



Regener8 Power

Rhigos Road Solar Farm Scheme

Preliminary Risk Assessment

315223 R01 (04)

RSK GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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1 INTRODUCTION

1.1 Commissioning

RSK Environment Limited (RSK) was commissioned by Regener8 Power to carry out a desk-based Contaminated Land Assessment of the land at Rhigos Road, Hirwaun, CF44 9AZ. The project was carried out to an agreed brief as set out in RSK's proposal (Ref. T315223 T01 (00), dated 14 June 2022).

RSK's service constraints are shown in [Appendix A](#).

The site in question is being considered for development as a solar farm.

1.2 Objectives

The objective of the work is:

- to identify any land contamination constraints to the proposed development and to support discharge of relevant planning conditions and relevant building control requirements
- to identify the need for any additional investigation or remediation works to demonstrate that the site is suitable for its proposed use.

1.3 Scope of works

The scope of this assessment has been developed in accordance with relevant British Standards and authoritative technical guidance as referenced through the report. The assessment of the contamination status of the site is in line with the technical approach presented in Land Contamination Risk Management (LCRM) (Environment Agency, 2021) – which supersedes CLR11 Model Procedures for Land Contamination – and in general accordance with BS 10175: 2011 + A2 2017 (BSI, 2017). It is also compliant with relevant planning policy and guidance.

A brief summary of relevant legislation and policy relating to land contamination is given in [Appendix B](#).

The scope of works for the assessment has included the following:

- a site walkover
- a study of local geology and hydrogeology, including the provision of historical BGS boreholes
- the identification of potential geological hazards, including Radon
- the purchase of a Consultants Coal Mining Report
- a study of the land-use, development history and environmental data on and around the site and its surroundings from local authority correspondence, an environmental database report and archival Ordnance Survey mapping

- the identification of aquifer vulnerability rating beneath the site and local water abstraction points from Environment Agency (EA) records held within the environmental database
- the identification of potential targets at risk from possible contamination
- the production of a Preliminary Conceptual Site Model and recommendations for further works.

1.4 Existing reports

No existing investigation reports relevant to the site assessment have been provided to RSK.

1.5 Limitations

This report is subject to the RSK service constraints given in [Appendix A](#) and limitations that may be described through this document.

2 SITE DETAILS

2.1 Site location

Site location details are presented in Table 1 and a site location plan is provided on [Figure 1](#).

Table 1 Site location details

Site name	Land at Rhigos Road
Full site address and postcode	Land at Rhigos road, Hirwaun, Aberdare, CF44 9AZ
National Grid reference (centre of site)	SN9346705760 (293476, 205705)

2.2 Site description

The Site boundary and current site layout are shown on [Drawing 11201/C01](#). The Site covers an area of c. 15.80 hectares. It is currently entirely occupied by soft landscaping, for the purpose of sheep grazing. There are a number of streams, drainage ditches and ponds on or adjacent to the site. The site generally falls to the north, south and east albeit with some local variation as the fields undulate. The lowest points are in the far north and east of the site at approximately 220 m AOD. The site has until recently been used for grazing sheep.

2.3 Surrounding land uses

The site is located approximately 2 km west of Hirwaun village, within a mixed rural, commercial and industrial setting. Immediate surrounding land uses are described in Table 2.

Table 2 Surrounding land uses

North	Open ground, isolated properties, car repair garage, electrical sub-station with Rhigos Road and Hirwaun Industrial Estate immediately beyond
East	The eastern site boundary is formed by a stream beyond which is open agricultural land and the Rhigos Road (A4061). To the east of the Rhigos Road is the former open cast coal mine at the former Tower Colliery, which is currently being restored.
South	The southern site boundary is formed by a stream flowing from south-west to north-east with open agricultural land immediately beyond
West	The western site boundary is formed by a hedge and drainage ditch flowing from north to south with open agricultural land immediately beyond

2.4 Development plans

RSK understand that the site is being considered for development as a solar farm. The proposed layout of the site, at the time of preparing this report, is shown in Drawing 32301/C01. The development will comprise a series of photo voltaic (PV) panels across the majority of the site with an access track from the Rhigos Road (A4061) in the south-east. Four transformer stations and enclosures for customer switchgear and the Distribution Network Operator (DNO) also form part of the proposed development.

3 DESK-BASED ASSESSMENT

The desktop study was designed generally to meet the objectives of a preliminary (phase 1) investigation, as defined by BS 10175:2011 + A2 2017 (BSI, 2017) and this assessment relates to LCRM Stage 1, Tier 1 preliminary risk assessment. The "vicinity" of the site for the purposes of this report is defined as locations situated within an approximate 250 m radius of the site, although certain sources and/ or sensitive targets further than 250 m may also have been considered.

The study aims principally to identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

3.1 Site history

3.1.1 Historical development record

The development history of the site and surrounding area based upon assessment of historical plans and records is detailed in Table 3. The historical maps reviewed are shown within the environmental database report in [Appendix D](#).

