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Swansea North BESS: Geological and Ground Conditions Desk Study

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Swansea North BESS: Geological and Ground Conditions Desk Study

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1. Introduction

1.1. Instruction

Aqua Terra Consultants Ltd (Aqua Terra) was instructed by Land Use Consultants (LUC) (the Client) on behalf of EDF Energy Renewables Limited to provide a Phase 1 preliminary risk assessment (Desk Study) for Swansea North BESS at Felindre, Swansea (the Site). Instruction to proceed in accordance with the Technical Workscope – Swansea BESS was confirmed by email dated 19th February 2025.

1.2. Brief

The Client is supporting EDF Energy Renewables Limited through the planning and consenting process for a Battery Energy Storage System (BESS) and associated infrastructure on the Site. Aqua Terra has been instructed to provide a geological and ground conditions desk study to support the proposed development through the planning process.

1.3. Scope

This report presents records of desk study research, which are subsequently used to develop a conceptual site model and inform a preliminary environmental risk assessment.

The report identifies key potential land quality risks and uncertainties associated with the ground conditions that may require further investigation and/or risk management as part of the proposed re-development of the Site.

The risk assessment process has been undertaken in accordance with principal framework for the management of potentially contaminated land, the Land Contamination Risk Management (LCRM).

1.4. Limitations

This report is written strictly for the benefit of the Client and bound by the conditions presented in Appendix A.

2. Desk Study

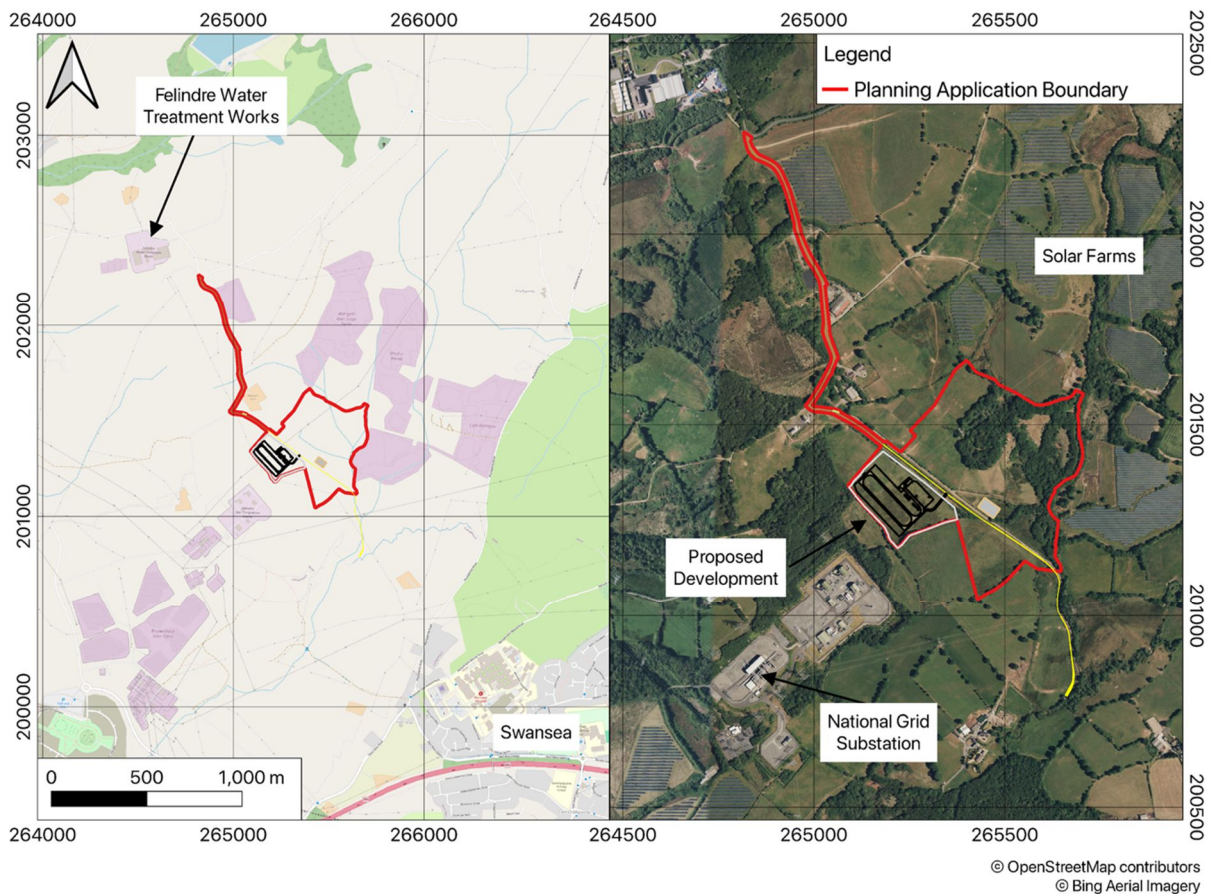
2.1. Site location and description

A Site location plan is shown in Figure 2-1 and the Site address is given as follows:

Swansea North BESS,
Felindre,
Swansea,
SA5 7NN

The wider Site that comprises the Planning Application boundary is approximately 22.1Ha in size, it lies between Felindre Gas Compressor Station to the west and Cefn Betingau, Rhyd-y-pandy and Abergelli Glas Solar Farms to the east and north. The Development Area is located at the north west corner of the wider Site. The majority of the Site comprises undeveloped agricultural land. The National Grid Reference at the centre of the Site is 265382, 201339.

Figure 2-1: Site location



2.2. Proposed development

The proposed development is understood to be a Battery Energy Storage System (BESS), infrastructure and vehicular access. An initial layout provided to Aqua Terra is presented in Appendix B.

2.3. Walkover

A Site walkover was completed on 28th April 2025, selected photographs during the walkover are presented in Appendix C. The wider Site comprises a series of agricultural fields and farm buildings with a small area of woodland in the north of the Planning Application boundary.

At the time of writing, the Planning Application boundary consists of several agricultural fields split north and southwards via two farm tracks and hedgerows. Fields to the north comprise an area of woodland that contains an overhead line and thick brambles with underlying moss vegetation. The eastern extent of the land parcel contains a small constrained area of peat of shallow depths onto soft clay beneath. The development area is outside of this area of peat. A gravel track runs through these fields and along the peat bogs' southern boundary. Further west up this track an ochreous surface water flow path was noted likely emanating from the woodlands above it. The fields to the south form the area of the proposed BESS and substation. One field that contains horses was inaccessible. The other field comprises gently sloping grazing land with a small watercourse and ditch at the southern extent. This field and another to the east, border the neighbouring development which also comprises an energy park currently under construction.

2.4. Geology

A review of British Geological Survey (BGS) 1:50,000 scale mapping and 1:10,000 scale mapping (Sheet No. SN60SW and SN60SE) indicates the geological sequence underlying the wider Site is as follows:

- Superficial geology: Till – Devensian (Diamicton) outcrops across the Development Area and the majority of the northern wider Site area and across the west of the southern land parcel. Hummocky (moundy) Glacial Deposits, Devensian (sand and gravel) outcrops across the north of the wider Site area. Peat outcrops across a small section at the north and across the east of the wider Site area. Alluvium (clay, silt, sand and gravel) outcrops along the watercourse at the eastern boundary. Glaciofluvial Deposits, Devensian (sand and gravel) outcrop in the north.
- Solid geology: Grovesend Formation - Mudstone, siltstone and sandstone.

BGS mapping also shows an inferred normal fault in the north of the wider Site trending NNW-SSE. Figure 2-2 and Figure 2-3 below depict mapped superficial and bedrock geology across the Site respectively.

Figure 2-2 BGS 1:50,000 mapped superficial geology

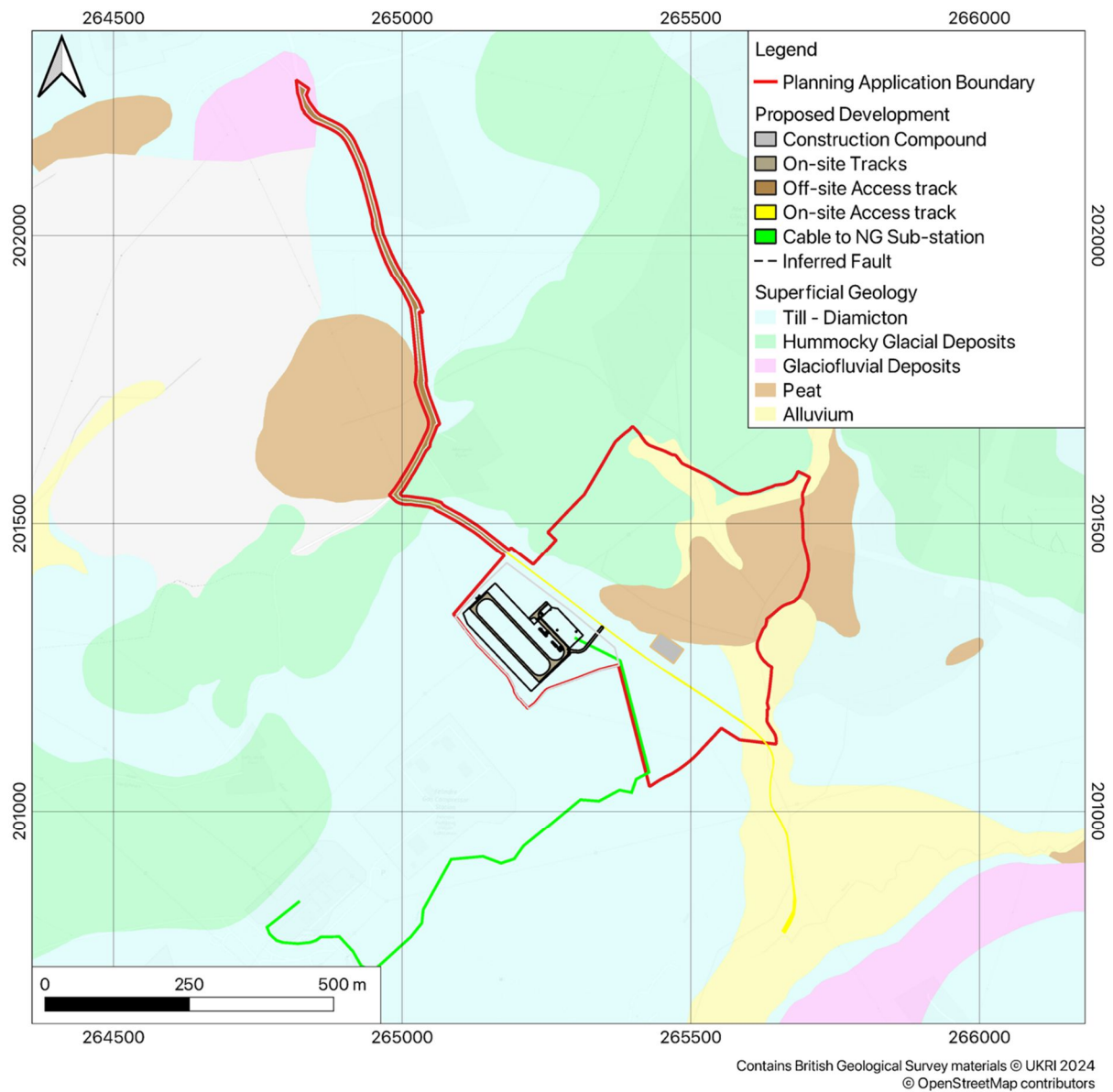
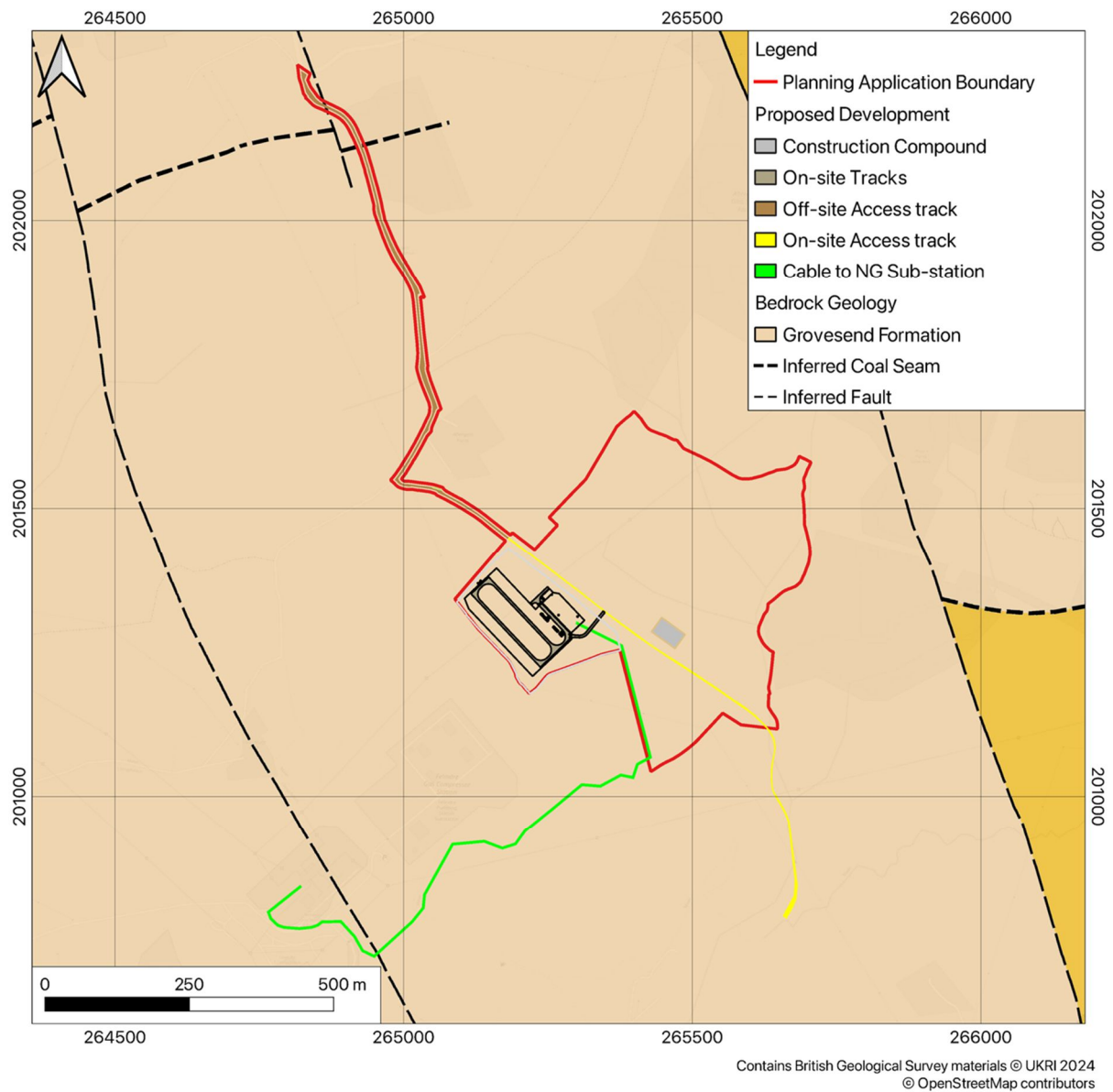


Figure 2-3 BGS 1:50,000 mapped bedrock geology



Nearby historical borehole logs within the BGS database confirm this succession and those closest are summarised in Table 2-1. It should be noted two additional borehole records are indicated ~0.2km from the Site boundary, SN60SE15 and SN60SE16, associated with Abergelli Colliery, although no records are available on the BGS Geo-index.

Table 2-1 Strata encountered in nearby historical borehole logs

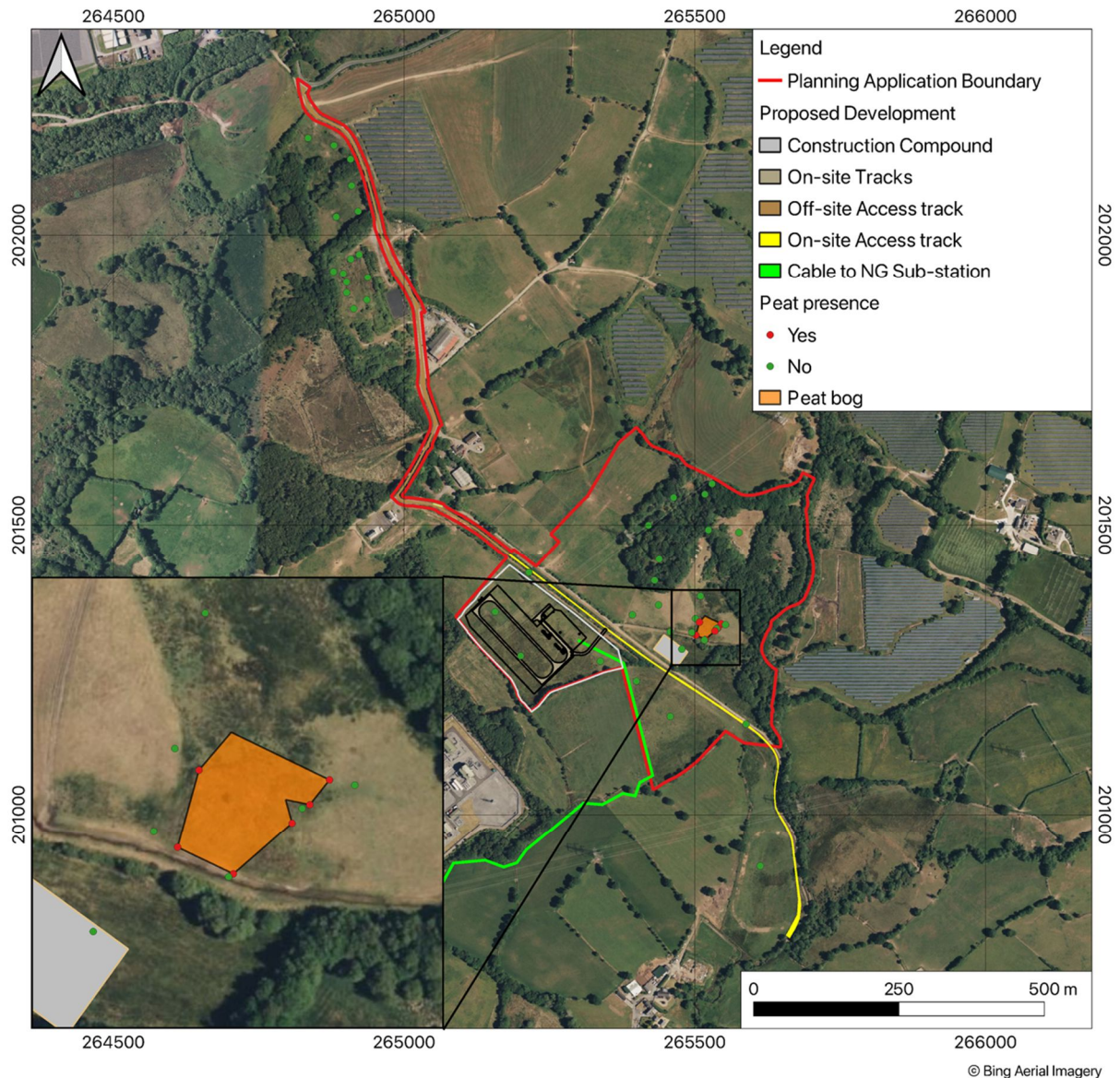
Borehole ref.	Strata	Maximum depth (m bgl)
SN60SE24	Brown sandy clayey TOPSOIL	0.3
(0.15km NW)	Firm yellow brown, sandy, very gravelly CLAY with occasional cobbles	6.4

Borehole ref.	Strata	Maximum depth (m bgl)
	Grey brown very clayey SAND	6.5
	Grey brown very clayey pebbly fine SAND	7.4
	Grey brown very clayey fine SAND	8.0
	Grey brown clayey gravelly SAND	9.7
	Grey brown clayey SAND	10.7
	Grey brown very clayey fine SAND. Trace of coal	12
	Grey brown very clayey fine SAND grading into Grey brown sandy CLAY	14
	Grey brown clayey fine SAND	15.1
	Grey brown sandy CLAY	15.8
	Firm yellow CLAY becoming stiff grey gravelly CLAY (possible boulder CLAY)	16.8

2.4.1. Peat

Peat was noted during the walkover in a constrained area within the wider Site boundary in the east of Site as shown in Figure 2-4. This circular raised bog had shallow (2-25cm) partially decomposed (H3-H5) peat with a soft grey clay and shallow bedrock below. The fields above this peat deposit slope at a shallow gradient towards the bog, funnelling surface water to this area.

Figure 2-4 Peat deposits encountered on Site



2.4.2. Coal mining

BGS mapping indicates a broadly west-east trending coal seam to outcrop across the north of the wider Site area. Mapping of Artificial and Made Ground at 1:10,00 scale also shows a void in close proximity to the northern wider Site area. The Site is located within a Coal Mining Reporting Area. As such a Coal Mining Risk Assessment has been completed by Aqua Terra for the Site (Ref: P25019_R2).

2.5. Hydrogeology

The Grovesend Formation and the superficial Alluvium and Hummocky (moundy) Glacial Deposits are classified by National Resources Wales (NRW) as a Secondary A Aquifer. These are defined as comprising permeable layers that can support local water supplies and may form an important source

of base flow to rivers. Groundwater vulnerability within the aquifer is classed as high. The Glacial Till (Diamicton) is classified as a Secondary (Undifferentiated) Aquifer. These are defined as aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value. The peat deposits are classified by NRW as unproductive strata. Groundwater vulnerability ranges between low and medium across the Site.

The Water Framework Directive (WFD) classifies the Carmarthen Carboniferous Coal Measures groundwater body which lies within the Grovesend Formation as having an overall and chemical rating of poor, and a quantitative rating of good in 2017. The Site does not lie within a source protection zone and there are no active licensed groundwater abstractions. There are three historical groundwater abstractions within 500m of the wider Site at Abergelli Farm, at Cwfn Betinge Farm and south of Maes-Eglwys all for general farming and domestic use. The nearest recorded potable groundwater abstraction is 1228m north of the wider Site at Lower Lliw Reservoir and is currently active.

2.6. Hydrology

2.6.1. Surface water

The wider Site is drained by the Afon Llan, a WFD waterbody, which borders the south of the Site. A network of streams extend across the southern wider Site area running in a broadly south easterly direction. The northern extent of Site within the Afon Lliw – headwaters to confluence with Llan water body catchment. A southwards flowing unnamed watercourse follows the western boundary of the northern land parcel. Two adjacent ponds are shown in the east of the Site, the larger having a length of 34m.

The Afon Llan – headwaters to tidal limit waterbody is classified under the WFD as having an overall, chemical and ecological rating of good in 2016. The Afon Lliw – headwater to confluence with Llan waterbody is classified under the WFD as having an overall rating of moderate, and ecological rating of good and a chemical rating of fail in 2016.

2.6.2. Flooding

Natural Resources Wales (NRW) mapping indicates that the Development Area and majority of the wider Site lies within Flood Zone 1 and is at low risk of flooding from rivers and the sea. The southern tip of the Site however lies within Flood Zone 2 and 3 and is at moderate to high risk of flooding from rivers and the sea (see Figure 2-5 below).

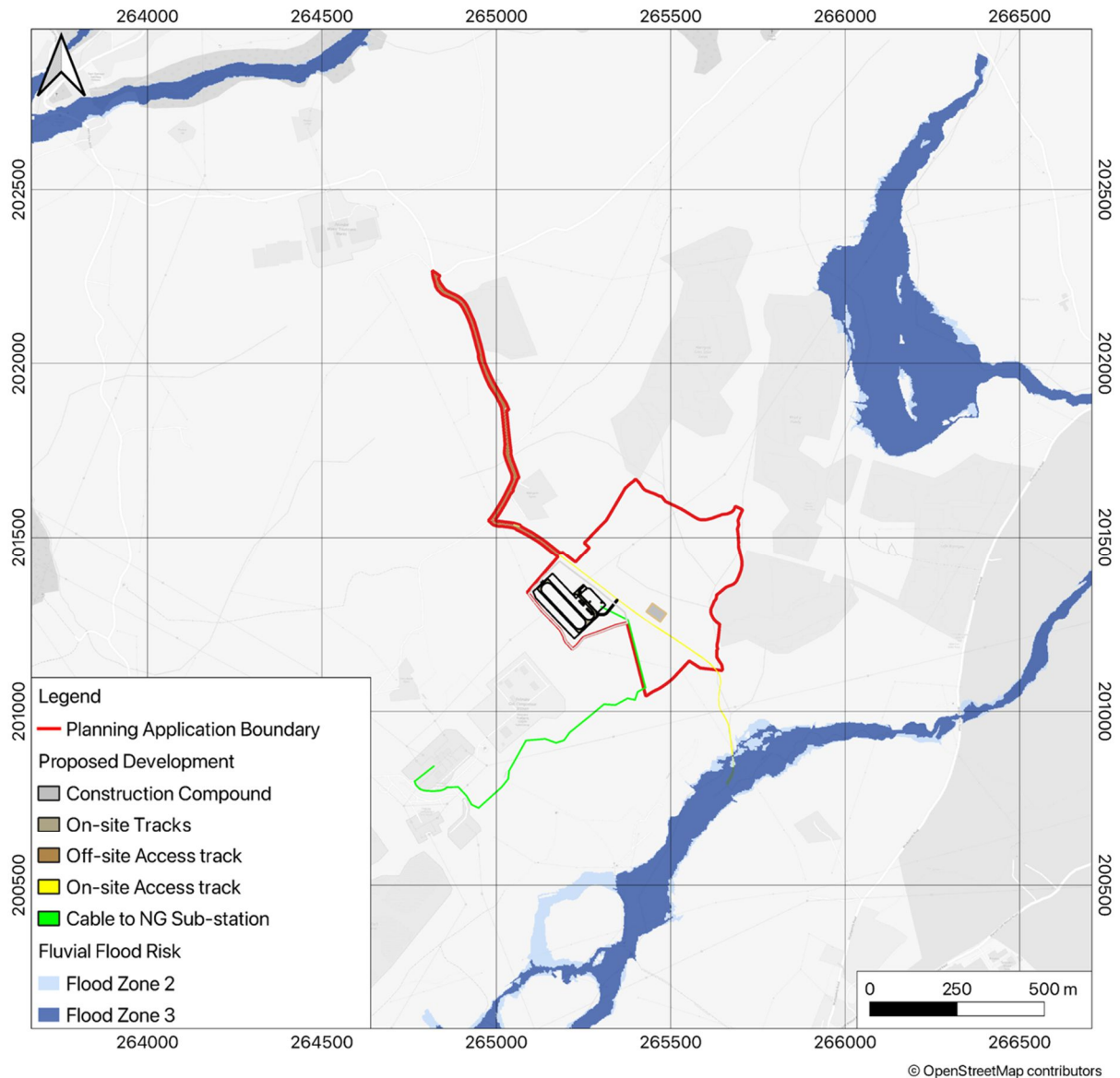
Ambiental Risk Analytics surface water (pluvial) FloodMap, provided within the Groundsure report in Appendix D, indicates the Development Area and the majority of the Site is at negligible risk of surface water flooding. However, there is an elevated risk of surface water flooding at the south of the Site in the area of the Afon Llan) and area adjacent to the unnamed watercourse across the east of the. Here, the Site is assessed to be at risk of flooding up to depths of >1m bgl based on a 1 in 30 year return period.

Aqua Terra have undertaken a Flood Consequence Assessment for this Site, which has then been used to inform a Sustainable Drainage Strategy both of which form a singular report (P25019_R3).

2.6.3. Groundwater flooding

Mapping from Ambiental Risk analytics, presented with the Groundsure report in Appendix D, indicates the risk of groundwater flooding across the Development Area and majority of the wider Site to be low and in the area of BGS mapped peat, negligible. A small area just off-site at the northern most tip of the wider Site area, is at moderate risk of groundwater flooding.

Figure 2-5 Flood Zones from Flood Map for Planning



2.7. Site history

A review of historical and contemporary Ordnance Survey (OS) mapping of the wider Site boundary, has been undertaken. The historical mapping is provided in Appendix D with salient observations summarised in Table 2-2. The Development Area falls within the south of the wider Site area as shown in drawing P25019_R1_D01. A summary of the Site history within the Development Area is provided in Section 2.7.1.

Table 2-2 Site history

Date	Details	Development considerations
	The earliest historical OS mapping shows the wider Site area to be undeveloped land with a mixture of agricultural fields, rough pasture, reeds, and mixed woodland. To the west of the northern extent of the wider Site area, a collection of 8No. buildings labelled 'Aber-gelli-fach' are shown.	
1876-1878 (1:2,500, 1:10,560)	The surrounding area is comprised of agricultural fields, rough pasture, and woodland. The wider Site area is shown to comprise rough pasture in the east and south, woodland in the centre and north, and agricultural fields in the northwest and centre. A stream is shown along (outside) the southern boundary. A collection of 5No. buildings and a Limekiln labelled 'Maes-eglwys' are shown approx. 130m southwest. A pair of buildings labelled 'Aber-gelli-fawr' are shown 215m north. A well is shown 243m west.	No additional considerations.
1896-1897 (1:10,560)	No significant change of land. A gravel pit is shown at Aber-gelli-fach ~230m north of the Development Area. An area of woodland immediately west of the wider Site area is labelled 'Aber-gelli-fach Plantation'.	Potential contamination associated with off-Site gravel pit.
1898-1899 (1:2,500)	No significant change of land use. An unspecified tank is shown adjacent to the well ~260m west of the Development Area.	Potential contamination associated with off-Site unspecified tank.
1913-1914 (1:2,500, 1:10,560)	No significant change of land use. The gravel pit at Aber-gelli-fach is marked as 'Old Gravel Pit'.	Potential contamination associated with infilling of off-Site gravel pit and deposition of Made Ground.
1916-1918 (1:2,500)	No significant change of land use for the wider Site or the surrounding area.	No additional considerations.
1921 (1:10,560, partial coverage)	No significant change of land use in either land parcel or the surrounding area is shown on the available mapping.	No additional considerations.

Date	Details	Development considerations
1935-1938 (1:2,500, 1:10,560)	No significant change of land use. Approximately ~450m north of the Development Area, 'Aber-gelli Colliery' is shown, comprising a tank, engine houses, railway sidings, and a slant.	Potential contamination associated with off-Site colliery.
1948 (1:10,560)	No significant change of land use for the wider Site or the surrounding area.	No additional considerations.
1959-1962 (1:2,500)	A large spoil heap (~1.38ha) is shown extending northwards from Aber-gelli Colliery, which is now marked as 'Mine (Disused)'. Approx. 0.78ha of the spoil heap is shown north of the wider Site area. The spoil pit at it's closest extent lies 480m north of the Development Area.	Potential contamination associated with spoil heap.
1964 (1:10,560)	No significant change of land use for the wider Site area or the surrounding area.	No additional considerations.
1975-1976 (1:2,500, 1:10,560)	No significant change of land use for the surrounding area. A pylon is shown in the north of the wider Site area, with an electricity transmission line shown crossing the Site from northeast to southwest. Another pylon is shown further south immediately east of the boundary, with an electricity transmission line crossing the land parcel from east-northeast to west-southwest.	No additional considerations.
1986-1990 (1:2,500, partial coverage)	Mapping covers only the northern extent of Site and surrounding area to the north, east, and south. The spoil heap occupying the southern area is no longer shown. A gas valve compound is shown ~1km from the Development Area, beyond which is a covered reservoir.	No additional considerations.
1991 (1:10,000)	No significant change of land use is shown in the northern Site area. The covered reservoir and gas valve compound to the north are shown to comprise part of a wider water treatment works to the northeast, including a larger covered reservoir, and several tanks and buildings.	No additional considerations.
1992-1993 (1:2,500)	No significant change of land use in the north of the wider Site area. 2No. ponds are shown in the east of the wider Site area. A large (0.11ha) structure and 3No. smaller structures are shown in place of Aber-gelli Colliery. 5No. buildings are no longer shown at Aber-gelli-fach (3No. remain).	No additional considerations.
2001	No significant change of land use for the wider Site area or the surrounding area.	No additional considerations.

Date	Details	Development considerations
(1:10,000)		
2010 (1:10,000)	No significant change of land use for the wider Site area or the surrounding area.	No additional considerations.
2025 (1:10,000, aerial imagery)	No significant change of land use in the northern extent of the wider Site area. A track is shown crossing the wider Site area from northwest to southeast. A solar farm is shown immediately east of the wider Site area. Felindre Gas Compressor Station is shown 100m east.	Potential contamination associated with off-Site gas compressor station.

2.7.1. Development Area history

The Development Area occupies an area of 4.6ha in the west of the wider Site area. The history of the wider Site area is described in Table 2-2. The earliest OS mapping shows the Development Area to comprise agricultural fields lined to the south and west by trees, neighboured to the north, east, and south by agricultural fields, and to the southeast and west by woodland. 1961 mapping shows the land use to comprise rough pasture. 1975 mapping shows an electricity transmission line crossing the Development Area from northeast to southwest, joining a pylon 125m southwest. Recent aerial imagery shows a track running along the northeastern boundary of the Development Area. The Development Area remains undeveloped on recent mapping and aerial imagery, neighboured to the north by agricultural fields and Abergelli Farm, to the east, south, and west by agricultural fields and woodland, and to the southwest by Felindre Gas Compressor Station.

