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ENERGYBUILD LTD

ABERPERGWM MINE PLANT POOL SHED

PHASE 1 DESK STUDY

JANUARY 2024

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JANUARY 2024

PREPARED BY:

Zoe Devaney Geoenvironmental Engineer



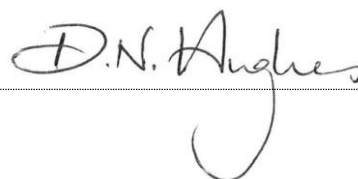
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DRAWINGS	TITLE	SCALE
CA12992-001	EBL Site Location Plan	1:1,000

EXECUTIVE SUMMARY

Client	Energybuild Ltd
Site	The site is located in the southeast corner of the Aberpergwm Mine in Neath, South Wales, at SA11 5AJ. The site is centred at National Grid Reference E 286750 N206084 and consists of 2,100m ² of land.
Current Land Use	The site is currently used as the temporary storage area of equipment and materials for Energybuild Ltd such as piping, wood, and digger buckets. At the time of writing the report, the steel framework, roof, and foundations of the storage shed have been constructed.
Past Site Use	The site has had no previous land uses from 1876 to 2013 with the exception of a Rugby Football Ground in the northern corner of the site, identified in 1962 and 1964 historical mapping records (1:2,500 and 1:10,560). The site has been used as an outside storage/yard area for materials, equipment, and machinery associated with Aberpergwm Mine for the last decade, as seen on aerial imagery.
Proposed Development	The site is planned for the construction of a 2,100m ² plant pool shed in the southeastern corner of the Aberpergwm Mine. The design includes a plastic-coated steel box profile cladding on three sides and an open front with no cladding the remaining side.
Geology & Mining	The site walkover identified compacted gravelly artificial deposits used to raise site levels. These deposits have been anecdotally identified as locally quarried Blue Pennant Sandstone from the Nant y Mynydd Opencast Coal Site. The Groundsure report and BGS mapping indicates that the majority of the site is underlain by clay, silt, sands, and gravels of Alluvium superficial deposits with a circa 350m² area of Alluvium Fan deposits comprising sands and gravels located in the northeast corner of the site. The superficial deposits are underlain by the mudstones and siltstones of the South Wales Lower Coal Measures Formation. The Groundsure report identified one record of non-coal mining on site pertaining to iron ore in which underground mine workings may have occurred. However, based on a review of historical mapping records, this record is considered to be associated with the surrounding underground mining operations within Aberpergwm Mine.
Hydrogeology & Hydrology	The superficial deposits and bedrock geology are classified as a Secondary A aquifer with low and medium vulnerability. There are no water features on site, however, there are two surface water features 44m east and 111m west of the site that join the Neath Canal 120m in the south. The River Neath is located 342m south of the site and is orientated east to southwest. Furthermore, there are two artificial lagoons constructed for Aberpergwm Mine, located 40m south of the site.
Geoenvironmental Risk	There is a low to very low risk of contamination associated with the storage of mining related materials, equipment, and machinery on the site and the surrounding coal stockpiles and mining activities related to Aberpergwm Mine. Potential contaminants include total petroleum hydrocarbons, polycyclic aromatic hydrocarbons, inorganics, and heavy metals. However, a significant source of contamination is not expected.
Other Risks	The site is situated in an area within which less than 1% of properties exceed the Radon Action Level and within an area of low risk from unexploded ordnance (UXO). Therefore, no radon or UXO protection measures are required.
Recommendations for Further Works	It is recommended that PPE regulations for construction and maintenance workers should continue to be enforced on site to protect against any potential contamination. Additionally, it is recommended to maintain the current drainage and design plans of the storage shed to include one open side and concrete flooring to reduce the risk of water migration and gas migration and accumulation in large, enclosed spaces.
Environmental Risk	Low to Very Low

1 INTRODUCTION

1.1 Instructions

- 1.1.1 Wardell Armstrong ('WA LLP') was instructed by Energybuild Limited ('the Client') to progress a Phase 1 Preliminary Desk Study report in accordance with Checklist 1 in Appendix A of "Development of Land Affected by Contamination: A Guide for Developers (Version 4 September 2023)" prepared by the Welsh Land Contamination Working Group (**Appendix A**).
- 1.1.2 This Phase 1 Preliminary Desk Study has been produced to support a planning application (ref. P2023/0390) relating to a *"Shed storage building to be constructed on existing made ground, currently used as uncovered yard area"*.
- 1.1.3 The report has been prepared in line with our email proposal dated 15th January 2024 and the WA LLP Standard Terms and Limitations (**Appendix B**).
- 1.1.4 This report is prepared by Zoe Devaney (Geoenvironmental Engineer) and reviewed by Kate Young, Associate Director Minerals Surveying. The report is approved by Neil Hughes, Technical Director.

1.2 Site Location

- 1.2.1 The site is located in the southeast corner of the Aberpergwm Mine in Neath, South Wales, at SA11 5AJ. The site is centred at National Grid Reference E 286750 N206084 and consists of a 2,100m² area of brownfield land currently used as an area of storage for materials and equipment for Energybuild Ltd.
- 1.2.2 The site is bounded in the northeast by artificially raised vegetated land and in the southeast a fenced off approximately 125m² building and metal shipping containers. To the southwest, the site is bounded by a private tarmac road with several mine stockpiles beyond and in the northwest, the steel framework of a building in construction.
- 1.2.3 The site is accessed through a private road through Aberpergwm Mine and the mine is accessed via the B4224 road, located 300m south of the site.
- 1.2.4 The location of the site is shown in **Figure 1** below and on Drawing **CA12992-001**.



Figure 1 – Satellite image showing the approximate site red line boundary.

1.3 Scope and Objectives

1.3.1 The purpose of this report is to identify and examine in broad terms readily available information relating to the:

- Past and current uses of the site and surrounding areas.
- Proposed development.
- Environmental setting including geology, mining, hydrogeology, and hydrology, waste, archaeology, or ecological considerations.
- Previous site investigations.
- Potential contamination sources, pathways, and receptors.

1.3.2 This report has been produced in general accordance with current recognised guidance and with the procedures set out in the following:

- Welsh Government and Natural Resources Wales's Development of Land Affected by Contamination: A Guide for Developers, prepared by the Welsh Land Contamination Working Group (Version 4 published in September 2023).
- Environment Agency's Land Contamination Risk Management (LCRM) (published October 2020 (updated July 2023)).

1.3.3 It should be noted that Checklist 1 of the Development of Land Affected by Contamination guidance, which details the reporting requirements of a Preliminary

Risk Assessment / Desk Study does not stipulate the inclusion of any geotechnical information, constraints, or recommendations and therefore these have not been included in this report.

1.4 Data Sources

1.4.1 This report has been prepared following examination of the following key information:

- Groundsure Insight report (Ref. GS-GOA-R9E-GNB-OOE) prepared by Groundsure Limited and is presented in **Appendix C**. The report contained the following information:
 - Hydrological and hydrogeological conditions.
 - Groundwater vulnerability mapping.
 - Details of sensitive land use.
 - Registered landfill, waste transfer and waste treatment or disposal sites.
 - Recorded pollution incidents.
 - Discharge consents.
 - Licenced groundwater abstractions.
 - British Geological Survey (BGS) recorded mineral sites.
 - Radon affect areas.
 - Information provided by the Local Authority.
- British Geological Survey (BGS) (England & Wales 1:50,000, Sheet 231 Merthyr Tydfil (1979)), Geological Survey of Great Britain National Grid Series 1:10,560/1:10,000 maps, Sheet SN80NE (1982)), and BGS GeoIndex borehole records.
- Zetica Interactive UXO Risk Map.
- Coal Authority Interactive Viewer.
- WA Proposed Mine Surface Developments Supporting Statement (May 2010) (Ref.CA10289).
- WA Site Investigation Report (2010) (Ref. CA10309-001).

1.5 Proposed Use

1.5.1 The proposed development is the construction of a plant pool shed for storage purposes with a 2,100m² floor plan in the southeastern corner of the Aberpergwm Mine. The shed will be constructed on existing made ground and consist of plastic-coated sheeted cladding on three sides and an open front with no cladding on the

fourth side (northwestern side). The proposed shed dimensions include a width of 30m, length of 70m, and a height of 12.3m.

- 1.5.2 At the time of writing, and as noted in Section 2.2, the structural shell of the Proposed Development has already been constructed.
- 1.5.3 A design plan of the proposed development is presented in **Appendix D**.

2 SITE HISTORY & PRESENT LAND USE

2.1 Site History

2.1.1 Historical maps (1:2,500 and 1:10,560) have been assessed to identify previous land uses, including any significant potentially contaminative processes and/or ground workings or surface features that may present a geotechnical hazard.

2.1.2 The historical maps are present in **Appendix E**.

2.1.3 **Table 2.1** below summarises the history of the site based upon the available Ordnance Survey mapping and freely available aerial imagery between 1876 and 2023.

2.1.4 It is noted that there is a potential that the site and surrounding area had additional short term land uses that were not recorded because of the gaps in time between historical mapping records and aerial imagery.

TABLE 2-1: SUMMARY OF HISTORICAL ON-SITE LAND USE	
Date	Site Land Use
1876-1948 (1:2,500 & 1:10,560)	The site is recorded as unused farmland.
1962-1964 (1:2,500 & 1:10,560)	The northern corner of the site is used as a "Rugby Football Ground"
1969-2003 (1:2,500 & 1:10,560)	The Rugby Football Ground has been removed and the site remains unused.
2006-2012 (aerial imagery)	Site remains unchanged.
2013-2022 (aerial imagery)	- The majority of vegetation has been removed with the exception of a 570m² area in the north corner of the site. - Vegetation in the northern corner of the site increases from 2013 to 2022 from dirt and grass to bushes and small tree foliage. - The non-vegetated area of the site is used as an outside uncovered storage/yard area for materials and equipment associated with Aberpergwm Mine.
2023 (aerial imagery)	All vegetation is removed from site.

2.1.5 **Table 2.2** below summarises the key history of the surrounding vicinity between 1876 and 2023.

TABLE 2-2: SUMMARY OF HISTORICAL OFF-SITE LAND USE	
Date	Site Land Use
1876-1877 (1:2,500 & 1:10,560)	• “Aber-pergwm House” recorded 150m north of the site. • “St Cadoc’s Church” and graveyard recorded 200m east of the site. • The River Neath is recorded 150m south of the site, orientated northeast to west. • “Coal Pit” recorded 270m and 600m west of the site. • “Air Shaft” recorded 730m northwest of the site. • “Old Tramway” recorded ending 150m of the site and continuing southwards away from the site.
1897 (1:2,500 & 1:10,560)	• “Aber-pergwm Sidings” and tracks recorded 150m south of the site. • “Old Tramway” recorded 500m northwest of the site that does not show on previous 1876/1877 mapping records. • Coal Pit is recorded as “old”. • “Saw Mill” and “Smithy” recorded approximately 330m and 400m west of site, respectively.
1914 (1:10,560)	• “Old Coal Level” recorded approximately 300m southwest of site but did not appear on any previous historical mapping records. • “Aqueduct” recorded approximately 150m south of the site. • “Electric Power Station” recorded approximately 400m south of the site. • One “tank” recorded approximately 200m southeast of the site.
1938 (1:10,560)	• The surrounding site remains unchanged.
2013-2023 (aerial imagery)	• A 6,000m² area of coal tips associated with Aberpergwm Mine is located immediately northwest of the site. • Construction of a 1,700m² “CPP Building” 140m west of the site, first seen on 2013 aerial imagery. • Development of a 1.8Ha area of coal tips approximately 40m west of the site in 2013. The area was cleared in 2018 before it was used for stockpiling again in 2020. • Construction of an Electric Storage System (ESS) immediately southeast of the site, within an area of approximately 680m².

2.2 Current Site Use

2.2.1 A site walkover survey was undertaken on 10th of January 2024 by Zoe Devaney (Geoenvironmental Engineer) from WA LLP. The key findings of the site walkover are summarised below and presented in full within **Appendix F**. Site photographs collected as part of the site walkover are presented within **Appendix G**. All photos can be made available upon request.

2.2.2 The current site comprised of the roofed steel framework of the storage shed and an artificial compacted stone flooring (Photograph 1 in Appendix G).

2.2.3 The site has been artificially flattened and overlain by compacted gravelly made ground deposits. Anecdotal evidence from the Client during the site walkover survey and the recommendations from the Proposed Development at Cae Capel Field Supporting Statement (Ref. CA10289 dated May 2010) suggest that the compacted

stone layer consists of the Blue Pennant Sandstone, quarried and imported locally from the Nant y Mynydd Opencast Coal Site (OCCS). The compacted stone layer had an observed thickness of at least 1.5m.

- 2.2.4 The southwestern half of site is currently used as a temporary storage area of materials and equipment for Aberpergwm mine such as piping, wooden panels, and digger buckets (Photograph 2 and 3). The majority of stored material was covered or wrapped in plastic. Furthermore, a small pile of uncovered filter cake material is currently stored in the northeastern half of the site for drying purposes (Photograph 4).
- 2.2.5 The site is bounded by an artificial Noise Attenuation Bund in the northeast (Photograph 4) and a fenced off Electrical Storage System (ESS) building (approximately 150m²) in the southeast (Photograph 5). Furthermore, the site is bounded by a private tarmac road and several coal tips (maximum approximately 3m in height) in the southwest (Photograph 6) and a larger building steel framework in the northwest orientated northwest to southeast (Photograph 7).
- 2.2.6 The site is accessed via a private tarmac road through Aberpergwm Mine which is accessed via the B4224 road, north of the A465.
- 2.2.7 No vegetation or water features were observed on site with the exception of several localised puddles of water randomly distributed across the site. A narrow (approximately 1m wide and 1.5m deep) trench was noted along the northeastern boundary of the site which has been anecdotally indicated as for drainage purposes (Photograph 8).
- 2.2.8 Two settling ponds associated with Aberpergwm Mine were observed 40m south of the site (Photograph 9 and 10).
- 2.2.9 There was no evidence of overground services present on site, but it noted that there is a potential for underground cables associated with the ESS to be present southeast of the site.
- 2.2.10 There was no evidence of contamination, odours, or emissions were identified during the site walkover.
- 2.2.11 During the site walkover survey, the Client noted the plans to construct a concrete capping layer overlying the made ground deposits.

3 PREVIOUS SITE INVESTIGATION

3.1 Wardell Armstrong Cae Capel Field Site Investigation (March 2010)

3.1.1 In March 2010, Wardell Armstrong prepared a Site Investigation Report (Ref. CA10309-001) on the ground investigation works for the development of a Coal Preparation Plant (CPP) building, located 140m west of the site, and the two settling ponds located 40m south of the site.

3.1.2 Site investigation (SI) works were undertaken between the 14th and 16th of December 2009 by Apex Drilling under the supervision of Wardell Armstrong. The investigation comprised the drilling of four cable percussion boreholes to a maximum depth of 8.3m below ground level (mbgl) and the excavation of 12no. trial pits to 3.4mbgl.

3.1.3 A limited chemical analysis, relating to a BRE-SD1 aggressive ground condition assessment only, was conducted on four soil samples within a 100m radius of the site, and the results are presented below in **Table 3.1**.

TABLE 3.1 – CHEMICAL ANALYSIS OF SAMPLES WITHIN 100m OF SITE.					
Hole	Distance from site	Depth of sample (m)	Acid extract sulphate (g/l)	pH value at 25°	Organic matter (%)
TP05	100m southwest	0.8	<0.01	6.1	N/A
CP02	80m west	0.2	N/A	5.6	7.5
CP03	57m northwest	1.2	<0.01	N/A	6.5
CP04	75m southeast	0.2	0.01	5.7	9.0

3.1.4 Trial Pit no.11 (TP11) was located 40m west of the site, the ground conditions of which are presented in **Appendix H** and summarised in the following:

- 0-0.20mbgl: Grassed onto firm dark brown clayey TOPSOIL with many rootlets.
- 0.20-0.30mbgl: Firm dark brown clayey SUBSOIL with rootlets.
- 0.30-2.40mbgl: Firm brown silty CLAY with rare fine gravel of coal.
- 2.40-2.80mbgl: Recovered as brown cobbly SAND and GRAVEL (groundwater encountered at 2.80mbgl).

3.1.5 Bedrock was not encountered in any exploratory holes during site investigation works and therefore, it is assumed that depth to bedrock is at least >8.3mbgl.

- 3.1.6 Hand Shear Vane Test results ranged from 52kN/m² to 75kN/m² within six of the closest trial pits (TP05, TP06, TP07, TP09, TP10, and TP11), indicating that the clay-based alluvium materials at depths to 0.9mbgl displayed generally soft to firm consistencies.
- 3.1.7 A series of Standard Penetration Tests (SPTs) were undertaken within each borehole to provide in-situ data on the strength characteristics of the materials. The cable percussive holes CP02, located 80m west; CP03, located 57m northwest; and CP04, located 75m southeast of the site, recorded soft to firm material within the first metre followed by firm to very stiff material at a depth of 1.0-2.0mbgl.
- 3.1.8 The above geotechnical in-situ testing confirmed the recorded ground conditions encountered within the trial pit and borehole logs.
- 3.1.9 As this historical use of the site was as a green field site, the SI Report identified conclusions and recommendations for geotechnical foundation design but did not include an assessment or provide any recommendations with regards to the potential risk posed by contaminated land.

4 GEOLOGICAL AND HYDROGEOLOGICAL SETTING

4.1 Geology

4.1.1 The assessment of the geology beneath the site and the surrounding areas is based on freely available geological mapping, online GeoIndex database published by the BGS, and supplementary information provided in the Groundsure Report.

4.1.2 A summary of the geological information is provided below in **Table 4.1**.

TABLE 4.1 - SUMMARY OF GEOLOGICAL INFORMATION	
Strata	Description
<i>Artificial Deposits</i>	The Groundsure report and BGS mapping indicated that there are no artificial deposits present across the site or surrounding 250m. However, the site walkover survey identified a layer of quarried stone present at ground level across the site. A review of the “Proposed Development at Cae Capel Field Supporting Statement” (Ref. CA10289) and anecdotal evidence from the site walkover survey suggests that the site is overlain by compacted deposits consisting of locally quarried Blue Pennant Sandstone from the Nant y Mynydd Opencast Coal Site (OCCS).
<i>Superficial Deposits</i>	The Groundsure report and BGS mapping indicates that the majority of the site is underlain by Alluvium superficial deposits with an approximately 350m ² area of Alluvium Fan deposits in the northeast corner of the site. The BGS describe Alluvium deposits as consisting of “clay, silt, sand, and gravel... unconsolidated detrital material deposited by a river, stream, or other body of running water”. The BGS describes the Alluvium Fan deposits as “low, outspread, relatively flat to gently sloping masses of loose rock material, shaped like a fan or segment of a cone...consisting of sand and gravel”.
<i>Bedrock Strata</i>	The site is underlain by the South Wales Lower Coal Measures Formation and is described by the BGS as “grey productive coal-bearing mudstones/siltstones, with seatearths and minor sandstones”.
<i>Geological Structure</i>	The Groundsure report did not identify any geological faults intersecting the site. However, the report did identify one inferred fault 9m north and a second inferred fault 42m south of the site. Both faults are orientated northeast-southwest with an unknown displacement. The Groundsure report identified the Vanderbeckei/Amman Marine Band that represents the boundary between the Lower and Middle Coal Measures present 203m west of the site. The Peacock and Nine Feet coal seam are located 229m and 251m west of the site.

4.2 BGS Borehole Records

4.2.1 There are no publicly available borehole records from external sources pertaining to the site. The borehole and trial pit records from a previous WA site investigation are reported in Chapter 3.

4.2.2 The details of two publicly available borehole records are as follows:

- Borehole ID “A465 ABERGAVENNY TO HIRWAUN 116” (SN80NE83), located 230m southeast of the site, encountered the following ground conditions:
 - 0.0 – 0.30mbgl: Grey silty clay with roots TOPSOIL.
 - 0.30 – 1.40mbgl: Reddish brown sandy silty CLAY.
 - 1.40 – 2.90mbgl: GRAVEL with some sandy clay and clayey sand.
 - 2.90 – 9.54mbgl: GRAVEL, COBBLES, and small boulders with some clayey silty sand.
- Borehole ID “A465 ABERGAVENNY TO HIRWAUN 113” (SN80NE17), located 340m east of the site, encountered the following ground conditions:
 - 0.00 – 1.50mbgl: Dark grey and black sandy clay with some coal gravels.
 - 1.50 – 2.62mbgl: Brown sandy silty CLAY.
 - 2.62– 11.89mbgl: Very stiff grey very sandy CLAY with some gravel and occasional cobbles and boulders.
 - 11.89– 14.33mbgl: Medium dense GRAVEL with a little grey silty sand.
 - 14.33– 22.86mbgl: Medium dense grey silty SAND with a little fine to medium gravel.

4.3 Soil Geochemistry

4.3.1 The concentrations for a selection of determinants from natural soil that have been estimated by the BGS and identified in the Groundsure report are summarised in **Table 4.2** below. These are estimated on a regional bases and should not be taken as representative of the actual soil chemistry of the site.

TABLE 4.2: SUMMARY OF BGS ESTIMATED SOIL GEOCHEMISTRY					
	Arsenic	Cadmium	Chromium	Lead	Nickel
Estimated Concentration range (mg/kg)	15-60	1.8	60 –90	100	15-45

4.4 Hydrogeology

4.4.1 The hydrogeology of the ground beneath the site is summarised in **Table 4.3**.

TABLE 4.3: SUMMARY OF THE HYDROGEOLOGY OF THE SITE	
Aquifer Designation	Location on site
<i>Secondary A – Superficial Deposit Aquifer</i> Secondary A aquifers consist of 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 generally aquifers formerly classified as minor aquifers. The BGS groundwater vulnerability data describes the aquifer as a “secondary superficial aquifer of low vulnerability”.	Alluvium/Alluvium Fan Deposits
<i>Secondary A aquifer – Bedrock Geology</i> Secondary A aquifers consist of 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 generally aquifers formerly classified as minor aquifers. The BGS groundwater vulnerability data describes the aquifer as a “secondary bedrock aquifer of medium vulnerability with well-connected fractures”.	South Wales Lower Coal Measures Formation

4.4.2 The Groundsure report indicated that the site is situated in the Swansea Carboniferous Coal Measures Groundwater Body (ID. GB110058032430), as designated by the Water Framework Directive (WFD). The groundwater body was classified in 2017 with overall rating of “Poor” and a chemical rating of “Poor”.

4.4.3 The Groundsure report shows that there are no records of groundwater abstraction licenses or source protection zones associated with the site or the land within a 250m radius of the site.

4.5 Hydrology

4.5.1 The OS MasterMap water network dataset provided in the Groundsure report identified the Nant Pergwm tributary 44m east of the site and an unnamed surface water feature located 111m west of the site. These water features are described as an inland river on ground level that are not influenced by tidal action and contains water year-round. Both water features flow southwards into the Neath Canal located 120m south of the site.

4.5.2 The River Neath is located approximately 342m south of the site, orientated east to southwest. A WFD assessment in 2016 classified the River Neath (confluence with

Need Fechan and Mellte to TL, ID GB110058032430) as a “Good” chemical rating, “Good” ecological rating, and a “Good” overall rating.

4.5.3 The Groundsure report indicates that site is located within the surface water body catchment "Neath - conf with Nedd Fechan and Mellte to TL" (ID. GB110058032430), managed under the WFD. The River Neath lies within the operational catchment of Neath and the management catchment of Tawe to Cadoxton.

4.5.4 The Groundsure report indicates that there are no active surface water abstraction licences or potable abstractions located on or within 500m of the site.

4.6 **Flooding**

4.6.1 Natural Resources Wales (NRW) interactive Flood Risk Map viewer maintains flood maps based on ground level, predicted flood levels, information on flood defences and local knowledge. The flood maps show the predicted likelihood of flooding in an area in the context of current land use. The different flood risk types are set out below.

Rivers and Coastal Flooding

4.6.2 The Groundsure report indicates that the site is located within a River and Sea Flood Zone 3, as classified by NRW, and classifies as a medium on-site risk of flooding from rivers and the sea (RoFRaS).

Surface Water Flooding

4.6.3 The Groundsure report presents Ambiantal Risk Analytics surface water flood map data that the majority of the site is not at risk of surface water flooding with the southern third of the site ranging from a 1 in 1000 return period to 1 in 30 return period at a maximum depth of 0.1m-0.3m.

4.6.4 NRW flood maps indicate that the site is situated within a Surface Water and Small Watercourses Flood Zone 3.

Groundwater Flooding

4.6.5 Groundwater flooding is caused by unusually high groundwater levels when the water table rises above the ground surface or within underground structures such as basements or cellars.

4.6.6 According to the Groundsure report, the majority of the site is at low risk of groundwater flooding with a small, approximately 200m², area within the north of the site which is classified as a moderate risk.

Flood Defences

- 4.6.7 The Groundsure report has not identified any records of historical flood event or flood defences within 250m of the site.
- 4.6.8 The Groundsure report identified an area benefiting from flood defences 165m southeast of the site. The area is described as benefitting from 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.

5 ENVIRONMENTAL DATA AND CONSULTATION

5.1 Recent Industrial Land Use

5.1.1 Based upon a review of the of the Groundsure report, the following environmental information and consultations have been noted.

5.1.2 The Groundsure report identified the following relevant records of recent industrial land use:

- One record pertaining to an Electrical Sub Station located 36m southeast of the site.
- One record pertaining to Energybuild Ltd located 242m southwest of the site associated with ore mining and extractive industries. For the avoidance of doubt, the Groundsure report measures the distance to a point marker at the entrance of the site. It is noted that the storage shed is located within the curtilage of the mine development.

5.1.3 The Groundsure report identified 14no. records of historical railway and tunnel features on site and within 250m of the site, recorded as follows:

- Ten records pertaining to Railway Sidings 147m-224m south of the site identified on 1899, 1912, 1919, 1938, 1948, 1962, 1964, 1980, 1981 historical mapping records (1:10,560).
- One record pertaining to Railway Sidings 231m west of the site identified on 1948 historical mapping records (1:10,560).
- Two records pertaining to Mineral Railway Sidings 167m and 191m south of the site identified on 1962 and 1983 historical mapping records (1:10,560).
- One record pertaining to Old Tramway Sidings 167m south of the site identified on 1876 historical mapping records (1:10,560).

5.1.4 Based on the Groundsure Insight report, there are no records of any of the following designations associated with the site or land within 500m of the site:

- Sites Determined as Contaminated Land.
- Control of Major Accident Hazards (COMAH).
- Regulated Explosive Sites.
- Hazardous Substance Storage/usage.

- Historic Licensed Industrial Activities (IPC).
- Licensed Industrial Activities (Part A(1)).
- Radioactive Substance Authorisations.
- Pollutant Release to Surface Water (Red list).
- Pollutant Release to Public Sewer.
- List 1 Dangerous Substances.
- Pollution Inventory Substances & Waste Transfers.
- Pollution Inventory Radioactive Waste.

5.1.5 Two records of Licensed Industrial Activities (Part A(2)/B) were identified within 500m of the site associated with coal and coke processing pertaining to Nant Y Mynydd Opencast Coal Site located 70m southwest and Energybuild Ltd located 252m southwest.

5.1.6 The following records of Licensed Discharges to controlled waters permits were identified within 500m of the site:

- Two licenses pertaining to Cae Capel Field 150m southwest of the site for trade discharges into an unnamed tributary of the River Neath (Ref. DP3025GS & NPSWQD005341).
- One license pertaining to “Aberpergwm Colliery” 223m southwest of the site for sewage discharges into an unnamed tributary of the River Neath (Ref. WQD004611).
- Two licenses pertaining to “New Aberpergwm Colliery” 320m southwest of the site for trade discharges into the Nant Ysgwrfa (Ref. BP0299101).
- One license pertaining to “Rock Tip Opencast Point” 337m northwest of the site for unspecified effluent waste into the Nant Pergwm (Ref. BM0012602).
- Three licenses pertaining to “Aberpergwm Colliery Surface Water” 368m southwest and 388m west of the site for mine water discharges into the Nant Ysgwrfa (Ref. BP233001 & BP0166101).
- Three licenses pertaining to “Chainbridge CSO” 382m, 433m, and 437m southeast of the site for sewage discharges into the River Neath (Ref. BP0341101).

- One license pertaining to “Plas-Y-Coed CSO” 434m southeast of the site for sewage discharges into the River Neath via surface water sewers (Ref. BB3893NJ).
- One license pertaining to “Haul R’d Hirfynydd Mt Glynneath NPT” 470m west of the site for trade discharges into the Nant Ysgwrfa (Ref. BP0166101).
- One license pertaining to “1 FM Cottages Aberpergwm” 478m north of the site for unspecified discharges into underground strata (Ref. BM0019501).

5.1.7 The Groundsure report identified three records of List 2 Dangerous Substances, located 320m-393m west and southwest of the site, pertaining to the Aberpergwm Colliery for the authorised substance of iron.

5.1.8 A total of 11no. records of Pollution Incidents (EA/NRW) with at least one impact classified as Category 3 (Minor) or more were identified within 500m of the site, pertaining to the following information:

- Two pollutions incidents were identified 66m southeast and 419m southwest of the site relating to “suspended soils” in July 2007 and December 2015. The pollution incidents resulted in Category 2 (significant) water impact (ID: 511667 & 1395058).
- One pollution incident was identified 371m east of the site relating to “unidentified oil” in November 2001. The pollution incident resulted in a Category 3 (minor) water and land impact.
- Two pollution incidents were identified 373m south and 425m southwest of the site relating to “soils and clays” in July 2013 and October 2014. The pollution incidents resulted in a Category 3 (minor) land impact.
- One pollution incident was identified 394m east of the site relating to “vehicle and plant washings” in January 2003. The pollution incident resulted in a Category 3 (minor water impact).
- Two pollution incidents were identified 426m south and 447m southeast of the site relating to “crude sewage” in August 2014 and April 2001. The pollution incidents resulted in a Category 3 (minor) water and land impact.
- One pollution incident was identified 437m southeast of the site relating to “other inert material or waste” in September 2006. The pollution incident resulted in a Category 2 (significant) water impact.

- One pollution incident was identified 447m southeast of the site relating to an unidentified pollutant in April 2003. The pollution incident resulted in a Category 3 (minor) water and land impact.
- One pollution incident was identified 460m southeast of the site relating to “kerosene and aviation fuel” in April 2001. The pollution incident resulted in a Category 3 (minor) water and air impact.

5.2 Unexploded Ordnance (UXO)

- 5.2.1 The Zetica UXO risk interactive viewer was consulted to provide an initial indication of the level of risk posed to the site from unexploded ordnance. The viewer indicated that the site is considered to be at low risk and therefore, a detailed UXO Risk Assessment is not required.

5.3 Radon

- 5.3.1 The Groundsure report has indicated that the site is situated in an area within which less than 1% of properties exceed the Radon Action Level and therefore, no radon protection measures are required on site.

5.4 Waste Management

- 5.4.1 The Groundsure report has not identified any records of the following designations within 250m of the site:

- Active or Recent Landfills.
- Historical Landfill (BGS records).
- Historical Landfill (LA/mapping records).
- Historical Landfill (EA/NRW records).
- Historical Waste Sites.
- Licensed Waste Sites.
- Waste Exemptions.

5.5 Environmental Designations

- 5.5.1 The Groundsure report indicates that there are no records of the following environmental designations within 500m of the site:

- Site of Special Scientific Interest (SSSI).

- Conserved Wetland Sites (RAMSAR).
- Special Areas of Conservation (SAC).
- Special Protection Areas (SPA).
- National Nature Reserves (NNR).
- Local Nature Reserves (LNR).
- Biosphere Reserves.
- Forest Parks.
- Marine Conservation Zones.
- Green Belt.
- Proposed RAMSAR sites.
- Possible Special Areas of Conservation (pSAC).
- Potential Special Protected Areas (pSPC).
- Nitrate Sensitive Areas.
- Nitrate Vulnerable Zones.
- SSSI Impact Risk Zone and Units Divisions.

5.5.2 The Groundsure report identified four records of Designated Ancient Woodland within 500m of the site, pertaining to the following information:

- Ancient Semi Natural Woodland located 82m southeast 428m north of the site.
- Restored Ancient Woodland Site located 112m northwest of the site.
- Ancient Woodland Site of Unknown Category located 391m northwest of the site.

6 AGRICULTURAL, VISUAL AND CULTURAL DESIGNATIONS

6.1 Agricultural and Habitat Designations

6.1.1 The Groundsure report identified that the site is classified as “*poor-quality*” Grade 4 agricultural land.

6.1.2 The Groundsure report did not identify any records of the following agricultural designations assigned to the site or the land within 250m of the site:

- Tree Felling Licenses.
- Environmental Stewardship Schemes.
- Countryside Stewardship Schemes.
- Open Access Land.
- Priority Habitat Inventory.
- Habitat Network.
- Open Mosaic Habitats.
- Limestone Pavement Orders.

6.2 Visual and Cultural Designations

6.2.1 The Groundsure report did not identify any records of the following heritage designations associated with the site or land within 250m of the site:

- World Heritage Sites.
- Area of Outstanding Natural Beauty.
- National Parks.
- Registered Parks and Gardens.
- Conservation Areas.
- Scheduled Ancient Monuments.

6.2.2 The Groundsure report identified five records of Listed Buildings within 250m of the site, pertaining to the following information:

- A Grade 2 listed building pertaining to “Gates Across Driveway at Aberpergwm House” located 136m northeast, assigned on the 11th of December 1985 (Ref. 11847).

- A Grade 2 listed building pertaining to “Aberpergwm House” located 172m north, assigned on the 19th of September 1969 (Ref. 11769).
- A Grade 2 listed building pertaining to “Memorial to Jane Williams in the Churchyard of the Church of Saint Cadoc” located 190m east, assigned on the 25th of February 1993 (Ref. 11868).
- A Grade 2 listed building pertaining to “Church of Saint Cadoc” located 197m east, assigned on the 25th of February 1993 (Ref. 11867)
- A Grade 2 listed building pertaining to “Gate and Railings and Churchyard Wall of Church of Saint Cadoc” located 210m east, assigned on the 30th of January 2004 (Ref. 82447).

7 MINING AND QUARRYING

7.1.1 A review of BGS records, the Coal Authority Interactive Viewer, and the Groundsure report indicates that the site of the storage shed is not located within a Development High Risk Area and did not identify any records on site pertaining to the following:

- Surface Ground Workings.
- Shallow or Deep Coal Mining.
- British Pits (BritPits).
- Surface Mining (Past and Current).
- Past and Probable Shallow Coal Mine Workings.
- Mine Entries.

7.2 Non-coal Mining

7.2.1 The Groundsure report identified a record of non-coal mining on site using geological mapping records, pertaining to “Iron Ore (Bedded)” in which underground mine workings **may** have occurred. An additional six records of ironstone mining within a 500m radius of the site were identified associated “Iron Ore (bedded)” mining.

7.2.2 WA LLP consider that the non-coal mining record identified on site is likely to be associated with the surrounding historical and current mining operations within Aberpergwm Mine rather than underground workings directly on the storage shed site.

7.2.3 In addition to this, it is noted that there is a potential for unrecorded mine workings and mine entries to be present beneath the site that were not identified by the Coal Authority or within the Groundsure report.

8 CONCEPTUAL SITE MODEL

8.1 Methodology

8.1.1 On the 8th of October 2020, the Environment Agency (EA) republished Land Contamination Risk Management (LCRM) which replaced the previous guidance 'Model procedures for the management of land contamination' (CLR11). The LCRM guidance is intended for all those responsible for managing land that is subject to contamination, not just land that falls under the contaminated land regime under Part 2A of the Environmental Protection Act 1990.

8.1.2 The LCRM approach includes a Conceptual Site Model (CSM) depicting the environmental processes that occur on and in the vicinity of the site and identifying the potential contaminant linkages. The assessment of the significance of these contaminant linkages can then be carried out through the risk assessment process. The production of a CSM and the assessment of the associated risk is based upon the identification of the possible sources of contamination ("the sources"), the identification of who or what may be affected by the contaminants ("the receptors") and the possible pathways by which contaminants may migrate to any of the receptors ("the pathways").

8.1.3 The results of the Desk Study and site walkover have been used to identify the potential sources, pathways, and receptors that may exist on the site.

8.2 Potential Sources of Contamination

8.2.1 The **potential** sources of contamination are summarised below:

On-site:

- Contaminants associated with the uncovered storage of mining related materials, equipment, and machinery for the Aberpergwm Mine since 2013.

Off-site:

- Storage of coal tips directly southwest and 30m west of the site (as shown on 2013-2023 satellite imagery).
- Activities relating to the operation of the Aberpergwm Mine such as vehicles/machinery and the movement of contaminated materials.

8.2.2 Typically, made ground deposits have the potential to consist of a variety of unrecorded and unregulated contaminated material. However, the Proposed

Development at Cae Capel Field Supporting Statement (Ref. CA10289 dated May 2020) prepared by WA LLP indicates that the Alluvial material beneath the site would likely be replaced by quarried Blue Pennant Sandstone fill material sourced from the Nant y Mynydd Opencast Coal Site (OCCS).

8.2.3 It is assumed that any materials imported to replace excavated made ground and alluvial deposits have been appropriately tested to ensure the material is both geochemically and geotechnically suitable for proposed use on site.

8.2.4 One record of a chemical analysis of the Blue Pennant Sandstone from Nant y Mynydd is presented in **Appendix I**. Therefore, the made ground deposits across the site are not considered a potential source of contamination.

8.2.5 A summary of the potential sources of contamination are presented in **Table 8.1**.

TABLE 8.1: SOURCE OF CONTAMINATION AND POTENTIAL CONTAMINANTS.		
On-site Sources	Activities/ contaminant source	Potential Contaminants
Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery.	Spillages from machinery, materials, and equipment associated with the Aberpergwm Mine.	Heavy metals, inorganics, total petroleum hydrocarbons (TPH's), polycyclic aromatic hydrocarbons (PAH)'s, asbestos.
Off-site Sources	Activities/ contaminant source	Potential Contaminants
Source 2 – Coal tip material.	Leaching of potentially hazardous contaminants associated with uncovered coal tip material.	Heavy metals, inorganics, TPH's, PAH's. Mine Gas
Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Spillages from machinery, materials, and equipment.	Heavy metals, inorganics, TPH's, PAH's. Mine Gas

8.3 Potential Sensitive Receptors

8.3.1 Based on the Desk Study research, the following potential sensitive receptors have been identified:

- Receptor 1: Human health – Construction workers, and future maintenance & site workers.
- Receptor 2: Controlled waters – Groundwater aquifer (Secondary A superficial and bedrock aquifer) and the Nant Pergwm tributary.
- Receptor 3: Built Environment – Proposed storage shed.

8.4 Identification of Pathways

- 8.4.1 There are various routes by which any contaminant present within the soils or groundwater beneath the site may pose a direct risk to human health receptors, either during construction works or following development without appropriate mitigation measures in place. These pathways include:
- Pathway 1: Ingestion of contaminated dust, soils and/or groundwater.
 - Pathway 2: Dermal contact with contaminated dust, soil and/or groundwater in excavations.
 - Pathway 3: Inhalation of dust, gases and/or vapours.
- 8.4.2 Contaminants may laterally migrate on the ground surface and within shallow groundwater in hydraulic continuity or via leachate generated through surface water run-off (Pathway 4).
- 8.4.3 The potential of mobile or leached contaminants, including spillages and leakages to ground from sources as discussed in paragraph 8.2.1, migrating laterally or vertically from ground into the bedrock Secondary (A) aquifer (Pathway 5).
- 8.4.4 There is a potential for the former and surrounding land uses to facilitate aggressive ground conditions coming into direct contact with the storage shed metal framework and foundations (Pathway 6).
- 8.4.5 Ground gas generation from the coal stockpiles west of the site has the possibility to migrate onto site. These ground gases have the potential to migrate from and through permeable materials including granular superficial deposits without appropriate mitigation measures (Pathway 7).
- 8.4.6 A summary of the completed pollutant linkages is present in **Table 8.2**.

TABLE 8.2: SOURCE OF CONTAMINATION AND POTENTIAL CONTAMINANTS.		
On-site Sources	Pathways	Receptors
Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery.	Pathway 1: Ingestion	Receptor 1: Construction Workers, and future maintenance and site workers
	Pathway 2: Dermal Contact	
	Pathway 3: Inhalation	Receptor 2: Controlled waters
	Pathway 4: Lateral migration of leachate	
	Pathway 5: Vertical migration of leachate	
Off-site Sources	Pathway 6: Aggressive ground conditions	Receptor 3: Built Environment
	Pathways	Receptors
	Pathway 1: Ingestion	Receptor 1: Construction Workers, and future maintenance and site workers
	Pathway 2: Dermal Contact	
	Pathway 3: Inhalation	
	Pathway 7: Ground Gas Generation	
	Pathway 4: Lateral migration of leachate	Receptor 2: Controlled waters

Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Pathway 5: Vertical migration of leachate	Receptor 2: Controlled waters
	Pathway 6: Aggressive ground conditions	Receptor 3: Built Environment
	Pathway 7: Ground Gas Generation	
	Pathway 1: Ingestion Pathway 2: Dermal Contact Pathway 3: Inhalation	Receptor 1: Construction Workers, and future maintenance and site workers
	Pathway 4: Lateral migration of leachate	Receptor 2: Controlled waters
	Pathway 5: Vertical migration of leachate	Receptor 2: Controlled waters
	Pathway 6: Aggressive ground conditions	Receptor 3: Built Environment

9 QUALITATIVE ENVIRONMENTAL RISK ASSESSMENT

9.1 Introduction

- 9.1.1 In line with EA guidance - LCRM, plausible source, pathway and receptor linkages have been identified through the Conceptual Site Model (CSM). The information gathered in the CSM can now be used to carry out a Qualitative Risk Assessment (QRA).
- 9.1.2 LCRM outlines that for each tier of Risk Assessment the following steps must be taken:
- I. Identify the hazard - establish contaminant sources.
 - II. Assess the hazard - use a source-pathway-receptor (S-P-R) contaminant linkage approach to find out if there is the potential for unacceptable risk.
 - III. Estimate the risk - predict what degree of harm or pollution might result and how likely it is to occur by using the tiered approach to risk assessment.
 - IV. Evaluate the risk - decide whether a risk is unacceptable.
- 9.1.3 LCRM states that the assessment must be based on the potential severity that the risk poses to the receptors against the likelihood of it happening. Subsequently, it is necessary to employ a risk assessment matrix, the CIRIA document Contaminated Land Risk Assessment – a guide to good practice C552, 2001 provides a good example of a suitable risk assessment matrices.
- 9.1.4 The CIRIA document defines Consequence of Risk, Probability of Risk Being Realised and Risk Classification Definitions. These definitions are provided in **Appendix J**.
- 9.1.5 From the combination of the information collated within this report thus far, a qualitative assessment of the potential geo-environmental risk is provided in **Table 9.1**. Where indicated, these risks may need to be considered for any future redevelopment of the land.
- 9.1.6 In order to put the on-site assessment of contamination into full context, the contaminative impact of the present site use is assessed. This assessment is in relation to potential contaminant migration and general environmental setting of the surrounding area.

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
On-site: Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery. Off-site: Source 2 – Coal tip material. Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Source 1: Heavy metals, inorganics, TPH's, PAH's, asbestos. Source 2: Heavy metals, inorganics, TPH's, PAH's. Source 3: Heavy metals, inorganics, TPH's, PAH's.	- Ingestion of dust, soils and/or ground water. - Dermal contact with dust, soil and/or groundwater. - Inhalation of dust, gases and/or vapour.	Human Health – Construction, maintenance, and site workers	There is a potential for contaminants associated with the historic and current use of plant and machinery together with previous uncovered storage of materials and coal tips to be present across the site. However, based on the desk study review, a significant source of contamination is not expected. Construction workers will be provided with an appropriate level of Personal Protective Equipment in line with work to be progressed and therefore the likelihood of interacting with potentially contaminated material will be low. The proposed development is to include either hardstanding, or a clean capping layer across any proposed soft landscape areas, and therefore reducing future site workers likelihood of interacting with potentially contaminated material. Certified clean materials are to be used as backfill in service trenches in order to protect future maintenance workers from encountering potentially contaminated materials.	Consequence: Mild Probability: Low Likelihood Risk: Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
Off-site: Source 2 – Coal tip material. Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Ground Gas generation.	Ground gas migration onto site (Inhalation/Asphyxiation Risk).	Human Health – Construction, maintenance, and site workers.	There is a low potential for ground gas generation from the coal stockpiles west of the site. Ground gas has the potential to migrate through permeable deposits and potential pathways e.g., service corridors through and /or onto the site. The likelihood of future site workers interacting with ground gas on site is unlikely because of the location of the source off site and the proposed development plan to include one open side on the storage shed, as detailed in Appendix D. Therefore, it is assumed that there are no large, enclosed spaces in which ground gas could accumulate. Construction and future maintenance staff should be provided with appropriate respiratory protective equipment (RPE) should confined space working be required. Furthermore, it is assumed that the storage shed site will include an low permeability concrete flooring, as discussed in Chapter 2.2.11, and will reduce the migration of ground gas into the proposed structure.	Consequence: Medium Probability: Unlikely Risk: Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL					
Source	Contaminants	Pathway	Receptor	Justification	Risk
				This risk should be reassessed depending any plans to develop large, closed spaces/buildings on site in the future and if the proposed open side and concrete flooring of the storage shed is not constructed. In such a scenario, it would be prudent to consider additional ground gas protection measures such as the installation of a ground gas proof membrane and/or an active ventilation system.	

