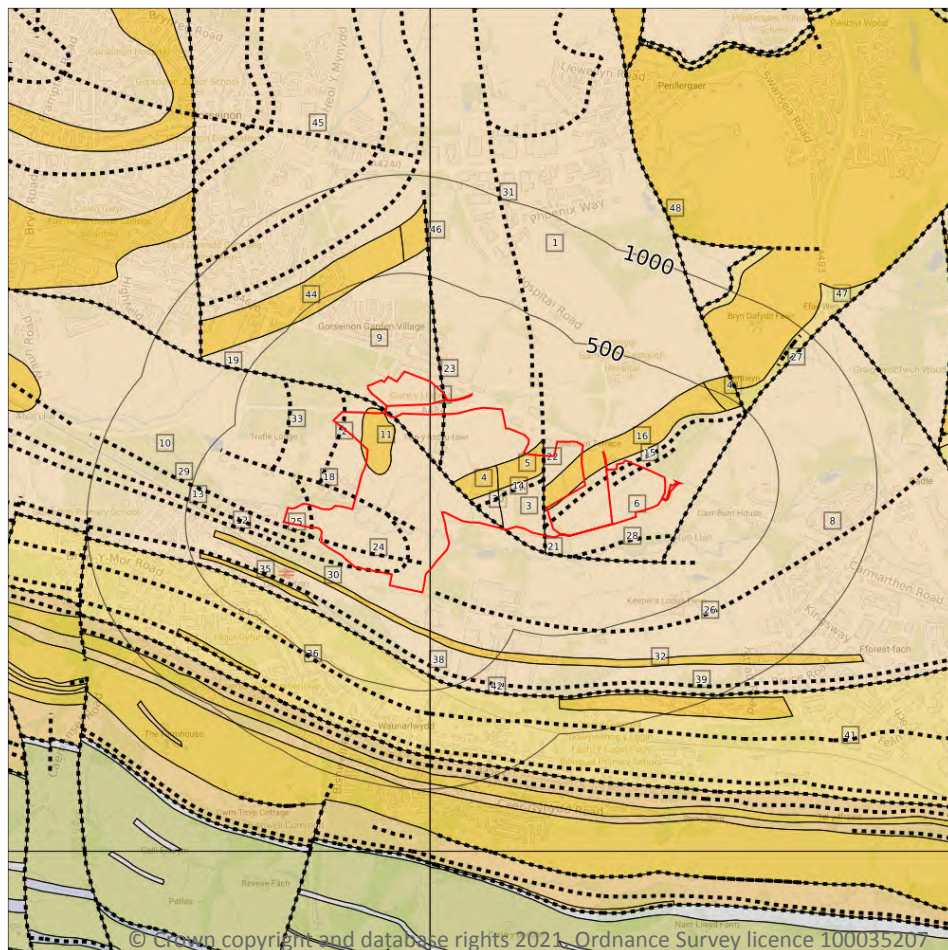
0

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



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

21

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 155**

ID	Location	LEX Code	Description	Rock age
1	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
3	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
4	On site	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age

ID	Location	LEX Code	Description	Rock age
5	On site	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
6	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
7	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
8	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
9	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
10	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
11	On site	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
16	On site	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
20	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
30	118m SW	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
32	200m S	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
35	265m SW	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
36	294m SW	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
41	427m S	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
43	437m NE	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
44	456m NW	GDB-SDST	Grovesend Formation - Sandstone	Westphalian D Sub-age
45	478m N	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
47	484m NE	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

27

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 155**

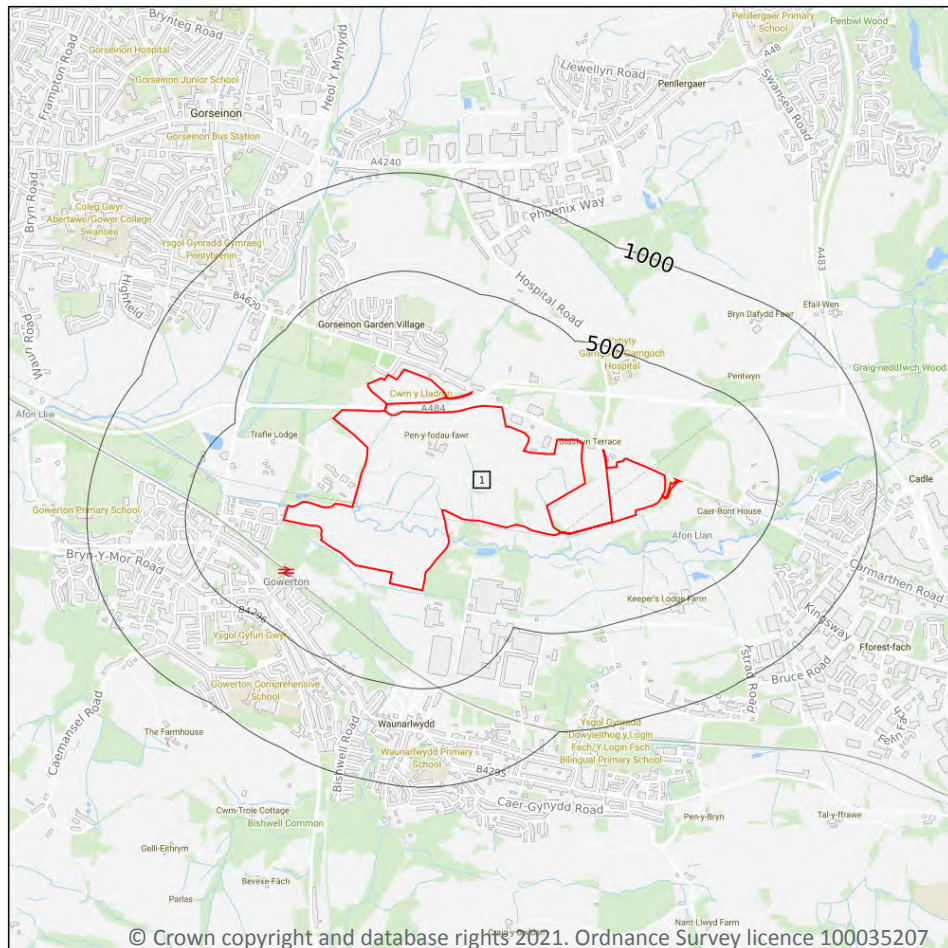


ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred (BOTTOM SEAM OF GELLI GROUP)
12	On site	ROCK	Coal seam, inferred (BOTTOM SEAM OF GELLI GROUP OF COALS (CONJECTURAL))
13	On site	ROCK	Coal seam, inferred (TOP SEAM OF GELLI GROUP OF COALS (CONJECTURAL))
14	On site	ROCK	Coal seam, inferred (PEN)
15	On site	ROCK	Coal seam, inferred (PEN)
17	On site	ROCK	Coal seam, inferred (LOUGHOR LITTLE)
18	On site	FAULT	Normal fault, inferred
19	On site	FAULT	Normal fault, inferred
21	On site	FAULT	Normal fault, inferred
22	On site	FAULT	Normal fault, inferred
23	On site	FAULT	Normal fault, inferred
24	On site	FOLD_AXIS	Axial plane trace of major syncline
25	20m S	FOLD_AXIS	Axial plane trace of major syncline
26	62m E	FOLD_AXIS	Axial plane trace of major syncline
27	100m SE	FAULT	Normal fault, inferred
28	100m S	ROCK	Coal seam, inferred (SW 4 FT)
29	117m W	FOLD_AXIS	Axial plane trace of major syncline
31	193m NE	FAULT	Normal fault, inferred
33	212m N	ROCK	Coal seam, inferred (TOP SEAM OF GELLI GROUP)
34	232m SW	ROCK	Coal seam, inferred (PEN)
37	294m SW	ROCK	Coal seam, inferred (SW 4 FT)
38	373m S	ROCK	Coal seam, inferred (PEN)
39	376m S	ROCK	Coal seam, inferred (PEN)
40	427m S	ROCK	Coal seam, inferred (SW 4 FT)
42	428m S	ROCK	Coal seam, inferred (SW 4 FT)
46	478m N	FAULT	Normal fault, inferred
48	484m NE	FAULT	Normal fault, inferred

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.

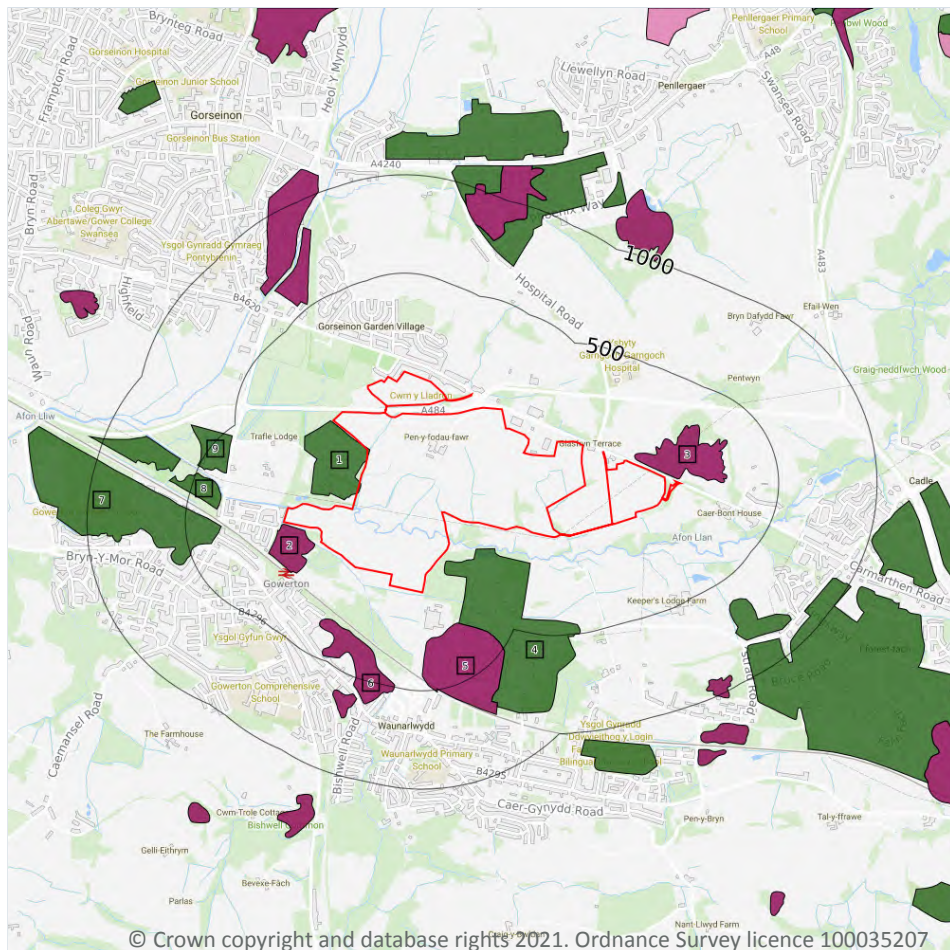
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 158**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW247_swansea_v4

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

9

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. Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 159**

ID	Location	LEX Code	Description	Rock description
1	On site	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
2	11m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	16m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	36m SE	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND



ID	Location	LEX Code	Description	Rock description
5	226m SE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
6	292m SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
7	318m W	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
8	340m W	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
9	360m NW	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

4

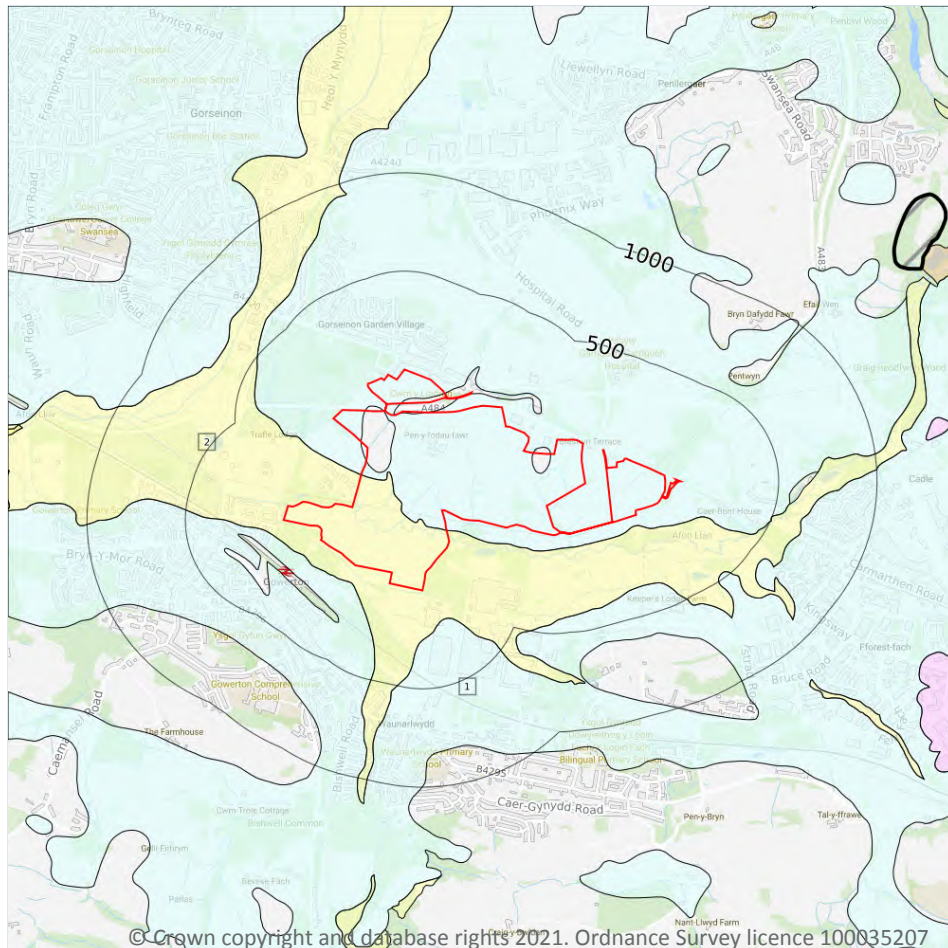
A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Very High	Low
11m W	Mixed	Very High	Low
16m E	Mixed	Very High	Low
36m SE	Mixed	Very High	Low

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

2

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 161**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	On site	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

4

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	Intergranular	High	Very Low
On site	Mixed	High	Low
On site	Intergranular	High	Very Low
On site	Mixed	High	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)

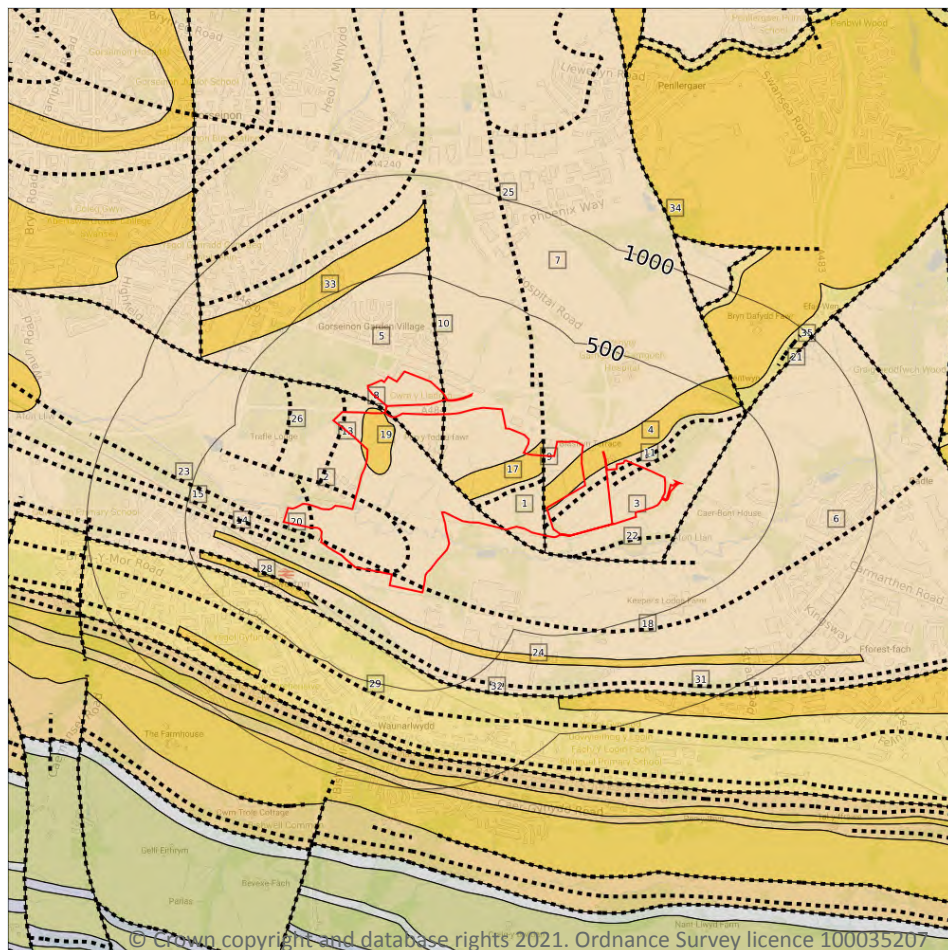
Records within 50m

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

13

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 163**

ID	Location	LEX Code	Description	Rock age
1	On site	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	On site	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	On site	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
5	On site	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	On site	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	On site	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	On site	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN
19	On site	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN
24	118m SW	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN
28	253m SW	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN
29	294m SW	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
33	456m NW	GDB-SDST	GROVESEND FORMATION - SANDSTONE	WESTPHALIAN
35	484m NE	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

5

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

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m

22

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.

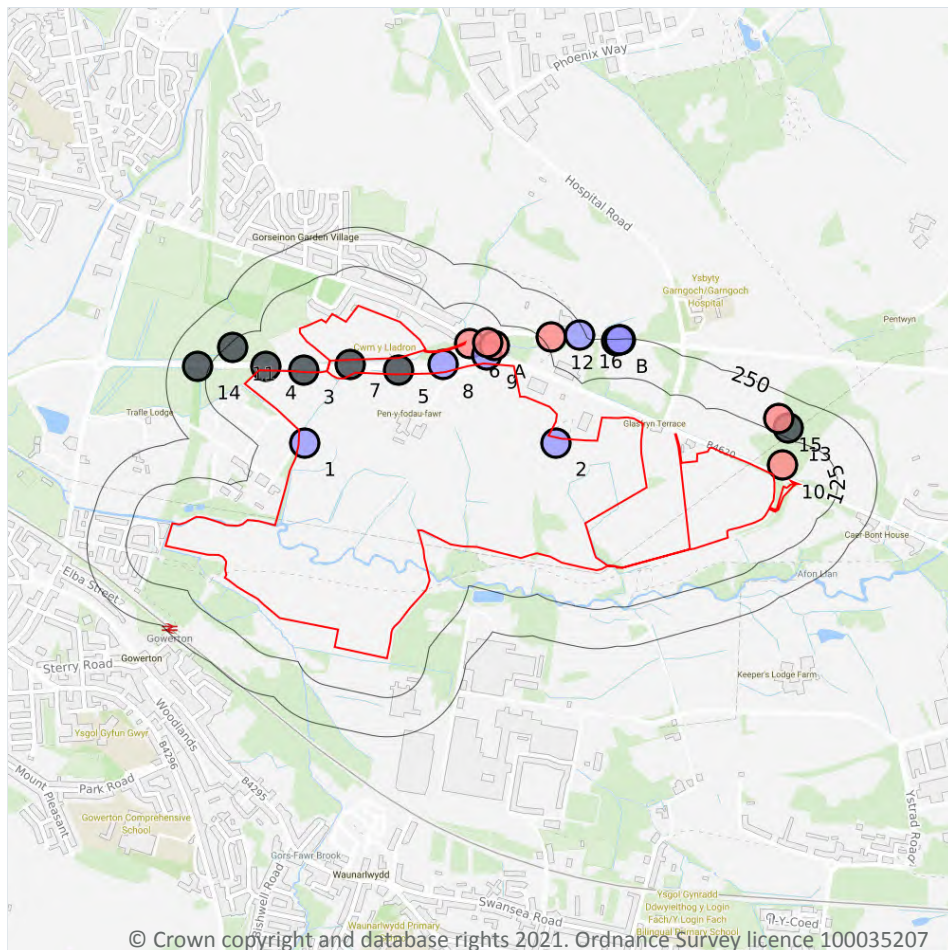
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 163**

ID	Location	Category	Description
2	On site	FAULT	Fault, inferred, displacement unknown
8	On site	FAULT	Fault, inferred, displacement unknown
9	On site	FAULT	Fault, inferred, displacement unknown
10	On site	FAULT	Fault, inferred, displacement unknown
11	On site	ROCK	Coal seam, inferred
12	On site	ROCK	Coal seam, inferred
13	On site	ROCK	Coal seam, inferred
14	On site	ROCK	Coal seam, inferred
15	On site	ROCK	Coal seam, inferred
16	On site	ROCK	Coal seam, inferred
18	On site	FOLD_AXIS	Axial plane trace of major syncline
20	20m S	FOLD_AXIS	Axial plane trace of major syncline
21	100m SE	FAULT	Fault, inferred, displacement unknown
22	100m S	ROCK	Coal seam, inferred
23	117m W	FOLD_AXIS	Axial plane trace of major syncline
25	193m NE	FAULT	Fault, inferred, displacement unknown
26	212m N	ROCK	Coal seam, inferred
27	232m SW	ROCK	Coal seam, inferred
30	294m SW	ROCK	Coal seam, inferred
31	373m S	ROCK	Coal seam, inferred
32	428m S	ROCK	Coal seam, inferred
34	484m NE	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

21

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 166**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	259700 197000	OAK LANDS O/C SITE 272	-2.0	N	367912
2	On site	260500 197000	CAPE COLLIERY. 271	-2.0	N	369399

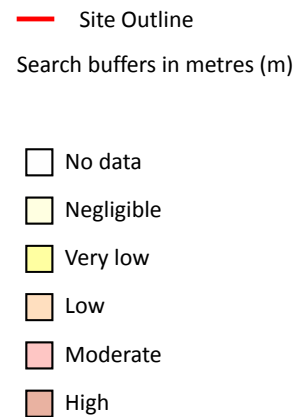
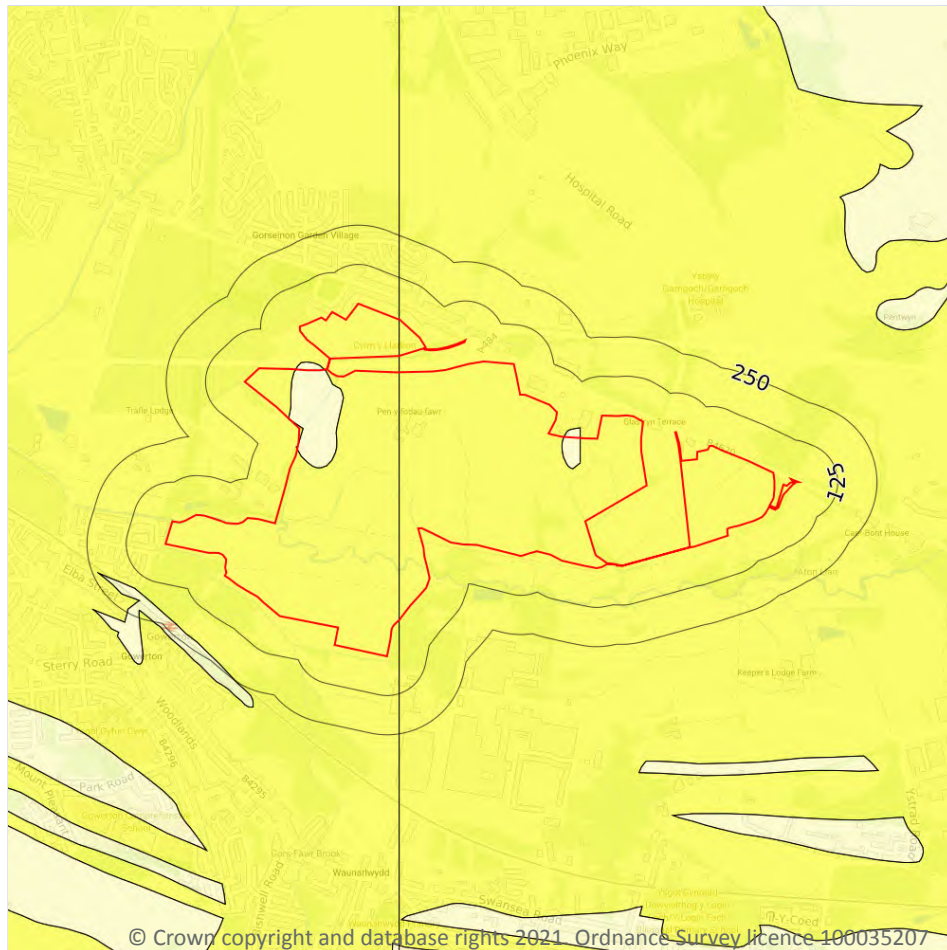


ID	Location	Grid reference	Name	Length	Confidential	Web link
3	5m N	259697 197232	LLANELLI LINK ROAD 39	-	Y	N/A
4	12m N	259576 197244	LLANELLI LINK ROAD TP 4	-	Y	N/A
5	14m N	259998 197234	LLANELLI LINK ROAD TP 5	-	Y	N/A
6	15m SE	260224 197316	LLANELLI LINK ROAD 43	40.0	N	369723
7	15m S	259844 197251	LLANELLI LINK ROAD 40	-	Y	N/A
8	24m N	260140 197250	LLANELLI LINK ROAD 41	3.6	N	369721
9	27m N	260280 197280	LLANELLI LINK ROAD 42	4.5	N	369722
10	41m NE	261220 196930	GARN GOCH COLLIERY, NO.1 SHAFT	283.77	N	369528
A	59m N	260302 197311	LLANELLI LINK ROAD 44	37.0	N	369724
A	67m N	260283 197320	LLANELLI LINK ROAD 44A	35.0	N	369725
11	110m NW	259470 197304	LLANELLI LINK ROAD 38	-	Y	N/A
12	152m NE	260484 197340	LLANELLI LINK ROAD 45	39.7	N	369726
13	156m NE	261240 197050	LLANELLI-SWANSEA LINE. 17/2	-	Y	N/A
14	159m W	259359 197244	LLANELLI LINK ROAD 37	-	Y	N/A
15	171m NE	261210 197080	GARN GOCH COLLIERY, NO.4 SHAFT	34.44	N	369527
16	232m NE	260575 197345	LLANELLI LINK ROAD 46	5.0	N	369727
B	247m N	260692 197328	LLANELLI LINK ROAD 47	7.05	N	369728
B	249m N	260706 197331	LLANELLI LINK ROAD 47A	2.6	N	369729
B	249m N	260703 197331	LLANELLI LINK ROAD 47AB	7.5	N	369730

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

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).