2.7.2. Other historical sources

Anecdotal information from the Northern Mine Research Society provides further detail on Aber-gelli Colliery. The colliery is described to have opened in 1930 and targeted the Graigola Four-Foot seam with facilities including a boiler house, fan house, pump room, Cornish boiler, a winder with 25-inch cylinders, a drying room, cycle shelter, powder and oil stores, an ambulance room, fitting and electrical shops, a smithy, and an electrical substation¹.

2.8. Environmental database search

A Groundsure report was purchased as part of the desk study assessment. The full report is provided in Appendix D. A summary of pertinent database records is provided in with reference to entries on Site and within a buffer zone of 250m, unless considered to have relevance at greater distances.

¹ Ray Lawrence (n.d.). *Abergelli Colliery*. Northern Mine Research Society [Online]. Available at: <https://nmrs.org.uk/mines-map/coal-mining-in-the-british-isles/swales/gorseinon/abergelli-colliery/> (Accessed: 02/05/2025).

Table 2-3 Environmental database records

Distance (m)/ orientation	Land use / permitted activity / authorisation	Development considerations
540m N	1No. Recent landfill at Abergelli Farm (Environmental permitting regulations (EPR) Ref: LLE001), status is noted as closed but no closure date given. Landfill type: A5, landfill taking non-biodegradable wastes.	Extends north of the Development. Unlikely to have impacted the Development given ~540m distance
On Site	1No. Historical landfill at Abergelli Farm, licence issued in September 1999.	Located south of the recent landfill listed above, ~300m north west of Proposed Development. Potential source of contamination
200m NW	Detailed planning application for a waste transfer station together with the removal of inert material and engineering works at Abergelli Fach Farm was submitted in 2002.	None.
On Site – 230m E	Multiple EPR licences relating to Abergelli Farm, dating between 1994 and 2021. Annual tonnage given as 82628 in 1994, 5125 in 2019 and 3925 in 2021.	Significant volume (at least 91,678 tonnes) of landfill material, representing a potential source
200 – 202m (N, NW)	2No. waste exemptions for use of waste in construction at Abergelli Farm (non-agricultural) and Upper Lliw (on a farm)	None.
130m NW	1No. Control of Major Accident Hazards Site at the Welsh Water, Felindre water treatment works	None. Over >1km from the Development Area
On Site	1No. Licensed industrial activity at Abergelli OCGT Plant for the burning of any fuel in an appliance with a rated thermal input of 50 or more megawatts	None
138m S	1No. Licenced discharge to controlled waters at Maes Glwys Farm of unspecified effluent between 1979 and 1994	None. Site is upstream of Maes Glwys Farm.
5 – 220m (NW, SW)	2No. recorded pollution incidents. Incident No. 493773, in 2007 had a significant water impact and pollutant was soils and clay. Incident No. 87384, in 2002 had a minor air impact and pollutant was smoke.	None.

2.9. Geo-hazards

The Groundsure report includes information from the BGS regarding potential geohazards on or near the Site. These potential geo-hazards have been summarised in Table 2-4 below.

Table 2-4 Summary of geo-hazards

The following have been identified by the BGS on Site:		
Ground stability hazards	Collapsible Ground	Very low across the Development Area and the majority of the wider Site, Negligible in areas of alluvium and peat
	Compressible Ground	Negligible across the Development Area and the majority of the wider Site, moderate in areas of alluvium and high in areas of peat
	Ground Dissolution	Negligible
	Landslide Ground	Very low across the Development Area and the majority of the wider Site. Low at western boundary of the north land parcel and in the centre of the southern land parcel
	Running Sand	Very low across the Development Area and the majority of the wider Site and moderate in areas of Alluvium Negligible where superficial deposits are absent.
	Shrinking or Swelling Clay	Very low across the Development Area and the majority of the wider Site. Negligible at the northern and southern edges of the northern land parcel.
Radon	The majority of the wider Site and the Development Area is within a low probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Radon risk is elevated in the north east of the southern land parcel and western edge of the northern land parcel (between 1% and 3% of homes are estimated to be at or above the action level). At the south of the northern land parcel, between 3% and 5% of homes are estimated to be at or above the action level, basic radon protection measures are required in any developments here.	

2.10. Environmental designations

Online mapping (Defra) and the Groundsure Insight report indicates an area of ancient semi natural woodland is present in the north of the southern land parcel, 6No. additional areas of ancient woodland lie within 250m of the Site. There are no further environmental designations on, or within close proximity of the Development Area or the wider Site.

2.11. Preliminary UXO risk assessment

Zetica produce online mapping relating to potential risks associated with discovering unexploded ordnance (UXO). Based on this mapping, the Site is indicated to be at a low risk from all forms of Unexploded Ordnance.

3. Conceptual site model and risk assessment

The following section draws together a preliminary conceptual site model. The relationship of identified sources, viable pathways and identified environmental receptors is considered and used as a technical basis to inform a qualitative assessment of risk to human health and the wider environment posed by the proposed ground conditions and the proposed redevelopment of the Site.

3.1. Sources

The key identified contaminant sources are summarised as follows and covered within the risk assessment table in Section 3.4 below.

3.1.1. On Site source potential

- No potential sources of contamination were identified within the Development Area or wider Site area.

3.1.2. Off Site source potential

Numerous historical industrial sites surrounding the Site including:

- Abergelli Farm Landfill;
- Felindre Gas Compressor Station;
- Infilled Gravel pit (potential to have been backfilled with unknown Made Ground);
- Aber-gelli Colliery and associated spoil heap; and,
- Unspecified tank west of Site.

3.2. Pathways

For the purposes of this risk assessment, it is assumed that the relevant pathways comprise:

- Direct contact with sub-surface materials (dermal soil/ leachate contact, soil ingestion and dust ingestion/ inhalation);
- Ingress into potable supply pipes;
- Leaching of contaminants to groundwater;
- Migration of dissolved phase contamination in groundwater;
- Preferential flow through fractured bedrock;
- Preferential flow through the drainage system; and,
- Migration of gas and/ or vapours through preferential pathways and/ or permeable sub-surface materials.

3.2.1. Construction-phase pathways

In addition to the above, during the redevelopment of the Site it will be necessary to cause a period of exposure of bare earth. This in turn will allow for increased infiltration during rainfall events, and therefore an increased potential for leaching and throughflow of potential sub-surface contaminants.

3.3. Receptors

The key identified potential environmental receptors are summarised as follows and covered within the risk assessment table in Section 3.4 below.

3.3.1. Human health

- Future Site users (commercial);and,
- Construction and maintenance workers (short term acute risks).

3.3.2. Wider environment

- Groundwater (Secondary A Aquifers and Secondary (Undifferentiated) Aquifer);
- Peat
- Headwaters of the Afon Llan; and,
- Headwaters of the Afon Lliw.

3.4. Qualitative risk assessment

A summary of the potential contaminant linkages associated with the Site is presented in Table 3-1, alongside an assessment of the risks posed by each linkage. The contaminant linkages have been assessed using the risk assessment methodology described in CIRIA C552 (2001). As such, risk is considered to be a function of both the probability (likelihood) of contamination occurring at the study site and also the potential severity (consequence) of the environmental impacts associated with any such contamination. The classification system used to define contaminant probability, consequence and risk is described in Appendix E.

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Table 3-1 Pollutant linkage assessment:

Sources	Pathways	Receptors	Consequence	Probability	Risk	Discussion
Off Site sources Abergelli Farm Landfill; Felindre Gas Compressor Station; Infilled Gravel pit (potential to have been backfilled with unknown Made Ground); Aber-gelli Colliery and associated spoil heap; and, Unspecified tank west of Site.	Direct human contact exposure pathways (dermal, ingestion, inhalation)	Construction and maintenance workers	Mild	Likely	Moderate/low	Risks can be managed to low with use of appropriate PPE, good Site management and good hygiene practices.
		Future Site users	Mild	Low likelihood	Low	The Development Area is greenfield, however there are several potential sources of contamination in the wider Site and off Site. Prior to construction a Phase II Site investigation is recommended to characterise the nature of any on Site contamination and if identified a suitable remediation strategy put in place.
	Ingress into potable supply pipes	Future Site users	Medium	Low likelihood	Moderate/low	Potential ground instability related to former coal mining as well as the potential presence of organic contamination associated with the landfill should be considered. It is recommended to consult with South Wales Water prior to the laying of pipes.
	Migration of gases and/or vapours through permeable subsurface materials and/or preferential pathways	Future Site users	Medium	Likely	Moderate	There is the potential for vapour/gas generation within areas of former coal extraction beneath the Development Area.. Collection of site-specific ground gas data and a ground gas risk assessment is recommended.
	Leaching and/or water mobile constituents passing through permeable sub-surface soils and/or shallow preferential pathways	Groundwater (Secondary A Aquifers and Secondary (Undifferentiated) Aquifer), Peat, headwaters of the Afon Llan and the Afon Lliw.	Mild	Unlikely	Very low	Risk is low on the basis that no potential sources have been identified within the Development Area or wider Site.

4. Conclusions and next steps

4.1. Conclusions

Historical mapping indicates the Development Area and wider Site area have predominantly remained undeveloped agricultural land since earliest OS mapping in the 1870s. No potential source of contamination were noted within the Development Area or wider Site. Off Site potential sources of contamination include Abergelli Farm Landfill, Felindre Gas Compressor Station, an infilled Gravel pit (potential to have been backfilled with unknown Made Ground), Aber-gelli Colliery and an unspecified tank west of Site. Based on the findings of the desk study an assessment of land quality has been undertaken in accordance with current guidance and best practice. On this basis, the potential risks to **human health** prior to mitigation are considered to be **MODERATE**. This is primarily driven by the risk of vapour generation and land instability associated with coal workings beneath the Site. The potential risks to the **wider environment** prior to mitigation are assessed to be **VERY LOW** on the basis that no potential sources of contamination were identified within the Development Area or wider Site.

4.2. Recommendations

Given the risk of vapour generation beneath the Site, it is recommended a suitably scoped Phase II Site investigation is undertaken prior to development and if required a risk management/ remediation strategy implemented.

Appendix A Report conditions



AQUA TERRA

CONSULTING

Report Conditions

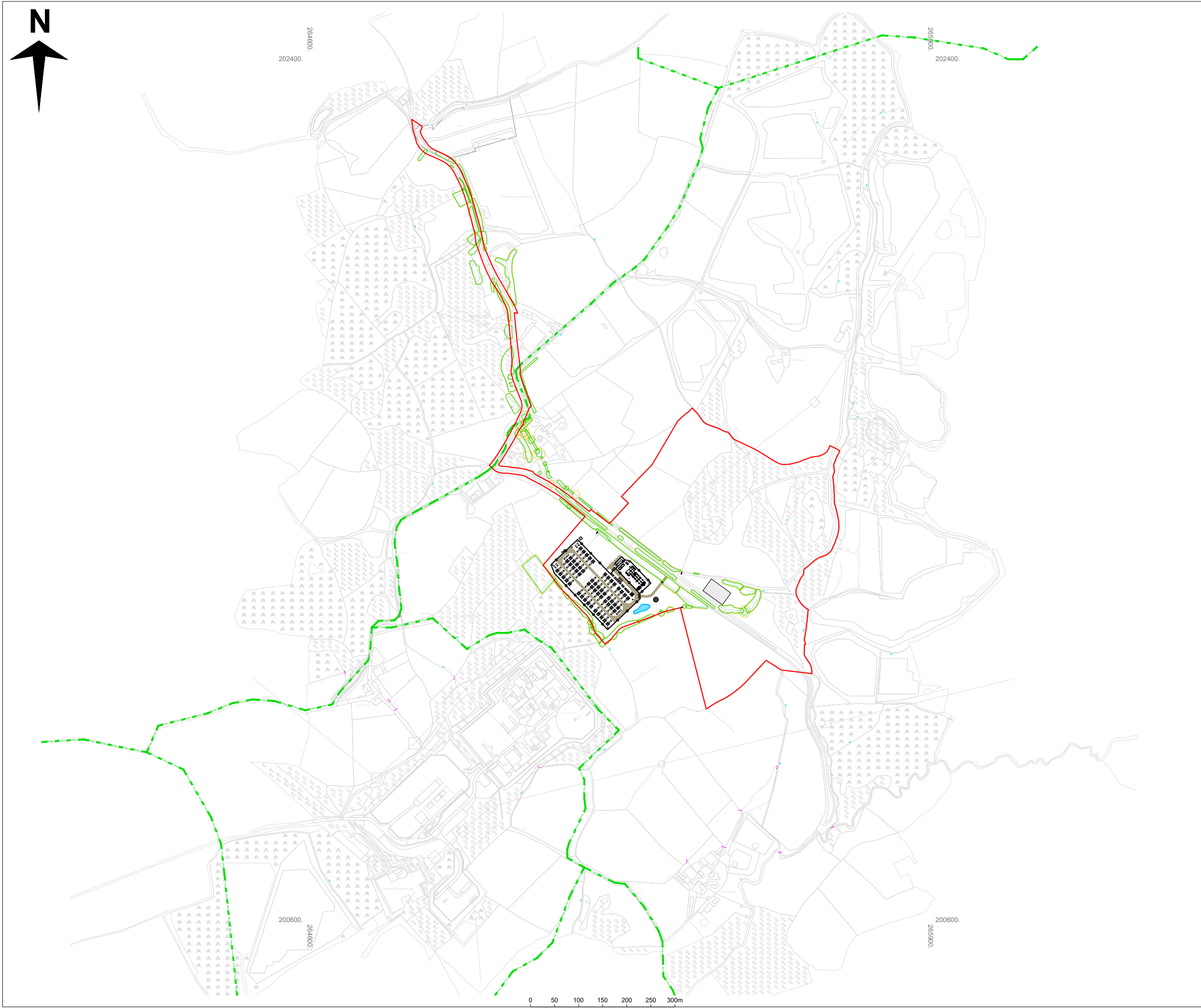
This report has been prepared by Aqua Terra Consulting Ltd. (Aqua Terra) in its professional capacity as soil and groundwater specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client and is provided by Aqua Terra solely for the internal use of its client.

The advice and opinions in this report should be read and relied on only in the context of the report, taking account of the terms of reference agreed with the client. The findings are based on the information made available to Aqua Terra at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology, and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here.

Where necessary and appropriate, the report represents and relies on published information from third party, publicly and commercially available sources which is used in good faith of its accuracy and efficacy. Aqua Terra cannot accept responsibility for the work of others.

Site investigation results necessarily rely on tests and observations within exploratory holes only. The inherent variation in ground conditions mean that the results may not be representative of ground conditions between exploratory holes. Aqua Terra take no responsibility for variation in ground conditions between exploratory positions.

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NOTES

- Drawing details and dimensions for planning purposes only.
- Please refer to "13337D-Batri Afon Llan" for full details of the tree survey.

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AC0000808122

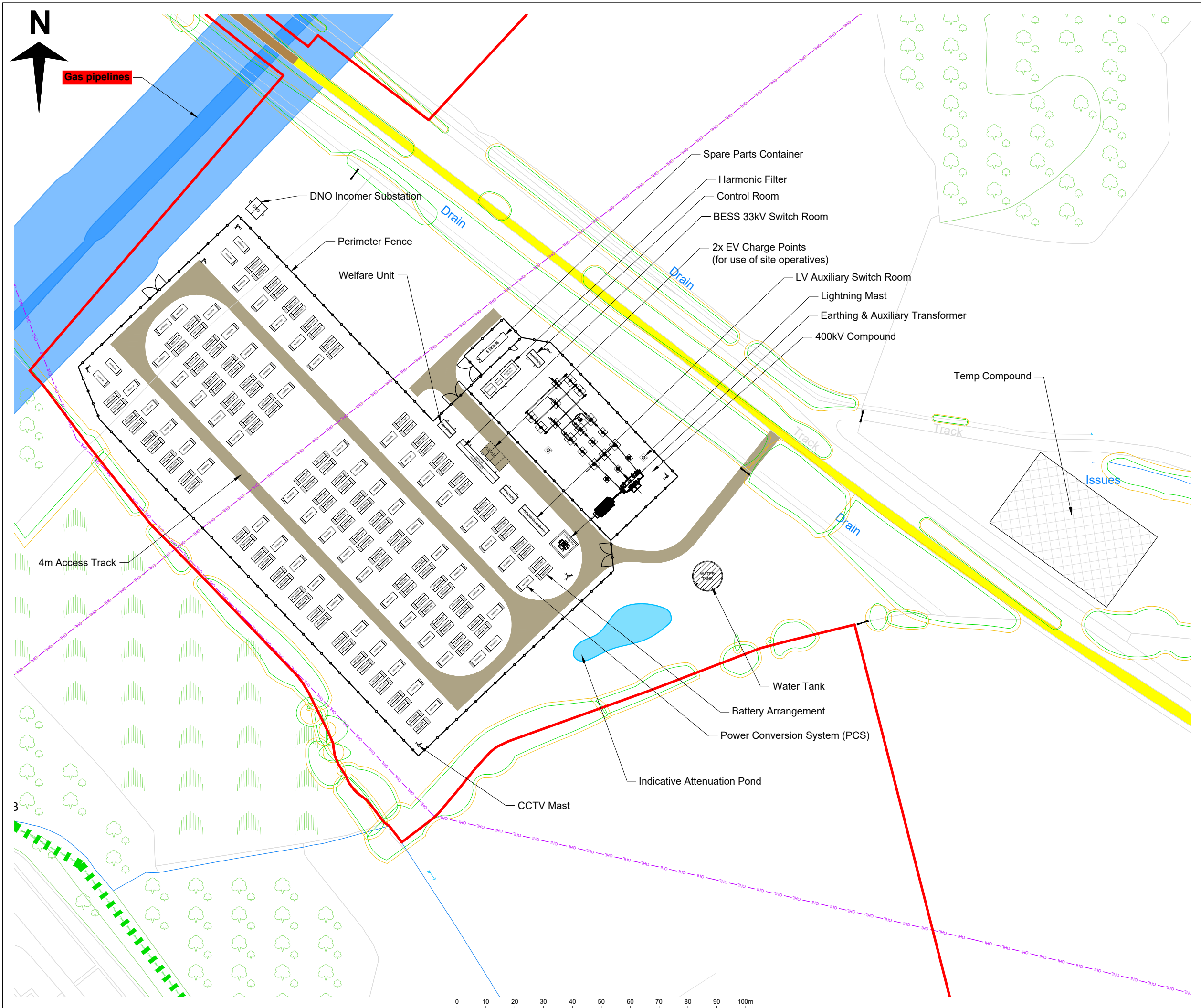
LEGEND

- PLANNING APPLICATION BOUNDARY
- PUBLIC RIGHT OF WAY

-	First Issue	14.05.25	SS	TM
Rev	Description	Date	Checked	
Drawing No.				
SWA-EDFR-BESS-LND-PLN-110				
Project				
Swansea North BESS				
Title				
Proposed Site Layout (Entire RLB)				
Scale	1:7500 @A3	Drawn by	Checked	Date
		SS	TM	14.05.25



W: www.edf-re.uk
A: Cardinal Place, 80 Victoria Street, London SW1E 5JL



NOTES
1. Drawing details and dimensions for planning purposes only.
2. Please refer to "13337D-Batri Afon Llan" for full details of the tree survey.

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LEGEND
— PLANNING APPLICATION BOUNDARY
— EASEMENT - ACCESS (EXTERNAL)
— EASEMENT - ACCESS (PERMITTED)
— PERIMETER FENCE
— OVERHEAD LINE
— GAS PIPELINE EASEMENT
— TEMPORARY COMPOUND (1500m²)
— PUBLIC RIGHT OF WAY

E	Formatting, 400kV substation changes	14.05.25	SS	TM
D	Annotations, compound shifted NW	12.05.25	SS	TM
C	Layout revised	15.04.25	SS	TM
B	Details added	15.01.25	SS	TM
A	Areas revised	10.12.24	SS	TM
-	First Issue	26.11.24	SS	TM
Rev	Description	Date	Checked	

Drawing No.
SWA-EDFR-BESS-CIV-PLN-100

Project
Swansea North BESS

Title
Proposed Site Layout

Scale
1:1250 @A3

Drawn by
SS

Checked
TM

Date
14.05.25

W: www.edf-re.uk
A: Cardinal Place, 80 Victoria Street, London SW1E 5JL



Southern most section of northern parcel of land in the planning application overgrown

Project	Swansea North BESS
Project No.	P25019
Client	LUC / EDF Renewables



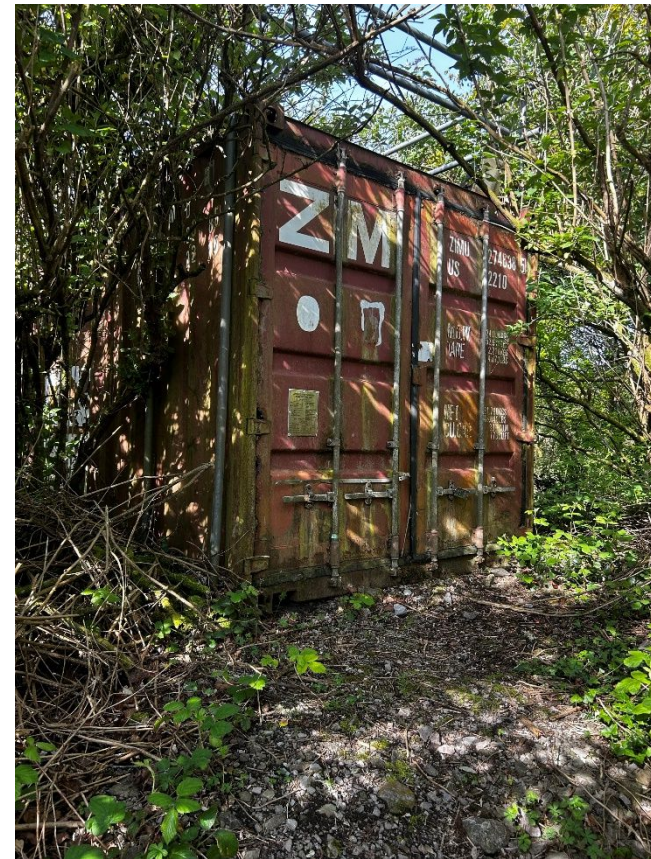
Fields in northern parcel of land in planning application heavily tracked with areas of standing water

Date	28/04/25
Engineer	ACW
Comments	



Remnants of clay pigeon shooting in northern land parcel

Project	Swansea North BESS
Project No.	P25019
Client	LUC / EDF Renewables

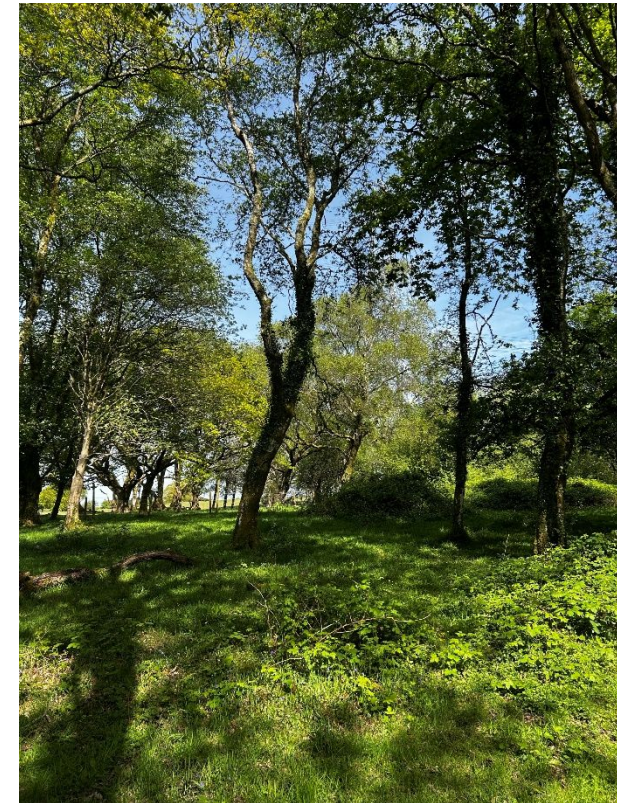


Hedgerow with container unit in northern land parcel

Date	28/04/25
Engineer	ACW
Comments	



Fields in northern land parcel lie adjacent to solar farm		Fields in northern land parcel show multiple tracks cross-cutting	
Project	Swansea North BESS	Date	28/04/25
Project No.	P25019	Engineer	ACW
Client	LUC / EDF Renewables	Comments	



Fields in southern land parcel showing the extent on woodland and OHL

Project	Swansea North BESS
Project No.	P25019
Client	LUC / EDF Renewables

Woodland with heavy bramble and moss coverage

Date	28/04/25
Engineer	ACW
Comments	



Fields in southern land parcel showing the small area of peat bog



Thin layer of peat encountered with soft clay beneath

Project	Swansea North BESS
Project No.	P25019
Client	LUC / EDF Renewables

Date	28/04/25
Engineer	ACW
Comments	



Fields in southern land parcel showing a small surface water flow path across the gravel track with ocherous staining



Area of the planned BESS and substation

Project	Swansea North BESS	Date	28/04/25
Project No.	P25019	Engineer	ACW
Client	LUC / EDF Renewables	Comments	



Field to the southeast of the area of the planned BESS and substation

Project Swansea North BESS
 Project No. P25019
 Client LUC / EDF Renewables

Area of the planned BESS and substation bordering the neighbouring energy park development

Date 28/04/25
 Engineer ACW
 Comments

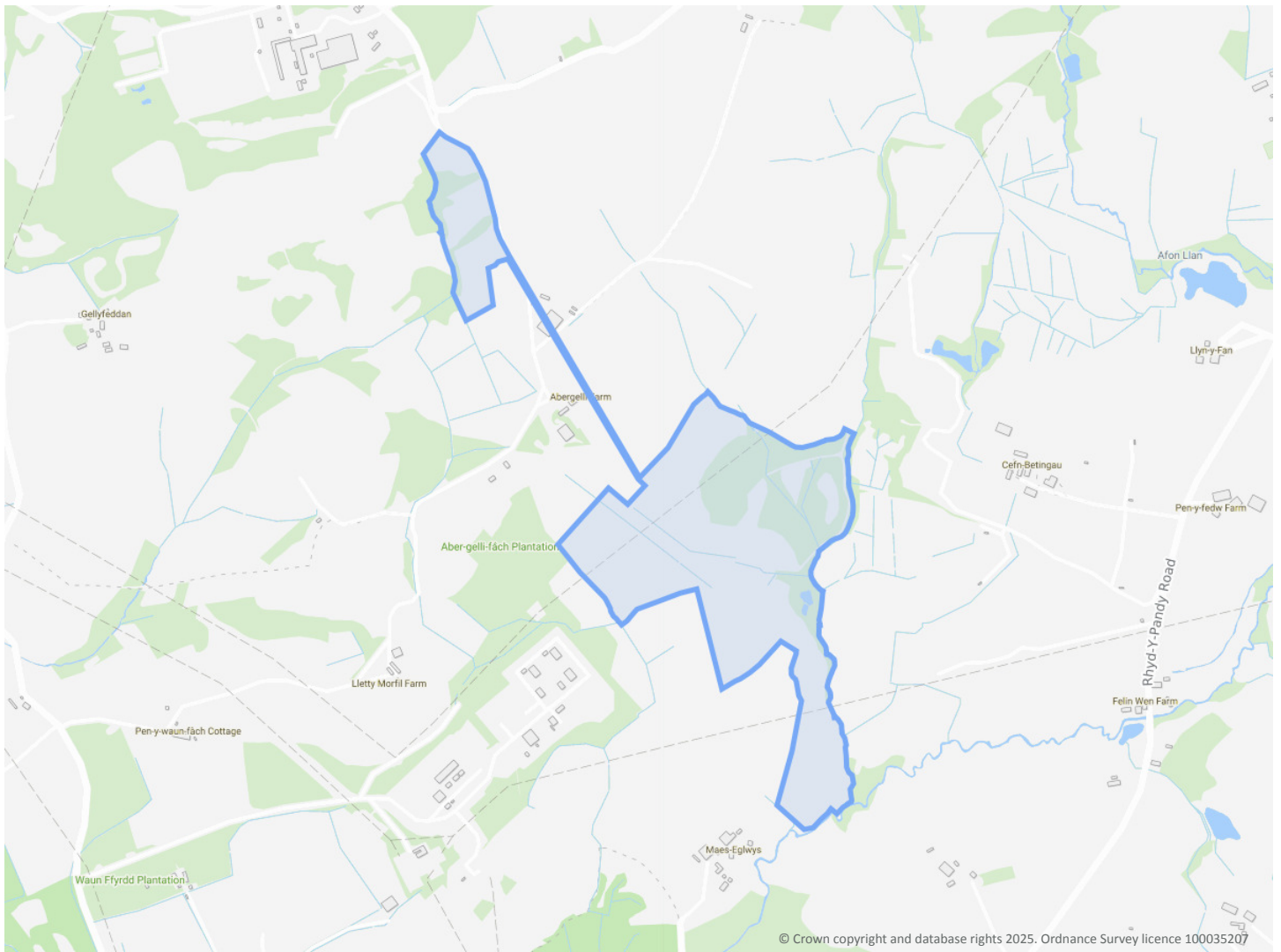
ABERGELLI FACH FARM STUD, ABERGELLI FACH FARM, UNCLASSIFIED SECTION-Y878, FELINDRE, SWANSEA, SA5 7NN

Order Details

Date: 01/05/2025
Your ref: P25019
Our Ref: GS-13H-FF1-JL6-4N3

Site Details

Location: 265382 201399
Area: 28.36 ha
Authority: [Abertawe - Swansea City and Borough Council](#) ↗



Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

N/A: >10ha

[Insight User Guide](#) ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	11	8	11	5	-
16 >	1.2 >	Historical tanks >	0	1	3	5	-
17	1.3	Historical energy features	0	0	0	0	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	0	0	0	-
17	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
18 >	2.1 >	Historical industrial land uses >	15	9	16	5	-
20 >	2.2 >	Historical tanks >	0	1	6	9	-
21	2.3	Historical energy features	0	0	0	0	-
21	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	3.1 >	Active or recent landfill >	1	0	0	0	-
24 >	3.2 >	Historical landfill (BGS records) >	0	0	0	1	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24 >	3.4 >	Historical landfill (EA/NRW records) >	1	0	0	2	-
25 >	3.5 >	Historical waste sites >	0	2	0	0	-
26 >	3.6 >	Licensed waste sites >	8	9	1	0	-
30 >	3.7 >	Waste exemptions >	0	1	1	34	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
35 >	4.1 >	Recent industrial land uses >	1	1	10	-	-
36	4.2	Current or recent petrol stations	0	0	0	0	-
36	4.3	Electricity cables	0	0	0	0	-
37 >	4.4 >	Gas pipelines >	3	0	0	0	-
37	4.5	Sites determined as Contaminated Land	0	0	0	0	-



37 >	4.6 >	Control of Major Accident Hazards (COMAH) >	0	0	2	0	-
38	4.7	Regulated explosive sites	0	0	0	0	-
38 >	4.8 >	Hazardous substance storage/usage >	0	0	0	2	-
39	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
39 >	4.10 >	Licensed industrial activities (Part A(1)) >	1	0	0	4	-
40	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
40	4.12	Radioactive Substance Authorisations	0	0	0	0	-
40 >	4.13 >	Licensed Discharges to controlled waters >	0	0	1	4	-
41	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
41	4.15	Pollutant release to public sewer	0	0	0	0	-
41	4.16	List 1 Dangerous Substances	0	0	0	0	-
42	4.17	List 2 Dangerous Substances	0	0	0	0	-
42 >	4.18 >	Pollution Incidents (EA/NRW) >	0	1	2	1	-
42	4.19	Pollution inventory substances	0	0	0	0	-
43	4.20	Pollution inventory waste transfers	0	0	0	0	-
43	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
44 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
46 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
48 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
51	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
51	5.5	Groundwater vulnerability- local information	None (within 0m)				
53 >	5.6 >	Groundwater abstractions >	0	1	1	1	11
56 >	5.7 >	Surface water abstractions >	0	0	0	0	17
60 >	5.8 >	Potable abstractions >	0	0	0	0	6
62	5.9	Source Protection Zones	0	0	0	0	-
62	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
63 >	6.1 >	Water Network (OS MasterMap) >	26	21	62	-	-



72 >	6.2 >	Surface water features >	1	13	38	-	-
72 >	6.3 >	WFD Surface water body catchments >	2	-	-	-	-
73 >	6.4 >	WFD Surface water bodies >	0	1	0	-	-
73 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
74 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
75	7.2	Historical Flood Events	0	0	0	-	-
75	7.3	Flood Defences	0	0	0	-	-
75	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
75	7.5	Flood Storage Areas	0	0	0	-	-
76 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
77 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
78 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
80 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
82	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
82	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
82	10.4	Special Protection Areas (SPA)	0	0	0	0	0
82	10.5	National Nature Reserves (NNR)	0	0	0	0	0
83	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
83 >	10.7 >	Designated Ancient Woodland >	1	2	4	2	43
85	10.8	Biosphere Reserves	0	0	0	0	0
85	10.9	Forest Parks	0	0	0	0	0
85	10.10	Marine Conservation Zones	0	0	0	0	0
86	10.11	Green Belt	0	0	0	0	0
86	10.12	Proposed Ramsar sites	0	0	0	0	0