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
On-site: Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery. Off-site: Source 2 – Coal tip material. Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Source 1: Heavy metals, inorganics, TPH's, PAH's, asbestos. Source 2: Heavy metals, inorganics, TPH's, PAH's. Source 3: Heavy metals, inorganics, TPH's, PAH's.	Lateral migration of leachate and contaminated surface water run-off.	Controlled Waters – Surface water and lagoons.	There is a potential for contaminants associated with historical and current land use on and off site to be present or run onto site. However, based on the desk study review, a significant source of contamination is not expected. Whilst likely to be limited, surface water could migrate laterally through shallow groundwater or as contaminated surface water run-off. It is assumed that the proposed development will include either hardstanding or a clean capping layer across soft landscape areas and therefore reducing the potential for leachate generation. Additionally, a surface water drainage strategy, including the installation of oil interceptors, should be appropriately designed and implemented, and tied into the existing drainage at Aberpergwm Mine. The beginning of excavations for a drainage ditch on the southeast boundary of the site were noted on the site walkover survey which would reduce the risk once finalised.	Consequence: Mild Probability: Low Likelihood Risk: Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
On-site: Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery. Off-site: Source 2 – Coal tip material. Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Source 1: Heavy metals, inorganics, TPH's, PAH's, asbestos. Source 2: Heavy metals, inorganics, TPH's, PAH's. Source 3: Heavy metals, inorganics, TPH's, PAH's.	Vertical migration of leachate into the underlying bedrock aquifer.	Controlled Waters – Secondary bedrock aquifer. (A)	There is a potential for contaminants associated with historical and current land use on and off site to be present or run onto site. However, based on the desk study review, a significant source of contamination is not expected. Whilst likely to be limited, surface water infiltration and subsequent leachate generate could allow for the vertical migration of contaminants. There is a low risk to associated with the bedrock aquifer because of the lack of records of groundwater abstraction licenses within 250m of the site. The proposed development will include either hardstanding or a clean capping layer across soft landscape areas and therefore reducing the potential for vertical migration of leachate. Additionally, surface waters will be captured by an appropriately design surface water drainage system thereby reducing the likelihood of leachate generation and vertical migration.	Consequence: Mild Probability: Low Likelihood Risk: Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
On-site: Source 1 – Activities relating to the uncovered storage of mining related equipment, materials, and machinery. Off-site: Source 2 – Coal tip material. Source 3 – Surrounding activities relating to the operation of the Aberpergwm Mine.	Source 1: Heavy metals, inorganics, TPH's, PAH's, asbestos. Source 2: Heavy metals, inorganics, TPH's, PAH's. Source 3: Heavy metals, inorganics, TPH's, PAH's.	Aggressive ground conditions.	Built Environment (plant storage shed).	There is the potential for aggressive ground conditions beneath the site related to the natural geology present, as well as the uncovered material, equipment, and machinery stored on site, the mining related activities around the site, and the storage of coal tips west of the site. The acidic ground conditions together with the presence of sulphur-rich material could result in aggressive ground that may affect sub-surface concrete structures associated with the proposed development. As the structure of the proposed development has already been construction, it is assumed that the appropriate assessment of ground conditions and the correct classification of concrete was used during construction of the storage shed foundations.	Consequence: Mild Probability: Unlikely Risk: Very Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL

Source	Contaminants	Pathway	Receptor	Justification	Risk
Off-site: Source 2 – Coal tip material.	Ground Gas generation.	Ground gas migration onto and accumulation on site (Explosive Risk)	Human Health – Construction, maintenance, and site workers. Built Environment – Plant storage shed	There is a low potential for ground gas generation from the coal stockpiles west of the site. Ground gas has the potential to migrate through permeable deposits and potential pathways e.g., service corridors through and /or onto the site. However, the likelihood of ground gas on site is unlikely because of the location of the source off site and the proposed development plan to include one open side on the storage shed, as detailed in Appendix D. Therefore, it is assumed that there are no large, enclosed spaces in which ground gas could accumulate and create an explosive risk. Furthermore, it is assumed that the storage shed site will include an impermeable concrete flooring, as discussed in Chapter 2.2.11, and will block any ground gas from being exposed to the surface. This risk should be reassessed depending any plans to develop large, closed spaces/buildings on site in the future and if the proposed open side and concrete flooring of the storage shed is not constructed. In such a	Consequence: Medium Probability: Unlikely Risk: Low

TABLE 9.1 – GEOENVIRONMENTAL SITE CONCEPTUAL MODEL					
Source	Contaminants	Pathway	Receptor	Justification	Risk
				scenario, it would be prudent to consider additional ground gas protection measures such as the installation of a ground gas proof membrane and/or an active ventilation system.	

10 SUMMARY AND RECOMMENDATIONS

10.1 Current Land Use

10.1.1 The site is located in the southeast corner of the Aberpergwm Mine in Neath, South Wales, at SA11 5AJ. The site is centred at National Grid Reference E 286750 N206084 and consists of a 2,100m² area of brownfield land currently used as a storage/yard area for Energybuild Ltd.

10.1.2 The majority of the site has been used as a storage/yard area since 2013, according to satellite aerial imagery, with the exception of the northern corner of the site which has remained vegetated.

10.2 Proposed Land Use

10.2.1 The proposed development is the construction of a plant pool shed for storage purposes with a 2,100m² floor plan in the southeastern corner of the Aberpergwm Mine. The shed will be constructed on existing artificially raised ground and consist of plastic-coated sheeted cladding on three sides and an open front with no cladding on the fourth side (northwestern side). The proposed shed dimensions include a width of 30m, length of 70m, and a height of 12.3m.

10.3 Geology and Mining

10.3.1 The site walkover identified a compacted stone layering on the site, anecdotally identified as locally quarried Blue Pennant Sandstone from the Nant y Mynydd Opencast Coal Site.

10.3.2 The majority of the site is underlain by Alluvium superficial deposits with a small, approximately 350m², area of Alluvium Fan deposits in the northeast corner of the site. The superficial deposits are underlain by the South Wales Lower Coal Measures Formation.

10.3.3 The Groundsure report identified one record on site pertaining to iron ore in which underground mine workings **may** have occurred. However, WA LLP consider that the non-coal mining record identified on site is likely to be associated with the surrounding historical and current mining operations within Aberpergwm Mine.

10.4 Hydrogeology and Hydrology

10.4.1 The superficial deposits and bedrock geology are classified as a Secondary A aquifer with low and medium vulnerability. However, the Groundsure report did not identify any groundwater or surface water abstraction licences within 250m of the site.

10.4.2 The Groundsure identified two surface water features 44m east and 111m west of the site that join the Neath Canal 120m in the south.

10.5 Geo-environmental Constraints

10.5.1 A review of the Desk Study and the site walkover survey has identified the following geo-environmental constraints:

- Potential of contaminants associated with the uncovered storage of mining related equipment/materials/machinery on the site since 2013.
- Potential of leaching of contaminants from the uncovered storage of coal tips and mining related equipment/materials/machinery southwest and south of the site.
- Potential of contamination associated with spillages of mining related materials from machinery during the lifetime of Aberpergwm mine.

10.5.2 Based on the desk study review and environmental risk assessment, a significant amount of contamination is not expected. Therefore, there is a **Low to Very Low risk** to human health, controlled waters, and the built environment based on the current and historical land use of the site and the surrounding area.

10.6 Recommendations for Contamination Potential

10.6.1 Task appropriate levels of PPE and RPE to be provided to construction and maintenance workers for any groundworks and/or confined space works to reduce the potential of interaction with contaminated materials, as identified in Table 9.1.

10.6.2 All service trenches/run are to be lined with clean materials or membrane to reduce the likelihood of interaction between future maintenance workers and contaminated materials.

10.6.3 A surface water drainage system is to be designed and installed for the proposed development to capture and collect surface waters across the site. The drainage system is to include an oil interceptor and is expected to tie into the existing drainage system present at Aberpergwm Mine.

10.6.4 It is recommended to maintain the current design plans of the storage shed to include one open side and concrete flooring to reduce the risk of gas migration and accumulation in large, enclosed spaces. If the design and/or purpose of the proposed development are revised, it would be prudent to consider additional ground gas protection measures such as a gas proof membrane and/or active ventilation system.

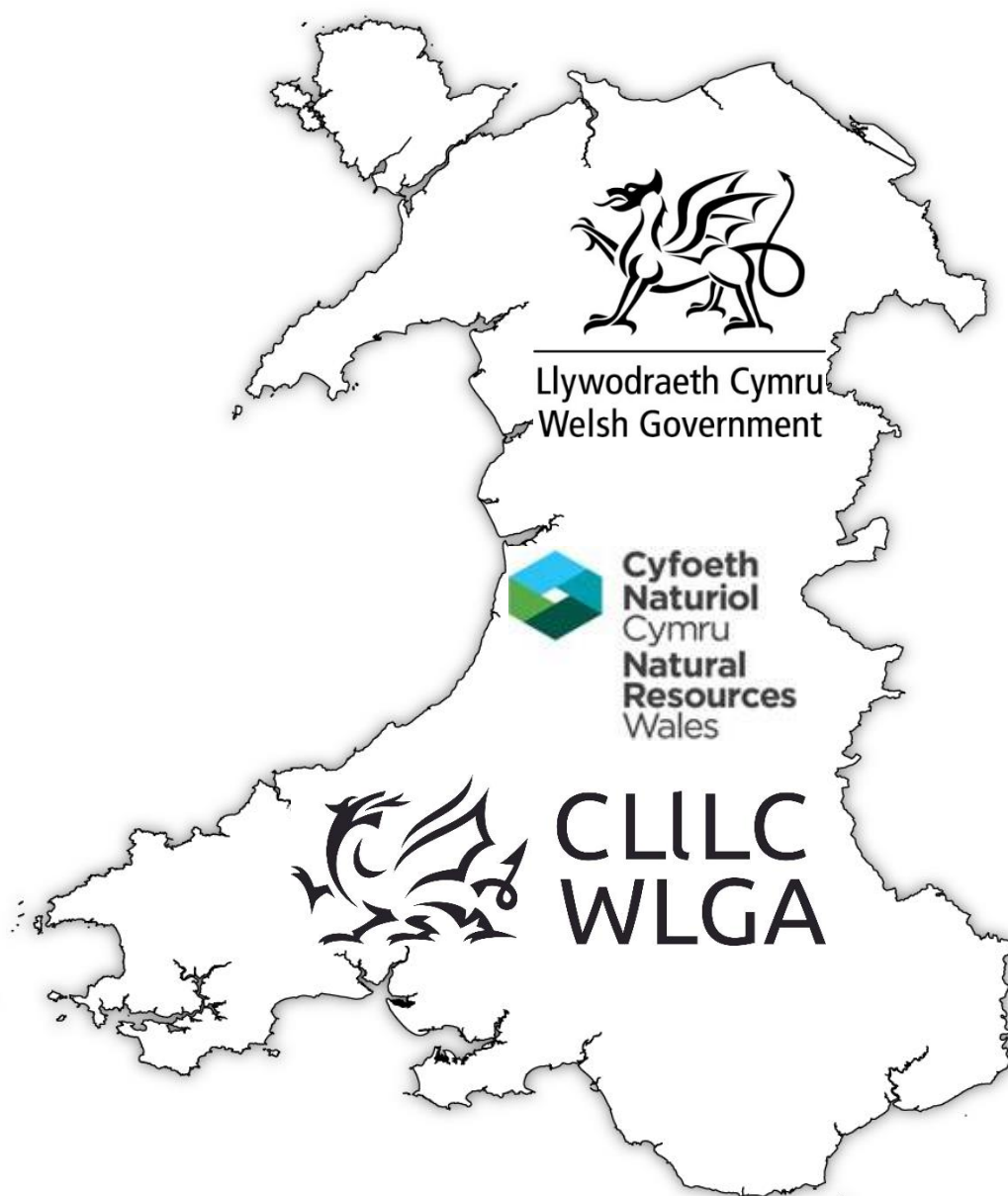
APPENDICES

Appendix A

Development of Land Affected by Contamination: A Guide for Developers

Development of Land Affected by Contamination: A Guide for Developers

Version 4 September 2023



This guidance has been prepared by the Welsh Land Contamination Working Group

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INTRODUCTION

Land contamination may arise from a previous use of a site, or an adjacent site, that has had an industrial, commercial or landfilling activity. Land contamination can have significant adverse effects on human health, property, ecosystems and water quality (e.g. streams, rivers, lakes and groundwater) and needs to be managed appropriately.

This guidance document has been prepared for developers and their agents/advisers who may be involved in assessing and managing land contamination in Wales. It aims to outline the information required by Local Planning Authorities (LPA) in order for them to determine planning applications and then the subsequent discharge of associated land contamination conditions. This guidance document provides an overview of good practice for land contamination management procedures which, if followed, will help meet the information requirements of the LPA during development of that land.

At all times, it is the responsibility of the developer to follow good practice and identify the nature, scale and extent of land affected by contamination, and if required, undertake remediation work to ensure suitability of the land for the proposed development. The LPA does not have a duty of care to the landowner.

This guidance represents the culmination of a co-operative effort involving the Welsh Local Government Association (WLGA) and Natural Resources Wales* (NRW). *This document updates the group's previous guidance documents 'Land Contamination: A Guide for Developers' 2012 and 2017.*

This update reflects the updated foundation guidance from the Environment Agency from CLR11 to LCRM (land contamination risk management). This guidance has been adopted by NRW and therefore should form the basis of any approach taken by developers to the risk posed by potentially contaminated land.

1. LOCAL PLANNING AUTHORITY CONSULTATION PROCESS

1.1. General Approach

Planning Policy Wales (PPW) states that planning decisions need to take into account the potential hazard that contamination presents to the development itself, its occupants and the local environment. As such, the potential for land contamination is a material planning consideration when a new planning application is assessed by the LPA, but it is the developer's responsibility to ensure that development of the site is suitable for its proposed use.

The LPA has a duty to consider potential land contamination when determining individual planning applications and is responsible for decisions made under the planning system. However, the LPA is minded to consult statutory consultees, including the Local Authority's Contaminated Land Officer / Environmental Health department (CLO/EH) for advice on applications where land contamination is a reasonable possibility. In addition, the LPA may consult relevant external bodies such as NRW. The LPA can consult NRW and CLO/EH about work

that is intended to be undertaken at all stages of the application process, including the recommendation and subsequently discharge of planning conditions for the permission.

Under the Planning system in Wales, NRW are the body responsible for commenting on risks that land affected by contamination poses to controlled waters*. Failing to deal adequately with contamination can undermine compliance with the Water Environment Regulations 2017.

**Controlled Waters are fully defined in Section 104 of the Water Resources Act 1991, as follows*

- (a) *relevant territorial waters, that is to say, subject to subsection (4) below, the waters which extend seaward for three miles from the baselines from which the breadth of the territorial sea adjacent to England and Wales is measured;*
- (b) *coastal waters, that is to say, any waters which are within the area which extends landward from those baselines as far as—*
 - (i) *the limit of the highest tide; or*
 - (ii) *in the case of the waters of any relevant river or watercourse, the fresh-water limit of the river or watercourse, together with the waters of any enclosed dock which adjoins waters within that area;*
 - (iii) *inland freshwaters, that is to say, the waters of any relevant lake or pond or of so much of any relevant river or watercourse as is above the fresh-water limit;*
 - (iv) *ground waters, that is to say, any waters contained in underground strata;*

NRW are consulted to ensure that risks to controlled waters are understood and if necessary, risk assessed and mitigated. NRW review information based on the sensitivity of the site in relation to controlled waters.

When considering planning applications on sites where land contamination is a reasonable possibility, or known to exist, CLO/EH has to be satisfied that the development will remove existing unacceptable risks to human health, property, ecosystems and water quality and will not introduce new risks.

In doing this, CLO/EH will consider the historical and existing use, the current circumstances of the land, the proposed end use and the potential for contamination to be encountered during development works. CLO/EH will ensure the developer undertakes the appropriate assessment and remediation of land contamination in line with good practice procedures and guidance.

An Example of the land contamination decision framework as part of the Planning Process is presented in Appendix A as a detailed flow chart.

The assessment and remediation of land affected by contamination through the granting of planning permission (with the attachment of associated land contamination conditions) should ensure removal of any unacceptable risks, including those covered by the Contaminated Land regime under Part 2A of the Environmental Protection Act 1990, and make the site suitable for its new use as per PPW. **As a minimum, after the new development has been completed, the land should be suitable for its new use and not meet the legal definition of Contaminated Land under the Part 2A regime.**

1.2. Early Consultations

The developer should contact CLO/EH for early discussions, preferably at the pre-planning stage, to ensure that minimum information requirements and the land contamination assessment and remediation procedures, are fully understood. In addition, CLO/EH may wish to visit the site, and this will present an opportunity for further discussions to take place.

CLO/EH may recommend the applicant contacts other formal LPA consultees (for example NRW) for early discussions if there are relevant considerations.

1.3. Information Submissions

As a minimum, it is recommended that the developer submits a Preliminary Risk Assessment (see Box 1) for the site with their initial planning application. **In some cases, the LPA may expect more information, such as a Detailed Risk Assessment to be submitted in support of a planning application.** This will assist with consideration of the application, without unnecessary objections or delays. It is **possible** that for land where one or more former uses may have given rise to land contamination, planning permission will be granted *subject to conditions*.

The LPA will need enough information to be confident that the site can be reasonably remediated *before* planning permission is granted. Where *significant* contamination issues are known or suspected, the LPA may require subsequent stages of the contamination assessment procedure to be completed *before* the application is determined (see Box 1). In such circumstances a conditional grant of planning permission will not be appropriate.

Land contamination conditions are pre-construction phase conditions (*'conditions precedent'*) which seek to ensure that all of stages of the land contamination assessment and remediation process (see Box 1) for the site are undertaken prior to the commencement of construction works at the site. It may be necessary for the developer to submit information at key stages, in order to progress to the next. Information should be submitted in a timely manner to ensure LPA consultees have sufficient time to review and agree a way forward. These timescales should be agreed as part of conditions compliance.

Unfortunately, the LPAs still receive submissions that do not comply with the LCRM and as such the LPA may not undertake a detailed review of the submissions if it is clear from the outset that the LCRM has not been followed. It is strongly recommended that the Developer ensures all relevant elements of the checklists in the Appendices within this Guide are adhered to to reduce this risk.

The developer should be mindful that failure to provide sufficient information in a timely manner during the planning process may result in significant delays and increased expense for the developer.

The land contamination condition(s) may include, but not be limited to; site characterisation and risk assessment, remediation strategy, unexpected contamination, gas monitoring and protection, imported materials, verification reporting and long-term monitoring. CLO/EH may

recommend amendments to standard land contamination conditions, depending on the individual circumstances of the site.

1.4. Choosing a Competent Consultant

Many stages in the assessment and remediation process require input from experts and specialists who are appropriately qualified competent professionals. The developer should think about the full range of technical expertise that is likely to be required, when sourcing consultants or advisors to provide advice on the assessment, management and remediation of the site. The selected consultants should have an appropriate level of professional indemnity insurance. The WLGA and NRW do not make official approval or recommendation for any consultancy. However some useful contacts can be found at www.endsdirectory.com or via searching online. PPW also refers to the National Quality Mark Scheme (NQMS) as another means of ensuring competency, Section 5 below covers this in more detail. The appointed consultant should be able to demonstrate that their work meets the requirements of best practice and as a minimum they should be able to demonstrate that they have followed the principles set out in LCRM.

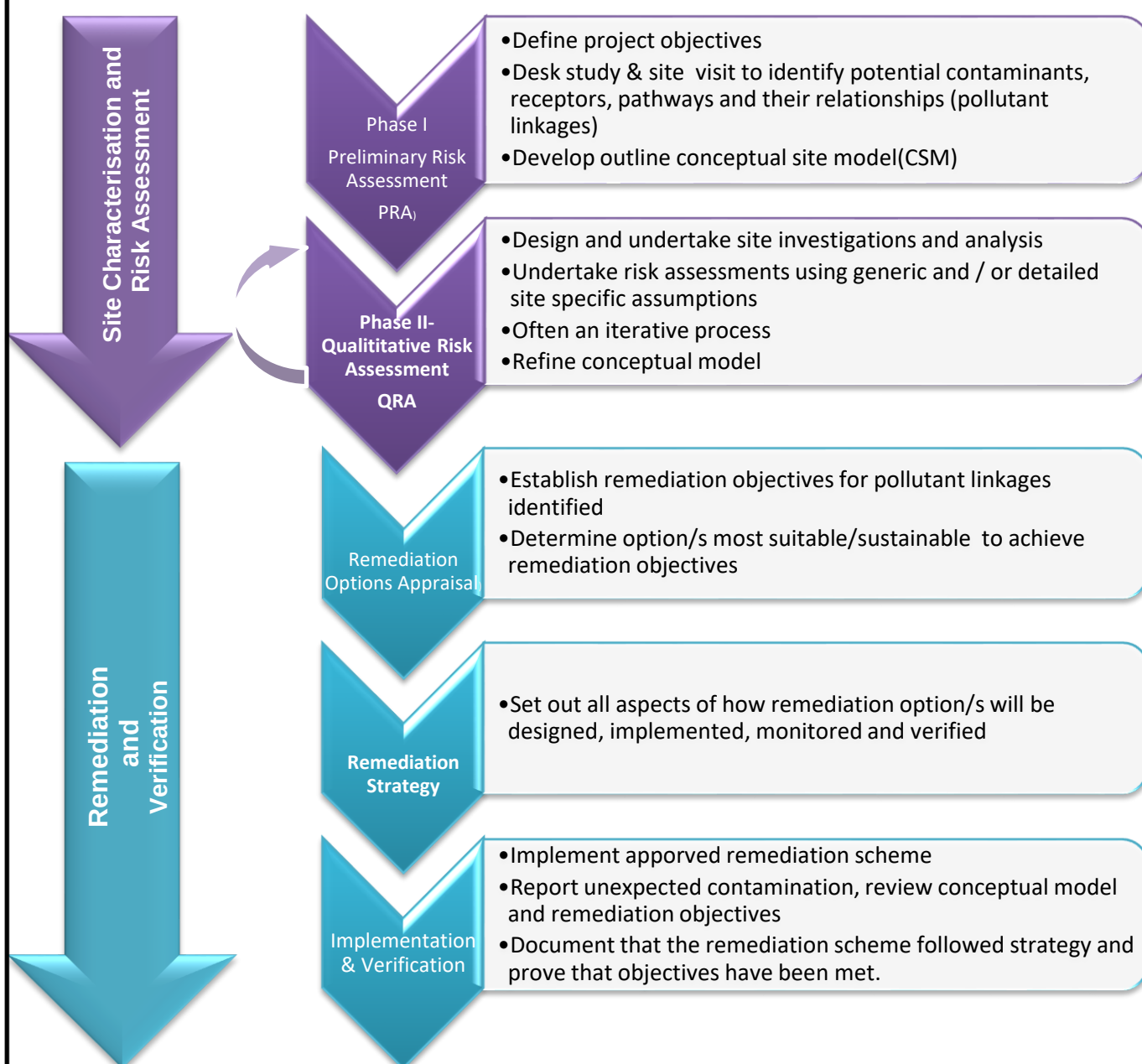
A development project is more likely to be successful, and considerable effort and expense spared, if appropriately qualified experts with relevant environmental experience are used at appropriate stages.

2. LAND CONTAMINATION MANAGEMENT PROCEDURE

This section aims to give an overview of the risk assessment and remediation process required for effective land contamination management. The land contamination management process presented in this guidance document is consistent with current best practice guidance documents, for example; Land Contamination Risk Management (LCRM) (Environment Agency 2020) and Guidance for the Safe Development of Housing on Land Affected by Contamination R&D 66 (NHBC and Environment Agency 2008). Despite parts 1 and 3 being archived, GPLC Parts 1 - 3 Guiding principles for land contamination (Environment Agency 2010) are also still useful reference documents. It is recommended that developers and their consultants refer to these documents for more detailed advice and guidance.

Box 1

Land Contamination Management Procedure



A useful resource for information / documents to ensure compliance with the above Land Contamination Management Procedure can be found on the CL:AIRE website www.claire.co.uk

2.1. Risk Assessment

2.1.1. Phase I - Preliminary Risk Assessment

Risk assessments help you decide whether land contamination is currently a problem, and/or is likely to be a problem during and/or following development of the site. Understanding the risks is the first step in the process of managing land contamination.

The purpose of the preliminary risk assessment is to develop an outline conceptual site model (see Box 2) and identify all plausible contaminant-pathway-receptor pollutant linkages at the site. This will be a qualitative (descriptive) assessment of risk.

The main activity at this stage is a 'desk study', comprising the collection of all readily available historic and environmental information. A site walkover survey is also usually undertaken, to verify the desk based information and observe any visual signs for contamination. It may also aid design of the subsequent investigation by providing information that may limit or restrict the initial scope (for example access restrictions, services, location of concrete structures that may need penetrating).

Box 2 Conceptual Site Model

The conceptual site model is an understanding of the three-dimensional site characteristics (usually expressed through visual representation), which identifies potential sources of **contamination**, **receptors**, contaminant migration or exposure **pathways**, and shows the possible interaction between them (**potential pollutant linkages**), taking into account the current and proposed uses of the site.

The development of the conceptual model is an iterative process, which should be re-addressed and refined with each subsequent phase of assessment.

It is anticipated that a preliminary risk assessment will be required for most cases of development on brownfield land, and further assessment is required if there are any gaps in the preliminary risk assessment, or if the preliminary risk assessment identifies any potential unacceptable risks. A high degree of confidence in the preliminary risk assessment findings is usually required to demonstrate that any other outcome is acceptable.

Refer to Checklist 1 in Appendix B when submitting information in regards to a Phase 1 Preliminary Risk Assessment

2.1.2. Phase II - Quantitative Risk Assessment

Phase II site investigation and risk assessment should be undertaken where the preliminary risk assessment identifies any potential unacceptable risks, or to reduce uncertainty in the initial conceptual model. The investigations should aim to provide information to refine and update the outline conceptual model, confirm and evaluate the significance of the identified potential pollutant linkages.

The scope of the site investigation should be designed around the preliminary conceptual model and should be agreed with CLO/EH prior to undertaking the works. The site investigation should meet the requirements of the Code of Practice for Land Contamination of Potentially Contaminated Land BS10175 and an MCERTS accredited laboratory must be used for analysis of soil samples.

The site investigation may be an iterative process, undertaken in several phases depending on the requirements for further reducing uncertainty in the conceptual model and refining the risk assessment from a generic quantitative risk assessment to a detailed quantitative risk assessment using site specific assessment criteria. Additional site investigation may also be required to provide data to inform the Remediation Options Appraisal.

In order to avoid delay and additional expense for the developer, it is recommended that prior to running risk assessment model (for example CLEA v1.06 and Remedial Target Methodology Spreadsheet), key input parameters are agreed with the LPA consultees in advance.

2.1.3. Human Health Assessment

The EA Science Report SCO50021 series of documents, SR2 to SR7 listed below, provides guidance on assessing the risks to human health. The SR documents are authoritative and have a published scientific basis, and therefore meet the requirements of the risk assessment framework set out in DETR (2000). The SR guidance is currently considered 'best practice' in the assessment of contaminated land in the UK.

SR2 - Human Health Toxicological Assessment of Contaminants in Soil

SR3 – Updated Technical Background to the CLEA Model

SR4 - CLEA Software Handbook (V 1.05) [CLEA Software Version 1.071](#)

SR7 - Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values

Category 4 Screening Levels (C4SLs)

The Statutory Guidance has a four category system for classifying land as contaminated under Part 2A of the Environmental Protection Act 1990.

This category system ranges from Category 4, where the level of risk posed to human health or the environment is acceptably low, to Category 1, where the level of risk is clearly unacceptable.

To help regulators determine whether land is suitable for use and definitely not contaminated, a project research group was established to define the screening levels for Category 4. A total of nine C4SLs have been published to date, six in Phase 1 (the most commonly identified in

contaminated land risk assessments) and three in Phase 2. A further 16 are in development as part of the Phase 2 work.

These are:

- Cadmium
- benzo(a)pyrene
- benzene
- arsenic
- lead
- chromium VI
- Chloroethene (vinyl chloride)
- Trichloroethene
- Tetrachloroethene

The work and background information for Phase 1 is available within the research report SP1010 which can be found on the [Department for Environment, Food and Rural Affairs website](#). Phase 2 reports are available via the CL:aire website www.claire.co.uk.

There was some debate in the land contamination community as to whether C4SLs are suitable for use as screening criteria within the planning regime. In order to provide clarity on the use of the C4SLs, the Welsh Government produced a statement which stated that where the site conditions are applicable to the land use scenarios presented in SP1010, then the C4SLs can be used as screening tool for development sites.

Further information on the use of C4SLs is available from the [Welsh Government website](#).

2.1.4. Controlled Waters Assessment

There are many methods and tools available, but you should choose ones that are appropriate for the UK risk management framework. EA documents that describe approaches or tools for water risk assessment include:

The Environment Agency's Approach to Groundwater Protection (2018)

Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination (2006)

Further information and links relating to controlled water risk assessments can found on the CL:AIRE website

<http://www.claire.co.uk/useful-government-legislation-and-guidance-by-country/77-risk-assessment-info-ra/208-assessing-risks-to-the-water-environment-info-ra2-3>

Refer to Checklist 2 in Appendix B when submitting information in regards to a Phase II Preliminary Risk Assessment

2.2. Remediation

2.2.1. Remediation Options Appraisal

Where the quantitative risk assessment identifies that the nature and extent of land contamination is unacceptable for its intended end use, then remediation works will be required. The first stage is to establish the site specific remediation objective(s) that are required to address each pollutant linkage. Remediation criteria should be derived for measuring compliance against, which must be agreed with CLO/EH and NRW as appropriate.

In order to avoid delays and additional expense for the developer, it is recommended that site specific remediation objective(s) and remediation criteria are agreed in advance by the LPA consultees.

A list of feasible remediation options should be produced for appraisal in order to establish which are most appropriate for addressing each pollutant linkage. The merits of each option should be assessed by compiling detailed technical information. The evaluation should also take account of the best practicable environmental option, cost benefit, environmental outcomes, site specific constraints and appropriate timescales for remediation, including obtaining likely regulatory requirements and permits.

The options appraisal should establish which option or combination of options will most effectively achieve the remediation objective(s).

Refer to Checklist 3 in Appendix B when submitting information in regard of a Remediation Options Appraisal

2.2.2. Remediation Strategy

The remediation strategy sets out how the remediation option or combination of options, will address pollutant linkages and agreed remediation criteria. The strategy should provide a clear picture of how remediation activities will be planned for, implemented, monitored and verified. Practical issues such as phasing of activities, plans for obtaining appropriate environmental permits, compliance monitoring, contingency plans and mitigation measures etc. should be all addressed within the remediation strategy.

It is essential for the developer to demonstrate to the LPA that the remediation activities will be capable of achieving the agreed remediation criteria, without posing unacceptable risk to third parties or the environment, that appropriate permits will be obtained, contingency plans are in place and mitigation measures will be implemented if there are significant variations from the remediation strategy.

Refer to Checklist 4 in Appendix B when submitting information in regard of a Remediation Strategy

2.2.3. Remediation Scheme

During development, CLO/EH should be notified immediately under circumstances where contamination not previously identified is found to be present at the site. No further development (unless otherwise agreed in writing) shall be carried out until the developer has submitted, and obtained written approval from the LPA for a remediation strategy detailing how this unsuspected contamination shall be dealt with.

2.2.4. Verification Report

Upon completion of the remediation works, a verification report must be submitted to the LPA consultees for review and approval. The verification report should provide a full record of all remediation activities carried out at the site and demonstrate that the agreed remediation criteria and objectives have been achieved. Occupation / use of the development will not be possible until approval of the verification report has been granted.

Refer to Checklist 5 in Appendix B when submitting information in regard of a Verification Report

2.3. Long Term Monitoring and Maintenance

Following completion of remediation works, where there is a requirement for long term maintenance and/or continued monitoring to demonstrate the effectiveness of those works, a separate 'Monitoring and Maintenance Plan' should be produced and submitted to CLO/EH for approval by the LPA.

3. DEALING WITH GROUND GAS

3.1. Assessment

Ground gas is a contaminant and should be considered as a potential contaminant source in the preliminary risk assessment on sites where gas generation and/or on site migration is suspected.

The first stage is to provide the LPA with a preliminary risk assessment (as detailed in Section 2.1.1.). This should enable an appropriate site investigation and monitoring programme to be designed should a potential pollutant linkage be identified.

The gas monitoring programme should be designed to enable data to be gathered over a sufficient period of time with a suitable number of monitoring visits and at periods of varying atmospheric pressure. In addition, the numbers and position of monitoring locations, response zones and type of gas should be justified. CIRIA Report 150 provides guidance in relation to the position and selection of appropriate grid patterns. Further BS8485:2015+A1:2019 provides as code of practice for the characterisation of ground gas from affected developments. It is recommended that the gas monitoring programme is undertaken as outlined in Tables 5.5a and 5.5b of CIRIA 665 (p.60). The monitoring programme must be agreed in advance with CLO/EH.

Where comprehensive characterisation of soil and/or groundwater contamination has identified a vapour risk, then appropriate risk assessment is required. The monitoring of vapours should be carried out in accordance to guidance within the CIRIA Reports C665 and C682, and British Standards 8576:2013.

In order to avoid delays and additional expense for the developer, it is important that the gas monitoring programme is agreed in advance by CLO/EH.

Following the completion of the agreed monitoring programme, an appropriate report must be forwarded to CLO/EH, detailing the results of the monitoring, appropriate gas/vapour risk assessments and recommendations for protection measures, if required. Guidance is provided in CIRIA C665 for assessing gas data and CIRIA C682 for assessing vapour data.

3.2. Remediation and Verification

A variety of gas/vapour protection measures are available and it is commonplace to use a combination of measures for a development (as no one single measure may adequately protect the development). It is essential to provide CLO/EH with details and justification of the proposed gas protection measures in advance of installation. Developers are minded to refer to BS 8485:2015 Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings. Once approved by CLO/EH, the gas protection measures can be installed, but will require Building Control inspection to ensure satisfactory standard of installation as per Building Regulations (2010) (in which gas protection is included), and possibly NHBC sign off. CLO/EH will require the developer to verify that the gas protection measures have

been satisfactorily installed as per the agreed designs. In addition, written approval of the satisfactory installation from the Building Control Officer should also be provided.

Developers are minded to refer to CIRIA (C735) Good Practice on the Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gases. This document provides good practice guidance for the designer, installer, verifier and regulator on the verification and integrity testing of gas protection systems. It sets out a flexible, risk based and practicable framework that can be adapted to provide site specific advice on the need for and scope of verification activities (including any integrity testing).

A dedicated verification requirements guidance document is in production by the WLGA to support the Developers Guide. It is intended to expand further on the verification of gas protection systems to ensure consistency and quality across the development sector.

3.3. Mine Gases

A well-publicised incident in Gorebridge (Midlothian, Scotland) in 2013/14 highlighted that in certain circumstances, gas ingress to residential buildings from mine workings can occur and potentially pose risks to human health. The risk posed by mine gases should always be considered when in a current or historic mining area. The Gorebridge incident highlighted the need to include reasonably foreseeable change into the mine gas risk assessment. Developers are minded to refer to the CL:AIRE guidance on Good Practice for Risk Assessment for Coal Mine Gas Emissions (2021).

In order to avoid delays and additional expense for the developer, it is important that CLO/EH is contacted for approvals in advance of other key stages of work.

4. REUSE AND IMPORTATION OF MATERIALS

The following section is applicable for developments where the importation of material is required for the purposes of garden, landscape or engineered cover systems. This also covers any site won materials which are to be reused on site.

For cover systems to protect end users, it is typical that a minimum 600mm cover will be required. In circumstances where the proposed depth is less than 600mm, the developer should demonstrate that receptors are protected with this shallower cover system by submitting an appropriate risk assessment. The proposals can only be undertaken with written approval from CLO/EH via the LPA.

4.1. Reuse of Site Won Materials

The CL:AIRE Definition of Waste: Code of Practice (DoW CoP) must be referred to if the developer intends to reuse site won materials. The DoW CoP provides a clear, consistent and streamlined process which enables the legitimate re-use of materials on site with a significantly reduced regulatory burden

The DoW CoP enables:

- the direct transfer and reuse of clean naturally occurring soil materials between sites;
- the conditions to support the establishment/operation of fixed soil treatment facilities; and
- the reuse of both contaminated/uncontaminated materials on their site of origin and between sites within defined Cluster projects.

Please refer to the CL:AIRE website for further information on the DoW CoP and to submit your declarations. www.claire.co.uk/projects-and-initiatives/dowcop/

4.2. Importation of materials

Topsoils to be imported should comply with British Standards Institution Code of Practice BS3882: 2015, Specification for topsoil and requirements for use.

Details regarding the source material to be imported, must be provided in writing to CLO/EH via the LPA in advance of importation. Details should include sampling frequency, analytical results with full rationale and justification. The developer should refer to the WLGA guidance document 'Requirements for the Chemical Testing of Materials for Various End Uses' (2012), which presents the specific sampling frequencies for imported materials, dependent upon the quantities to be imported and their proposed use at a development. The document outlines the process for ensuring all information is submitted in relation to the relevant planning condition in a series of step by step actions. All verification reports should contain trial pit log details and photographic evidence of the capping depth.

The declaration form within the WLGA guidance document should be completed and returned to the CLO/EH. Adherence to the step by step actions in the document will ensure that risks associated with imported materials are avoided and greatly assist CLO/EH to make a recommendation for discharge of the condition.

Under no circumstances should controlled waste be imported. It is an offence under Section 33 of the Environmental Protection Act 1990 to deposit controlled waste on a site which does not benefit from an appropriate environmental permit. The following must not be imported to a development site;

- Unprocessed / unsorted demolition wastes.
- Any material originating from a site confirmed as being contaminated or potentially contaminated by chemical or radioactive substances.
- Japanese Knotweed stems, leaves and rhizome infested soils. In addition to section 33 above, it is also an offence under the Wildlife and Countryside Act 1981 to spread this invasive weed.

Should the developer introduce a receptor (e.g. residential houses/ human receptors) without undertaking necessary remedial work, then they may find themselves as appropriate person and liable for subsequent remedial costs should the Local Authority determine the site as Statutory Contaminated Land under the Part 2A Regime .

5. SUBMISSION OF REPORTS AND DISCHARGE OF CONDITIONS

All formal submissions of reports and/or supporting information should be sent to the LPA, as original and complete versions of reports. In addition, electronic copies of reports and any supporting information is requested, for distribution to consultees.

CLO/EH will make a recommendation to the LPA to discharge relevant condition(s) **only upon receipt and approval of a satisfactory verification report**. If at any stage of reporting, should CLO/EH consider the assessment or findings of the report to be unsatisfactory then CLO/EH is likely to reject the report and make a request for further information.

On those sites where a phased remediation approach of the site is proposed, it may be acceptable to provide verification reports to the LPA for each phase of remedial work at the site provided that a phased approach has been agreed in advance with the LPA.

National Quality Mark Scheme (NQMS)

The NQMS is a system designed by the industry led Land Forum to ensure that land contamination management work meets the necessary technical and regulatory standards. It applies in particular to the presentation of environmental information to the regulator in the form of reports, setting out both factual and interpretative information.

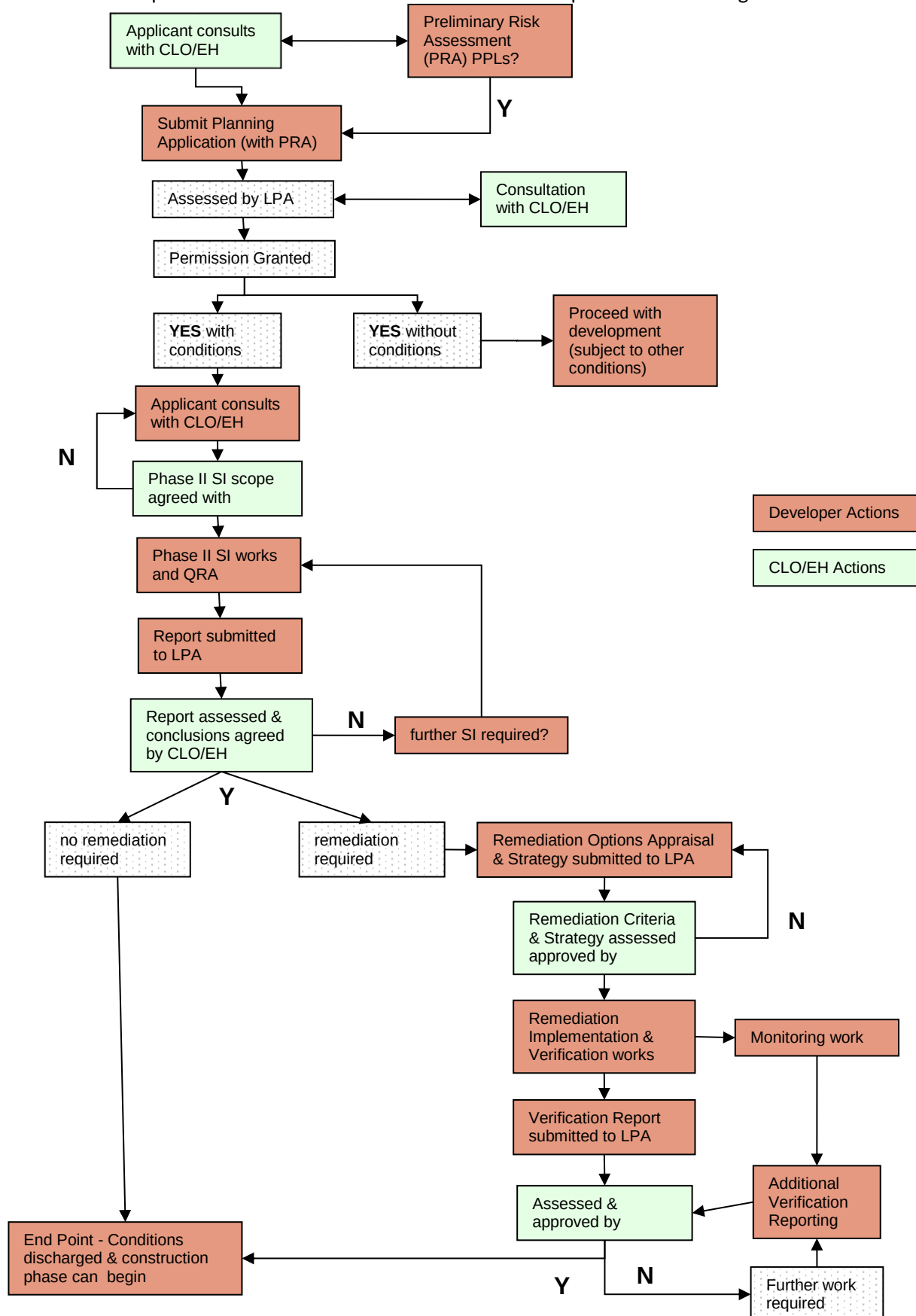
Reports are prepared in line with good practice and signed off by a suitably qualified and experienced person (SQP) registered under the NQMS. It is hoped that the use of the NQMS will assist in the prompt discharge of subsequent planning conditions.

However, individual local authorities will need to establish, how reports submitted as part of the NQMS are assessed. Reports submitted as part of the NQMS may still be reviewed / commented on by CLO / EH officers, and as such the scheme does not guarantee an automatic discharge of planning conditions.

Natural Resources Wales (NRW) is generally supportive of the use of NQMS and recognises it's benefits in terms of assuring quality of land contamination reports. However, NRW reserve the right to continue to review land contamination reports in accordance with their environmental sensitivity priority matrix.