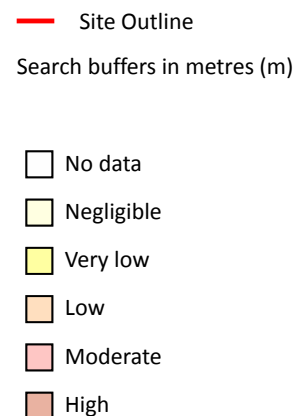
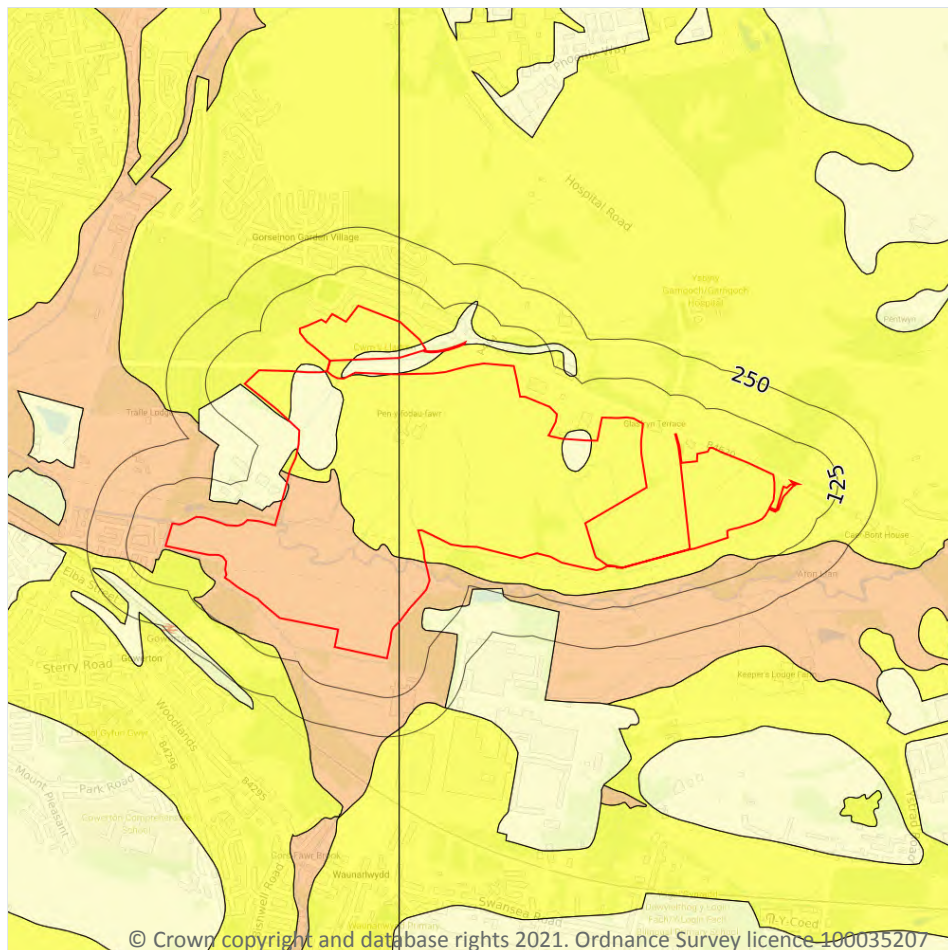
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 168**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

5

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 169**

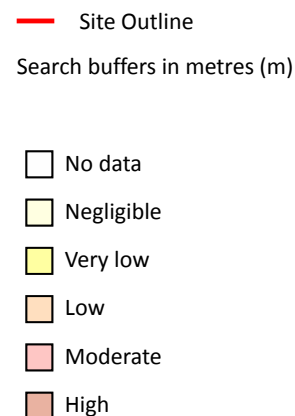
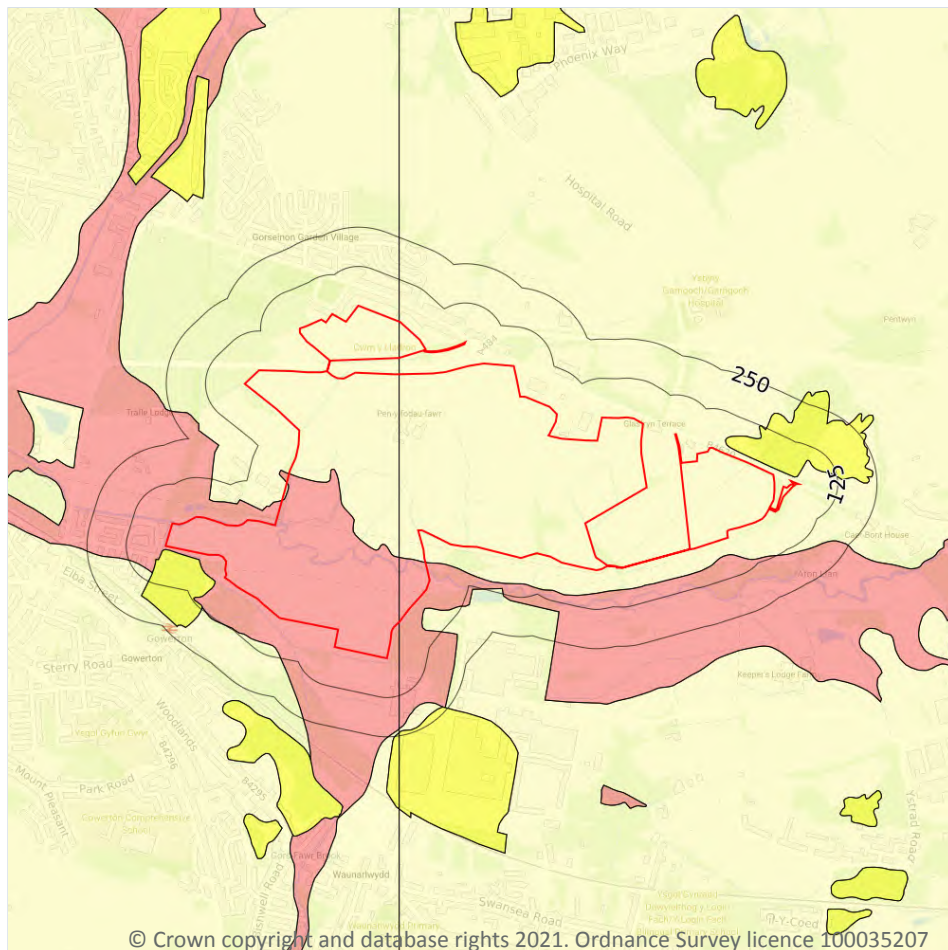
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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.
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
11m S	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
36m SE	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

4

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 171**

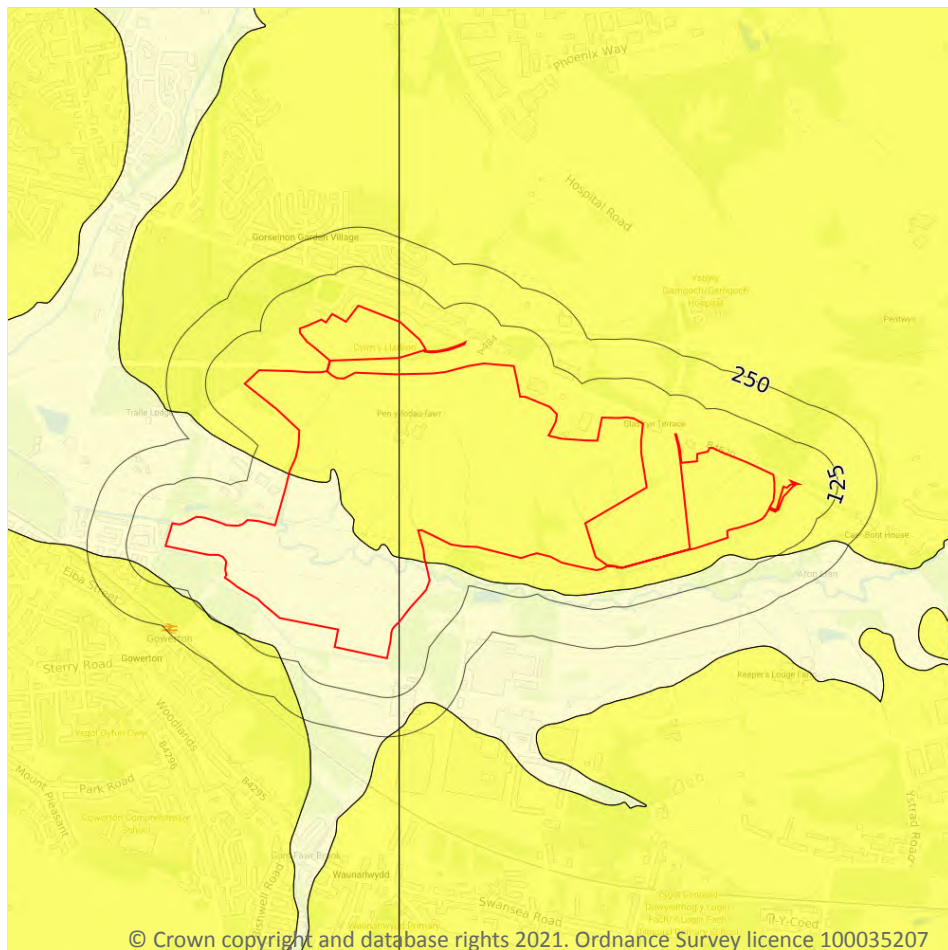
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

Location	Hazard rating	Details
11m S	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.
16m N	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

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

2

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.

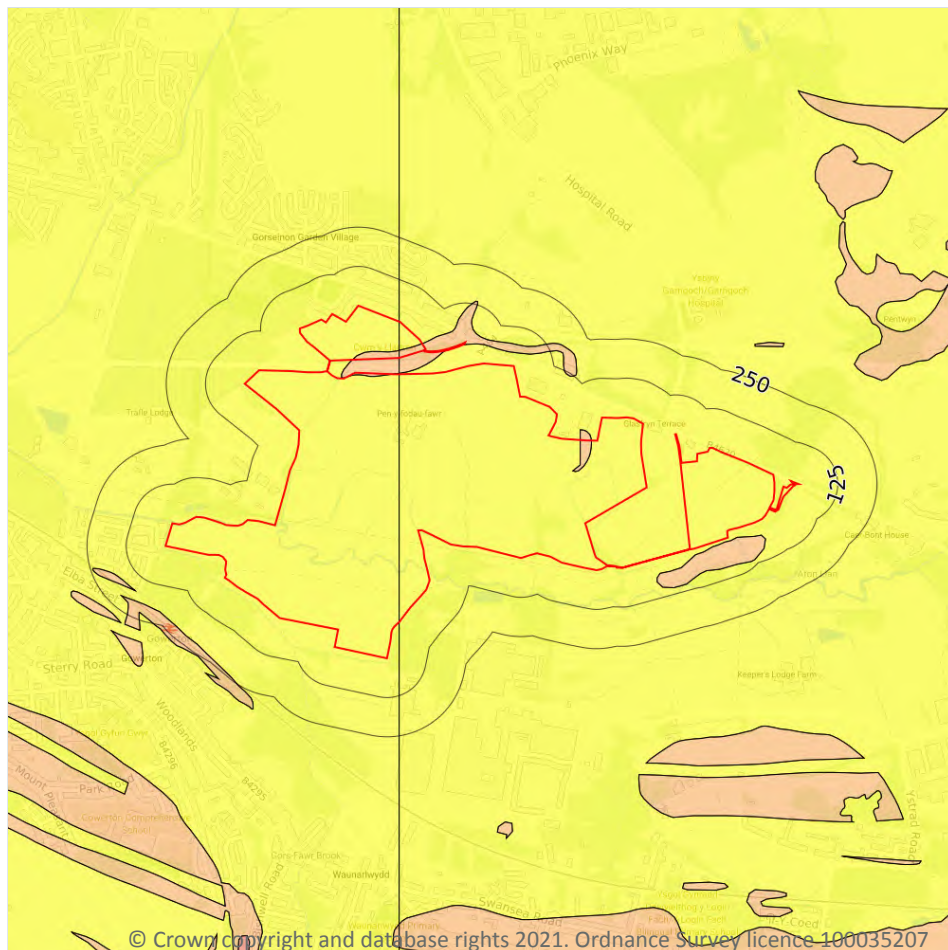
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 173**

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

3

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 174**

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.

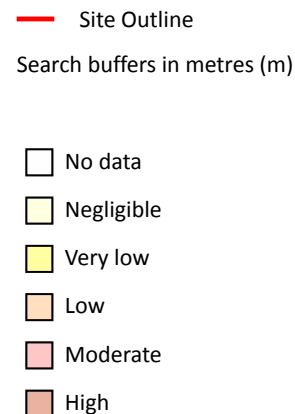
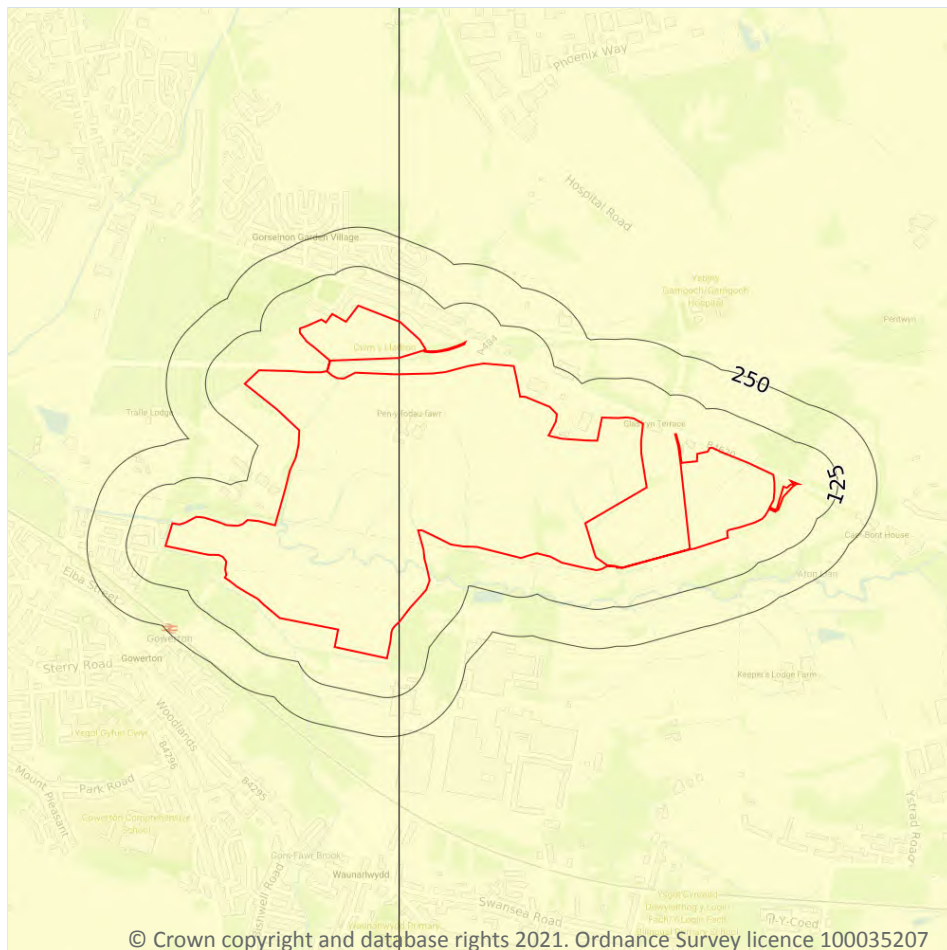


Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
10m S	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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.

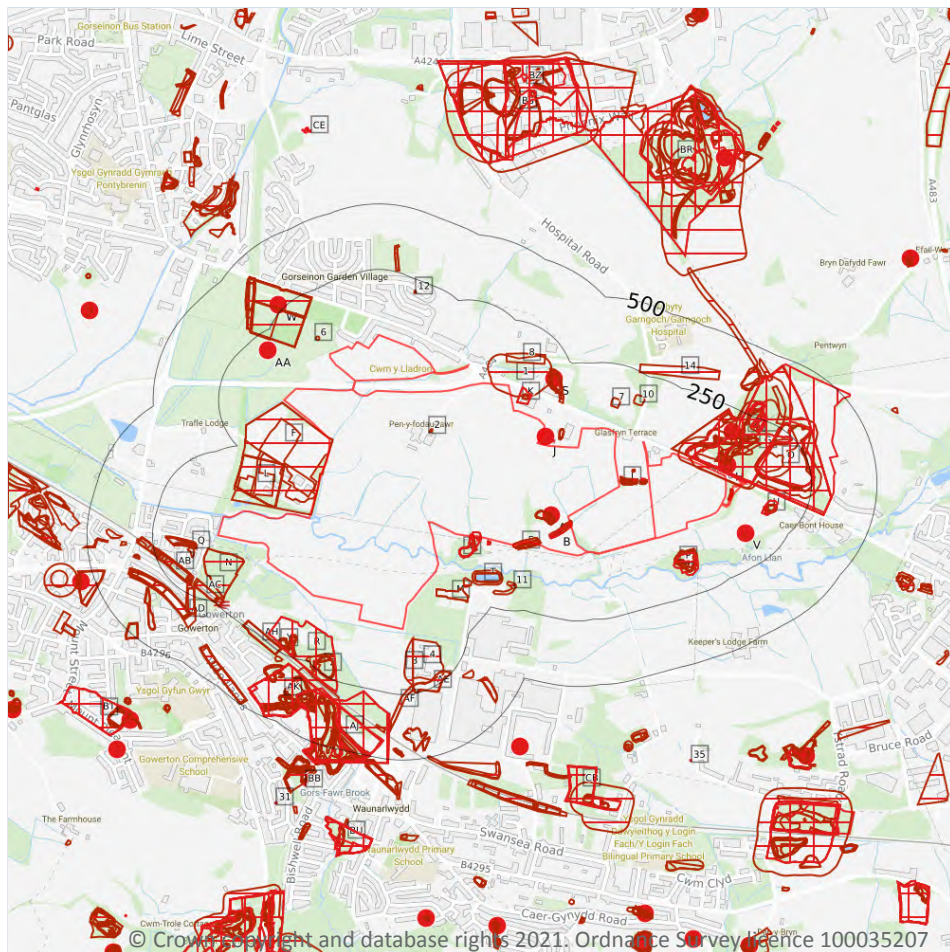
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 176**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

10

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 178**

ID	Location	Details	Description
A	On site	Name: Cape Colliery Address: Gorseinon, SWANSEA, West 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
B	On site	Name: Cape Colliery Address: Gorseinon, SWANSEA, West 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	15m SE	Name: Pen-y-fadau-fawr Address: Gorseinon, SWANSEA, West 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
H	42m NE	Name: Garngoch No.1 Address: Penllergaer, GORSEINON, West 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



ID	Location	Details	Description
H	45m NE	Name: Garngoch No.1 Address: Penllergaer, GORSEINON, West 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
V	122m SE	Name: Gwalia Colliery Address: Gorseinon, SWANSEA, West 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
H	163m NE	Name: Garn-goch Colliery Address: Gorseinon, SWANSEA, West 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
S	167m N	Name: Pen-y-waun Address: Gorseinon, SWANSEA, West 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
AA	181m NW	Name: Stafford Common Address: Gorseinon, LLANELLI, West 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