Table 3 Summary of historical development

Date from	Date to	Historical Land Use (on-site)	Area of site
1877	~1962	Open agricultural land. An unnamed stream crosses the eastern boundary of the site in SW – NE orientation. Footpaths noted to cross the site with possible marshy ground in the north-east.	Site wide
1962	1981	Site is shown comprising a combination of large stockpiles and rough ground. A track passes onto site from the west. The stream forming the south-eastern boundary no longer follows its original course. A number of small ponds and spreads are present.	Site wide
1981	2001	Small scale mapping indicates that the stockpiles are no longer shown as present and the topographic contours show the site to slope from south to north. A pond is located in the south-west of the site. Large scale mapping indicates the presence of a water feature (pond) impinging on the north-eastern boundary and 'opencast workings' are shown in the south of the site (1998 to 1993).	Site wide
2001	2022	The site has taken on its current topographic form crossed by drainage ditches.	Site wide

Date from	Date to	Historical Land Use (off-site)	Distance (m) and orientation
1877	1949	Ironstone levels, associated quarries, tramways and spoil heaps.	10m N / 120m NW
		Air shaft	190m W
		Gravel pit	150m N
		Site of Battle	500m N
		Airshaft and workings	500 m S
1949	1964	A number of large structures appear located immediately N of Rhigos Road. Smaller structures are shown between the site and Rhigos Road.	200m N
		Large slag heap and mineral (coal) railway	400m SE
1969	-	Pond located 40m N. The large structures beyond Rhigos Road are now referred to as Hirwaun Industrial Estate with a number of the buildings now shown as 'Works' located within 500m NW, NE and N. Electrical cables pass north/ south to the east. Stockpiles shown to the west and south-west impinging on site to 100 m W. Electrical sub-station 250 m to the north-east.	See text
1981	1993	The Old Ironstone Level to the NW has been reworked and levelled. Stockpiles to the south-west and west no longer shown. Additional electrical cables noted to the east of the site. A series of ponds and drains are shown adjacent and to the north-east of the site. 'Works' to the north are now shown as 'Factory'	-
1993	Present	The areas immediately surrounding the site have taken on their current day topography.	-
Relevant information sources: Historical OS maps ☒ Town plans ☐ Information from the Local Planning Authority ☐ Aerial photography ☒ Previous reports ☐			

Aerial photography included as part of the environmental database show that no changes occurred between 2000 and the current day. Publicly available aerial imagery (<http://lle.gov.wales/services/tiles/apu/#1969/leaflet>) shows stockpiles of material across the site in 1969.

In summary the site appears to have formed part of an opencast coal mine sometime between the 1960's and 1990's, the area has since been restored. Gaps in mapping mean that a full historical picture is not possible.

Given the nature of the operation that occurred at the site, it is unlikely that significant widespread or gross contamination is present. Further, that adjacent site uses are unlikely

to give rise to contaminants with the potential to impact the site due to being either located at a distance or down gradient from the site.

3.1.2 Unexploded ordnance

A review of publicly available unexploded ordnance (UXO) risk maps (<https://zeticauxo.com/downloads-and-resources/risk-maps/>) indicates that the site is located in an area with low potential for wartime bombs to be present (Zetica, 2022).

3.2 Information from environmental database report

Relevant environmental permits and incidents detailed within the environmental database report (see [Appendix D](#)) are summarised below in Table 4.

Table 4 Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Agency and hydrological				
Environmental permits – incorporating Integrated Pollution Prevention and Control, Integrated Pollution Controls, Local Authority Integrated Pollution Prevention and Control	-	-	1	Off-site 373 m N: Drax Power Ltd, Hirwaun OCGT Plant, Permit No. BB329CG, issued 05/06/19 (burning any fuel in an appliance with a rated thermal input of 50 or more megawatts).
Enforcement and prohibition notices	-	-	-	None noted
Pollution incidents to controlled waters, Prosecutions relating to controlled waters, Substantiated pollution incident register, Water Industry Act referrals	-	-	-	207 m west, atmospheric pollutants and effects (08/06/2013). Land and air impact: Category 3 (minor)
Discharge consents	-	-	-	No extant licensed discharges of relevance noted.
Registered radioactive substances	-	-	-	None noted

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Landfill and waste				
Active landfills	-	-	-	None noted
Historic / closed landfills	-	1	-	The nearest is located approximately 134m west and operated by Cynon Valley Borough Council inert, industrial, commercial and household wastes. Last recorded operational 31/12/1980
Other waste management licences	-	-	-	None noted of relevance
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	14	42	-	A number of unspecified ground workings and pits associated with former opencast coal mining, ponds and ironstone workings are located on or near site, including a former mine shaft located centrally on site.
Hazardous substances/ industrial land uses				
Control of Major Accident Hazards (COMAH) sites	-	-	-	None noted
Explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning hazardous substance consents/ enforcements	-	-	-	None noted
Contaminated land Part 2A register entries and notices	-	-	-	None noted

Data type	Entries on-site	Entries <250m from site	Entries >250m from site of relevance	Details
Contemporary trade directory entries (Note: only include those within 250-500m that have contaminative potential)	-	1	-	Industrial estate 90m N
Fuel station entries	-	-	-	None noted
<i>Note: Entries have only been included within the table where they are located within a 250m radius of the site or, where they fall outside of this radius but are considered to comprise a significant entry.</i>				

3.2.1 Local Authority environmental health department information

The Environmental Health Department of Rhondda Cynon Taff County Borough Council (RCTCBC) has been contacted for records of contamination in connection with the site and its restoration. RCTCBC have provided an Environmental Information Regulations (EIR) report, a copy of which is included within Appendix F.

The EIR presents a series of maps showing past land uses on and within 250 m of the site. Relevant information from the EIR is highlighted as follows:

- 1835 - a refuse tip was located adjacent to the western boundary, this lies within the area that is believed to have extraction of fireclay and ironstone at Hughes Patch
- 1916 to 1919 – a series of works and factories are noted to the north and north-west
- date unknown – the area to the north of Rhigos Road currently occupied by an industrial estate was once a Royal Ordnance factory
- date unknown – the far south and central areas of site were once occupied by 'stockpiles'
- date unknown – a 'drift' is located 247 m to the east of the site and an old air shaft 205 m to the west
- date unknown – a landfill known as 'Hughes Patches Landfill' is located approximately 125 m to the north-west of the site and also noted within the environmental database (Table 4).