APPENDIX A

Example land contamination decision framework as part of the Planning Process





APPENDIX A

CHECK LIST 1

Phase I: Preliminary Risk Assessment / Desk Study Objective: to obtain a good understanding of site history, setting, current and proposed use. Draw up an outline conceptual model to establish any relevant pollutant linkages in the contaminant-pathway-receptor human health and environmental risk assessment. Identify if further investigation and or remediation is required. Reporting requirements:	Date Provided
➤ purpose and aims of the study	
➤ credentials of person undertaking the study	
➤ site location and current layout plans (appropriately scaled and annotated with north point, National Grid Reference (minimum 6 figures) and site area in hectares)	
➤ description of site and surrounding land uses	
➤ appraisal of site walkover survey	
➤ review of site history including appropriately scaled and annotated historical maps and aerial photographs where available	
➤ details of current and proposed site use	
➤ assessment of the environmental setting including the interpretation and implications of: • the geology, hydrogeology and hydrology of the area • information from the Environment Agency on abstractions, pollution incidents, water quality classification, landfill sites within 250 metres and flood risk • whether there are any archaeological or ecological considerations	
➤ review of any previous site contamination studies (desk based, intrusive, or IPPC investigations where relevant) and remediation works	
➤ review of local authority planning records, building control records, drainage and service plans	
➤ identification of potential contaminants of concern and source areas	
➤ preliminary (qualitative) assessment of risks, to include: • outline conceptual model to show the nature and extent of the potential contamination and • an appraisal of the potential relevant pollutant linkages (contaminants, pathways and receptors)	
➤ identification of information gaps and uncertainties, recommendations for intrusive contamination investigations (if necessary) to include the identification and justification of target areas for more detailed investigation	



CHECK LIST 2

Phase II: Quantitative Risk Assessment / Site Investigation Objective: to refine and update the conceptual model, provide detailed site-specific information on substances in, on or under the ground, geology and groundwater, confirm relevant pollutant linkages, evaluate potentially unacceptable risks through generic or detailed quantitative risk assessment and provide the basis for the Options Appraisal. Reporting requirements:	Date Provided
➤ purpose and aims of the study	
➤ credentials of person undertaking the study	
➤ site location and current layout plans (appropriately scaled and annotated, with north point, National Grid Reference (minimum 6 figures) and site area in hectares)	
➤ review and summary of any previous reports with references	
➤ results of preliminary risk assessment and summary of outline conceptual model	
➤ liaison with the Local Authority CLO/EH	
➤ site investigation methodology to include: • any preparatory enabling works e.g. breaking out concrete and demolition • an appropriately scaled and annotated plan showing exploration locations, sample points, site structures, above/below ground storage tanks and existing services, infrastructure etc.	
➤ justification of both targeted and grid-based sampling strategies, including the location, depth and number of samples taken • method of forming exploratory holes e.g. boreholes/trial pits and borehole/trial pit logs, showing water strikes and installation details as appropriate. • details of surface/groundwater monitoring programmes according to relevant Environment Agency methodology • methods of collecting, storing and transporting samples to laboratory • description of site works and observations	
➤ justification of analytical strategies, including the selection of parameters and the selection of samples for additional tests such as leachability	
➤ analysis of samples to be carried out by an MCERTS accredited laboratory for soils and must include: • all contaminants of concern identified in preliminary risk assessment • where relevant, the speciation for grouped determinands to allow for quantitative risk assessment e.g. polyaromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs)	
➤ results and findings of investigation to include: • description of ground conditions (made ground / soil and perched / groundwater regimes, including interactions between them) • flood risk	

• discussion of nature and extent of contamination - sensory field evidence and analytical, a summary of the phases (solid, dissolved, free and the potential mobility and leachability of contamination) • meaningful comparison (i.e. to include statistical tests as per UK guidance) of the analytical results to appropriate standards, with full justification of the standards chosen • to include consideration of ground gas and the presence of asbestos	
➤ evaluation of site investigation results against conceptual model	
➤ site specific risk assessments for both health and environmental receptors. To include: • objectives and details of proposed site use • details of the models selected and justification of choice for the site • justification for input parameters, with source reference for literature values and additional calculations for field derived parameters, assumptions, safety factors • any model printouts that have been generated (e.g. with the Contaminated Land Exposure Assessment Model CLEA and Remedial Targets Methodology, the data worksheets should be included) • parameter sensitivity analysis and validation reports to show that the model is performing accurately • note, where non-UK models are used, it will be important to make modifications to them ensuring compliance with UK policy. Relevant guidance can be found on the SGV pages of the CL:AIRE website	
➤ an interpretation and discussion of the findings of the investigation and risk assessment with identification of pollutant linkages that present unacceptable risk and discussion of uncertainties	
➤ recommendations, description and uncertainties for further investigations or next steps as appropriate	



CHECK LIST 3

Remediation Options Appraisal Objective: to establish which remediation option, or combination of options, provides the best approach to remediating all pollutant linkages that present an unacceptable risk at the site, whilst meeting best practice and current technical guidance. Reporting requirements:	Date Provided
➤ purpose and aims of the report	
➤ credentials of person compiling the report	
➤ site location and current layout plans (scaled and annotated, with north arrow, National Grid Reference (minimum 6 figures), site area in hectares)	
➤ review and summary of all previous reports with references	
➤ results of site investigation and quantitative risk assessment report and summary of conceptual model	
➤ liaison with the Local Authority CLO/EH	
➤ summary of relevant pollutant linkages that require remediation	
➤ outline of remediation objectives - what remediation needs to achieve for each pollutant linkage	
➤ outline of remediation criteria - against which compliance for each pollutant linkage can be measured and statement of overall site remediation criteria	
➤ identification of feasible remediation options	
➤ detailed evaluation of remediation options including assessment of the sustainability of each option.	
➤ description of remediation strategy, including: • justification for selection and how remediation strategy will deliver overall site remediation criteria • technical and scientific basis, effectiveness of combining remedial options, constraints and limitations, expected durability • site plan/drawings (appropriately scaled and annotated) • preparatory works, phasing of remedial works and timescales • Environmental Permits and licenses (e.g. water discharge permits mobile plant permits, waste management permits exemptions, asbestos waste removal licence) • site management measures to protect neighbours, environment and amenity during works, including where appropriate: health and safety procedures, discharges to air, land and water including dust, noise, odour, surface water run off, discharges to groundwater with environmental controls and monitoring	
➤ outline of how remedial strategy will be verified and future monitoring requirements	
➤ details on the lifespan of the remediation strategy	
➤ note: If changes are made to the remediation strategy they must be agreed with the local planning authority before they are implemented, justification will be required, with description of how the amended strategy will meet the agreed remediation criteria	



CHECK LIST 4

Remediation Strategy Objective: to clearly translate the remediation strategy into a clear set of remediation activities for the site. It should set out all aspects of the design, preparation, implementation, verification and long-term monitoring and maintenance of the remediation strategy. Reporting Requirements:	Date Provided
Implementation Plan:	
➤ purpose and aims of the report	
➤ credentials of person compiling the report	
➤ site location and current layout plans (appropriately scaled and annotated, with north point, National Grid Reference (minimum 6 figures) and site area in hectares)	
➤ review and summary of all previous reports with references	
➤ liaison with the Local Authority CLO/EH	
➤ description of ground conditions including geology, hydrology and hydrogeology	
➤ remediation objectives; criteria for relevant pollutant linkages and overall site criteria	
➤ remediation methodology	
➤ site zoning and phasing with approximate timescales	
➤ preparation works and operational constraints	
➤ specific site management procedures and emergency contingency plans ➤ site management measures to protect neighbours, environment and amenity during works, including where appropriate: health and safety procedures, discharges to air, land and water including dust, noise, odour, surface water runoff, discharges to groundwater with environmental controls and monitoring	
➤ location and construction details of monitoring activities eg. dust gauges, vapour monitoring, groundwater boreholes	
➤ details of permits and licences in place and how compliance will be demonstrated	
➤ detailed site plans/drawings (appropriately scaled and annotated) showing areas requiring remediation, locations and phasing of works, stockpiling, monitoring and sampling points	
➤ details of what constitutes completion of remedial works and how completion will be verified	
Verification Plan:	
➤ details of the Verification Plan in order to demonstrate that the remediation criteria has been met for each relevant pollutant linkage, including details of : - the sampling and monitoring strategy, methods and frequency - validation testing of excavations to remove material, treated material, imported material, effectiveness of gas management systems etc.	

• water quality testing of background groundwater and proximal surface waters, plus treated waters • the use of on-site observations, visual/olfactory evidence • schedule of chemical analysis, demonstrating accordance with MCERTS for soils and laboratory QA/QC • performance testing methods e.g. for containment barrier (cut off wall, gas membrane) and capping layer • confirmation by independent consultant that remedial measures proposed ie for gas, soil or water contaminants are incorporated into the design as planned or as per manufacturers specification. Any deviation to this being justified. • proposed actions in the event that verification shows failure of remediation criteria	
Monitoring and Maintenance Plan:	
➤ details of future monitoring and or maintenance requirements in a Monitoring and Maintenance Plan (where necessary) once remediation has been completed, including details of : • explanation as to why work is required • scope of sampling and monitoring and / or maintenance, methods, frequency and type of equipment to be used • statement and justification for end-point for monitoring programme • proposed assessment criteria and justifications for selection • schedule of chemical analysis, demonstrating accordance with MCERTS for soils and laboratory QA/QC • measures for ensuring required monitoring / maintenance is undertaken	



CHECK LIST 5

Verification of Completion Objective: to clearly demonstrate that the remediation activities have been completed satisfactorily, have not caused harm to third parties and the environment and that the remediation criteria for each of the relevant pollutant linkages have been met. The <u>Verification Report</u> should include:	Date Provided
➤ purpose and aims of the report	
➤ credentials of person compiling the report	
➤ site location and current layout plans (appropriately scaled and annotated, with north point, National Grid Reference (minimum 6 figures) and site area in hectares)	
➤ review and summary of all previous reports with references	
➤ liaison with the Local Authority CLO/EH	
➤ information as detailed in the remediation strategy including description of relevant pollutant linkages assessed, i.e; • description of ground conditions including geology, hydrology and hydrogeology • remediation objectives; criteria for relevant pollutant linkages and overall site criteria • remediation methodology	
➤ details of remedial work undertaken and by whom, with justification for any changes from the original remediation strategy	
➤ results of verification, validation, performance testing and monitoring as specified in the <u>Verification Plan</u> : to include substantiating data: • laboratory and in-situ test results, monitoring results for groundwater and gases during remediation • summary data plots and tables relating to remedial criteria • plans showing treatment areas and details of any differences from the original remediation strategy • details of permits, licences, waste management documentation, including Hazardous Waste Transfer Notes and Duty of Care Notes and demonstration of compliance	
➤ description of reinstatement works	
➤ description of final site conditions at completion with details of any permanent installations that form part of the remedial strategy and are to be left intact	
➤ confirmation that remediation objectives have been met and confirmation of post-completion monitoring/ maintenance requirements	

APPENDIX B

- British Standards Institution Investigation of Potentially Contaminated Sites, Code of Practice, BS: 10175 (this must be the current version)
- British Standards Institution (2020) Amendment 2: Code of Practice for Site Investigation, BS5930:2015+A1:2020
- British Standards Institution (2015) Specification for Topsoil and Requirements for Use, Code of Practice, BS: 3882:2015
- British Standards Institution (2018) Soil quality. Sampling. Guidance on sampling standards Series, BS ISO: 10400:100-107 and 201-206
- British Standards Institution (2019) Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings, BS:8485:2015+A1:2019
- British Standards Institution (2013) Guidance on Investigations for Ground Gas. Permanent Gases and Volatile Organic Compounds (VOCs), BS: 8576:2013
- CIRIA Report C665 (2007) Assessing Risks Posed by Hazardous Ground Gases to Buildings
- CIRIA Report C682 (2009) The VOCs Handbook, Investigating, assessing and managing risks from inhalation of VOCs at land affected by contamination
- CIRIA Report C735 (2014) Good practice on the testing and verification of protection systems for buildings against hazardous ground gases
- CL:AIRE (2020) Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration
- CL:AIRE (2011) Definition of Waste: Development Industry Code of Practice Version 2.
- CL:AIRE (2017) Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies
- CL:AIRE (2021) Good Practice for Risk Assessment for Coal Mine Gas Emissions
- Department of the Environment (1995) Industry Profiles
- Environment Agency (2010) Guiding Principles for Land Contamination
- Environment Agency (2021) Land Contamination Risk Management (LCRM)
- Environment Agency (2004) Guidance on the management of landfill gas
- Environment Agency (2006) Remedial Targets Methodology, Hydrogeological Risk Assessment for Land Contamination
- Environment Agency (2002) Technical Advice to Third Parties on Pollution of Controlled Waters for Part IIA EPA 1990 (archived)
- Environment Agency (2005) Science Report P5-080/TR3, The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons for Soil
- Environment Agency (2018) MCERTS Performance Standard for Laboratories Undertaking Chemical Testing of Soil

- Environment Agency (2009) Science Report SC050021/SR2, Human Health Toxicological Assessment of Contaminants in Soil, Background to the CLEA Model
- Environment Agency (2009) Science Report SC050021/SR3, Updated technical background to the CLEA model
- Environment Agency (2009) CLEA Software Handbook version 1.05
- Health and Safety Executive (1991) Protection of Workers and the General Public during the Development of Contaminated Land
- Raybould JG, Rowan DL & Barry DL, 1995, CIRIA Report R150, Methane Investigation Strategies
- Welsh Government (2012) Statutory Guidance on Contaminated Land
- Welsh Government (2021) Planning Policy Wales edition 11
- Welsh Local Government Association (2012) Requirements for Chemical Testing of Imported Materials for Various End Uses

Note: This list is not exhaustive but summaries some of the key reference and guidance documents that the developer and their advisors should refer to.

Please also refer to the CL:AIRE Water and Land Library (WALL) which has an extensive list of links to past and present water and land references published by the Environment Agency, AGS, BRE, CIRIA and other useful industry publishers.

<https://www.claire.co.uk/information-centre/water-and-land-library-wall>

Appendix B

Wardell Armstrong Standard Terms and Limitations

STANDARD TERMS AND CONDITIONS AND LIMITATIONS TO REPORTS

This Report is provided for the stated purpose and for the sole use of the client in accordance with the Terms and Conditions of Appointment under which the services were performed. The Report is confidential to the client and no other warranty, expressed or implied, is made as to the professional advice included in the Report or any other services provided by Wardell Armstrong LLP. This Report may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of Wardell Armstrong LLP.

The conclusions and recommendations contained in this Report are based upon information provided by others including details supplied by the client and/or professional advisors on the assumption that all relevant information from whom it has been requested and/or supplied is accurate. Information so provided and/or supplied has not been verified independently by Wardell Armstrong LLP, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by Wardell Armstrong LLP in providing the services are outlined in this Report. The work described in this Report is based on the conditions and information as stated at the date the Report was completed. The scope of this Report and the services are accordingly limited by these circumstances. The findings outlined in the Report together with any opinions expressed and recommendations made are considered to be valid and appropriate at the time of preparation and for the specific purpose or purposes intended. Whilst a walk over site visit may have been carried out as part of the work this has been limited to observations only and no other physical investigations, sampling and testing work has been carried out as part of this work.

Wardell Armstrong LLP disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report which may come or be brought to Wardell Armstrong LLP's attention after the date of the Report. Unless otherwise stated in this Report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

Where any site observations have been carried out, these have been restricted to a level of detail required to meet the stated objectives of the services. The results from any site observations made may vary and further confirmatory work should be made after the issuance of this Report. Wardell Armstrong LLP does not guarantee or warrant any estimates or projections contained in this Report.

Appendix C

Groundsure Report



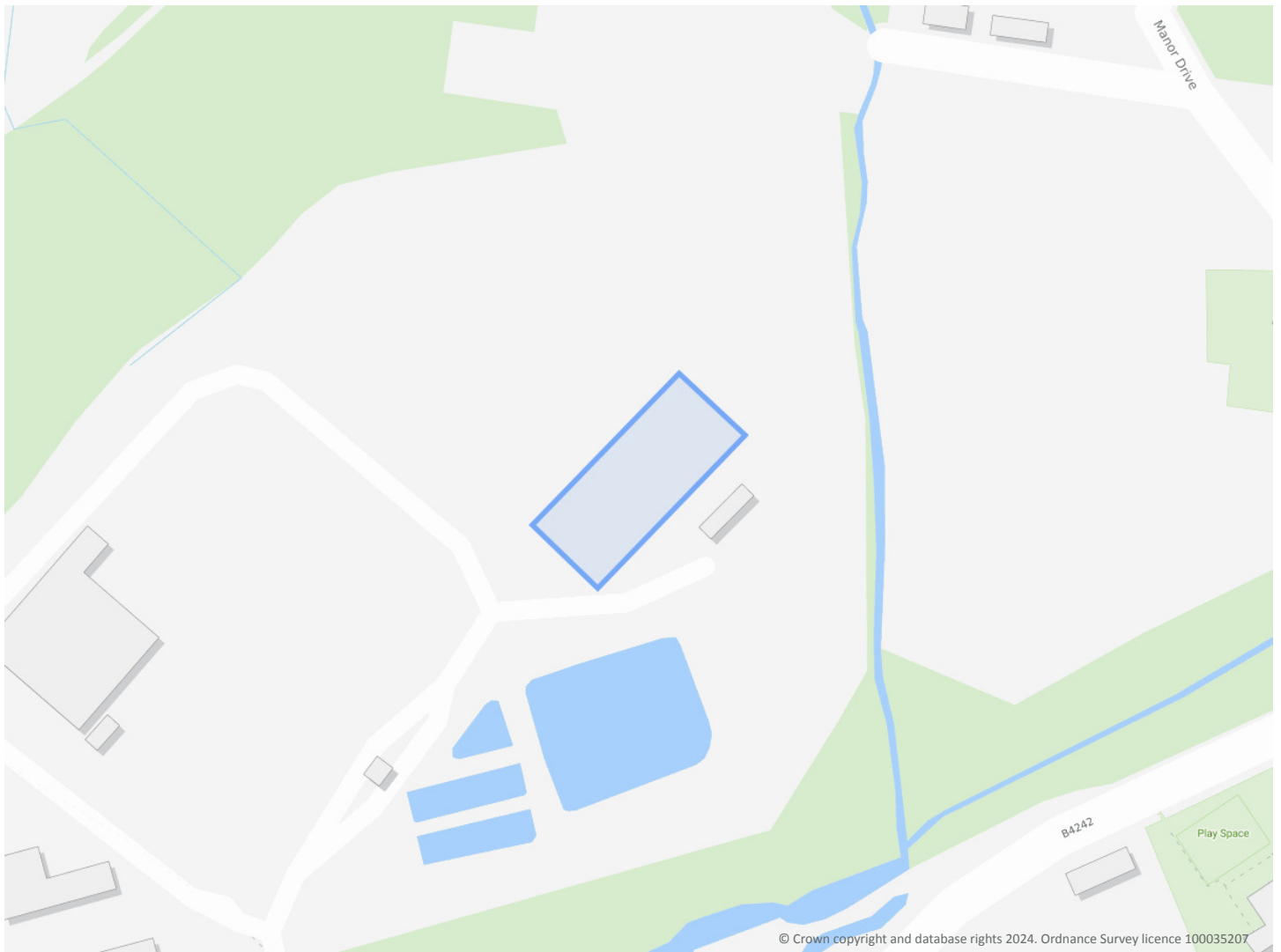
ABERPERGWM MINE, SA11 5PT

Order Details

Date: 03/01/2024
Your ref: CA11645
Our Ref: GS-GOA-R9E-GNB-OOE

Site Details

Location: 286750 206084
Area: 0.23 ha
Authority: [Castell-nedd Port Talbot - Neath Port Talbot County Borough](#) ↗



Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) groundsure.com/insightuserguide ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	23	87	-
20 >	1.2 >	Historical tanks >	0	0	6	16	-
21 >	1.3 >	Historical energy features >	0	0	0	14	-
22	1.4	Historical petrol stations	0	0	0	0	-
22 >	1.5 >	Historical garages >	0	0	0	5	-
22	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
23 >	2.1 >	Historical industrial land uses >	0	0	28	111	-
29 >	2.2 >	Historical tanks >	0	0	9	22	-
30 >	2.3 >	Historical energy features >	0	0	0	30	-
31	2.4	Historical petrol stations	0	0	0	0	-
32 >	2.5 >	Historical garages >	0	0	0	8	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
33	3.1	Active or recent landfill	0	0	0	0	-
33	3.2	Historical landfill (BGS records)	0	0	0	0	-
34 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	2	-
34 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	2	-
35	3.5	Historical waste sites	0	0	0	0	-
35	3.6	Licensed waste sites	0	0	0	0	-
35 >	3.7 >	Waste exemptions >	0	0	0	2	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
36 >	4.1 >	Recent industrial land uses >	0	1	1	-	-
37	4.2	Current or recent petrol stations	0	0	0	0	-
37	4.3	Electricity cables	0	0	0	0	-
37	4.4	Gas pipelines	0	0	0	0	-
37	4.5	Sites determined as Contaminated Land	0	0	0	0	-



37	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
38	4.7	Regulated explosive sites	0	0	0	0	-
38	4.8	Hazardous substance storage/usage	0	0	0	0	-
38	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
38	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
38 >	4.11 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	0	0	1	1	-
39	4.12	Radioactive Substance Authorisations	0	0	0	0	-
39 >	4.13 >	<u>Licensed Discharges to controlled waters ></u>	0	0	3	12	-
41	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
42	4.16	List 1 Dangerous Substances	0	0	0	0	-
42 >	4.17 >	<u>List 2 Dangerous Substances ></u>	0	0	0	3	-
42 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	1	10	-
44	4.19	Pollution inventory substances	0	0	0	0	-
44	4.20	Pollution inventory waste transfers	0	0	0	0	-
44	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
45 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
47 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
48 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
49	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
49	5.5	Groundwater vulnerability- local information	None (within 0m)				
50	5.6	Groundwater abstractions	0	0	0	0	0
51 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	7
52	5.8	Potable abstractions	0	0	0	0	0
53	5.9	Source Protection Zones	0	0	0	0	-
53	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
54 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	0	1	29	-	-



57 >	6.2 >	Surface water features >	0	2	19	-	-
57 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
58 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
58 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
60	7.2	Historical Flood Events	0	0	0	-	-
60	7.3	Flood Defences	0	0	0	-	-
60 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	1	-	-
61	7.5	Flood Storage Areas	0	0	0	-	-
62 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
63 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
64 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
66 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
67	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
68	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
68	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
68	10.4	Special Protection Areas (SPA)	0	0	0	0	0
68	10.5	National Nature Reserves (NNR)	0	0	0	0	0
69	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
69 >	10.7 >	Designated Ancient Woodland >	0	0	2	2	147
75	10.8	Biosphere Reserves	0	0	0	0	0
75	10.9	Forest Parks	0	0	0	0	0
75	10.10	Marine Conservation Zones	0	0	0	0	0
75	10.11	Green Belt	0	0	0	0	0
75	10.12	Proposed Ramsar sites	0	0	0	0	0



76	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
76	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
76	10.15	Nitrate Sensitive Areas	0	0	0	0	0
76	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
77	10.17	SSSI Impact Risk Zones	0	-	-	-	-
77	10.18	SSSI Units	0	0	0	0	0
Page	Section	<u>Visual and cultural designations</u> >	On site	0-50m	50-250m	250-500m	500-2000m
78	11.1	World Heritage Sites	0	0	0	-	-
79	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
79	11.3	National Parks	0	0	0	-	-
79 >	11.4 >	<u>Listed Buildings</u> >	0	0	5	-	-
80	11.5	Conservation Areas	0	0	0	-	-
80	11.6	Scheduled Ancient Monuments	0	0	0	-	-
80	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations</u> >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	12.1 >	<u>Agricultural Land Classification</u> >	Grade 4 (within 250m)				
82	12.2	Open Access Land	0	0	0	-	-
82	12.3	Tree Felling Licences	0	0	0	-	-
82	12.4	Environmental Stewardship Schemes	0	0	0	-	-
82	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations</u>	On site	0-50m	50-250m	250-500m	500-2000m
83	13.1	Priority Habitat Inventory	0	0	0	-	-
83	13.2	Habitat Networks	0	0	0	-	-
83	13.3	Open Mosaic Habitat	0	0	0	-	-
83	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale</u> >	On site	0-50m	50-250m	250-500m	500-2000m
84 >	14.1 >	<u>10k Availability</u> >	Identified (within 500m)				
85	14.2	Artificial and made ground (10k)	0	0	0	0	-
86	14.3	Superficial geology (10k)	0	0	0	0	-



86	14.4	Landslip (10k)	0	0	0	0	-
87	14.5	Bedrock geology (10k)	0	0	0	0	-
87	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	15.1 >	50k Availability >	Identified (within 500m)				
89 >	15.2 >	Artificial and made ground (50k) >	0	0	0	2	-
90	15.3	Artificial ground permeability (50k)	0	0	-	-	-
91 >	15.4 >	Superficial geology (50k) >	2	0	2	3	-
92 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
92	15.6	Landslip (50k)	0	0	0	0	-
92	15.7	Landslip permeability (50k)	None (within 50m)				
93 >	15.8 >	Bedrock geology (50k) >	1	2	2	6	-
94 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
94 >	15.10 >	Bedrock faults and other linear features (50k) >	0	2	3	8	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
96 >	16.1 >	BGS Boreholes >	0	0	4	-	-
Page	Section	Natural ground subsidence >					
98 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
99 >	17.2 >	Running sands >	Low (within 50m)				
101 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
103 >	17.4 >	Collapsible deposits >	Negligible (within 50m)				
104 >	17.5 >	Landslides >	Very low (within 50m)				
105 >	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
107 >	18.1 >	BritPits >	0	0	0	3	-
108 >	18.2 >	Surface ground workings >	0	0	11	-	-
109 >	18.3 >	Underground workings >	0	0	2	10	37
111	18.4	Underground mining extents	0	0	0	0	-
111	18.5	Historical Mineral Planning Areas	0	0	0	0	-



111 >	18.6 >	Non-coal mining >	1	2	0	4	2
113	18.7	JPB mining areas	None (within 0m)				
113	18.8	The Coal Authority non-coal mining	0	0	0	0	-
113	18.9	Researched mining	0	0	0	0	-
113	18.10	Mining record office plans	0	0	0	0	-
114	18.11	BGS mine plans	0	0	0	0	-
114 >	18.12 >	Coal mining >	Identified (within 0m)				
114	18.13	Brine areas	None (within 0m)				
114	18.14	Gypsum areas	None (within 0m)				
114	18.15	Tin mining	None (within 0m)				
115	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
116	19.1	Natural cavities	0	0	0	0	-
116	19.2	Mining cavities	0	0	0	0	0
116	19.3	Reported recent incidents	0	0	0	0	-
116	19.4	Historical incidents	0	0	0	0	-
117	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
118 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
120 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	6	-	-	-
121	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
121	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
122	22.1	Underground railways (London)	0	0	0	-	-
122	22.2	Underground railways (Non-London)	0	0	0	-	-
123	22.3	Railway tunnels	0	0	0	-	-
123 >	22.4 >	Historical railway and tunnel features >	0	0	15	-	-
124	22.5	Royal Mail tunnels	0	0	0	-	-



124	22.6	Historical railways	0	0	0	-	-
124	22.7	Railways	0	0	0	-	-
124	22.8	Crossrail 1	0	0	0	0	-
124	22.9	Crossrail 2	0	0	0	0	-
125	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 14/04/2020

Site Area: 0.23ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 January 2024

Recent site history - 2017 aerial photograph



Capture Date: 17/06/2017

Site Area: 0.23ha



Contact us with any questions at:

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01273 257 755

Date: 3 January 2024

Recent site history - 2013 aerial photograph



Capture Date: 14/07/2013

Site Area: 0.23ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 January 2024

Recent site history - 2010 aerial photograph



Capture Date: 22/05/2010

Site Area: 0.23ha



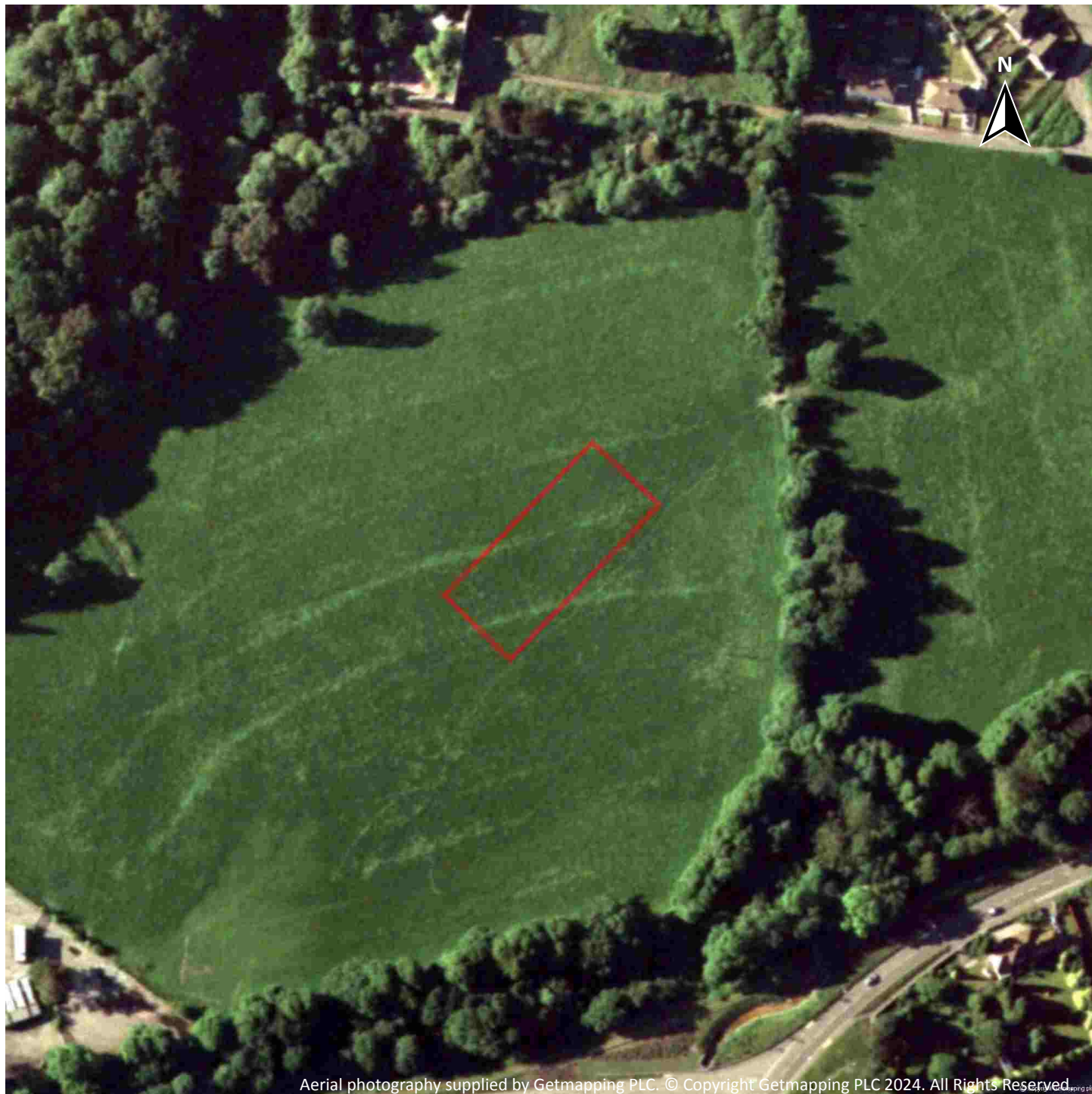
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 January 2024

Recent site history - 2000 aerial photograph



Capture Date: 18/06/2000

Site Area: 0.23ha



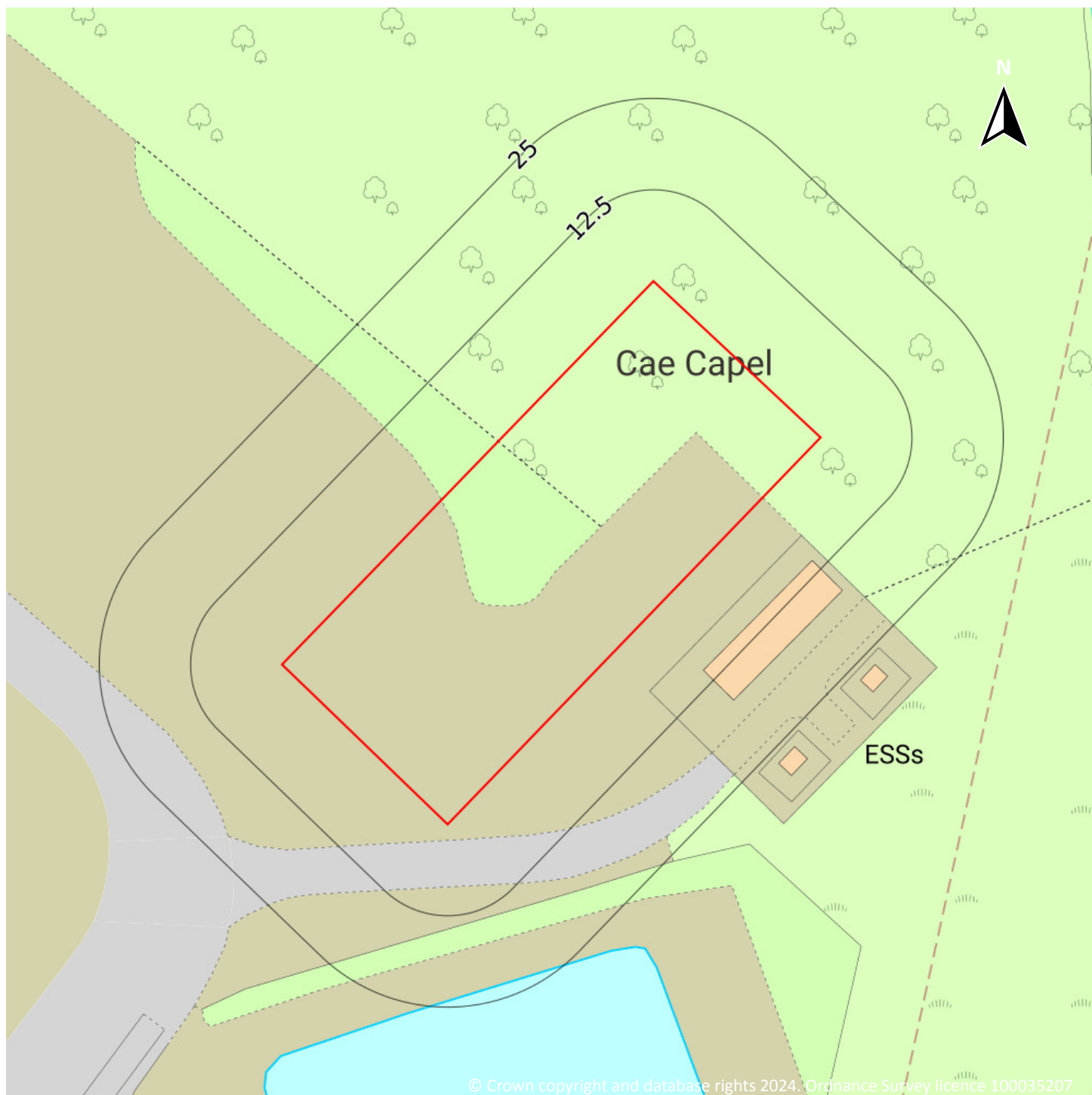
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 January 2024

OS MasterMap site plan



Site Area: 0.23ha



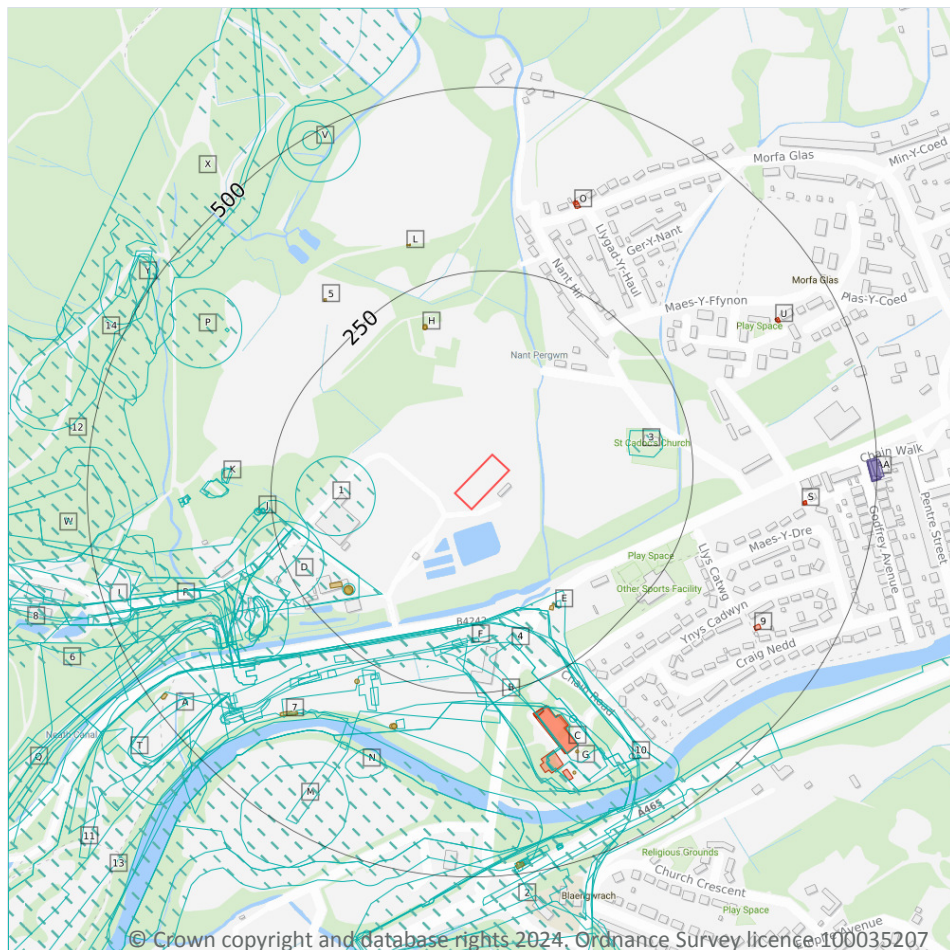
Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 January 2024

1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

110

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 15](#) >

ID	Location	Land use	Dates present	Group ID
1	109m W	Drift	1877	261741



ID	Location	Land use	Dates present	Group ID
A	147m S	Railway Sidings	1980	290842
A	147m S	Railway Sidings	1964	292033
A	149m S	Railway Sidings	1981	313565
B	150m S	Coal Screens	1938	297983
C	153m S	Railway Sidings	1914	307127
C	155m S	Railway Sidings	1938	296116
2	156m S	Railway Sidings	1948	275579
3	165m E	Grave Yard	1877	256020
D	167m SW	Unspecified Mine	1964 - 1980	296400
E	170m SE	Unspecified Tank	1914	252759
D	172m SW	Unspecified Commercial/Industrial	1981	264115
F	174m S	Railway Building	1948	256656
F	176m S	Railway Building	1948	311776
F	176m S	Railway Building	1964 - 1980	285526
4	178m S	Railway Building	1980	256659
D	187m SW	Unspecified Tank	1964 - 1981	300306
G	189m S	Electric Power Station	1948	292253
D	196m W	Drift Mill	1877	257063
I	205m W	Colliery	1948	285882
B	224m S	Railway Sidings	1948	278314
I	231m W	Railway Sidings	1948	304961
G	248m S	Unspecified Commercial/Industrial	1964 - 1980	288777
B	256m SW	Railway Building	1964 - 1980	282152
B	259m SW	Railway Building	1948	281635
J	259m W	Old Coal Pit	1948	276394
J	259m W	Old Coal Pit	1914	307575
J	259m W	Old Coal Pit	1938	293191
B	262m SW	Railway Building	1964 - 1980	311607



ID	Location	Land use	Dates present	Group ID
D	262m SW	Railway Sidings	1981	272173
J	263m W	Old Coal Pit	1897	288219
J	264m W	Unspecified Disused Shaft	1981	269346
J	266m W	Coal Pit	1877	253019
B	273m SW	Railway Building	1948	291784
B	287m SW	Railway Building	1948	256655
G	287m S	Electric Substation	1981	258887
D	288m W	Old Coal Level	1914	264581
D	298m SW	Unspecified Heap	1938	280996
D	298m SW	Unspecified Heap	1948	278794
D	298m SW	Unspecified Heap	1914	303646
B	300m S	Railway Building	1964 - 1980	289512
D	302m SW	Drift	1897	261742
K	303m W	Unspecified Pit	1914	316248
A	303m SW	Railway Sidings	1897	279179
B	303m SW	Railway Building	1964 - 1980	303081
B	304m SW	Railway Building	1948	290049
D	305m SW	Unspecified Heap	1877	317497
K	307m W	Unspecified Pit	1938	288076
K	307m W	Sawmill	1897 - 1914	301997
K	308m W	Sawmill	1938	309454
G	312m S	Unspecified Tank	1964 - 1980	305181
D	322m SW	Unspecified Ground Workings	1914	289445
D	322m SW	Unspecified Ground Workings	1948	305078
K	334m W	Lime Kiln	1877	265133
M	335m SW	Refuse Heap	1964	277301
D	342m SW	Unspecified Wharf	1877	255810
G	343m S	Electric Power Station	1914	298039



ID	Location	Land use	Dates present	Group ID
6	346m SW	Colliery	1914	310409
I	346m SW	Tramway Sidings	1914	273399
N	353m S	Refuse Heap	1948	273256
P	356m NW	Drift	1877	276518
A	359m SW	Railway Building	1948	256654
A	359m SW	Coal Screens	1914	275518
K	359m W	Smithy	1914	294312
M	360m SW	Refuse Heap	1980	297709
M	360m SW	Refuse Heap	1981	312086
K	360m W	Smithy	1938	313355
N	360m SW	Railway Building	1948	256738
Q	362m SW	Unspecified Commercial/Industrial	1938	264116
Q	362m SW	Railway Sidings	1938	291417
Q	363m SW	Tramway Sidings	1914	299876
K	367m W	Smithy	1877	297963
K	368m W	Smithy	1897	291354
8	371m W	Colliery	1938	317894
R	371m W	Cuttings	1938 - 1948	283568
R	372m W	Cuttings	1914	312998
A	376m SW	Unspecified Ground Workings	1938	280472
P	379m NW	Drift	1897	272690
10	397m SE	Unspecified Tank	1964 - 1980	289391
M	398m SW	Refuse Heap	1948	292790
11	399m SW	Colliery	1981	307257
I	404m W	Refuse Heap	1981	271275
12	405m W	Unspecified Disused Tip	1981	266293
T	410m SW	Refuse Heap	1938	295810
A	411m SW	Unspecified Ground Workings	1948	317620



ID	Location	Land use	Dates present	Group ID
T	415m SW	Refuse Heap	1914	296526
I	430m W	Unspecified Ground Workings	1948	267271
V	432m NW	Old Coal Level	1914	280792
T	433m SW	Unspecified Works	1964 - 1980	299521
W	438m W	Unspecified Mine	1964 - 1980	294747
X	442m NW	Colliery	1948	312669
Y	448m W	Refuse Heap	1914 - 1938	296828
Z	450m S	Railway Sidings	1964	271990
Z	452m S	Railway Sidings	1877 - 1897	279180
V	461m NW	Old Coal Level	1948	307536
W	464m W	Refuse Heap	1964 - 1980	276828
Z	468m S	Railway Buildings	1938	251584
Z	470m S	Railway Building	1914	311379
Z	470m S	Railway Building	1938	296604
Z	472m S	Railway Building	1964	287012
Z	473m S	Railway Building	1948	288270
Z	477m S	Railway Station	1948	265220
X	477m NW	Tramway Sidings	1877	293559
V	480m NW	Old Coal Level	1938	313171
Z	481m S	Railway Building	1914	291765
Z	481m S	Railway Building	1897	285388
Z	486m S	Railway Building	1877	292471
13	488m SW	Railway Sidings	1948	308747
Y	489m NW	Refuse Heap	1948	312591
14	498m NW	Refuse Heap	1964 - 1980	301292

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

22

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 15 >](#)

ID	Location	Land use	Dates present	Group ID
E	169m SE	Unspecified Tank	1919	34241
D	190m SW	Unspecified Tank	1962	34243
D	190m SW	Tanks	1983	34878
H	193m N	Unspecified Tank	1899 - 1996	35276
H	193m N	Unspecified Tank	1919	35656
D	196m SW	Tanks	1983	34877
B	278m SW	Unspecified Tank	1962	34237
L	305m N	Unspecified Tank	1971	35319
L	305m N	Unspecified Tank	1962	35906
L	306m N	Unspecified Tank	1876	35757
L	306m N	Unspecified Tank	1899	36518
L	306m N	Unspecified Tank	1919	36735
L	306m N	Unspecified Tank	1996	34944
L	307m N	Unspecified Tank	1990	36572
5	307m NW	Unspecified Tank	1919 - 1971	36124
B	310m S	Unspecified Tank	1962 - 1990	36665
B	310m S	Unspecified Tank	1983	35010
G	357m S	Unspecified Tank	1919	34240
7	363m SW	Unspecified Tank	1983 - 1990	35513
G	382m S	Unspecified Tank	1919	34239
T	477m SW	Unspecified Tank	1983 - 1990	36728



ID	Location	Land use	Dates present	Group ID
Z	484m S	Unspecified Tank	1962	34238

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	14
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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'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
G	285m S	Electricity Substation	1990	17908
G	286m S	Electricity Substation	1983	18043
G	287m S	Electricity Substation	1996	17813
G	287m S	Electricity Substation	1997	18441
G	346m S	Electric Power Station	1919	17745
O	353m N	Electricity Substation	1990 - 1996	18698
O	358m N	Electricity Transformer	1971	17685
G	376m S	Electricity Substation	1983 - 1990	18362
9	395m SE	Electricity Substation	1963 - 1998	18354
S	402m E	Electricity Substation	1963 - 1998	18847
S	402m E	Electricity Transformer	1971	17686
S	402m E	Electricity Substation	-	17307
U	416m NE	Electricity Substation	1963 - 1998	17922
U	418m NE	Electricity Substation	-	17297

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**5**

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'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
AA	487m E	Garage	1963	6032
AA	487m E	Garage	1992	6447
AA	487m E	Garage	1971 - 1998	6537
AA	488m E	Garage	1995 - 1996	6204
AA	492m E	Garage	1962	5833