86	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
86	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
86	10.15	Nitrate Sensitive Areas	0	0	0	0	0
87	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
88	10.17	SSSI Impact Risk Zones	0	-	-	-	-
88	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
89	11.1	World Heritage Sites	0	0	0	-	-
89	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
89	11.3	National Parks	0	0	0	-	-
89	11.4	Listed Buildings	0	0	0	-	-
90	11.5	Conservation Areas	0	0	0	-	-
90	11.6	Scheduled Ancient Monuments	0	0	0	-	-
90	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	12.1 >	Agricultural Land Classification >	Grade 5 (within 250m)				
92	12.2	Open Access Land	0	0	0	-	-
92	12.3	Tree Felling Licences	0	0	0	-	-
93	12.4	Environmental Stewardship Schemes	0	0	0	-	-
93	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
94	13.1	Priority Habitat Inventory	0	0	0	-	-
94	13.2	Habitat Networks	0	0	0	-	-
94	13.3	Open Mosaic Habitat	0	0	0	-	-
94	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
95 >	14.1 >	10k Availability >	Identified (within 500m)				
96 >	14.2 >	Artificial and made ground (10k) >	1	1	5	10	-
98 >	14.3 >	Superficial geology (10k) >	7	4	6	6	-

99	14.4	Landslip (10k)	0	0	0	0	-
100 >	14.5 >	Bedrock geology (10k) >	2	0	2	9	-
101 >	14.6 >	Bedrock faults and other linear features (10k) >	3	0	4	11	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
103 >	15.1 >	50k Availability >	Identified (within 500m)				
104	15.2	Artificial and made ground (50k)	0	0	0	0	-
104	15.3	Artificial ground permeability (50k)	0	0	-	-	-
105 >	15.4 >	Superficial geology (50k) >	9	1	4	9	-
107 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
107	15.6	Landslip (50k)	0	0	0	0	-
107	15.7	Landslip permeability (50k)	None (within 50m)				
108 >	15.8 >	Bedrock geology (50k) >	2	0	2	8	-
109 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
110 >	15.10 >	Bedrock faults and other linear features (50k) >	3	0	3	10	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	16.1 >	BGS Boreholes >	0	2	1	-	-
Page	Section	Natural ground subsidence >					
113 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
115 >	17.2 >	Running sands >	Low (within 50m)				
117 >	17.3 >	Compressible deposits >	High (within 50m)				
119 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
121 >	17.5 >	Landslides >	Low (within 50m)				
123 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
125 >	18.1 >	BritPits >	0	0	1	0	-
126 >	18.2 >	Surface ground workings >	9	3	9	-	-
127 >	18.3 >	Underground workings >	4	0	0	0	0
127	18.4	Underground mining extents	0	0	0	0	-
128	18.5	Historical Mineral Planning Areas	0	0	0	0	-



128	18.6	Non-coal mining	0	0	0	0	0
128	18.7	JPB mining areas	None (within 0m)				
128	18.8	The Coal Authority non-coal mining	0	0	0	0	-
129	18.9	Researched mining	0	0	0	0	-
129	18.10	Mining record office plans	0	0	0	0	-
129	18.11	BGS mine plans	0	0	0	0	-
129 >	18.12 >	Coal mining >	Identified (within 0m)				
130	18.13	Brine areas	None (within 0m)				
130	18.14	Gypsum areas	None (within 0m)				
130	18.15	Tin mining	None (within 0m)				
130	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
131	19.1	Natural cavities	0	0	0	0	-
131	19.2	Mining cavities	0	0	0	0	0
131	19.3	Reported recent incidents	0	0	0	0	-
131	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
133 >	20.1 >	Radon >	Between 3% and 5% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
135 >	21.1 >	BGS Estimated Background Soil Chemistry >	28	11	-	-	-
137	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
137	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
138	22.1	Underground railways (London)	0	0	0	-	-
138	22.2	Underground railways (Non-London)	0	0	0	-	-
139	22.3	Railway tunnels	0	0	0	-	-
139 >	22.4 >	Historical railway and tunnel features >	6	3	0	-	-
139	22.5	Royal Mail tunnels	0	0	0	-	-
140	22.6	Historical railways	0	0	0	-	-

140	22.7	Railways	0	0	0	-	-
140	22.8	Crossrail 2	0	0	0	0	-
140	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 09/08/2022

Site Area: 28.36ha



Recent site history - 2020 aerial photograph



Capture Date: 14/04/2020

Site Area: 28.36ha



Recent site history - 2014 aerial photograph



Capture Date: 23/07/2014

Site Area: 28.36ha



Recent site history - 2008 aerial photograph



Capture Date: 12/05/2008

Site Area: 28.36ha



Recent site history - 2000 aerial photograph



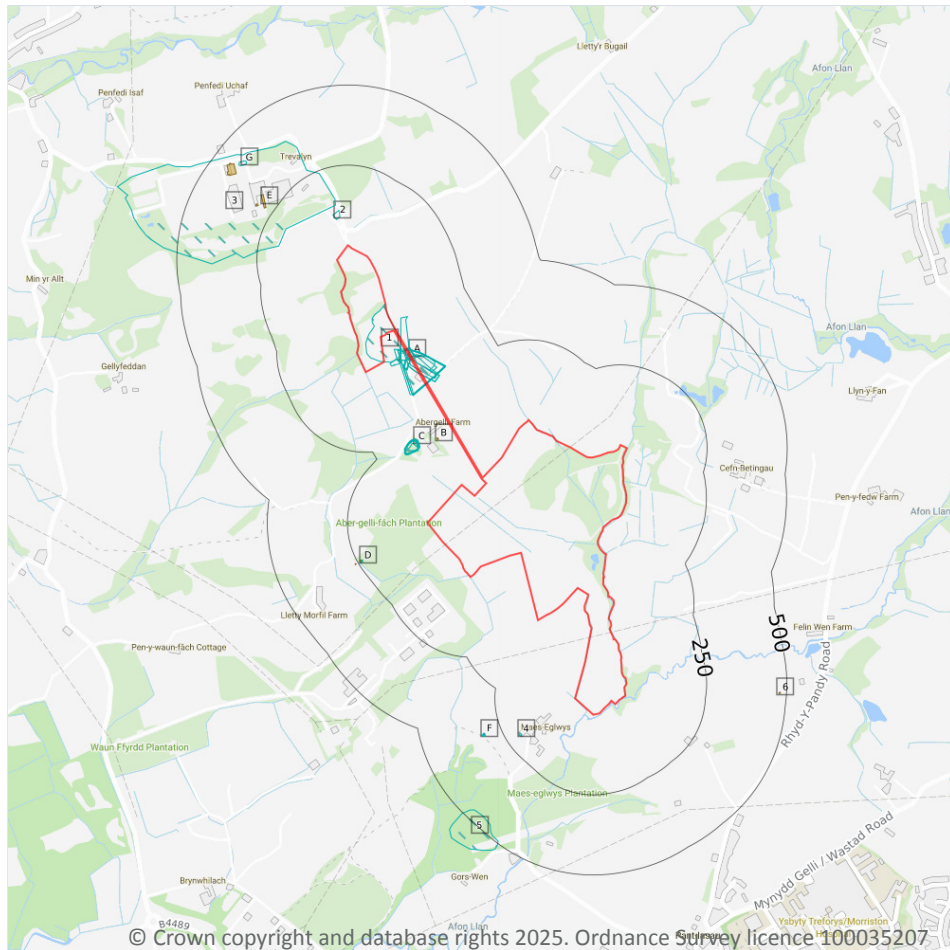
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2025. All Rights Reserved.

Capture Date: 24/08/2000

Site Area: 28.36ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

35

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

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
1	On site	Refuse Heap	1964	269141



ID	Location	Land use	Dates present	Group ID
A	On site	Refuse Heap	1938	299423
A	On site	Refuse Heap	1936	301218
A	On site	Railway Sidings	1948 - 1964	302293
A	On site	Railway Sidings	1936	308933
A	On site	Refuse Heap	1948	308950
A	On site	Railway Sidings	1938	311005
A	On site	Colliery	1936	312065
A	On site	Colliery	1938	312865
A	On site	Unspecified Disused Mine	1964 - 1976	320074
A	On site	Colliery	1948	326293
A	3m NW	Engine Houses	1948	299281
A	3m NW	Engine Houses	1936	308038
A	5m NW	Engine Houses	1938	325331
A	20m NW	Railway Sidings	1964	268103
A	28m NW	Unspecified Slant	1938	305531
A	31m NW	Unspecified Tank	1938	288064
A	33m NW	Unspecified Tank	1936	323195
A	33m NW	Unspecified Tank	1948	325403
2	88m NW	Gas Valve Compound	1991	279458
C	110m NW	Unspecified Pit	1964	328916
C	112m NW	Gravel Pit	1897	281285
C	113m NW	Unspecified Pit	1976	294850
C	115m NW	Unspecified Tank	1938	272986
C	116m NW	Old Gravel Pit	1913 - 1921	304334
C	117m NW	Unspecified Pit	1948	316630
C	117m NW	Unspecified Pit	1936	326447
3	130m NW	Water Treatment Works	1991	264158
4	201m S	Lime Kiln	1877	275461



ID	Location	Land use	Dates present	Group ID
D	234m W	Unspecified Tank	1913 - 1948	304222
F	303m S	Old Lime Kiln	1938	309544
F	303m S	Old Lime Kiln	1948	290856
F	303m S	Old Lime Kiln	1936	305935
G	406m NW	Unspecified Tanks	1991	270912
5	465m S	Refuse Heap	1976	269225

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	9
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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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
A	30m NW	Unspecified Tank	1935	35430
B	53m NW	Unspecified Tank	1876	37534
B	53m NW	Unspecified Tank	1918	36837
D	238m W	Unspecified Tank	1876 - 1935	37850
D	257m W	Unspecified Tank	1918	35423
E	276m NW	Unspecified Tank	1986 - 1989	36844
E	300m NW	Tanks	1986 - 1989	36486
G	413m NW	Tanks	1986 - 1989	36471
6	476m SE	Unspecified Tank	1876 - 1899	37129

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

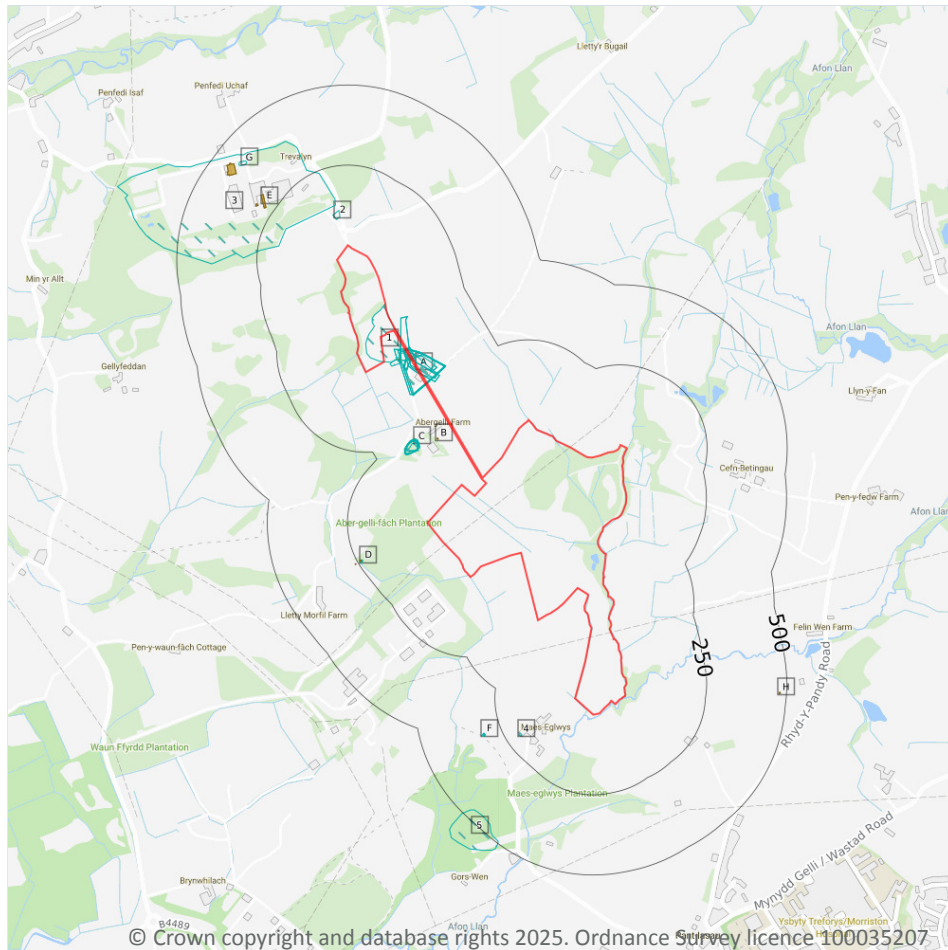
1.6 Historical military land

Records within 500m**0**

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

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

2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

45

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 18](#) >

ID	Location	Land Use	Date	Group ID
1	On site	Refuse Heap	1964	269141
A	On site	Railway Sidings	1936	308933
A	On site	Refuse Heap	1936	301218



ID	Location	Land Use	Date	Group ID
A	On site	Colliery	1936	312065
A	On site	Railway Sidings	1964	302293
A	On site	Unspecified Disused Mine	1964	320074
A	On site	Unspecified Disused Mine	1976	320074
A	On site	Railway Sidings	1948	302293
A	On site	Colliery	1948	326293
A	On site	Refuse Heap	1948	308950
A	On site	Railway Sidings	1938	311005
A	On site	Colliery	1938	312865
A	On site	Refuse Heap	1938	299423
A	On site	Colliery	1938	312865
A	On site	Refuse Heap	1938	299423
A	3m NW	Engine Houses	1936	308038
A	3m NW	Engine Houses	1948	299281
A	5m NW	Engine Houses	1938	325331
A	20m NW	Railway Sidings	1964	268103
A	28m NW	Unspecified Slant	1938	305531
A	28m NW	Unspecified Slant	1938	305531
A	31m NW	Unspecified Tank	1938	288064
A	33m NW	Unspecified Tank	1936	323195
A	33m NW	Unspecified Tank	1948	325403
2	88m NW	Gas Valve Compound	1991	279458
C	110m NW	Unspecified Pit	1964	328916
C	112m NW	Gravel Pit	1897	281285
C	113m NW	Unspecified Pit	1976	294850
C	115m NW	Unspecified Tank	1938	272986
C	116m NW	Old Gravel Pit	1921	304334
C	117m NW	Unspecified Pit	1936	326447



ID	Location	Land Use	Date	Group ID
C	117m NW	Unspecified Pit	1948	316630
C	119m NW	Old Gravel Pit	1913	304334
3	130m NW	Water Treatment Works	1991	264158
4	201m S	Lime Kiln	1877	275461
D	234m W	Unspecified Tank	1921	304222
D	236m W	Unspecified Tank	1938	304222
D	236m W	Unspecified Tank	1913	304222
D	237m W	Unspecified Tank	1936	304222
D	237m W	Unspecified Tank	1948	304222
F	303m S	Old Lime Kiln	1938	309544
F	303m S	Old Lime Kiln	1936	305935
F	303m S	Old Lime Kiln	1948	290856
G	406m NW	Unspecified Tanks	1991	270912
5	465m S	Refuse Heap	1976	269225

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

16

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 18 >](#)

ID	Location	Land Use	Date	Group ID
A	30m NW	Unspecified Tank	1935	35430
B	53m NW	Unspecified Tank	1876	37534
B	53m NW	Unspecified Tank	1918	36837
D	238m W	Unspecified Tank	1876	37850
D	238m W	Unspecified Tank	1899	37850
D	238m W	Unspecified Tank	1935	37850



ID	Location	Land Use	Date	Group ID
D	238m W	Unspecified Tank	1918	37850
D	257m W	Unspecified Tank	1918	35423
E	276m NW	Unspecified Tank	1986	36844
E	276m NW	Unspecified Tank	1989	36844
E	300m NW	Tanks	1986	36486
E	300m NW	Tanks	1989	36486
G	413m NW	Tanks	1986	36471
G	413m NW	Tanks	1989	36471
H	476m SE	Unspecified Tank	1876	37129
H	476m SE	Unspecified Tank	1899	37129

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	0
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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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

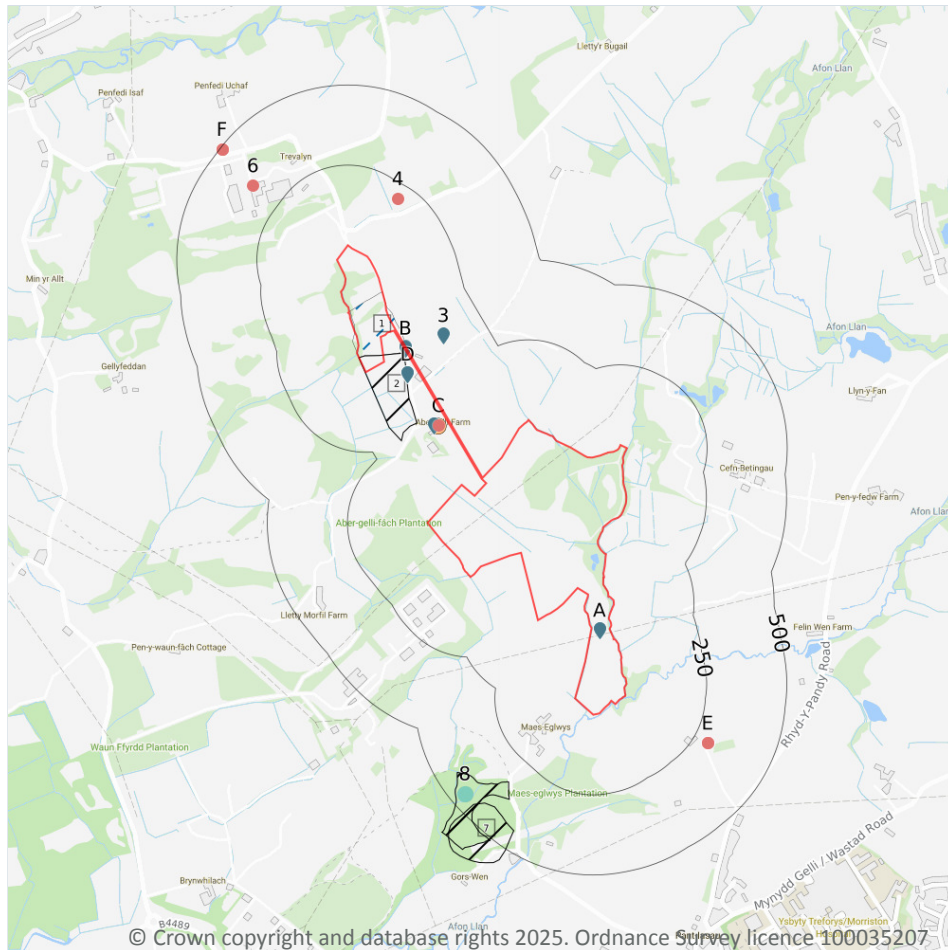
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

1

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation. Features are displayed on the Waste and landfill map on [page 23](#) >

ID	Location	Details	
1	On site	Operator: Llewellyn Bryn Site Address: Abergelli Fach Farm, Felindre, Swansea, SA5 7NN	WML Number: 34108 EPR Reference: LLE001 Landfill type: A5 : Landfill taking Non-Biodegradable Wastes Status: Closure IPPC Reference: - EPR Number: EAEPR\EA/EPR/XP3198FC/A001



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

3.2 Historical landfill (BGS records)

Records within 500m

1

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.

Features are displayed on the Waste and landfill map on [page 23 >](#)

ID	Location	Address	BGS Number	Risk	Waste Type
8	456m S	Gorswen Farm, Pontdassau, Llangyfelach, Glam	1208	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

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 23 >](#)

ID	Location	Details		
2	On site	Site Address: Abergelli Fach Farm Landfill Extension, Felindre Licence Holder Address: Felindre	Waste Licence: Yes Site Reference: - Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 06/09/1999 Licence Surrender: -	Operator: Abergelli Fach Farm Landfill Extension Licence Holder: Abergelli Fach Farm Landfill Extension First Recorded - Last Recorded: -



ID	Location	Details		
5	333m S	Site Address: Gorswen Farm, Pontdassau, Llangyfelach, Glamorgan Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded 31/01/1971 Last Recorded: 31/05/1972
7	420m S	Site Address: Gors Wen, Felindre Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Special Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: 3M'S First Recorded 31/12/1955 Last Recorded: 31/12/1970

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

3.5 Historical waste sites

Records within 500m	2
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Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 23 >](#)

ID	Location	Address	Further Details	Date
C	8m NW	Site Address: Landfill Site, Abergelli Fach Farm, Felindre, SWANSEA, West Glamorgan, SA5 7NN	Type of Site: Waste Transfer Station Planning application reference: 2002/0312 Description: Scheme comprises provision of a waste transfer station together with the removal of inert material and engineering works at Abergelli tip. An application (ref: 2002/0312) for Detailed Planning permission was submitted to Swansea C.C. on 22nd February 2002. Data source: Historic Planning Application Data Type: Point	-
C	8m NW	Site Address: Abergelli Fach Farm, Felindre, SWANSEA, West Glamorgan, SA5 7NN	Type of Site: Recycling Facility Planning application reference: 2008/0827 Description: Scheme comprises change of use from agricultural land to recycling of green waste and composting treatment. An application (ref: 2008/0827) for detailed planning permission was refused by Swansea C.C. A detailed planning application has been refused. Data source: Historic Planning Application Data Type: Point	-

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



3.6 Licensed waste sites

Records within 500m

18

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

Features are displayed on the Waste and landfill map on [page 23](#) >

ID	Location	Details		
A	On site	Site Name: - Site Address: Abergelli Farm, Abergelli Fach Farm, Felindre, Swansea, Abertawe, SA5 7NN Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: PAN-014967 EPR reference: - Operator: ByProduct Recovery Limited Waste Management licence No: - Annual Tonnage: 3925	Issue Date: 24/09/2021 Effective Date: 24/09/2021 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	On site	Site Name: - Site Address: Abergelli Farm, Felindre, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: PAN-004235 EPR reference: - Operator: Bryan Llewellyn Waste Management licence No: - Annual Tonnage: 5125	Issue Date: 07/02/2019 Effective Date: 07/02/2019 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
B	On site	Site Name: - Site Address: Abergelli Fach Farm, Felindre, Swansea, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3198FC EPR reference: - Operator: Bryn Llewellyn Waste Management licence No: 34108 Annual Tonnage: 0	Issue Date: 29/09/1994 Effective Date: 29/09/1994 Modified: - Surrendered Date: - Expiry Date: 14/03/2017 Cancelled Date: - Status: Expired
B	On site	Site Name: - Site Address: Abergelli Fach Farm, Felindre, Swansea, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3198FC EPR reference: - Operator: Bryn Llewellyn Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 29/09/1994 Effective Date: 29/09/1994 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
B	On site	Site Name: - Site Address: Abergelli Fach Farm, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: XP3198FC EPR reference: - Operator: Bryn Llewellyn Waste Management licence No: - Annual Tonnage: 0	Issue Date: 29/09/1994 Effective Date: 29/09/1994 Modified: - Surrendered Date: - Expiry Date: 14/03/2017 Cancelled Date: - Status: Expired
B	On site	Site Name: - Site Address: - Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3198FC EPR reference: - Operator: - Waste Management licence No: 34108 Annual Tonnage: 0	Issue Date: 29/09/1994 Effective Date: 29/09/1994 Modified: - Surrendered Date: - Expiry Date: 14/03/2017 Cancelled Date: - Status: Expired
B	On site	Site Name: Abergelli Fach Farm Site Address: Abergelli Fach Farm, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LLE001 EPR reference: XP3198FC/A001 Operator: Llewellyn Bryn Waste Management licence No: 34108 Annual Tonnage: 82628	Issue Date: 29/09/1994 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Closure
B	On site	Site Name: - Site Address: Abergelli Fach Farm, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: XP3198FC EPR reference: - Operator: Bryn Llewellyn Waste Management licence No: - Annual Tonnage: 0	Issue Date: 29/09/1994 Effective Date: 29/09/1994 Modified: - Surrendered Date: - Expiry Date: 14/03/2017 Cancelled Date: - Status: Expired



ID	Location	Details		
D	34m NW	Site Name: Abergelli Fach Farm Landfill Extension Site Address: - Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LLE002 EPR reference: CP3098FZ/V002 Operator: Llewellyn William Bryn Waste Management licence No: 34165 Annual Tonnage: 35000	Issue Date: 06/09/1999 Effective Date: - Modified: 10/10/2003 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Expired
D	35m NW	Site Name: - Site Address: Abergelli Fach Farm Landfill Extension, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CP3098FZ EPR reference: - Operator: William Bryn Llewellyn Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 06/09/1999 Effective Date: 06/09/1999 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
D	35m NW	Site Name: - Site Address: Abergelli Fach Farm Landfill Extension, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CP3098FZ EPR reference: - Operator: William Bryn Llewellyn Waste Management licence No: 34165 Annual Tonnage: 0	Issue Date: 06/09/1999 Effective Date: 06/09/1999 Modified: - Surrendered Date: - Expiry Date: 04/03/2010 Cancelled Date: - Status: Expired
D	35m NW	Site Name: - Site Address: - Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CP3098FZ EPR reference: - Operator: - Waste Management licence No: 34165 Annual Tonnage: 0	Issue Date: 06/09/1999 Effective Date: 06/09/1999 Modified: - Surrendered Date: - Expiry Date: 04/03/2010 Cancelled Date: - Status: Expired



ID	Location	Details		
D	35m NW	Site Name: - Site Address: Abergelli Fach Farm Landfill Extension, Felindre, SA5 7NN Correspondence Address: -	Type of Site: Landfill taking Non- Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: CP3098FZ EPR reference: - Operator: William Bryn Llewellyn Waste Management licence No: - Annual Tonnage: 0	Issue Date: 06/09/1999 Effective Date: 06/09/1999 Modified: - Surrendered Date: - Expiry Date: 04/03/2010 Cancelled Date: - Status: Expired
D	35m NW	Site Name: Abergelli Fach Farm Landfill Extension Site Address: - Correspondence Address: -	Type of Site: Landfill taking Non- Biodegradeable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: LLE002 EPR reference: EA/EPR/CP3098FZ/V002 Operator: Llewellyn William Bryn Waste Management licence No: 34165 Annual Tonnage: 35000	Issue Date: 06/09/1999 Effective Date: - Modified: 10/10/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
D	35m NW	Site Name: - Site Address: Abergelli Fach Farm Landfill Extension, Felindre, SA5 7NN Correspondence Address: -	Type of Site: Landfill taking Non- Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: CP3098FZ EPR reference: - Operator: William Bryn Llewellyn Waste Management licence No: - Annual Tonnage: 0	Issue Date: 06/09/1999 Effective Date: 06/09/1999 Modified: - Surrendered Date: - Expiry Date: 04/03/2010 Cancelled Date: - Status: Expired
C	46m NW	Site Name: - Site Address: Abergelli Farm, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: PAN-012543 EPR reference: - Operator: ByProduct Recovery Limited Waste Management licence No: - Annual Tonnage: 9888	Issue Date: 09/03/2021 Effective Date: 09/03/2021 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
C	46m NW	Site Name: - Site Address: Abergelli Farm, Felindre, Swansea, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: PAN-018217 EPR reference: - Operator: ByProduct Recovery Limited Waste Management licence No: - Annual Tonnage: 11138	Issue Date: 02/08/2022 Effective Date: 02/08/2022 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
3	118m NW	Site Name: - Site Address: Abergelli Farm, Felindre, Felindre, Swansea, SA5 7NN Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: PAN-004234 EPR reference: - Operator: Bryan Llewlyn Waste Management licence No: - Annual Tonnage: 12450	Issue Date: 29/01/2019 Effective Date: 29/01/2019 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

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

3.7 Waste exemptions

Records within 500m	36
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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 23 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
C	33m NW	Bryngelli, Abergelli Farm, Swansea, Glamorgan, Sa57nn	NRW- WME004428	Using waste exemption	Waste exemption - non- agricultural	Use of waste in construction
4	202m N	Upper Lliw, Felindre, Swansea, Abertawe, Sa5 7ns	NRW- WME097734	Using waste exemption	On a farm	Use of waste in construction
E	297m SE	Penyfedw Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste



ID	Location	Site	Reference	Category	Sub-Category	Description
E	297m SE	Dorglwyd Farm, Rhydypany Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Using waste exemption	On a farm	Use of waste for a specified purpose
E	297m SE	Penyfedw Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Using waste exemption	On a farm	Use of waste in construction
E	297m SE	Penyfedw Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	297m SE	Penyfedw Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Using waste exemption	On a farm	Use of waste for a specified purpose
E	297m SE	Felin Wen Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
E	297m SE	Felin Wen Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
E	297m SE	Felin Wen Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Using waste exemption	On a farm	Use of waste for a specified purpose
E	297m SE	Felin Wen Farm Rhydypany Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Using waste exemption	On a farm	Use of waste in construction
E	297m SE	Dorglwyd Farm, Rhydypany Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Using waste exemption	On a farm	Use of waste in construction
E	297m SE	Dorglwyd Farm, Rhydypany Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
E	297m SE	Dorglwyd Farm, Rhydypanyd Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
E	297m SE	Dorglwyd Farm, Rhydypanyd Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Using waste exemption	On a farm	Use of waste to manufacture finished goods
E	297m SE	Dorglwyd Farm, Rhydypanyd Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Using waste exemption	On a farm	Use of mulch
E	297m SE	Dorglwyd Farm, Rhydypanyd Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	297m SE	Dorglwyd Farm, Rhydypanyd Road, Pantlasau, Morriston, Swansea, Abertawe, Sa6 6nx	NRW- WME047836	Disposing of waste exemption	On a farm	Burning waste in the open
E	297m SE	Penyfedw Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Using waste exemption	On a farm	Use of mulch
E	297m SE	Penyfedw Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	297m SE	Penyfedw Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Disposing of waste exemption	On a farm	Burning waste in the open
E	297m SE	Penyfedw Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019203	Using waste exemption	On a farm	Use of waste to manufacture finished goods



ID	Location	Site	Reference	Category	Sub-Category	Description
E	297m SE	Felin Wen Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Using waste exemption	On a farm	Use of waste to manufacture finished goods
E	297m SE	Felin Wen Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
E	297m SE	Felin Wen Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Using waste exemption	On a farm	Use of mulch
E	297m SE	Felin Wen Farm Rhydypanyd Road Pantlasau Morriston Abertawe Sa66nx	NRW- WME019206	Disposing of waste exemption	On a farm	Burning waste in the open
6	348m NW	Dwr Cymru Cyfyngedig, Water Treatment Works, Felindre, Abertawe, Sa57np	NRW- WME006751	Treating waste exemption	Not on a farm	Treatment of waste at a water treatment works
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Using waste exemption	On a farm	Use of waste for a specified purpose
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Using waste exemption	On a farm	Use of waste in construction
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW- WME017601	Disposing of waste exemption	On a farm	Burning waste in the open

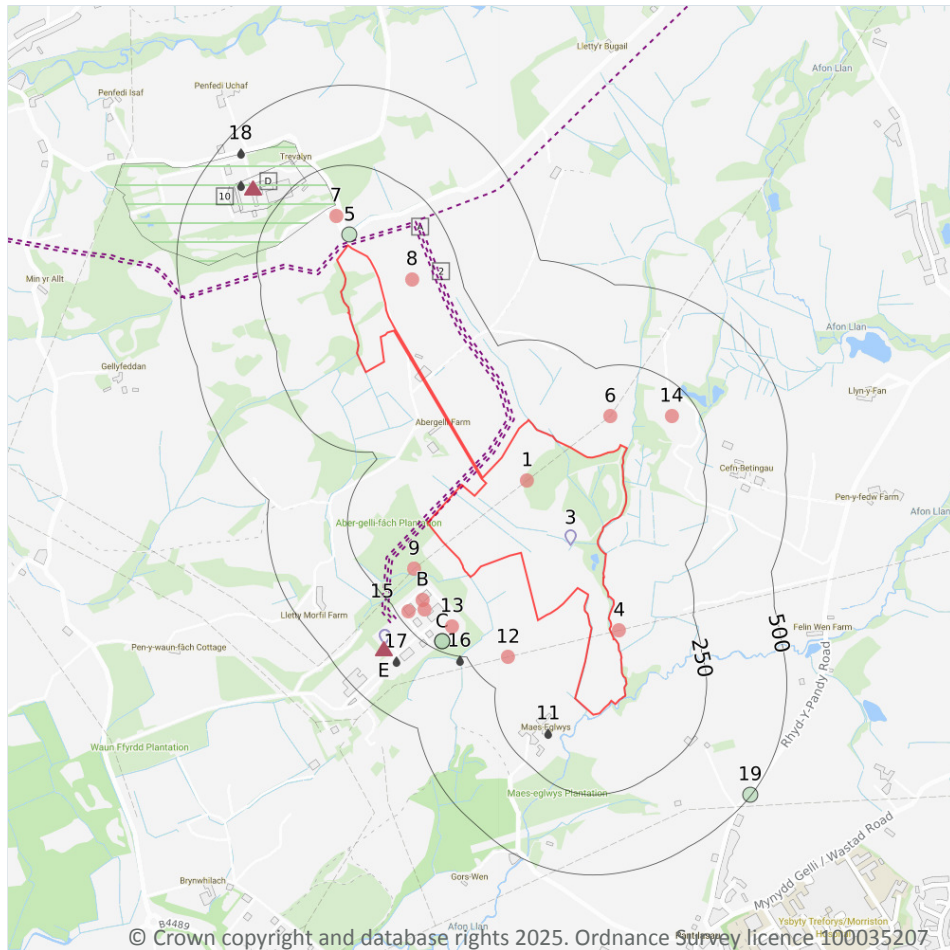


ID	Location	Site	Reference	Category	Sub-Category	Description
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW-WME017601	Treating waste exemption	On a farm	Screening and blending of waste
F	493m NW	H D & M T Jones, Penfedy Uchaf, Felindre, Abertawe, Sa57nl	NRW-WME017601	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
F	493m NW	Penfedy Isaf, Felindre, Abertawe, Sa57nl	NRW-WME010762	Using waste exemption	Not on a farm	Burning of waste as a fuel in a small appliance

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
- Gas pipelines
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- ⬮ Part A(1) industrial activities
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

12

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 35](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities
4	26m SE	Pylon	West Glamorgan, SA6	Electrical Features	Infrastructure and Facilities
6	96m NE	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
7	99m NW	Gas Valve Compound	West Glamorgan, SA5	Gas Features	Infrastructure and Facilities
8	99m NW	Rhyd-Y-Pandy Solar Farm	West Glamorgan, SA5	Energy Production	Industrial Features
9	122m SW	Pylon	West Glamorgan, SA5	Electrical Features	Infrastructure and Facilities
12	148m S	Pylon	West Glamorgan, SA6	Electrical Features	Infrastructure and Facilities
B	160m SW	Chimney	West Glamorgan, SA5	Chimneys	Industrial Features
13	164m SW	Mast	West Glamorgan, SA5	Telecommunications Features	Infrastructure and Facilities
14	172m NE	Solar Farm	West Glamorgan, SA6	Energy Production	Industrial Features
B	174m SW	Gas Compressor Station	West Glamorgan, SA5	Gas Features	Infrastructure and Facilities
15	218m SW	Chimney	West Glamorgan, SA5	Chimneys	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m

3

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on [page 35 >](#)

ID	Location	Pipe Name	Details	
2	On site	FELINDRE TO CILFREW	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 1200 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned
A	On site	HERBRANDST ON TO FELINDRE	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 1200 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned
A	On site	FELINDRE TO THREE COCKS	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 1200 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

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

2

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.