ID	Location	Details	Description
W	271m NW	Name: Stafford Common Address: Gorseinon, LLANELLI, West 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	240
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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 178**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Disused Colliery	1878	1:10560
2	On site	Pond	1897	1:10560
A	On site	Unspecified Heap	1947	1:10560
A	On site	Unspecified Heap	1980	1:10000
A	On site	Unspecified Heap	1968	1:10560
A	On site	Unspecified Heap	1938	1:10560
A	On site	Unspecified Heap	1938	1:10560
A	On site	Unspecified Heap	1994	1:10000
A	On site	Unspecified Heap	1964	1:10560
A	On site	Unspecified Heap	1936	1:10560
B	On site	Old Coal Pit	1913	1:10560
B	On site	Unspecified Pit	1897	1:10560
B	On site	Unspecified Pits	1938	1:10560
B	On site	Unspecified Pits	1938	1:10560
B	On site	Unspecified Pits	1936	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
C	On site	Unspecified Heap	1947	1:10560
C	On site	Unspecified Heap	1980	1:10000
C	On site	Unspecified Disused Drift	1968	1:10560
C	On site	Unspecified Heap	1994	1:10000
C	On site	Unspecified Disused Drift	1964	1:10560
C	On site	Unspecified Heap	1936	1:10560
D	On site	Refuse Heap	1947	1:10560
D	On site	Refuse Heap	1938	1:10560
D	On site	Refuse Heap	1938	1:10560
D	On site	Refuse Heap	1936	1:10560
E	On site	Unspecified Ground Workings	1947	1:10560
E	On site	Unspecified Ground Workings	1897	1:10560
E	On site	Unspecified Heap	1913	1:10560
E	On site	Unspecified Heap	1938	1:10560
E	On site	Unspecified Heap	1938	1:10560
E	On site	Cuttings	1878	1:10560
E	On site	Unspecified Heap	1936	1:10560
F	On site	Sewage Works	1992	1:10000
F	On site	Sewage Works	1988	1:10000
G	On site	Colliery	1947	1:10560
H	On site	Colliery	1913	1:10560
C	7m S	Unspecified Old Drift	1938	1:10560
C	7m S	Unspecified Old Drift	1938	1:10560
I	7m E	Unspecified Heap	1964	1:10560
C	8m S	Unspecified Old Drift	1936	1:10560
C	8m S	Unspecified Old Drift	1947	1:10560
I	8m E	Unspecified Ground Workings	1947	1:10560
I	8m W	Unspecified Heap	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
I	8m W	Unspecified Heap	1938	1:10560
I	9m W	Unspecified Heap	1936	1:10560
H	9m N	Unspecified Ground Workings	1913	1:10560
I	9m E	Unspecified Ground Workings	1913	1:10560
G	9m N	Colliery	1936	1:10560
I	9m W	Unspecified Heap	1947	1:10560
G	9m N	Colliery	1938	1:10560
G	9m N	Colliery	1938	1:10560
C	10m S	Unspecified Disused Drift	1980	1:10000
C	10m S	Unspecified Disused Drift	1994	1:10000
I	10m E	Unspecified Heap	1980	1:10000
I	10m E	Unspecified Heap	1968	1:10560
I	10m E	Unspecified Heap	1994	1:10000
I	10m W	Unspecified Heap	1964	1:10560
I	10m E	Unspecified Ground Workings	1897	1:10560
I	10m W	Unspecified Heap	1968	1:10560
I	11m E	Unspecified Ground Workings	1938	1:10560
I	11m E	Unspecified Ground Workings	1938	1:10560
H	11m NE	Unspecified Ground Workings	1947	1:10560
I	11m E	Unspecified Heap	1936	1:10560
H	12m NE	Unspecified Heaps	1938	1:10560
H	12m NE	Unspecified Heaps	1938	1:10560
H	12m N	Unspecified Heaps	1936	1:10560
H	13m N	Colliery	1897	1:10560
F	14m W	Sewage Works	1974	1:10000
K	19m E	Colliery	1913	1:10560
J	28m N	Unspecified Heap	1947	1:10560
J	28m N	Unspecified Heap	1936	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
J	30m N	Unspecified Heap	1913	1:10560
C	30m S	Unspecified Heap	1938	1:10560
C	30m S	Unspecified Heap	1938	1:10560
J	31m N	Unspecified Heap	1938	1:10560
J	31m N	Unspecified Heap	1938	1:10560
H	33m N	Unspecified Heap	1897	1:10560
H	38m N	Unspecified Ground Workings	1980	1:10000
H	38m N	Unspecified Ground Workings	1968	1:10560
H	38m N	Unspecified Ground Workings	1994	1:10000
L	42m N	Sewage Works	1948	1:10560
L	42m N	Sewage Works	1938	1:10560
L	42m N	Sewage Works	1938	1:10560
K	42m E	Refuse Heap	1947	1:10560
K	43m E	Gravel Pit	1938	1:10560
L	44m N	Corporation Sewage Works	1936	1:10560
M	47m SE	Sludge Beds	1980	1:10000
M	47m SE	Sludge Beds	1994	1:10000
H	49m NE	Cuttings	1936	1:10560
I	50m W	Pond	1897	1:10560
H	52m NE	Cuttings	1968	1:10560
H	52m NE	Unspecified Pit	1980	1:10000
H	52m NE	Unspecified Pit	1994	1:10000
3	53m SE	Refuse Heap	1992	1:10000
4	54m SE	Refuse Heap	1994	1:10000
N	60m S	Unspecified Disused Tip	1992	1:10000
N	60m S	Unspecified Disused Tip	1988	1:10000
H	60m NE	Cuttings	1964	1:10560
5	60m N	Sewage Works	1967	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
O	62m NE	Refuse Heap	1947	1:10560
O	62m NE	Refuse Heap	1936	1:10560
H	65m NE	Refuse Heap	1938	1:10560
H	65m NE	Refuse Heap	1938	1:10560
O	67m NE	Unspecified Heaps	1964	1:10560
O	68m NE	Refuse Heap	1938	1:10560
O	68m NE	Refuse Heap	1938	1:10560
6	70m NW	Unspecified Pit	1878	1:10560
P	73m S	Unspecified Ground Workings	1897	1:10560
H	74m NE	Cuttings	1938	1:10560
P	75m S	Unspecified Heap	1980	1:10000
P	75m S	Unspecified Heap	1994	1:10000
P	78m S	Unspecified Heap	1964	1:10560
P	79m S	Unspecified Heap	1913	1:10560
G	80m NE	Unspecified Ground Workings	1913	1:10560
P	81m S	Unspecified Heap	1947	1:10560
P	81m S	Unspecified Heap	1936	1:10560
P	83m S	Unspecified Heap	1938	1:10560
P	83m S	Unspecified Heap	1938	1:10560
H	84m NE	Unspecified Heap	1897	1:10560
7	87m N	Unspecified Ground Workings	1913	1:10560
P	88m S	Disused Colliery	1878	1:10560
8	89m N	Cuttings	1994	1:10000
Q	90m SW	Unspecified Heap	1974	1:10000
Q	92m W	Unspecified Ground Workings	1936	1:10560
Q	94m W	Unspecified Heap	1948	1:10560
Q	94m W	Unspecified Heap	1938	1:10560
Q	94m W	Unspecified Heap	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
R	102m S	Colliery	1913	1:10560
S	105m NE	Unspecified Heap	1878	1:10560
Q	107m SW	Unspecified Heap	1913	1:10560
T	109m S	Pond	1968	1:10560
U	110m SE	Colliery	1913	1:10560
9	110m E	Refuse Heap	1980	1:10000
H	111m NE	Pond	1938	1:10560
U	113m SE	Unspecified Heap	1913	1:10560
U	113m SE	Unspecified Heap	1947	1:10560
U	113m SE	Unspecified Heap	1936	1:10560
U	114m SE	Unspecified Heap	1980	1:10000
U	114m SE	Unspecified Heap	1968	1:10560
U	114m SE	Unspecified Heap	1994	1:10000
S	114m NE	Unspecified Quarry	1897	1:10560
U	114m SE	Unspecified Heap	1938	1:10560
U	114m SE	Unspecified Heap	1938	1:10560
Q	116m W	Unspecified Ground Workings	1913	1:10560
U	116m SE	Unspecified Heap	1964	1:10560
T	117m S	Reservoir	1980	1:10000
T	117m S	Reservoir	1994	1:10000
T	119m S	Pond	1964	1:10560
S	121m NE	Unspecified Quarry	1913	1:10560
H	122m NE	Unspecified Pit	1980	1:10000
H	122m NE	Unspecified Pit	1968	1:10560
H	122m NE	Unspecified Pit	1994	1:10000
H	126m NE	Pond	1897	1:10560
V	127m SE	Old Coal Pit	1913	1:10560
V	128m SE	Unspecified Old Pit	1947	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
S	128m NE	Pond	1936	1:10560
S	128m NE	Pond	1947	1:10560
V	128m SE	Unspecified Old Pit	1936	1:10560
V	129m SE	Unspecified Old Pit	1938	1:10560
V	129m SE	Unspecified Old Pit	1938	1:10560
S	132m NE	Pond	1938	1:10560
10	135m NE	Unspecified Ground Workings	1913	1:10560
W	136m W	Cemetery	1992	1:10000
W	136m W	Cemetery	1988	1:10000
W	136m W	Cemetery	1974	1:10000
W	138m W	Cemetery	1967	1:10560
X	139m NE	Refuse Heaps	1936	1:10560
11	140m S	Gravel Pit	1968	1:10560
X	143m NE	Refuse Heaps	1938	1:10560
X	143m NE	Refuse Heaps	1938	1:10560
H	155m NE	Refuse Heap	1936	1:10560
H	156m NE	Refuse Heap	1938	1:10560
H	156m NE	Refuse Heap	1938	1:10560
Y	166m SW	Unspecified Heap	1948	1:10560
Y	166m SW	Unspecified Heap	1913	1:10560
W	166m NW	Cemetery	1964	1:10560
W	168m NW	Cemetery	1936	1:10560
Z	168m SW	Unspecified Slant	1913	1:10560
W	170m NW	Cemetery	1938	1:10560
Y	171m SW	Unspecified Heap	1992	1:10000
Y	171m SW	Unspecified Heap	1988	1:10000
Y	171m SW	Unspecified Heap	1974	1:10000
Y	172m SW	Unspecified Heap	1936	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
W	172m NW	Cemetery	1948	1:10560
W	172m NW	Burial Ground	1913	1:10560
Y	173m SW	Unspecified Heap	1964	1:10560
Y	173m SW	Unspecified Heap	1967	1:10560
Y	174m SW	Unspecified Heap	1938	1:10560
Y	174m SW	Unspecified Heap	1938	1:10560
H	177m NE	Drift	1936	1:10560
H	177m NE	Drift	1947	1:10560
H	178m NE	Unspecified Drift	1938	1:10560
AA	178m NW	Old Coal Pit	1905	1:10560
AA	179m NW	Old Coal Pit	1900	1:10560
H	181m NE	Pond	1968	1:10560
AB	181m SW	Cuttings	1913	1:10560
AB	181m SW	Cuttings	1992	1:10000
AB	181m SW	Cuttings	1988	1:10000
AB	181m SW	Cuttings	1974	1:10000
AB	182m SW	Cuttings	1889	1:10560
H	182m NE	Pond	1964	1:10560
H	182m NE	Pond	1936	1:10560
Z	183m SW	Unspecified Heap	1948	1:10560
AB	183m SW	Cuttings	1938	1:10560
AB	183m SW	Cuttings	1878	1:10560
AB	183m SW	Cuttings	1948	1:10560
Z	183m SW	Unspecified Ground Workings	1988	1:10000
Z	183m SW	Unspecified Ground Workings	1974	1:10000
AB	183m SW	Cuttings	1878	1:10560
Z	184m SW	Unspecified Heap	1936	1:10560
AC	184m SW	Cuttings	1913	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
Z	185m SW	Unspecified Heap	1938	1:10560
Z	185m SW	Unspecified Heap	1938	1:10560
AB	185m SW	Cuttings	1964	1:10560
AB	185m SW	Cuttings	1967	1:10560
AC	187m SW	Cuttings	1948	1:10560
Z	187m SW	Unspecified Heap	1992	1:10000
AC	187m SW	Cuttings	1938	1:10560
G	188m NE	Unspecified Heap	1897	1:10560
12	198m N	Pond	1897	1:10560
X	201m N	Unspecified Heap	1964	1:10560
X	202m N	Unspecified Disused Drift	1980	1:10000
X	202m N	Unspecified Ground Workings	1968	1:10560
X	202m N	Unspecified Disused Drift	1994	1:10000
AB	208m SW	Cuttings	1948	1:10560
AD	213m SW	Cuttings	1936	1:10560
AE	214m S	Gravel Pit	1968	1:10560
AE	215m S	Refuse Heap	1964	1:10560
AF	216m S	Refuse Heap	1988	1:10000
AF	216m S	Refuse Heap	1974	1:10000
AG	222m SW	Cuttings	1948	1:10560
AG	222m SW	Cuttings	1913	1:10560
AG	223m SW	Cuttings	1938	1:10560
13	225m SW	Cuttings	1913	1:10560
AH	225m SW	Cuttings	1889	1:10560
AH	226m SW	Cuttings	1878	1:10560
AH	226m SW	Cuttings	1878	1:10560
AB	236m W	Cuttings	1878	1:10560
AB	237m W	Cuttings	1889	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
14	247m NE	Cuttings	1994	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	80
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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 178**

ID	Location	Land Use	Year of mapping	Mapping scale
B	On site	Old Coal Pit	1913	1:10560
C	On site	Unspecified Disused Drift	1964	1:10560
C	On site	Unspecified Disused Drift	1968	1:10560
G	4m N	Unspecified Disused Mine	1964	1:10560
C	8m S	Unspecified Old Drift	1936	1:10560
C	8m S	Unspecified Old Drift	1947	1:10560
G	9m N	Colliery	1936	1:10560
C	10m S	Unspecified Disused Drift	1994	1:10000
C	10m S	Unspecified Disused Drift	1980	1:10000
J	13m SE	Coal Pit	1897	1:10560
H	13m N	Colliery	1897	1:10560
J	18m N	Air Shaft	1897	1:10560
K	19m E	Colliery	1913	1:10560
I	19m W	Coal Pit	1878	1:10560
H	38m NE	Unspecified Shaft	1878	1:10560
I	51m W	Unspecified Shaft	1878	1:10560
O	70m NE	Unspecified Disused Mine	1968	1:10560
P	88m S	Disused Colliery	1878	1:10560
R	102m S	Colliery	1913	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
U	110m SE	Colliery	1913	1:10560
V	127m SE	Old Coal Pit	1913	1:10560
H	153m NE	Unspecified Shaft	1947	1:10560
H	158m NE	Unspecified Disused Shaft	1994	1:10000
H	158m NE	Unspecified Disused Shaft	1980	1:10000
H	177m NE	Drift	1936	1:10560
H	177m NE	Drift	1947	1:10560
AA	178m NW	Old Coal Pit	1905	1:10560
AA	179m NW	Old Coal Pit	1900	1:10560
X	202m N	Unspecified Disused Drift	1994	1:10000
X	202m N	Unspecified Disused Drift	1980	1:10000
AJ	263m S	Colliery	1878	1:10560
W	268m NW	Old Coal Pit	1905	1:10560
W	270m NW	Old Coal Pit	1900	1:10560
AK	277m S	Disused Colliery	1900	1:10560
AK	279m S	Disused Colliery	1905	1:10560
AK	279m S	Disused Colliery	1913	1:10560
AK	298m SW	Colliery	1878	1:10560
BF	627m SE	Old Coal Pit	1897	1:10560
BB	657m S	Air Shaft	1878	1:10560
BR	724m NE	Colliery	1936	1:10560
BT	748m SW	Colliery	1905	1:10560
BT	748m SW	Colliery	1900	1:10560
BU	761m S	Disused Colliery	1897	1:10560
BU	764m S	Disused Colliery	1948	1:10560
BU	764m S	Disused Colliery	1914	1:10560
BU	764m S	Disused Colliery	1878	1:10560
BU	764m S	Disused Colliery	1921	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
BU	764m S	Disused Colliery	1913	1:10560
BS	765m N	Colliery	1913	1:10560
31	765m SW	Air Shaft	1878	1:10560
BZ	788m NE	Colliery	1897	1:10560
BS	801m N	Disused Colliery	1936	1:10560
CB	804m S	Disused Colliery	1914	1:10560
CB	804m S	Disused Colliery	1897	1:10560
-	805m W	Disused Colliery	1913	1:10560
CB	806m S	Disused Colliery	1921	1:10560
-	810m W	Disused Colliery	1905	1:10560
-	810m W	Disused Colliery	1900	1:10560
CD	815m NW	Old Coal Pit	1913	1:10560
CD	816m NW	Old Coal Pit	1905	1:10560
CE	818m N	Unspecified Shaft	1905	1:10560
CE	819m N	Unspecified Shaft	1900	1:10560
CD	820m NW	Old Coal Pit	1900	1:10560
CE	820m N	Unspecified Disused Shaft	1967	1:10560
CE	825m N	Unspecified Old Shaft	1913	1:10560
CE	826m N	Unspecified Old Shaft	1948	1:10560
BU	827m S	Unspecified Disused Mine	1967	1:10560
CD	827m NW	Unspecified Shaft	1913	1:10560
CE	829m N	Unspecified Disused Shaft	1992	1:10000
CE	829m N	Unspecified Disused Shaft	1988	1:10000
CE	829m N	Unspecified Disused Shaft	1974	1:10000
35	852m S	Coal Pit	1878	1:10560
-	873m W	Old Coal Slant	1913	1:10560
CL	934m SE	Old Colliery	1897	1:10560
BR	963m N	Unspecified Mine	1968	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
CL	971m SE	Unspecified Shaft	1897	1:10560
BR	976m NE	Colliery	1913	1:10560
-	992m W	Disused Colliery	1900	1:10560
-	996m W	Disused Colliery	1913	1:10560
-	996m W	Disused Colliery	1905	1:10560

This 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
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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
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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
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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
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.



18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

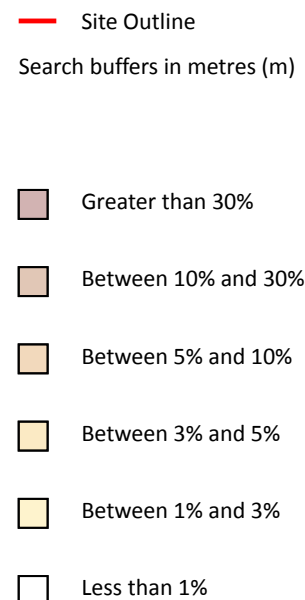
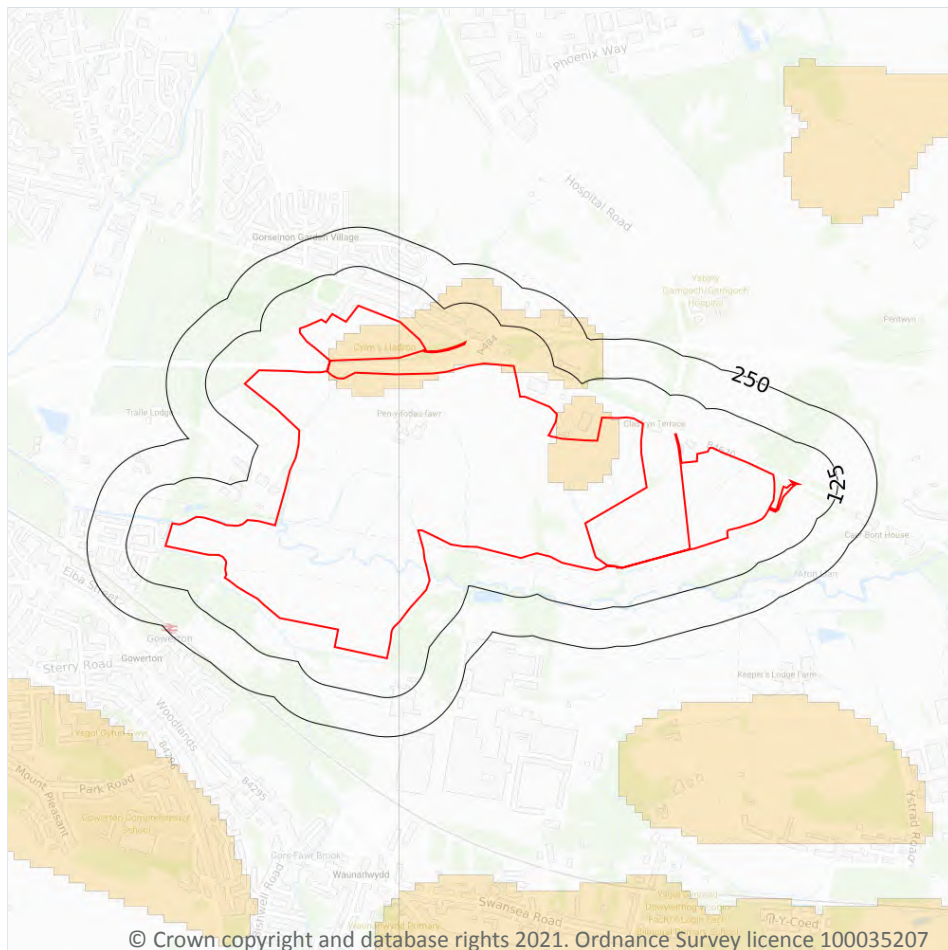
Records on site	0
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Generalised areas that may be affected by kaolin and ball clay extraction.

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



19 Radon



19.1 Radon

Records on site

2

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 196**

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 3% and 5%	Basic
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

69

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 km². 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 km²; 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	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	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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
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



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	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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	30 - 45 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	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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	30 - 45 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	30 - 45 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	30 - 45 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



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	30 - 45 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	30 - 45 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
1m N	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
8m NW	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
14m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
14m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
15m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
15m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
15m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
15m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
28m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
28m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m 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
35m E	25 - 35 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
36m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
36m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
45m SE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 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 km²).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

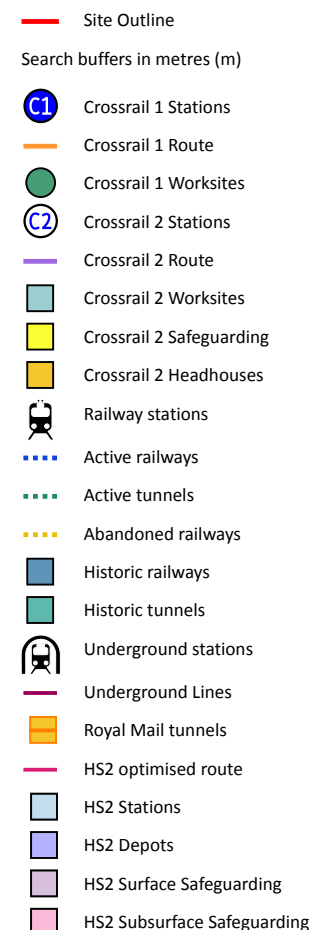
Records within 50m

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 km².