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

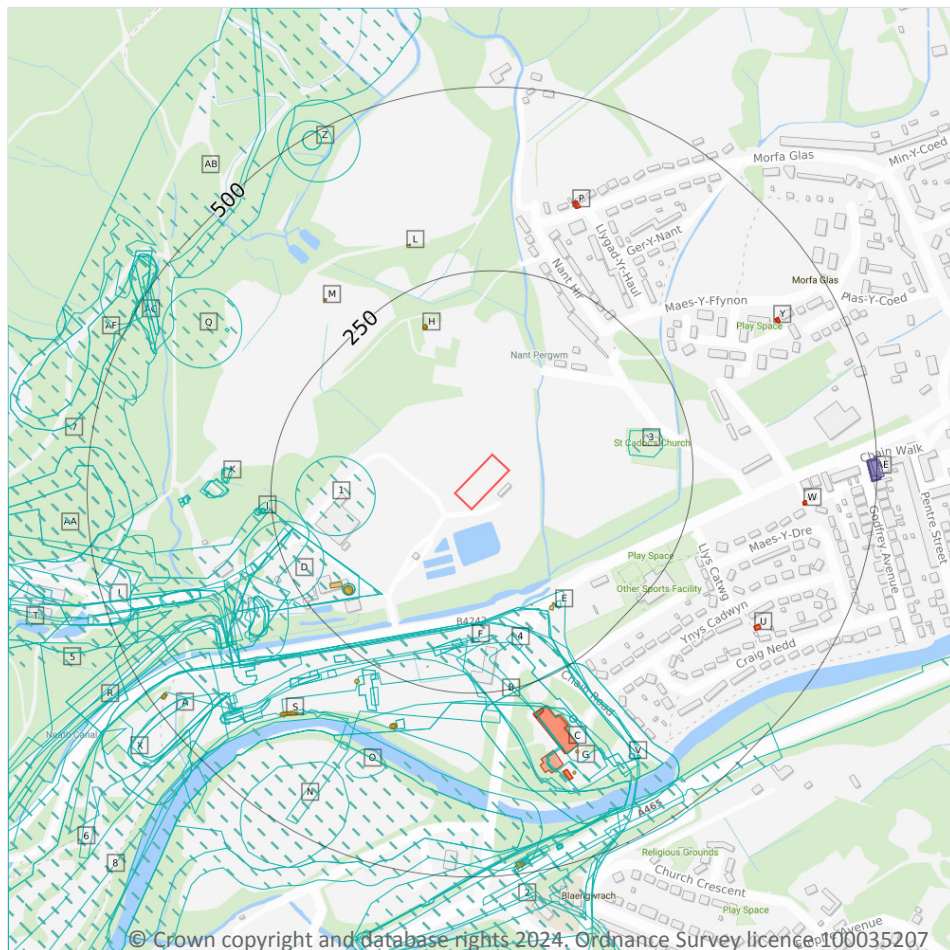
Records within 500m**0**

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

139

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 23](#) >

ID	Location	Land Use	Date	Group ID
1	109m W	Drift	1877	261741
A	147m S	Railway Sidings	1964	292033
A	147m S	Railway Sidings	1980	290842



ID	Location	Land Use	Date	Group ID
A	149m S	Railway Sidings	1981	313565
B	150m S	Coal Screens	1938	297983
C	153m S	Railway Sidings	1914	307127
C	155m S	Railway Sidings	1938	296116
2	156m S	Railway Sidings	1948	275579
3	165m E	Grave Yard	1877	256020
D	167m SW	Unspecified Mine	1964	296400
D	167m SW	Unspecified Mine	1980	296400
E	170m SE	Unspecified Tank	1914	252759
D	172m SW	Unspecified Commercial/Industrial	1981	264115
F	174m S	Railway Building	1948	256656
F	176m S	Railway Building	1948	311776
F	176m S	Railway Building	1964	285526
F	176m S	Railway Building	1980	285526
4	178m S	Railway Building	1980	256659
D	187m SW	Unspecified Tank	1964	300306
D	187m SW	Unspecified Tank	1980	300306
D	187m SW	Unspecified Tank	1981	300306
G	189m S	Electric Power Station	1948	292253
D	196m W	Drift Mill	1877	257063
I	205m W	Colliery	1948	285882
B	224m S	Railway Sidings	1948	278314
I	231m W	Railway Sidings	1948	304961
G	248m S	Unspecified Commercial/Industrial	1964	288777
G	248m S	Unspecified Commercial/Industrial	1980	288777
B	256m SW	Railway Building	1964	282152
B	256m SW	Railway Building	1980	282152
B	259m SW	Railway Building	1948	281635



ID	Location	Land Use	Date	Group ID
J	259m W	Old Coal Pit	1948	276394
J	259m W	Old Coal Pit	1914	307575
J	259m W	Old Coal Pit	1938	293191
J	259m W	Old Coal Pit	1938	293191
B	262m SW	Railway Building	1964	311607
B	262m SW	Railway Building	1980	311607
D	262m SW	Railway Sidings	1981	272173
J	263m W	Old Coal Pit	1897	288219
J	264m W	Unspecified Disused Shaft	1981	269346
J	266m W	Coal Pit	1877	253019
B	273m SW	Railway Building	1948	291784
B	287m SW	Railway Building	1948	256655
G	287m S	Electric Substation	1981	258887
D	288m W	Old Coal Level	1914	264581
D	298m SW	Unspecified Heap	1938	280996
D	298m SW	Unspecified Heap	1938	280996
D	298m SW	Unspecified Heap	1948	278794
D	298m SW	Unspecified Heap	1914	303646
B	300m S	Railway Building	1964	289512
B	300m S	Railway Building	1980	289512
D	302m SW	Drift	1897	261742
K	303m W	Unspecified Pit	1914	316248
A	303m SW	Railway Sidings	1897	279179
B	303m SW	Railway Building	1964	303081
B	303m SW	Railway Building	1980	303081
B	304m SW	Railway Building	1948	290049
D	305m SW	Unspecified Heap	1877	317497
K	307m W	Unspecified Pit	1938	288076



ID	Location	Land Use	Date	Group ID
K	307m W	Unspecified Pit	1938	288076
K	307m W	Sawmill	1914	301997
K	308m W	Sawmill	1938	309454
G	312m S	Unspecified Tank	1964	305181
G	312m S	Unspecified Tank	1980	305181
K	315m W	Sawmill	1897	301997
D	322m SW	Unspecified Ground Workings	1914	289445
D	322m SW	Unspecified Ground Workings	1948	305078
K	334m W	Lime Kiln	1877	265133
N	335m SW	Refuse Heap	1964	277301
D	342m SW	Unspecified Wharf	1877	255810
G	343m S	Electric Power Station	1914	298039
5	346m SW	Colliery	1914	310409
I	346m SW	Tramway Sidings	1914	273399
O	353m S	Refuse Heap	1948	273256
Q	356m NW	Drift	1877	276518
A	359m SW	Railway Building	1948	256654
A	359m SW	Coal Screens	1914	275518
K	359m W	Smithy	1914	294312
N	360m SW	Refuse Heap	1980	297709
N	360m SW	Refuse Heap	1981	312086
K	360m W	Smithy	1938	313355
O	360m SW	Railway Building	1948	256738
R	362m SW	Railway Sidings	1938	291417
R	362m SW	Unspecified Commercial/Industrial	1938	264116
R	363m SW	Tramway Sidings	1914	299876
K	367m W	Smithy	1877	297963
K	368m W	Smithy	1897	291354



ID	Location	Land Use	Date	Group ID
I	371m W	Cuttings	1938	283568
T	371m W	Colliery	1938	317894
T	371m W	Colliery	1938	317894
I	372m W	Cuttings	1914	312998
A	376m SW	Unspecified Ground Workings	1938	280472
A	376m SW	Unspecified Ground Workings	1938	280472
Q	379m NW	Drift	1897	272690
I	384m W	Cuttings	1948	283568
V	397m SE	Unspecified Tank	1964	289391
V	397m SE	Unspecified Tank	1980	289391
N	398m SW	Refuse Heap	1948	292790
6	399m SW	Colliery	1981	307257
I	404m W	Refuse Heap	1981	271275
7	405m W	Unspecified Disused Tip	1981	266293
X	410m SW	Refuse Heap	1938	295810
X	410m SW	Refuse Heap	1938	295810
A	411m SW	Unspecified Ground Workings	1948	317620
X	415m SW	Refuse Heap	1914	296526
I	430m W	Unspecified Ground Workings	1948	267271
Z	432m NW	Old Coal Level	1914	280792
X	433m SW	Unspecified Works	1964	299521
X	433m SW	Unspecified Works	1980	299521
AA	438m W	Unspecified Mine	1964	294747
AA	438m W	Unspecified Mine	1980	294747
AB	442m NW	Colliery	1948	312669
AC	448m W	Refuse Heap	1938	296828
AC	448m W	Refuse Heap	1938	296828
AD	450m S	Railway Sidings	1964	271990



ID	Location	Land Use	Date	Group ID
AC	452m W	Refuse Heap	1914	296828
AD	452m S	Railway Sidings	1897	279180
AD	457m S	Railway Sidings	1877	279180
AC	458m NW	Refuse Heap	1938	296828
AC	458m NW	Refuse Heap	1938	296828
Z	461m NW	Old Coal Level	1948	307536
AA	464m W	Refuse Heap	1964	276828
AA	464m W	Refuse Heap	1980	276828
AD	468m S	Railway Buildings	1938	251584
AD	470m S	Railway Building	1914	311379
AD	470m S	Railway Building	1938	296604
AD	472m S	Railway Building	1964	287012
AD	473m S	Railway Building	1948	288270
AD	477m S	Railway Station	1948	265220
AB	477m NW	Tramway Sidings	1877	293559
Z	480m NW	Old Coal Level	1938	313171
Z	480m NW	Old Coal Level	1938	313171
AD	481m S	Railway Building	1914	291765
AD	481m S	Railway Building	1897	285388
AD	486m S	Railway Building	1877	292471
8	488m SW	Railway Sidings	1948	308747
AC	489m NW	Refuse Heap	1948	312591
AF	498m NW	Refuse Heap	1964	301292
AF	498m NW	Refuse Heap	1980	301292

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

31

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 23](#) >

ID	Location	Land Use	Date	Group ID
E	169m SE	Unspecified Tank	1919	34241
D	190m SW	Unspecified Tank	1962	34243
D	190m SW	Tanks	1983	34878
H	193m N	Unspecified Tank	1962	35276
H	193m N	Unspecified Tank	1971	35276
H	193m N	Unspecified Tank	1919	35656
H	194m N	Unspecified Tank	1899	35276
H	194m N	Unspecified Tank	1996	35276
D	196m SW	Tanks	1983	34877
B	278m SW	Unspecified Tank	1962	34237
L	305m N	Unspecified Tank	1962	35906
L	305m N	Unspecified Tank	1971	35319
L	306m N	Unspecified Tank	1876	35757
L	306m N	Unspecified Tank	1899	36518
L	306m N	Unspecified Tank	1919	36735
L	306m N	Unspecified Tank	1996	34944
L	307m N	Unspecified Tank	1990	36572
L	307m N	Unspecified Tank	1990	36572
M	307m NW	Unspecified Tank	1919	36124
M	308m NW	Unspecified Tank	1962	36124
M	308m NW	Unspecified Tank	1971	36124
B	310m S	Unspecified Tank	1962	36665
B	310m S	Unspecified Tank	1983	35010



ID	Location	Land Use	Date	Group ID
B	311m S	Unspecified Tank	1990	36665
G	357m S	Unspecified Tank	1919	34240
S	363m SW	Unspecified Tank	1983	35513
S	365m SW	Unspecified Tank	1990	35513
G	382m S	Unspecified Tank	1919	34239
X	477m SW	Unspecified Tank	1983	36728
X	479m SW	Unspecified Tank	1990	36728
AD	484m S	Unspecified Tank	1962	34238

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

30

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

Features are displayed on the Past land use - un-grouped map on [page 23 >](#)

ID	Location	Land Use	Date	Group ID
G	285m S	Electricity Substation	1990	17908
G	286m S	Electricity Substation	1983	18043
G	287m S	Electricity Substation	1996	17813
G	287m S	Electricity Substation	1997	18441
G	346m S	Electric Power Station	1919	17745
P	353m N	Electricity Substation	1990	18698
P	353m N	Electricity Substation	1990	18698
P	354m N	Electricity Substation	1996	18698
P	358m N	Electricity Transformer	1971	17685
G	376m S	Electricity Substation	1990	18362
G	377m S	Electricity Substation	1983	18362
U	395m SE	Electricity Substation	1963	18354



ID	Location	Land Use	Date	Group ID
U	395m SE	Electricity Substation	1996	18354
U	395m SE	Electricity Substation	1998	18354
U	396m SE	Electricity Substation	1983	18354
W	402m E	Electricity Substation	1963	18847
W	402m E	Electricity Substation	1992	18847
W	402m E	Electricity Substation	1992	18847
W	402m E	Electricity Transformer	1971	17686
W	402m E	Electricity Substation	-	17307
W	403m E	Electricity Substation	1995	18847
W	403m E	Electricity Substation	1996	18847
W	403m E	Electricity Substation	1998	18847
Y	416m NE	Electricity Substation	1963	17922
Y	416m NE	Electricity Substation	1992	17922
Y	416m NE	Electricity Substation	1992	17922
Y	417m NE	Electricity Substation	1995	17922
Y	417m NE	Electricity Substation	1996	17922
Y	417m NE	Electricity Substation	1998	17922
Y	418m NE	Electricity Substation	-	17297

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

8

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

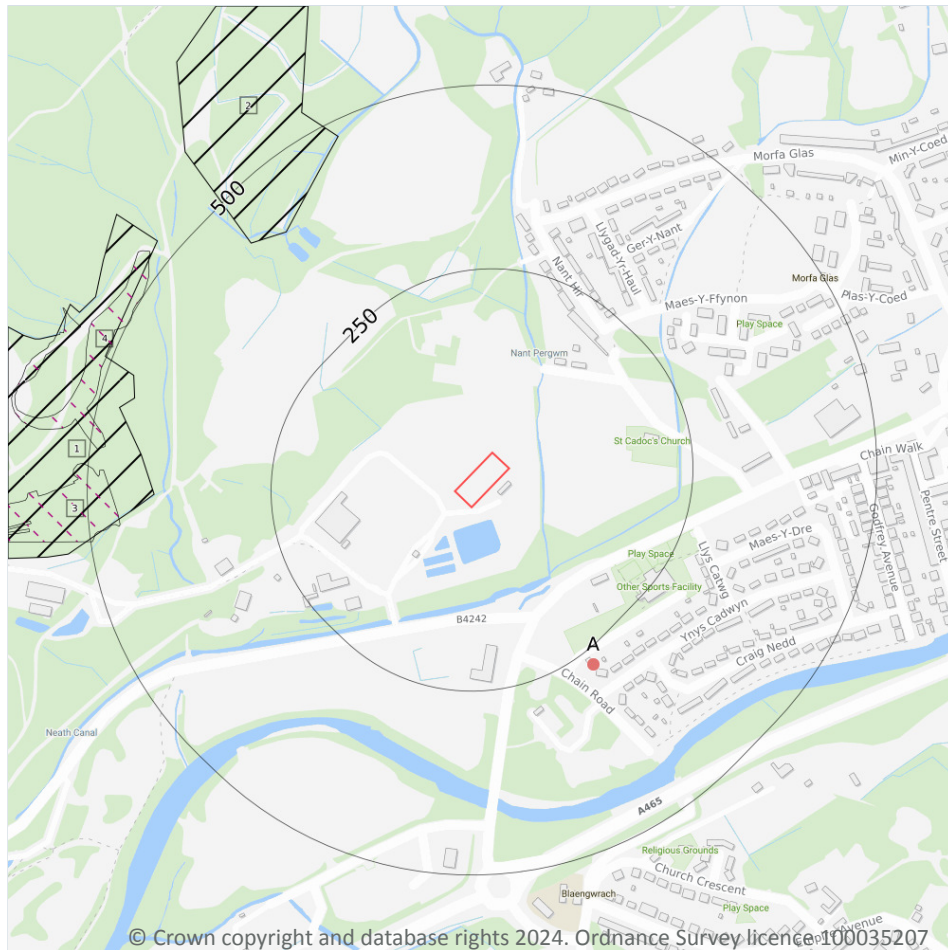
Features are displayed on the Past land use - un-grouped map on [page 23 >](#)

ID	Location	Land Use	Date	Group ID
AE	487m E	Garage	1992	6447
AE	487m E	Garage	1992	6447
AE	487m E	Garage	1963	6032
AE	487m E	Garage	1998	6537
AE	488m E	Garage	1995	6204
AE	488m E	Garage	1996	6204
AE	488m E	Garage	1971	6537
AE	492m E	Garage	1962	5833

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical landfill (LA/OS)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

2

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

Features are displayed on the Waste and landfill map on [page 33 >](#)

ID	Location	Site address	Source	Data type
3	457m W	Refuse Tip	1962 mapping	Polygon
4	480m W	Refuse Tip	1962 mapping	Polygon

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

2

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 33 >](#)

ID	Location	Details		
1	409m W	Site Address: Tip Morfa Glas, Blaengwrach Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -
2	410m NW	Site Address: Tip Morfa Glas, Blaengwrach Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

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



3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

2

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.

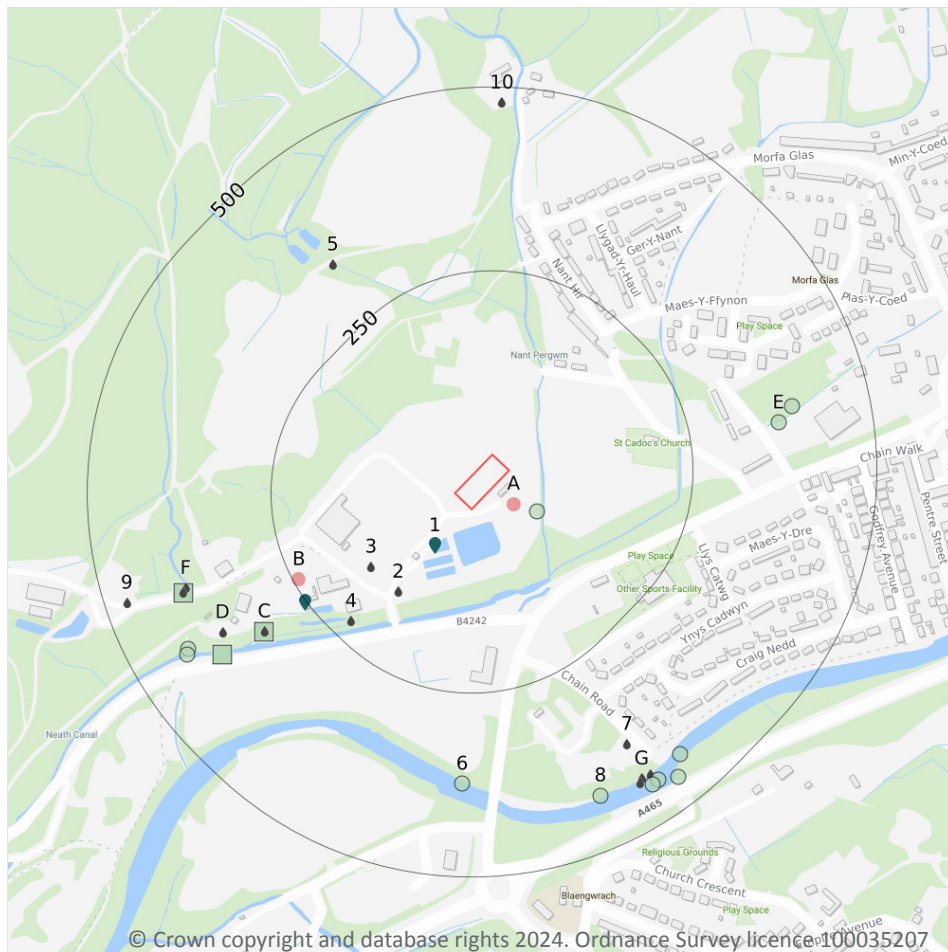
Features are displayed on the Waste and landfill map on [page 33](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
A	271m SE	D R Cecil Jones & Son Lts, Vale of Neath Pharmacy, Chain Road, Glynneath, SA11 5HP	NRW-WME074743	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	271m SE	Knights Brown Construction, Glynneath Flood Defences - Chain Road Blockstone Repair, Chain Road, Glynneath, Neath, Castell-nedd Port Talbot, SA11 5HP	NRW-WME044483	Using waste exemption	Not on a farm	Use of waste in construction

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 36](#) >

ID	Location	Company	Address	Activity	Category
A	36m SE	Electricity Sub Station	West Glamorgan, SA11	Electrical Features	Infrastructure and Facilities
B	242m SW	Energy Build Ltd	Aberpergwm Colliery, -, Glynneath, West Glamorgan, SA11 5AJ	Ore Mining	Extractive Industries

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

2

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

Features are displayed on the Current industrial land use map on [page 36](#) >

ID	Location	Address	Details	
1	70m SW	Nant Y Mynydd Opencast Coal Site, Aberpergwm Colliery, Engine Cottage Site, Glynneath, Neath, SA1 5TY	Process: Coal & Coke Status: Historical Permit Permit Type: Part B	Enforcement: No enforcements issued Date of enforcement: No enforcements issued Comment: No enforcements issued
B	252m SW	Energybuild Limited, Aberpergwm Colliery, Aberpergwm, Near Glynneath, Neath Port Talbot, SA11 5AJ	Process: Coal & Coke Status: Current Permit Permit Type: Part B	Enforcement: No enforcements issued Date of enforcement: No enforcements issued Comment: No enforcements issued

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	15
----------------------------	-----------

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

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Address	Details	
2	150m SW	SITE DRAINAGE AT CAE CAPEL FIELD, ABERPERGWWM COLLIERY, ENGINE COTTAGE SITE, GLYNNEATH, NEATH PORT TALBOT, SA11 5SF	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: DP3025GS Permit Version: 0 Receiving Water: UNNAMED TRIB OF RIVER NEATH	Status: Effective Issue date: 28/10/2010 Effective Date: 01/03/2011 Revocation Date: -
3	151m SW	CAE CAPEL FIELD, ADJACENT TO ABERPERGWWM COLLIERY, ENGINE COTTAGE SITE, GLYNNEATH NEATH, NEATH PORT TALBOT, SA11 5SF	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: NPSWQD005341 Permit Version: 1 Receiving Water: UN-NAMED TRIB RIVER NEATH	Status: SURRENDERED UNDER EPR 2010 Issue date: 05/03/2009 Effective Date: 05/03/2009 Revocation Date: 08/06/2012



ID	Location	Address	Details	
4	223m SW	ABERPERQWM COLLIERY, ENGINE COTTAGE SITE, GLNNEATH, NEATH, SA11 5SF	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WQD004611 Permit Version: 0 Receiving Water: UNNAMED TRIB OF R. NEATJ	Status: Effective Issue date: 09/01/2009 Effective Date: 09/01/2009 Revocation Date: -
C	320m SW	NEW ABERPERGWM COLLIERY SURFACE WAT, NEW ABERPERGWM COLLIERY SURFACE, ABERPERGWM COLLIERY, GLYNEATH, NEATH PORT TALBOT CBC, SA11 5AJ	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: BP0299101 Permit Version: 0 Receiving Water: NANT YSGWRFA	Status: Effective Issue date: 12/11/2019 Effective Date: 05/12/2019 Revocation Date: -
C	320m SW	NEW ABERPERGWM COLLIERY SURFACE WAT, NEW ABERPERGWM COLLIERY SURFACE, ABERPERGWM COLLIERY, GLYNEATH, NEATH PORT TALBOT CBC	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: BP0299101 Permit Version: 1 Receiving Water: NANT YSGWRFA	Status: Effective Issue date: 22/08/2002 Effective Date: 22/08/2002 Revocation Date: -
5	337m NW	ROCK TIP OPENCAST SITE - POINT	Effluent Type: UNSPECIFIED Permit Number: BM0012602 Permit Version: 1 Receiving Water: NANT PERGWM	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 12/05/1981 Effective Date: 12/05/1981 Revocation Date: 22/01/1992
D	368m SW	ABERPERGWM COLLIERY SURFACE WATER D, ABERPERGWM COLLIERY, GLYNEATH, NEATH PORT TALBOT CBC, WALES, SA11 5TY	Effluent Type: MINEWATER Permit Number: BP0233001 Permit Version: 1 Receiving Water: NANT YSGWRFA	Status: REVOKED - UNSPECIFIED Issue date: 25/01/1994 Effective Date: 25/01/1994 Revocation Date: 14/12/2004
7	382m SE	Chainbridge CSO Glyn-Neath, Nr 1 Chain Rd, Cwmgrach, Glyn Neath, SA11 5HW	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: BP0341101 Permit Version: 2 Receiving Water: River Neath	Status: Effective Issue date: 27/05/2020 Effective Date: 27/05/2020 Revocation Date: -
F	388m W	ABERPERGWM COLLIERY MINEWATER DISCH, ABERPERGWM COLLIERY MINEWATER DS, ABERPERGWM, GLYN NEATH, NEATH PORT TALBOT	Effluent Type: MINEWATER Permit Number: BP0166101 Permit Version: 1 Receiving Water: THE NANT YSGWRFA (TRIB OF RIVE	Status: REVOKED - UNSPECIFIED Issue date: 28/09/1990 Effective Date: 28/09/1990 Revocation Date: 18/04/1995
F	393m W	ABERPERGWM COLLIERY MINEWATER DISCH, ABERPERGWM COLLIERY MINEWATER DS, ABERPERGWM, GLYN NEATH, NEATH PORT TALBOT	Effluent Type: MINEWATER Permit Number: BP0166101 Permit Version: 2 Receiving Water: THE NANT YSGWRFA (TRIB OF RIVE	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 19/04/1995 Effective Date: 19/04/1995 Revocation Date: 30/10/2007



ID	Location	Address	Details	
G	433m SE	Chainbridge CSO, Glyn-Neath, Nr 1 Chain Rd, Cwmgrach, Glyn Neath, SA11 5HW	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: BP0341101 Permit Version: 0 Receiving Water: River Neath	Status: Effective Issue date: 27/05/2020 Effective Date: 27/05/2020 Revocation Date: -
G	434m SE	Plas-Y-Coed CSO, Glynneath, Plas-y-Coed, Glynneath, Neath, SA11 5SB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BB3893NJ Permit Version: 0 Receiving Water: River Neath via surface water sewer	Status: Effective Issue date: 13/11/2020 Effective Date: 13/11/2020 Revocation Date: -
G	437m SE	CHAINBRIDGE CSO GLYN-NEATH, CHAINBRIDGE CSO, GLYN-NEATH, NEATH PORT TALBOT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0341101 Permit Version: 1 Receiving Water: RIVER NEATH	Status: Effective Issue date: 31/03/2005 Effective Date: 31/03/2005 Revocation Date: -
9	470m W	HAUL R'D HIRFYNYDD MT GLYNNEATH NPT, HAUL ROAD, BETW NANT Y MYNYDD & ABERPERGWMM, HIRFYNYDD MOUNTAIN, GLYNNEATH NEATH PORT TALBOT	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: BP0166101 Permit Version: 0 Receiving Water: THE NANT YSGWRFA (TRIB OF RIVE	Status: Effective Issue date: 31/10/2007 Effective Date: 31/10/2007 Revocation Date: -
10	478m N	1 FM COTTAGES ABERPERGWMM GLYNNEATH, 1 FM COTTAGES ABERPERGWMM GLYNNEA, ABERPERGWMM GLYNNEATH, GLYNNEATH.	Effluent Type: UNSPECIFIED Permit Number: BM0019501 Permit Version: 1 Receiving Water: UNDERGROUND STRATA	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 12/10/1981 Effective Date: 12/10/1981 Revocation Date: 18/11/1992

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

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

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



4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**3**

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

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Name	Status	Receiving Water	Authorised Substances
C	320m SW	New Aberpergwm Colliery	Active	Unknown	Iron
D	385m SW	Aberpergwm Colliery	Not Active	Unknown	Iron
F	393m W	Aberpergwm Colliery	Active	Unknown	Iron, pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**11**

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

Features are displayed on the Current industrial land use map on [page 36 >](#)



ID	Location	Details	
A	66m SE	Incident Date: 08/07/2007 Incident Identification: 511667 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
E	371m E	Incident Date: 13/11/2001 Incident Identification: 42520 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
6	373m S	Incident Date: 29/07/2013 Incident Identification: 1141131 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
E	394m E	Incident Date: 21/01/2003 Incident Identification: 132329 Pollutant: Contaminated Water Pollutant Description: Vehicle and Plant Washings	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	419m SW	Incident Date: 16/12/2015 Incident Identification: 1395058 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	425m SW	Incident Date: 22/10/2014 Incident Identification: 1288742 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
8	426m S	Incident Date: 08/08/2014 Incident Identification: 1266356 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
G	437m SE	Incident Date: 29/09/2006 Incident Identification: 439957 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	447m SE	Incident Date: 26/04/2001 Incident Identification: 3566 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	447m SE	Incident Date: 21/04/2003 Incident Identification: 152702 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)



ID	Location	Details	
G	460m SE	Incident Date: 17/04/2001 Incident Identification: 2559 Pollutant: Oils and Fuel Pollutant Description: Kerosene and Aviation Fuel	Water Impact: Category 3 (Minor) 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.

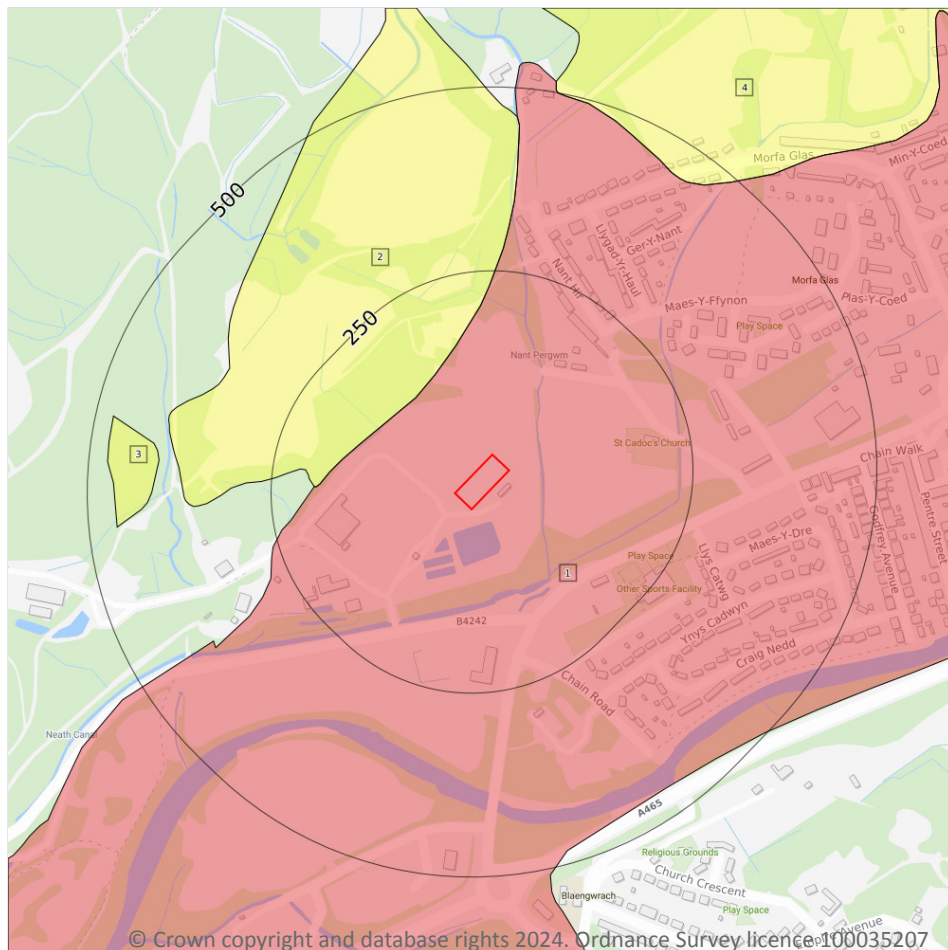
4.21 Pollution inventory radioactive waste

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



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

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 45 >](#)

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	129m NW	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

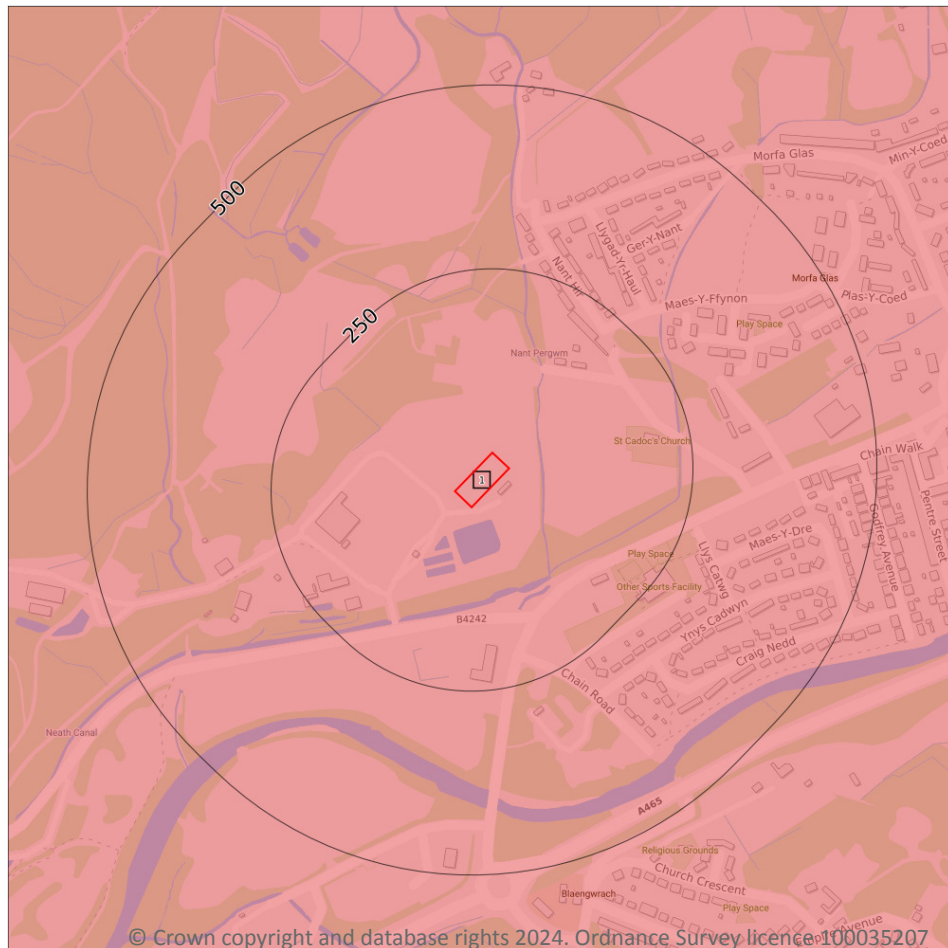


ID	Location	Designation	Description
3	405m W	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	454m 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

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

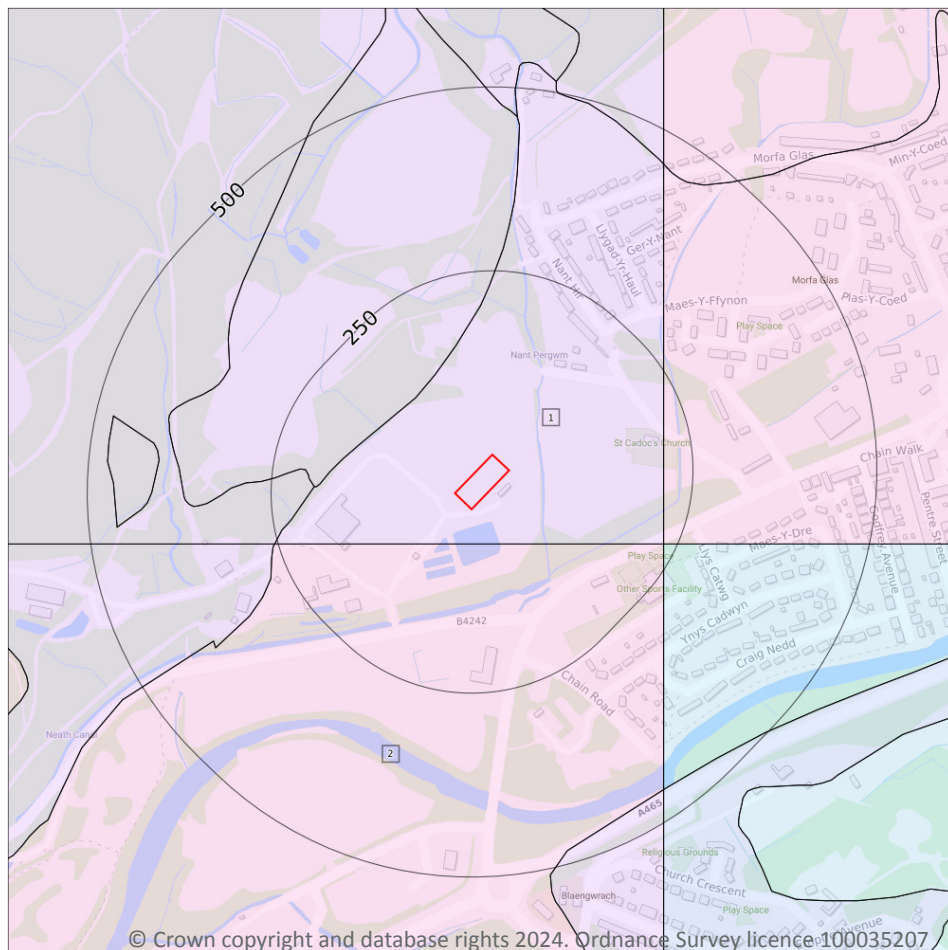
Features are displayed on the Bedrock aquifer map on [page 47](#) >

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

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



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

2

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 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: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	47m S	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: >550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

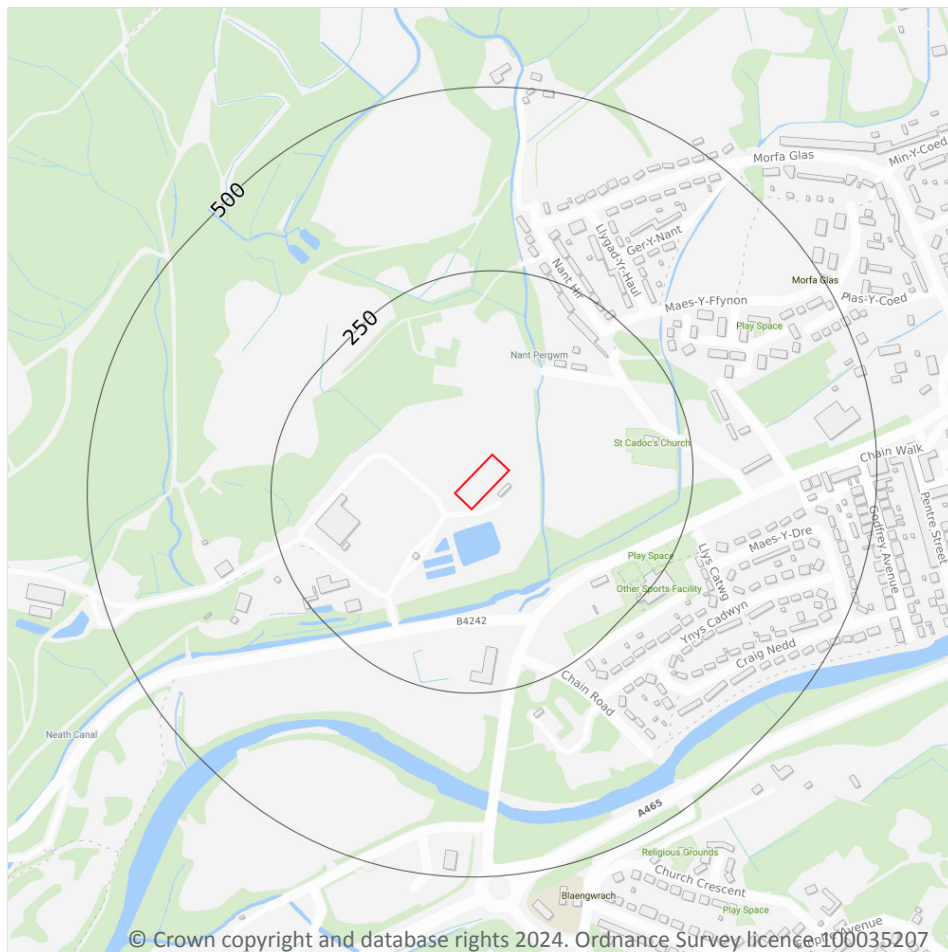
0

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

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



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
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

0

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

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



5.7 Surface water abstractions

Records within 2000m

7

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 50 >](#)

ID	Location	Details	
-	728m W	Status: Historical Licence No: 21/58/72/0030 Details: Make-up or Top-up Water - High Direct Source: - Point: - Data Type: Point Name: - Easting: 285990 Northing: 206010	Annual Volume (m ³): 43000 Max Daily Volume (m ³): 240 Original Application No: - Original Start Date: 07/03/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	728m W	Status: Historical Licence No: 21/58/72/0030 Details: Make-Up Or Top Up Water Direct Source: EAW Surface Water Point: TRIBUTARY OF RIVER NEATH AT PENSTAR TIP Data Type: Point Name: Energybuild Limited Easting: 285990 Northing: 206010	Annual Volume (m ³): 43000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 28/01/1991 Expiry Date: - Issue No: 104 Version Start Date: 07/03/2005 Version End Date: -
-	728m W	Status: Active Licence No: 21/58/72/0030 Details: Make-up or Top-up Water - High Direct Source: - Point: - Data Type: Point Name: - Easting: 285990 Northing: 206010	Annual Volume (m ³): 43000 Max Daily Volume (m ³): 120 Original Application No: - Original Start Date: 07/03/2005 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1166m N	Status: Active Licence No: WA/058/0072/0007 Details: Hydro-electric Power Generation - Very Low Direct Source: Unnamed Tributary of the Afon Pergwm Point: - Data Type: Point Name: - Easting: 286584 Northing: 207273	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/04/2016 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -



ID	Location	Details	
-	1555m SW	Status: Historical Licence No: 21/58/72/0034 Details: Dust Suppression Direct Source: EAW Surface Water Point: RIVER NEATH CWMGWRACH BLAENGWRACH Data Type: Point Name: Unity Mine Limited Easting: 285880 Northing: 204750	Annual Volume (m ³): 18500 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 19/09/1995 Expiry Date: - Issue No: 104 Version Start Date: 31/05/2007 Version End Date: -
-	1555m SW	Status: Historical Licence No: 21/58/72/0034 Details: Dust Supression - High Direct Source: River Neath at Cwmgwrach Point: - Data Type: Point Name: - Easting: 285880 Northing: 204750	Annual Volume (m ³): 18500 Max Daily Volume (m ³): 1680 Original Application No: - Original Start Date: 10/05/2018 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1555m SW	Status: Active Licence No: 21/58/72/0034 Details: Dust Supression - High Direct Source: River Neath at Cwmgwrach Point: - Data Type: Point Name: - Easting: 285880 Northing: 204750	Annual Volume (m ³): 18500 Max Daily Volume (m ³): 100 Original Application No: - Original Start Date: 10/05/2018 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

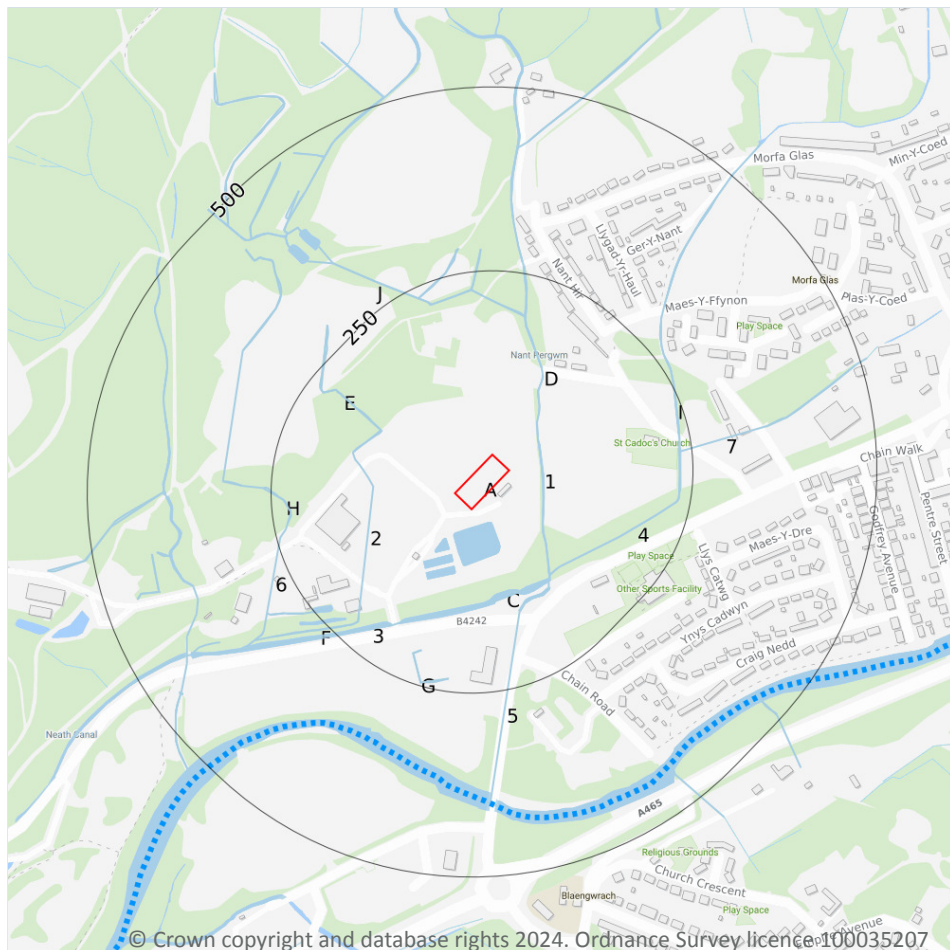
0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