With the exception of the Hughes Patches Landfill to the north-west of the site, no significant sources of contamination with the potential to impact the site have been identified.

3.2.2 Site services

Buried utility services and their backfill can provide preferential pathways for gas, vapour or groundwater to migrate along to another part of the site or to a receptor. They can also represent significant constraints to development.

Obtaining a full set of service plans was outside the scope of this report, however, RSK understand that the client has conducted a desk based buried services search that has confirmed that there are no services within the red line site boundary.

During the site walkover the following observations were made:

- Cattle troughs were noted on site and are assumed to connect to a mains water supply via below ground pipework
- Overhead power cables were noted to the east and south of the site linking with the electrical sub-station to the north-east.

3.3 Site geology

3.3.1 Anticipated geological sequence

Published records (British Geological Survey, BGS, 1979 Sheet 231 Merthyr Tydfil Solid, 1:50,000; 1979 Sheet 231 Merthyr Tydfil Drift, 1:50,000; and <https://mapapps.bgs.ac.uk/geologyofbritain/home.html>) for the area indicate the geology of the site to be characterised by the succession recorded in Table 5.

Table 5 Site geology

Strata	Description	Estimated thickness	Permeability
Worked ground (indicated in the far south and central western area of site)	Made, worked, infilled, disturbed and landscaped ground	Unknown	Low to very high

Strata	Description	Estimated thickness	Permeability
Till	Unsorted, heterogenous mixture of clay, sand, gravels and boulders, varying widely in size and shape	Unknown	Low to high
South Wales Middle Coal Measures Formation	Grey (productive) coal-bearing mudstones/siltstones, with seatearths and minor sandstones, in the southern part of the site	120 m to 240 m	Low to moderate via fracture flow
South Wales Lower Coal Measures Formation	Grey (productive) coal-bearing mudstones/siltstones, with seatearths and minor sandstones, in the central and northern part of the site	80 m to 300 m	Low to moderate via fracture flow
Relevant information sources: BGS Geoindex ☒ BGS borehole logs ☒ Previous SI reports ☐ Note: useful links include https://www.bgs.ac.uk/lexicon/ , http://mapapps.bgs.ac.uk/geologyofbritain/home.html , https://www.bgs.ac.uk/GeoIndex , https://geologyresources.co.uk/maps			

In addition, superficial deposits of Peat may possibly be present to the north of the site.

The worked ground noted within the environmental database is coincident with opencast coal mining indicated on the BGS (1979) mapping. BGS (1979) mapping shows five coal seams including the 5ft and 9ft coal seams, oriented east/ west beneath the site, sub cropping beneath the superficial Till.

Based on the geological succession it is anticipated that bedrock dips to the south. BGS mapping shows faults trending north-north-west to south-south-east are located to the west and east of the site. Two sets of faults within the Coal Measures bedrock beneath the site are shown in the Consultants Coal Mining Report (Appendix D), one set has a similar north-north-west to south-south-east trend with the second set being perpendicular to the first.

There are no historical BGS borehole logs noted on site, however, the BGS web site and environmental database indicate that a number of historical boreholes are present in the vicinity of the site. Boreholes appear to have been drilled at the electrical sub-station to the north-east of the site including SN90NW110/111/112 and 113. Copies of the two logs closest to the site are presented in Appendix F. Ground conditions are summarised as Made Ground (up to 1.2 m thickness) over Peat (1 m to 2 m thickness) over Till (6 m thickness, with mudstone bedrock encountered in SN90NW112 at 8 m bgl).

A further borehole (SN90NW24), located 200 m to the west, is referenced as 'Ffyndaff Opencast Coal site' but the record is not publicly available.

3.3.2 Radon

The UK Health Security Agency (UKHSA) and BGS recently (December 2022) updated the Radon Affected Area map for England, Scotland and Wales. The radon potential map has been revised to include updated geological mapping across Great Britain as well as additional indoor survey measurements by UKHSA. The radon potential mapping has been updated since the production and issue of earlier iterations of this report. Therefore, RSK has reviewed the most recent on-line mapping published by UKradon.

The recent published mapping indicates that the site falls within a 1 km grid square that has been re-classified as being in an area with a 1 – 3% (Radon Class 2) of homes being above the action level and is located within a radon 'Affected Area'. An 'Affected Area' is one with 1% or more homes above the radon Action Level of 200 Bq m⁻³. In England and Wales protection measures are not necessary in the construction of new buildings or dwellings that fall under Radon Class 2 and are not required at the solar farm site.

Although the radon data used in production of the UKradon indicative atlas comes from measurements in homes, the maps indicate the likely extent of the local radon hazard in all buildings.

3.4 Mining and quarrying

Evidence has been sought to identify any mining, quarrying, landfilling and land reclamation operations, past and present, which have taken place at and adjacent to the site.

3.4.1 Coal mining area

The site is located over Coal Measures bedrock and may therefore have been affected by coal mining activities. In these areas the assessment of mining legacy issues should be carried out in accordance with the guidance provided by the Coal Authority, who adopt a risk-based approach for the advice that they offer on proposed development sites. The Coal Authority are a statutory consultee to Local Planning Authorities in respect of building development within the defined coal mining areas of England, Wales and Scotland where a planning application is required.

This indicates the site lies within the Coal Authority Consultation Area and includes Development High Risk Areas. It is a requirement for development within a High Risk Areas to prepare a desk-based Coal Mining Risk Assessment (CMRA) report to support planning applications for new building developments. A CMRA needs to consider a number of sources of information to determine coal mining issues relevant to a site, it then needs to identify and assess the site-specific coal mining risks and propose an appropriate mitigation strategy relevant for the proposed site end-use.