Features are displayed on the Current industrial land use map on [page 35 >](#)

ID	Location	Company	Address	Operational status	Tier
10	130m NW	Welsh Water / Dwr Cymru	Welsh Water / Dwr Cymru, Felindre Water Treatment Works, Felindre, Swansea, SA5 7NP	Current COMAH Site	COMAH Lower Tier Operator



ID	Location	Company	Address	Operational status	Tier
D	239m NW	Welsh Water Development Authority	Welsh Water Development Authority(glamorgan Water Division), Felindre Treatment Plant, Felindre, SA5 7NP	Historical NIHHS Site	-

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0
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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	2
----------------------------	----------

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 35 >](#)

ID	Location	Details	
D	345m NW	Application reference number: HAZ 5/92 Application status: Approved Application date: No Details Address: Welsh Water Development Authority, Felindre Water Treatment Works, Felindre, Swansea, Swansea City and Borough Council, Wales, SA5 7NP	Details: Storage of chlorine. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
E	351m SW	Application reference number: No Details Application status: Approved Application date: No Details Address: National Grid Gas PLC, Felindre Gas Compressor Station, Felindre, Swansea, Swansea City and Borough Council, Wales, SA5 7LU	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

5

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 35 >](#)

ID	Location	Details	
3	On site	Operator: Drax Power Ltd Installation Name: Abergelli OCGT Plant Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: BB3098FK Original Permit Number: -	EPR Reference: - Issue Date: 18/01/2019 Effective Date: 18/01/2019 Last date noted as effective: 06/08/2024 Status: Effective
E	325m SW	Operator: NATIONAL GRID GAS PLC Installation Name: FELINDRE, GAS COMPRESSOR STATION Process: COMBUSTION; ANY FUEL =>50MW Permit Number: RP3232LD Original Permit Number: RP3232LD	EPR Reference: - Issue Date: 02/07/2007 Effective Date: 02/07/2007 Last date noted as effective: 17/11/2015 Status: SUPERCEDED
E	325m SW	Operator: NATIONAL GRID GAS PLC Installation Name: FELINDRE GAS COMPRESSOR STATION EPR/RP3232LD Process: COMBUSTION; ANY FUEL =>50MW Permit Number: WP3230TU Original Permit Number: RP3232LD	EPR Reference: - Issue Date: 29/03/2010 Effective Date: 29/03/2010 Last date noted as effective: 17/11/2015 Status: EFFECTIVE
E	325m SW	Operator: National Grid Gas PLC Installation Name: Felindre, Gas Compressor Station Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: RP3232LD Original Permit Number: -	EPR Reference: - Issue Date: 29/03/2010 Effective Date: 29/03/2010 Last date noted as effective: 11/04/2025 Status: Effective

ID	Location	Details	
E	325m SW	Operator: NATIONAL GRID GAS PLC Installation Name: FELINDRE, GAS COMPRESSOR STATION Process: - Permit Number: RP3232LD Original Permit Number: WP3230TU	EPR Reference: - Issue Date: 29/03/2010 Effective Date: 29/03/2010 Last date noted as effective: 01/12/2016 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	0
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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.

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	5
----------------------------	----------

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 35 >](#)

ID	Location	Address	Details	
11	138m S	MAESEGLWYSFARMPANTLASAUM ORRISTO,MAESEGLWYSFARMPANT LASAUMORRI,PANTLASAUMORRISTON,MORRISTON	Effluent Type: UNSPECIFIED Permit Number: BF0214701 Permit Version: 1 Receiving Water: TO LAND NR. RIVER LLAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 01/02/1979 Effective Date: 01/02/1979 Revocation Date: 22/04/1994
16	264m SW	NATIONALGRIDSITELLANGYFELACH ,NATIONALGRIDSITE,LLANGYFELACH,FELINDRE,SWANSEA	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: BP0361101 Permit Version: 1 Receiving Water: AFON LLAN	Status: SURRENDERED UNDER EPR 2010 Issue date: 22/12/2006 Effective Date: 22/12/2006 Revocation Date: 16/06/2011



ID	Location	Address	Details	
17	352m SW	NATLGRIDCOMPRESSORSTASWAN SEA,NATLGRIDNEWBDCOMPRESSO RSTA,FELINDRE,SWANSEA,SA57LU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: BP0370301 Permit Version: 1 Receiving Water: UNNAMED LAND DRAIN	Status: SURRENDERED UNDER EPR 2010 Issue date: 02/11/2007 Effective Date: 02/11/2007 Revocation Date: 26/08/2010
D	381m NW	FELINDRECHLOROVERFLOW	Effluent Type: UNSPECIFIED Permit Number: BP0180001 Permit Version: 1 Receiving Water: TO LAND	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 02/10/1989 Effective Date: 02/10/1989 Revocation Date: 14/03/1994
18	442m NW	FELINDREWWTW(SEPTICTANKDISC	Effluent Type: UNSPECIFIED Permit Number: BC0011901 Permit Version: 1 Receiving Water: UNNAMED TRIB. RIVER LLIW	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 22/05/1970 Effective Date: 22/05/1970 Revocation Date: 19/10/1992

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

4

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 35 >](#)

ID	Location	Details	
5	33m NW	Incident Date: 10/05/2007 Incident Identification: 493773 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	220m SW	Incident Date: 25/06/2002 Incident Identification: 87384 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)
C	220m SW	Incident Date: 25/06/2002 Incident Identification: 87384 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)
19	496m SE	Incident Date: 10/05/2001 Incident Identification: 5132 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No 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

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

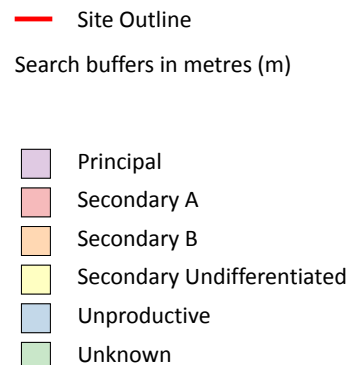
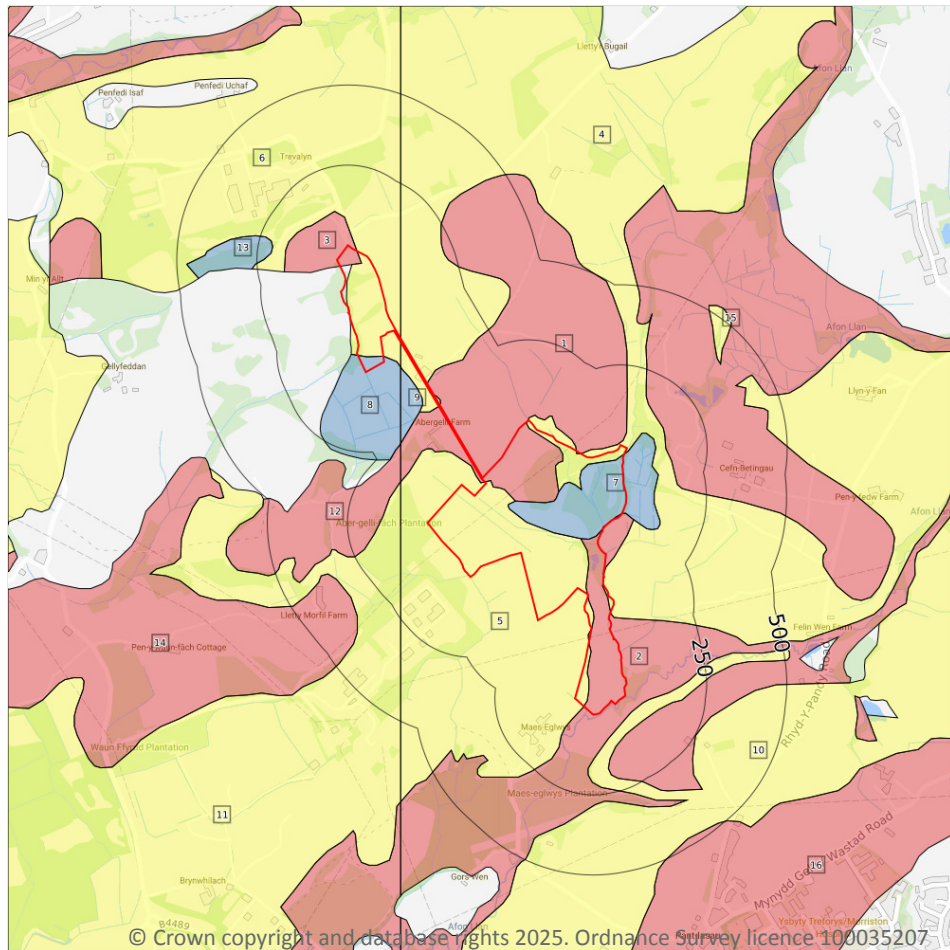
Records within 500m

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



5.1 Superficial aquifer

Records within 500m

16

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 44](#) >

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

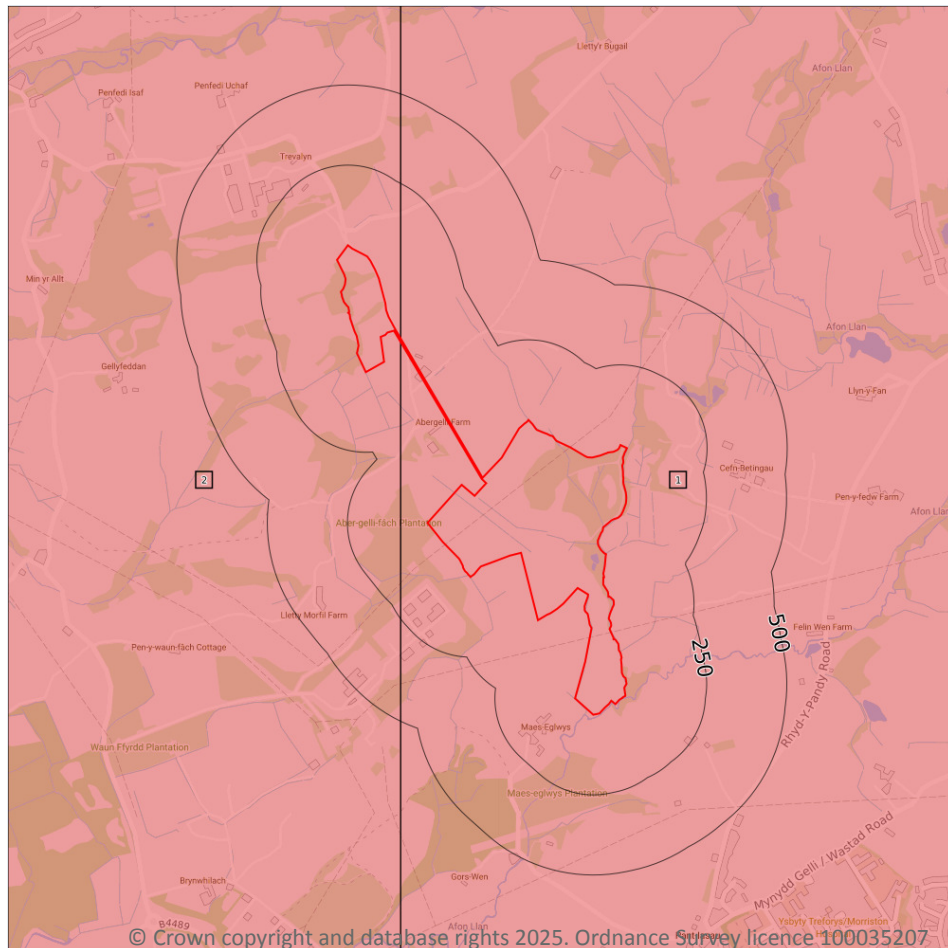


ID	Location	Designation	Description
3	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	On site	Secondary 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	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
6	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
7	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	29m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
10	51m 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
11	84m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
12	137m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
13	205m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
14	332m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
15	393m NE	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
16	477m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 46](#) >

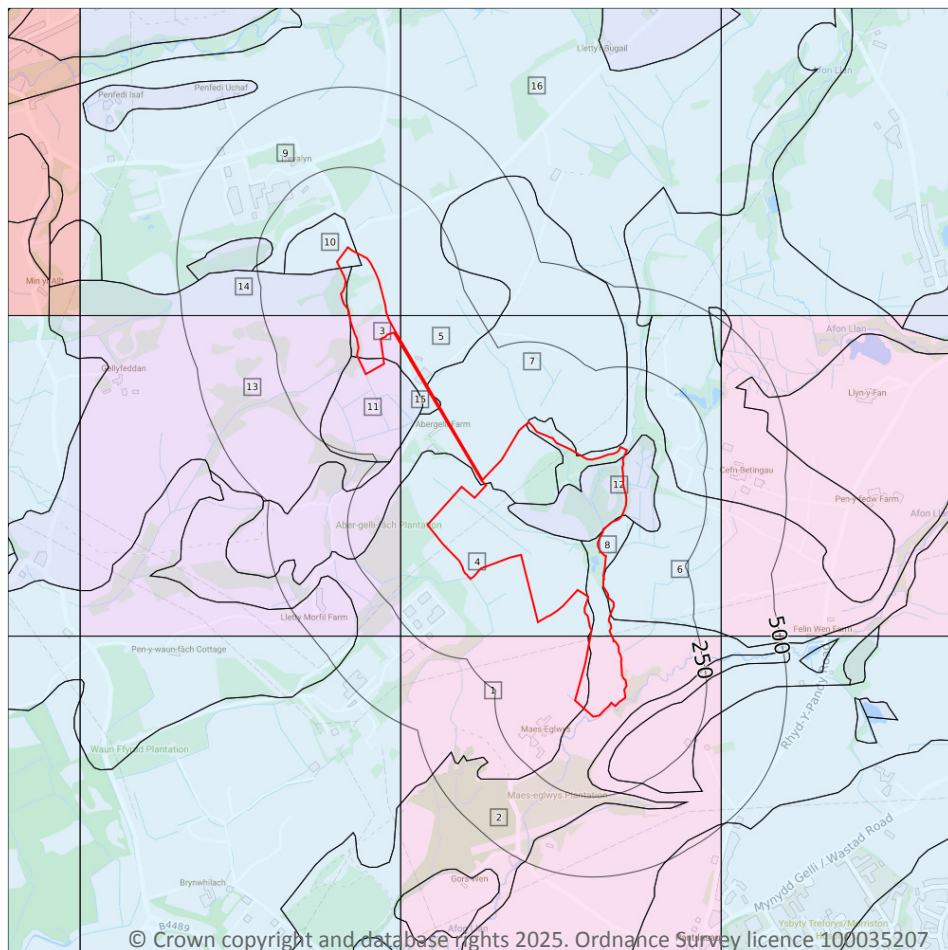
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary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



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

16

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 48](#) >



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: Intermediate Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m 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: Intermediate Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
4	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: <3m Patchiness value: >90% Recharge potential: High	Vulnerability: Low 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: <3m Patchiness value: >90% Recharge potential: High	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: <3m Patchiness value: >90% Recharge potential: High	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 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: <3m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
8	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: <3m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
9	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
10	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
11	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
12	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
14	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
15	29m NW	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
16	38m NW	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: No Data	Vulnerability: Low 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

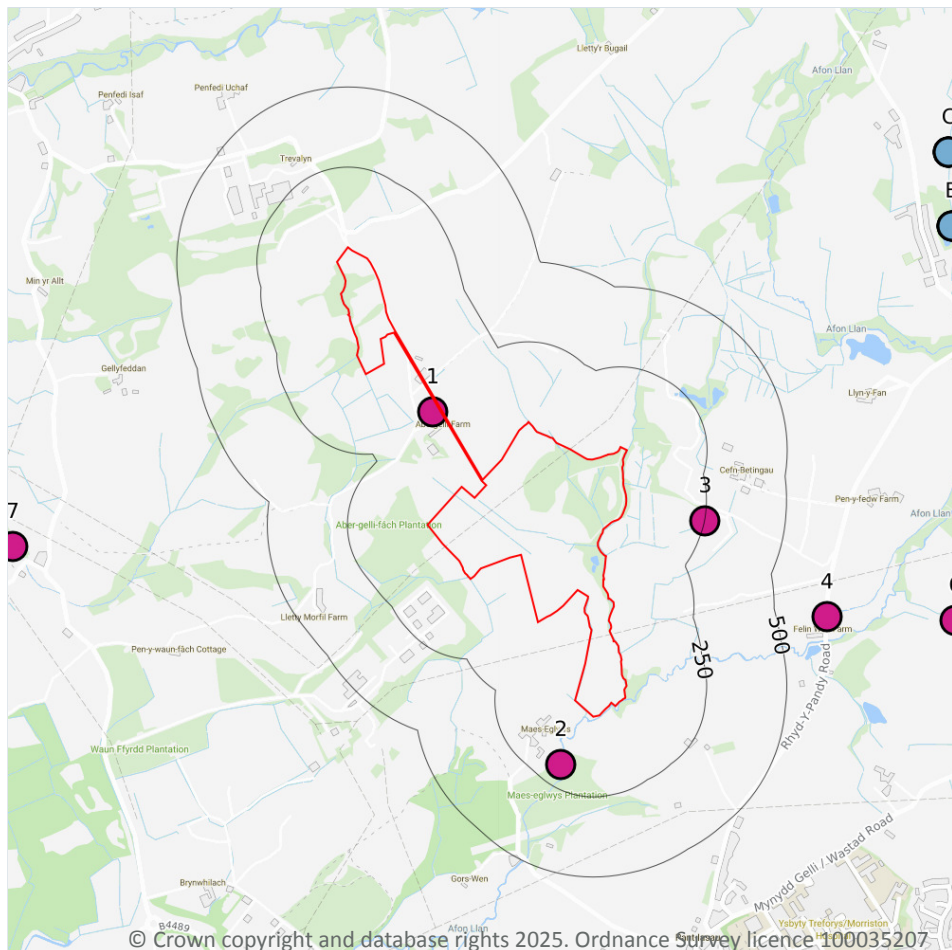
This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 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
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

14

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 53 >](#)

ID	Location	Details	
1	22m NW	Status: Historical Licence No: 22/59/4/0027 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL IN ENCLOSURE 481 AT ABERGELLI FARM Data Type: Point Name: Llewellyn Easting: 265100 Northing: 201700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
2	180m S	Status: Historical Licence No: 22/59/4/0013 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL ON LAND BELONGING TO MAESEGLWYS Data Type: Point Name: Edwards Easting: 265500 Northing: 200600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
3	252m E	Status: Historical Licence No: 22/59/4/0022 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING AT CWFN BETINGE FARM Data Type: Point Name: Rasbridge Easting: 265950 Northing: 201360	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
4	655m E	Status: Historical Licence No: 22/59/4/0008 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL AT FELIN WEN COURT Data Type: Point Name: Woolley Easting: 266330 Northing: 201060	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
-	952m NW	Status: Historical Licence No: 22/59/4/0003 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING IN FIELD NO. 5700 AT LLETTY-THOMAS FARM Data Type: Point Name: Glasbrook Easting: 264580 Northing: 203130	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -



ID	Location	Details	
6	1045m E	Status: Historical Licence No: 22/59/4/0006 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING IN FIELD NO. 586 AT GELLIWASTAD FARM Data Type: Point Name: Griffiths Easting: 266730 Northing: 201050	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
7	1225m W	Status: Historical Licence No: 22/59/4/0011 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING AT FFOREST NEWYDD Data Type: Point Name: Welsh Development Agency Easting: 263790 Northing: 201280	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 26/03/1999 Version End Date: -
-	1291m E	Status: Historical Licence No: 22/59/4/0025 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING IN ENC. SOUTH WEST OF PONTYCOEDCAE FARM Data Type: Point Name: Thomas Easting: 266980 Northing: 201790	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
-	1483m N	Status: Historical Licence No: 22/59/4/0024 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL AT RHOSFAWR FARM Data Type: Point Name: M.E & D.G Thomas Easting: 265750 Northing: 203390	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
-	1539m SE	Status: Historical Licence No: 22/59/1/0057 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL & RESERVOIR IN ENC. NO. 2047 NR WERNFADOG COTTAGE Data Type: Point Name: Bellingham Easting: 267200 Northing: 200460	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 30/03/1966 Version End Date: -



ID	Location	Details	
-	1647m N	Status: Historical Licence No: 22/59/4/0005 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: SPRING 1 AT PANT Y FALLEN FARM Data Type: Point Name: Morgan Easting: 264830 Northing: 203860	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -
-	1669m NE	Status: Historical Licence No: 22/59/4/0019 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL IN FIELD NO. 437 AT NANTYMILWR FARM Data Type: Point Name: Watkins Easting: 267260 Northing: 202190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/02/1993 Version End Date: -
-	1712m SE	Status: Active Licence No: WA/059/0001/0028 Details: Dewatering - Very Low Direct Source: Cwmrhydyceirw Quarry Point: - Data Type: Poly4 Name: - Easting: 266520 Northing: 199296	Annual Volume (m ³): 155637 Max Daily Volume (m ³): 1218 Original Application No: - Original Start Date: 24/01/2022 Expiry Date: 31/03/2029 Issue No: - Version Start Date: - Version End Date: -
-	1906m E	Status: Historical Licence No: 22/59/1/0013 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL IN FIELD NO. 349 AT PENRHIWGWYSFA Data Type: Point Name: Phillips Easting: 267610 Northing: 200910	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/12/1965 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

17

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 53 >](#)



ID	Location	Details	
-	1228m N	Status: Active Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1228m N	Status: Active Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 90692700 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 90692700 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR Data Type: Point Name: Dwr Cymru Cyf Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/08/1989 Expiry Date: - Issue No: 101 Version Start Date: 18/09/2003 Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR - POINT B Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 454600 Original Application No: - Original Start Date: 09/08/1989 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2011 Version End Date: -

ID	Location	Details	
-	1228m N	Status: Historical Licence No: 22/59/4/0065/01 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR - POINT B Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 264890 Northing: 203440	Annual Volume (m ³): 20000000 Max Daily Volume (m ³): 454600 Original Application No: - Original Start Date: 05/06/2014 Expiry Date: - Issue No: 2 Version Start Date: 09/07/2014 Version End Date: -
B	1232m NE	Status: Active Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266720 Northing: 202280	Annual Volume (m ³): 96786 Max Daily Volume (m ³): 455 Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
B	1232m NE	Status: Active Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266720 Northing: 202280	Annual Volume (m ³): 138247 Max Daily Volume (m ³): 910 Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
B	1232m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266720 Northing: 202280	Annual Volume (m ³): 96786 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
B	1232m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266720 Northing: 202280	Annual Volume (m ³): 138247 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
B	1232m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow Direct Source: EAW Surface Water Point: UN-NAMED TRIB OF AFON LLAN Data Type: Point Name: Jones Easting: 266720 Northing: 202280	Annual Volume (m ³): 469612 Max Daily Volume (m ³): 2730 Original Application No: - Original Start Date: 17/04/1990 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2005 Version End Date: -
C	1368m NE	Status: Active Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266710 Northing: 202510	Annual Volume (m ³): 97287 Max Daily Volume (m ³): 455 Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
C	1368m NE	Status: Active Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266710 Northing: 202510	Annual Volume (m ³): 137292 Max Daily Volume (m ³): 910 Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
C	1368m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266710 Northing: 202510	Annual Volume (m ³): 137292 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
C	1368m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow Direct Source: EAW Surface Water Point: UN-NAMED TRIB OF AFON LLAN Data Type: Point Name: Jones Easting: 266710 Northing: 202510	Annual Volume (m ³): 469612 Max Daily Volume (m ³): 2730 Original Application No: - Original Start Date: 17/04/1990 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2005 Version End Date: -



ID	Location	Details	
C	1368m NE	Status: Historical Licence No: 22/59/4/0066 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 266710 Northing: 202510	Annual Volume (m ³): 97287 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/04/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1950m S	Status: Historical Licence No: 22/59/1/0083 Details: Spray Irrigation - Direct Direct Source: EAW Surface Water Point: UNNAMED STREAM Data Type: Point Name: Morriston Golf Club Easting: 266130 Northing: 198870	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/04/2001 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	6
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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.

Features are displayed on the Abstractions and Source Protection Zones map on [page 53 >](#)

ID	Location	Details	
-	1228m N	Status: Active Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1228m N	Status: Active Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 90692700 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065/01 Details: Pottable Water Supply - Storage - Medium Direct Source: Lower Lliw Reservoir Point: - Data Type: Point Name: - Easting: 264890 Northing: 203440	Annual Volume (m ³): 90692700 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 09/07/2014 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR Data Type: Point Name: Dwr Cymru Cyf Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 227300 Original Application No: - Original Start Date: 09/08/1989 Expiry Date: - Issue No: 101 Version Start Date: 18/09/2003 Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR - POINT B Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 264890 Northing: 203440	Annual Volume (m ³): 82964500 Max Daily Volume (m ³): 454600 Original Application No: - Original Start Date: 09/08/1989 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2011 Version End Date: -
-	1228m N	Status: Historical Licence No: 22/59/4/0065/01 Details: Potable Water Supply - Storage Direct Source: EAW Surface Water Point: LOWER LLIW RESERVOIR - POINT B Data Type: Point Name: Dwr Cymru Cyfyngedig Easting: 264890 Northing: 203440	Annual Volume (m ³): 20000000 Max Daily Volume (m ³): 454600 Original Application No: - Original Start Date: 05/06/2014 Expiry Date: - Issue No: 2 Version Start Date: 09/07/2014 Version End Date: -

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

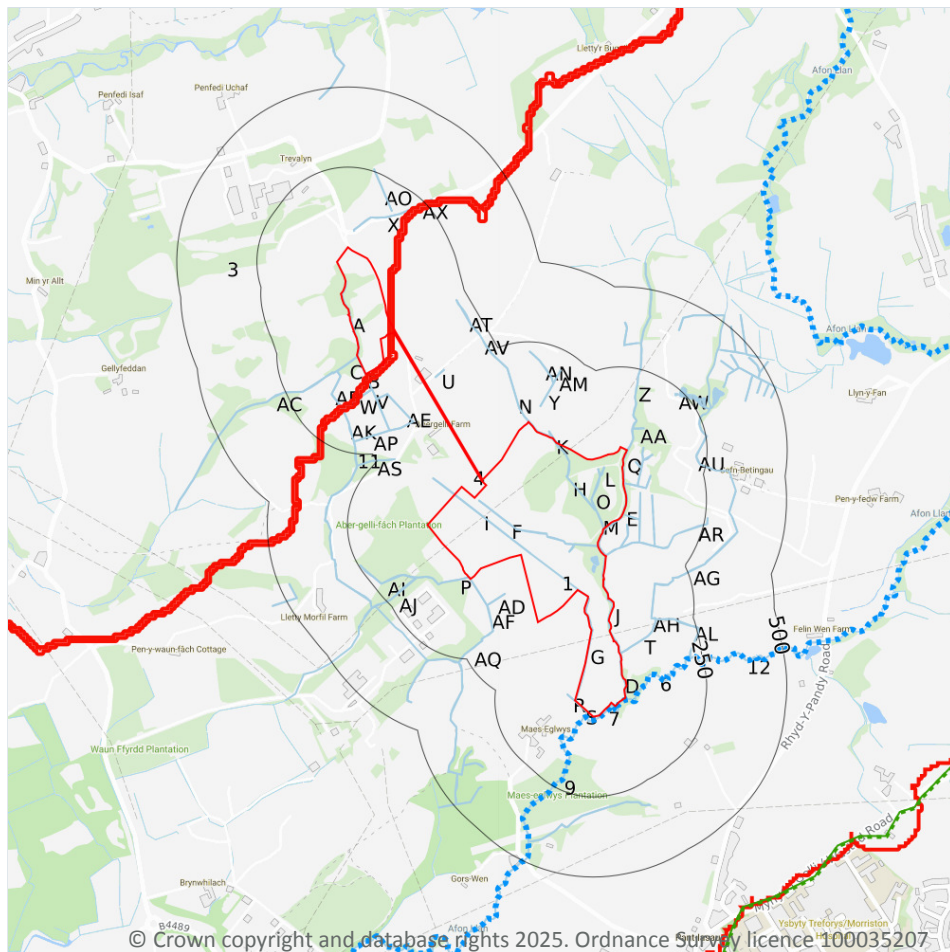
Records within 500m

0

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

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

6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

109

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 63](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	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)	-
E	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.	Underground	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)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
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)	-
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	1m NE	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
R	1m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	1m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	2m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	2m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	2m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	2m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	2m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	3m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
7	3m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
E	6m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	24m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
E	28m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	34m NW	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
Q	38m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	40m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Q	42m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	42m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	43m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	44m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	48m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	51m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	51m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	52m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	53m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	56m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	58m E	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
Q	58m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	60m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	68m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	68m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	74m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	76m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	77m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	81m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	85m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	85m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	89m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	89m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	93m E	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
E	93m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	97m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	97m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	111m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	114m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	122m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AH	122m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	127m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AI	130m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	130m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	131m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	131m E	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
AL	137m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	139m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	141m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AF	141m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	142m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AN	142m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	166m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	166m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AP	167m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	169m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	173m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	187m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	198m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AT	212m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	213m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	214m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Llan
AU	217m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AV	221m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AV	222m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AV	222m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	227m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	235m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AW	238m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	238m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	238m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	238m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AW	239m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	240m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	247m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AW	250m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	52
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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 63 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2
------------------------	----------

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 63 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	On site	River WB catchment	Lliw - headwaters to confluence with Llan	GB110059032100	Loughor	Carmarthen Bay and the Gower
E	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	2
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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 63 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
8	3m SE	River	Llan - headwaters to tidal limit	GB110059032070	Good	Good	Good	2016
-	711m NW	River	Lliw - headwaters to confluence with Llan	GB110059032100	Moderate	Fail	Good	2016

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

6.5 WFD Groundwater bodies

Records on site	1
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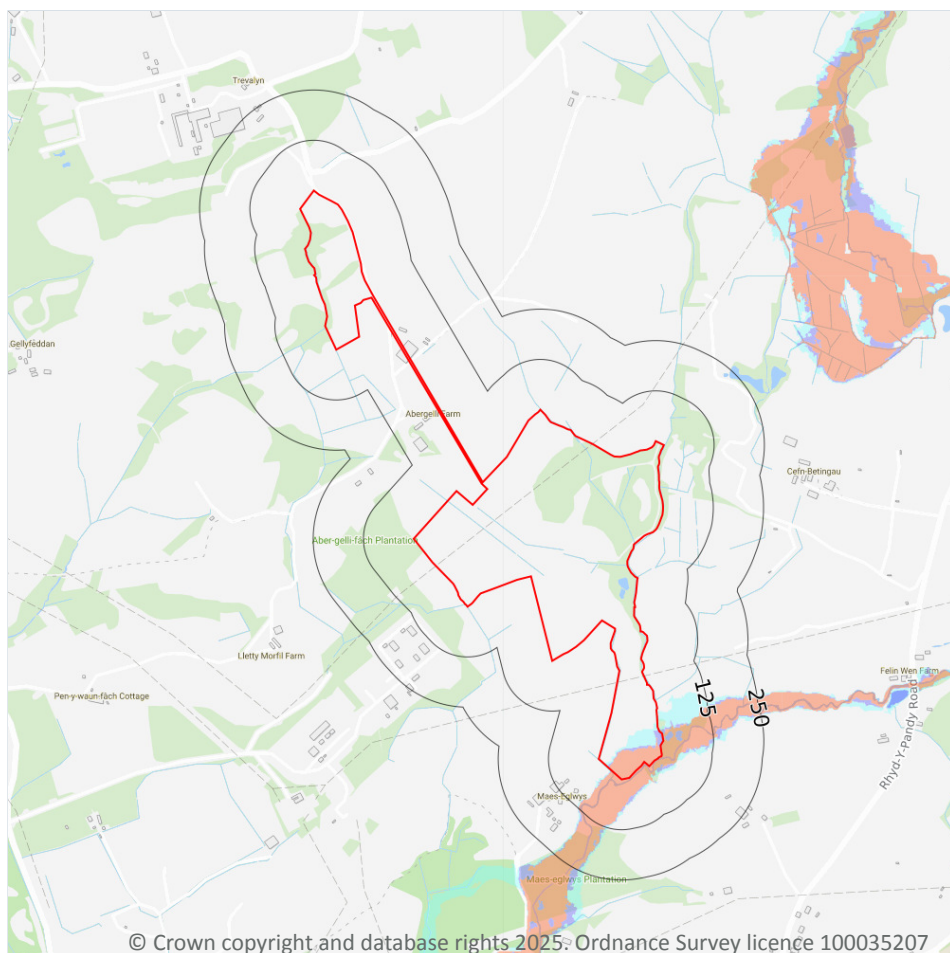
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on [page 63 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
4	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

65

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 74 >](#)

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	0
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Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0
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Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

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

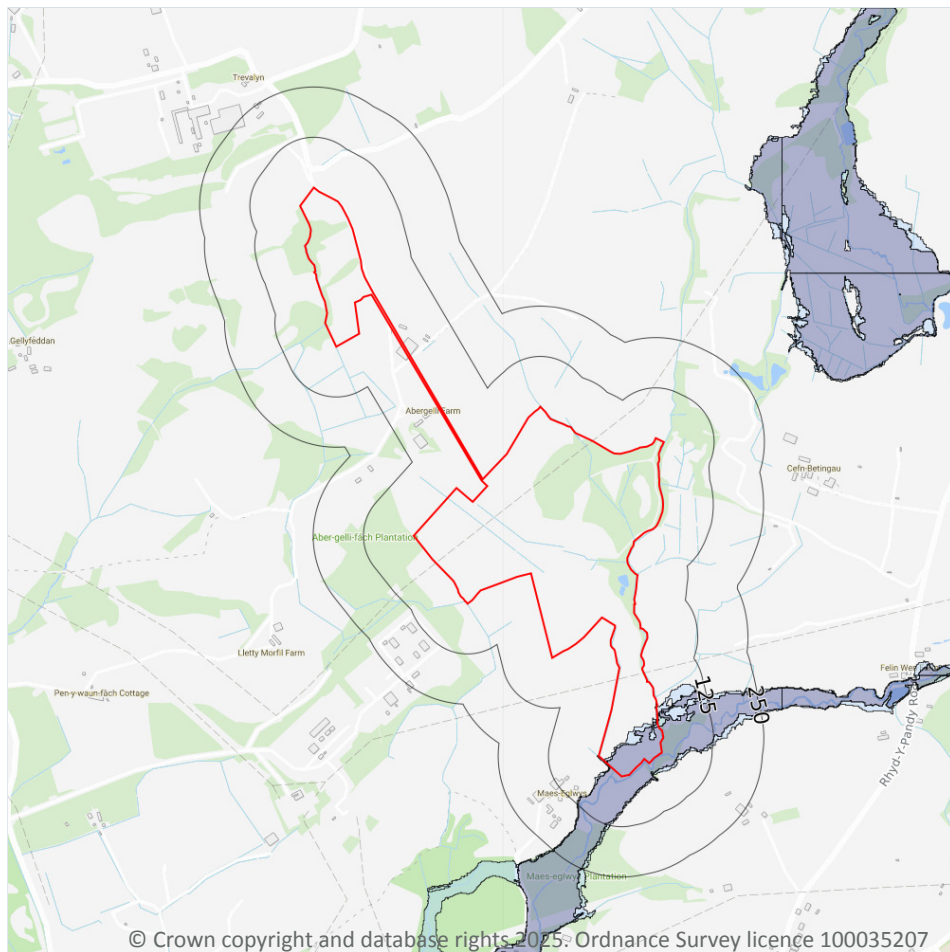
7.5 Flood Storage Areas

Records within 250m	0
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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 74 >](#)

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.