30

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 54 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
1	44m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm



ID	Location	Type of water feature	Ground level	Permanence	Name
2	111m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	120m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Neath Canal
3	127m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Neath Canal
C	127m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Neath Canal
D	129m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
C	130m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Neath Canal
E	130m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	135m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
4	137m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	137m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
C	142m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
C	143m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
C	145m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm



ID	Location	Type of water feature	Ground level	Permanence	Name
5	153m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
D	193m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	193m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Nant Pergwm
G	203m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	209m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	214m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	216m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	220m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	224m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	225m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	231m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
7	233m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
I	233m 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
D	235m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	235m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	239m SW	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

21

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

Features are displayed on the Hydrology map on [page 54 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on [page 54 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River WB catchment	Neath - conf with Nedd Fechan and Mellte to TL	GB110058032430	Neath	Tawe to Cadoxton

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



6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on [page 54 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
11	342m SW	River	Neath - conf with Nedd Fechan and Mellte to TL	GB110058032430	Good	Good	Good	2016

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

6.5 WFD Groundwater bodies

Records on site

1

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

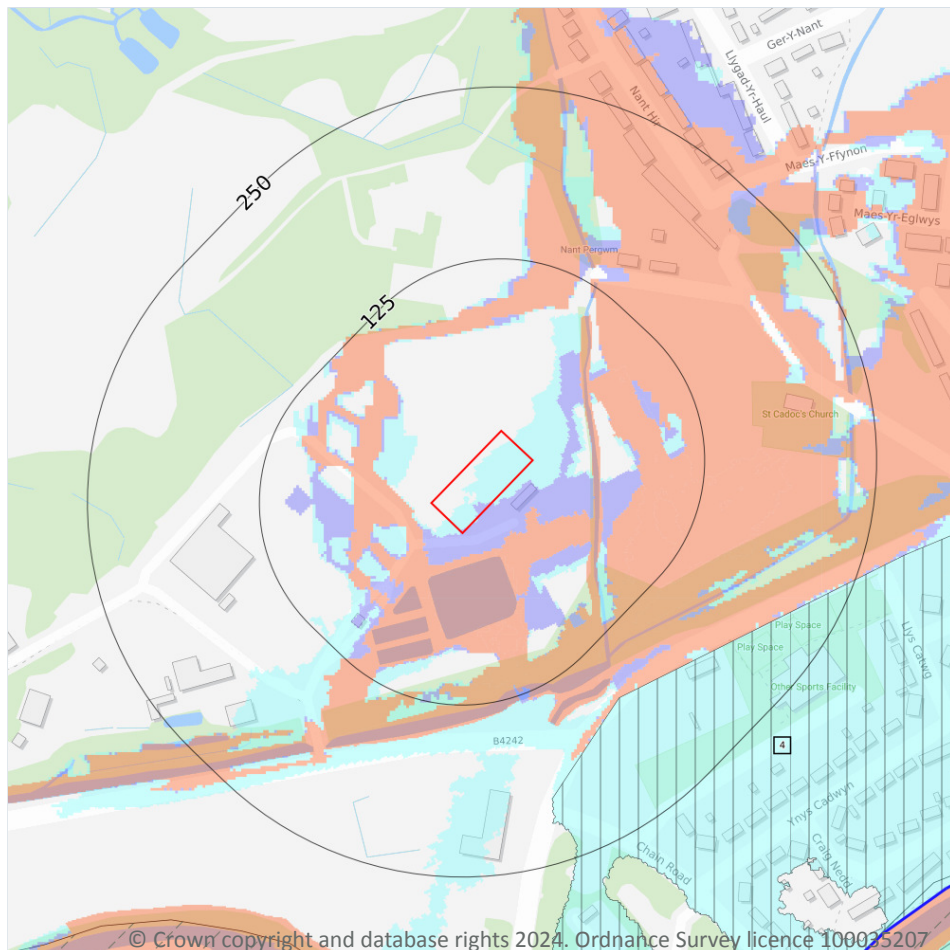
Features are displayed on the Hydrology map on [page 54 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Swansea Carboniferous Coal Measures	GB41002G201000	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

45

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 59 >](#)



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

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

7.2 Historical Flood Events

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

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

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

7.3 Flood Defences

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

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

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

7.4 Areas Benefiting from Flood Defences

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

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

Features are displayed on the River and coastal flooding map on [page 59 >](#)

ID	Location	
4	165m SE	Area benefiting from flood defences

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



7.5 Flood Storage Areas

Records within 250m

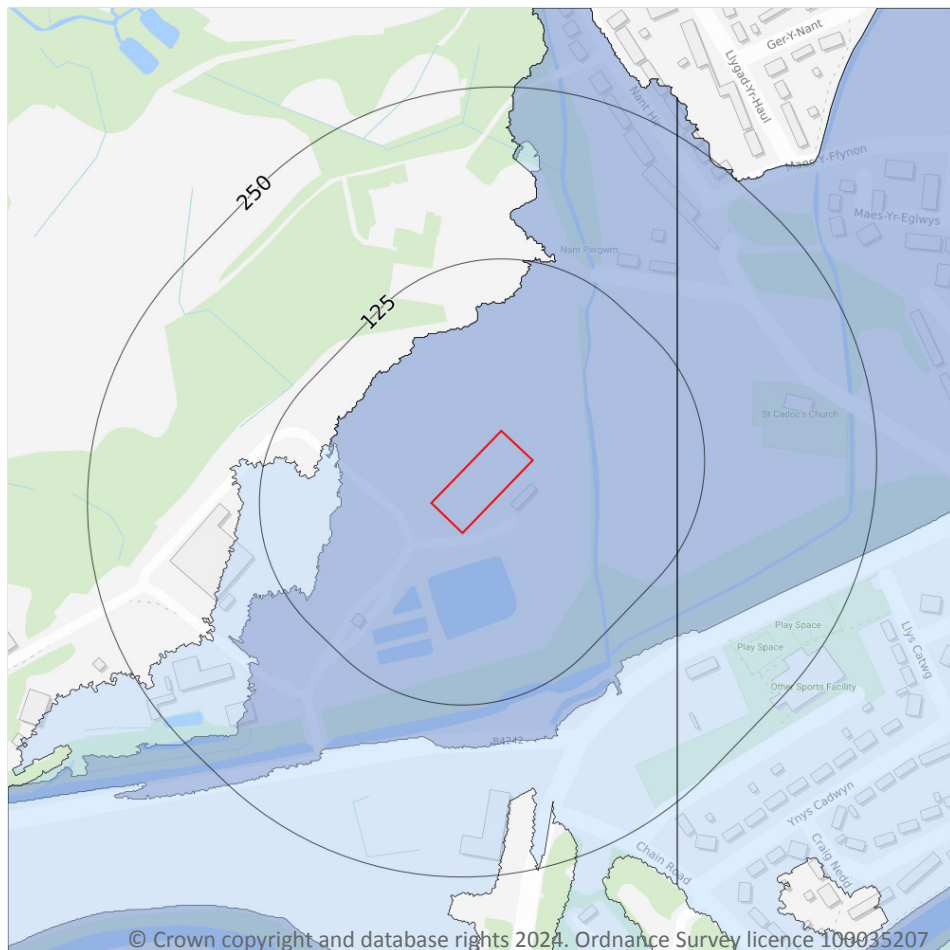
0

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

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



River and coastal flooding - Flood Zones



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

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on [page 59](#) >

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.

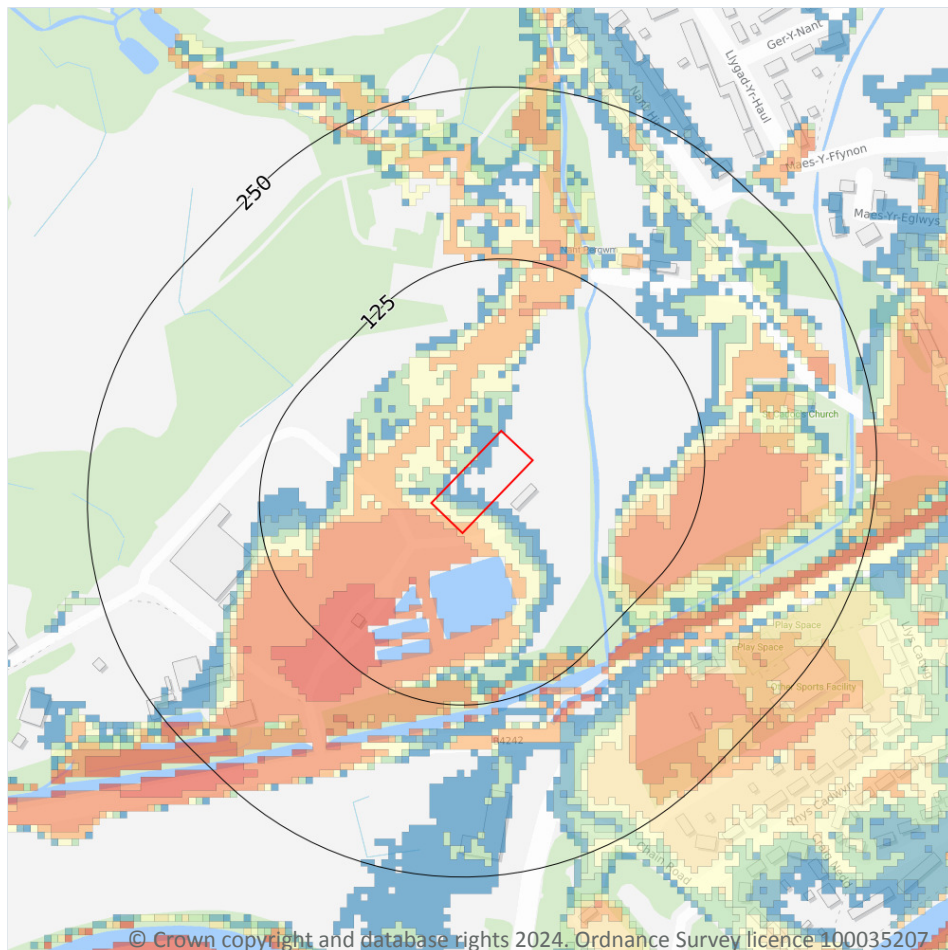
Features are displayed on the River and coastal flooding map on [page 59](#) >

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, 0.1m - 0.3m

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 64 >](#)

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

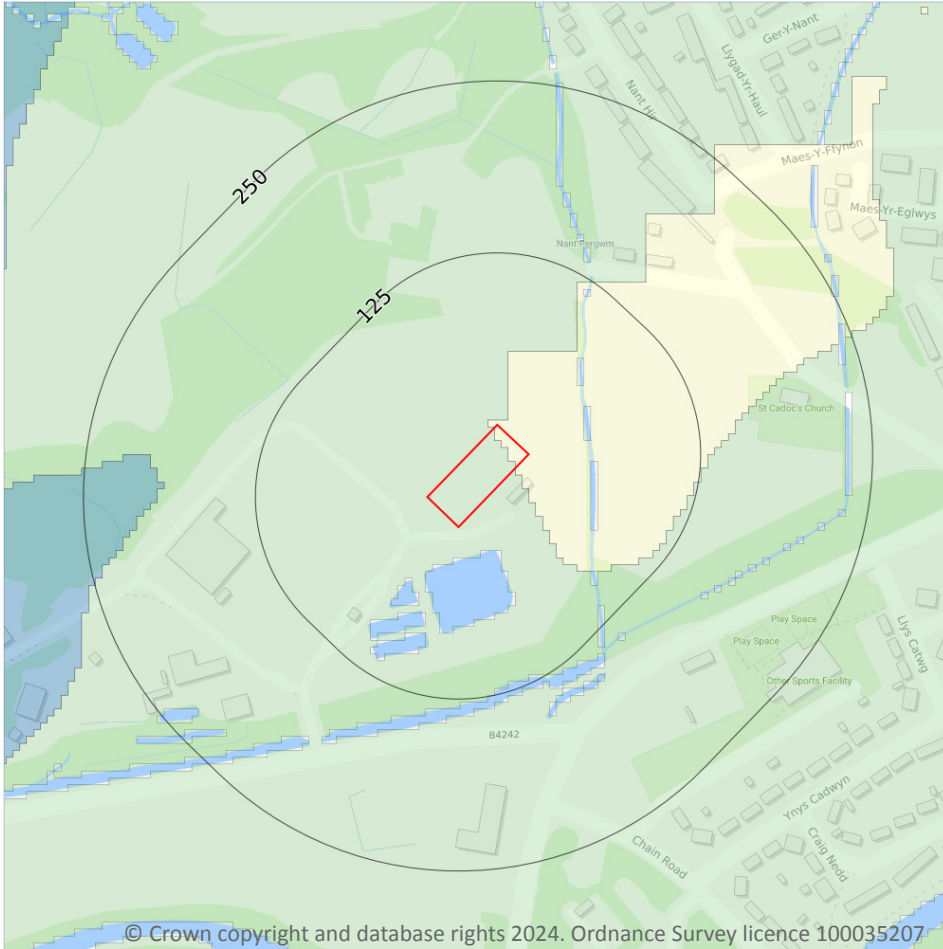
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

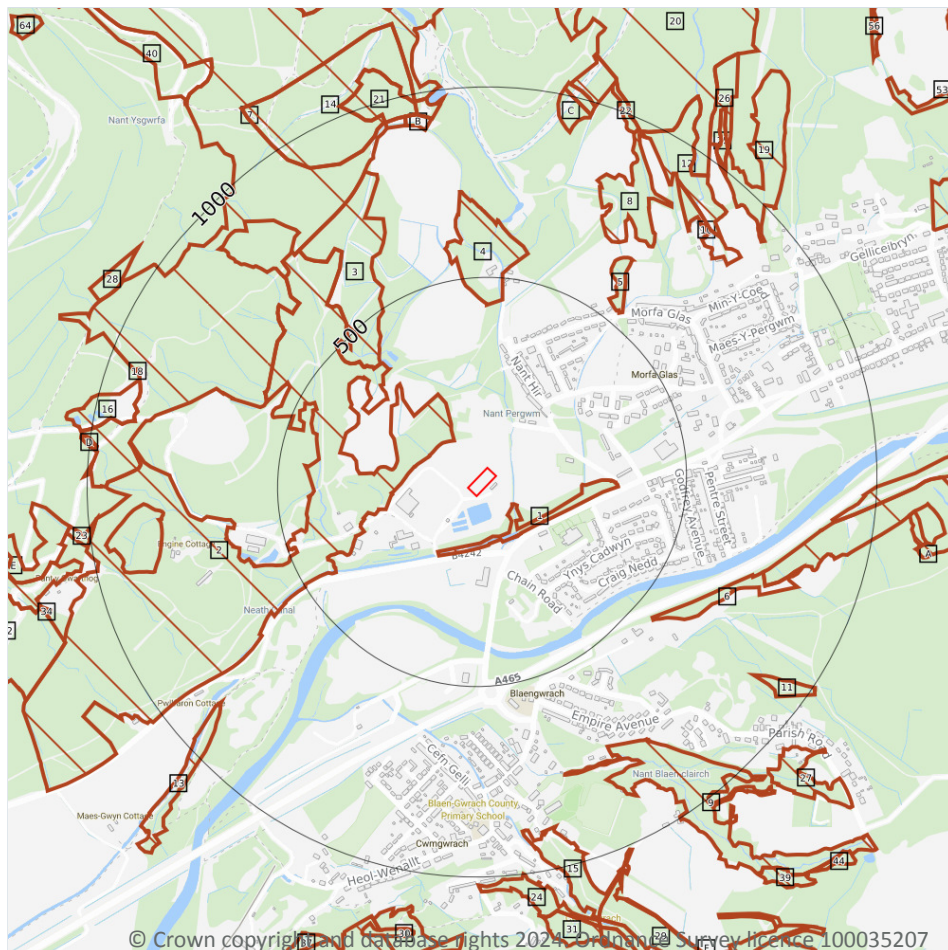
Moderate

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 66 >](#)

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m**0**

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

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

10.7 Designated Ancient Woodland

Records within 2000m**151**

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 67 >](#)

ID	Location	Name	Woodland Type
1	82m SE	Unknown	Ancient Semi Natural Woodland
2	112m NW	Unknown	Restored Ancient Woodland Site
3	391m NW	Unknown	Ancient Woodland Site of Unknown Category
4	428m N	Unknown	Restored Ancient Woodland Site
5	534m NE	Unknown	Ancient Semi Natural Woodland
6	554m SE	Unknown	Ancient Semi Natural Woodland
7	575m W	Unknown	Plantation on Ancient Woodland Site
8	678m NE	Unknown	Restored Ancient Woodland Site
9	742m SE	Unknown	Ancient Semi Natural Woodland
A	745m E	Unknown	Ancient Semi Natural Woodland
10	804m NE	Unknown	Restored Ancient Woodland Site
11	855m SE	Unknown	Plantation on Ancient Woodland Site
12	856m NE	Unknown	Restored Ancient Woodland Site
13	858m SW	Unknown	Ancient Semi Natural Woodland
14	886m NW	Unknown	Plantation on Ancient Woodland Site
15	887m S	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
16	890m W	Unknown	Restored Ancient Woodland Site
17	891m E	Unknown	Ancient Semi Natural Woodland
B	902m N	Unknown	Plantation on Ancient Woodland Site
C	907m N	Unknown	Plantation on Ancient Woodland Site
18	913m W	Unknown	Restored Ancient Woodland Site
B	924m N	Unknown	Ancient Woodland Site of Unknown Category
19	929m NE	Unknown	Ancient Semi Natural Woodland
20	938m NE	Unknown	Plantation on Ancient Woodland Site
21	945m N	Unknown	Ancient Woodland Site of Unknown Category
22	959m NE	Unknown	Plantation on Ancient Woodland Site
B	961m N	Unknown	Plantation on Ancient Woodland Site
C	969m N	Unknown	Plantation on Ancient Woodland Site
23	980m W	Unknown	Plantation on Ancient Woodland Site
D	981m W	Unknown	Restored Ancient Woodland Site
D	988m W	Unknown	Restored Ancient Woodland Site
C	989m N	Unknown	Plantation on Ancient Woodland Site
24	999m S	Unknown	Ancient Semi Natural Woodland
25	1000m NE	Unknown	Ancient Semi Natural Woodland
26	1032m NE	Unknown	Ancient Semi Natural Woodland
E	1032m W	Unknown	Plantation on Ancient Woodland Site
27	1041m SE	Unknown	Ancient Semi Natural Woodland
E	1050m W	Unknown	Restored Ancient Woodland Site
28	1057m NW	Unknown	Restored Ancient Woodland Site
29	1066m S	Unknown	Restored Ancient Woodland Site
30	1090m S	Unknown	Ancient Semi Natural Woodland
A	1091m E	Unknown	Plantation on Ancient Woodland Site
31	1109m S	Unknown	Restored Ancient Woodland Site
F	1128m S	Unknown	Restored Ancient Woodland Site



ID	Location	Name	Woodland Type
32	1133m W	Unknown	Restored Ancient Woodland Site
33	1136m S	Unknown	Plantation on Ancient Woodland Site
34	1142m W	Unknown	Ancient Woodland Site of Unknown Category
35	1145m N	Unknown	Plantation on Ancient Woodland Site
G	1155m S	Unknown	Ancient Semi Natural Woodland
36	1176m S	Unknown	Restored Ancient Woodland Site
G	1211m S	Unknown	Restored Ancient Woodland Site
37	1223m S	Unknown	Ancient Semi Natural Woodland
38	1229m N	Unknown	Ancient Woodland Site of Unknown Category
39	1231m SE	Unknown	Plantation on Ancient Woodland Site
H	1233m E	Unknown	Plantation on Ancient Woodland Site
H	1237m E	Unknown	Plantation on Ancient Woodland Site
40	1240m NW	Unknown	Ancient Woodland Site of Unknown Category
-	1246m E	Unknown	Ancient Semi Natural Woodland
42	1257m E	Unknown	Ancient Semi Natural Woodland
F	1269m SE	Unknown	Plantation on Ancient Woodland Site
-	1279m W	Unknown	Restored Ancient Woodland Site
43	1280m N	Unknown	Ancient Woodland Site of Unknown Category
-	1299m W	Unknown	Restored Ancient Woodland Site
44	1318m SE	Unknown	Plantation on Ancient Woodland Site
45	1319m NE	Unknown	Ancient Semi Natural Woodland
-	1324m N	Unknown	Ancient Woodland Site of Unknown Category
F	1353m SE	Unknown	Plantation on Ancient Woodland Site
-	1379m N	Unknown	Plantation on Ancient Woodland Site
F	1400m SE	Unknown	Plantation on Ancient Woodland Site
-	1402m SE	Unknown	Plantation on Ancient Woodland Site
-	1402m SE	Unknown	Ancient Semi Natural Woodland
-	1404m NE	Unknown	Plantation on Ancient Woodland Site



ID	Location	Name	Woodland Type
-	1422m SW	Unknown	Restored Ancient Woodland Site
-	1424m SW	Unknown	Plantation on Ancient Woodland Site
-	1426m E	Unknown	Plantation on Ancient Woodland Site
-	1431m SW	Unknown	Plantation on Ancient Woodland Site
-	1438m E	Unknown	Ancient Semi Natural Woodland
-	1442m NE	Unknown	Plantation on Ancient Woodland Site
53	1442m NE	Unknown	Ancient Semi Natural Woodland
-	1445m NE	Unknown	Ancient Semi Natural Woodland
-	1453m SW	Unknown	Restored Ancient Woodland Site
-	1465m N	Unknown	Ancient Woodland Site of Unknown Category
56	1479m NE	Unknown	Ancient Semi Natural Woodland
-	1493m S	Unknown	Restored Ancient Woodland Site
-	1493m SW	Unknown	Plantation on Ancient Woodland Site
-	1495m NE	Unknown	Ancient Semi Natural Woodland
-	1519m W	Unknown	Restored Ancient Woodland Site
-	1524m SW	Unknown	Plantation on Ancient Woodland Site
-	1524m SE	Unknown	Plantation on Ancient Woodland Site
-	1540m SE	Unknown	Ancient Semi Natural Woodland
-	1541m S	Unknown	Ancient Semi Natural Woodland
-	1552m S	Unknown	Ancient Semi Natural Woodland
-	1554m S	Unknown	Plantation on Ancient Woodland Site
-	1554m S	Unknown	Plantation on Ancient Woodland Site
-	1554m S	Unknown	Ancient Semi Natural Woodland
-	1554m S	Unknown	Ancient Semi Natural Woodland
-	1556m S	Unknown	Ancient Semi Natural Woodland
-	1556m S	Unknown	Plantation on Ancient Woodland Site
-	1557m S	Unknown	Plantation on Ancient Woodland Site
-	1559m SE	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
-	1559m S	Unknown	Plantation on Ancient Woodland Site
-	1559m S	Unknown	Plantation on Ancient Woodland Site
-	1569m S	Unknown	Ancient Semi Natural Woodland
-	1597m S	Unknown	Restored Ancient Woodland Site
-	1599m S	Unknown	Restored Ancient Woodland Site
-	1604m NE	Unknown	Ancient Semi Natural Woodland
-	1618m S	Unknown	Restored Ancient Woodland Site
-	1622m N	Unknown	Restored Ancient Woodland Site
64	1651m NW	Unknown	Plantation on Ancient Woodland Site
-	1659m S	Unknown	Plantation on Ancient Woodland Site
-	1660m NE	Unknown	Plantation on Ancient Woodland Site
-	1667m SW	Unknown	Plantation on Ancient Woodland Site
-	1667m S	Unknown	Ancient Semi Natural Woodland
-	1670m SW	Unknown	Plantation on Ancient Woodland Site
69	1670m NE	Unknown	Ancient Semi Natural Woodland
-	1680m S	Unknown	Plantation on Ancient Woodland Site
-	1686m S	Unknown	Restored Ancient Woodland Site
-	1690m NW	Unknown	Plantation on Ancient Woodland Site
-	1696m N	Unknown	Ancient Semi Natural Woodland
-	1706m SE	Unknown	Ancient Semi Natural Woodland
-	1726m NW	Unknown	Plantation on Ancient Woodland Site
-	1728m S	Unknown	Plantation on Ancient Woodland Site
-	1741m N	Unknown	Plantation on Ancient Woodland Site
-	1752m S	Unknown	Restored Ancient Woodland Site
-	1755m S	Unknown	Plantation on Ancient Woodland Site
-	1769m SE	Unknown	Ancient Semi Natural Woodland
-	1775m W	Unknown	Plantation on Ancient Woodland Site
-	1775m W	Unknown	Plantation on Ancient Woodland Site



ID	Location	Name	Woodland Type
-	1787m NW	Unknown	Plantation on Ancient Woodland Site
-	1794m SW	Unknown	Ancient Semi Natural Woodland
-	1803m NW	Unknown	Ancient Woodland Site of Unknown Category
-	1817m SW	Unknown	Ancient Semi Natural Woodland
-	1834m S	Unknown	Plantation on Ancient Woodland Site
-	1840m S	Unknown	Ancient Semi Natural Woodland
-	1846m SW	Unknown	Plantation on Ancient Woodland Site
-	1851m NE	Unknown	Ancient Semi Natural Woodland
-	1856m SE	Unknown	Ancient Semi Natural Woodland
-	1857m W	Unknown	Plantation on Ancient Woodland Site
-	1858m SE	Unknown	Plantation on Ancient Woodland Site
-	1866m E	Unknown	Plantation on Ancient Woodland Site
-	1876m S	Unknown	Restored Ancient Woodland Site
-	1906m NE	Unknown	Ancient Semi Natural Woodland
-	1915m NE	Unknown	Ancient Semi Natural Woodland
-	1917m S	Unknown	Plantation on Ancient Woodland Site
-	1917m S	Unknown	Ancient Semi Natural Woodland
-	1925m W	Unknown	Restored Ancient Woodland Site
-	1927m NW	Unknown	Plantation on Ancient Woodland Site
-	1946m SE	Unknown	Plantation on Ancient Woodland Site
-	1957m W	Unknown	Restored Ancient Woodland Site
-	1997m NW	Unknown	Plantation on Ancient Woodland Site
-	1999m S	Unknown	Ancient Semi Natural Woodland

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



10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m**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



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

5

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

Features are displayed on the Visual and cultural designations map on [page 78 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	136m NE	Gates Across Driveway At Aberpergwm House, Reached Along Driveway Past Church Of Saint Cadoc To Nw Of B4242.	II	11847	11/12/1985
2	172m N	Aberpergwm House, On The W Side Of Glynneath, Reached By A Drive Nw Off The B4242.	II	11769	19/09/1969
A	190m E	Memorial To Jane Williams In The Churchyard Of The Church Of Saint Cadoc, Immediately To Nw Of The Church Of Saint Cadoc At Edge Of Churchyard; Set In Railed Enclosure.	II	11868	25/02/1993



ID	Location	Name	Grade	Reference Number	Listed date
A	197m E	Church Of Saint Cadoc, Set In A Small Churchyard To Se Of The Ruins Of Aberpergwm House; Reached From The Main Drive To The House Which Leads Off The Main Road Sw Of Glynneath.	II*	11867	25/02/1993
A	210m E	Gate And Railings And Churchyard Wall To Se Of Church Of St Cadoc, Churchyard Wall To Se And Railings To E And Ne Of Church Of Saint Cadoc.	II	82447	30/01/2004

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

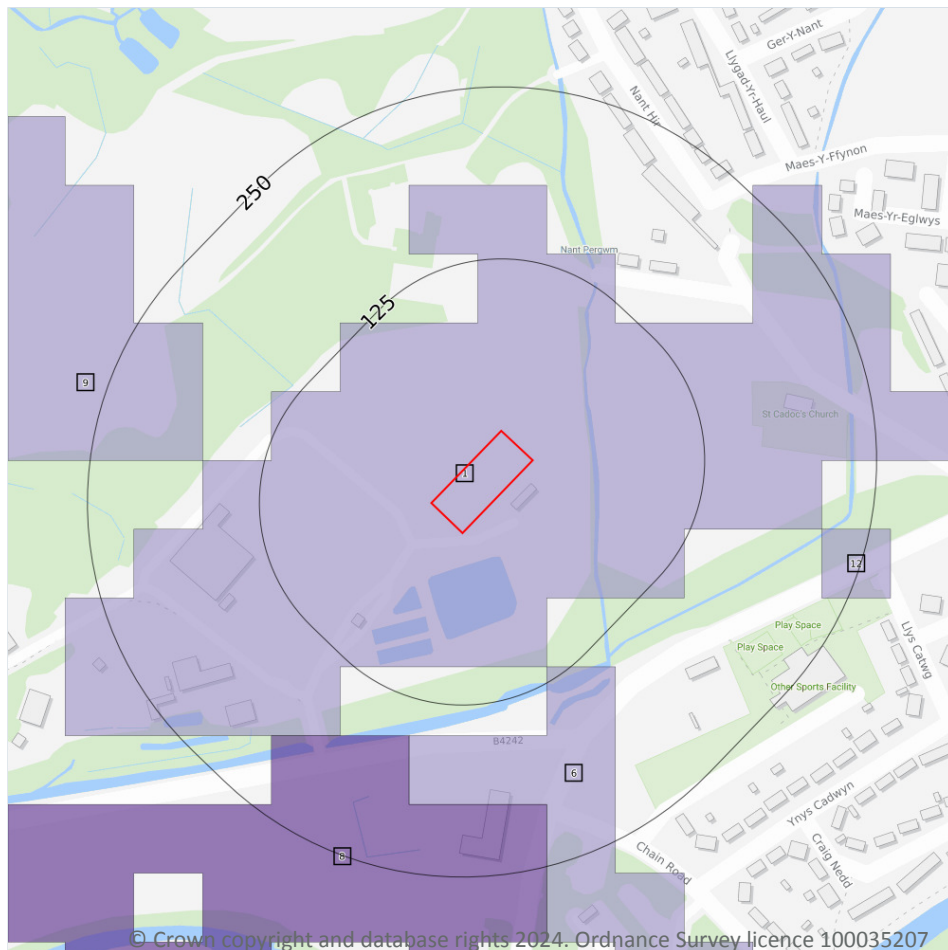
0

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

5

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 81](#) >

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land
6	115m S	Grade 4	Poor quality agricultural land
8	152m S	Grade 5	Very poor quality agricultural land



ID	Location	Classification	Description
9	169m W	Grade 4	Poor quality agricultural land
12	216m E	Grade 4	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.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 84](#) >

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

This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

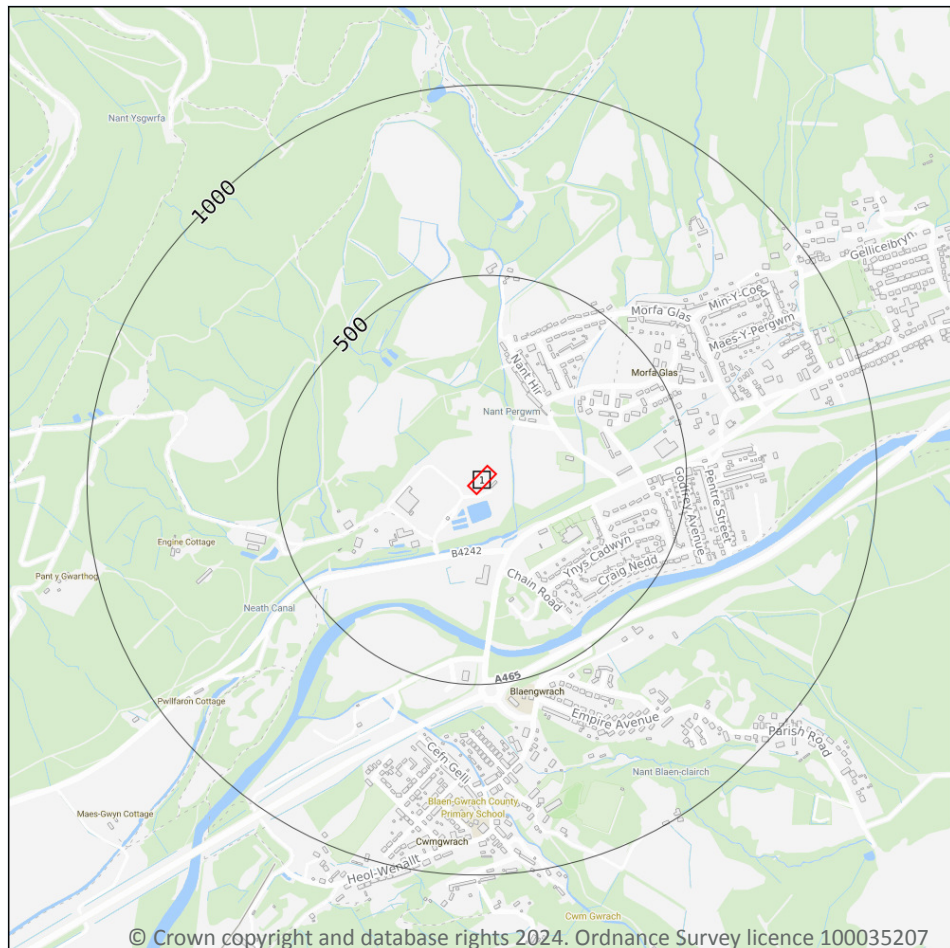
0

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

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

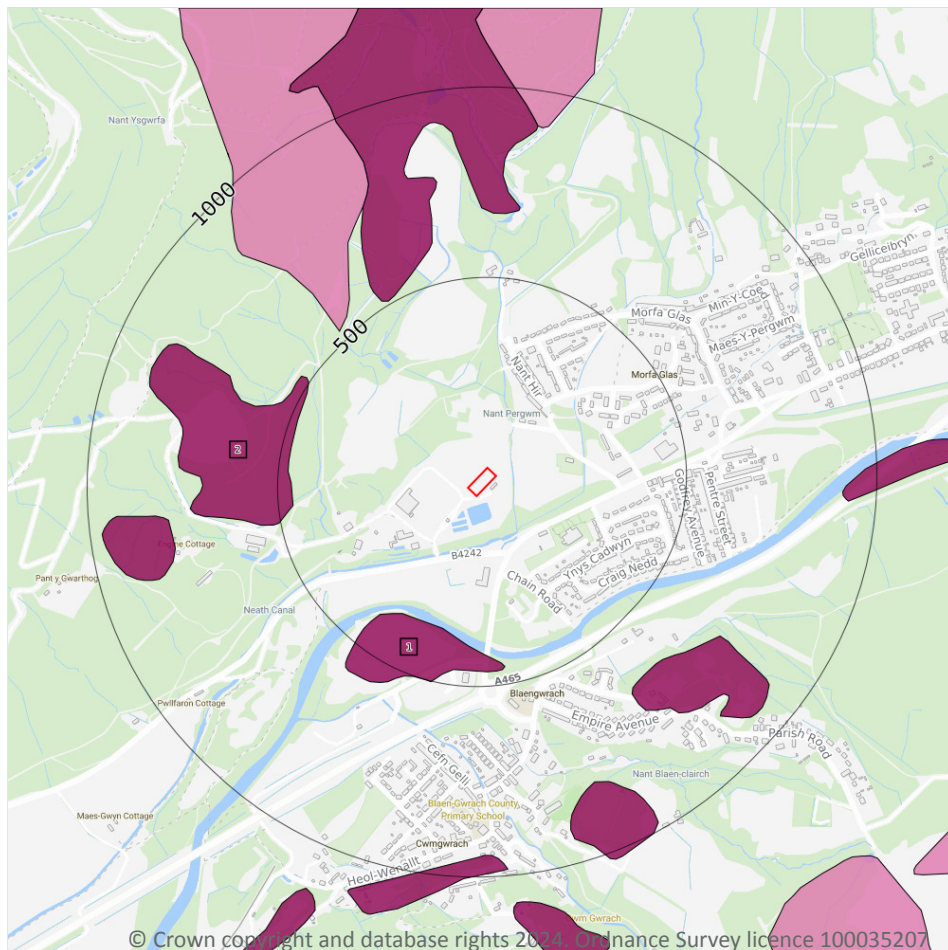
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 88](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW231_merthyr_v4

This data is sourced from the British Geological Survey.



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



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

15.2 Artificial and made ground (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 89](#) >

ID	Location	LEX Code	Description	Rock description
1	357m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	462m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

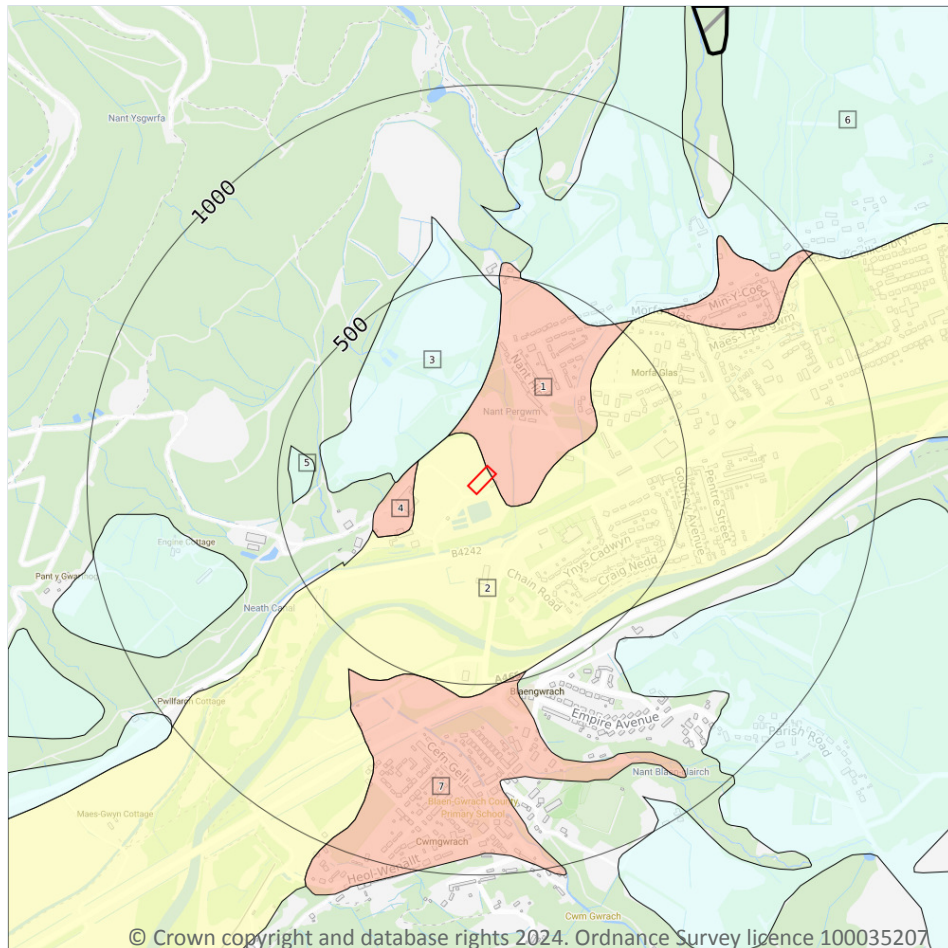
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

7

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 91](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
2	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	129m NW	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
4	141m W	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	405m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
6	454m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
7	482m S	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **2**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of 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

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)

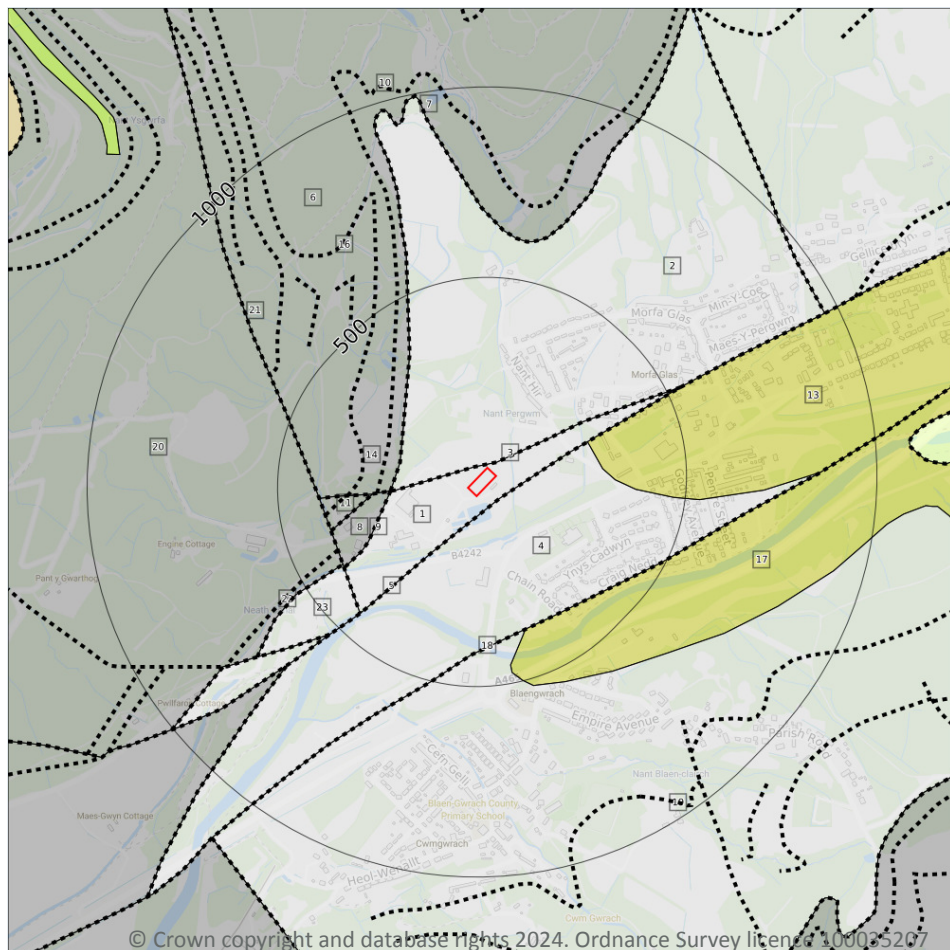
Records within 50m **0**

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

11

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 93](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	9m N	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
4	42m S	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	190m W	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	203m W	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	251m W	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	256m E	SWLCM-SDST	SOUTH WALES LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
17	371m S	SWLCM-SDST	SOUTH WALES LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
19	372m S	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
20	376m W	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
23	385m SW	SWLCM-MDSS	SOUTH WALES LOWER COAL MEASURES 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

13

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 93](#) >

ID	Location	Category	Description
3	9m N	FAULT	Fault, inferred, displacement unknown
5	42m S	FAULT	Fault, inferred, displacement unknown
7	190m W	FOSSIL_HORIZON	Marine band
9	203m W	FOSSIL_HORIZON	Marine band
10	229m W	ROCK	Coal seam, observed
12	251m W	ROCK	Coal seam, observed
14	281m W	ROCK	Coal seam, inferred
15	322m W	ROCK	Coal seam, observed
16	350m NW	ROCK	Coal seam, observed
18	371m S	FAULT	Fault, inferred, displacement unknown
21	377m W	FAULT	Fault, inferred, displacement unknown
22	378m SW	ROCK	Coal seam, inferred
24	385m SW	FOSSIL_HORIZON	Marine band

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

4

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 96](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	150m S	286800 205910	A465 ADDITIONAL BOREHOLES 53	25.0	N	258075 ↗
2	175m S	286790 205880	A465 ADDITIONAL BOREHOLES 52	25.0	N	258074 ↗
3	216m W	286500 206060	ABERFERGWWM, FAN DRIFT	-1.0	N	257982 ↗