An initial site appraisal has been carried out based on the information provided in the Coal Authority Interactive Viewer and the Consultants Coal Mining Report presented in

Appendix D. The key findings from review of the datasets from the Coal Authority Interactive Viewer and the Coal Mining report are summarised in Table 6.

Table 6 Summary of key coal mining information

Item	Applicable to site?	Comment
Development High Risk Area on-site	Yes	The site lies within a Development High Risk Area
Coal mine entries	Yes	Shaft Ref: 293205-019, located at Grid (NGR 293502, 205776). This mine entry may have been partially or wholly excavated during past opencast mining
Past shallow workings (recorded)	Yes	There are 4No. recorded seams noted to have been last worked in the 1850's from beneath the site, approximately 1.10m to 1.20m in thickness and at depths ranging of between 16mbgl and 27mbgl. These relate to the Gellideg Fireclay (fireclay), Gellideg Fireclay (ironstone), the Little blue Ironstone (ironstone) and the Gellideg Ironstone (ironstone).
Probable shallow workings	No	The Coal Authority Consultants mining report identifies no 'unrecorded shallow workings' at the site.
Coal seam outcrops	Yes	19 No. coal outcrops are noted within the site boundary of which 8 No. are workable.
Surface mining (opencast)	Yes	The site is within the boundary of the Ffyndaff opencast site from which coal has been removed by opencast methods.

The environmental database indicates that the site lies within the boundary of the Ffyndaff Opencast Coal Site that extends to the west from the site and that small scale surface extraction (Rhigos Coal Patch) occurred in the south-east of the site. A Ground Stability search provided by the client and included as Appendix F indicates that:

- the site lies in an area that could be affected by underground mining in 2 seams of coal at shallow to 140m depth, and last worked in 1966
- the site lies in an area that could be affected by underground mining from 3 seams of ironstone at shallow depth, and last worked in 1856
- the site lies in an area that could be affected by underground mining in 1 seam of fireclay.

The site is located approximately 200 metres to the west of the boundary of the former Tower Colliery Opencast site which is currently in the process of being restored.

In combination with the historical maps, geological and coal records RSK would interpret the findings as follows:

- mining of ironstone and fireclay to the north of the site and until the 1850's, worked strata are indicated to pass beneath the north-west of site
- the likely extraction of coal at depth (140 m) from beneath the site, last worked in the 1960's
- extraction of shallow coal, post 1960's, from beneath the site through opencast methods with stockpiles of overburden noted in some historical mapping likely to be the overburden (Till) removed to access the coal.

3.5 Hydrogeology

A summary of the hydrogeological setting of the site, with respect to the anticipated geological sequence set out in Section 3.3 is presented below in Table 7.

Table 7 Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The site is underlain by a secondary undifferentiated aquifer relating to the Till and a secondary A aquifer relating to South Wales Middle and Lower Coal Measures Formation. The presence of low permeability clay at relatively shallow depths beneath the site, while restricting downwards migration, may increase the potential for lateral migration of shallow groundwater (and therefore mobile contamination, if present).
Depth to groundwater and flow	The anticipated depth to the groundwater table is in the order of 4.50 m below ground level estimated from BGS logs. Shallow groundwater in the site area is anticipated to flow in a northern, southern and eastern direction, in line with localised topography and towards and in the direction of a number of unnamed ponds and streams. It is also likely that shallow water may be present in any Made Ground deposits present on-site. The regional direction of groundwater flow is anticipated to be to the north in line with local topography and toward the River Mellte.
Rising groundwater levels	The site is located in a former coal mining area and may be associated with rebounding groundwater levels following the end of mining and associated dewatering. The environmental database indicates that the site lies within a negligible or low risk area with respect of groundwater flooding.
Groundwater recharge/attenuation	Most of the site is currently unsurfaced and rainfall will therefore drain to ground.
Historical implications	The site has been subject to shallow, deep and opencast coal mining followed by restoration. Therefore, there is the potential that shallow groundwater flow may be altered as a result of the mining and subsequent

Condition	Description
for hydrogeology	restoration activities. Evidence from Coal Authority Consultants Mining Report indicates a former mine shaft located centrally within the site. A concealed preferential pathway for the migration of contamination in the sub-surface may therefore exist beneath the site.
Licensed groundwater abstractions	The environmental database report indicates that there are no current groundwater abstractions within a 1km radius of the site.
Source protection zones	Information available in the Groundsure report indicates that the site does not lie within a currently designated groundwater Source Protection Zone (SPZ).

3.6 Hydrology

A summary of the hydrological setting of the site, is presented below in Table 8.

Table 8 Summary of hydrology in site area

Condition	Description
Surface watercourses/features	There are a number of streams, drainage ditches and ponds on or adjacent to the site. The southern site boundary is formed by a stream flowing from south-west to north-east, this enters and flows through a series of ponds close to the eastern and north-eastern boundary of the site. A further stream is culverted beneath the proposed access track flowing northward before passing beneath the proposed cable route and entering a large pond to the north-east of the site. A number of ditches were noted following the boundary hedges. A further ditch is located just beyond and on the northern site boundary.
Surface water abstractions	There are no surface water abstractions identified by the environmental database, within a 1 km radius of the site.
Site drainage	Surface run-off from the site will enter streams, drainage ditches and ponds on or adjacent to the site.