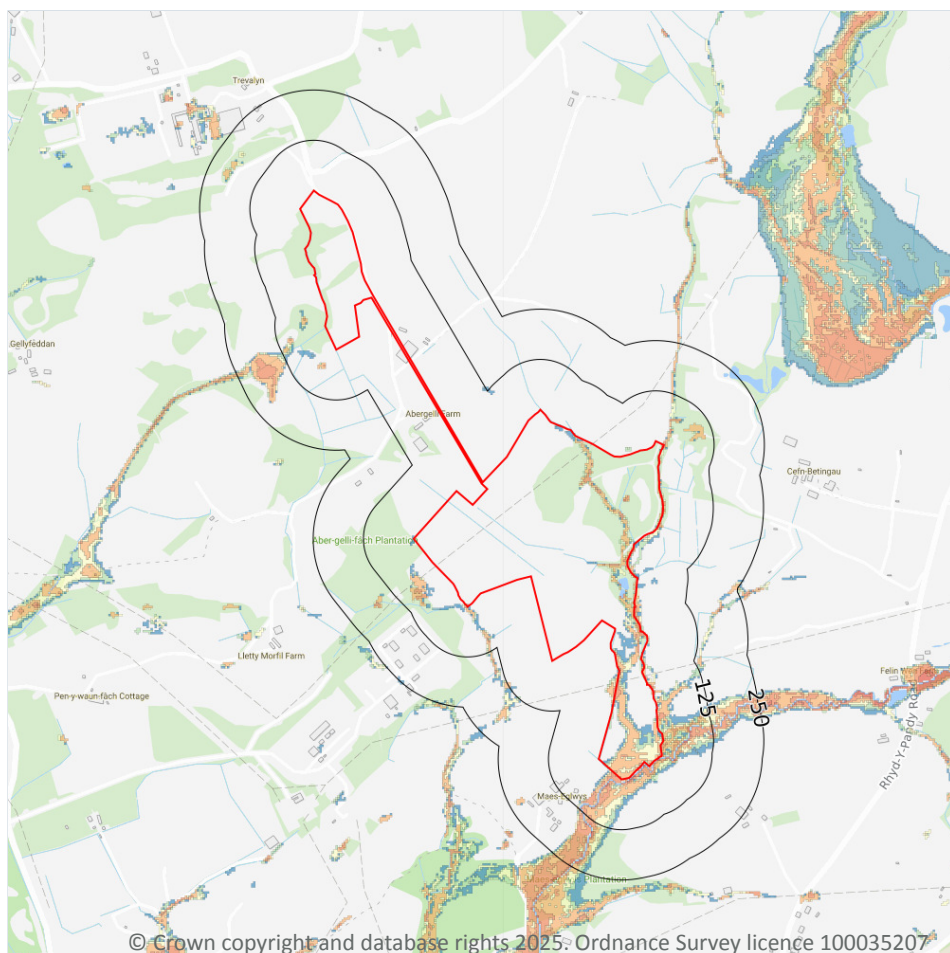
Features are displayed on the River and coastal flooding map on [page 74 >](#)

Location	Type
On site	Zone 3 - (Fluvial /Tidal 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 78](#) >

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.

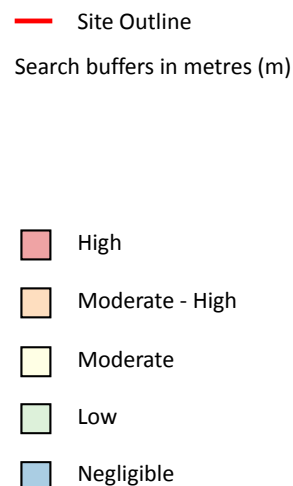
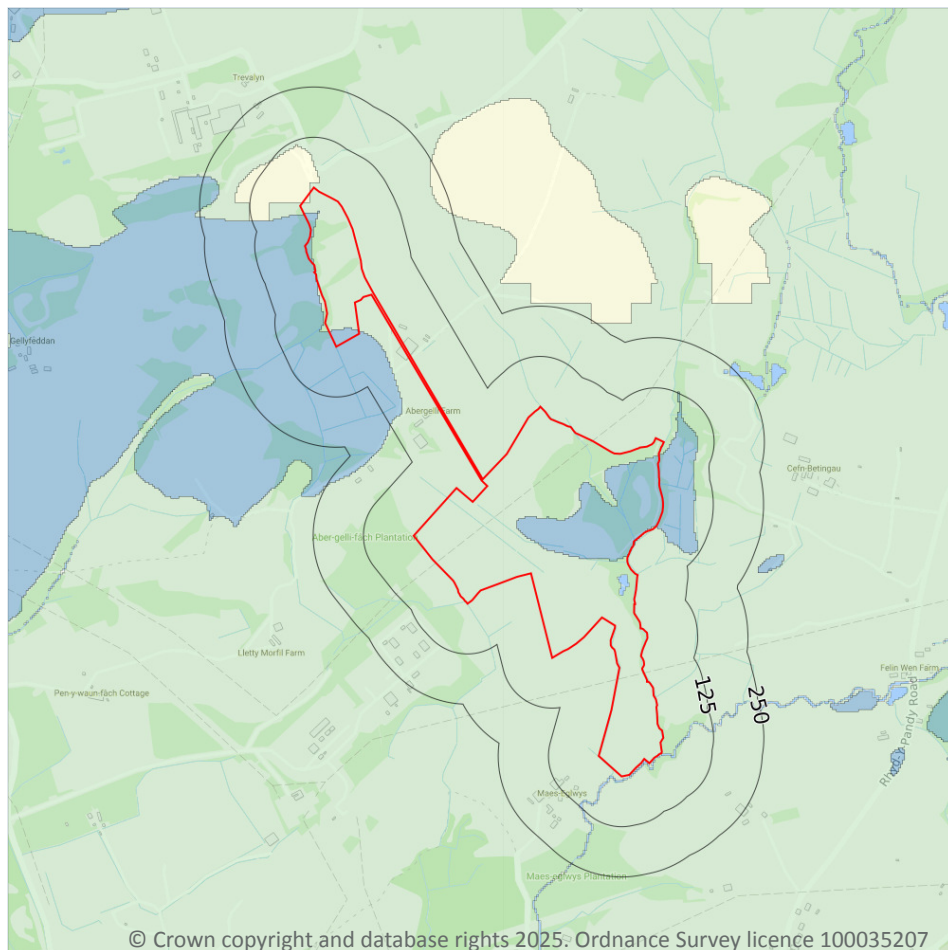
The table below shows the maximum flood depths for a range of return periods for the site.

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

Moderate

Highest risk within 50m

Moderate

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 80](#) >

This data is sourced from Ambiantal Risk Analytics.

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

52

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 81 >](#)

ID	Location	Name	Woodland Type
1	On site	Unknown	Ancient Semi Natural Woodland
2	1m W	Unknown	Ancient Woodland Site of Unknown Category
3	43m W	Unknown	Restored Ancient Woodland Site
4	61m W	Unknown	Restored Ancient Woodland Site
5	131m S	Unknown	Restored Ancient Woodland Site
6	197m NW	Unknown	Ancient Semi Natural Woodland
7	240m NW	Unknown	Ancient Semi Natural Woodland
8	351m NW	Unknown	Ancient Semi Natural Woodland
9	498m W	Unknown	Restored Ancient Woodland Site
10	557m SW	Unknown	Restored Ancient Woodland Site
11	698m SW	Unknown	Restored Ancient Woodland Site
12	725m NW	Unknown	Ancient Semi Natural Woodland
13	756m W	Unknown	Restored Ancient Woodland Site
14	777m NW	Unknown	Ancient Semi Natural Woodland
15	875m NW	Unknown	Ancient Semi Natural Woodland
16	980m NE	Unknown	Ancient Semi Natural Woodland

ID	Location	Name	Woodland Type
17	994m SW	Unknown	Restored Ancient Woodland Site
18	1000m SW	Unknown	Plantation on Ancient Woodland Site
19	1133m NE	Unknown	Ancient Semi Natural Woodland
20	1173m W	Unknown	Ancient Semi Natural Woodland
21	1266m NW	Unknown	Ancient Semi Natural Woodland
22	1273m NW	Unknown	Ancient Semi Natural Woodland
23	1305m NW	Unknown	Ancient Semi Natural Woodland
24	1309m NW	Unknown	Ancient Semi Natural Woodland
25	1333m NW	Unknown	Ancient Semi Natural Woodland
26	1342m SE	Unknown	Ancient Semi Natural Woodland
27	1344m NE	Unknown	Ancient Semi Natural Woodland
28	1446m W	Unknown	Restored Ancient Woodland Site
29	1482m NE	Unknown	Restored Ancient Woodland Site
31	1622m SE	Unknown	Ancient Semi Natural Woodland
32	1625m NE	Unknown	Ancient Semi Natural Woodland
33	1637m W	Unknown	Ancient Semi Natural Woodland
A	1679m W	Unknown	Ancient Semi Natural Woodland
-	1745m W	Unknown	Restored Ancient Woodland Site
A	1764m W	Unknown	Ancient Semi Natural Woodland
-	1779m NW	Unknown	Ancient Semi Natural Woodland
-	1782m NW	Unknown	Ancient Semi Natural Woodland
-	1794m N	Unknown	Ancient Semi Natural Woodland
37	1800m W	Unknown	Ancient Semi Natural Woodland
38	1816m SW	Unknown	Ancient Semi Natural Woodland
-	1825m N	Unknown	Ancient Semi Natural Woodland
40	1862m SW	Unknown	Restored Ancient Woodland Site
-	1877m W	Unknown	Ancient Semi Natural Woodland
-	1885m SE	Unknown	Ancient Semi Natural Woodland

ID	Location	Name	Woodland Type
-	1939m W	Unknown	Ancient Semi Natural Woodland
C	1955m SE	Unknown	Restored Ancient Woodland Site
-	1960m W	Unknown	Ancient Semi Natural Woodland
-	1967m W	Unknown	Ancient Semi Natural Woodland
43	1972m SW	Unknown	Ancient Semi Natural Woodland
-	1975m W	Unknown	Restored Ancient Woodland Site
-	1976m SE	Unknown	Ancient Semi Natural Woodland
-	1997m W	Unknown	Plantation on Ancient Woodland Site

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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



10.11 Green Belt

Records within 2000m**0**

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

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was



closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

0

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

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



SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site

0

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

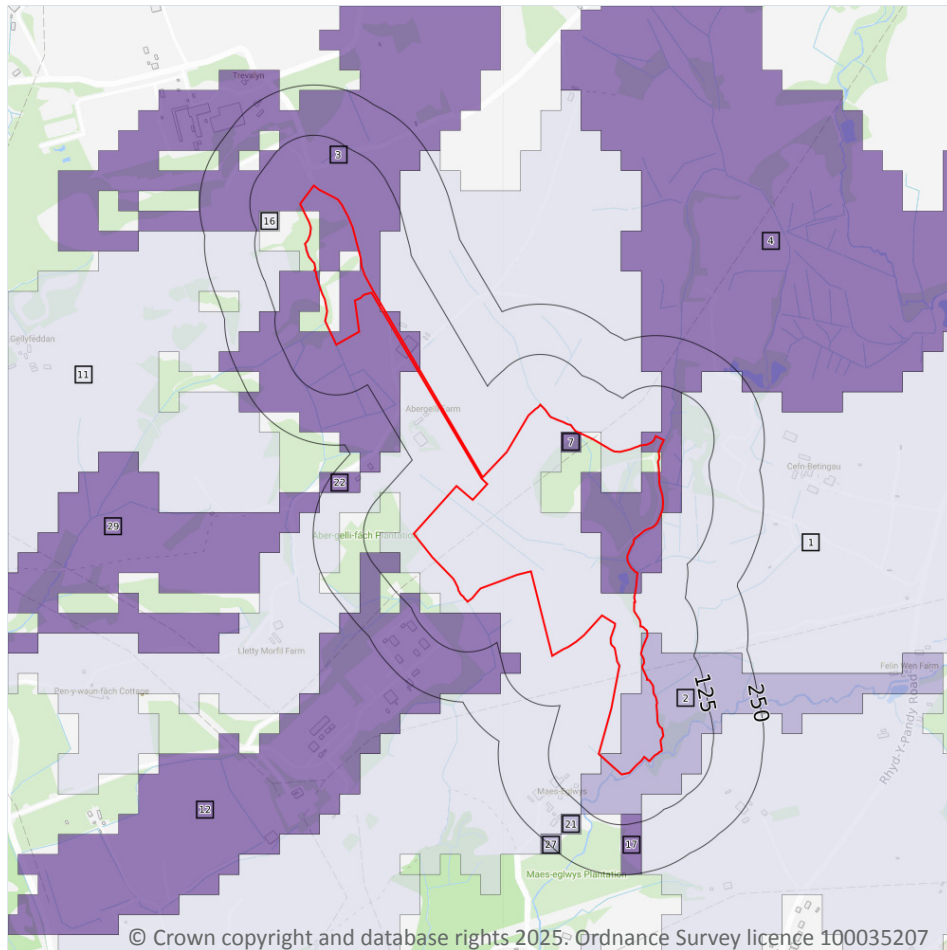
0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

13

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 91](#) >

ID	Location	Classification	Description
1	On site	Grade 3b	Moderate quality agricultural land
2	On site	Grade 4	Poor quality agricultural land
3	On site	Grade 5	Very poor quality agricultural land

ID	Location	Classification	Description
4	On site	Grade 5	Very poor quality agricultural land
7	On site	Grade 5	Very poor quality agricultural land
11	17m NW	Grade 3b	Moderate quality agricultural land
12	28m SW	Grade 5	Very poor quality agricultural land
16	54m NW	Grade 3b	Moderate quality agricultural land
17	99m S	Grade 5	Very poor quality agricultural land
21	141m S	Grade 4	Poor quality agricultural land
22	169m W	Grade 5	Very poor quality agricultural land
27	212m S	Grade 4	Poor quality agricultural land
29	240m W	Grade 5	Very poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.



12.4 Environmental Stewardship Schemes

Records within 250m**0**

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m**0**

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

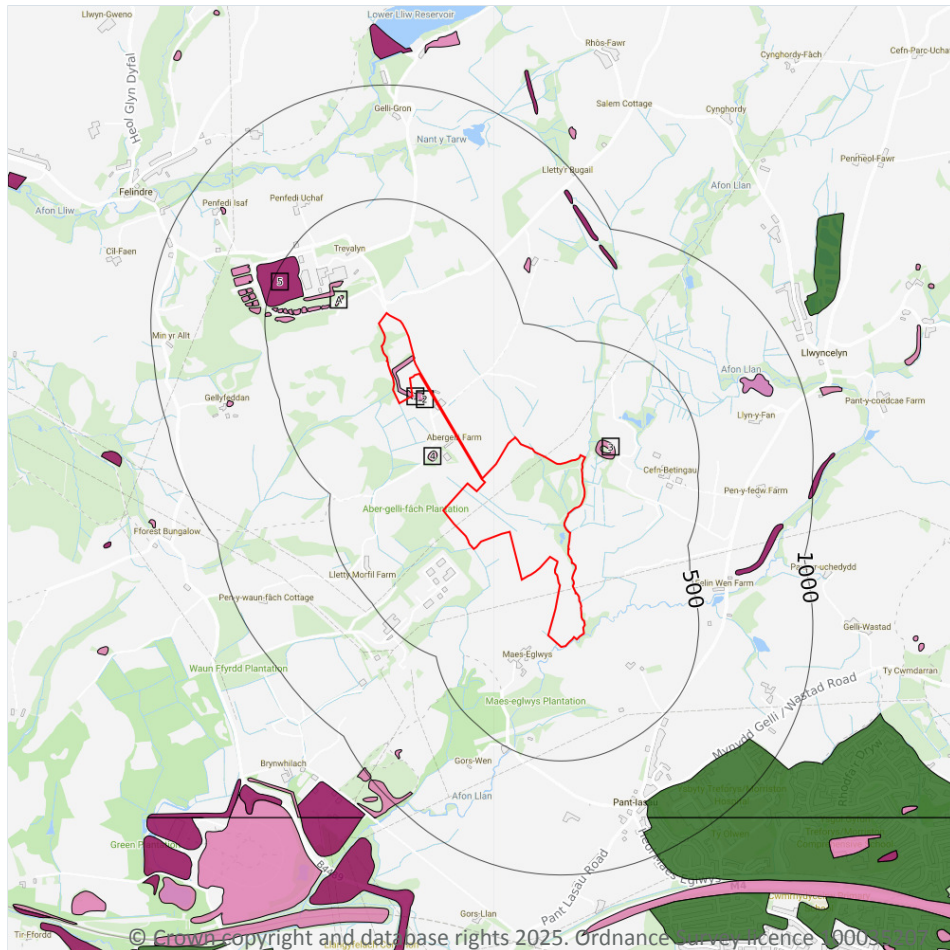
0

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

This data is sourced from Natural England.



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

17

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 96](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	WGR-VOID	Worked Ground (Undivided)	Void
2	32m NW	WGR-VOID	Worked Ground (Undivided)	Void
3	54m NE	WGR-VOID	Worked Ground (Undivided)	Void
4	112m NW	WGR-VOID	Worked Ground (Undivided)	Void

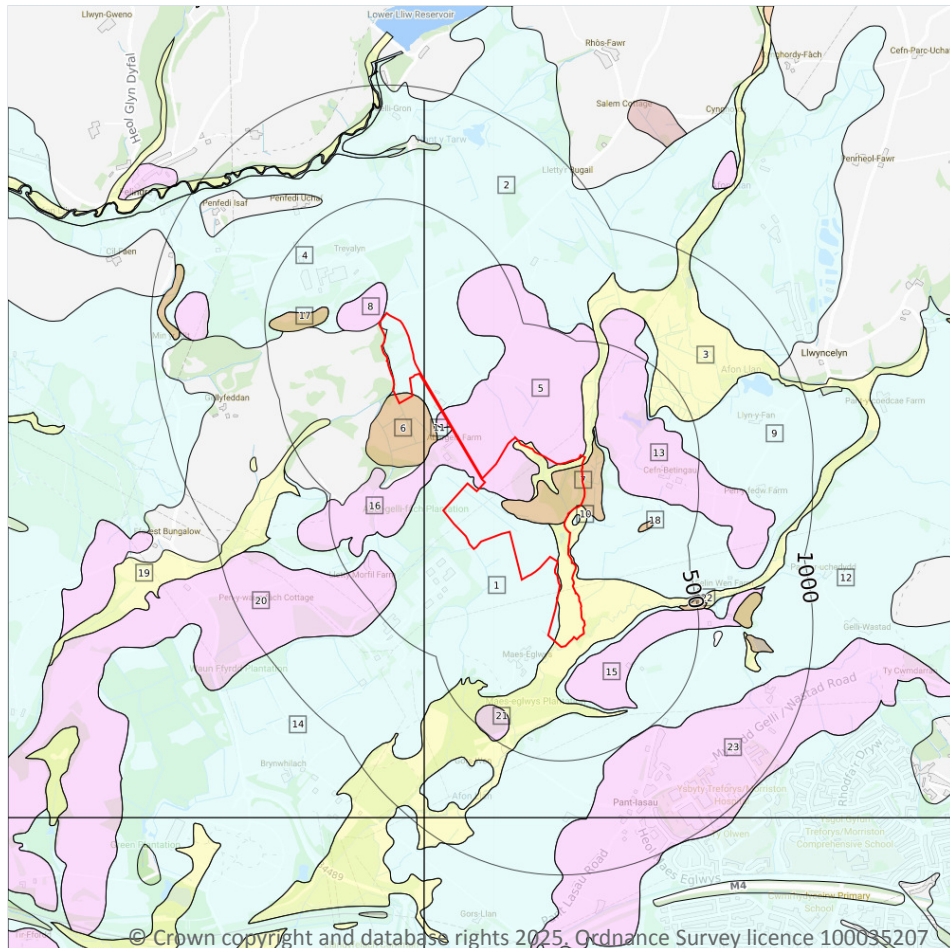


ID	Location	LEX Code	Description	Rock description
A	193m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	229m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	232m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	264m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	319m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	348m NW	WGR-VOID	Worked Ground (Undivided)	Void
5	353m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	370m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	376m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	401m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	425m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	449m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	474m NW	WGR-VOID	Worked Ground (Undivided)	Void

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

23

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 98](#) >

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



ID	Location	LEX Code	Description	Rock description
4	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
5	On site	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
6	On site	PEAT-P	Peat - Peat	Peat
7	On site	PEAT-P	Peat - Peat	Peat
8	2m NW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
9	6m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
10	28m E	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
11	44m NW	PEAT-P	Peat - Peat	Peat
12	62m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
13	84m NE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
14	84m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
15	94m SE	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
16	130m W	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
17	226m NW	PEAT-P	Peat - Peat	Peat
18	274m E	PEAT-P	Peat - Peat	Peat
19	308m NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
20	342m SW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
21	376m S	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
22	421m SE	PEAT-P	Peat - Peat	Peat
23	493m SE	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

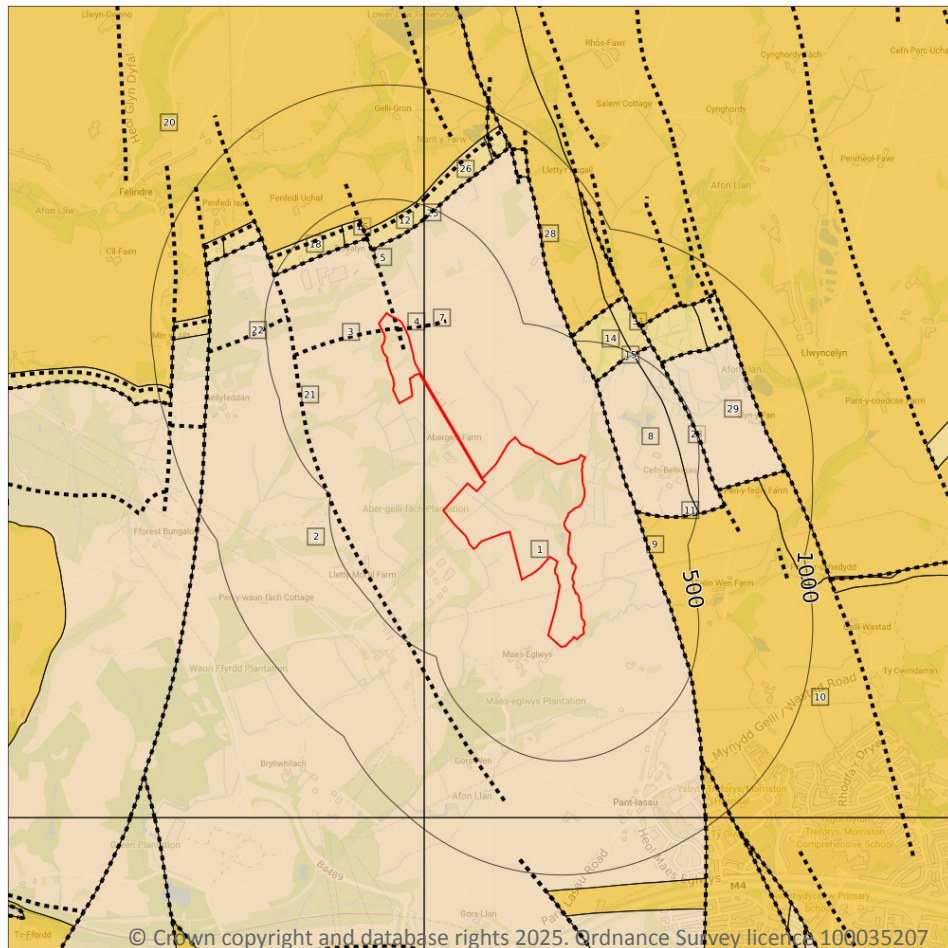
0

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

13

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 100](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
2	On site	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
8	138m NE	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age



ID	Location	LEX Code	Description	Rock age
10	237m E	SW-SDST	Swansea Member - Sandstone	Westphalian D Sub-age
12	282m NW	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
14	328m NE	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
16	338m NW	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
18	345m NW	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
20	374m NW	SW-SDST	Swansea Member - Sandstone	Westphalian D Sub-age
23	403m NE	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
26	445m N	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
29	489m NE	GDB-MDSS	Grovesend Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
31	497m 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	18
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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 100](#) >

ID	Location	Category	Description
3	On site	ROCK	Coal seam, inferred (PEN)
4	On site	ROCK	Coal seam, inferred (PEN)
5	On site	FAULT	Normal fault, inferred
6	81m NW	ROCK	Coal seam, inferred (PEN)
7	88m NW	ROCK	Coal seam, inferred ()
9	138m NE	FAULT	Normal fault, inferred
11	237m E	ROCK	Coal seam, inferred (SW 4 FT)
13	282m NW	ROCK	Coal seam, inferred (SW 4 FT)
15	328m NE	ROCK	Coal seam, inferred ()
17	338m NW	ROCK	Coal seam, inferred (SWANSEA FOUR FEET)

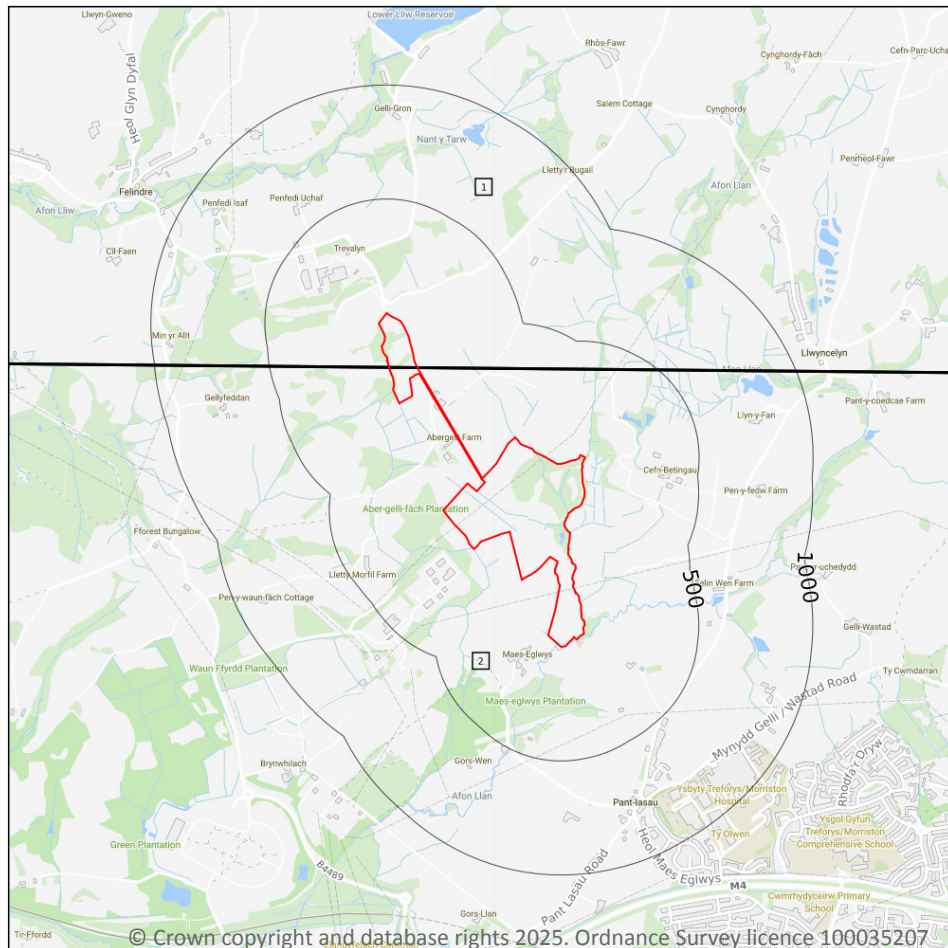


ID	Location	Category	Description
19	350m NW	ROCK	Coal seam, inferred (BrW 2 FT)
21	386m NW	FAULT	Normal fault, inferred
22	401m NW	ROCK	Coal seam, inferred (PEN)
24	404m NW	ROCK	Coal seam, inferred (BrW 2 FT)
25	442m N	ROCK	Coal seam, inferred (SWANSEA 4-FEET)
27	445m N	ROCK	Coal seam, inferred (SWANSEA 4-FEET)
28	480m NE	FAULT	Normal fault, observed
30	489m 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

2

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. 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 103](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW230_amanford_v4
2	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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