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



21.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

76

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 203**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1955	2500
On site	Tramway Sidings	1879	2500
On site	Tramway Sidings	1916	2500
On site	Mineral Railway Sidings	1899	2500
On site	Mineral Railway Sidings	1916	2500
On site	Mineral Railway Sidings	1935	2500
On site	Mineral Railway Sidings	1898	2500
On site	Mineral Railway Sidings	1936	2500
On site	Mineral Railway Sidings	1965	2500
On site	Mineral Railway Sidings	1958	2500
On site	Railway Sidings	1898	2500
On site	Mineral Railway Sidings	1900	10560
On site	Mineral Railway Sidings	1913	10560
On site	Mineral Railway Sidings	1897	10560
On site	Mineral Railway Sidings	1936	10560
On site	Mineral Railway Sidings	1905	10560
On site	Mineral Railway Sidings	1964	10560



Location	Land Use	Year of mapping	Mapping scale
On site	Mineral Railway Sidings	1947	10560
On site	Mineral Railway Sidings	1938	10560
On site	Mineral Railway Sidings	1968	10560
On site	Railway Sidings	1948	10560
On site	Railway Sidings	1936	10560
On site	Railway Sidings	1947	10560
4m N	Railway Sidings	1964	10560
7m N	Mineral Railway Sidings	1913	10560
12m S	Railway Sidings	1947	10560
17m NW	Railway Sidings	1916	2500
17m NW	Railway Sidings	1935	2500
19m E	Tramway Sidings	1913	10560
21m S	Mineral Railway Sidings	1913	10560
25m NE	Railway Sidings	1916	2500
34m W	Railway Sidings	1936	10560
36m S	Railway Sidings	1938	10560
42m N	Railway Sidings	1955	2500
51m NE	Railway Sidings	1916	2500
61m NE	Railway Sidings	1955	2500
74m S	Railway Sidings	1955	2500
98m N	Railway Sidings	1955	2500
136m N	Railway Sidings	1958	2500
167m S	Railway Sidings	1879	2500
169m S	Railway Sidings	1878	10560
176m S	Railway Sidings	1889	10560
178m SW	Mineral Railway Sidings	1905	10560
179m S	Railway Sidings	1878	10560
181m SW	Mineral Railway Sidings	1913	10560



Location	Land Use	Year of mapping	Mapping scale
183m SW	Railway Sidings	1938	10560
184m S	Railway Sidings	1948	10560
189m SW	Mineral Railway Sidings	1899	2500
189m SW	Railway Sidings	1948	10560
193m SW	Mineral Railway Sidings	1900	10560
193m SW	Tramway Sidings	1879	2500
194m SW	Railway Sidings	1916	2500
195m SW	Railway Sidings	1936	10560
195m SW	Mineral Railway Sidings	1899	2500
196m SW	Disused Railway Sidings	1965	2500
197m SW	Railway Sidings	1958	2500
208m SW	Railway Sidings	1936	10560
211m SW	Railway Sidings	1916	2500
213m SW	Railway Sidings	1935	2500
214m SW	Railway Sidings	1900	10560
219m W	Railway Sidings	1964	10560
219m W	Railway Sidings	1967	10560
219m SW	Railway Sidings	1879	2500
219m SW	Railway Sidings	1916	2500
219m SW	Railway Sidings	1935	2500
221m SW	Railway Sidings	1965	2500
221m SW	Railway Sidings	1958	2500
221m SW	Railway Sidings	1899	2500
221m SE	Railway Sidings	1947	10560
228m SW	Railway Sidings	1878	10560
231m SW	Railway Sidings	1967	10560
237m SW	Railway Sidings	1916	2500
237m SW	Railway Sidings	1936	10560



Location	Land Use	Year of mapping	Mapping scale
237m SW	Railway Sidings	1879	2500
238m SW	Railway Sidings	1899	2500
239m SW	Railway Sidings	1936	10560

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

16

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

Features are displayed on the Railway infrastructure and projects map on **page 203**

Location	Description
On site	Abandoned
On site	Abandoned
On site	Abandoned
On site	Abandoned
17m S	Abandoned
17m S	Abandoned
21m S	Abandoned
24m W	Razed
30m NW	Abandoned
37m W	Abandoned

Location	Description
48m S	Abandoned
56m SW	Razed
146m SW	Razed
180m NW	Abandoned
197m SW	Razed
231m SW	Razed

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

4

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

Features are displayed on the Railway infrastructure and projects map on **page 203**

Location	Name	Type
191m SW	South Wales Main Line	rail
194m SW	South Wales Main Line	rail
195m SW	Not given	Multi Track
197m SW	South Wales Main Line	rail

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>.

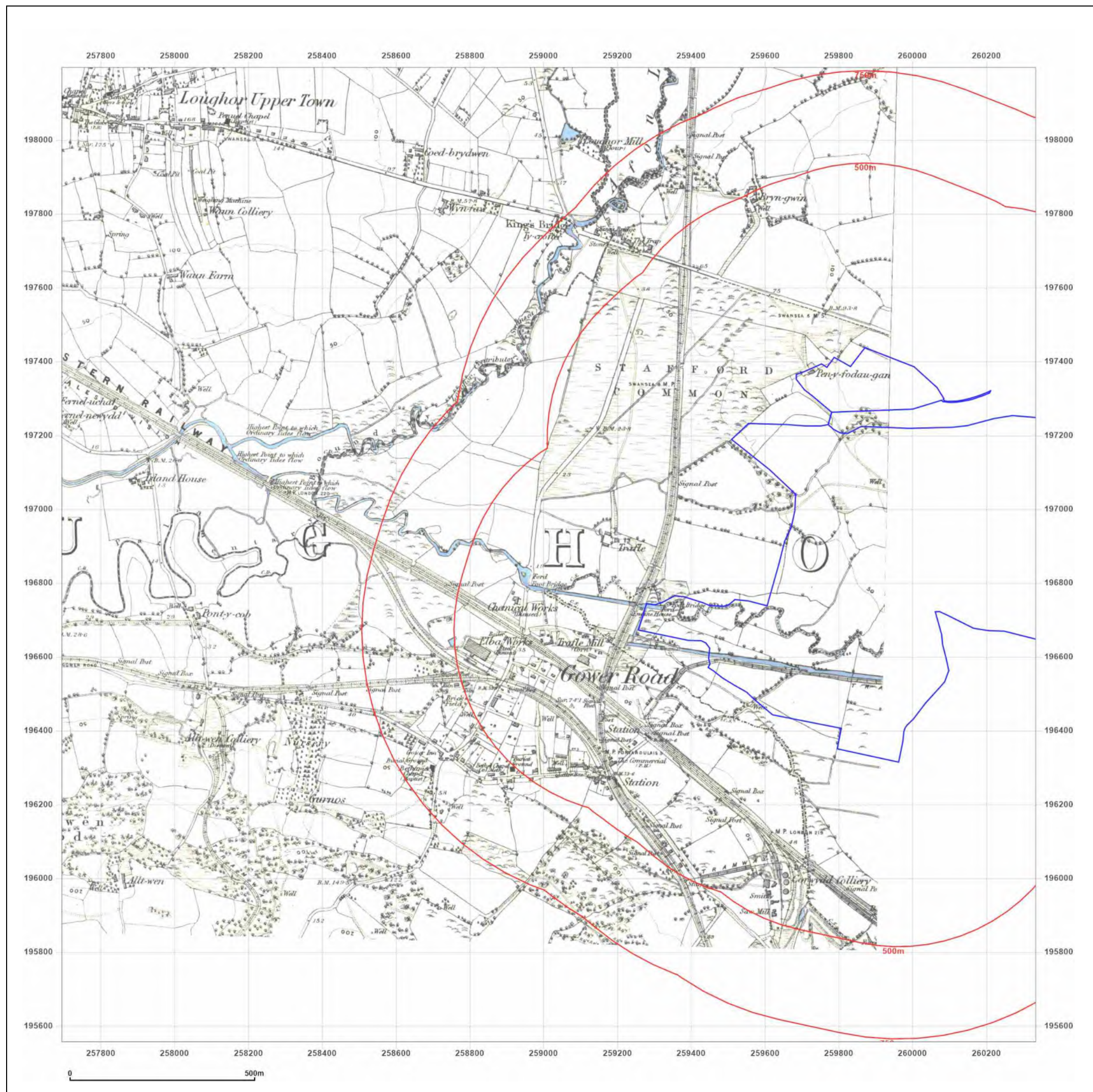
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Appendix C

Historic Ordnance Survey Map



Site Details:

260113.56612636862,
196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: County Series

Map date: 1878

Scale: 1:10,560

Printed at: 1:10,560



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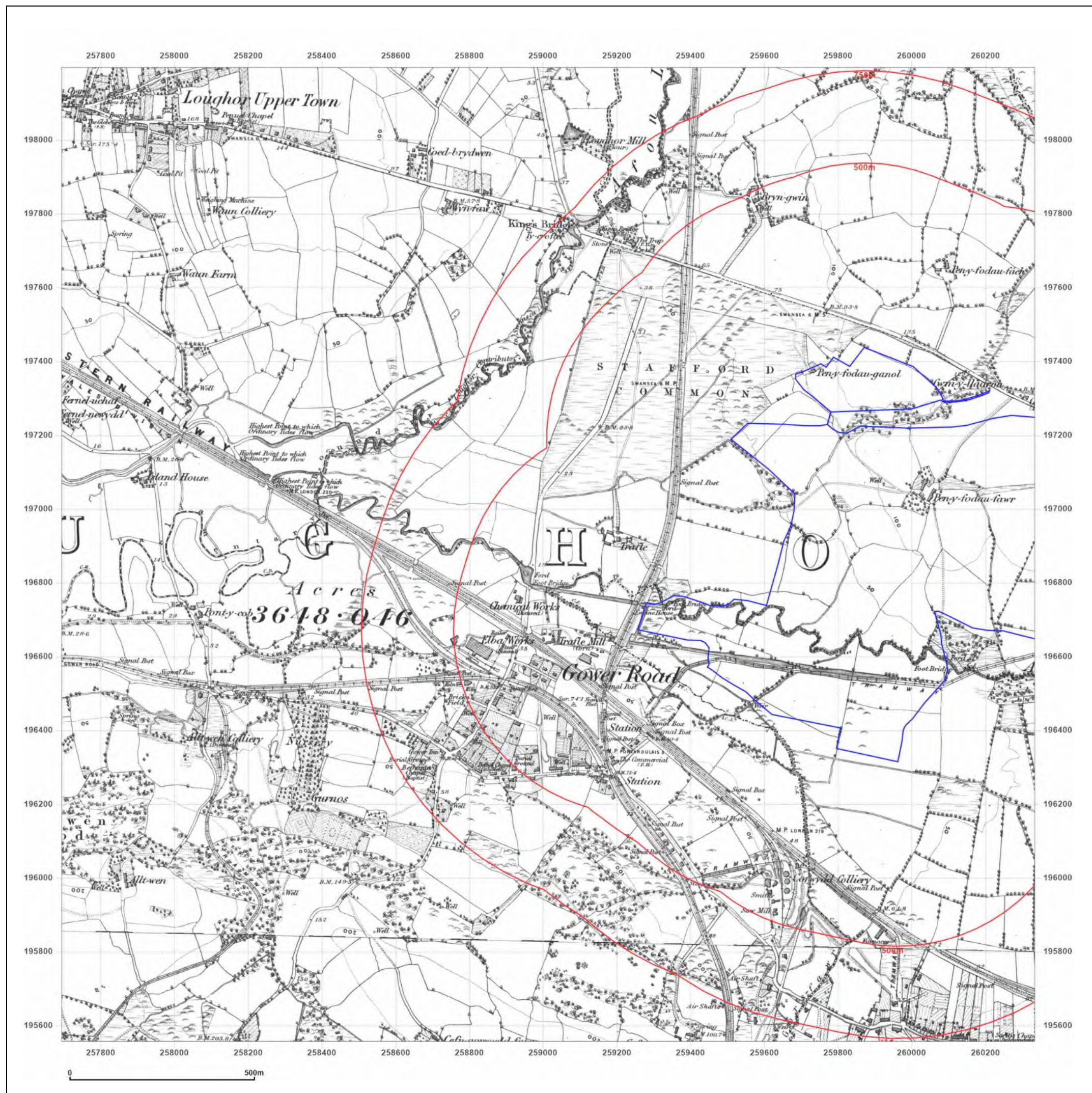


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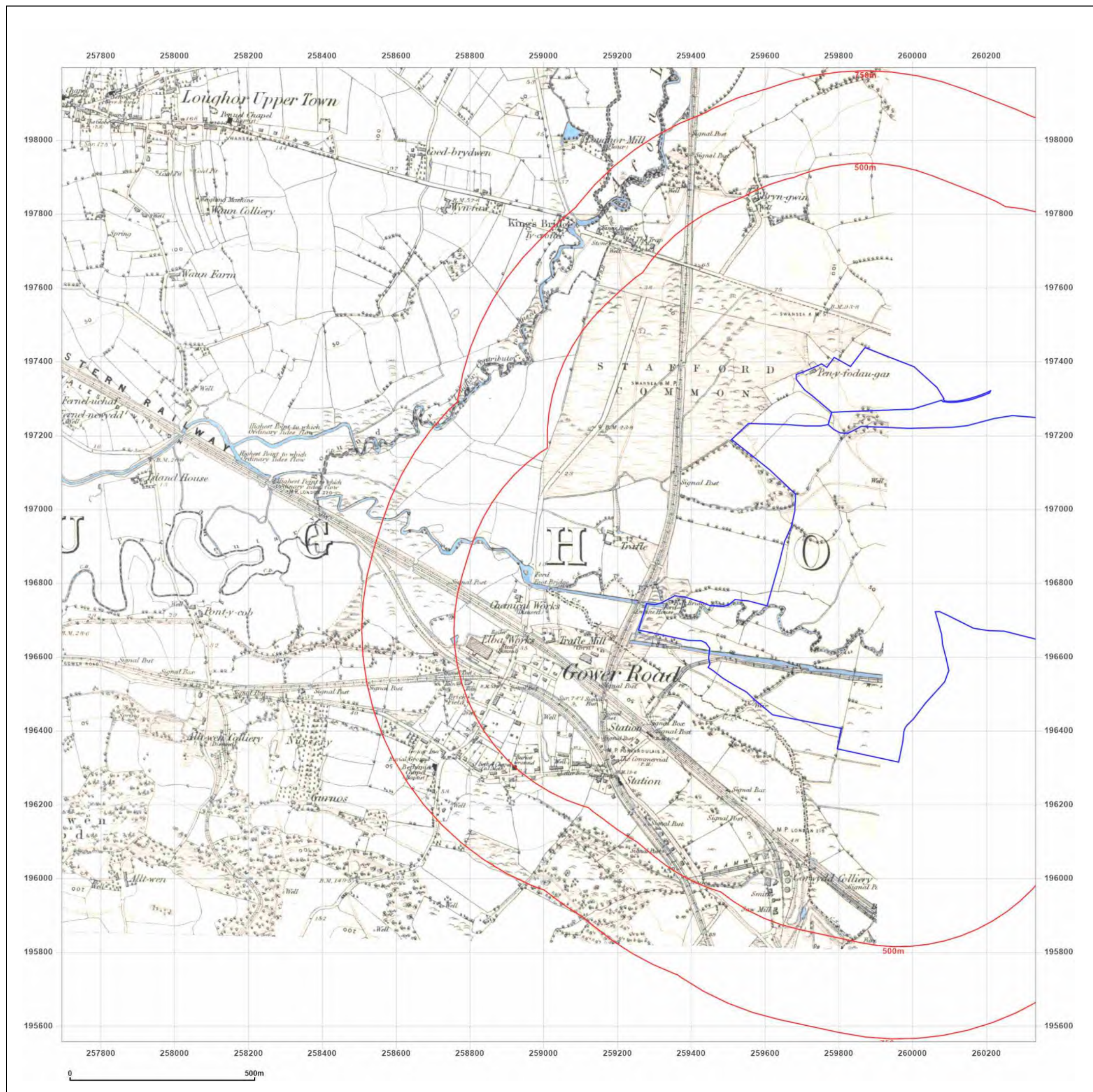
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Grid Ref: 259013, 196876

Map Name: County Series

Map date: 1889

Scale: 1:10,560

Printed at: 1:10,560



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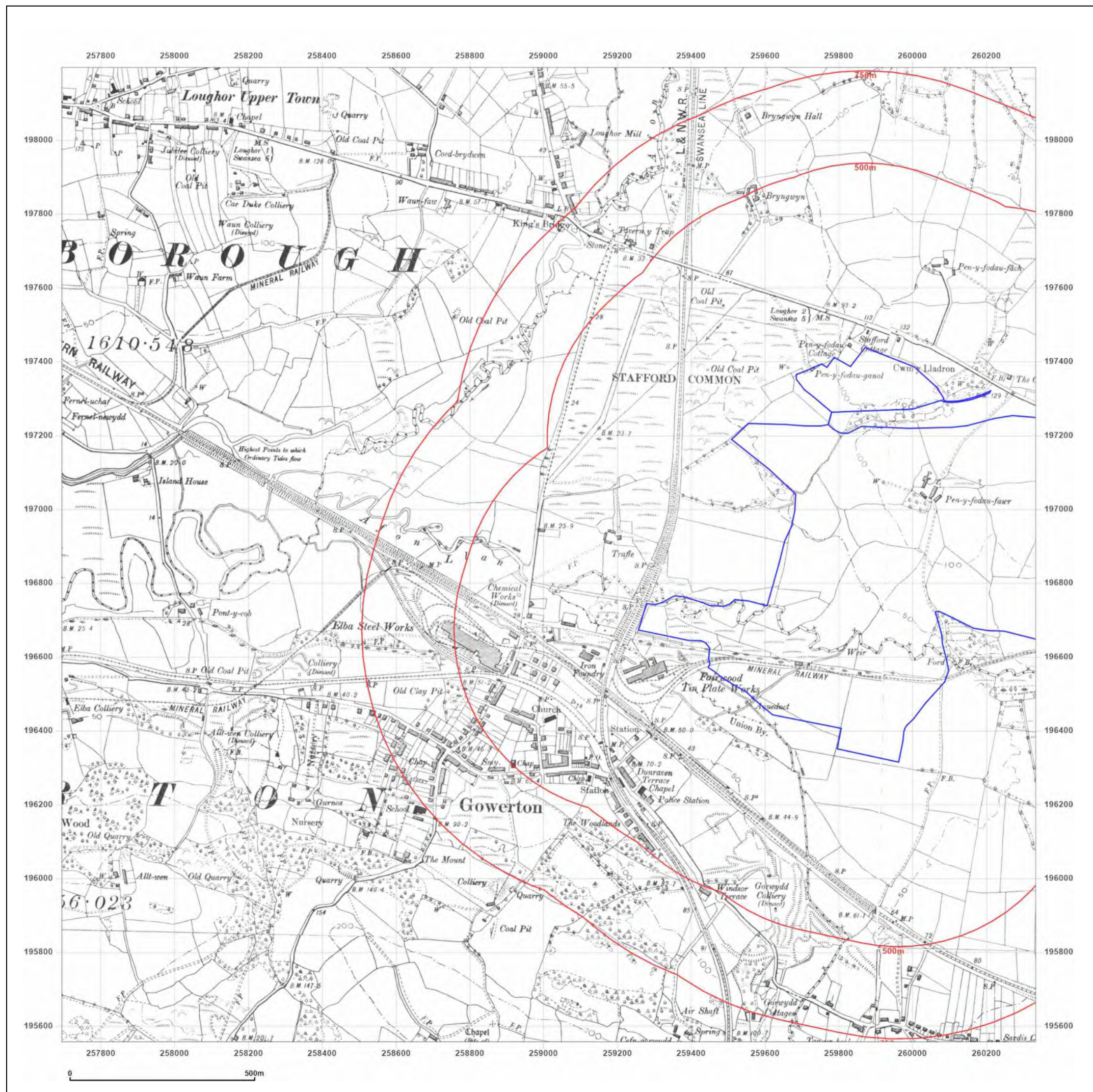


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Map Name: County Series

Map date: 1897-1900

Scale: 1:10,560

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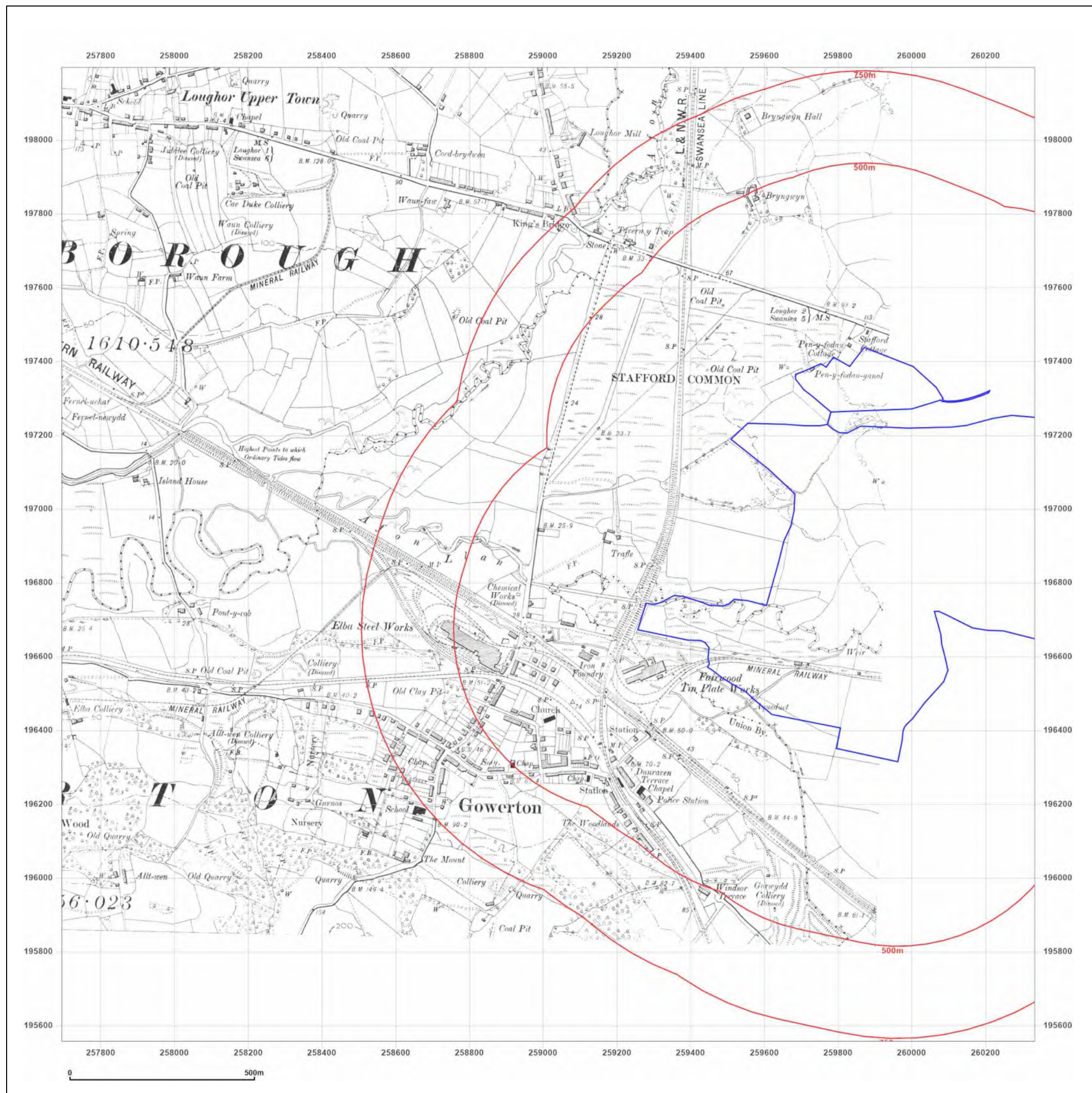
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Map Name: County Series