Condition	Description
Preliminary flood risk assessment	The indicative floodplain map for the area, shows that the site does not lie within a designated floodplain. However, information on the Natural Resources Wales (NRW) website indicates that along the streams, drainage ditches and ponds on or adjacent to the site, there is a high risk of flooding from surface water and small watercourses. The risk of flooding each year has been assessed by the NRW as high – i.e. greater than 3.3%. A flood risk assessment (FRA) is outside the scope of this report. A standalone FRA has been commissioned for the site and is presented within RSK report: RSK (2022). Regener8 Rhigos Solar Farm Flood Consequence Assessment, reference 680555 R1(01)-FRA, dated July 2022.

3.7 Sensitive land uses

Table 9 provides a summary of any environmentally sensitive areas identified within 250 m of the site based on the environmental database report.

Table 9 Environmentally sensitive areas

Feature	Present within 250m of site?	Details	Likely pathways from site?
International designations – Ramsar wetland, Special Area of Conservation (SAC), Special Protection Area (SPA)	No	N/A	No
National designations – Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), ancient woodland	No	N/A	No
Local designations – Local Nature Reserve, Site of Importance for Nature Conservation (SINC)	Yes	A SINC, Hirwaun Common has been identified 75 m to the east of the site. The SINC represents an expanse of M25 marshy grassland, which includes, sphagnum flushes, wet heath and acid grassland and heather and bilberry dry heath on old spoil. Pools have potential for amphibians.	The majority of the common is hydraulically isolated from the site, however, site run off and shallow groundwater (if present) could migrate to the pools.

Feature	Present within 250m of site?	Details	Likely pathways from site?
Nearest high sensitivity development, e.g. residential	No	N/A	No

4 SITE RECONNAISSANCE FINDINGS

A site reconnaissance survey was completed on 28 June 2022 by RSK. The characteristics of the site observed during the walkover and from current ordnance Survey maps are summarised in Table 10.

A site plan is provided in [Drawing 11201/C01](#) with photographic records included in [Appendix E](#) detailing the main features identified below.

Whilst the walkover summary includes consideration of current operations and housekeeping on the site as potential sources of contamination, it does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

The site comprises 4 fields, separated by hedges and ditches, and is used for grazing of sheep. The fields are numbered F1 to F4 as shown on [Drawing 11201/C01](#) to aid description.

Table 10 Site reconnaissance findings

Feature	Description
Physical characteristics	
Access constraints	Vehicular access to the site (Field 1) is gained from the Rhigos Rd (A4061) to the south of the main site via a field gate and track that passes to the north (poorly defined in places), Field 1 is accessed from the track via a bridge (wooden deck). Access from Field 1 to Field 2 is via a field gate in the far south, Fields 3 and 4 are accessed from the norther-westernmost part of Filed 2 via a series of field gates
Site topography	The high point of the site is located approximately at the point at which Fields 2, 3 and 4 come together (approximately 240 m AOD), from that point the site generally falls to the north, south and east albeit with some local variation as the fields undulate. The lowest points are in the far north and east of the site at approximately 220 m AOD. The proposed access track slopes down from the Rhigos Road (approximately 250 m AOD) to Field 1 (approximately 230 m AOD).
Surface cover	The site is 100% soft cover comprising rough grass used for sheep grazing. Occasional hydrophilic grasses were noted. There are the remains of what appears to be a rough tarmac track at the southernmost part of the proposed access
Site drainage	Rainfall will infiltrate the site surface. A number of field ditches are located on site as described below. There were no obvious areas of waterlogging but as noted above occasional hydrophilic grasses were noted.
Surface water	There are a number of streams, drainage ditches and ponds on or adjacent to the site. The southern site boundary is formed by a stream flowing from south-west to north-east, this enters and flows through a series of ponds close to the eastern and north-eastern boundary of the site.

Feature	Description
	A further stream is culverted beneath the proposed access track flowing northward before passing beneath the proposed cable route and entering a large pond to the north-east of the site. A number of ditches were noted following the boundary hedges. A further ditch is located just beyond and on the northern site boundary. The beds of both streams were predominantly formed from gravel and cobbles with the running water appearing clear. Two ponds to the east of the site were largely overgrown with reeds whilst the largest pond located to the north-east was relatively clear and appeared to be used by anglers.
Trees and hedges	The fields that comprise the site are separated by semi-mature to mature hedges. A number of copse of semi-mature to mature trees are located on or close to the site boundaries, principally to the west south and east.
Invasive species	Based upon the walkover survey obvious evidence of Japanese Knotweed or other invasive species has not been identified on-site. However, it should be noted that a detailed survey of the possible presence or absence of invasive species is outside of the scope of investigation and consideration should be given to commissioning a specialist survey, as necessary.
Existing buildings on-site	No buildings are present on-site.
Retaining walls and adjacent buildings on or close to site boundary	There are no such structures on or close to the site boundary.
Basements on-site	No evidence of existing or infilled basements was observed.
Made ground, earthworks and quarrying	No obvious signs of Made Ground, earthworks and quarrying were observed. However, it is understood that the site area had been reclaimed having once been an opencast coal mine. A possible infilled trial pit located in an adjacent field to the north-east of Field 1 showed evidence of sandstone and shale gravel and cobbles within a finer matrix at the surface that may indicate the material (possible Till overburden) used to reclaim the site.
Potentially unstable slopes on or close to site	None observed.
Buried and overhead services present	A number of animal water troughs are present on site with three grouped around the confluence of Fields 2, 3 and 4. These will all have a below ground water supply. A number of overhead electrical cables are present in the area that converge on the electrical sub-station to the north-east. Several lines run approximately parallel with the northern boundary supported on pylons or wooden poles. A further set of overhead lines passes over the proposed access roughly parallel with the Rhigos Road. A BT cover was noted close to the southernmost point of the proposed access road.