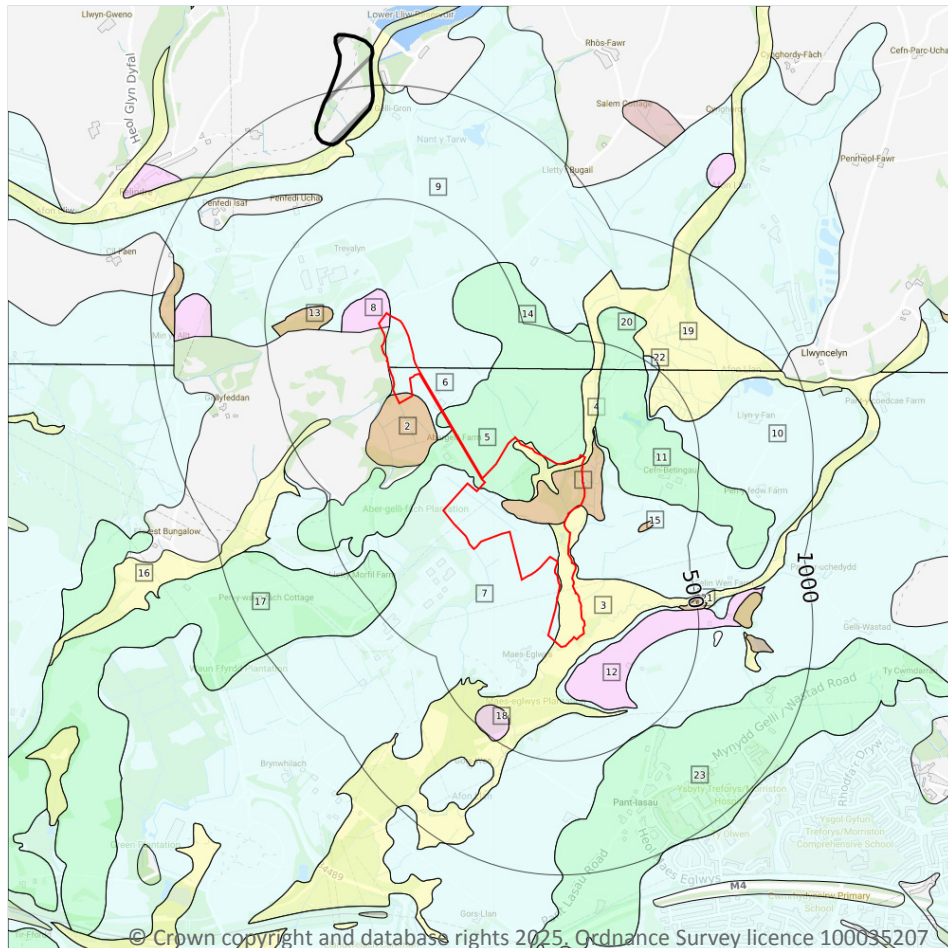
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

23

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 105 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	PEAT	PEAT
2	On site	PEAT-P	PEAT	PEAT
3	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
4	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	On site	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
6	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
7	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
8	On site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
9	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
10	6m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
11	84m NE	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
12	94m SE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
13	205m NW	PEAT-P	PEAT	PEAT
14	218m N	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
15	274m E	PEAT-P	PEAT	PEAT
16	308m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
17	342m SW	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
18	376m S	GFICD-XSV	GLACIOFLUVIAL ICE CONTACT DEPOSITS, DEVENSIAN	SAND AND GRAVEL
19	379m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
20	387m NE	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
21	421m SE	PEAT-P	PEAT	PEAT
22	468m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
23	493m SE	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m

7

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	Intergranular	Very High	High
On site	Mixed	Low	Very Low
On site	Mixed	Low	Very Low
On site	Mixed	High	Low
6m NE	Mixed	High	Low
44m SW	Mixed	Low	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

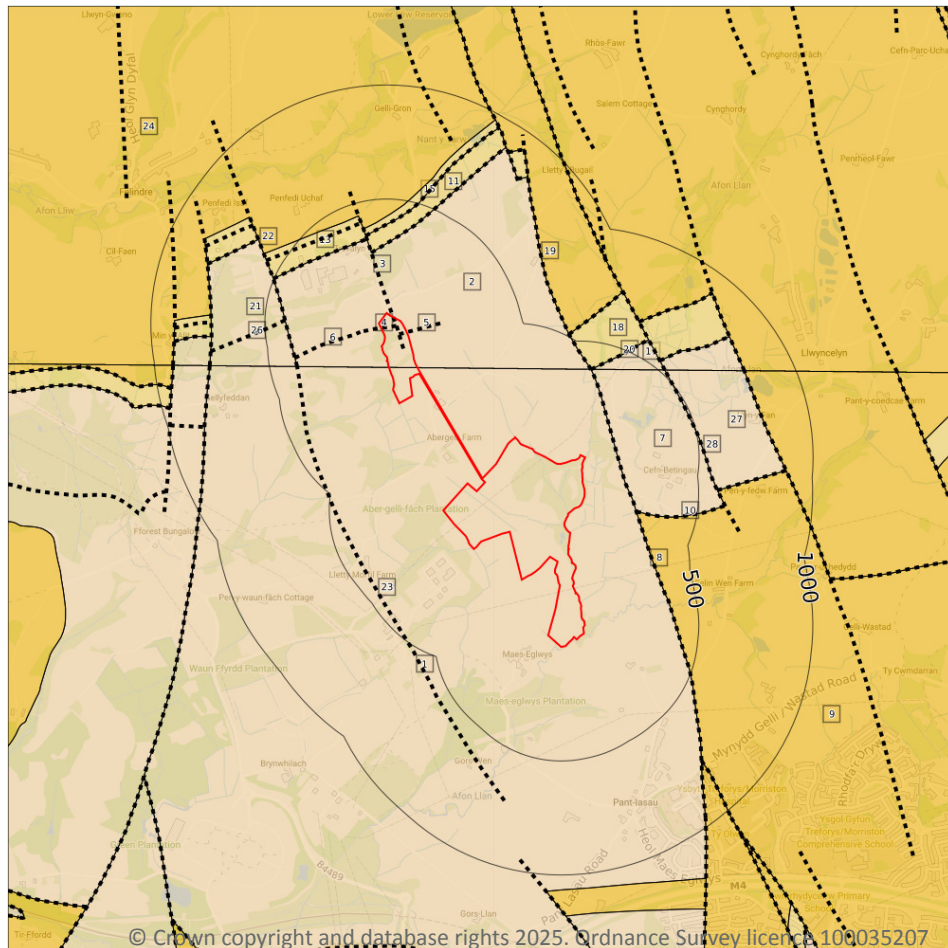
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

---- Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

12

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 108 >](#)

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

ID	Location	LEX Code	Description	Rock age
7	139m NE	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	237m E	SW-SDST	SWANSEA MEMBER - SANDSTONE	WESTPHALIAN
11	273m NW	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	334m NW	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	351m NW	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	379m NE	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18	379m NE	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	381m NW	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	383m NW	SW-SDST	SWANSEA MEMBER - SANDSTONE	WESTPHALIAN
27	489m NE	GDB-MDSS	GROVESEND FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m

16

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.

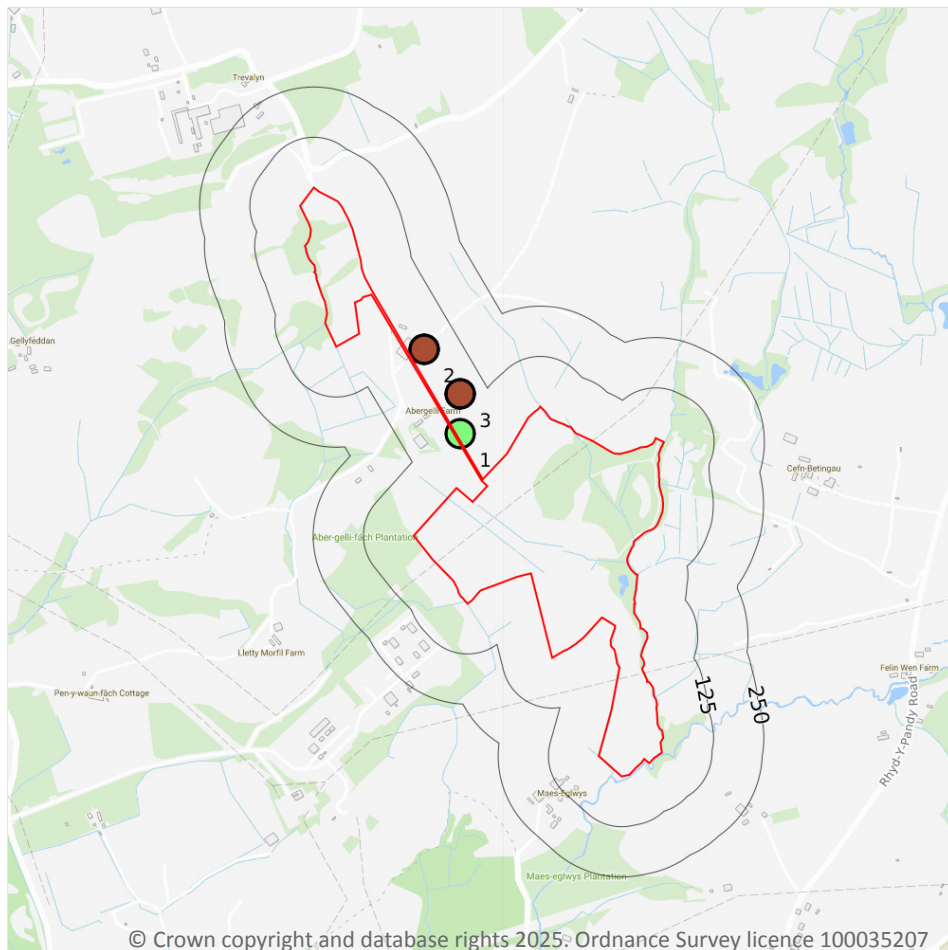
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 108](#) >

ID	Location	Category	Description
3	On site	FAULT	Fault, inferred, displacement unknown
4	On site	ROCK	Coal seam, inferred
5	On site	ROCK	Coal seam, inferred
6	90m NW	ROCK	Coal seam, inferred
8	139m NE	FAULT	Fault, inferred, displacement unknown
10	237m E	ROCK	Coal seam, inferred
12	273m NW	ROCK	Coal seam, inferred
14	334m NW	ROCK	Coal seam, inferred
16	351m NW	ROCK	Coal seam, inferred
19	379m NE	FAULT	Fault, observed, displacement unknown
20	379m NE	ROCK	Coal seam, inferred
22	381m NW	FAULT	Fault, inferred, displacement unknown
23	381m NW	FAULT	Fault, inferred, displacement unknown
25	408m NW	ROCK	Coal seam, inferred
26	412m NW	ROCK	Coal seam, inferred
28	489m 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

3

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

Features are displayed on the Boreholes map on [page 111](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	9m NW	265200 201600	ABERGELLI-FACH FARM P4	16.0	N	256144 ↗
2	38m NW	265110 201810	ABERGELLI COLLIERY	-1.0	N	256135 ↗

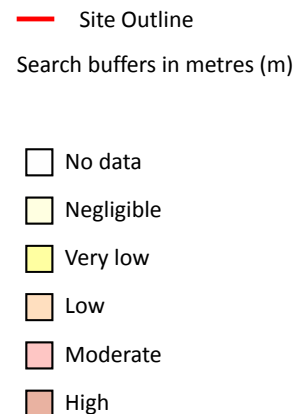
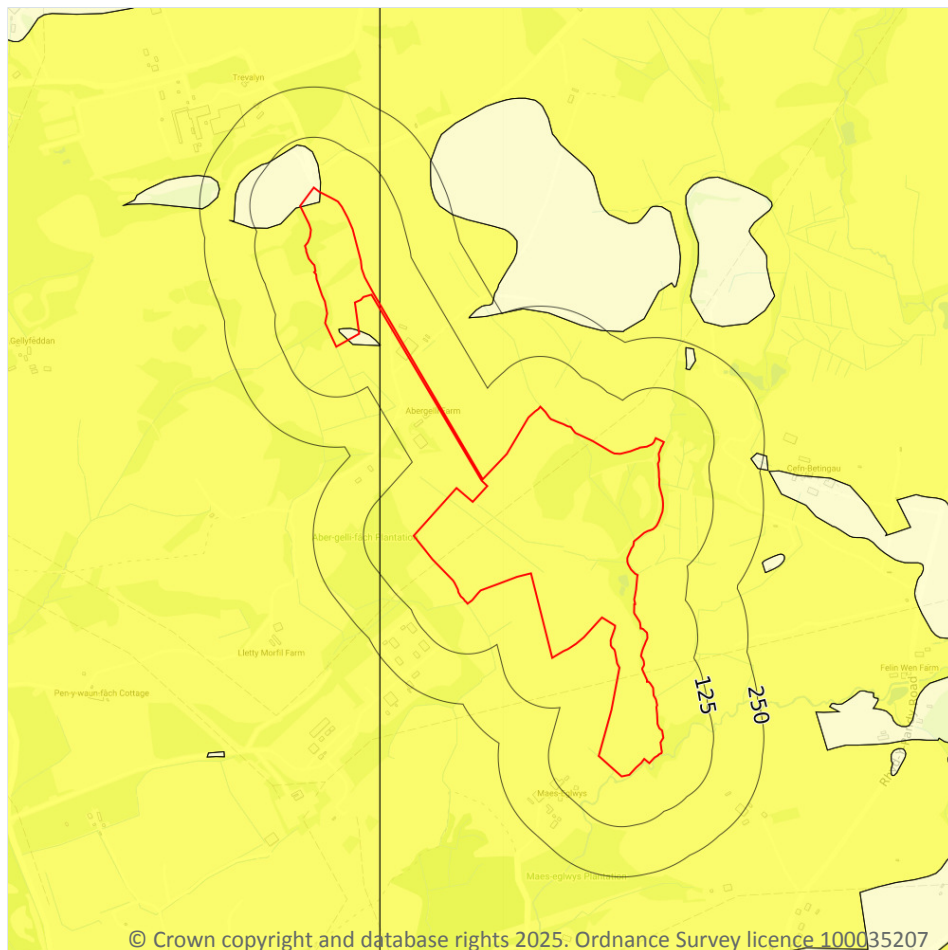


ID	Location	Grid reference	Name	Length	Confidential	Web link
3	60m NW	265200 201700	ABERGELLI SLANT, BRYN WHILACH. 2FT V WORKINGS PLAN	-1.0	N	256136 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

3

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

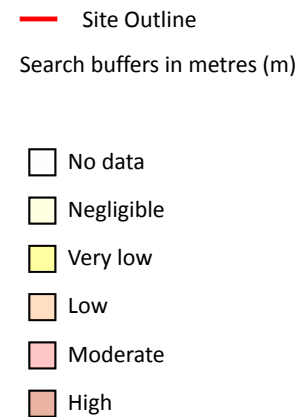
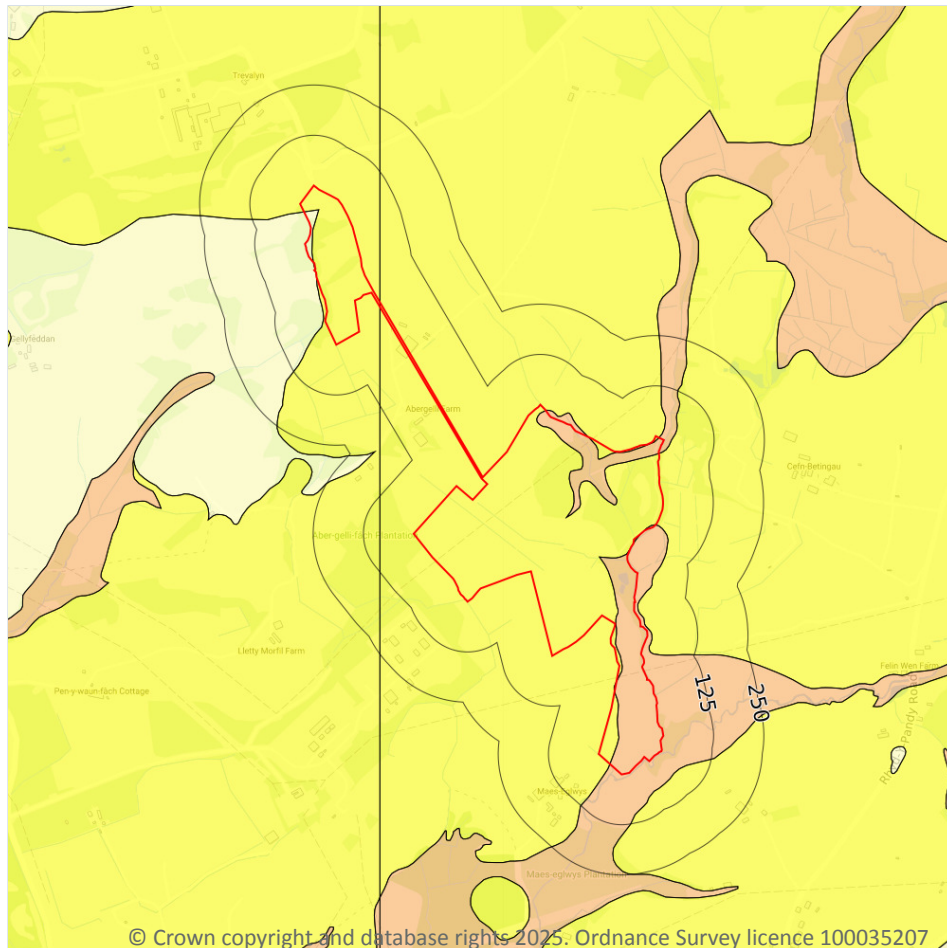
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 113](#) >

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
45m NW	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

3

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 115 >](#)

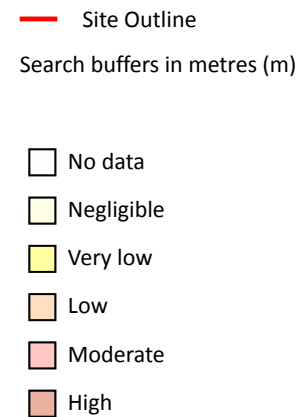
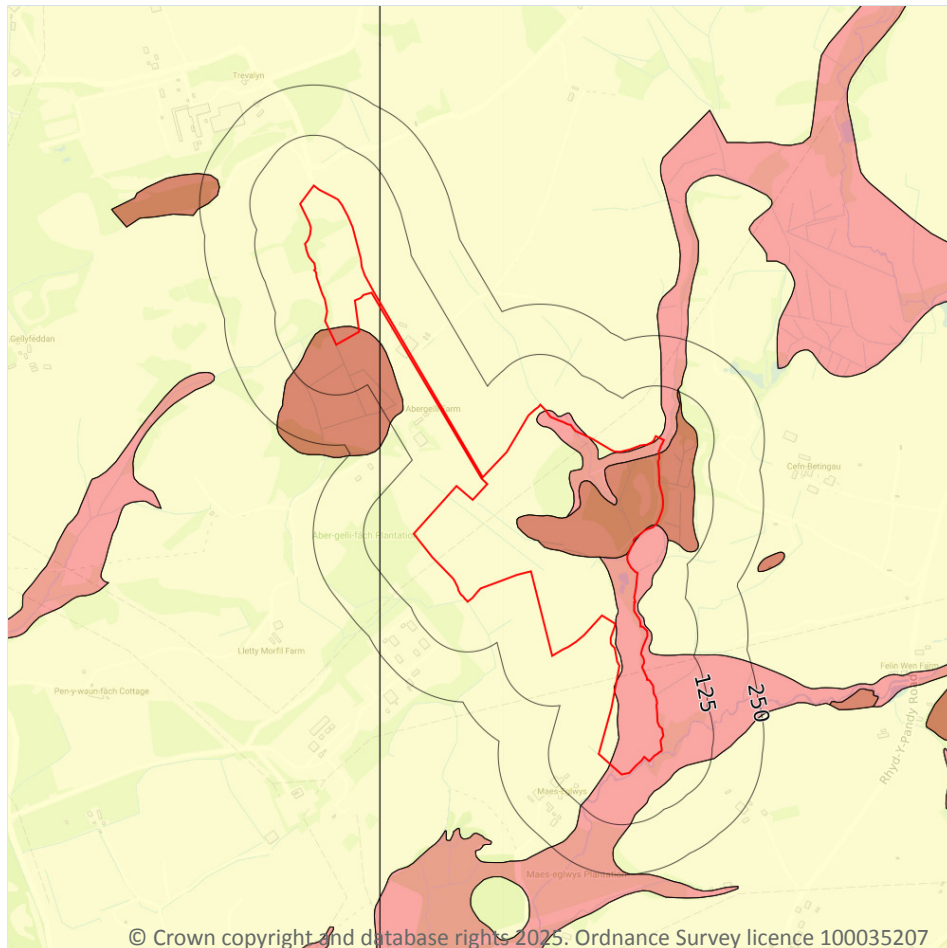
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

5

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 117](#) >

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.

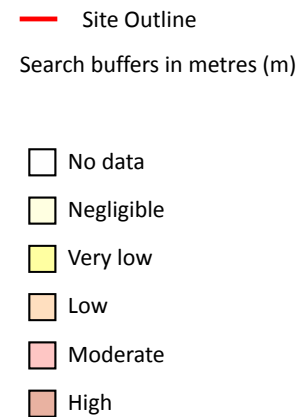
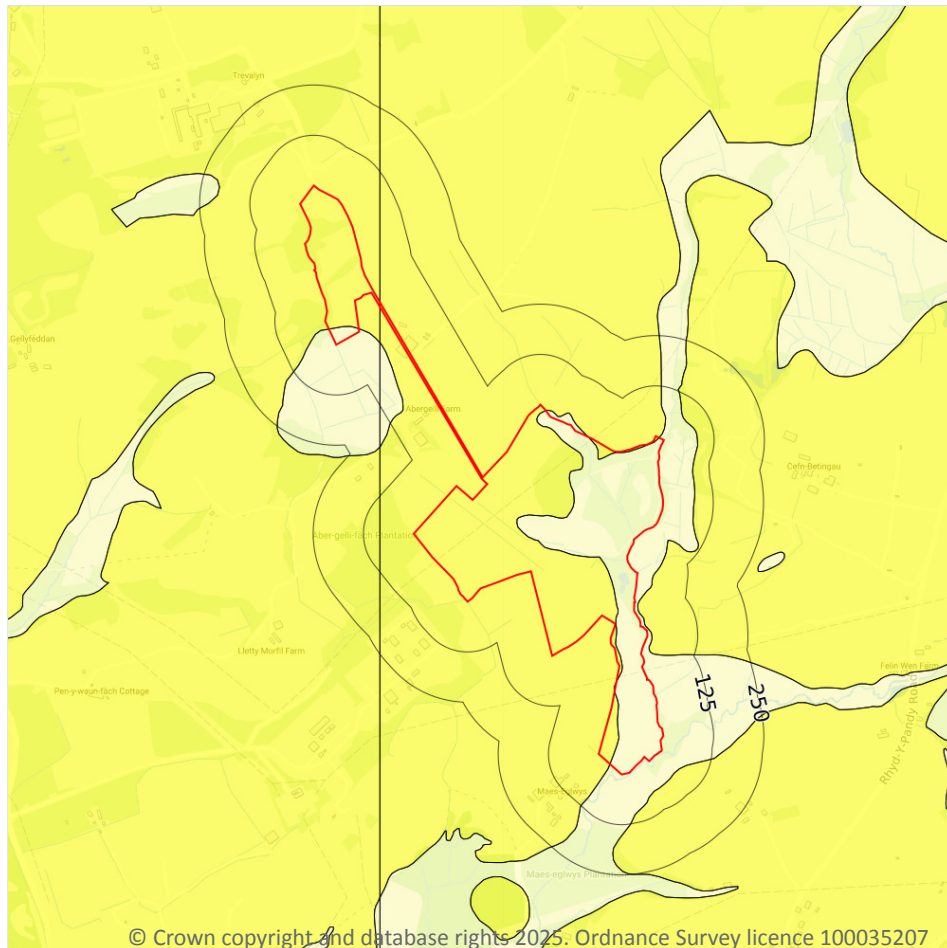


Location	Hazard rating	Details
On site	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
6m SE	Negligible	Compressible strata are not thought to occur.
44m NW	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

4

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 119](#) >

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.
6m SE	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

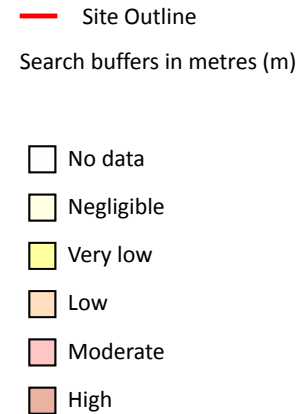
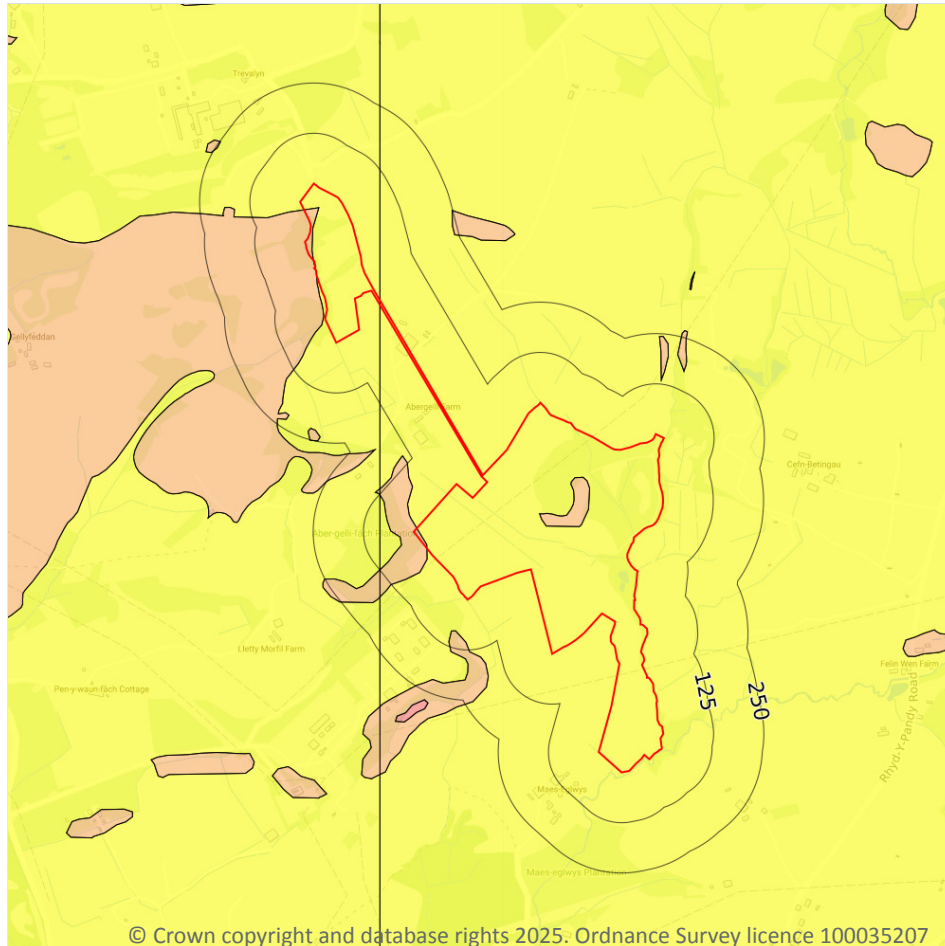
Location	Hazard rating	Details
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44m NW	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
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This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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 121](#) >

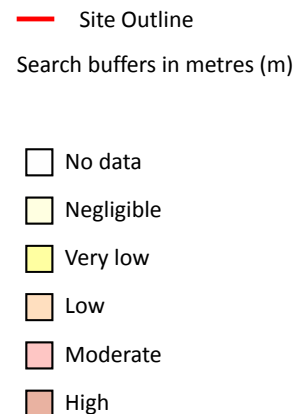
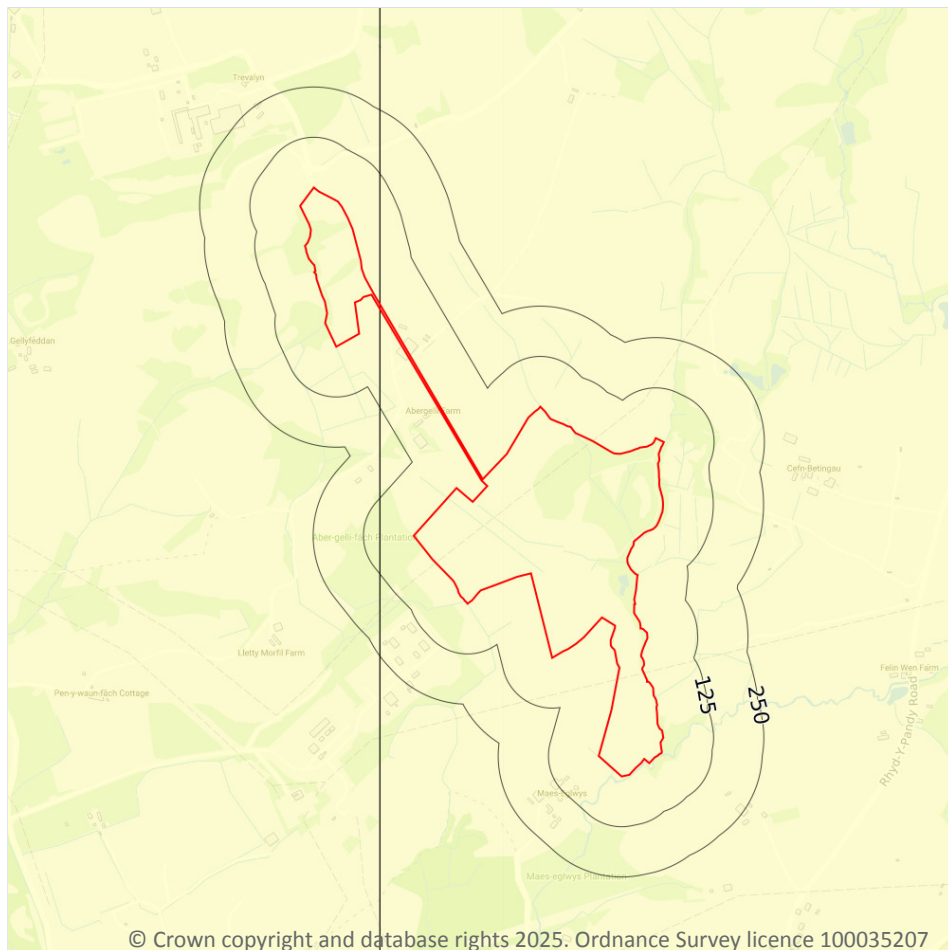
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

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.
36m W	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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.

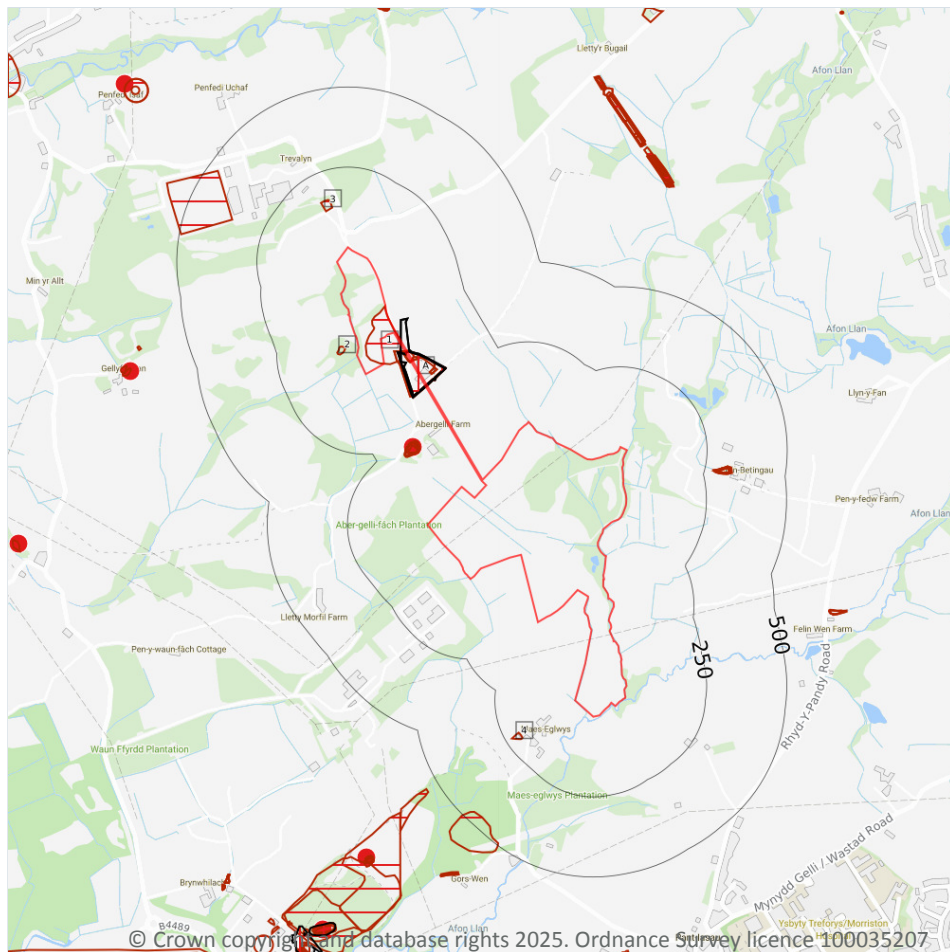
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 123](#) >

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 and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- 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 BritPits

Records within 500m

1

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 and ground workings map on [page 125](#) >

ID	Location	Details	Description
B	131m NW	Name: Aber-gelli-fach Gravel Pit Address: Clydach, NEATH, West Glamorgan Commodity: Sand & Gravel 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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	21
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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 and ground workings map on [page 125 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Refuse Heap	1964	1:10560
A	On site	Colliery	1948	1:10560
A	On site	Refuse Heap	1948	1:10560
A	On site	Colliery	1938	1:10560
A	On site	Refuse Heap	1938	1:10560
A	On site	Refuse Heap	1936	1:10560
A	On site	Colliery	1936	1:10560
A	On site	Colliery	1938	1:10560
A	On site	Refuse Heap	1938	1:10560
A	28m NW	Unspecified Slant	1938	1:10560
A	28m NW	Unspecified Slant	1938	1:10560
2	40m NW	Pond	1914	1:10560
B	110m NW	Unspecified Pit	1964	1:10560
B	112m NW	Gravel Pit	1897	1:10560
B	113m NW	Unspecified Pit	1976	1:10000
B	116m NW	Old Gravel Pit	1921	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	117m NW	Unspecified Pit	1948	1:10560
B	117m NW	Unspecified Pit	1936	1:10560
B	119m NW	Old Gravel Pit	1913	1:10560
3	131m NW	Covered Reservoir	1991	1:10000
4	201m S	Pond	1913	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

4

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 and ground workings map on [page 125 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Colliery	1936	1:10560
A	On site	Unspecified Disused Mine	1964	1:10560
A	On site	Unspecified Disused Mine	1976	1:10000
A	On site	Colliery	1948	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from 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 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.