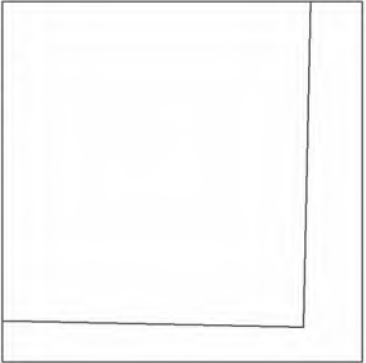
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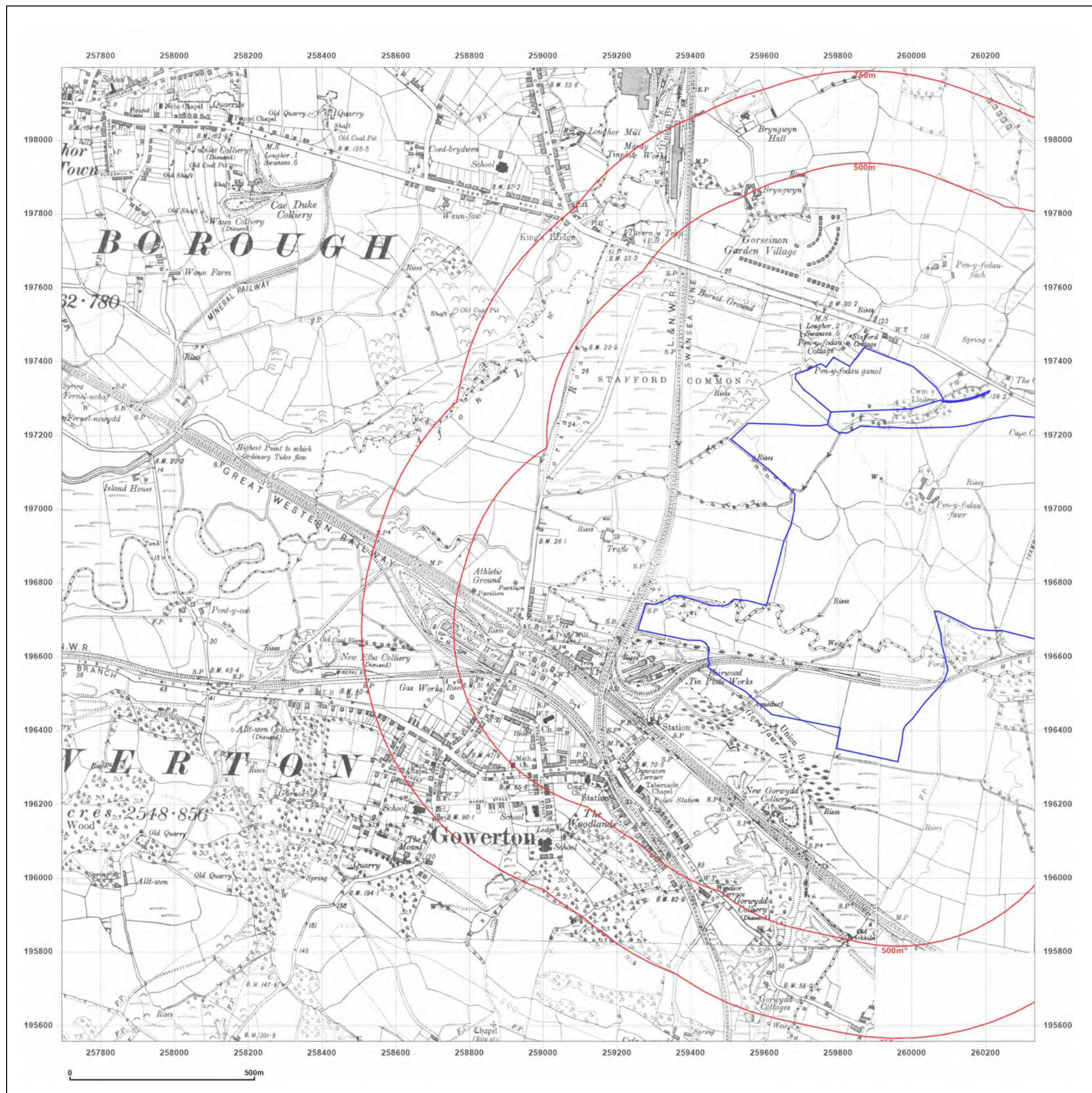


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Map Name: County Series

Map date: 1913

Scale: 1:10,560

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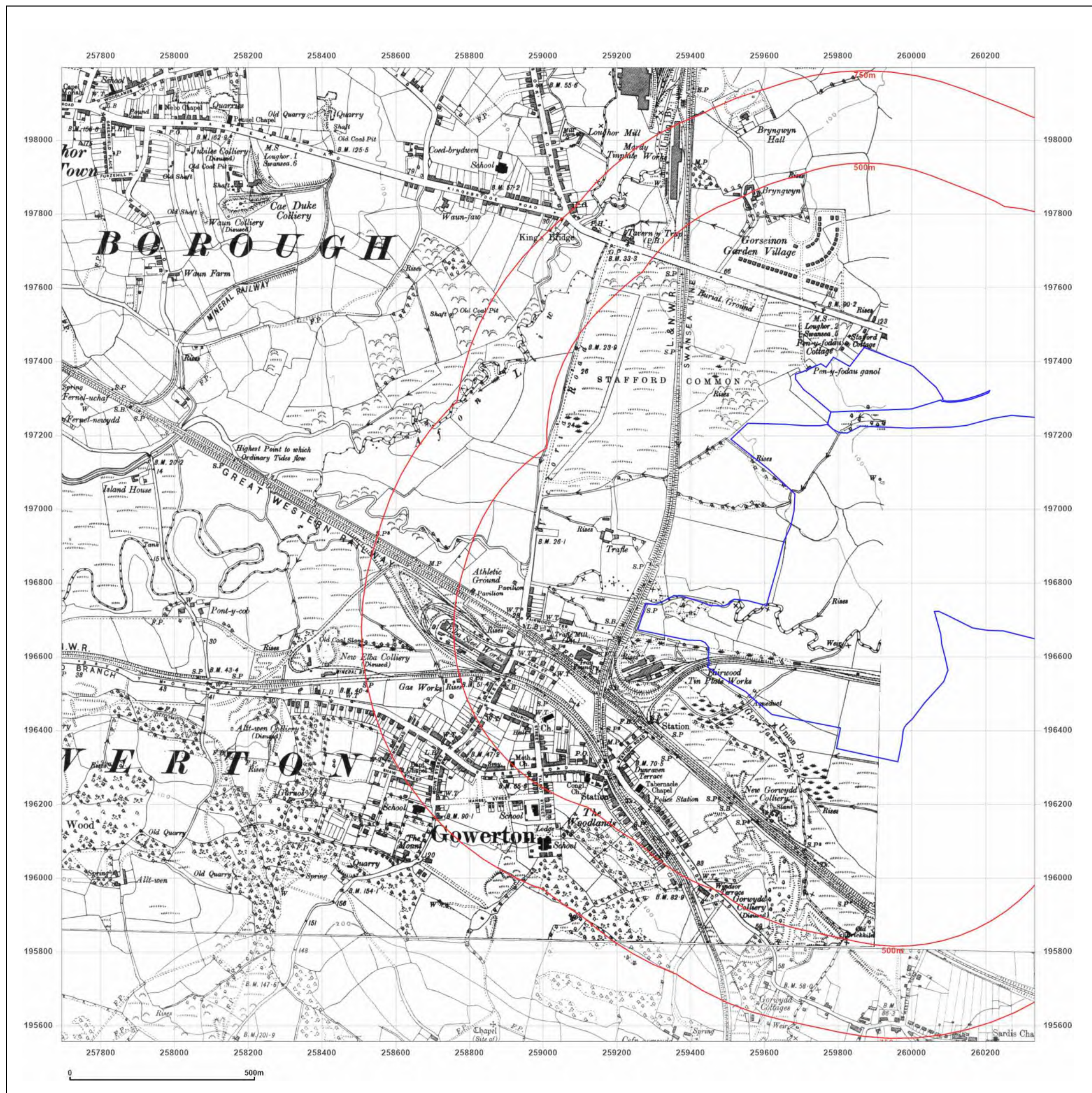
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Map Name: County Series

Map date: 1921

Scale: 1:10,560

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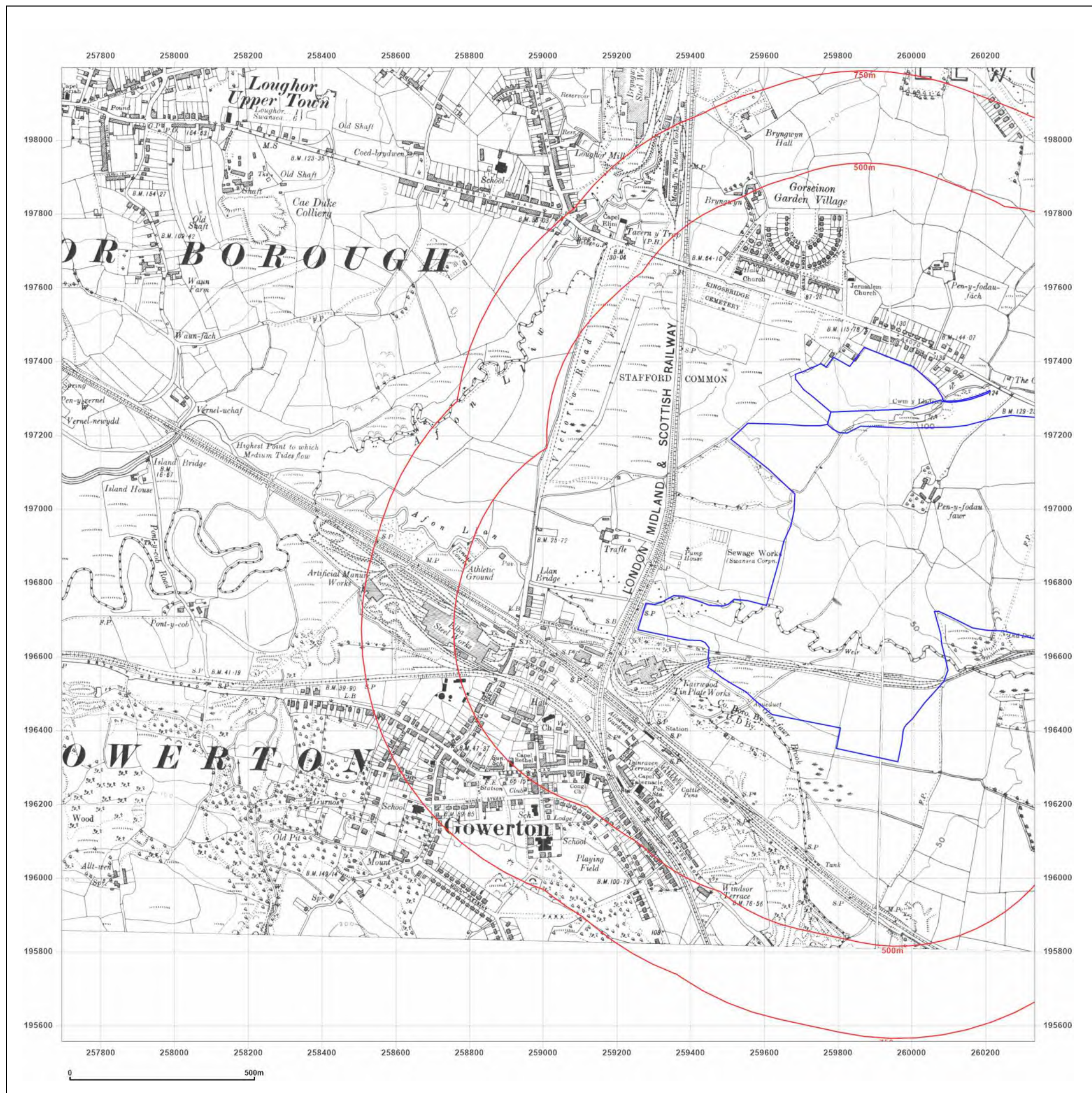
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Map Name: County Series

Map date: 1936-1938

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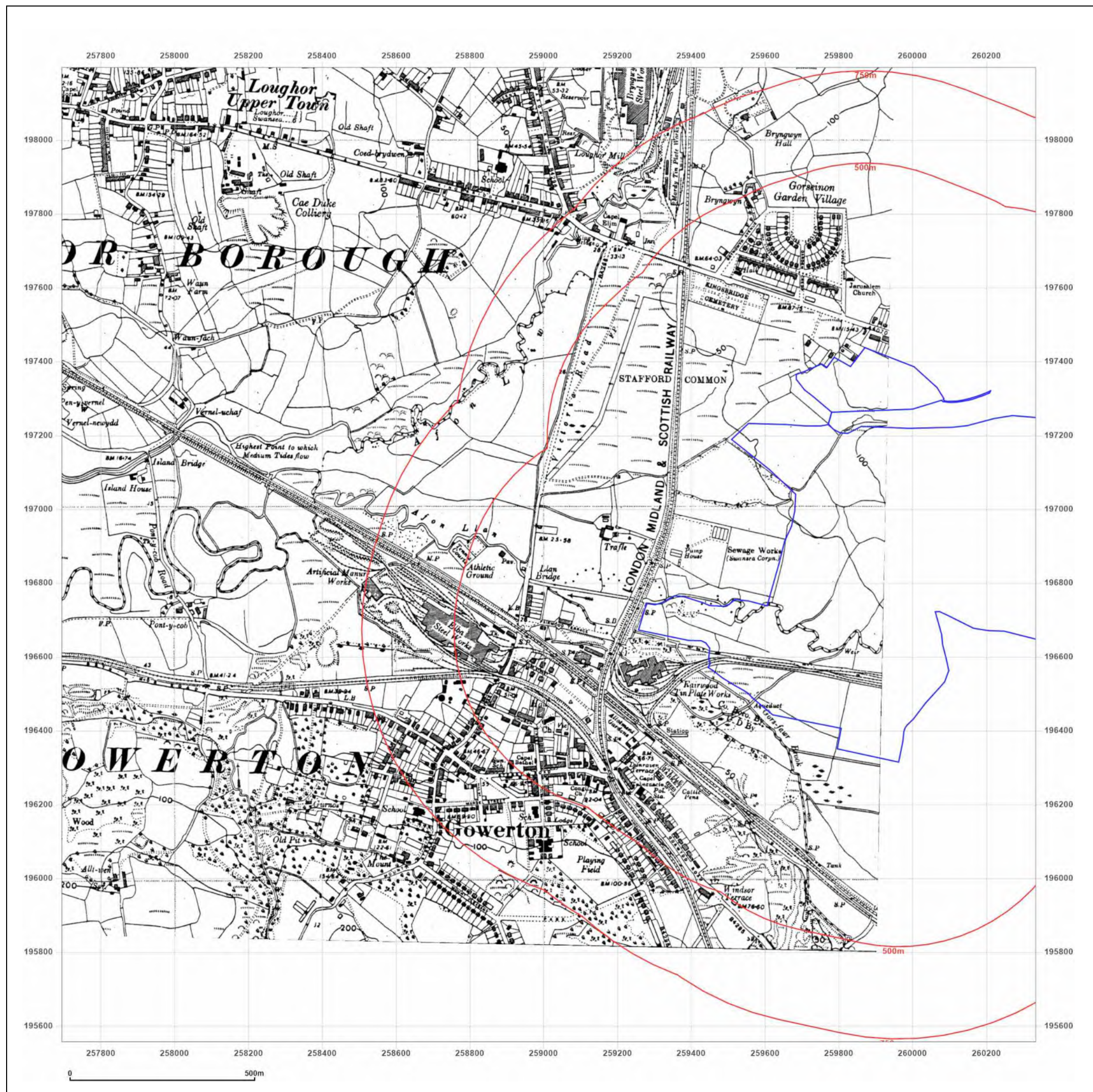
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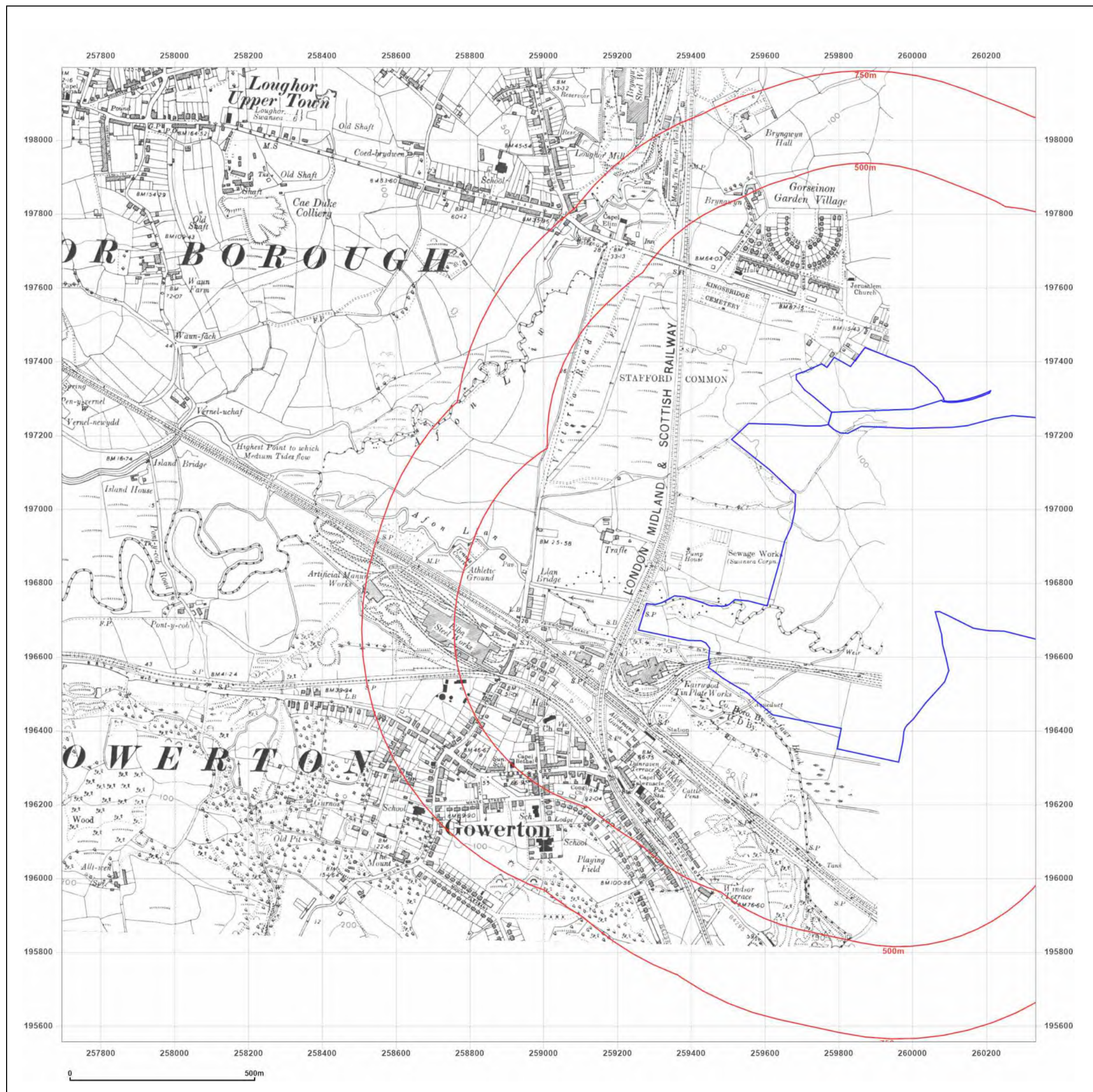
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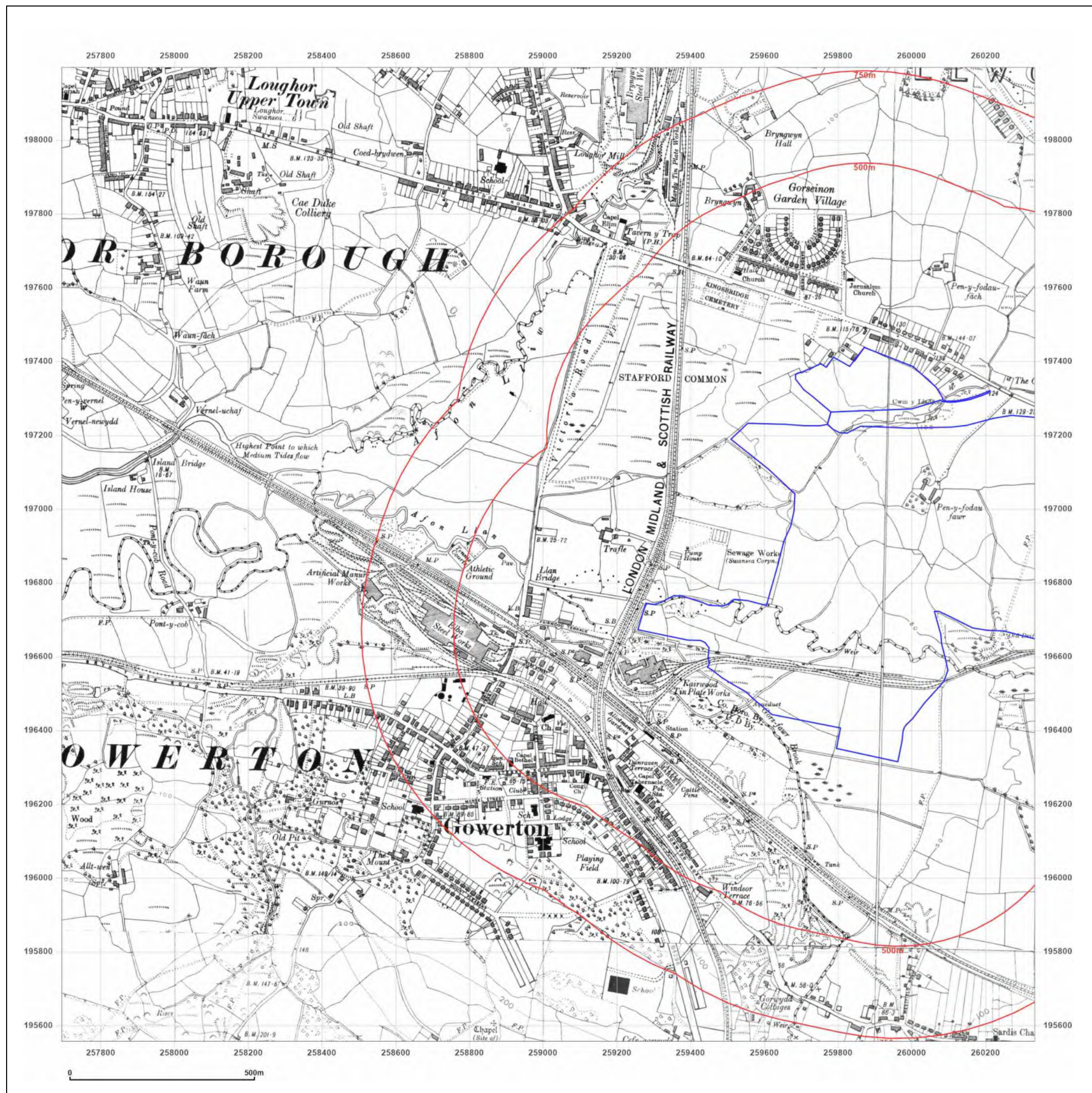