Feature	Description
Environmental characteristics	
Underground/ above ground storage tanks and pipework	None observed other than animal water troughs
Potentially hazardous materials storage and use	None observed
Asbestos-containing materials	No obvious asbestos construction materials were observed. There was no obvious evidence of asbestos containing material at the ground surface.
Waste storage	None observed
Fly-tipping	None observed
Electricity sub- stations/ transformers	None observed on site, however, a sub-station is present approximately 250 m to the north-east of the site.
Evidence of possible land contamination on- site	None observed.
Potential off-site sources of ground contamination	As noted above an electricity sub-station is located 250 m to the north-east. A car repair garage is located approximately 300 m to the north-east. Industrial units are located >200 m to the north beyond Rhigos Road. To the east of the A4061 Rhigos Road, a former open cast coal site is being reclaimed. The majority of off-site sources are considered down gradient of the site and are not considered close enough to the site to provide a plausible off-site source.

No potentially significant land contamination or geotechnical issues were identified during the site reconnaissance survey. However, the site is understood to be a reclaimed open cast coal pit and therefore the nature of the material used to backfill and method of backfilling/compaction may have an impact on the development.

5 PRELIMINARY GEOTECHNICAL CONSTRAINTS

5.1 Design class

BS EN 1997-1 defines three different Geotechnical Categories that structures may fall into, which are summarised as follows:

- Category 1: Small and relatively simple structures for which it is possible to ensure that the fundamental requirements will be satisfied on the basis of experience and qualitative geotechnical investigations; with negligible risk
- Category 2: Conventional types of structure and foundation with no exceptional risk or difficult ground or loading conditions
- Category 3: Structures or part of structures, which fall outside limits of Geotechnical Categories 1 and 2. Examples include very large or unusual structures; structures involving abnormal risks, or unusual or exceptionally difficult ground or loading conditions; structures in highly seismic areas; structures in areas of probable site instability or persistent ground movements that require separate investigation or special measures.

Based on the information provided above on the proposed development and in view of the anticipated ground conditions, a Geotechnical Category of Category 1 should be assumed for the purposes of designing any geotechnical investigation. This should be reviewed at all stages of the investigation and revised where necessary.

5.2 Preliminary geotechnical hazards assessment

A summary of commonly occurring geotechnical hazards associated with the anticipated geology outlined in Section 3.3 above is given in Table 11 together with an assessment of whether the site may be affected by each of the stated hazards.

Table 11 Summary of preliminary geotechnical risks that may affect site

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions	☒	☐	Likely to affect ground engineering and foundation design and construction
Shrinkable clay soils	☒	☐	Design to NHBC Standards Chapter 4 or similar

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Highly compressible and low bearing capacity soils, (including peat and soft clay)	☒	☐	If Peat is present, likely to affect ground engineering and foundation design and construction
Silt-rich soils susceptible to rapid loss of strength in wet conditions	☒	☐	Likely to affect ground engineering and foundation design and construction
Running sand at and below water table	☐	☒	Likely to affect ground engineering and foundation design and construction
Karstic dissolution features (including 'swallow holes' in Chalk terrain)	☐	☒	May affect ground engineering and foundation design and construction – refer to Section 4.1.2
Evaporite dissolution features and/or subsidence	☐	☒	May affect ground engineering and foundation design and construction
Ground subject to or at risk from landslides	☐	☒	Likely to require special stabilisation measures
Ground subject to peri-glacial valley cambering with gulls possibly present	☐	☒	Likely to affect ground engineering and foundation design and construction
Ground subject to or at risk from coastal or river erosion	☐	☒	Likely to require special protection/stabilisation measures
High groundwater table (including waterlogged ground)	☒	☐	May affect temporary and permanent works
Rebounding groundwater levels following the end of mining and associated dewatering	☒	☐	May affect deep foundations, basements and tunnels
Geological faults, fissures and break lines	☒	☐	May affect ground engineering and foundation design and construction
Underground mining, including shafts and adits (e.g. coal, mineral)	☒	☐	Likely to require further assessment including potentially special stabilisation measures

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Effects of extreme temperature (e.g. cold stores or brick kilns/furnaces)	☐	☒	Likely to affect ground engineering and foundation design and construction
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	☐	☒	Likely to affect ground engineering and foundation design and construction
Filled and made ground (including embankments, infilled ponds and quarries)	☒	☐	Likely to affect ground engineering and foundation design and construction
Adverse ground chemistry (including expansive slags and weathering of sulphides to sulphates)	☒	☐	May affect ground engineering and foundation design and construction
Site topography	☒	☐	May affect ground engineering and foundation design and construction
Note: Seismicity is not included in the above table as this is not normally a design consideration in the UK.			

Information pertaining to geotechnical abnormalities such as heave, running sand and mining are included in the environmental database report in Appendix C. Potential risks from ground stability hazards identified within the environmental report are summarised below:

- shrink swell clay – very low hazard
- running sands – negligible to very low hazard
- compressible deposits – negligible hazard
- collapsible deposits – very low hazard
- landslides –very low to low hazard
- ground dissolution of soluble rocks – negligible hazard.

The site is understood to be a reclaimed open cast coal pit that has been backfilled with up to 70 m thickness of material. The precise nature of the material used to backfill and the method of backfilling/ compaction are unknown, although it is likely that the void was backfilled with the overburden (glacial Till, mudstone and sandstone) stripped during the open cast operation. Unless the backfilling was undertaken in a controlled manner, there is the potential for ground conditions to vary across the site, including:

- inconsistent strength characteristics giving rise to hard and soft spots

- inconsistent material characteristics giving rise to the presence of obstructions in the ground such as cobbles and boulders
- potential for irregular settlement over time
- potential for significant settlement as a result of collapse settlement especially adjacent to the high wall that can be caused by a rising water table.