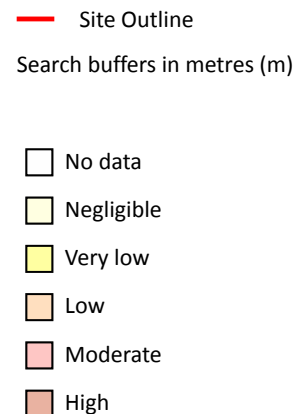
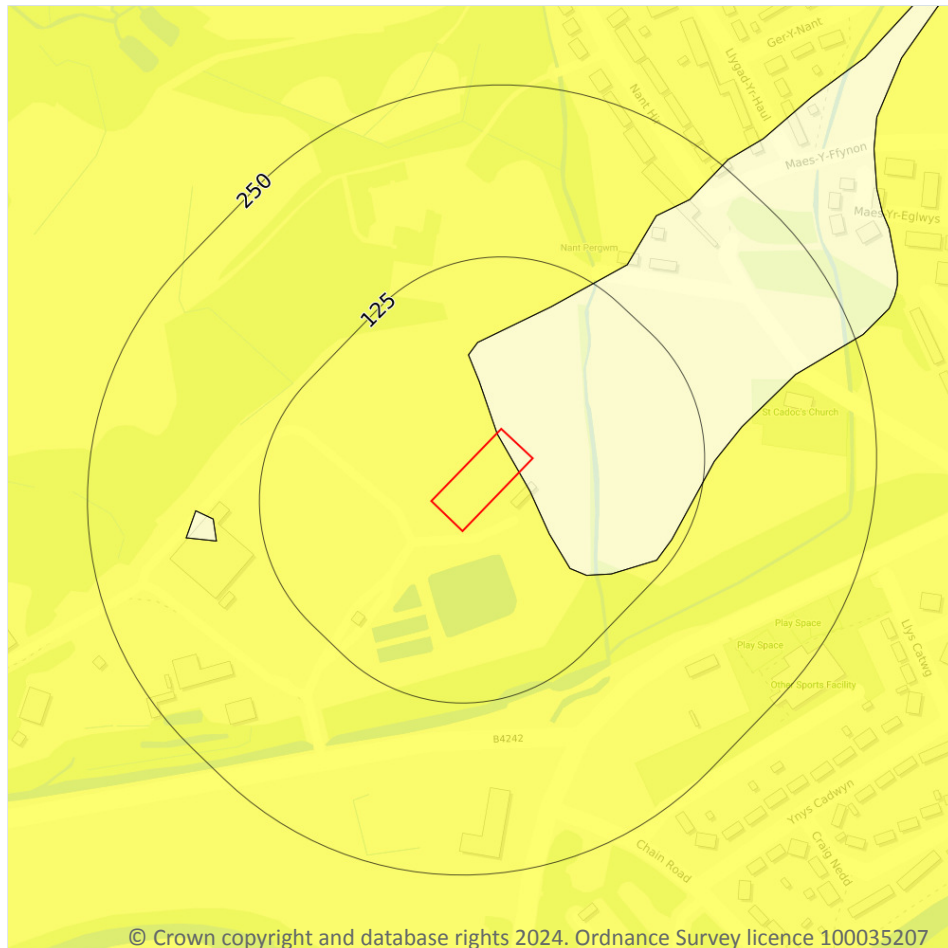


ID	Location	Grid reference	Name	Length	Confidential	Web link
4	227m SE	286960 205950	ABERDULAI-HIRWAUN TRUNK ROAD 116	9.53	N	257950 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

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

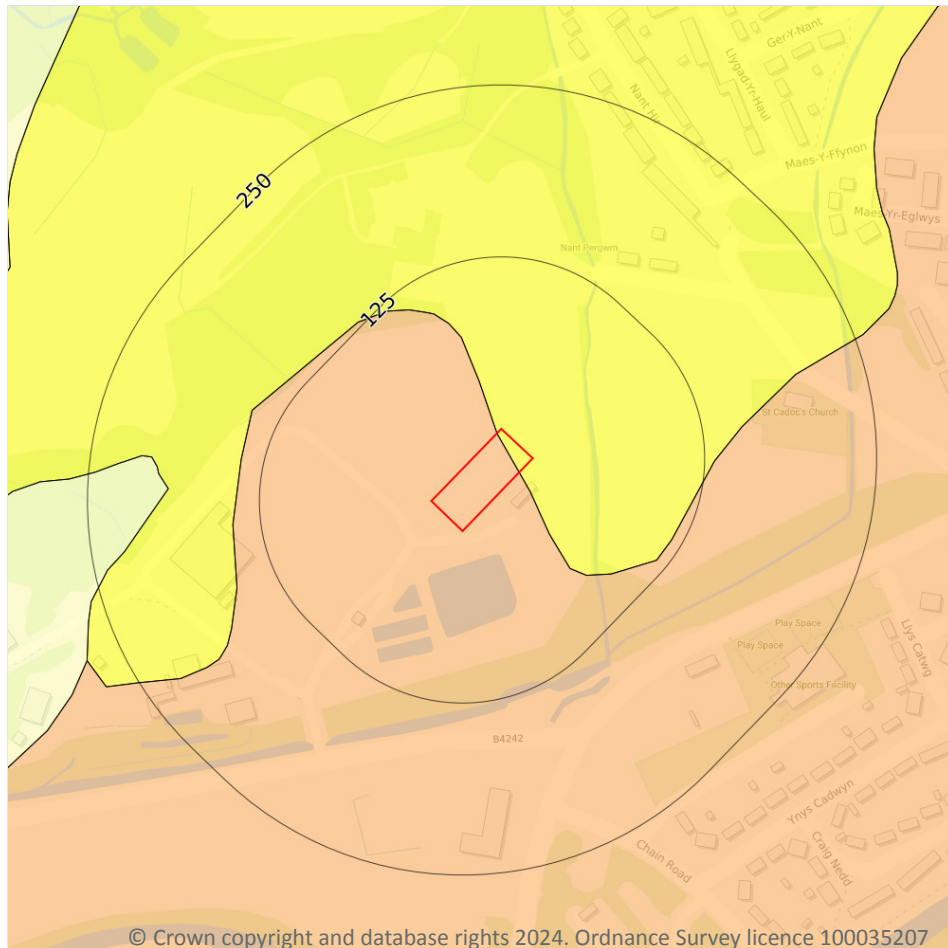
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 98 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



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

17.2 Running sands

Records within 50m

2

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 99](#) >

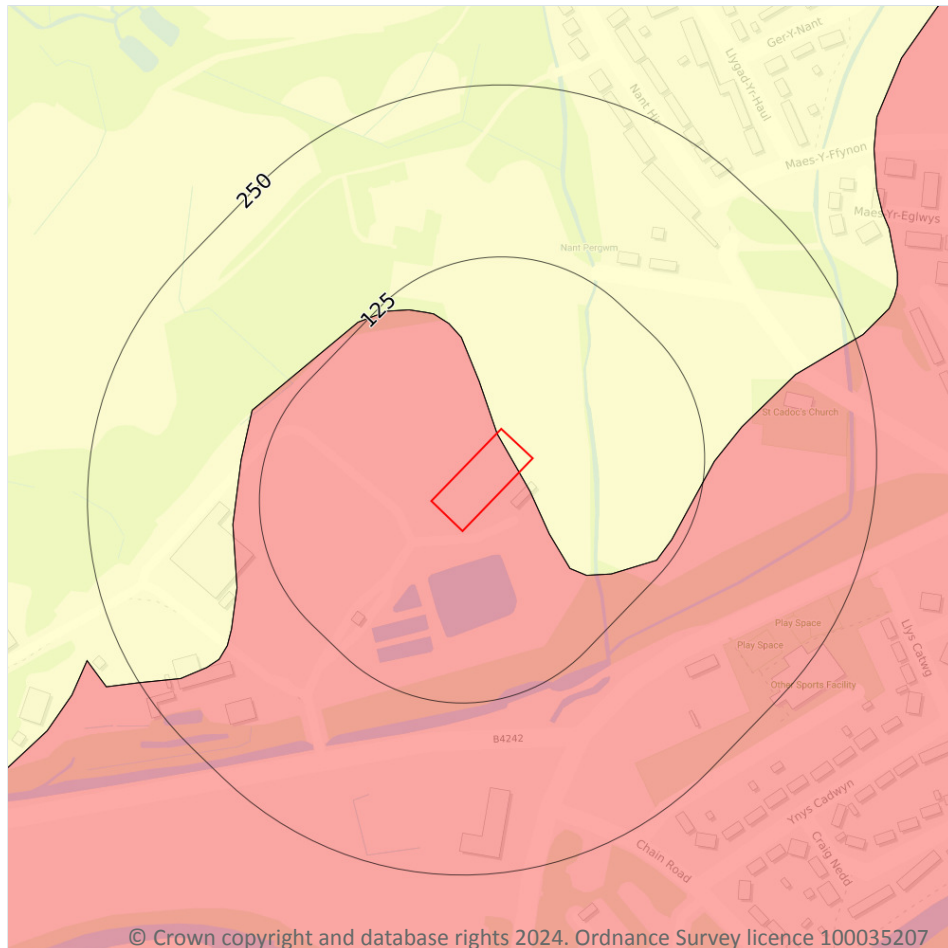
Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

Location	Hazard rating	Details
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



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

17.3 Compressible deposits

Records within 50m

2

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 101](#) >

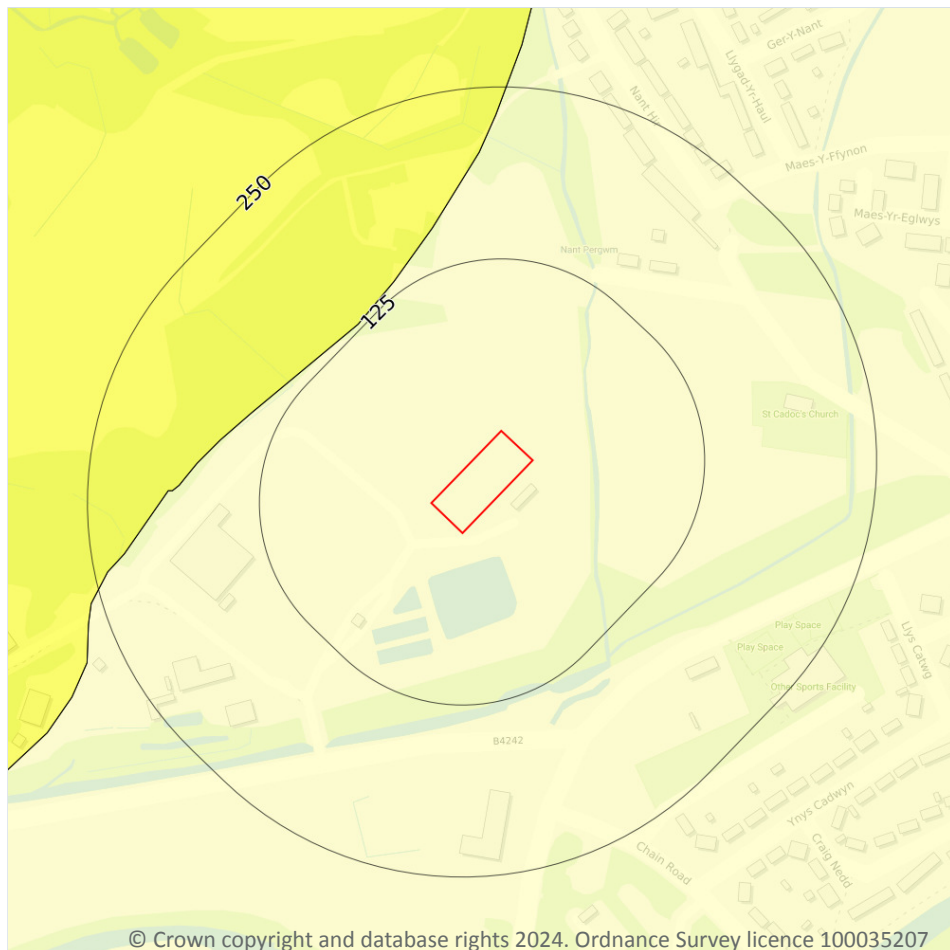
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

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17.4 Collapsible deposits

Records within 50m

1

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

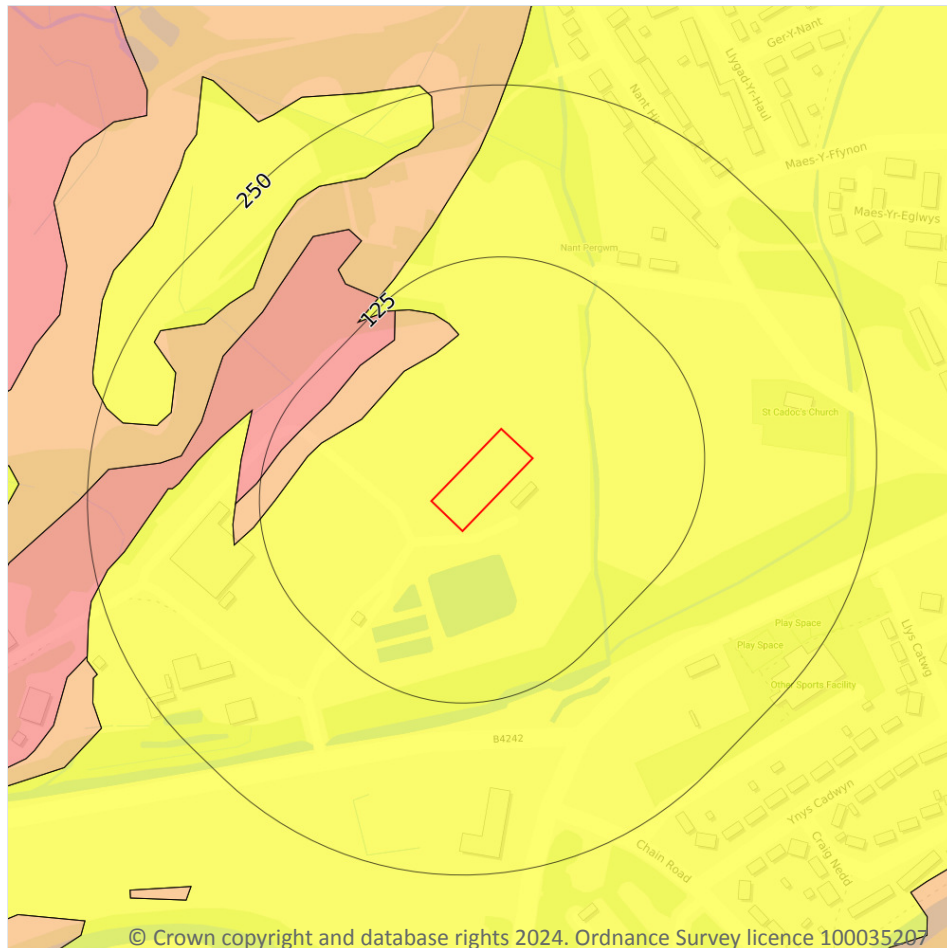
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 103](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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.

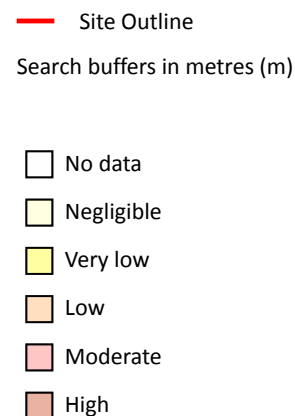
Features are displayed on the Natural ground subsidence - Landslides map on [page 104](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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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.

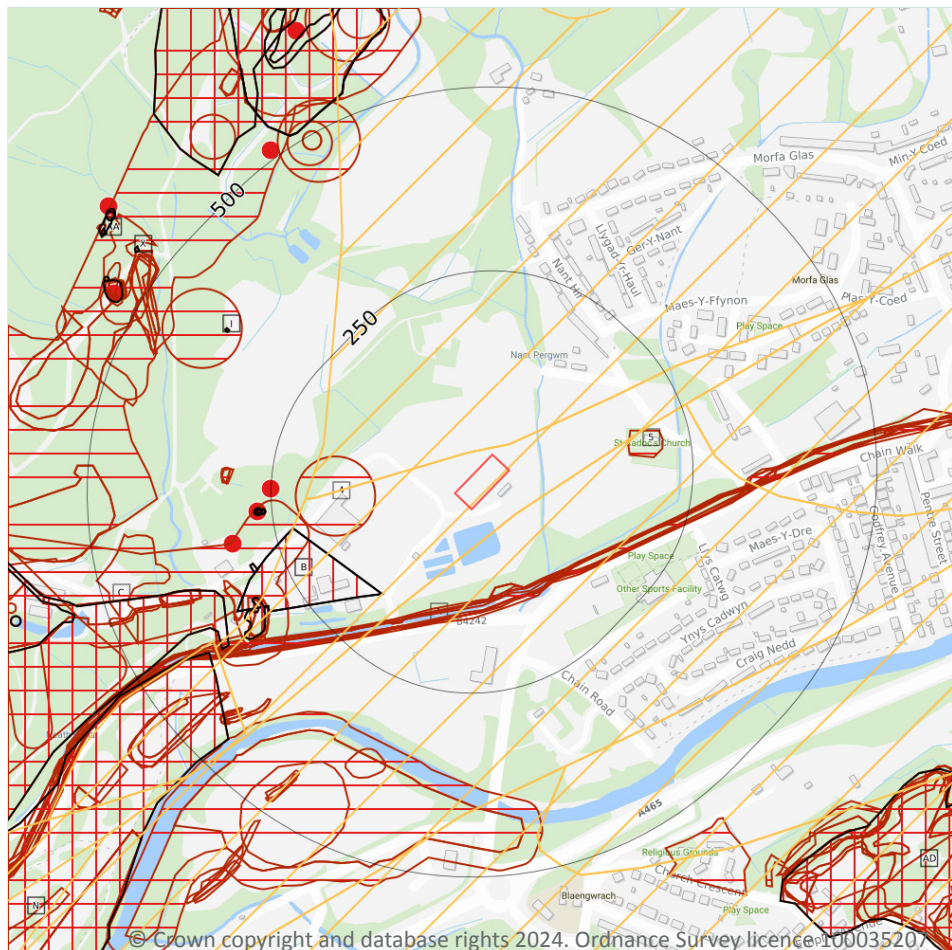
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 105 >](#)

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

3

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 107](#) >

ID	Location	Details	Description
D	250m W	Name: Aberpergwm Colliery Address: Glyn-neath, NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	269m W	Name: Aberpergwm Colliery Address: Glyn-Neath, NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	310m W	Name: Aberpergwm Colliery Address: Glyn-Neath, NEATH, West Glamorgan Commodity: Coal, Deep Status: Active	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which is actively extracting mineral products, or in the case of wharfs and rail depots, is actively handing minerals

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	11
----------------------------	-----------

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 107](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
4	109m W	Drift	1877	1:10560
A	111m S	Canal	1964	1:10560
A	111m S	Canal	1980	1:10560
A	111m S	Canal	1981	1:10000
A	120m S	Canal	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	121m S	Canal	1897	1:10560
A	123m S	Canal	1948	1:10560
A	123m S	Canal	1914	1:10560
A	126m S	Canal	1877	1:10560
5	165m E	Grave Yard	1877	1:10560
C	205m W	Colliery	1948	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

49

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 107 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	167m SW	Unspecified Mine	1964	1:10560
B	167m SW	Unspecified Mine	1980	1:10560
D	259m W	Old Coal Pit	1948	1:10560
D	259m W	Old Coal Pit	1914	1:10560
D	263m W	Old Coal Pit	1897	1:10560
D	264m W	Unspecified Disused Shaft	1981	1:10000
D	266m W	Coal Pit	1877	1:10560
E	288m W	Old Coal Level	1914	1:10560
E	302m SW	Drift	1897	1:10560
7	346m SW	Colliery	1914	1:10560
I	379m NW	Drift	1897	1:10560
N	399m SW	Colliery	1981	1:10000
U	512m NW	Unspecified Mine	1964	1:10560
U	512m NW	Unspecified Mine	1980	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
Q	525m NW	Old Coal Pit	1897	1:10560
15	532m NW	Colliery	1914	1:10560
X	541m NW	Old Coal Levels	1948	1:10560
Y	543m W	Colliery	1897	1:10560
Q	553m NW	Coal Pit	1877	1:10560
AA	591m NW	Unspecified Disused Levels	1981	1:10000
AA	593m NW	Old Coal Levels	1914	1:10560
AA	596m NW	Old Coal Levels	1948	1:10560
U	598m NW	Old Coal Level	1948	1:10560
Y	615m W	Coal Level	1897	1:10560
AD	657m SE	Ironstone Level	1877	1:10560
-	722m W	Unspecified Old Shaft	1948	1:10560
-	722m W	Unspecified Old Shaft	1914	1:10560
-	729m W	Unspecified Shaft	1897	1:10560
-	731m N	Air Shaft	1897	1:10560
-	747m N	Unspecified Old Level	1948	1:10560
-	747m N	Unspecified Level	1914	1:10560
-	810m N	Coal Level	1948	1:10560
-	824m SW	Old Coal Pit	1948	1:10560
-	824m SW	Old Coal Pit	1914	1:10560
-	829m SW	Coal Pit	1877	1:10560
-	830m SW	Old Coal Pit	1897	1:10560
-	849m SW	Air Shaft	1948	1:10560
-	849m SW	Air Shaft	1914	1:10560
-	850m SW	Coal Pit	1877	1:10560
-	887m N	Coal Level	1877	1:10560
-	925m NW	Coal Level	1877	1:10560
-	949m N	Disused Air Shaft	1964	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	949m N	Disused Air Shaft	1980	1:10560
-	951m N	Air Shaft	1948	1:10560
-	951m N	Air Shaft	1877	1:10560
-	951m N	Air Shaft	1914	1:10560
-	954m N	Air Shaft	1897	1:10560
-	996m SW	Unspecified Disused Mine	1964	1:10560
-	996m SW	Unspecified Disused Mine	1980	1:10560

This 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

9

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

Features are displayed on the Mining and ground workings map on [page 107 >](#)



ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
2	9m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
3	42m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	256m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
9	371m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	372m S	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
L	385m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
13	529m SW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	962m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



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

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site

0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

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

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



19 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.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

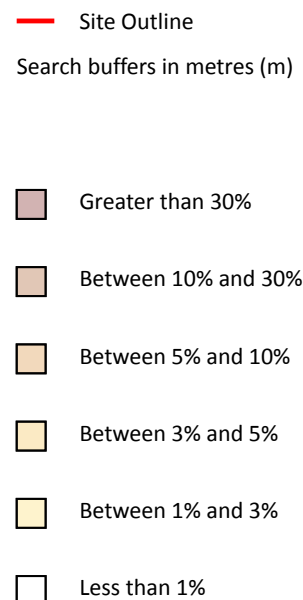
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

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 118](#) >

Location	Estimated properties affected	Radon Protection Measures required
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

8

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	30 - 45 mg/kg
On site	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
9m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
11m N	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m S	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
47m S	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
48m S	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m SE	15 - 25 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

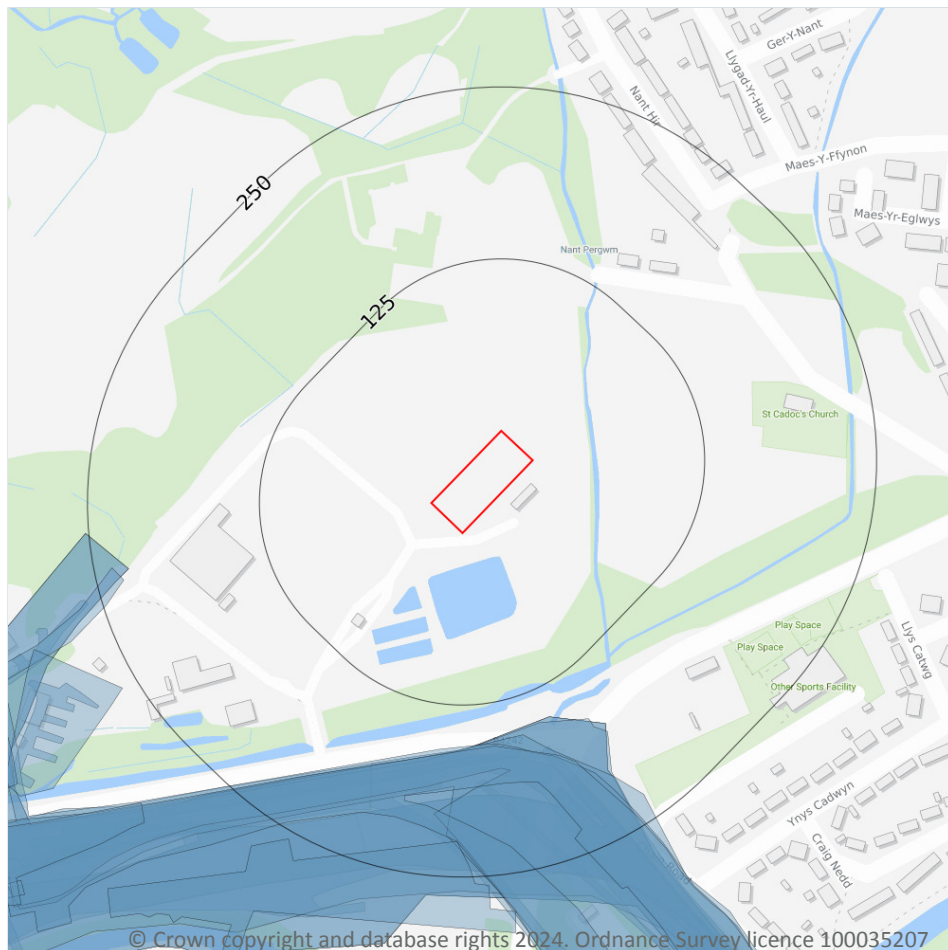
0

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)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- 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

15

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 122](#) >

Location	Land Use	Year of mapping	Mapping scale
147m S	Railway Sidings	1964	10560
147m S	Railway Sidings	1980	10560
149m S	Railway Sidings	1981	10000
153m S	Railway Sidings	1914	10560
155m S	Railway Sidings	1938	10560
156m S	Railway Sidings	1948	10560
160m S	Railway Sidings	1919	2500
162m S	Railway Sidings	1962	2500
167m S	Mineral Railway Sidings	1962	2500
180m S	Old Tramway Sidings	1876	2500
181m S	Railway Sidings	1919	2500
183m S	Railway Sidings	1899	2500
191m S	Mineral Railway Sidings	1983	2500
224m S	Railway Sidings	1948	10560
231m W	Railway Sidings	1948	10560

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 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.



22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

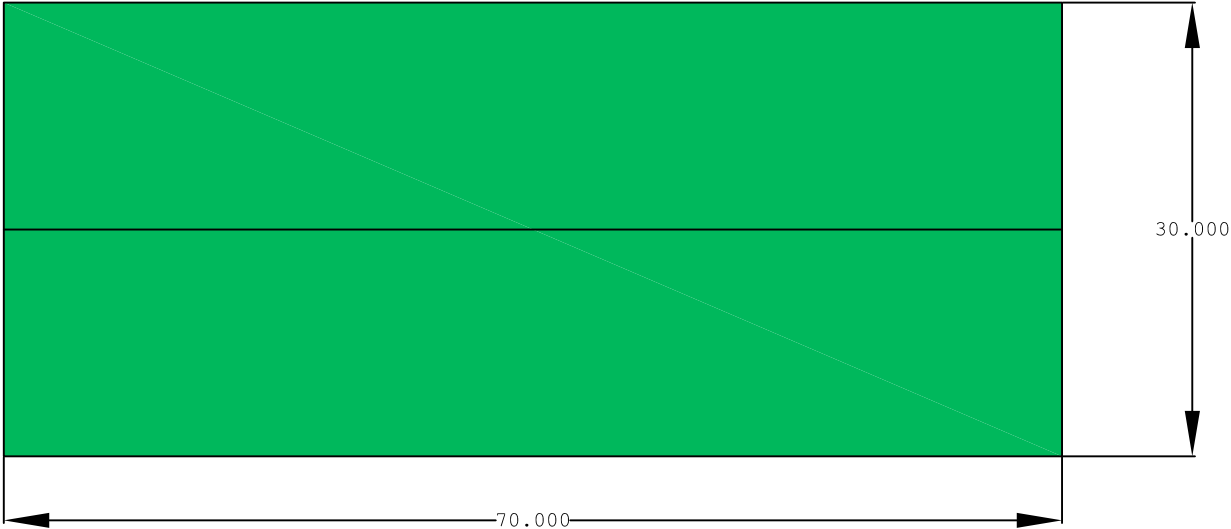
Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



Appendix D

Proposed Development Plan

PLAN VIEW



ENERGYBUILD LTD.
ABERPERGWM COLLIERY

PLANNING APPLICATION

PROPOSED PLANT POOL BUILDING
BUILDING DETAILS

MAY 2023

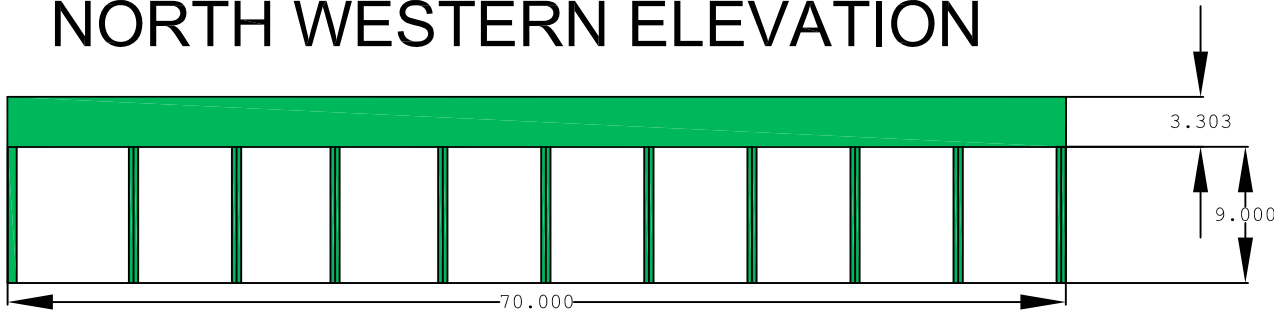
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REF. AC/PPSDET/523V1

SOUTH EASTERN ELEVATION

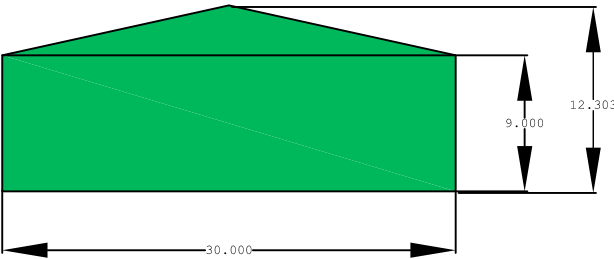


NORTH WESTERN ELEVATION



OPEN SIDED FOR ACCESS

END ELEVATIONS



PROPOSED PLANT POOL SHED PROPOSED DETAILS					
HEIGHT M	12.303	WIDTH M	30	LENGTH M	70
FLOOR AREA M²	2100				
STANCHIONS		610 X 305 X 149 Kg/M AT 11 SETTINGS AT 6.818M SPACINGS			
RAFTERS		610 X 305 X 149Kg/M			
CLADDING		0.7 mm 1000/32PLASTIC COATED BOX PROFILE			
CLADDING COLOUR		JUNIPER GREEN			
FOUNDATION DETAIL	BUILDING CONSTRUCTED ON PRE-EXISTING H/C BASE 0.6M SET ON 1.2M X 1.2M X 1.2 POCKETED BASE				

Appendix E

Historical Maps

Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1876

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1876
 Revised 1876
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1876
 Revised 1876
 Edition N/A
 Copyright N/A
 Levelled N/A

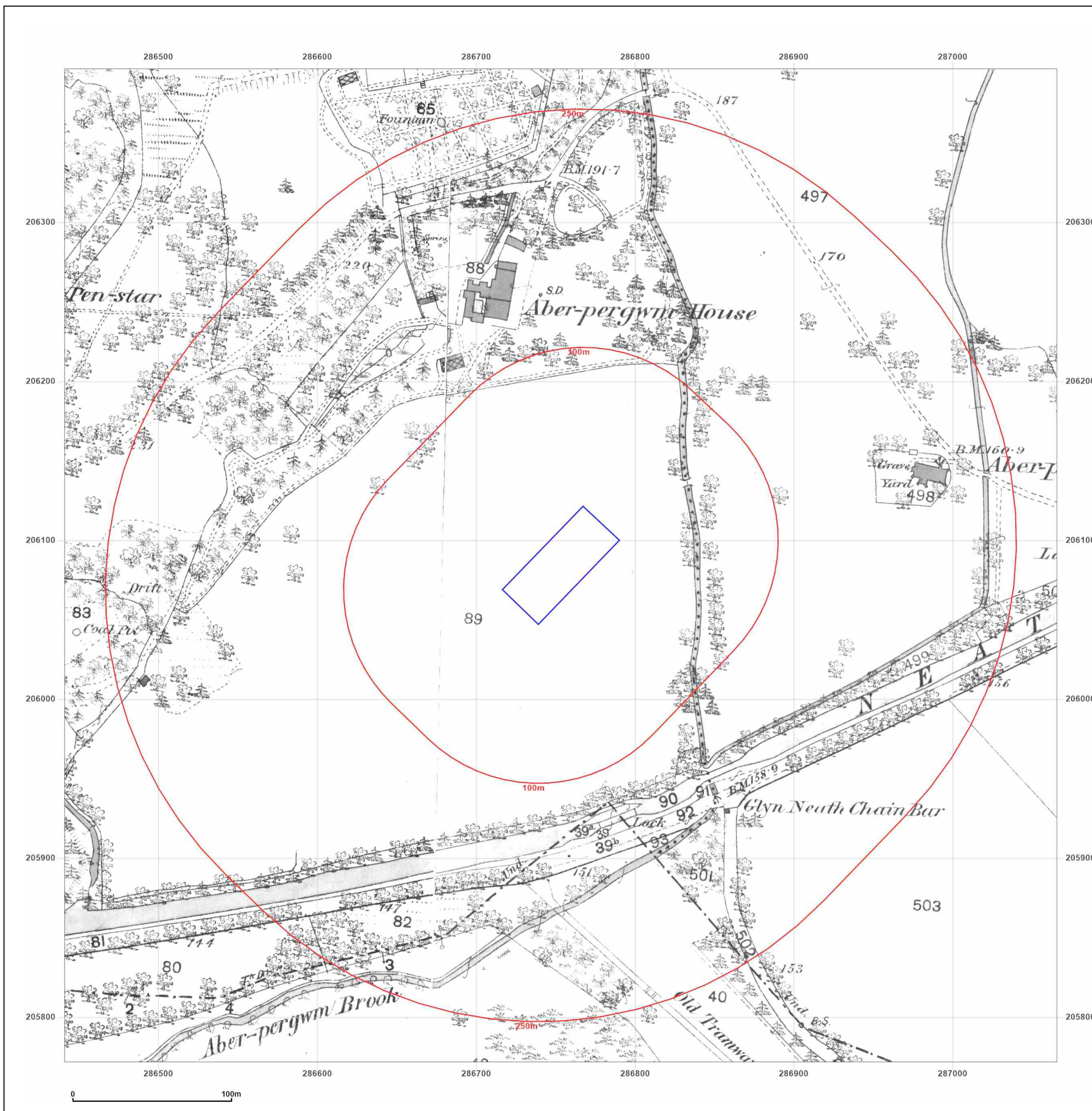


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1899

Scale: 1:2,500

Printed at: 1:2,500



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

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

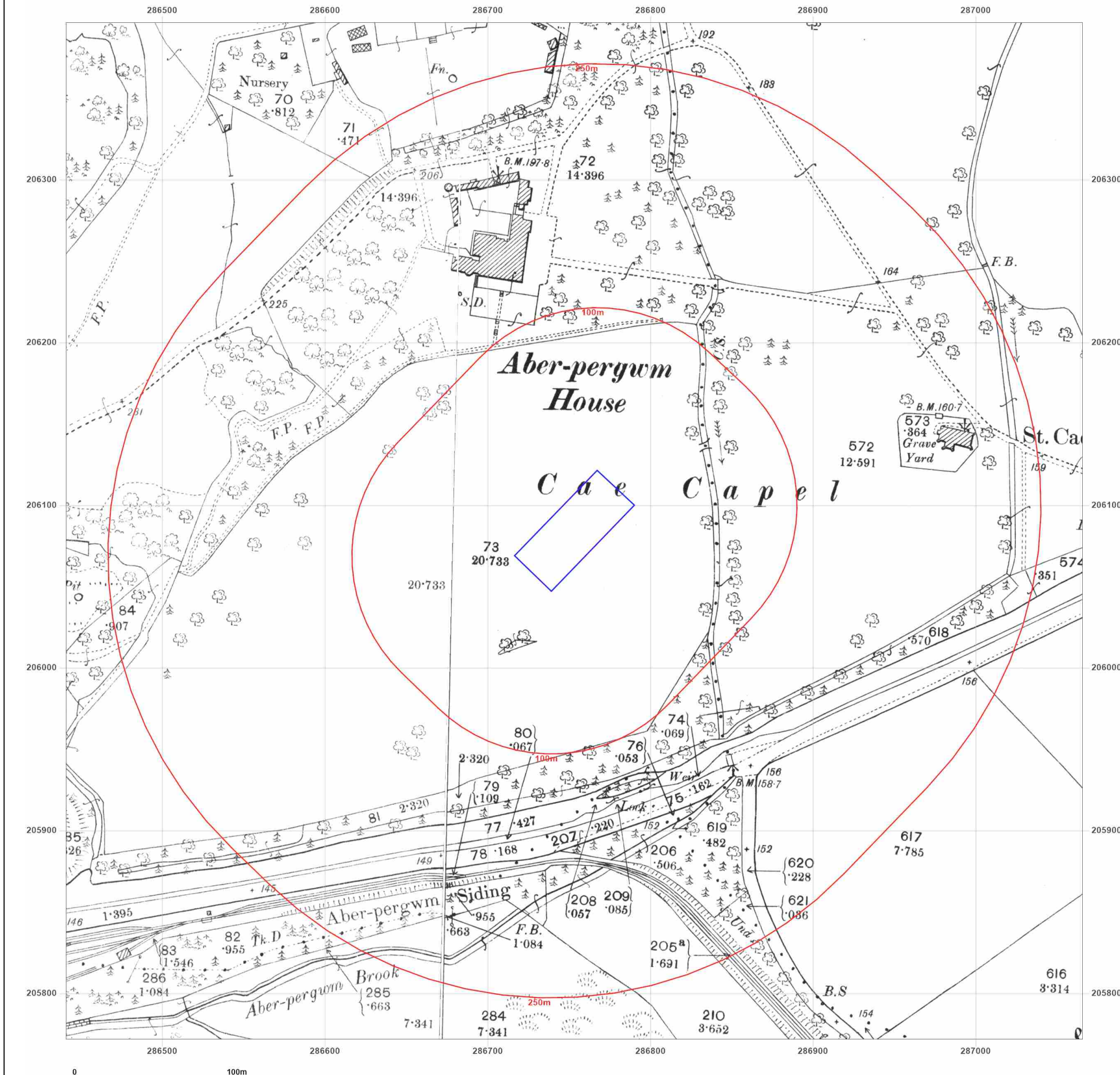


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Site Details:

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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1919

Scale: 1:2,500

Printed at: 1:2,500



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

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

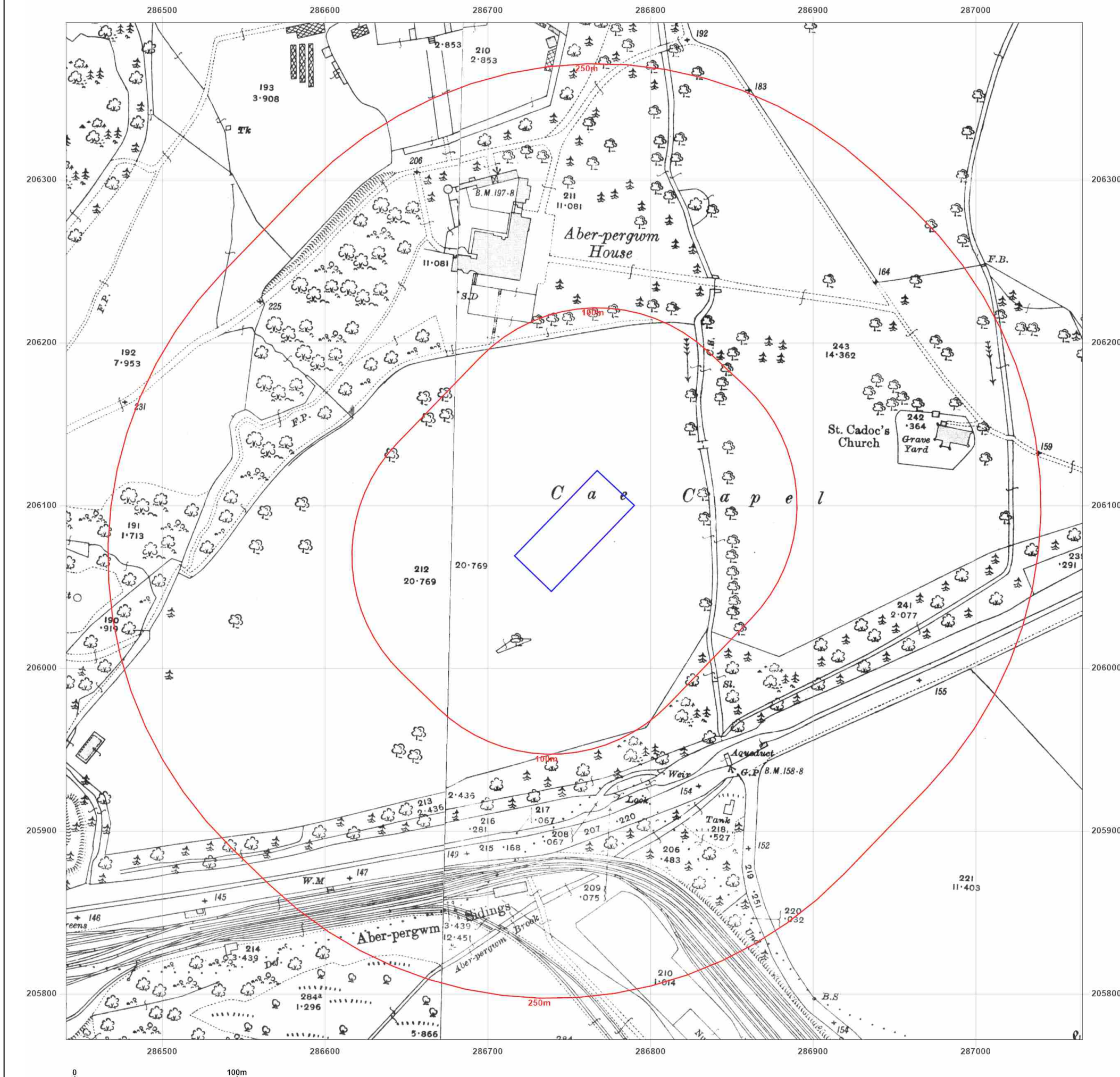


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1962
 Revised 1962
 Edition N/A
 Copyright 1962
 Levelled 1930

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

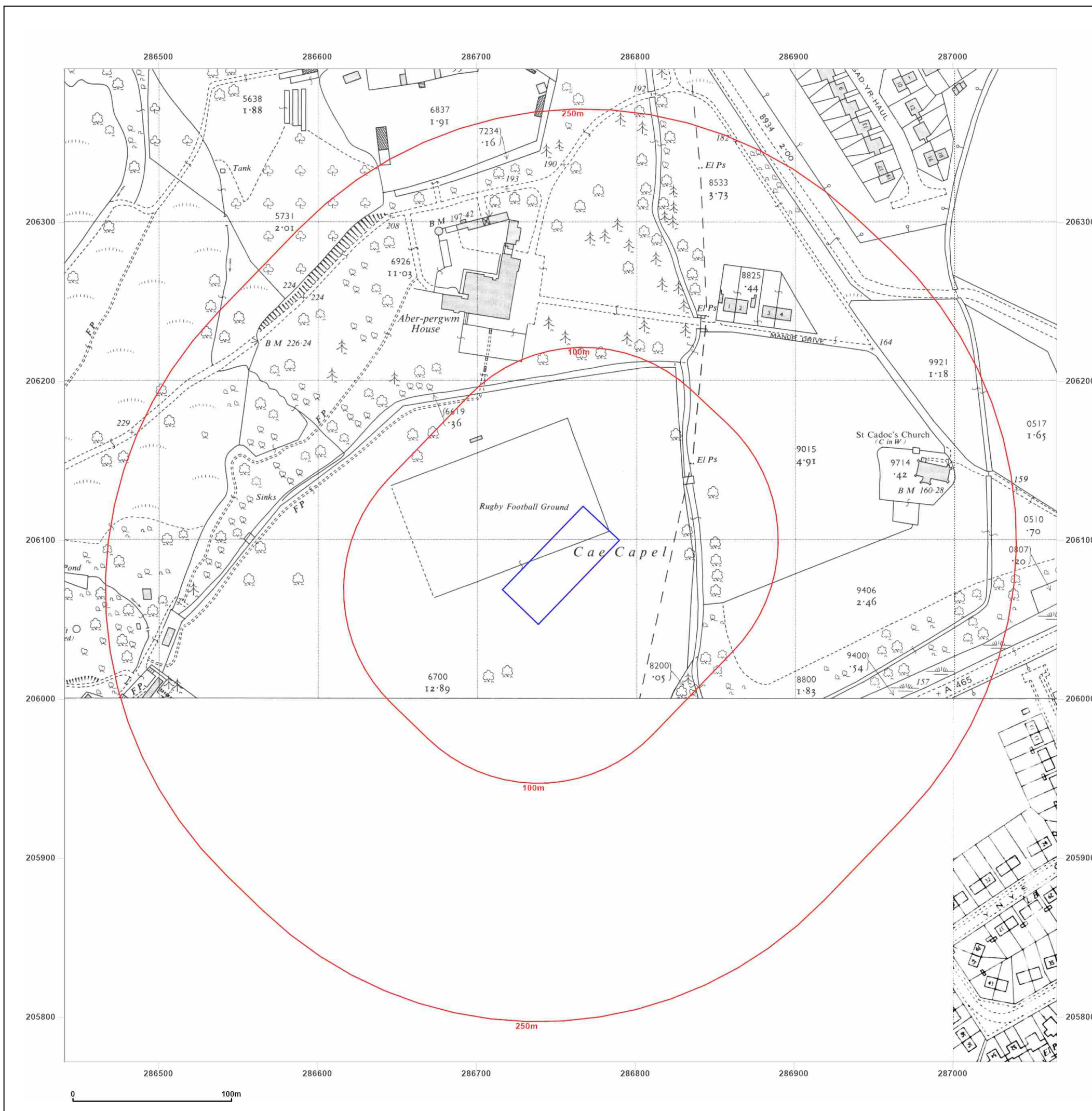


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Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1969-1971