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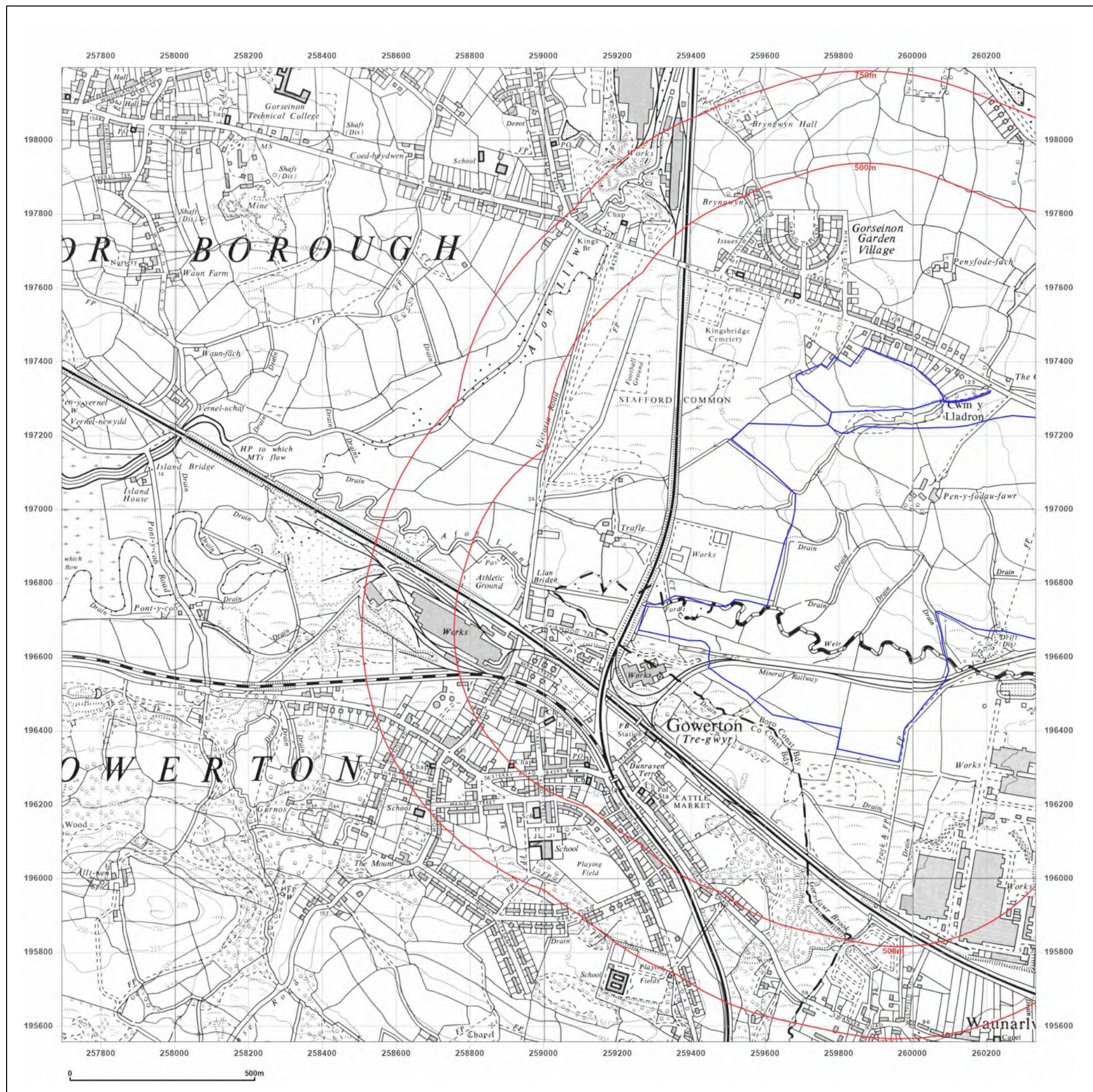
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Grid Ref: 259013, 196876

Map Name: Provisional

Map date: 1964

Scale: 1:10,560

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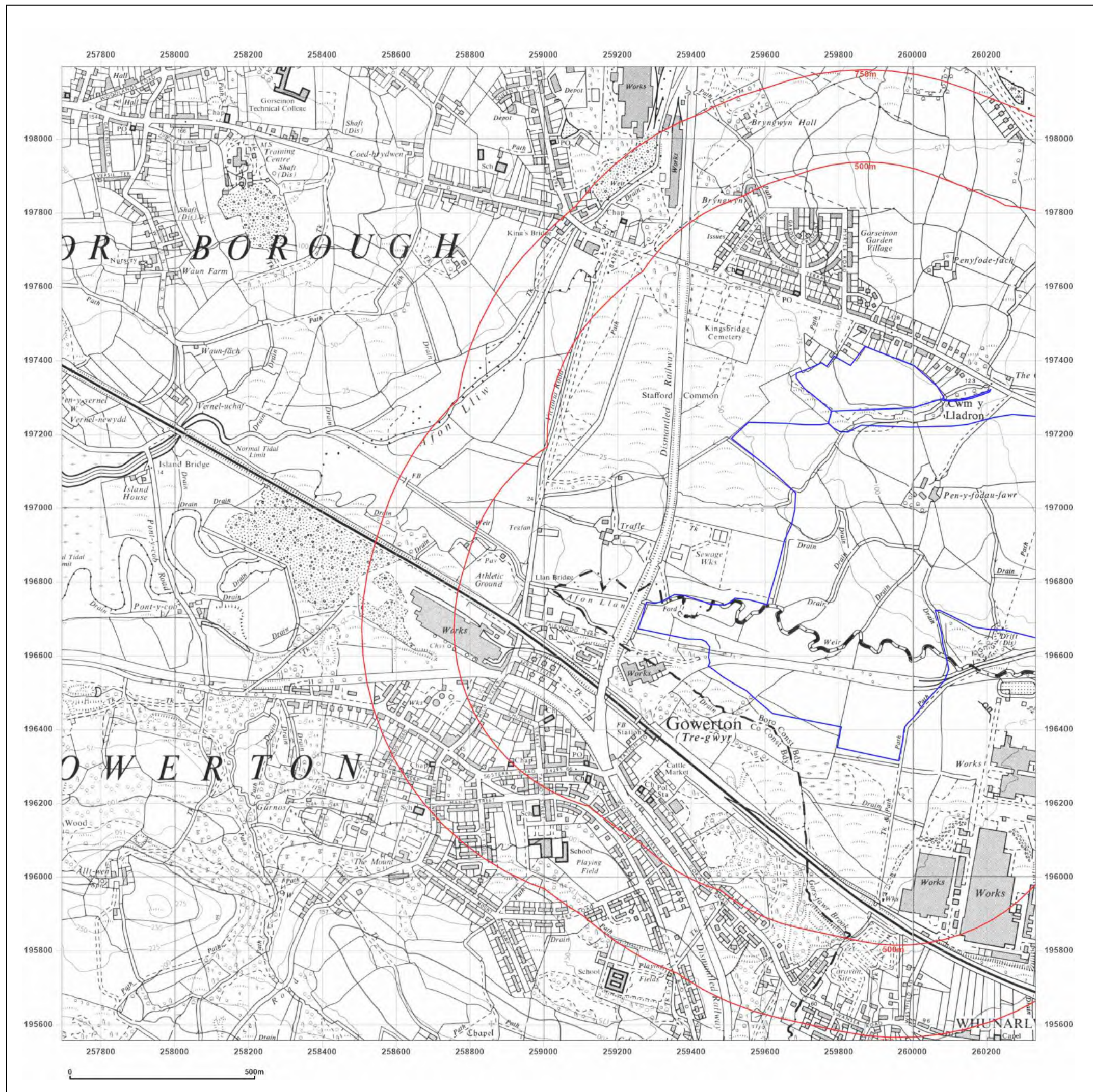
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196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: Provisional

Map date: 1967-1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
Levelled N/A



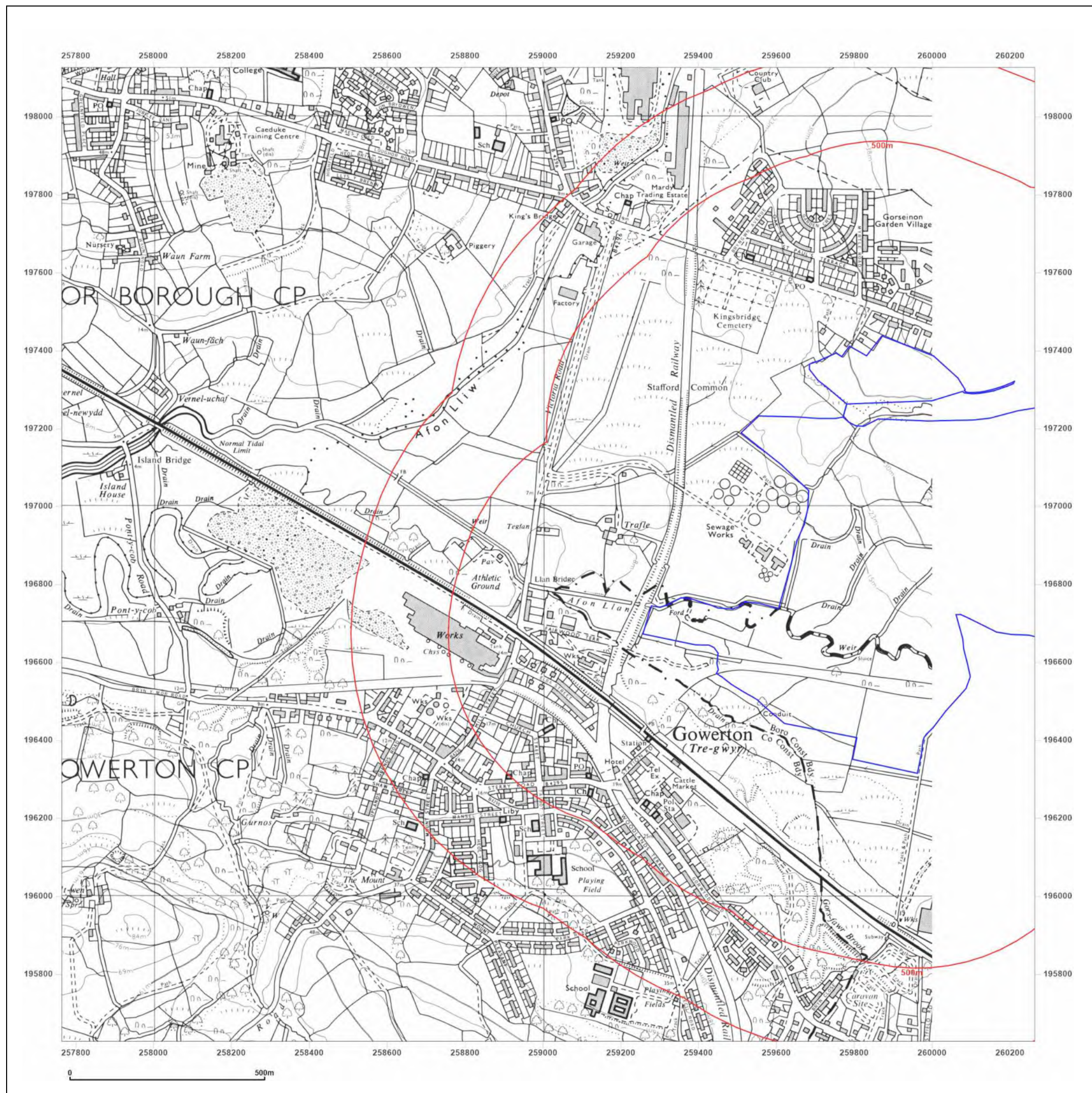
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Production date: 30 November 2021

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Site Details:

260113.56612636862,
196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 1974

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
Revised 1974
Edition N/A
Copyright 1974
Levelled 1964



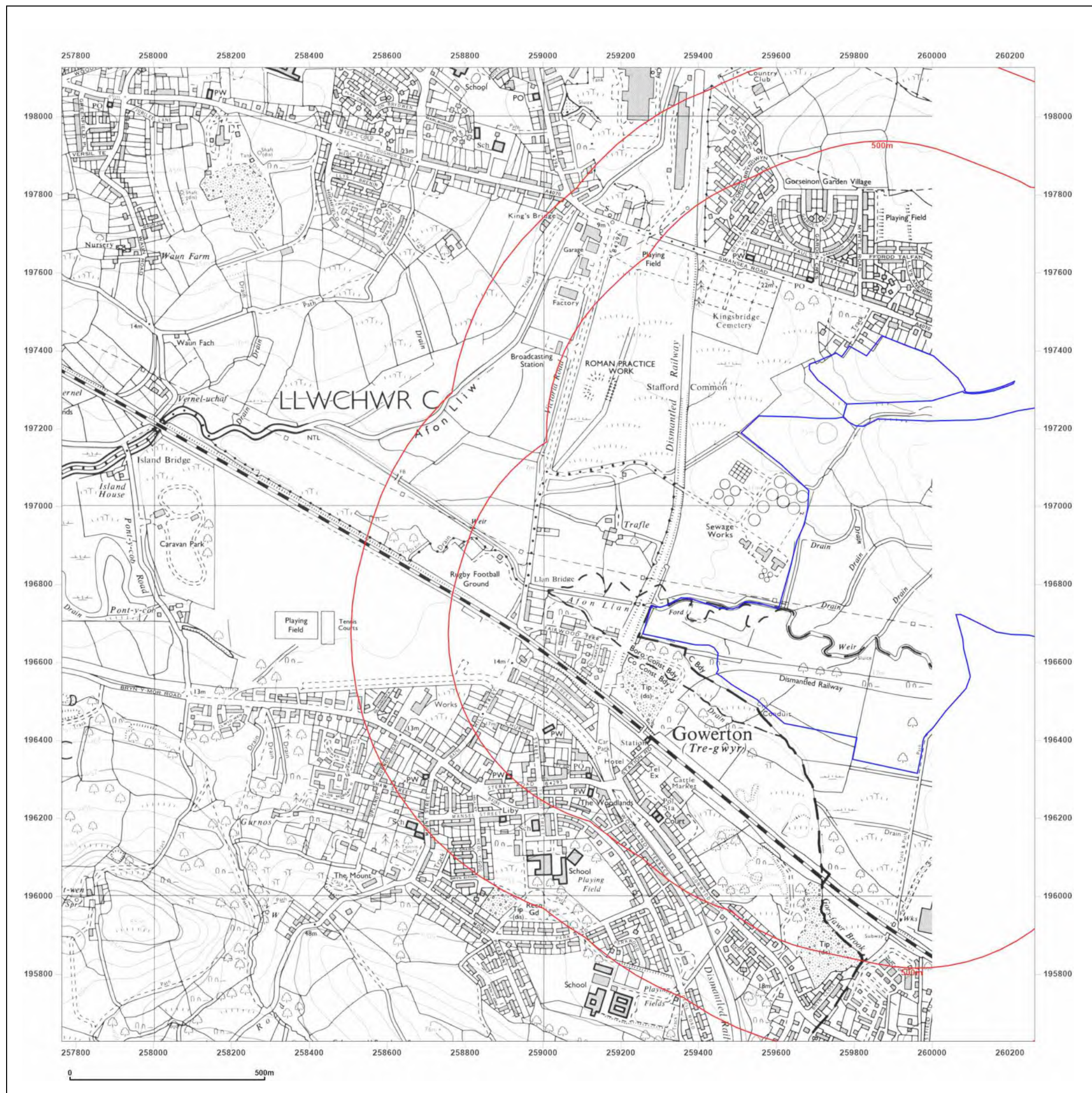
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Site Details:

260113.56612636862,
196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A



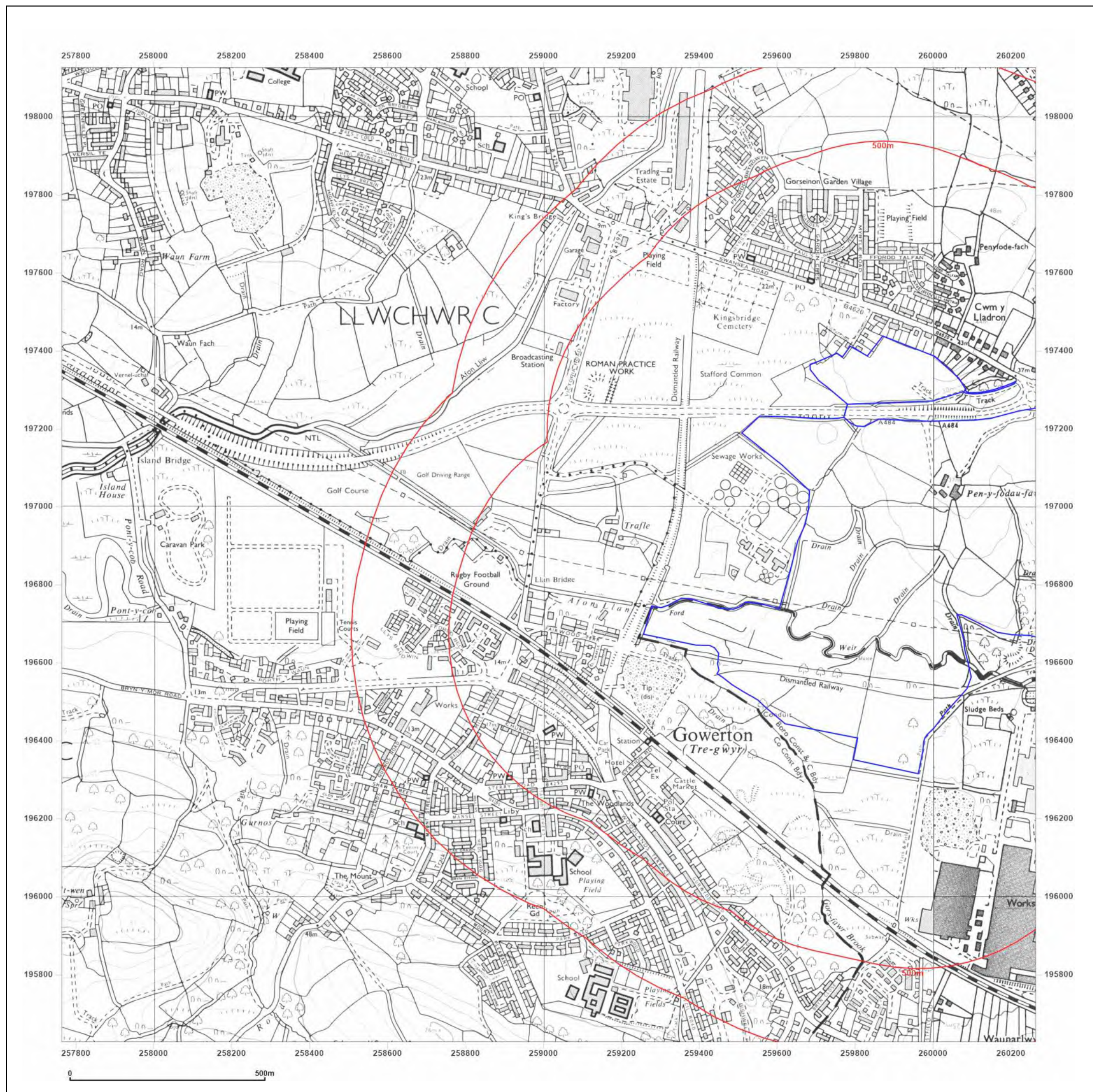
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Site Details:

260113.56612636862,
196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 1992-1994

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A



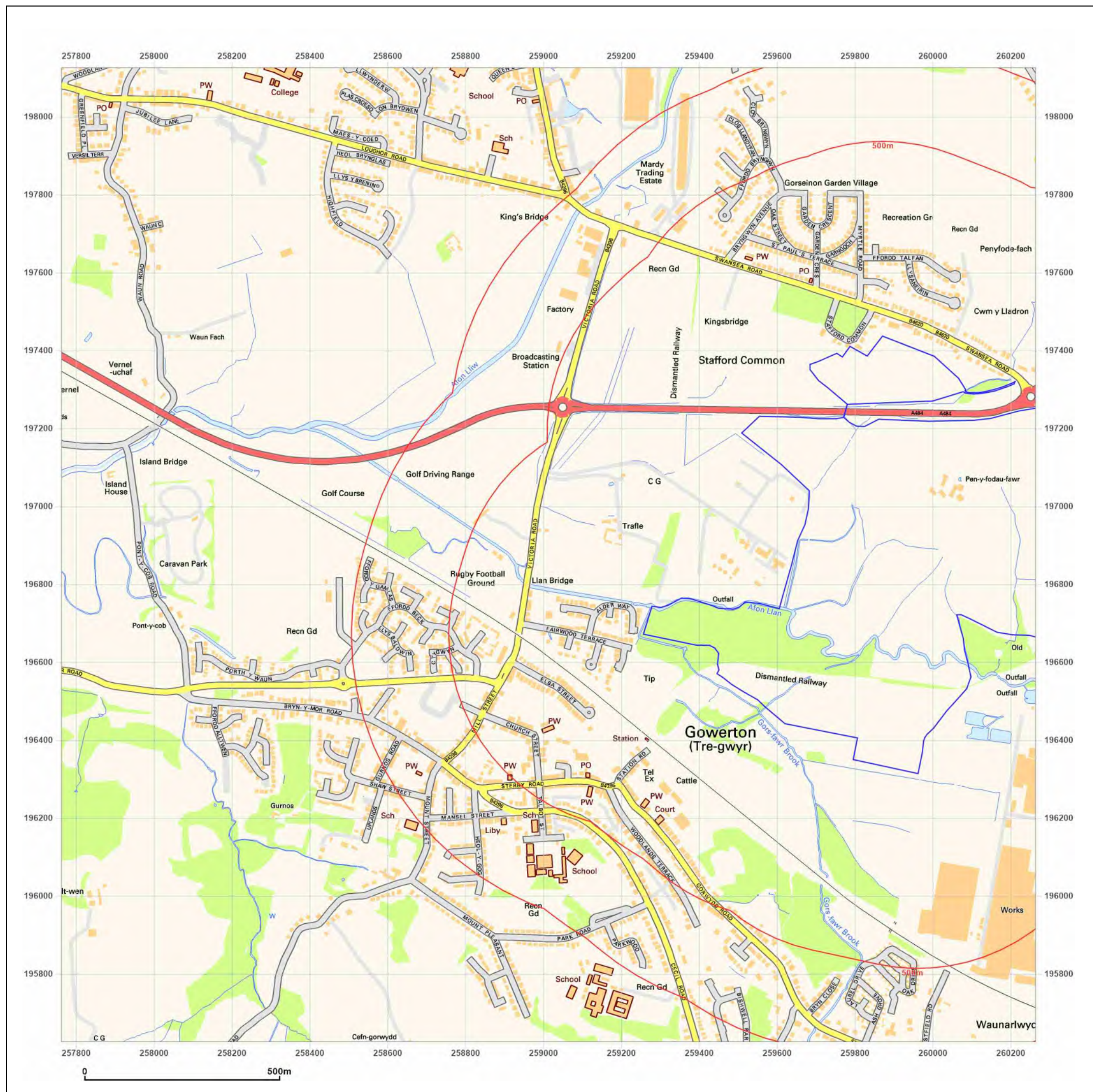
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Production date: 30 November 2021

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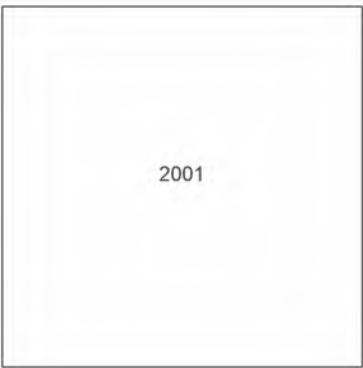
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Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