6 INITIAL CONCEPTUAL SITE MODEL

In the UK land contamination is assessed using a risk-based approach taking account of the magnitude (severity of the hazard) and likelihood (probability) of occurrence. A 'receptor' is something that could be adversely affected by contamination (e.g. people, an ecological system, property or a water body). A 'pathway' is a route or means by which a receptor is or could be exposed to or affected by a contaminant. A 'contaminant source' is a hazard but it can only pose a risk to a receptor where a pathway is present. The relationship between sources, pathways and receptors are referred to as a conceptual site model. A risk can only be realised where a contaminant source, pathway and receptor are all in place, referred to as a 'pollutant linkage'.

In line with LCRM (Environment Agency, 2021) and BS 10175: 2011 + A2 2017 (BSI, 2017), RSK has used information in the preceding sections to identify hazards (sources of contaminants), receptors that may be impacted and plausible linking pathways. Where all three are present this is termed a potentially complete contaminant linkage and a qualitative risk estimation is made.

6.1 Potential soil, soil vapour and groundwater linkages

6.1.1 Potential sources of contamination

Potential sources of soil and groundwater contamination identified from current activities and the history of the site and surrounding area are presented in Table 12. Ground gas sources are addressed in the next section.

Table 12 Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
Made Ground (i.e. fill material) and natural soils associated with former mining and restoration activities	Unknown fill material although likely to comprise natural material derived from overburden material. but possibly including toxic metals and petroleum hydrocarbons as a result of leaks/ spillages from mining equipment.
Off-site	
None identified	-

6.1.2 Sensitive receptors and linking exposure/ migration pathways

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential sources identified above comprise:

- future site users – industrial users [oral, dermal and inhalation exposure with impacted soil, soil vapour]
- future buildings [direct contact with contaminated soils or groundwater and chemical attack]

- groundwater in undifferentiated aquifer within superficial Till deposits and secondary aquifer within South Wales Middle and Lower Coal Measures Formations [leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase]
- surface water courses comprising ditches, streams and ponds situated on and adjacent to the site [lateral migration of dissolved phase/ site run-off/ drainage].

Please note that construction workers and future maintenance workers have not been identified in the conceptual model as receptors because risks are considered to be managed through health and safety procedures according to the CDM Regulations.

No statutorily protected ecological sites have been identified within 250 m of the site. However, the habitat and ecology of Hirwaun Common (SINC) is located 75 m to the east of the and has been considered a potential receptor. Whilst the majority of the site is considered up gradient of the SINC, run off and shallow groundwater (if present) could migrate to the pool that forms part of the SINC to the north-east of the site and the following linkage has been considered:

- Hirwaun Common (SINC) comprising off-site ponds to the north-east [lateral migration of dissolved phase/ site run-off/ drainage].

6.2 Potential ground gas linkages

6.2.1 Ground gas generation potential

Potential ground gas sources identified for the site and surrounding are shown in Table 13.

Table 13 Potential ground gas sources

Potential sources	Indicative ground gas generation potential (CIEH, 2008)	Additional information
On-site		
Made Ground (Fill due to restoration of site) with low degradable organic content (e.g. up to 5% organic material and no easily degradable waste).	Very low	Unknown fill material although likely to comprise natural material derived from overburden material.
Mine workings less than 50 years since last worked	Moderate	Mine workings recorded on site are shown to have ceased, although the date is not known.
Off-site		
Hughes Patches Landfill	High	Operated by RCTCBC between 1970 and 1980 to accept inert, industrial, commercial and household waste.

Potential sources	Indicative ground gas generation potential (CIEH, 2008)	Additional information
Mine workings less than 50 years since last worked	Moderate	Historical mine workings likely to be present adjacent to site, last worked in 2008 (Tower Colliery).

The mine workings on and beneath the site have ceased with the site having been restored following the removal of shallow coal (source of ground gas). The end-use of the site is considered to be of low sensitivity with respect to ground gas, with limited buildings containing switchgear and plant being subject to limited occupation. Such buildings are usually well ventilated and constructed on mass concrete slabs limiting the potential for ground gas ingress.

Given the anticipated ground conditions set out above, significant potential sources of ground gas generation have been identified associated with:

- landfill (Hughes Patches) operating between 1970 and 1980
- mine workings less than 50 years since last worked.

6.2.2 Preferential pathways for ground gas migration

Credible preferential pathways potentially connecting the source and receptor through vertical and lateral migration are:

- Coal Measures geology and fill which may be permeable
- faults/ fissures/ fractures in the underlying geology
- construction joints and cracks within building structure
- utility routes and service penetrations into buildings
- mine shafts and adits
- mine workings extending laterally.

6.2.3 Sensitive receptors and linking pathways

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential ground gas sources identified above comprise:

- future site users – industrial workers [migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation]
- future buildings [migration and ingress of ground gases into buildings, build-up in confined spaces and explosion].

The assessment has identified receptors to include building structures and proposed end-users.

Construction workers have not been identified as receptors for the purposes of this assessment. Risks may still be present to construction workers especially where works include the entry into excavations within the ground. Construction workers should undertake appropriate risk assessments and risks should be managed through health and safety procedures and the use of PPE.

6.3 Preliminary risk assessment

The preliminary risk assessment findings and potentially complete contaminant linkages are shown in Table 14 overleaf. The risk classification based on the combination of hazard consequence and probability using a risk matrix from CIRIA C552 (Rudland et al., 2001), a summary of which is included in [Appendix G](#). This relates to Tier 1 preliminary risk assessment in LCRM (Environment Agency, 2021).