18.13 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.

18.14 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.

18.15 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.

18.16 Clay mining

Records on site	0
-----------------	---

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

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

19 Ground cavities and sinkholes

19.1 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.

19.2 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.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

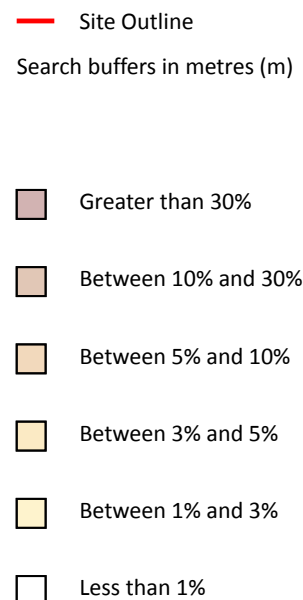
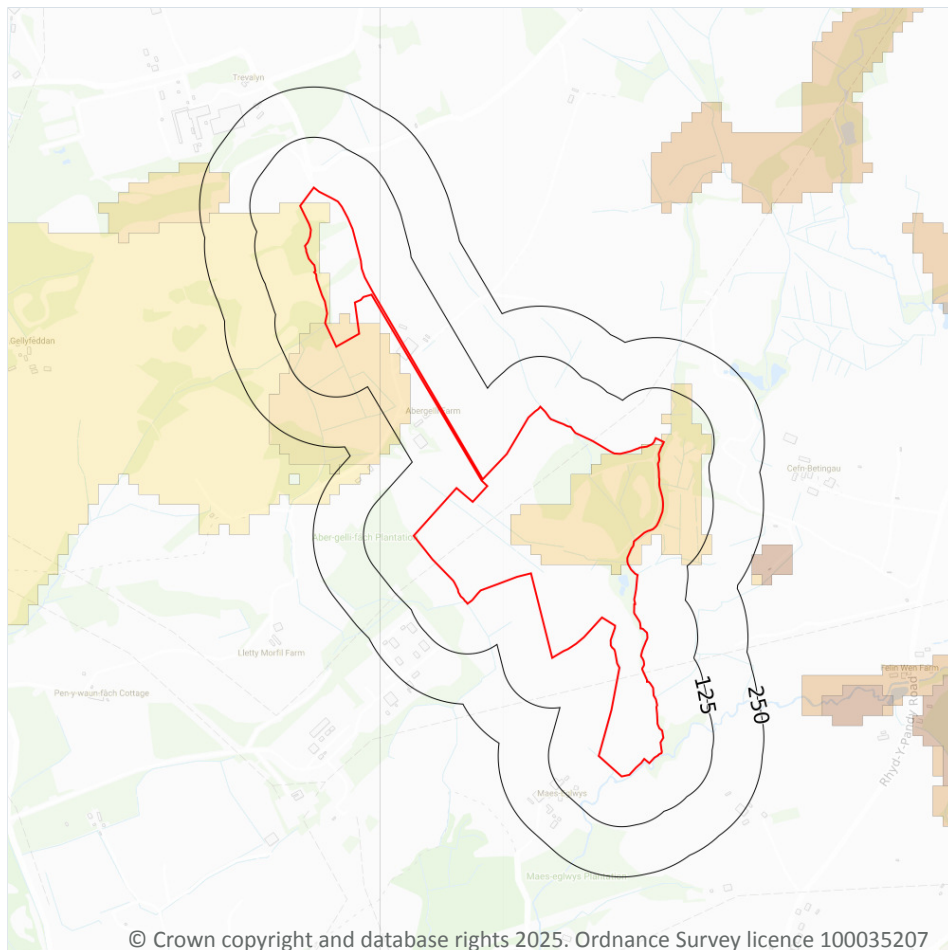
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

3

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

Features are displayed on the Radon map on [page 133](#) >

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



Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None
On site	Less than 1%	None

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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

39

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	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	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	2.2 - 3.0 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	2.2 - 3.0 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	2.2 - 3.0 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	2.2 - 3.0 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	2.2 - 3.0 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	2.2 - 3.0 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
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
3m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
6m W	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	2.2 - 3.0 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
8m 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
25m NE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
25m NE	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
38m NE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
38m NE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
40m 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
44m S	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
44m S	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.

21.2 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.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

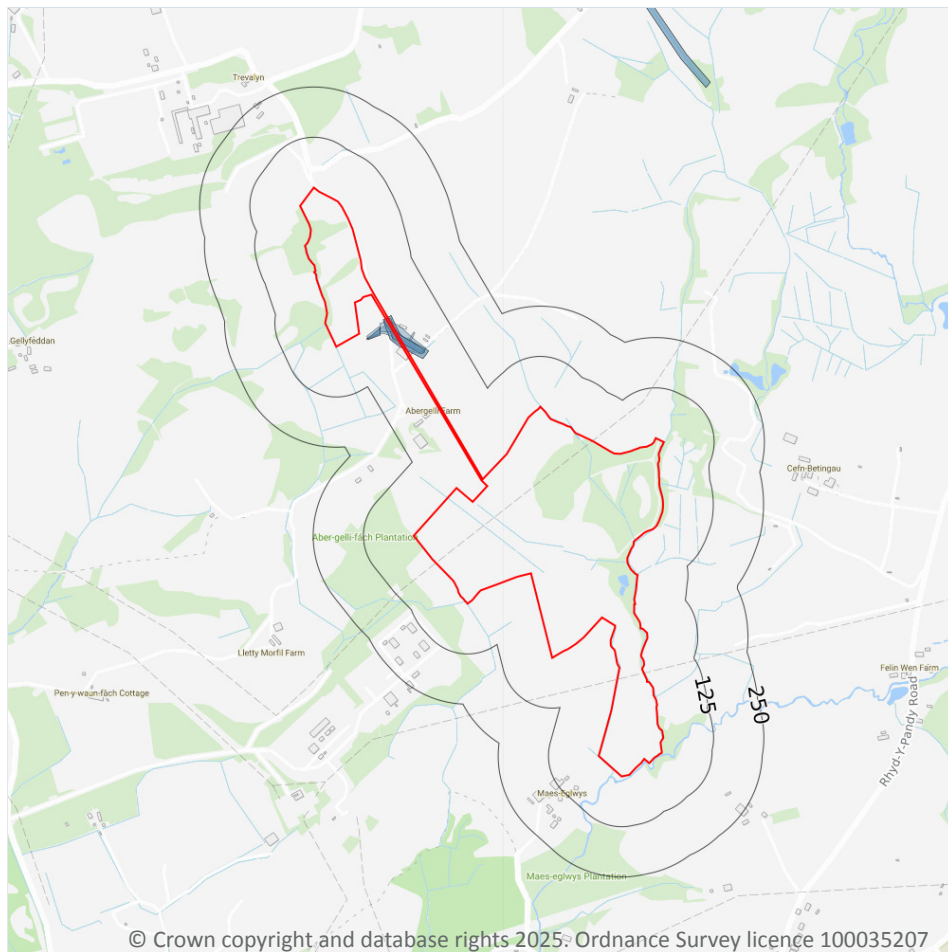
0

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.



22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 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.

22.2 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.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

9

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 138 >](#)

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1961	2500
On site	Railway Sidings	1935	2500
On site	Railway Sidings	1936	10560
On site	Railway Sidings	1964	10560
On site	Railway Sidings	1948	10560
On site	Railway Sidings	1938	10560
20m NW	Railway Sidings	1964	10560
22m NW	Railway Sidings	1989	2500
23m NW	Railway Sidings	1959	2500

This data is sourced from Ordnance Survey/Groundsure.

22.5 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.



22.6 Historical railways

Records within 250m**0**

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m**0**

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 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.

22.9 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

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Report Ref: GS-NZX-E2L-RA9-YCP
Grid Ref: 265253, 201480

Map Name: County Series
Map date: 1876-1877
Scale: 1:10,560
Printed at: 1:10,560

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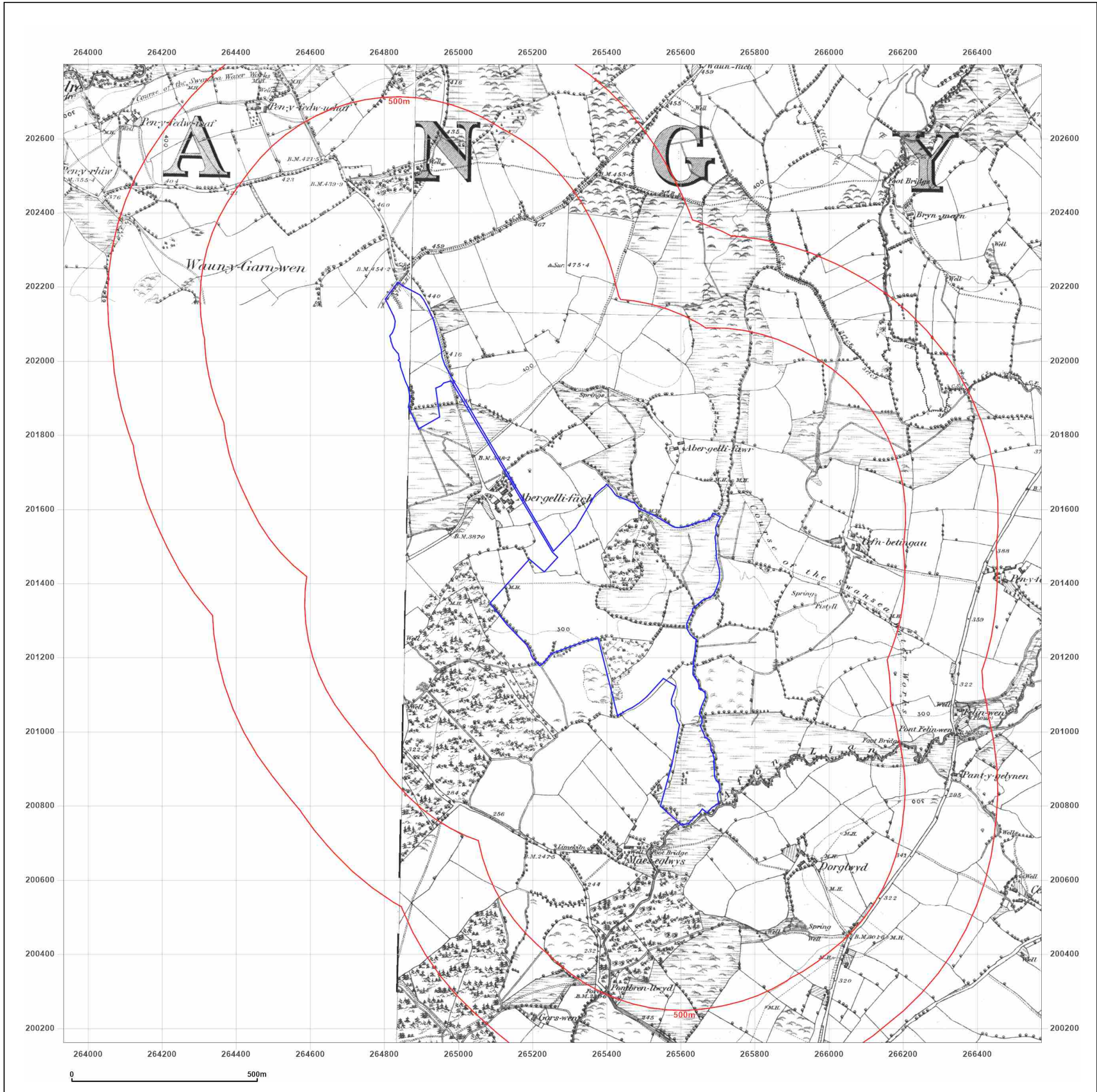


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Report Ref: GS-NZX-E2L-RA9-YCP
Grid Ref: 265253, 201480

Map Name: County Series

Map date: 1878

Scale: 1:10,560

Printed at: 1:10,560



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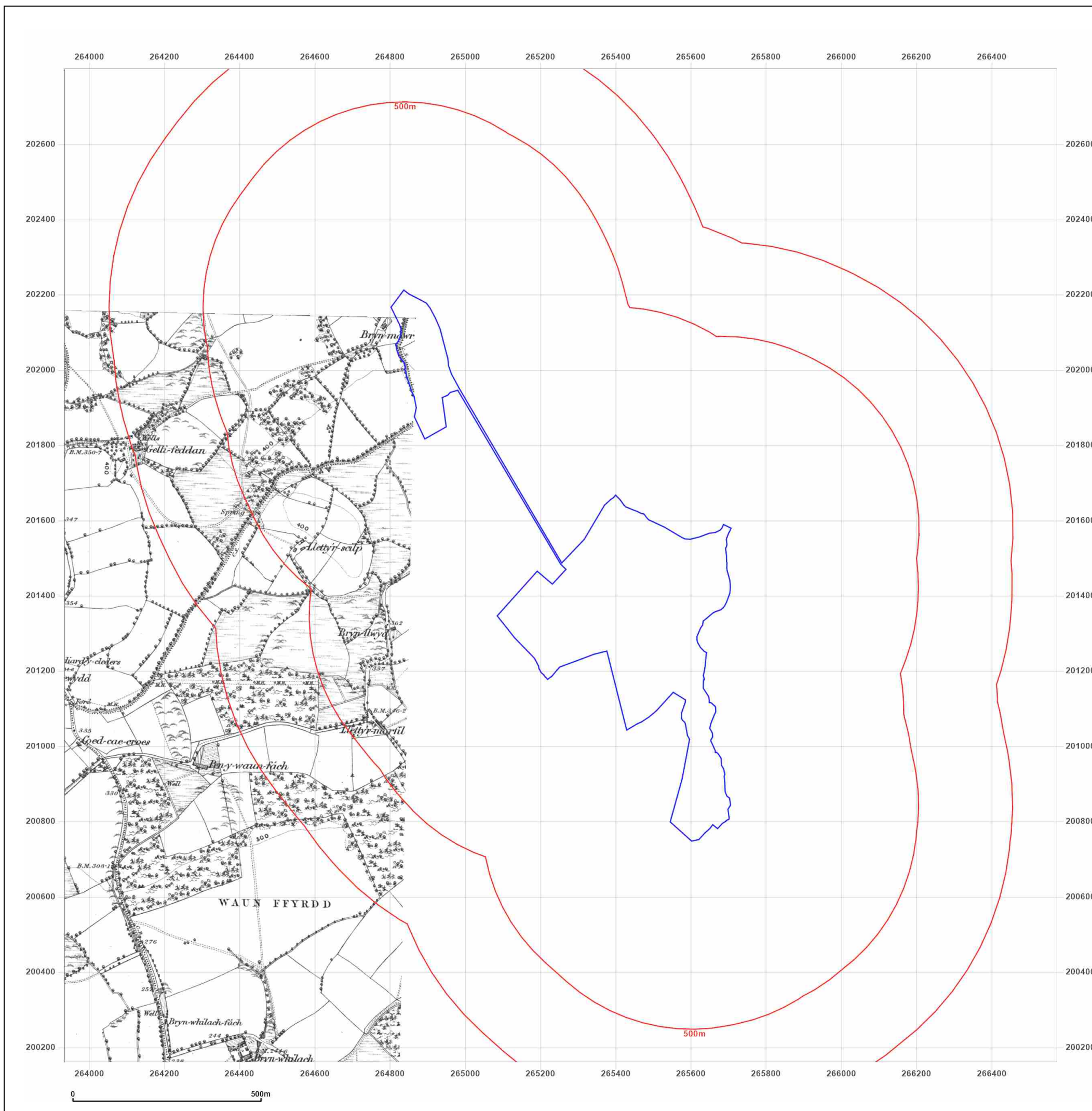


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Grid Ref: 265253, 201480

Map Name: County Series

Map date: 1896-1897

Scale: 1:10,560

Printed at: 1:10,560



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Surveyed 1876
Revised 1897
Edition N/A
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Surveyed 1876
Revised 1896
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Surveyed 1877
Revised 1897
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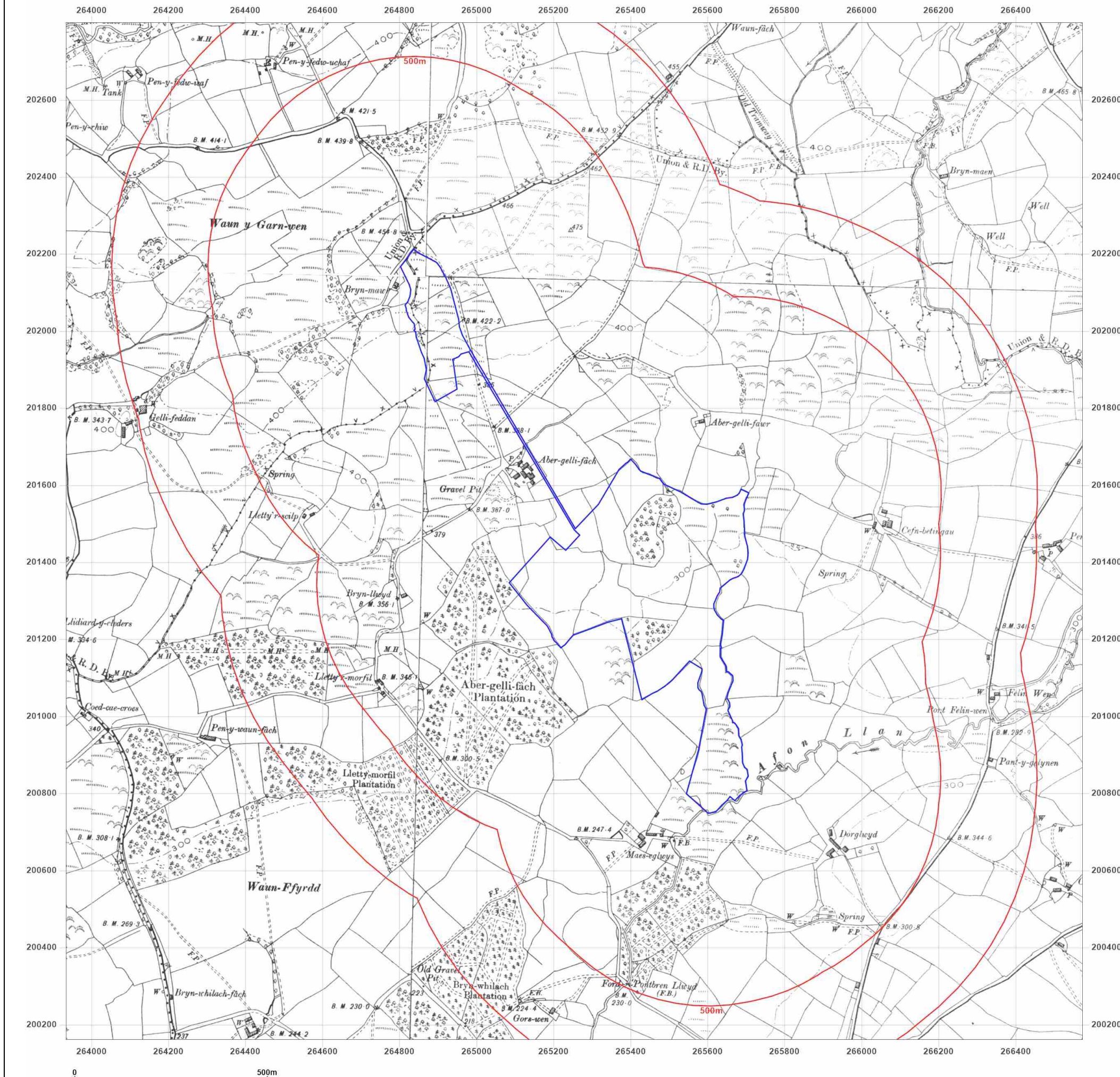


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Grid Ref: 265253, 201480

Map Name: County Series

Map date: 1921

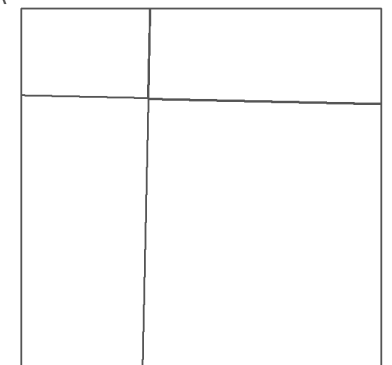
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Edition N/A
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Surveyed 1876
Revised 1921
Edition N/A
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Surveyed 1877
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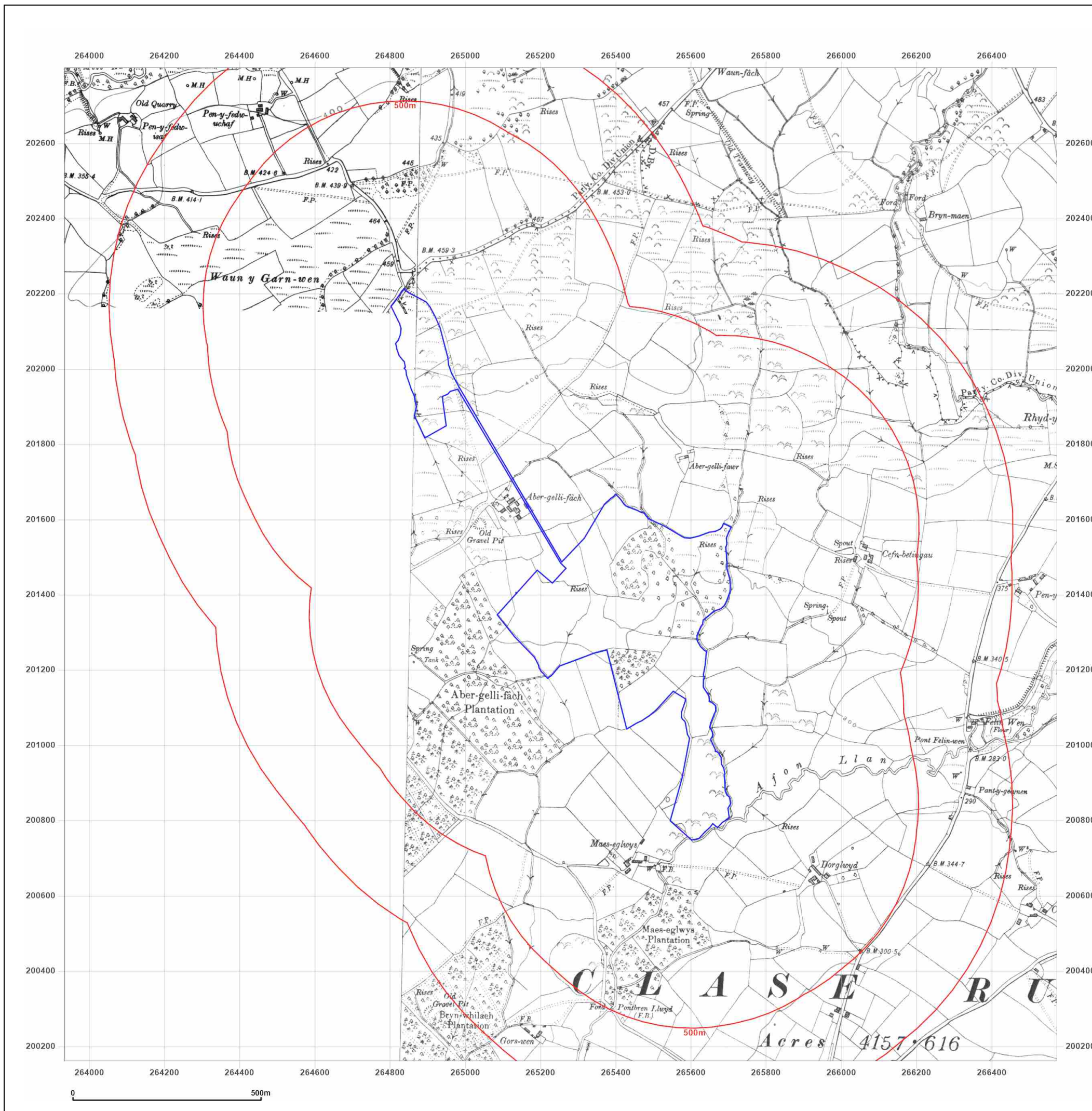


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Map Name: County Series

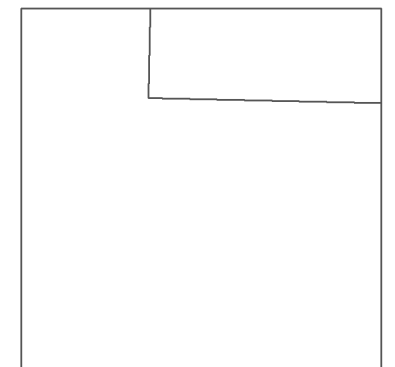
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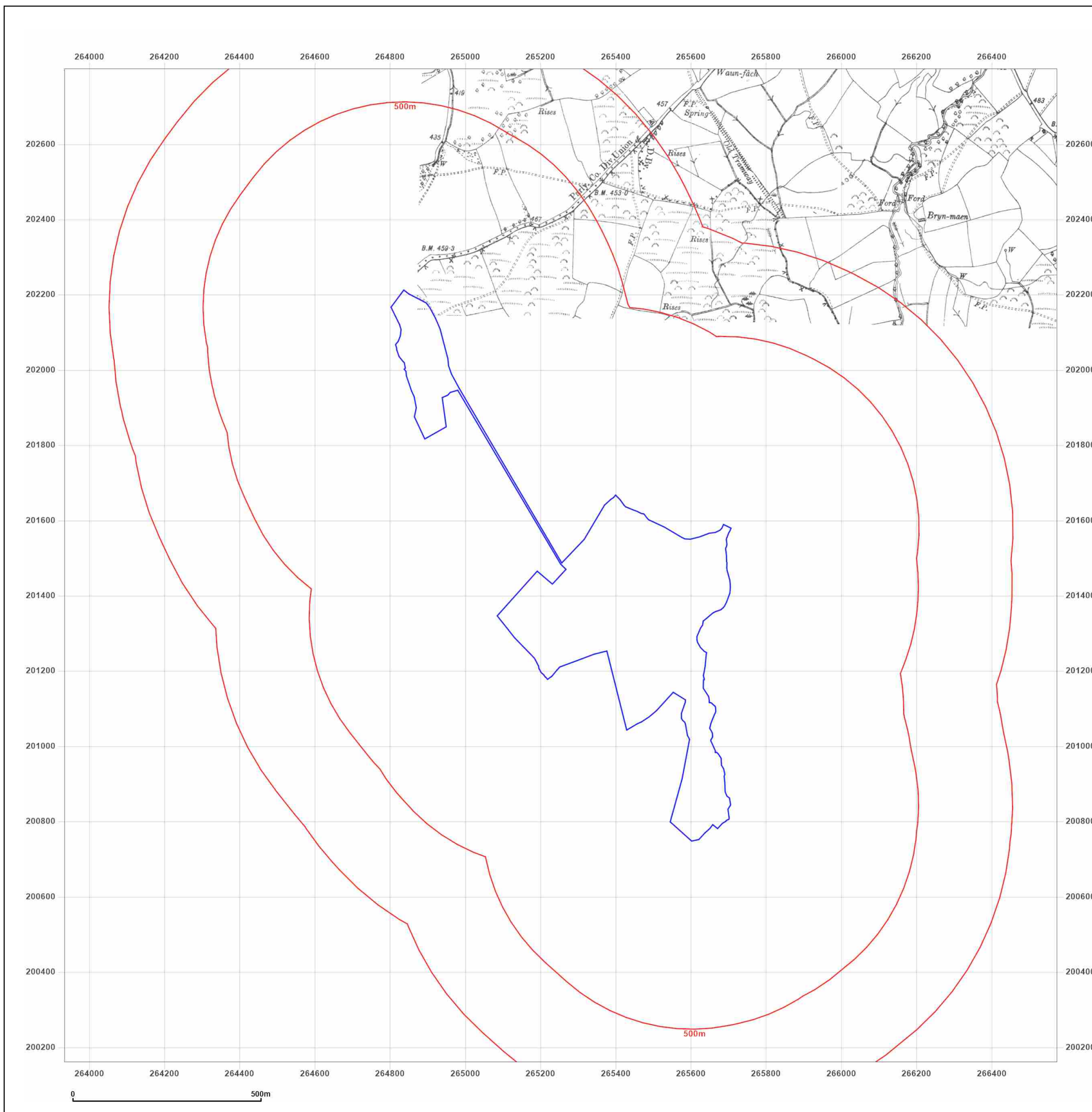


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Map Name: County Series

Map date: 1935-1938

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Revised N/A
Edition N/A
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Surveyed 1875
Revised 1935
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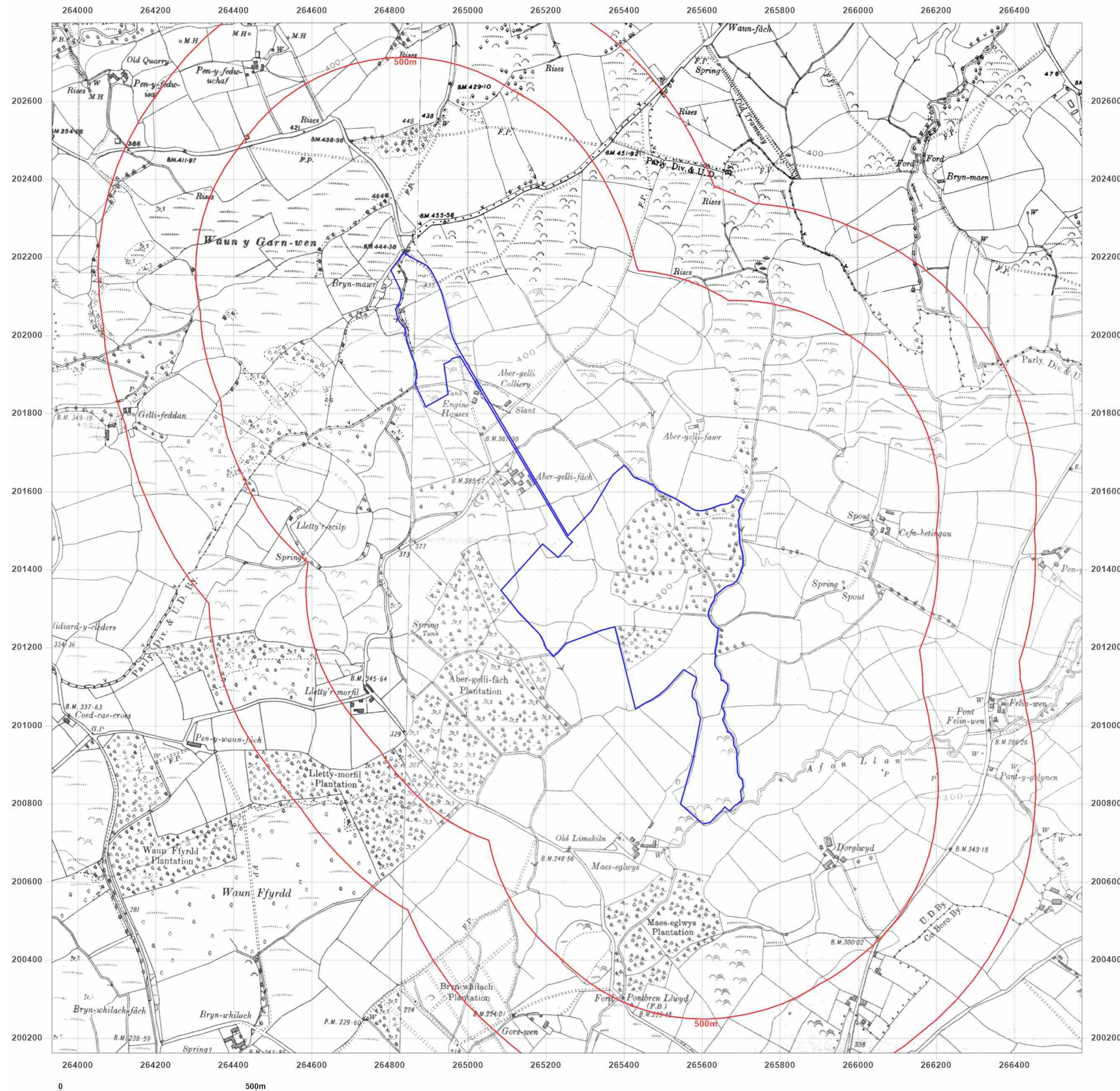


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Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1875
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Surveyed 1876
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Levelled 1947