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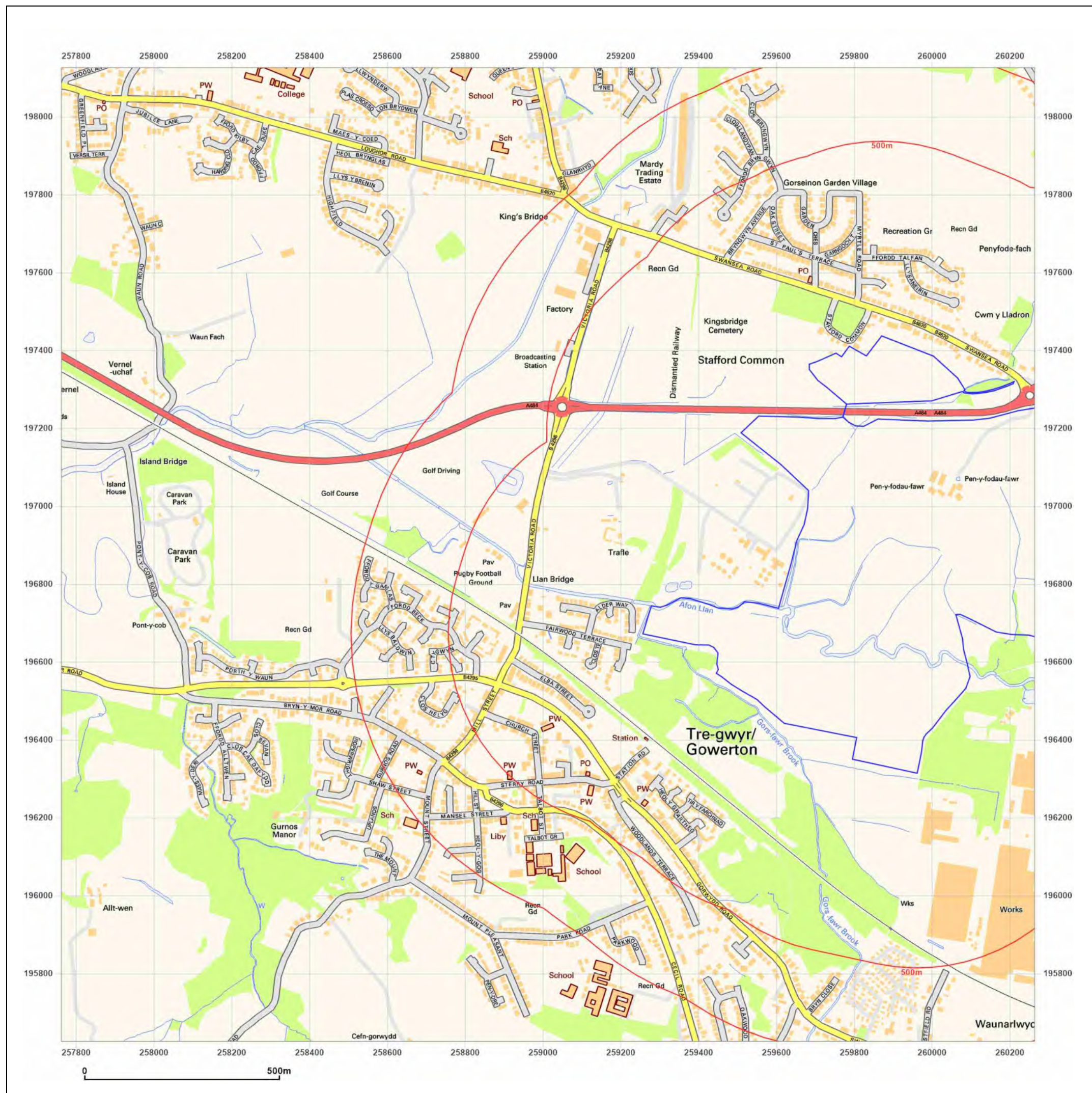
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Site Details:

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196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



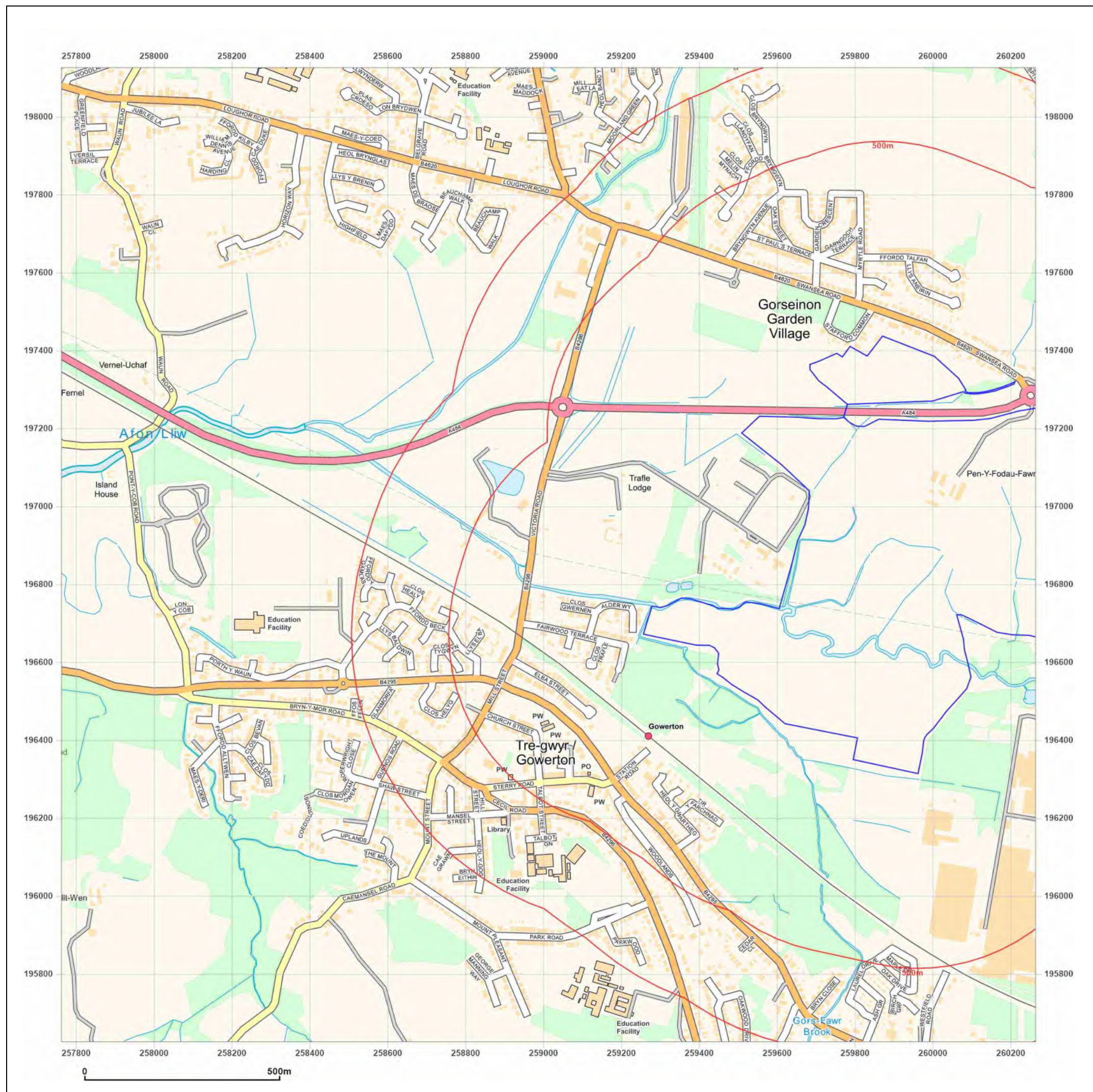
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Site Details:

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196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_1_1
Grid Ref: 259013, 196876

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



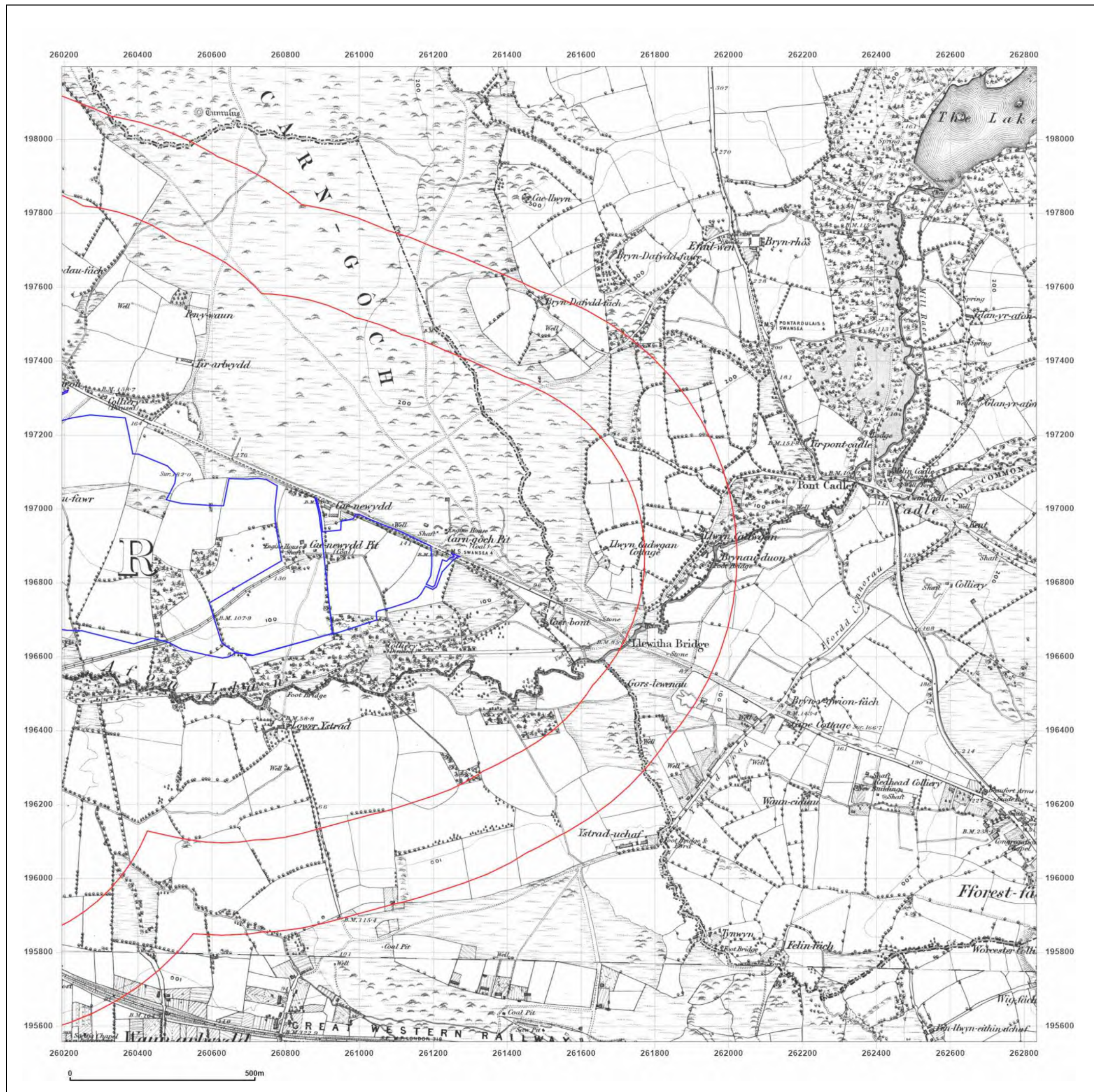
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196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: County Series

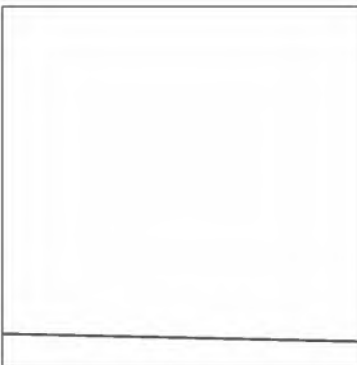
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Scale: 1:10,560

Printed at: 1:10,560



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



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



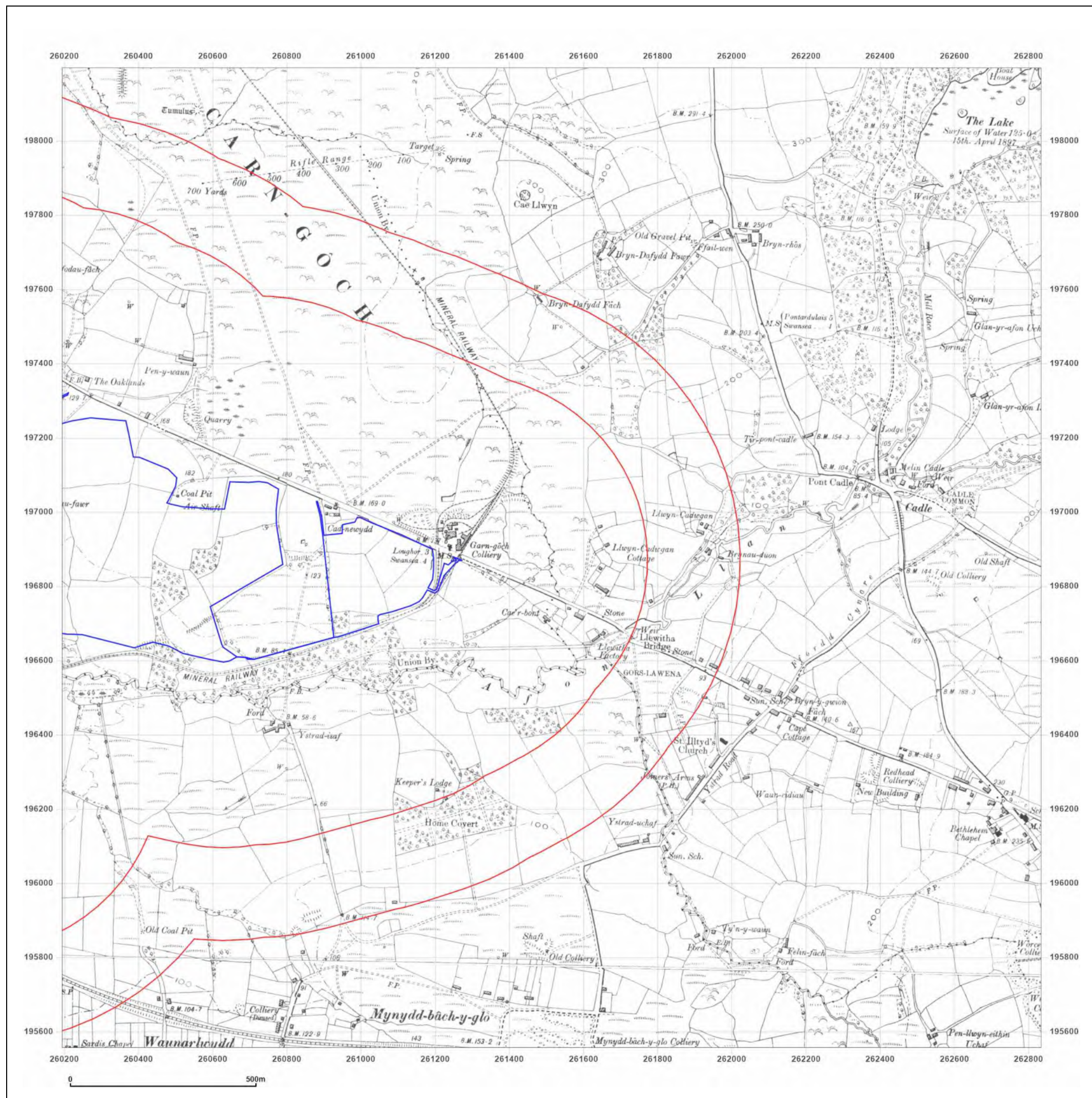
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Production date: 30 November 2021

Map legend available at:
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Site Details:

260113.56612636862,
196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: County Series

Map date: 1897

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1878
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1878
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A



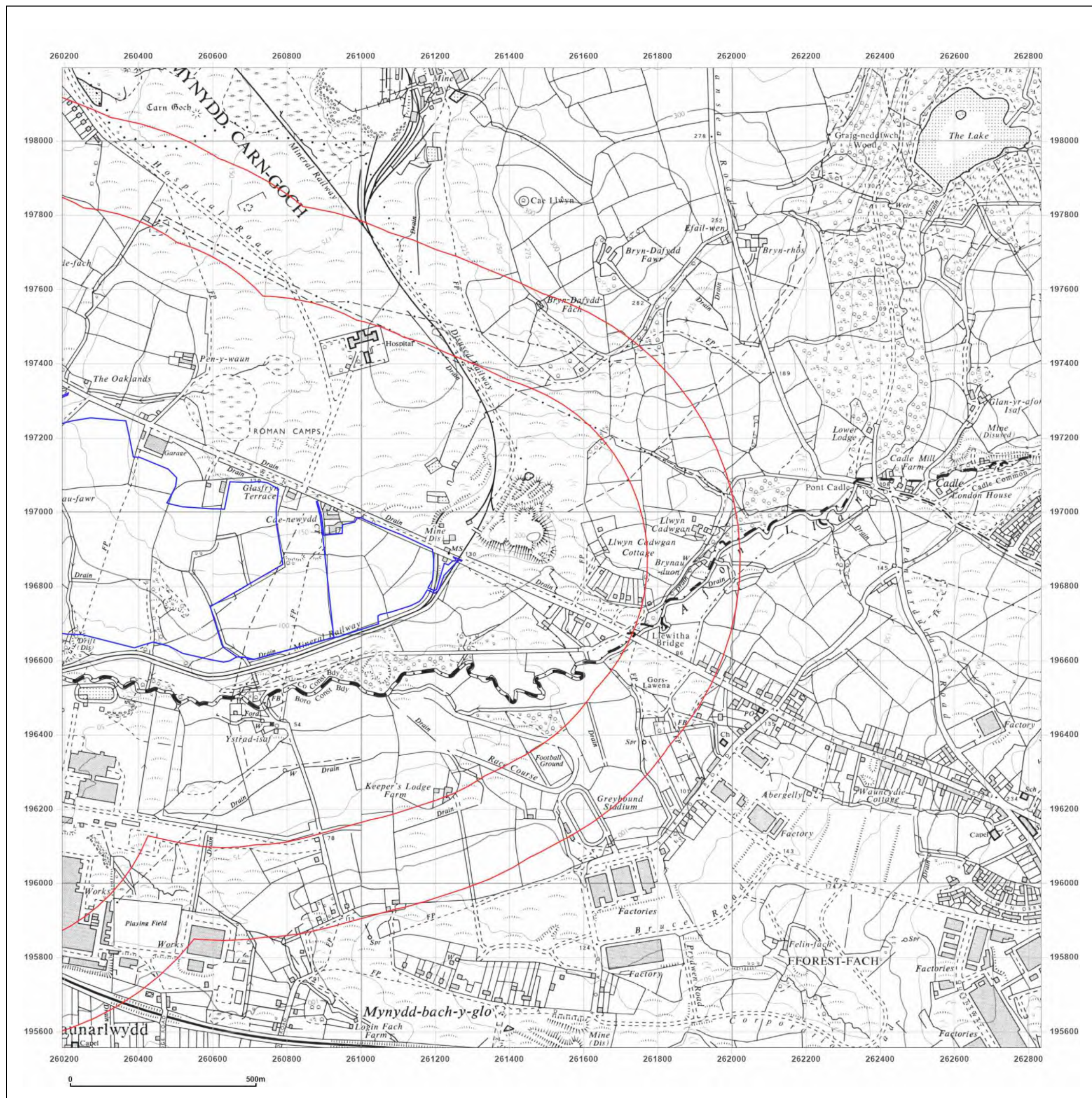
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Site Details:

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Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: Provisional

Map date: 1964

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Printed at: 1:10,560



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



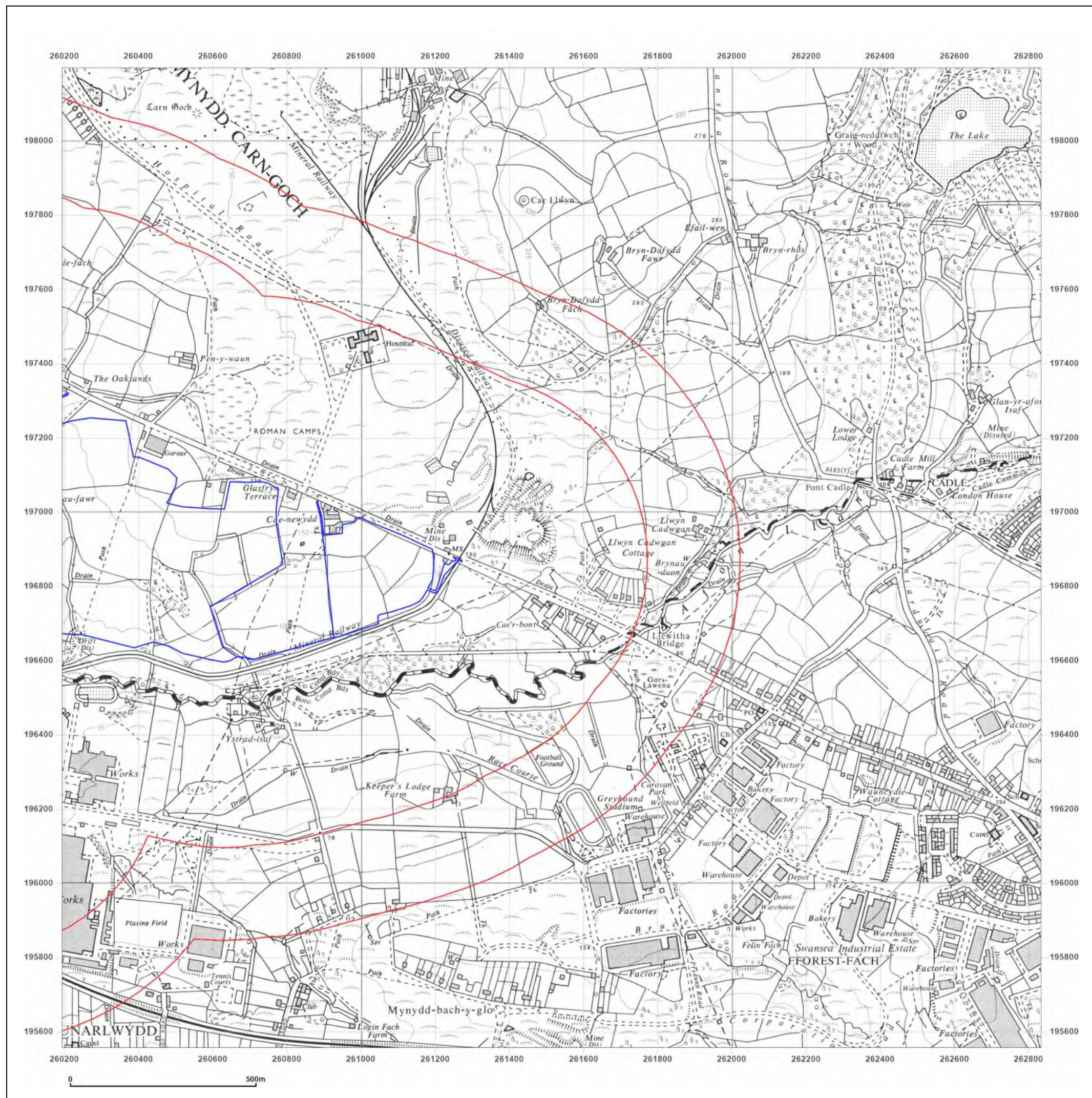
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Site Details:

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Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: Provisional