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1971
 Revised 1971
 Edition N/A
 Copyright 1972
 Levelled 1963

Surveyed N/A
 Revised 1962
 Edition 1962
 Copyright N/A
 Levelled 1957

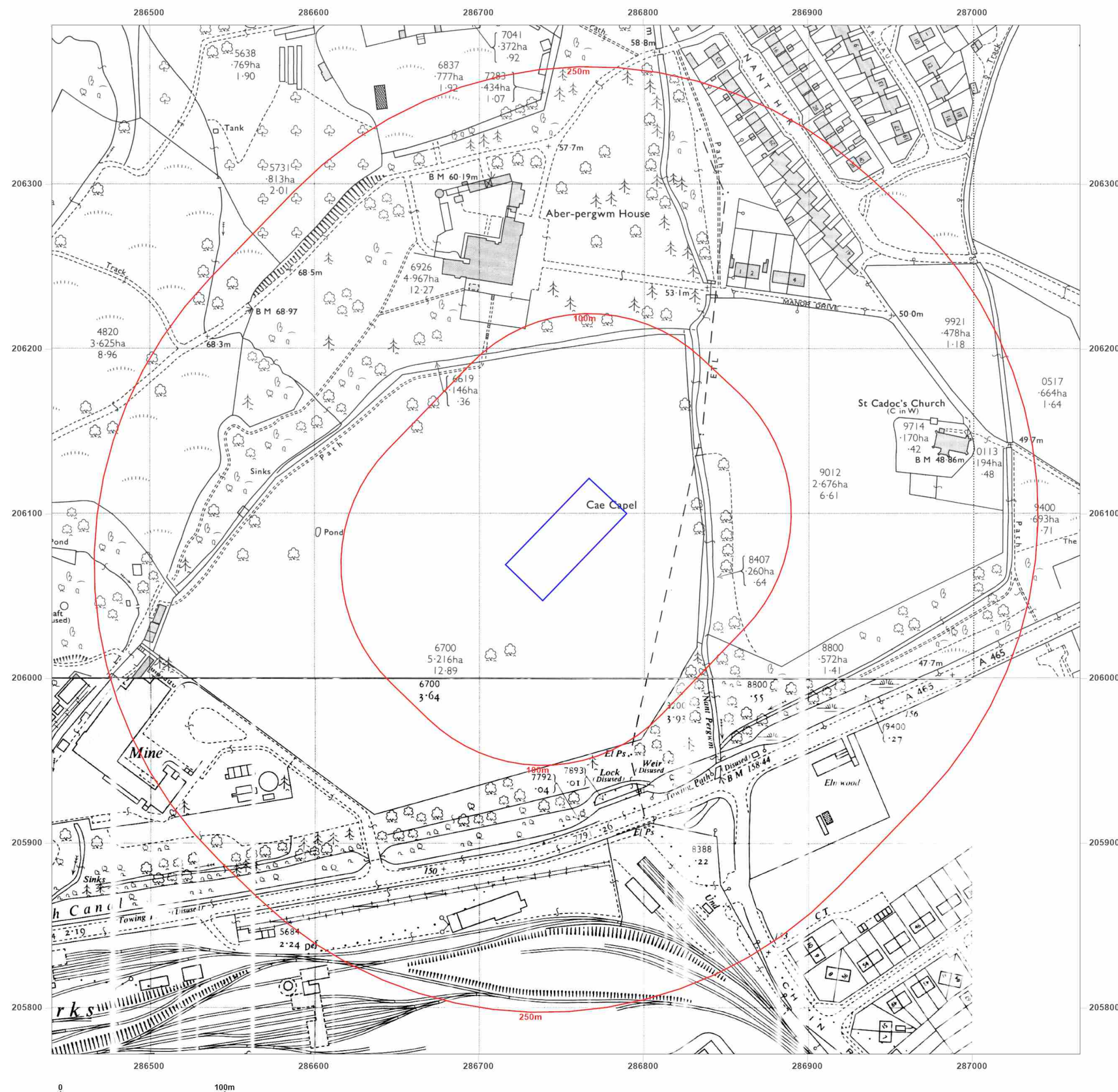


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Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1972

Scale: 1:2,500

Printed at: 1:2,500



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

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



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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1981-1983

Scale: 1:2,500

Printed at: 1:2,500



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 Revised N/A
 Edition N/A
 Copyright 1981
 Levelled 1963

Surveyed 1983
 Revised 1983
 Edition N/A
 Copyright 1984
 Levelled 1963

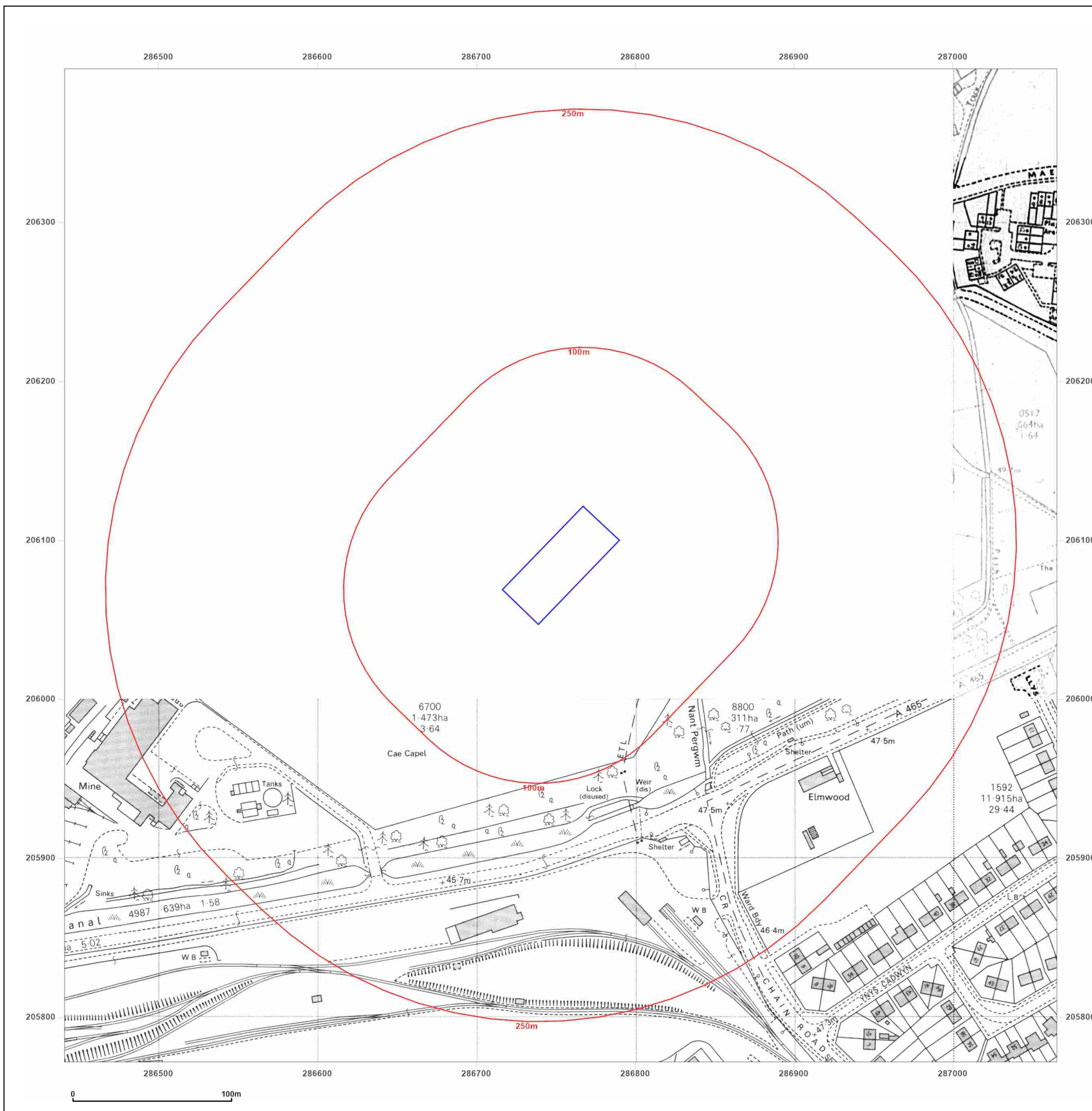


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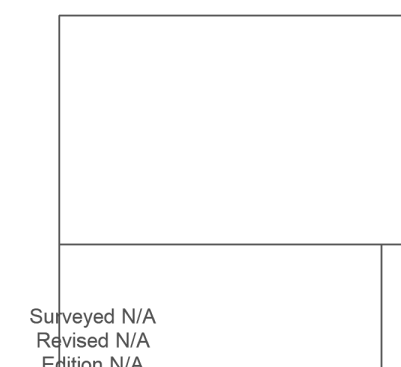
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Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



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

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

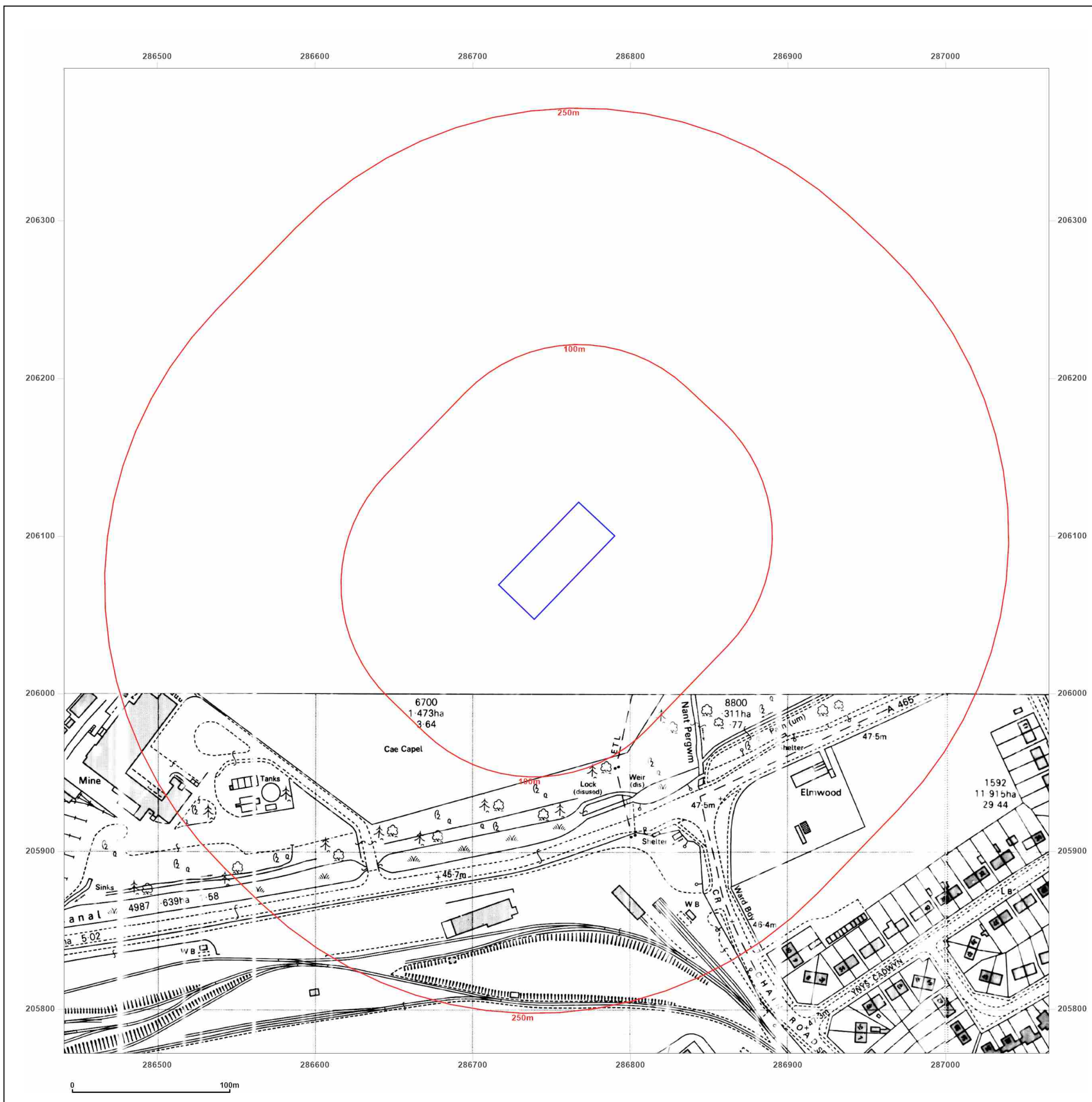


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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1990-1992

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1963
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1963

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

Surveyed 1962
 Revised 1983
 Edition N/A
 Copyright 1990
 Levelled 1963

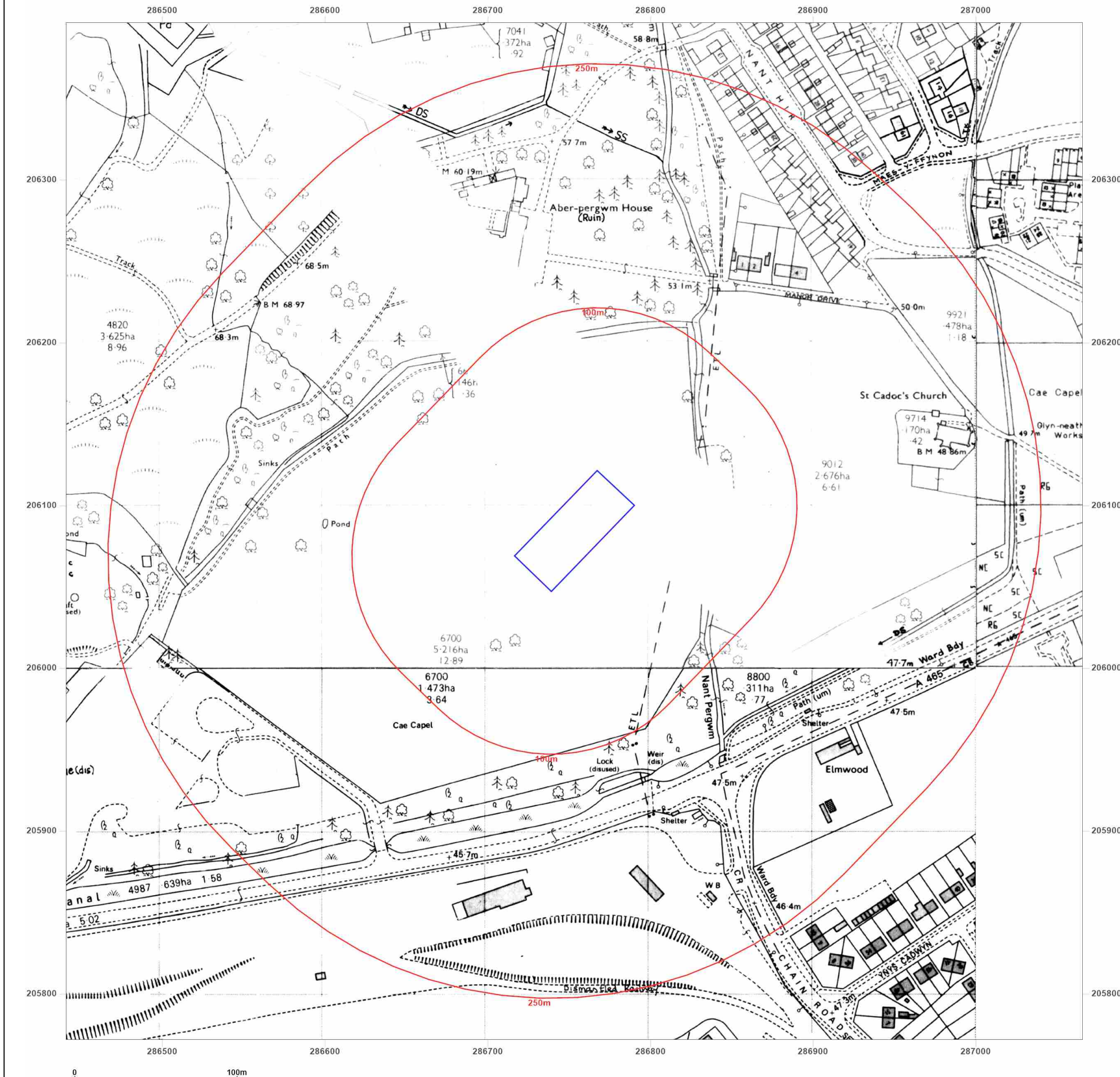


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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1990-1993

Scale: 1:2,500

Printed at: 1:2,500



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

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

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 Edition N/A
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 Levelled N/A

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 Edition N/A
 Copyright 1993
 Levelled N/A

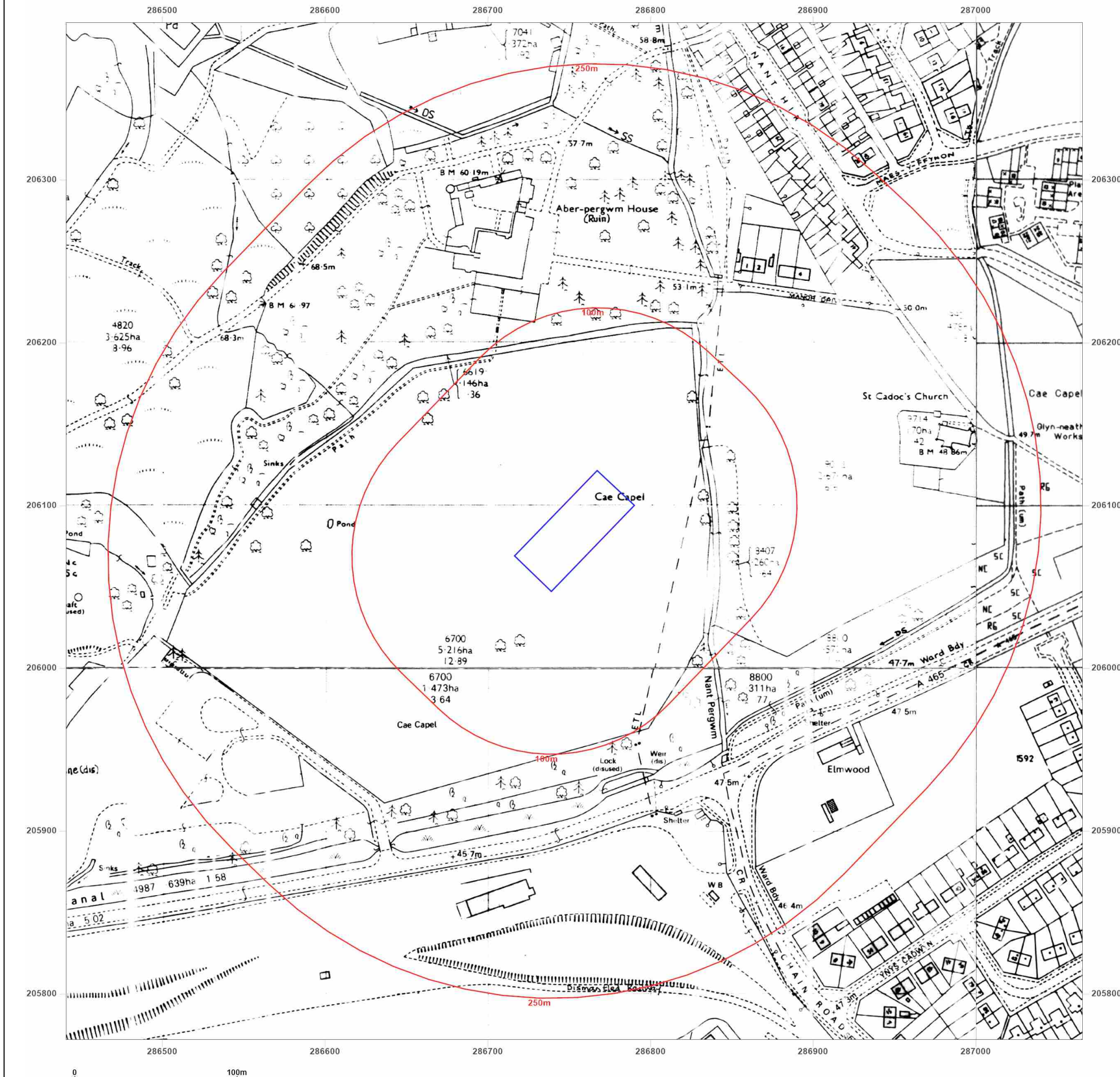


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Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1990-1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1963
 Revised 1990
 Edition N/A
 Copyright 1990
 Levelled 1963

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

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

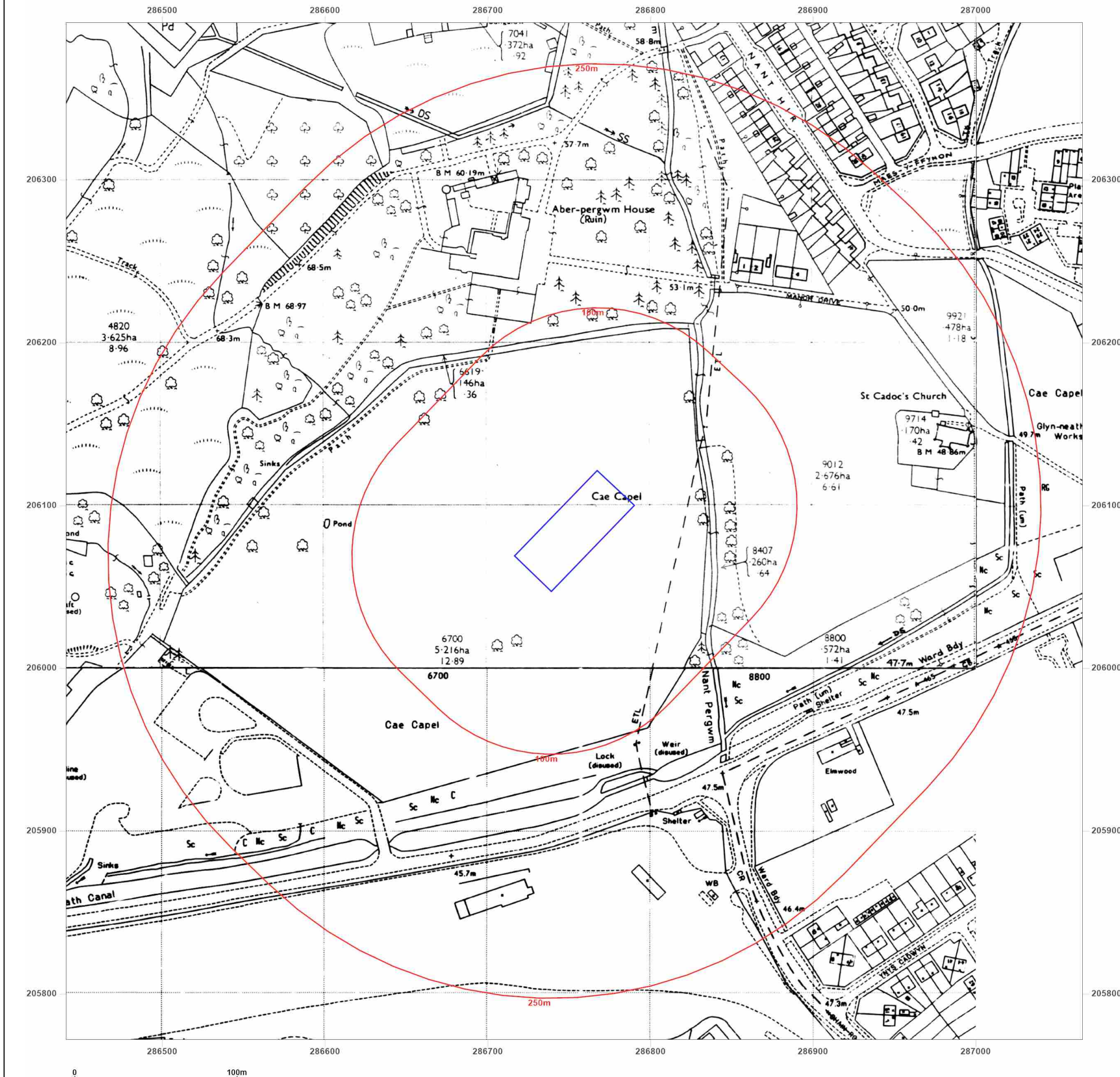


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Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1993-1995

Scale: 1:2,500

Printed at: 1:2,500



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

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



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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

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Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

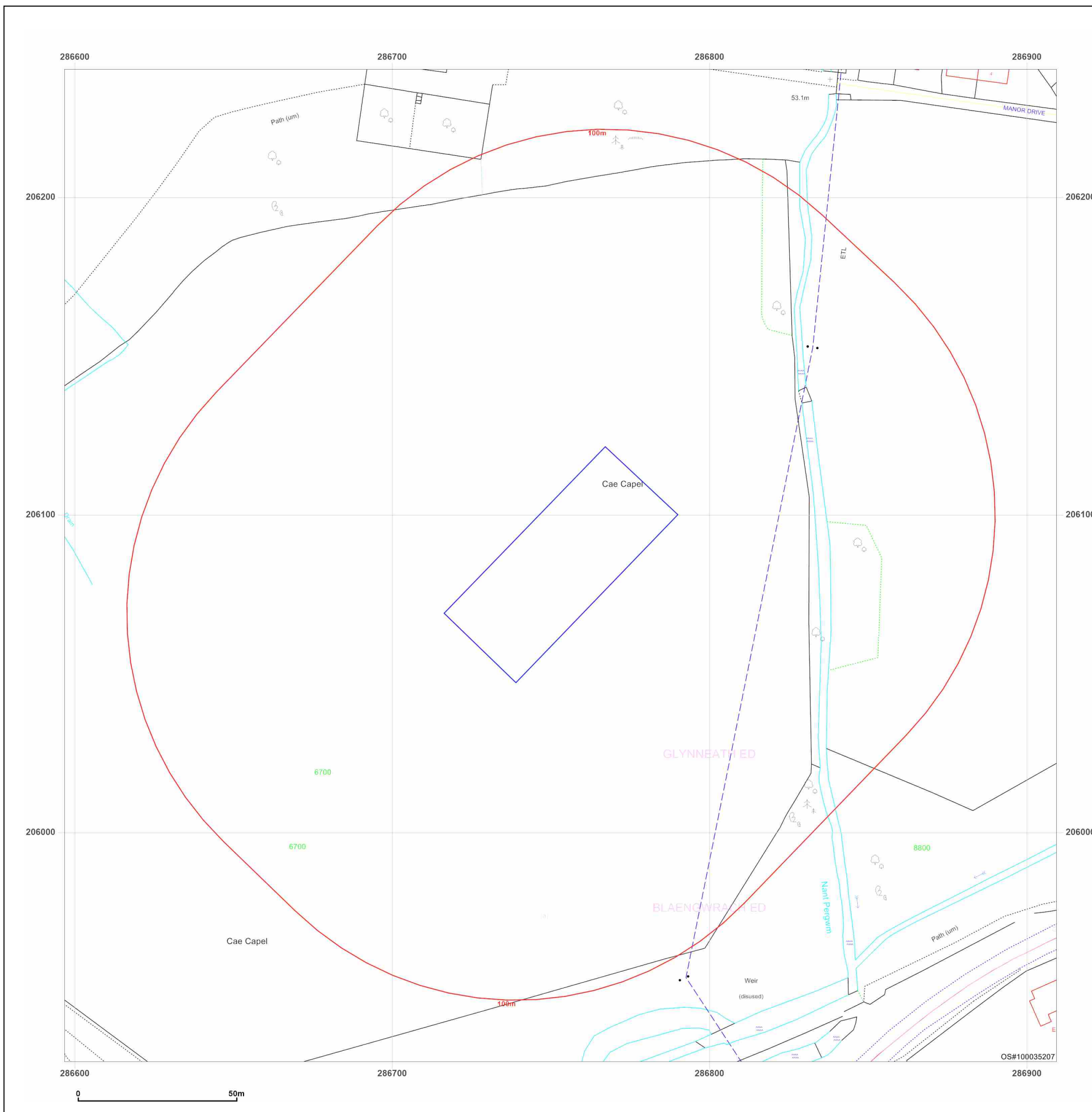


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Site Details:

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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1877

Scale: 1:10,560

Printed at: 1:10,560



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

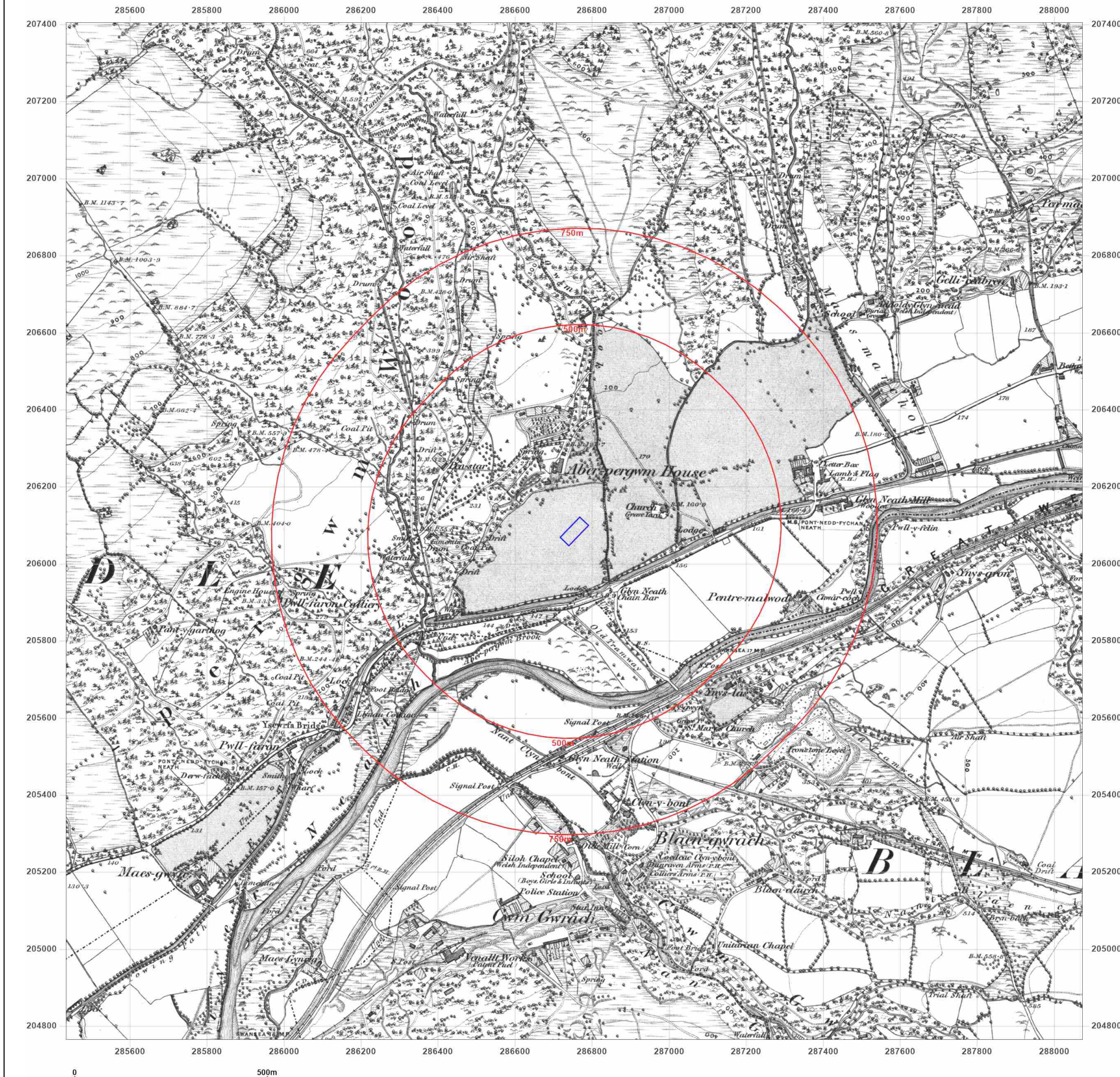


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Production date: 03 January 2024

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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1897

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1877
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

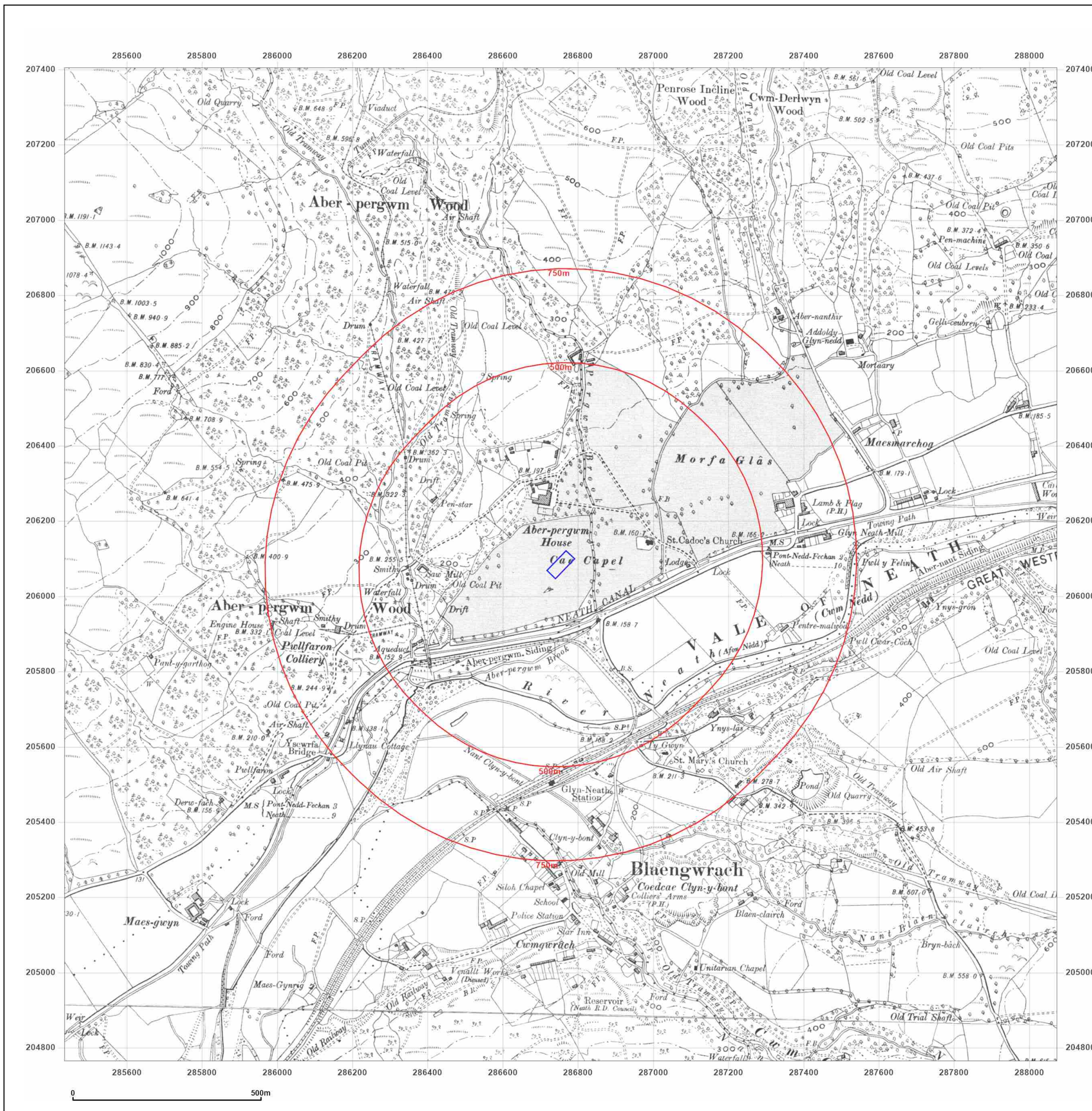


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Site Details:

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Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1914

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1876
Revised 1914
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1914
Edition N/A
Copyright N/A
Levelled N/A

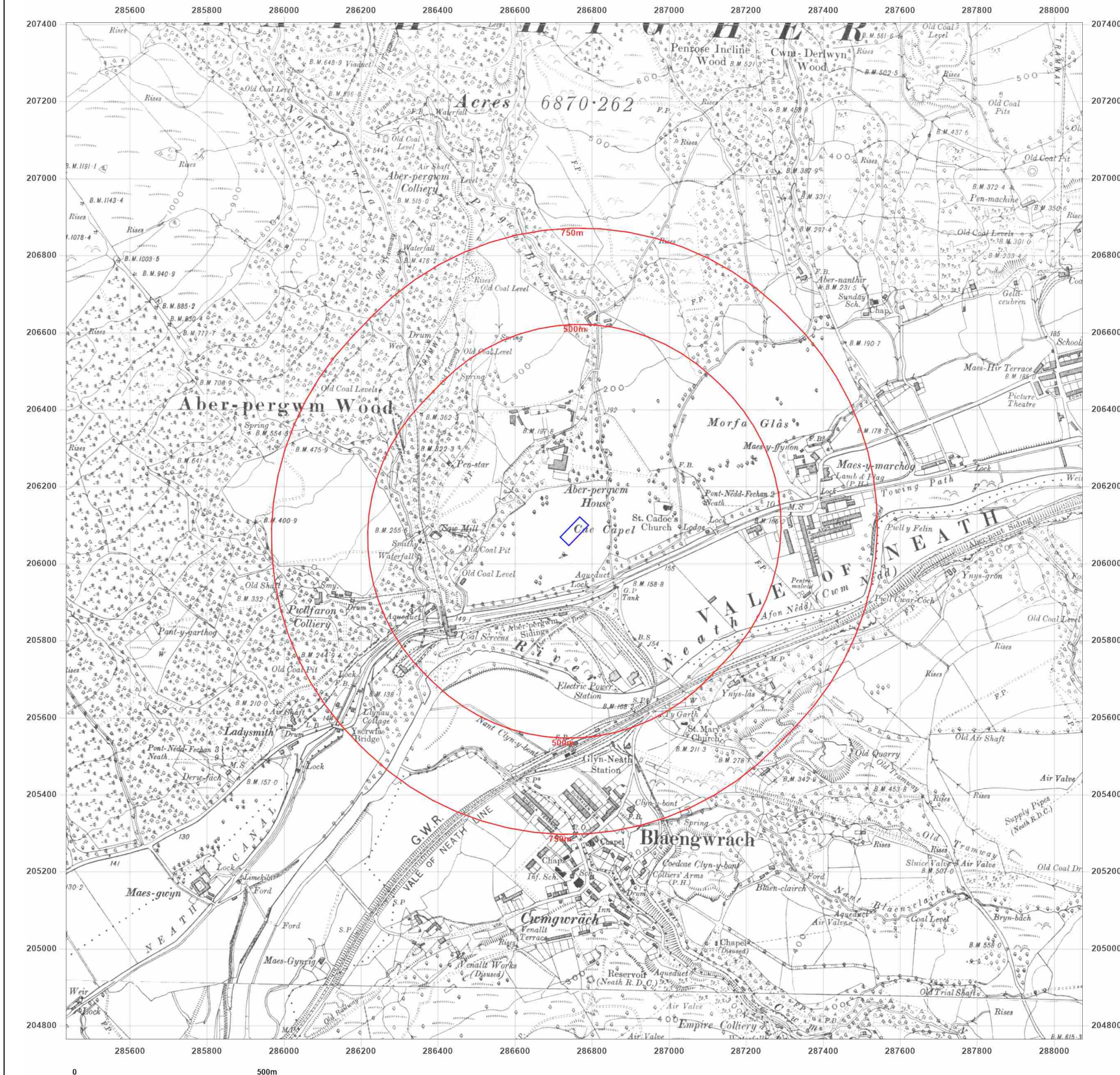


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Site Details:

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Report Ref: GS-VBL-ZV9-4K7-V76
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Map date: 1938

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Printed at: 1:10,560



Surveyed 1876
 Revised 1938
 Edition 1938
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 Levelled N/A

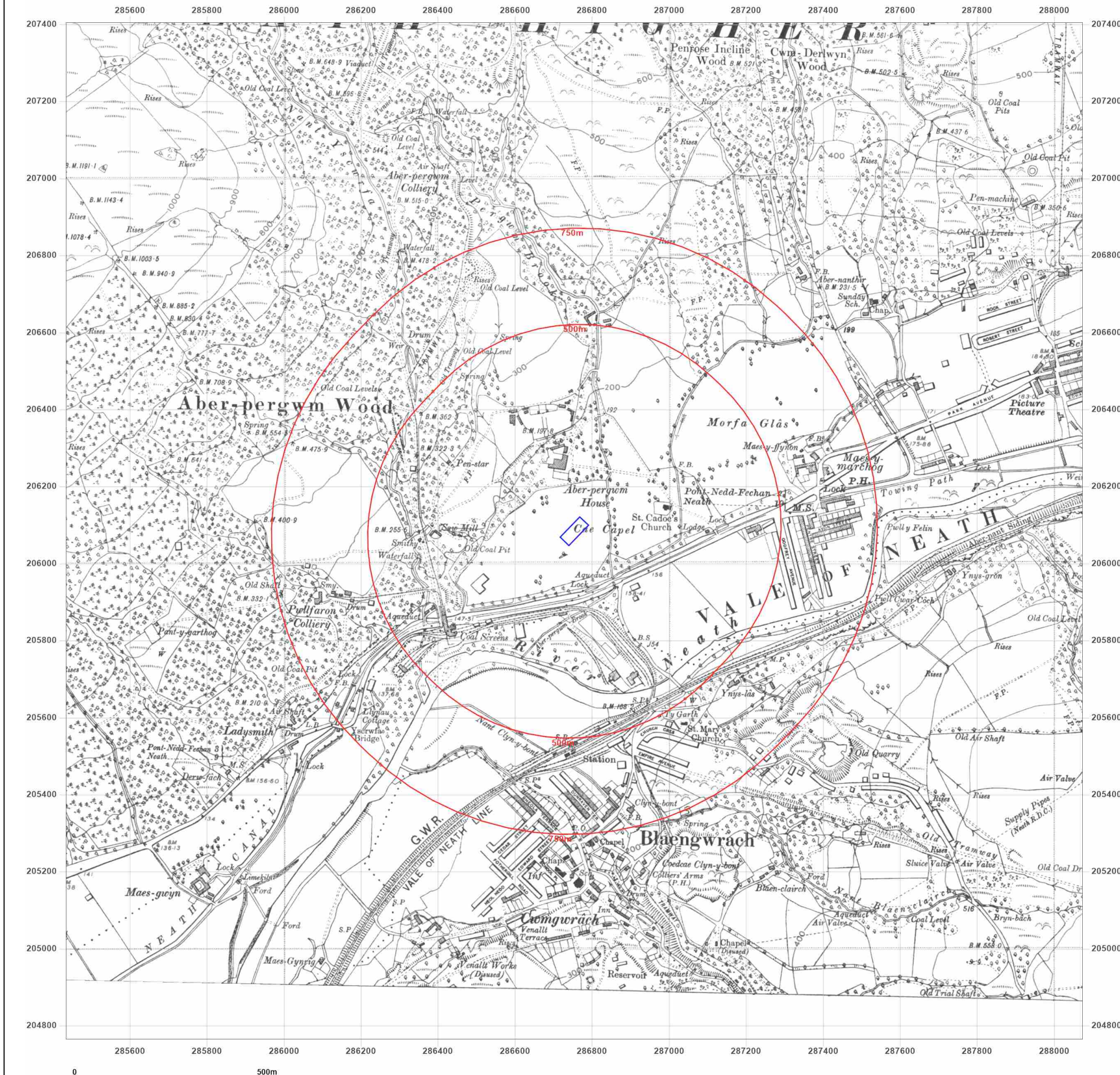


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Site Details:

ABERPERGWM MINE, SA11 5PT

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Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1876
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1948
Edition 1948
Copyright N/A
Levelled N/A