Surveyed 1875
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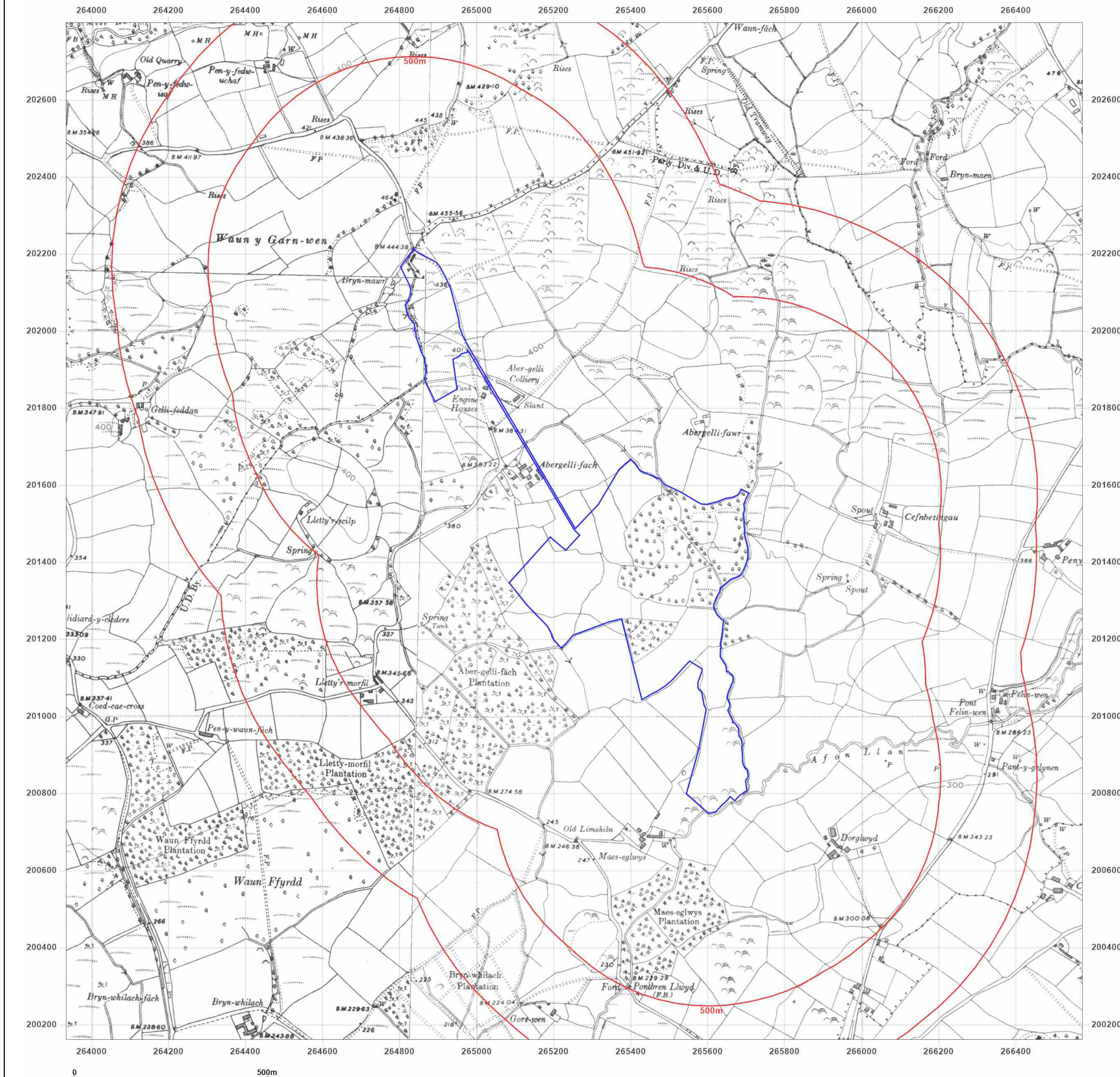


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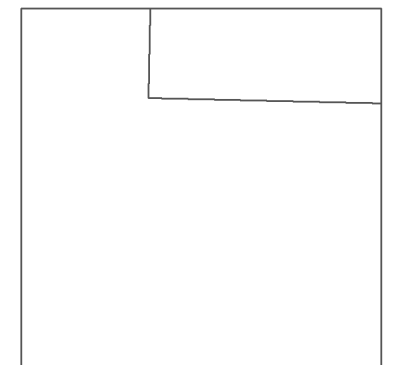
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Printed at: 1:10,560



Surveyed 1875
Revised 1952
Edition N/A
Copyright N/A
Levelled 1947

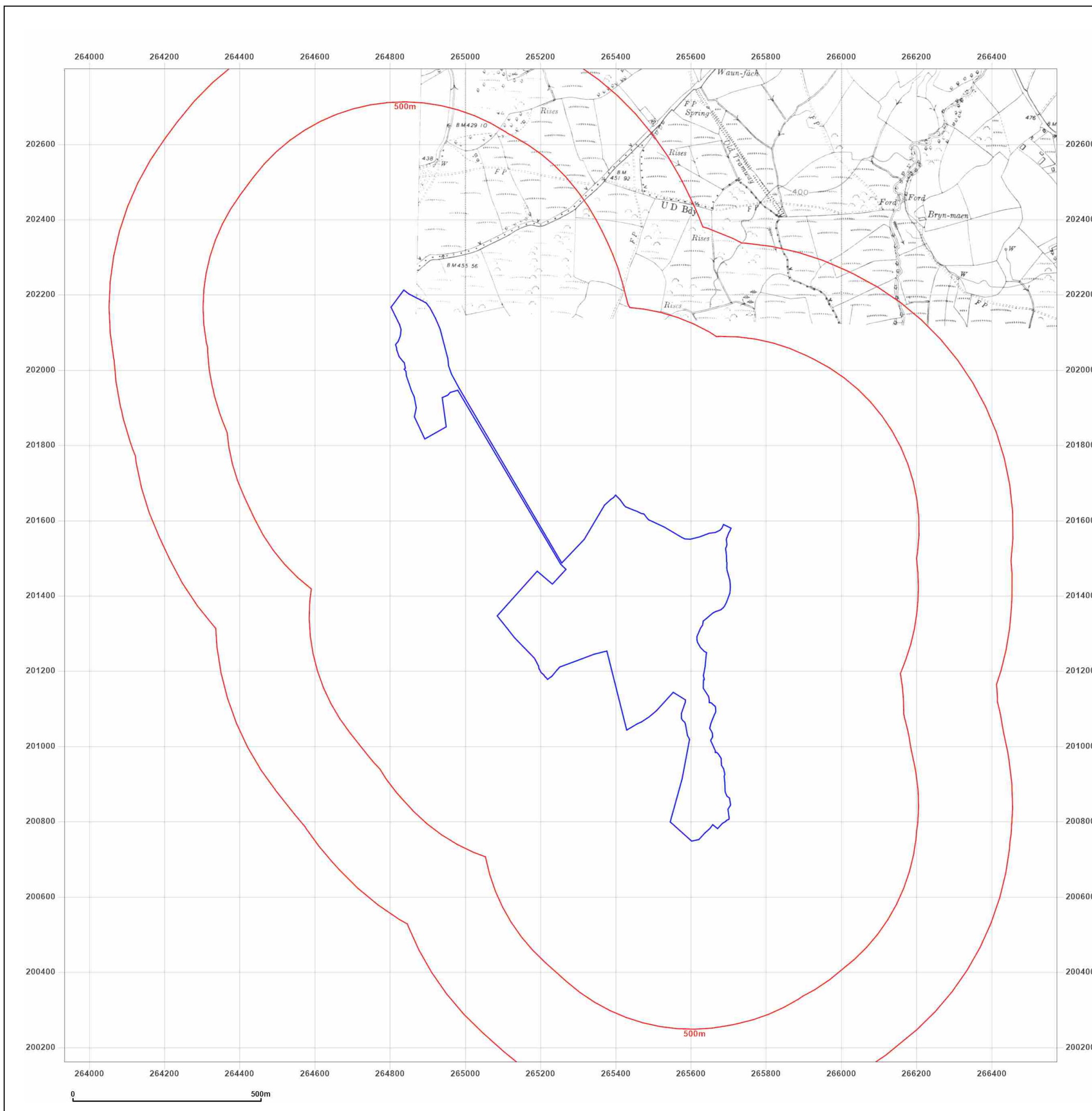


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Grid Ref: 265253, 201480

Map Name: National Grid

Map date: 1976

Scale: 1:10,000

Printed at: 1:10,000



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Revised 1976
Edition N/A
Copyright 1976
Levelled 1963

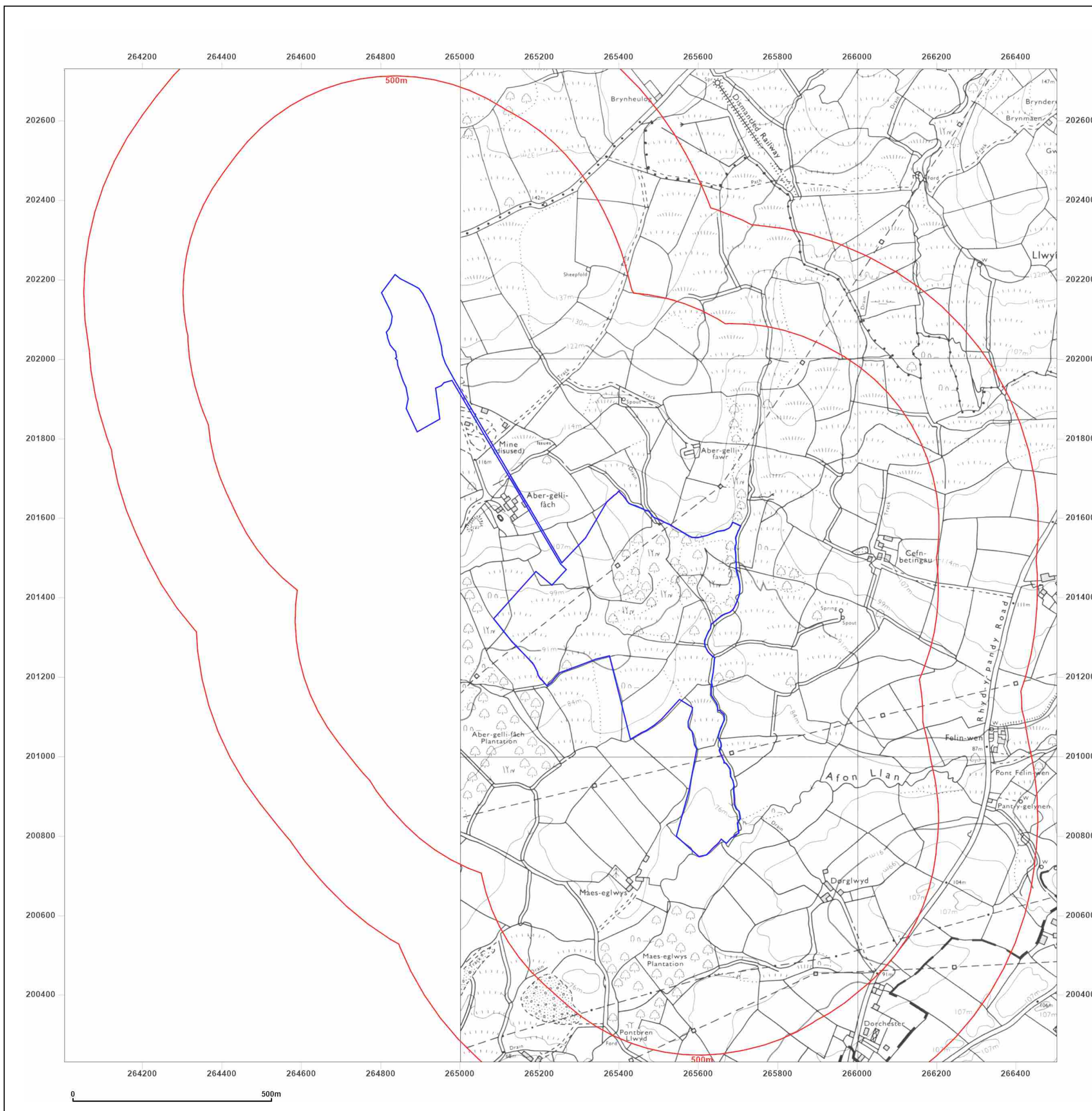


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Report Ref: GS-NZX-E2L-RA9-YCP
Grid Ref: 265253, 201480

Map Name: National Grid

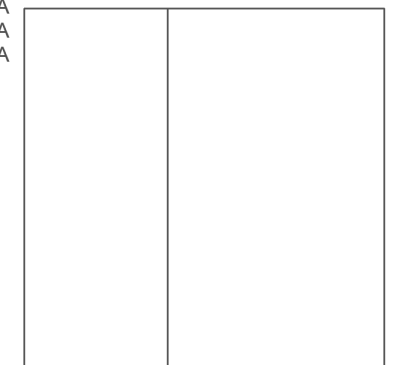
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Printed at: 1:10,000



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

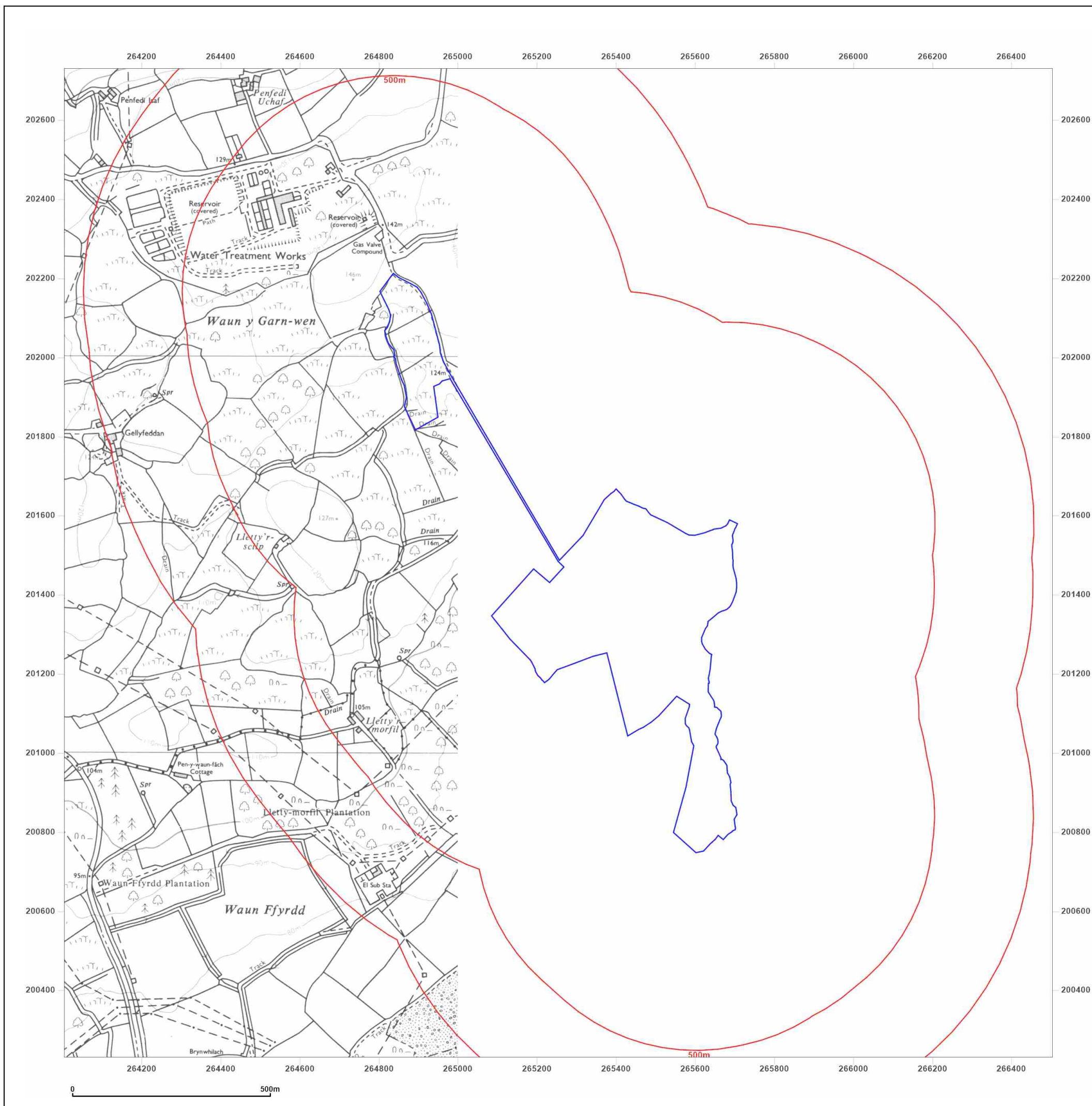


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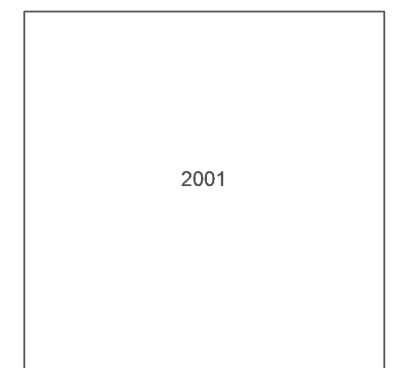
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Grid Ref: 265253, 201480

Map Name: National Grid

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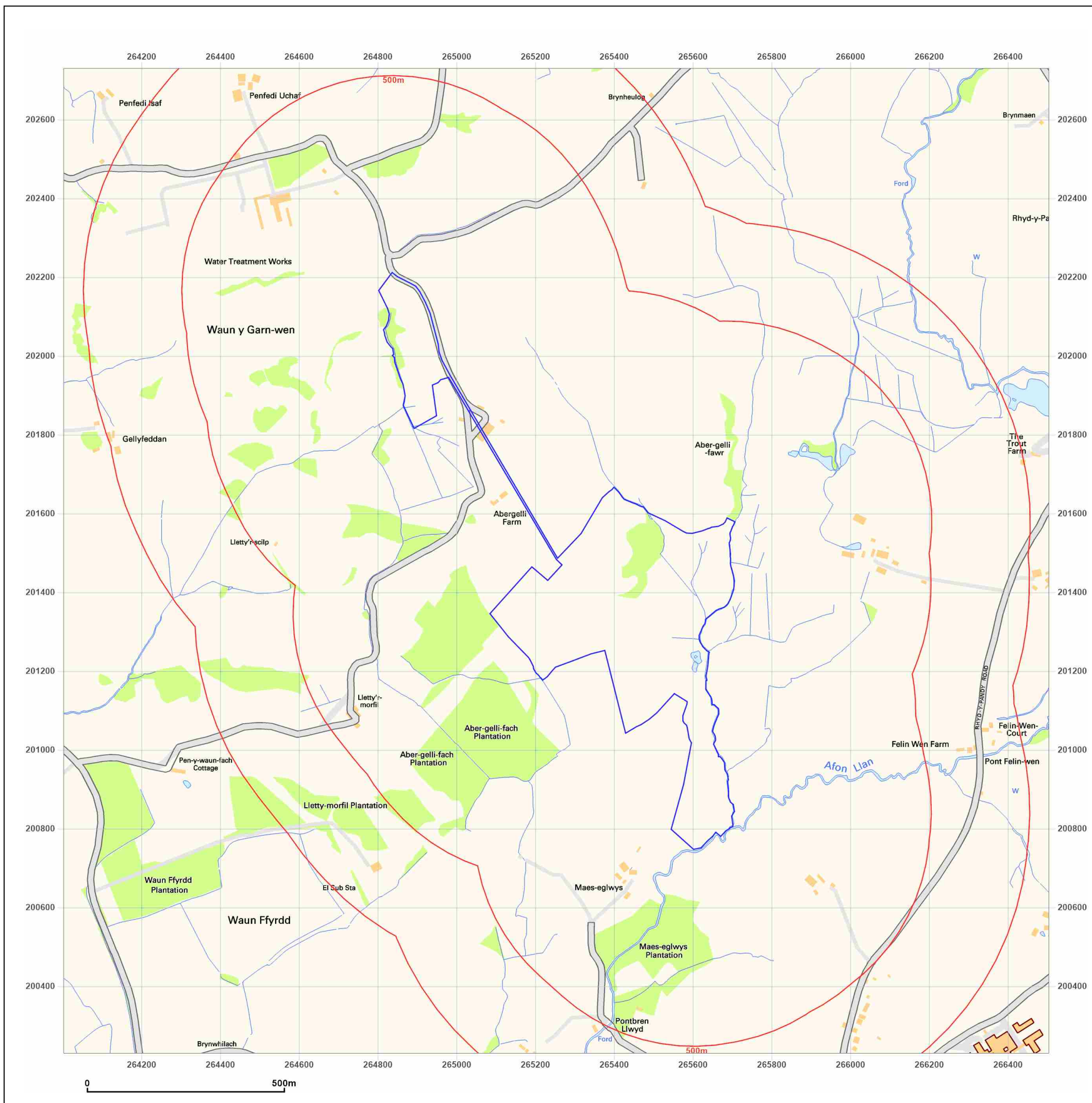


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Grid Ref: 265253, 201480

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

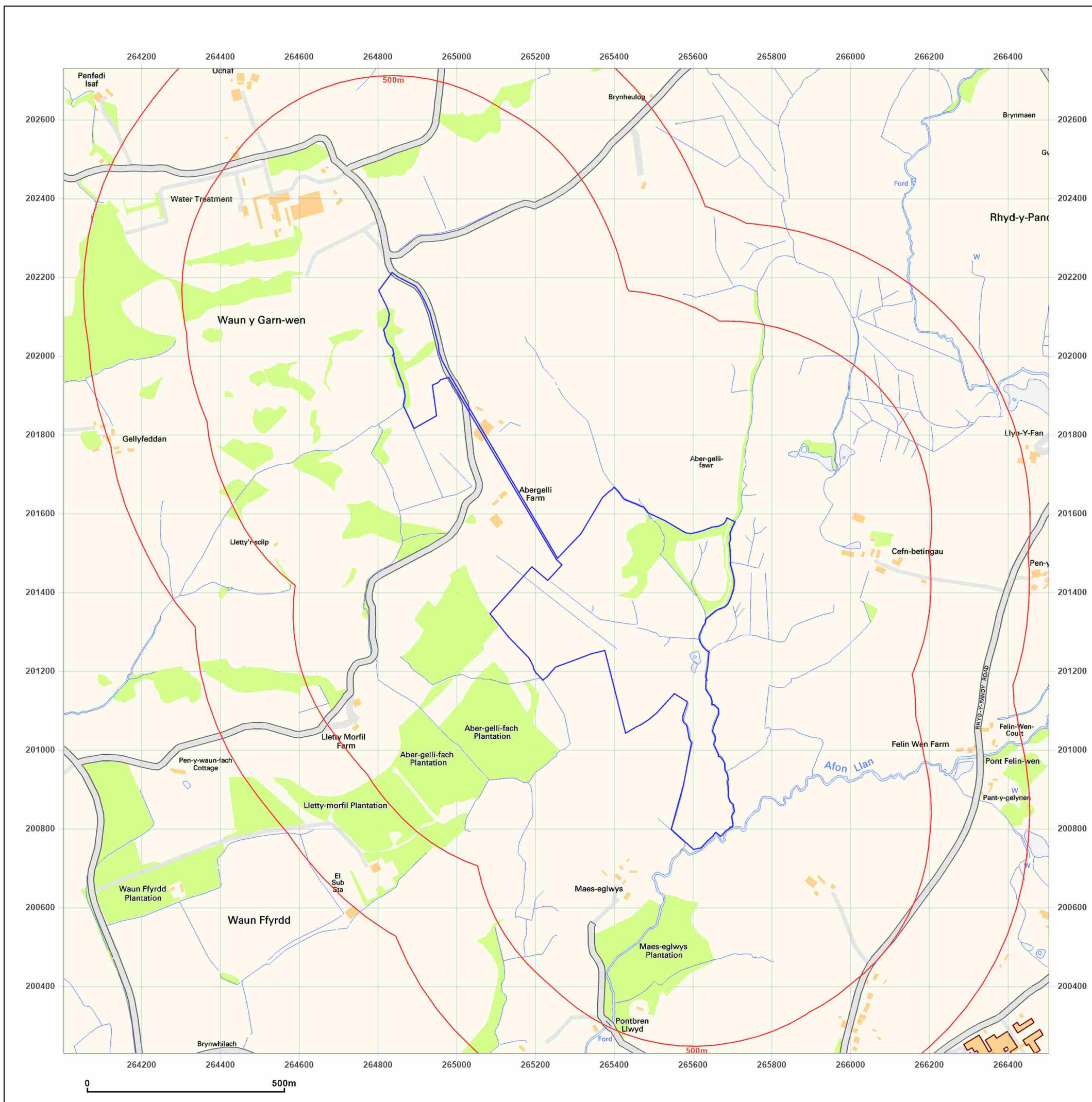


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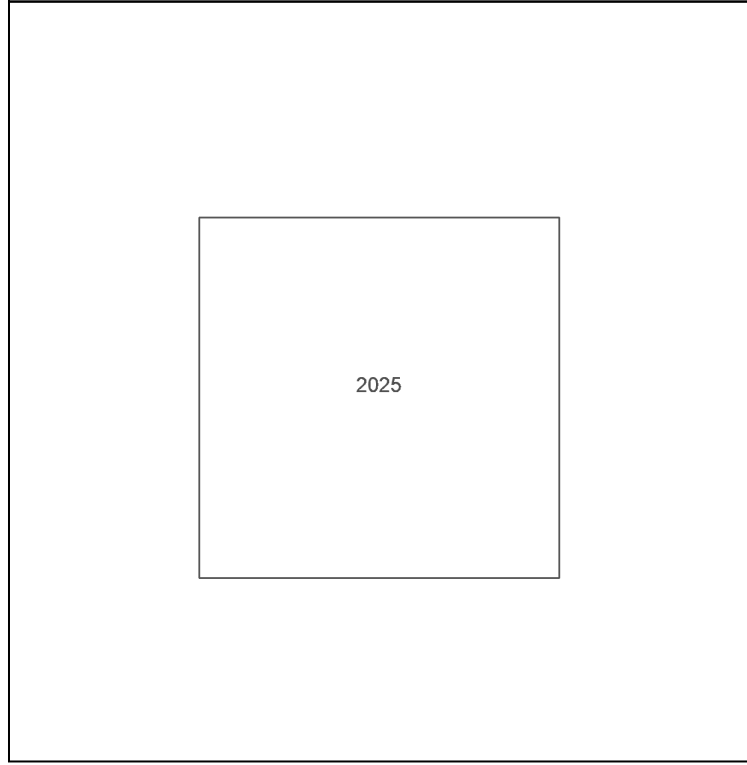


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Grid Ref: 265253, 201480

Map Name: National Grid
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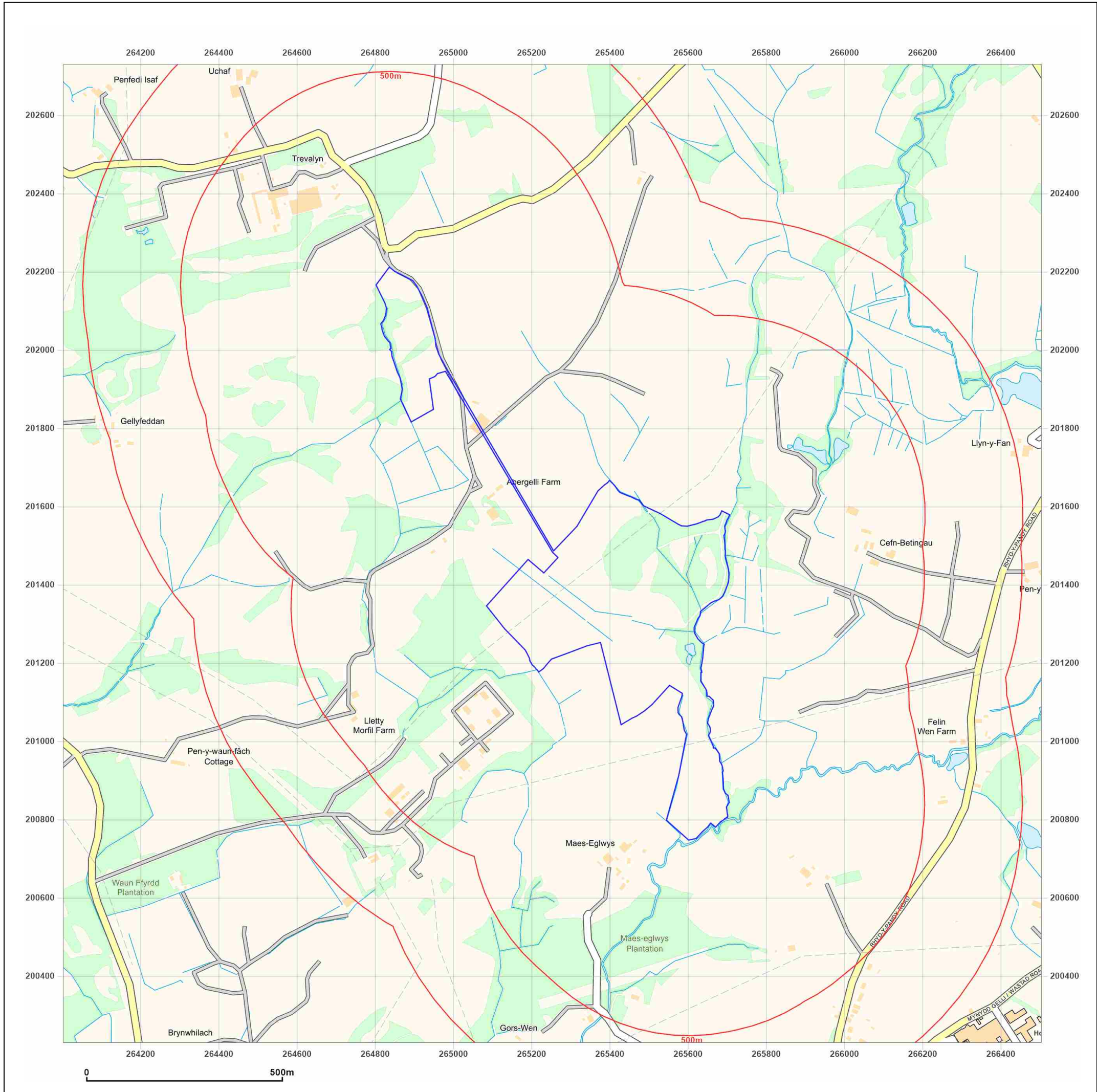


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Risk classification methodology

The method of risk evaluation adopted in this document is consistent with CIRIA C552 (2001). Hence, risk is considered to be a function of both the probability (likelihood) of contamination occurring at the study site and also the potential severity (consequence) of the environmental impacts associated with this contamination.

The classification system used to define contaminant probability, consequence and risk is described in the following tables.

Table A: Classification of probability

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

Table B: Classification of consequence

Classification	Receptor	Definition	Examples
Severe	Humans	Short-term (acute) risk to human health likely to result in "significant harm" as defined in the CTL Statutory Guidance	High concentrations of cyanide on the surface of an informal recreation area
	Controlled waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource	Major spillage of contaminants from site into controlled water
	Property	Catastrophic damage to buildings/property	Explosion, causing building collapse (can also equate to an acute human health risk if buildings are occupied)
	Ecology	A short-term risk to a particular ecosystem, or organism forming part of such eco-system	Potentially long term derogation of a designated site or protected species
Medium	Humans	Chronic damage to human health ("significant harm" as defined in the CTL Statutory Guidance)	Concentrations of a contaminant from a residential site exceed the site-specific assessment criteria
	Controlled waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution)	Leaching of contaminants from a site to a principal or secondary aquifer
	Property	Significant damage to crops, buildings, structures and services	Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
	Ecology	A significant change in a particular ecosystem	Death of a species within a designated nature reserve

Classification	Receptor	Definition	Examples
Mild	Humans	Contamination present although unlikely to constitute a significant chronic health risk	Concentrations of a contaminant from a public access site moderately exceed the generic assessment criteria
	Controlled waters	Pollution of non-water resources	Pollution of non-classified groundwater
	Property	Damage to sensitive buildings/structures/services	Aggressive ground conditions leading to potential for long term degradation of buried concrete
	Ecology	Damage to the environment	Localised damage to aquatic habitat causing temporary relocation of certain species
Minor	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.)	The presence of contaminants at such concentrations that protective equipment is required during site works.
	Controlled waters	Potential minor release of contamination to local water features	Short term or low volume release of potentially polluting material to a secondary surface water course of low existing quality
	Property	Easily reparable effects of damage to buildings, structures and services. Harm which may result in a financial loss, or expenditure to resolve.	The loss of plants in a landscaping scheme. Discolouration of concrete
	Ecology	Short term, localised damage may occur; consequences are spatially and temporally limited	Short term or localised disruption to in situ flora or fauna; no lasting effects

Table C: Risk classification (comparison of consequence and probability)

Probability (likelihood)		Consequence (severity)			
		<i>Severe</i>	<i>Medium</i>	<i>Mild</i>	<i>Minor</i>
	<i>High likelihood</i>	Very high risk	High risk	Moderate risk	Low risk
	<i>Likely</i>	High risk	Moderate risk	Moderate/low risk	Low risk
	<i>Low likelihood</i>	Moderate risk	Moderate/low risk	Low risk	Very low risk
	<i>Unlikely</i>	Moderate/low risk	Low risk	Very low risk	Very low risk