Map date: 1968

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Printed at: 1:10,560



Surveyed 1968
Revised 1968
Edition N/A
Copyright N/A
Levelled N/A



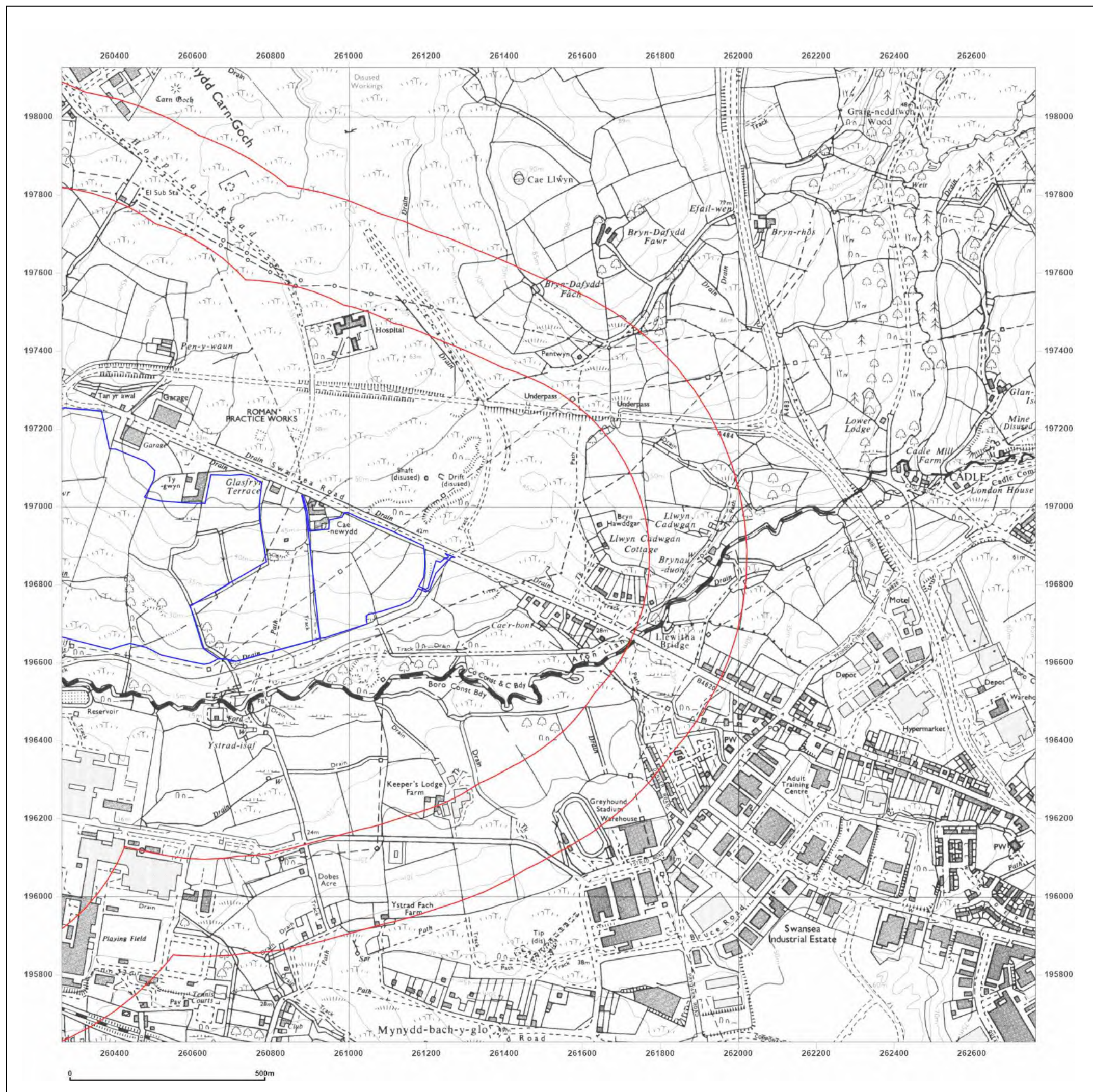
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Production date: 30 November 2021

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Site Details:

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Client Ref: PO-21-056
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Grid Ref: 261513, 196876

Map Name: National Grid

Map date: 1994

Scale: 1:10,000

Printed at: 1:10,000

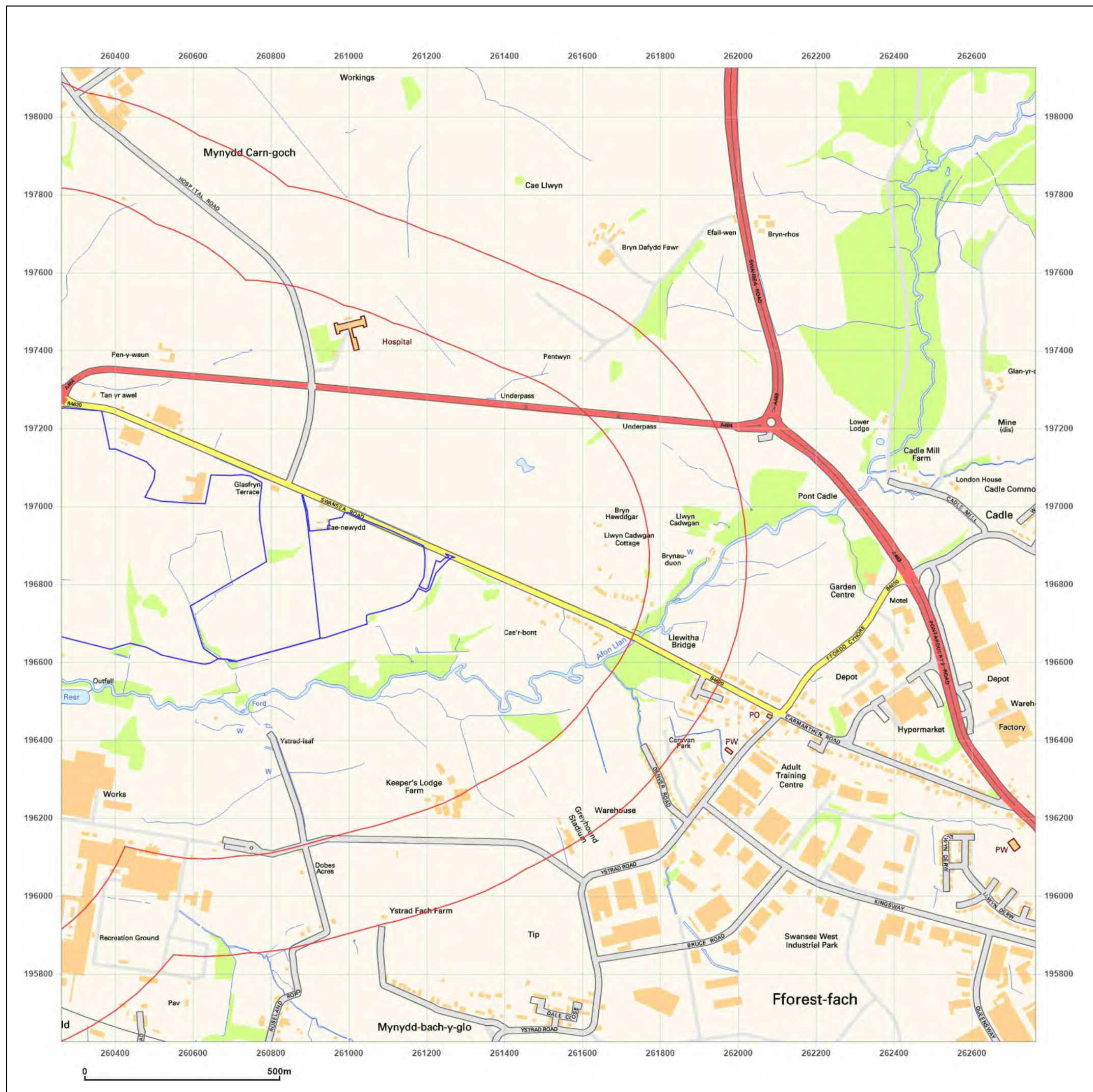


Surveyed 1977
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Edition N/A
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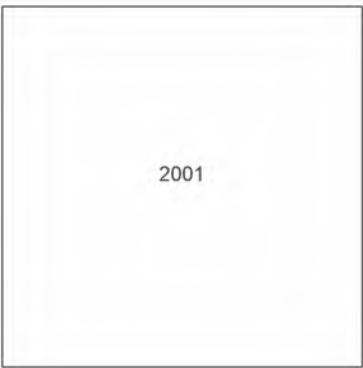
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Map Name: National Grid

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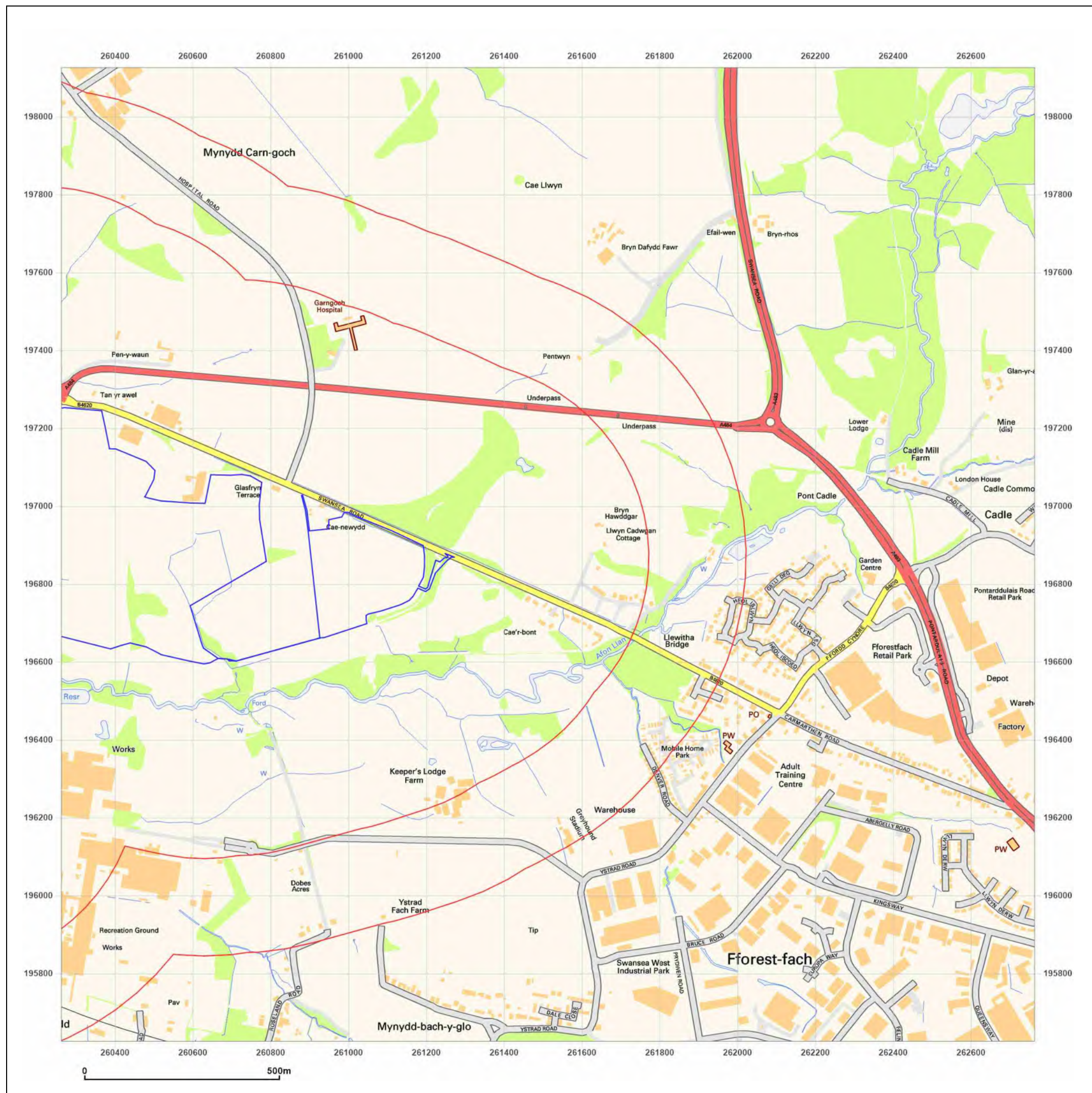


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196868.91884575313

Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



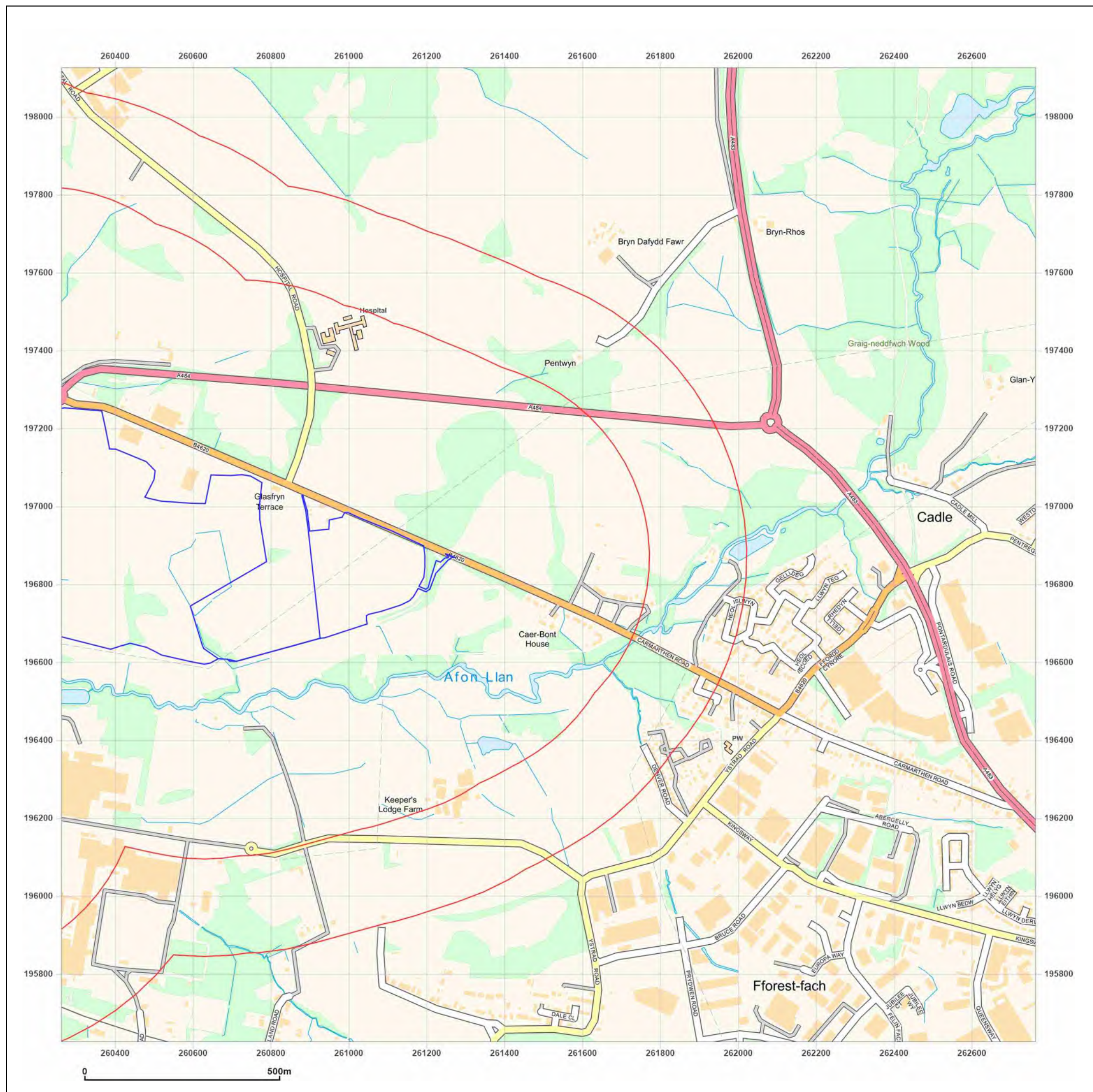
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Client Ref: PO-21-056
Report Ref: HYG1-8369498_SS_2_1
Grid Ref: 261513, 196876

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



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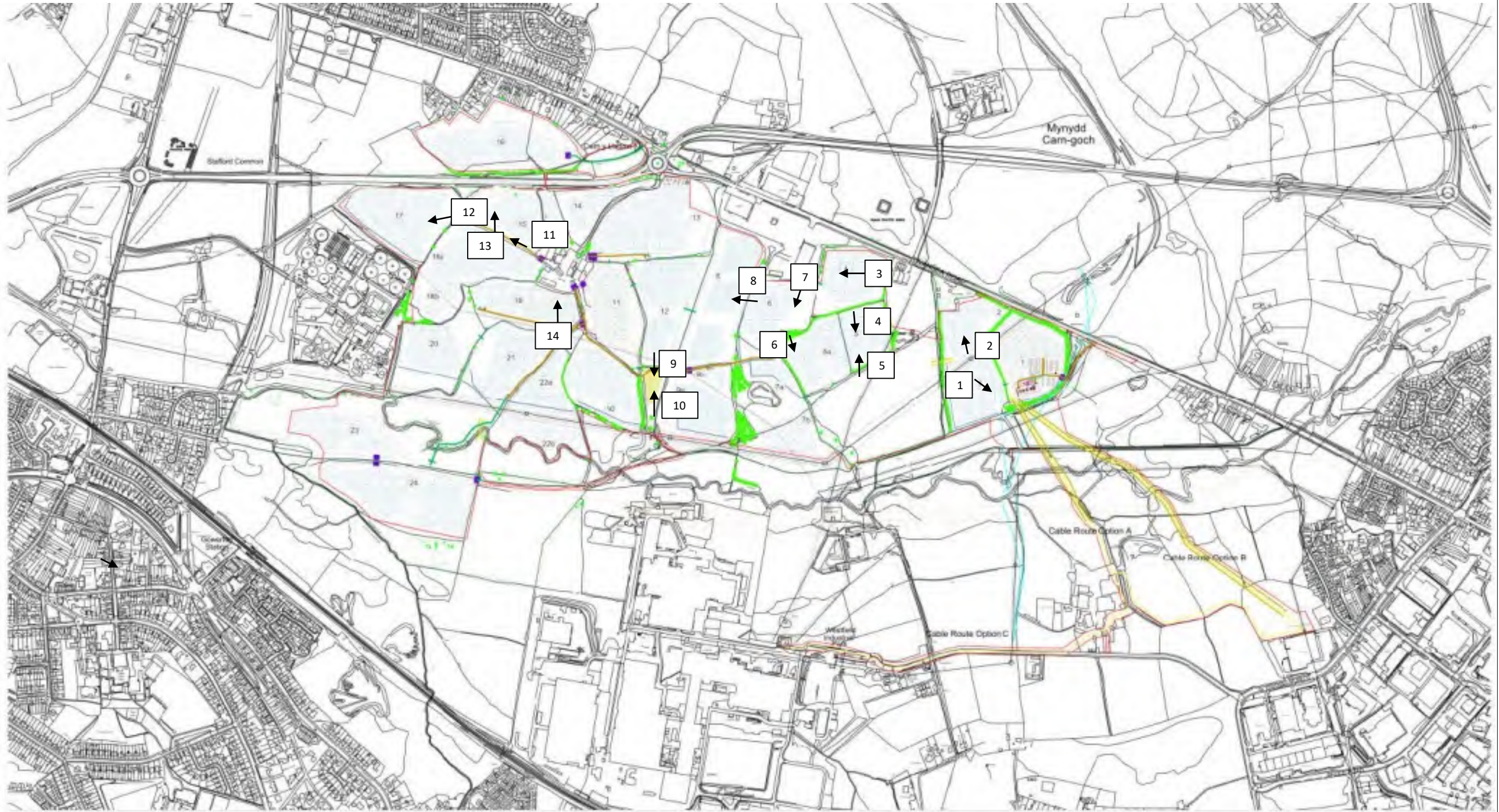
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Drawings

Drawing 1

Site Walkover Photo Location Plan



DRAWING 01 – Site Walkover Photo Location Plan

Site Walkover Photos and viewpoints as presented in Table 3-1 of the Hydrogeo CMRA & Phase I Report.

Project: Gowerton

Ref: HYG989

Date: 01 2023

Drawn By: SG

Checked: MW

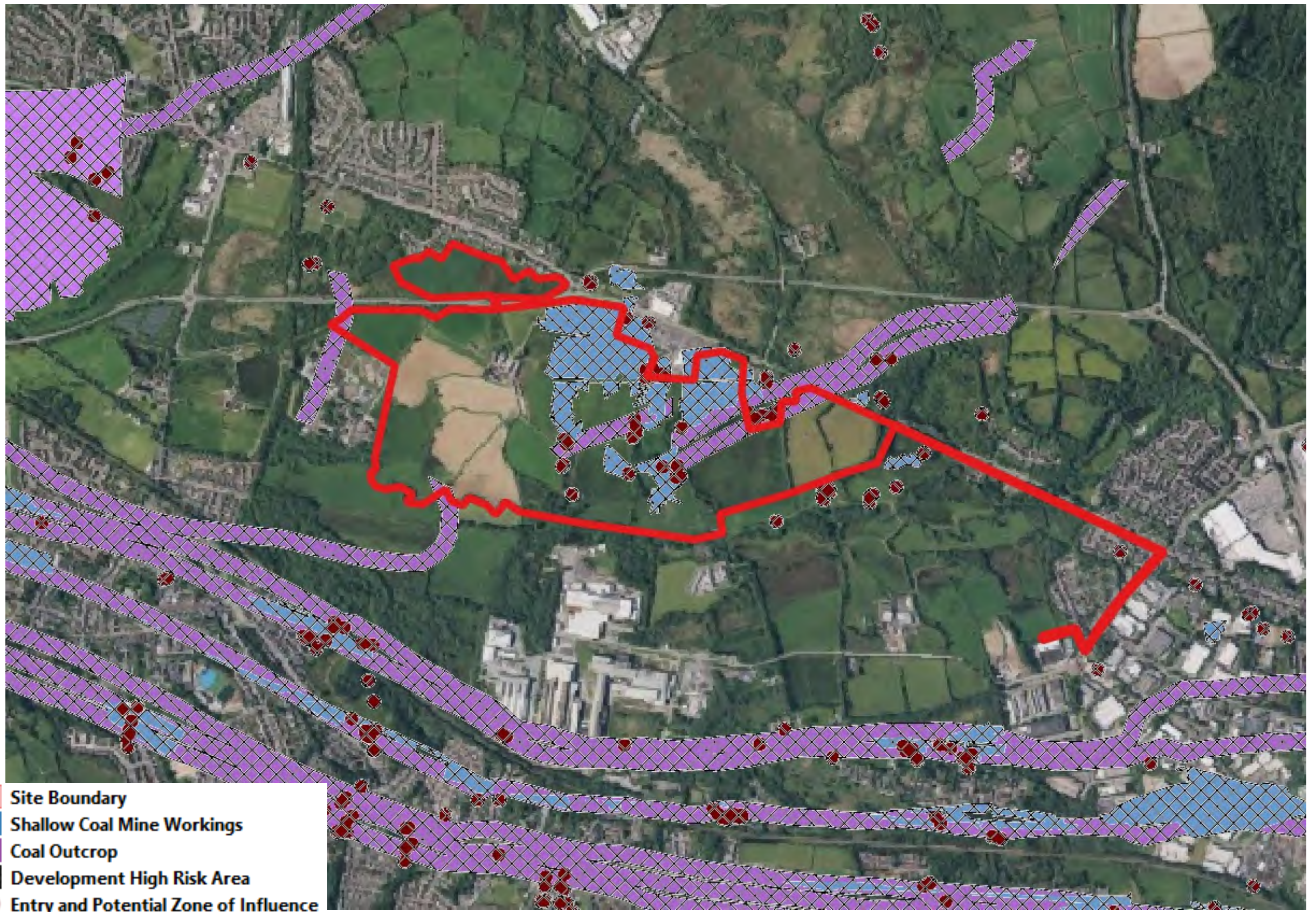
HYDROGEO



Telephone: 01873 856813 Email: mike@hydrogeo.co.uk Web: www.hydrogeo.co.uk

Drawing 2

Indicative Coal Mining Constraints



- Site Boundary
- Shallow Coal Mine Workings
- Coal Outcrop
- Development High Risk Area
- Entry and Potential Zone of Influence

DRAWING 2 – Indicative Coal Mining Constraints

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Client: Pegasus Group

Project: Gowerton

Ref: HYG989 D2

Date: 10 2023

Drawn By: SG

Checked: MW

HYDROGEO
Groundwater and Environment

Telephone: 01873 856813 Email: chris@hydrogeo.co.uk Web: www.hydrogeo.co.uk

Drawing 3

Indicative Past Land Use Constraints