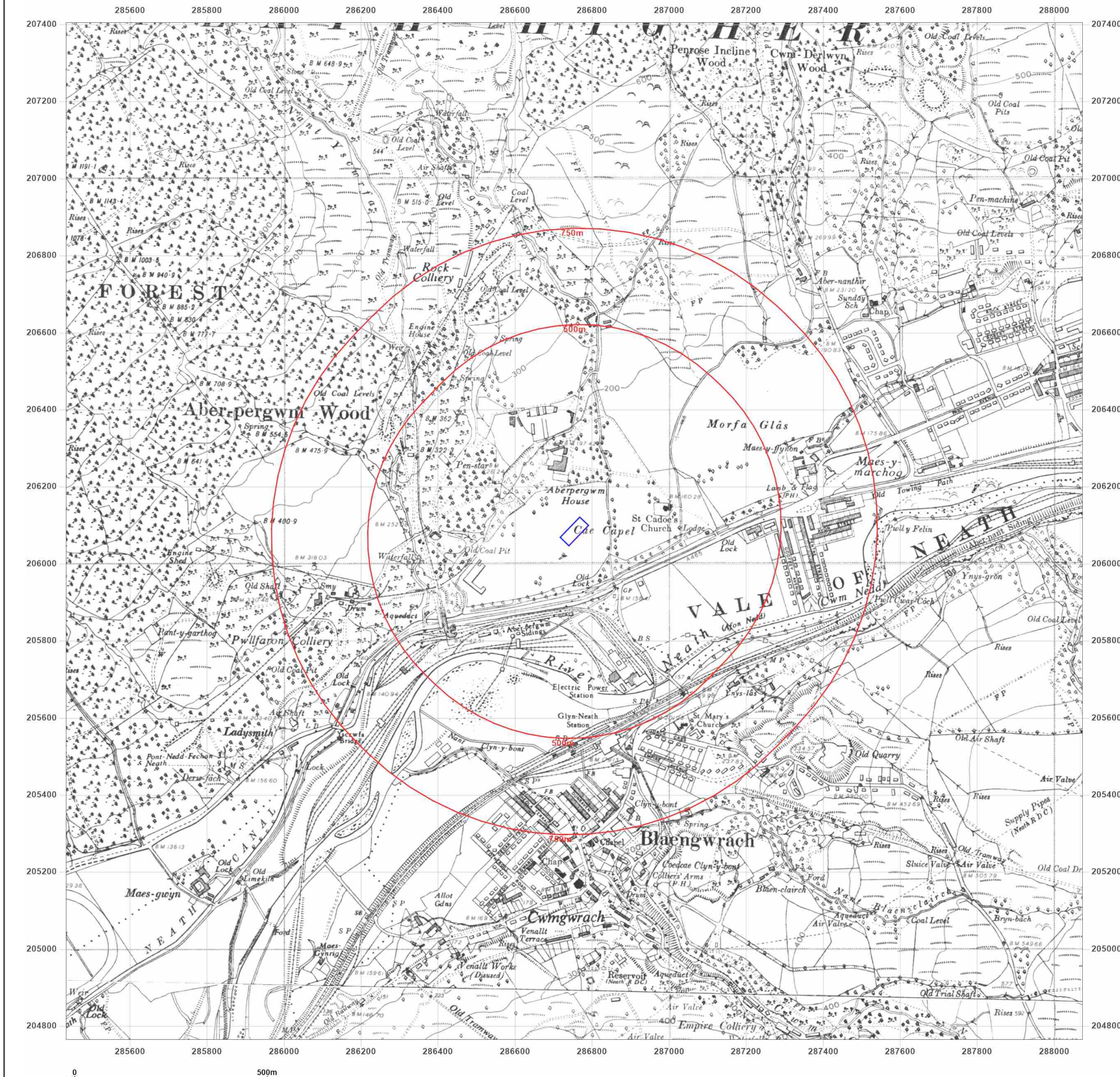


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Site Details:

ABERPERGWM MINE, SA11 5PT

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CA11645

Report Ref:

GS-VBL-ZV9-4K7-V76

Grid Ref:

286753, 206084

Map Name:

Provisional

Map date:

1964

Scale:

1:10,560

Printed at:

1:10,560



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

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



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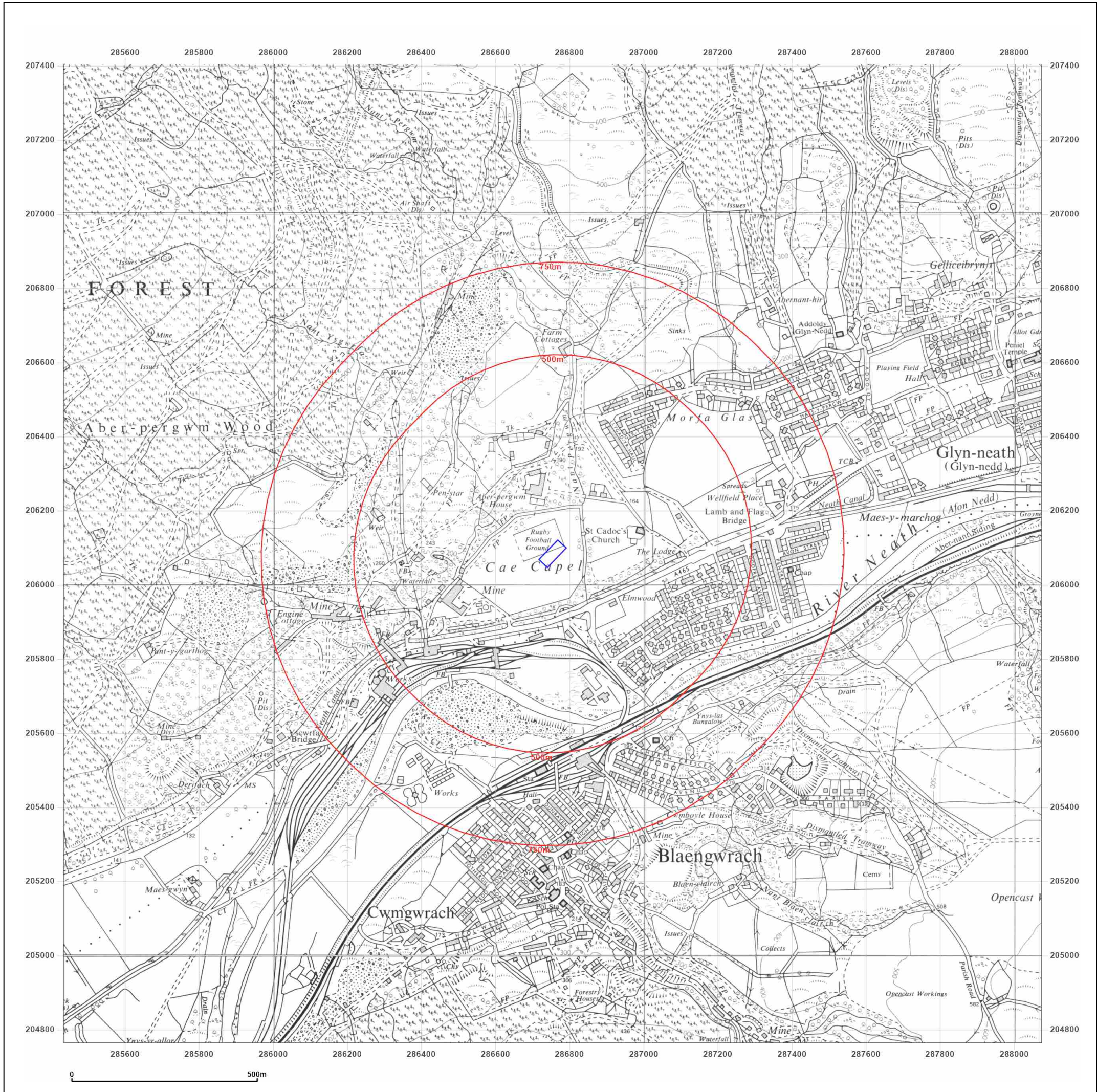
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Production date: 03 January 2024

Map legend available at:
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Site Details:

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Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: Provisional

Map date: 1980

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1980
Revised 1980
Edition N/A
Copyright N/A
Levelled N/A

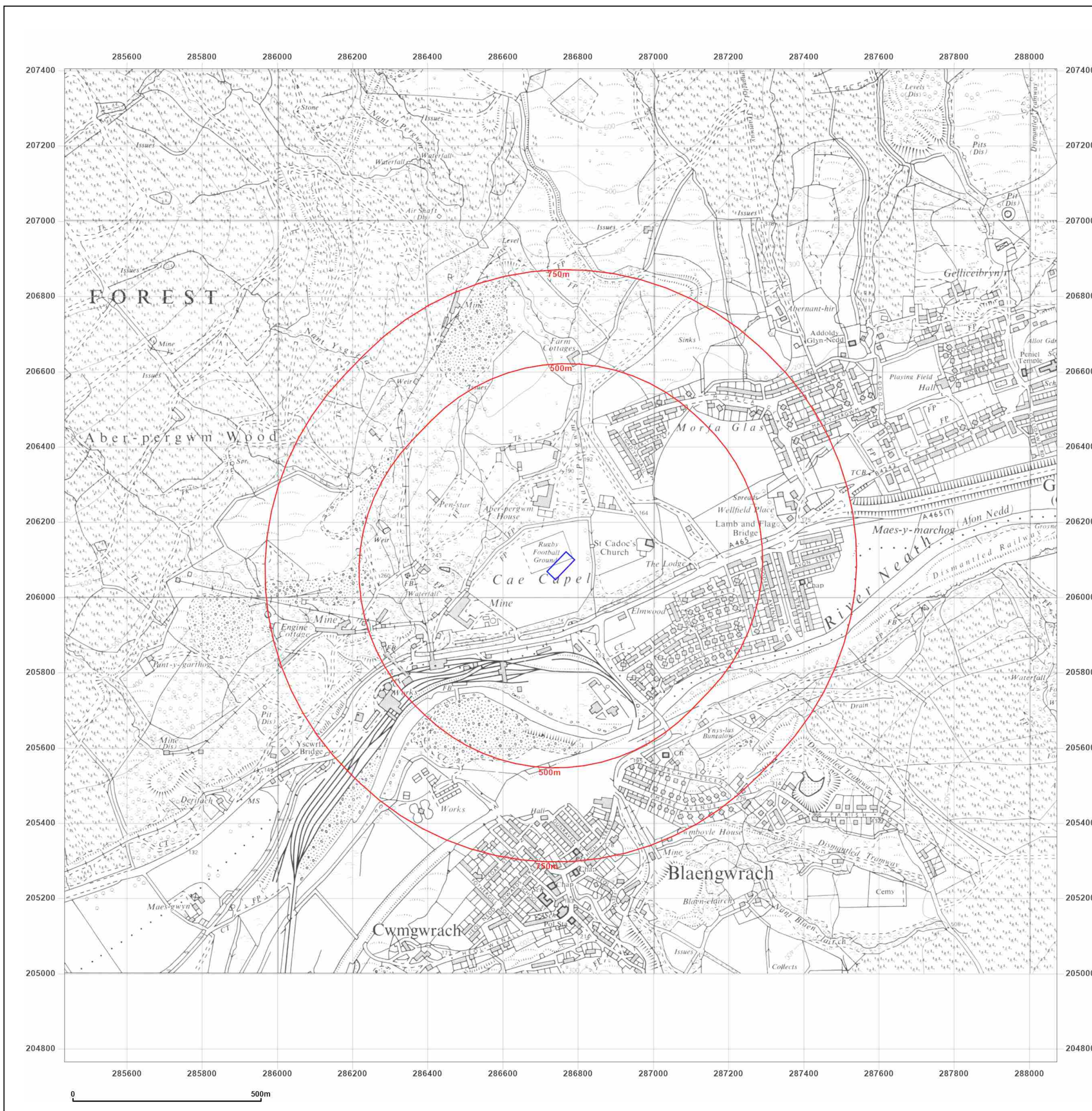


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 1981-1983

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1980
Revised 1981
Edition N/A
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Surveyed 1971
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

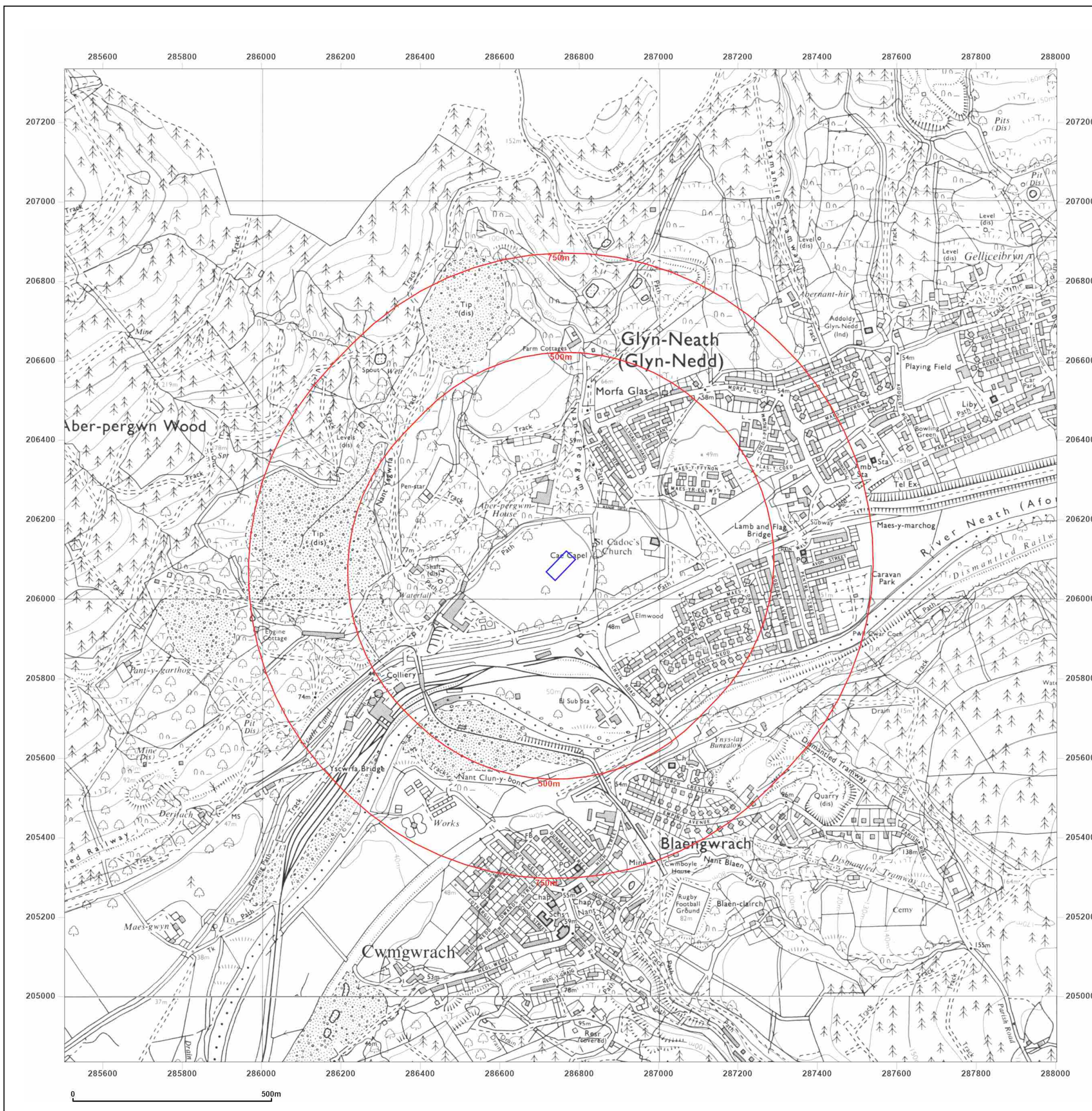


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

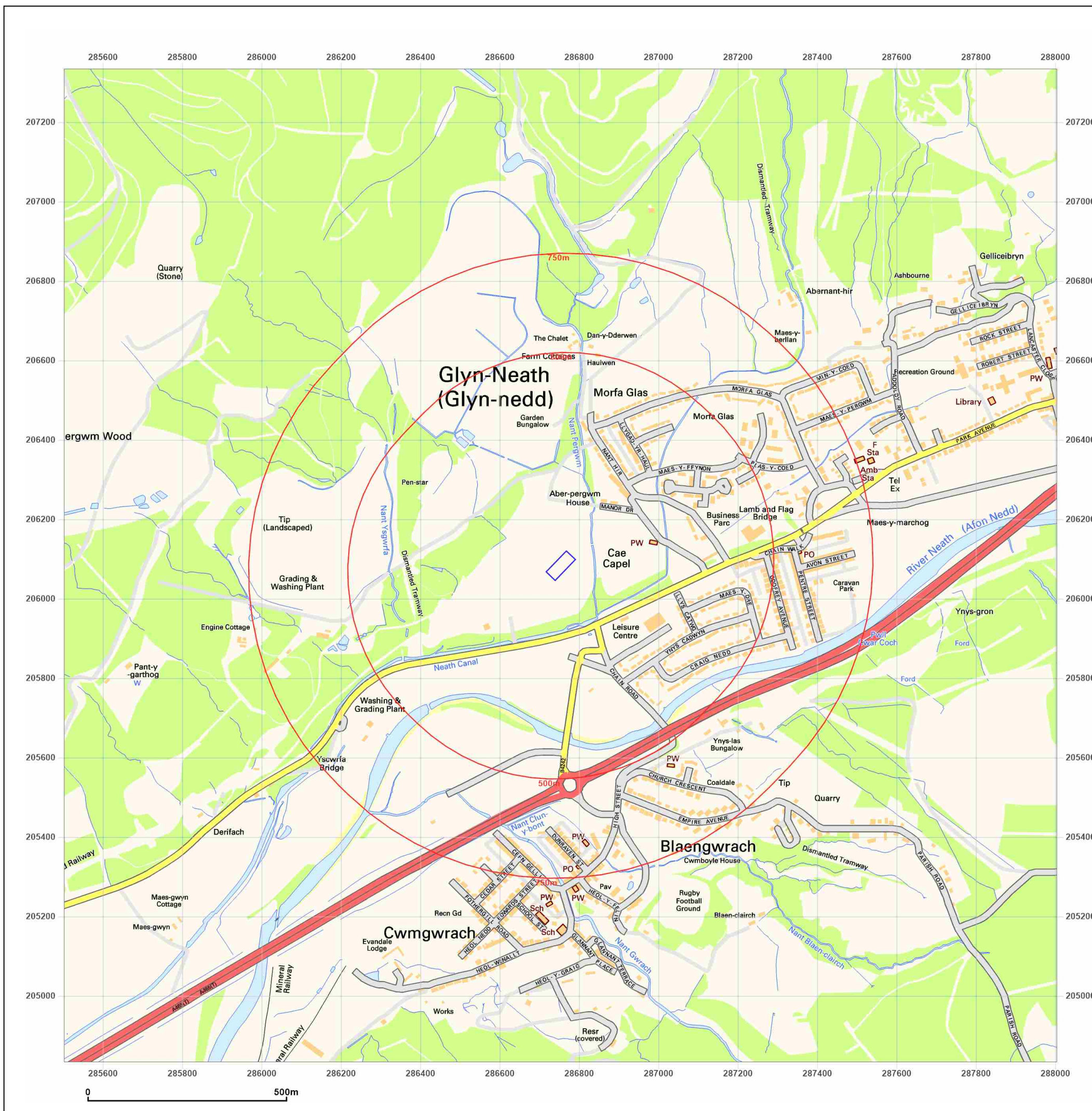


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

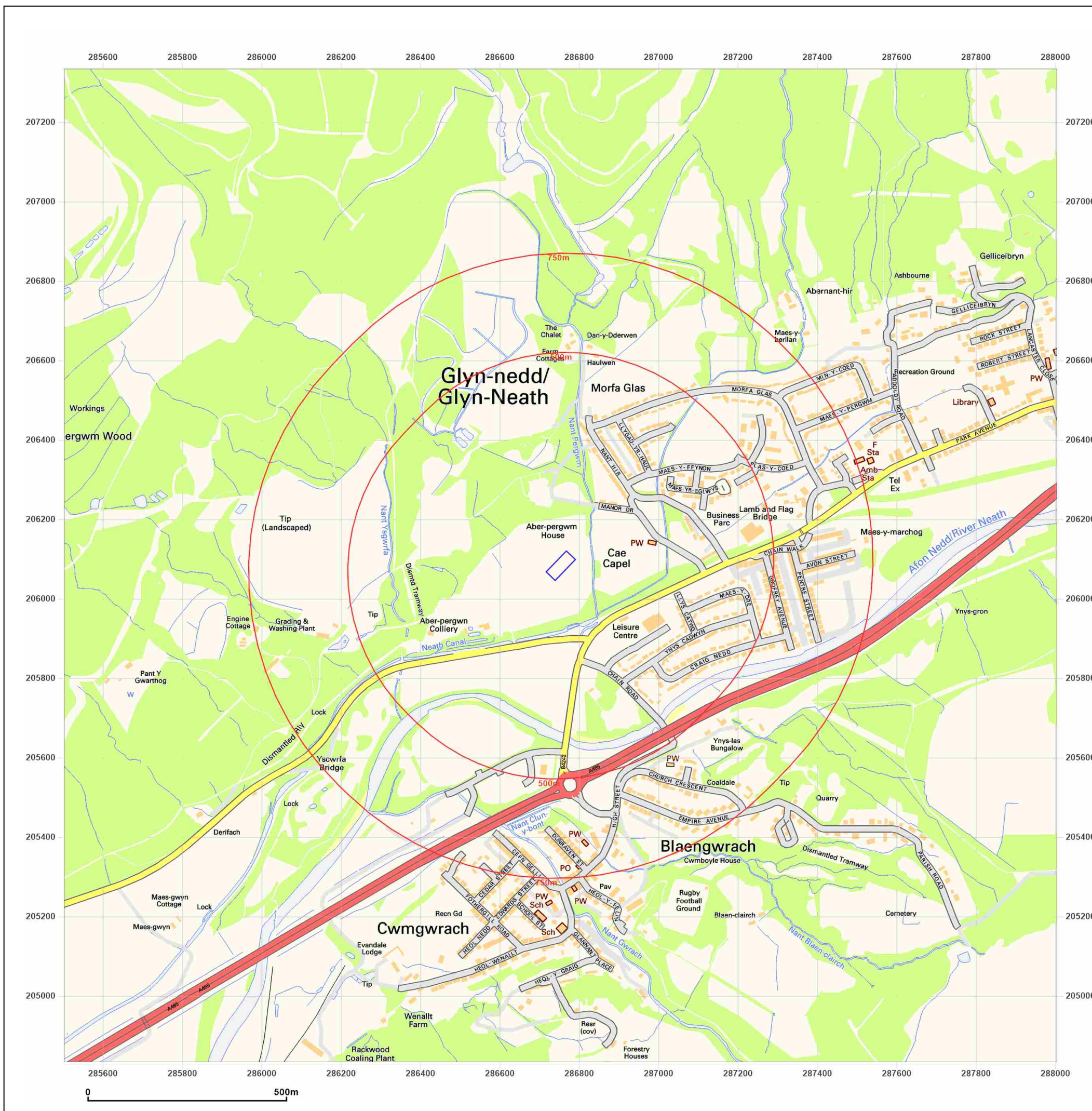


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Site Details:

ABERPERGWM MINE, SA11 5PT

Client Ref: CA11645
Report Ref: GS-VBL-ZV9-4K7-V76
Grid Ref: 286753, 206084

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000



2024

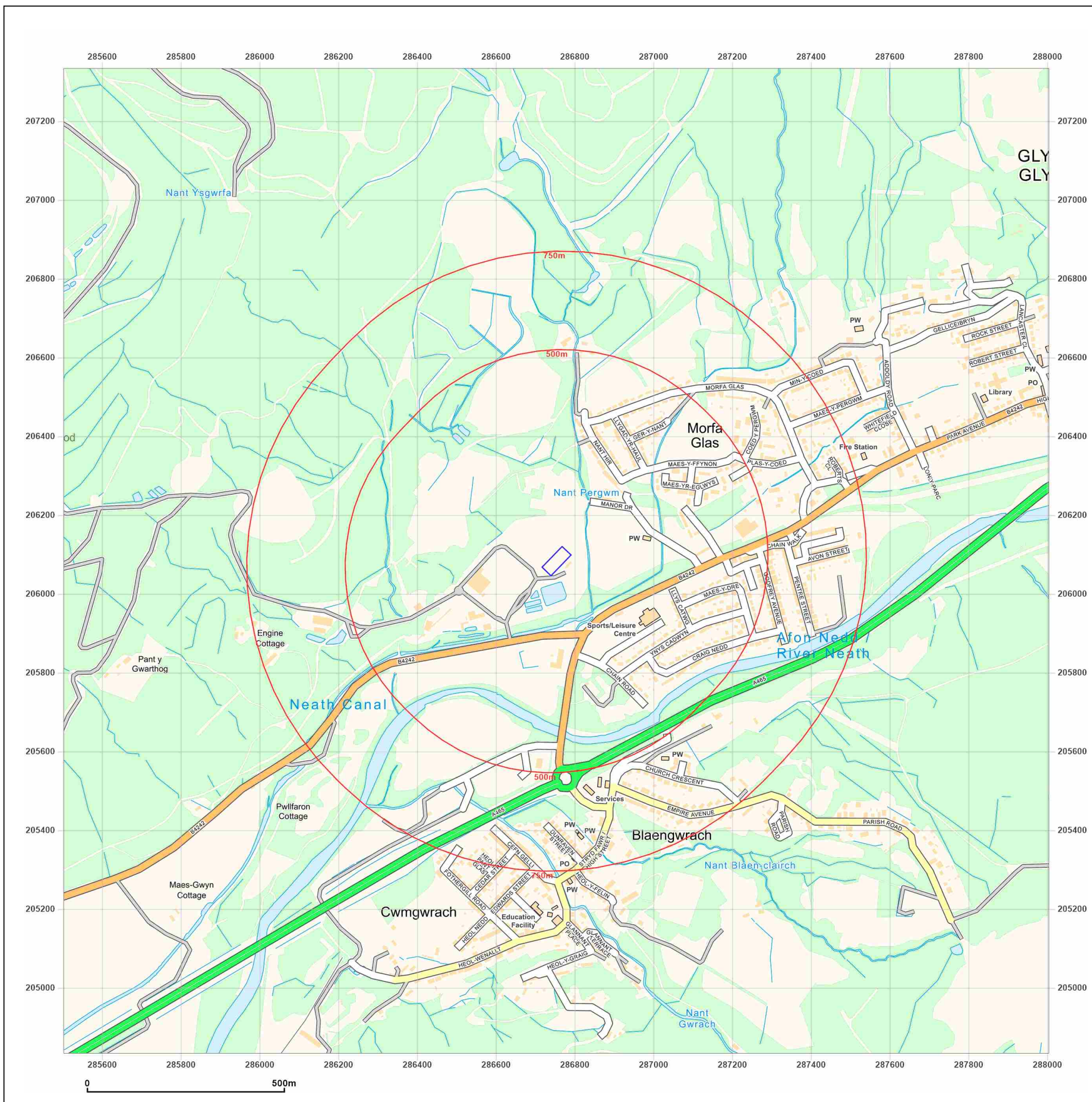


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Appendix F

Site Walkover Survey

Site Name	Aberpergwm	Job No	CA12992
Ownership	Energybuild/ Aberpergwm Estate	Client	Energybuild
Inspected By	Zoe Devaney	Date of Inspection	10/01/2024
Risk Assessment?	Y		
Site Description			
Current land use			
The site is currently being used to temporarily store site materials and equipment such as piping, wooden panels, digger buckets, as well as a small pile of filter cake material kept on site for drying purposes. The majority of stored material was covered or wrapped.			
Dimensions / Area			
Footprint of site = 2,100m ²			
Surrounding Land			
Northeast: artificially raised vegetated (grass, no trees) land for mitigating noise pollution Southeast: excavated narrow (~1m) trench for drainage along the border, 125m² fenced off building and a metal shipping container Southwest: Layered bricks (1m height), tarmac road for Aberpergwm mine vehicles as well as multiple uncovered mine stockpiles over the road. Northwest: steel framework of additional new building, no roof, approximately 3000m²			
Nature of boundaries i.e., types of wall/fences and conditions			
Fencing around neighbouring southeastern building in good condition			
Topography			
Flat land – artificially compacted made ground			
Surfacing and condition e.g., asphalt, concrete, rough scrubland			
Compacted made ground; gravels of pennant sandstone			
Vegetation. Any obvious signs of distress, tilting, dieback. Presence of notifiable species			
No vegetation observed on site			
Observable Environment (noise/dust/emissions/odours)			
No			

GROUND CONDITIONS
Made ground any infilling being carried out, areas of previously filled ground (review of historical maps)
BGS maps do not record made ground, however the site is covered in compacted made ground consisting of gravels of blue pennant sandstone.
Geological exposures e.g., natural exposures of rocks/soils
No
Access
Location
Site was not fenced off, access through Aberpergwm Mine
Roads, Tracks, Infrastructure e.g., leading to site, on site
Tarmac road used for Aberpergwm vehicles leading to site from the southwest. Tracks observed on site within the gravel made ground – tracks from vehicles moving material on and off site and the construction of the storage shed steel framework, roof, and foundations.
Existing Structures
Buildings / Asbestos and condition e.g., roofs, pipe insulation, floor tiles,
The steel frame, shallow foundations and roof of the storage shed has been constructed (as of December 2023).
Walls / fences – type, condition, height, retaining,
N/A
Foundations
Foundations not visible but I was informed that they were shallow square foundations (approx. 1.8mx1.8mx2m).
Contamination e.g., drums which may cause contamination, fly-tipping,
No signs of contamination
Services
Substations (private or rec owned?)
N/A
Overground

N/A
Underground
N/A
Water
Presence of springs, ponds, water courses, ditches. Where? Distance to? Pollution evident
No water courses directly on the site Several puddles were observed across the site Recently excavated trench/ditch along the northeastern boundary of the site planned for drainage Two lagoons related to the mine observed approximately 100m south of the site.
Wells, depths, current? Decommissioned? Marshy ground. Water loving plants.
N/A
Additional Information/Notes
Walls of the storage shed not yet constructed, the client still plans to make one side (northwestern side) open to reduce gas risk.
Questions to ask/things to look out for
1) Made ground situation – did client lay it? What does it consist of? 2) What is being stored on site now? Specifics of what has been stored on site. 3) Is the shed “open” as the shed design detailed = mine gas risk

Appendix G

Site Walkover Photographs



Picture Taken: 10/01/2024	Photograph No. 1	Title: General northeastern view of the site.
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Picture Taken: 10/01/2024	Photograph No. 2	Title: View of the digger buckets and various materials temporarily stored on the southwestern half of the site.
------------------------------	---------------------	--



Picture Taken:
10/01/2024

Photograph
No. 3

Title: Additional view of plastic wrapped materials temporarily stored on site, kept off the ground by wooden planks.



Picture Taken:
10/01/2024

Photograph
No. 4

Title: View northwards of the filter cake material temporarily stored on site and the northeastern/norther artificially raised land vegetated with grass.



Picture Taken:
10/01/2024

Photograph
No. 5

Title: View southeast of the Energy Storage System (ESS) building and surrounding metal fencing.



Picture Taken:
10/01/2024

Photograph
No. 6

Title: View southwest of the site of the private tarmac road leading to the site and the coal stockpiles.



Client: Energybuild Ltd

Project: Aberpergwm Plant Pool Shed

Project Number: CA12992



Picture Taken:
10/01/2024

Photograph
No. 7

Title: View northwest of the newly constructed steel framework of neighbouring building, approximately 3,000m² in size.



Picture Taken:
10/01/2024

Photograph
No. 8

Title: Narrow (approximately 1m wide) excavated trench for proposed drainage plans of the site.



Client: Energybuild Ltd

Project: Aberpergwm Plant Pool Shed

Project Number: CA12992



Picture Taken: 10/01/2024	Photograph No. 9	Title: View southeast of the larger eastern lagoon, approximately 2,300m ² in size.
------------------------------	---------------------	--



Picture Taken: 10/01/2024	Photograph No. 10	Title: View southwards of the smaller western lagoon, approximately 300m ² in size.
------------------------------	----------------------	--

Appendix H

Trial Pit No.11 Log

[illegible]

Appendix I

Blue Pennant Sandstone Chemical Analysis

Nant-y-Mynydd (Forest Quarry, Rheola, NEATH).

Blue Pennant Sandstone

SPEC:	TEST		Most Recent				
Weekly/Monthly BS EN 933 - 1	Grading (Weekly whilst Producing otherwise monthly)	Date of Test	See Trend				
		Result	Sheets				
Monthly BS EN 933 - 3	Average Flakiness Index	2/6.3 Gc 80/20 f3.0	13.7				
		4/10 Gc 85/20 f3.0	9.9				
		6.3/14 Gc85/20 f3.0	7.7				
4 monthly BS EN 1097 - 8	Polished Stone Value	Date of Test	19/07/2010	23/02/2010	16/10/2009	06/05/2009	09/01/2009
		Result	72	70	71	72	70
24 monthly BS EN 1097 - 6	Apparent Particle Density	Date of Test	20/01/2010				
		Result	2.7				
24 monthly BS EN 1097 - 6	Water absorption	Date of Test	20/01/2010				
		Result	1.50%				
12 monthly BS EN 1097 - 2	Los Angeles Coefficient (Resistance to Fragmentation)	Date of Test	18/05/2010	08/03/2010	08/09/2009	23/01/2009	
		Result	22	21.0	33	27	
12 monthly BS EN 1097 - 1	Micro Deval (Resistance to Wear) No requirement in UK	Date of Test	13/05/2010	08/03/2010	16/10/2009	07/10/2009	
		Result	40.7	44	47	51	
24 monthly BS EN 1367 - 1	Magnesium Soundness Value	Date of Test	23/02/2009				
		Result	12				
BS EN 1744 - 1	Water Soluble Sulphate	Date of Test	26/01/2010				
		Result	0.02				
BS EN 1744 - 1	Acid Soluble Sulphates	Date of Test	22/01/2010	14/07/2009			
		Result	0.35	0.06			
BS EN 933 - 9	Methylene Blue Test (fines)	Date of Test	04/03/2010	04/02/2009			
		Result	2.9	1.92			
BS EN 1744 - 1	Water Soluble Chloride Salts Volhard Method	Date of Test	22/01/2010				
		Result	0.00%				
12 monthly BS EN 1097 - 8	Aggregate Abrasion Value	Date of Test	23/06/2010	27/01/2009			
		Result	8.9	10.6			

Appendix J

Contaminated Land Guidance & Risk Assessment Matrix

Guidance on Contaminated Land Risk Assessment

In the UK, contaminated land is regulated by the planning and development control system and the contaminated land regime set out in Part 2A of the Environmental Protection Act (EPA) 1990.

When considering an application for development, the potential for the land to be contaminated is a material consideration, and the local planning authority should satisfy itself that any contamination is properly assessed and adequately remediated, based on a suitable for use approach. This is to ensure that the land is made suitable for its proposed new use.

Guidance on the investigation of contamination is contained in British Standard 10175: 2011 (+A2-2017) "Investigation of potentially contaminated sites - Code of Practice". It involves an identification of risks due to the presence of contaminants, and an assessment of those risks based on the:

- possible sources of contamination;
- identification of who or what may be affected by the contaminants (the receptors);
- possible pathways by which contaminants may migrate to one or more of the receptors.

A conceptual site model is a representation of the environmental processes that occur on and in the vicinity of the site and its purpose is to identify the potential contamination linkages that exist on the site. The assessment of the significance of these contamination linkages can then be carried out through the risk assessment process.

Since the conceptual site model underpins each stage of contaminated land management, BS10175: 2011 (+A2-2017) suggests that such a model should be developed for every site. Accordingly, the results of the desk study research on the site have been used to identify the source- pathway-receptor relationships that exist on the site before and during redevelopment works.



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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT



A conceptual site model is a representation of the environmental processes that occur on and in the vicinity of the site and its purpose is to identify the potential contamination linkages that exist on the site. The assessment of the significance of these contamination linkages can then be carried out through the risk assessment process.

Environmental Risk Assessment Methodology

In line with EA guidance LCRM, plausible source, pathway and receptor linkages have been identified through the Conceptual Site Model (CSM). The information gathered in the CSM can now be used to carry out a Qualitative Risk Assessment (QRA).

The LCRM outlines that for each tier of Risk Assessment the following steps must be taken:

1. Identify the hazard - establish contaminant sources.
2. Assess the hazard - use a source-pathway-receptor (S-P-R) linkage approach to find out if there is the potential for unacceptable risk.
3. Estimate the risk - predict what degree of harm or pollution might result and how likely it is to occur by using the tiered approach to risk assessment.
4. Evaluate the risk - decide whether a risk is unacceptable.

The LCRM states that the assessment must be based on the potential severity that the risk poses to the receptors against the likelihood of it happening. Subsequently, it is necessary to employ a risk assessment matrix, the CIRIA document Contaminated Land Risk Assessment – a guide to good practice C552, 2001 provides a good example of a suitable risk assessment matrices.

In the CIRIA methodology, the sensitivity assessment considers the contaminant-pathway-receptor in conjunction with the contamination linkage concept (described below). This information is then used to classify consequences and the probability of a contamination linkage occurring, affording the level of sensitivity of a given receptor to be established.

Contamination Linkage Concept

In forming a risk assessment for land contamination, there are three essential elements to be given consideration collectively known as a 'contaminant linkage':

- A contaminant/source – A substance that is in, on or under the land and has potential to cause harm or to cause pollution of controlled waters.



- A receptor – in general terms, something that could be adversely affected by a contaminant, these can include people, an ecological system, property or a water body; and
- A pathway – a route or means by which a receptor can be exposed to or affected by a contaminant.

Each of these elements can exist independently, but they create a risk where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant-pathway-receptor is described as a contaminant linkage.

Sensitivity Assessment Criteria

By considering the contaminant, pathways and receptors, an assessment of the environmental risk is made with reference to the degree of sensitivity of the receptor to a contaminant.

The qualitative sensitivity assessment is conducted by determining the severity of the potential consequences, taking into account the probability of risk and by considering the sensitivity of the receptor based on the categories below. It follows CIRIA documents C552 terminology and methodology as summarised:

Potential Consequences	x	Probability of Risk	=	Sensitivity
(Table 1)	x	(Table 2)	=	(Table 3)



Table 1 presents the consequences to the receptor of the contaminant linkage being realised. It has four categories, with severe being the most serious and minor being the least serious consequences:

Table 1 – Consequence of Risk Being Realised			
Classification	Category	Definition	Examples (Not necessarily specific to this site)
Severe short-term (acute) risks only	Humans	Short-term (acute) risk to human health likely to result in “significant harm” as defined by the Environment Protection Act 1990, Part 2A.	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 a short-term human health risk if buildings are occupied).
	Ecological System	A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	
Medium chronic (long term) risks; “significant harm”	Humans	Chronic damage to Human Health (“significant harm” as defined in Defra 2006).	Concentrations of a contaminant from site exceed the generic, or 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 into a major or minor aquifer.
	Ecological System	A significant change in a particular ecosystem	Death of a species within a designated nature reserve.
Mild chronic (long term) risks; fewer sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources.	Pollution of non-classified groundwater
	Property	Significant damage to buildings, structures and services (“significant harm” as defined in Circular on Contaminated Land, Defra, 2006). Damage to sensitive buildings/structures/services	Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability)
	Ecological System	Significant damage to crops. Damage to the environment.	
Minor chronic (long term) risks; mild	Financial project /	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve.	
	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.
	Property	Easily repairable effects of damage to buildings, structures and services	The loss of plants in a landscaping scheme. Discolouration of concrete.



The likelihood of the pollution linkage being realised must take into account the presence of the source and position of the receptor as well as the pathway that connects them. Table 2 overleaf defines the likelihood of the pollution linkage occurring.

TABLE 2: Probability of Risk Being Realised	
Classification	Definition
High Likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a contaminant linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

The potential consequences and the probability of the risk occurring are combined to form the classification of sensitivity matrix, as presented in Table 3a below. It provides a sensitivity category for potential receptors if a pollution linkage exists, allowing the level of sensitivity of a receptor in a particular circumstance can be determined.

TABLE 3a: Risk Classification Matrix					
		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Very Low
	Unlikely	Moderate/Low	Low	Very Low	Very Low



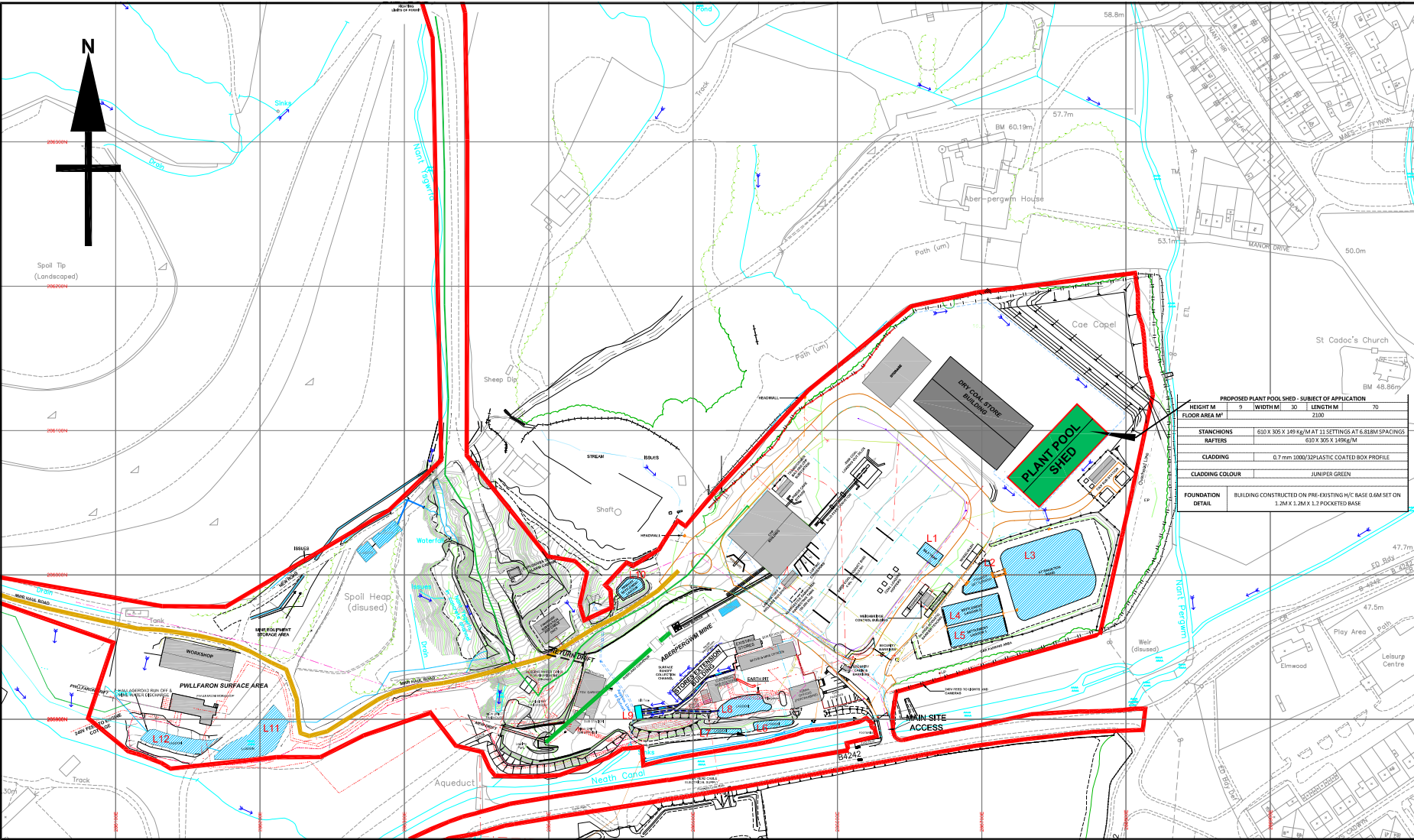
TABLE 3b: Risk Classification Definitions	
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate / Low	A notable balance between moderate and low categorisation. The moderate/low interface.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Under each of the contaminant linkage categories, the identified environmental risks have been assessed with regard to a wide range of topics including (where appropriate):

- the 'source-pathway-receptor' concept;
- the behaviour of potential contaminants within the environment;
- environmental processes;
- industrial operations and best practice;
- current environmental legislation;
- the views and practices of the environmental regulators;
- the likelihood of environmental notices, orders or other enforcement action;
- any requirements to remove waste, contaminated or hazardous materials;
- the health and safety of occupiers or neighbours;
- any redevelopment plans for the site; and
- effects on the fabric of buildings caused by contamination.

Drawing 1

CA12992-001 EBL Site Location Plan



ENERGYBUILD ABERPERGWM COLLIERY
APPLICATION FOR NEW STORES EXTENSION BUILDING

PLAN SHOWING ABERPERGWM MINE CURTILAGE, INFRASTURE AND PROPOSED LOCATION AND DETAIL OF PROPOSED PLANT POOL SHED

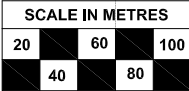
PLANNING CONSENT P2014 -0729 SITE BOUNDARY

PROPOSED PLANT POOL SHED

PLANT POOL SHED RELATED DRAINAGE DITCHES



PROPOSED PLANT POOL SHED - SUBJECT OF APPLICATION			
HEIGHT M	5	WIDTH M	20
FLOOR AREA M ²	100	LENGTH M	70
STANCHIONS	630 X 305 X 149 kg/M AT 11 SETTINGS AT 6.818M SPACINGS		
RAFTERS	630 X 305 X 149 kg/M		
CLADDING	0.7 mm 1000/20 PLASTIC COATED BOX PROFILE		
CLADDING COLOUR	JUNIPER GREEN		
FOUNDATION DETAIL	BUILDING CONSTRUCTED ON PRE-EXISTING H/C BASE 0.6M SET ON 1.2M X 1.2M X 1.2 POCKETED BASE		



DATE MAY 2023
REFERENCE AC/PPS/5/23/V1

SCALE:1:1000

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