Table 14 Risk estimation for potentially complete contaminant linkages

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
Made Ground (fill material) and natural soils relating to historical mining and restoration activities (heavy metals and petroleum hydrocarbons)	Future site users (industrial)	Ingestion and dermal contact of soil / dust and inhalation of vapours	Unlikely	Medium	Low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. The proposed end use of the site is considered low sensitivity with regards to human health due to limited time on site with the majority of the site occupied by solar panels.

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
	Building foundations	Chemical attack of infrastructure	Low likelihood	Mild	Low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. Red shale generated from the self-combustion of colliery spoil often contains variable amounts of common sulphates present in some Coal Measures strata. If present, contaminants within soils will come into contact with building foundations (aggressive ground conditions). Appropriate geotechnical chemical testing to allow design of concrete class to be determined would be required.
	Groundwater within Till deposits - Secondary (undifferentiated) aquifer	Leaching of contaminants within the unsaturated zone and vertical migration to groundwater within the superficial deposits and subsequent horizontal migration	Low likelihood	Mild	Low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. The sensitivity of the Secondary (undifferentiated) aquifer is

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
						considered to be low as there are no groundwater abstractions are identified in the area.
	Deep groundwater in secondary aquifer within South Wales Middle and Lower Coal Measures Formation	Shallow groundwater within the Till deposits (vertical migration)	Low likelihood	Mild	Low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. The sensitivity of the South Wales Middle and Lower Coal Measures Formation is considered to be low as a result of the historical mining; and the groundwater water body has poor quality. There are no groundwater abstractions are identified in the area.
	On-site surface water courses	Leaching of contaminants within the unsaturated zone and vertical migration to groundwater within the fill/ superficial deposits and subsequent horizontal migration	Low likelihood	Medium	Moderate/ low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. There are a number of streams, drainage ditches and ponds on or adjacent to the site that may

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
						receive dissolved phase contaminants if present.
	Ecology (Hirwaun Common (SINC))	Leaching of contaminants within the unsaturated zone and vertical migration to groundwater within the fill/ superficial deposits and subsequent horizontal migration to pond or overland site run-off entering pond	Low likelihood	Mild	Low	Significant contamination unlikely to be present given the sites uses. Spills and leakages from machinery unlikely to be significant and no obvious signs of contamination noted during walkover. Dissolved phase contaminants, if present, may have the potential to migrate to the pond but only if a shallow water table was present. Site run-off carrying contaminants, if present, is unlikely due to the presence of vegetation between the site and receptor inhibiting migration.

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Potential risk	Justification
Mine workings less than 50 years since last worked (methane and carbon dioxide) and landfill operating between 1970 and 1980.	Future site users (industrial)	Migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/asphyxiation	Low likelihood	Severe	Moderate	A source of ground gas has been identified. However, shallow deposits of coal are likely to have been removed through open cast workings reducing the potential source. The historical landfill is located over 100 m to the north-west and it is considered that there is a low likelihood that a migration pathway exists. The end-use of the site is considered to be of low sensitivity with respect to ground gas, with limited buildings containing switchgear and plant being subject to limited occupation. Such buildings are usually well ventilated and constructed on mass concrete slabs limiting the potential for ground gas ingress. In considering the above points, the risks from ground gas ingress are likely to be lower than the initial 'Moderate' assessment pending confirmation of the construction type of any buildings with respect to foundations and ventilation.
	Buildings					

Risk matrix		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	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

Potentially complete contaminant linkages with a potential risk of moderate/ low or higher identified in Table 14 comprise:

- remobilisation and leaching of contaminants from soil to groundwater and subsequent migration of contaminants to surface water receptors
- migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation.

A source of ground gas has been identified. However, shallow deposits of coal are likely to have been removed through open cast workings reducing the potential source. In addition, the historical landfill is located over 100 m to the north-west and it is considered that there is a low likelihood that a migration pathway exists. The end-use of the site is considered to be of low sensitivity with respect to ground gas, with limited buildings containing switchgear and plant being subject to limited occupation. Such buildings are usually well ventilated and constructed on mass concrete slabs limiting the potential for ground gas ingress.

As noted in Table 14, the risks from ground gas ingress are likely to be lower than the initial 'Moderate' assessment due to the low sensitivity of the proposed development, however, confirmation of the construction type of any buildings with respect to foundations and ventilation should be sought to confirm the low sensitivity.

No potentially complete contaminant linkages have been identified that require further investigation with the possible exception of risks from ground gas. Assuming the low sensitivity of the proposed on-site buildings can be satisfactorily confirmed (foundation type and ventilation) an intrusive investigation is not considered necessary. However, given the restoration of the site, RSK would recommend undertaking an investigation to confirm a foundation solution, at the same time some contaminated land samples should be analysed to confirm the general low risk ranking of the site.

6.4 Data gaps and uncertainties

Key data gaps and uncertainties identified in the CSM at desk study stage include:

- there are significant gaps in the historical mapping for the site in particular in relation to the opencast extraction of coal and subsequent restoration
- there are no previous investigations available for the site, therefore no information on actual concentrations of contaminants in soil and groundwater or ground gas at this stage
- groundwater depth and flow direction are conceptual at this stage
- it is understood that the site area had been restored having once been an opencast coal mine, but no readily accessible documentation has been found
- condition of the former mine shaft is unknown.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Geo-environmental assessment

No significant potentially complete contaminant linkages have been identified that require further investigation with the possible exception of risks from ground gas. Assuming the low sensitivity of the proposed on-site buildings can be satisfactorily confirmed (foundation type and ventilation) an intrusive investigation is not considered necessary.

Data gaps and uncertainties have been considered and further assessment is considered to be required.

Should unforeseen contamination be encountered during redevelopment then specialist advice should be sought to determine the appropriate course of action.

7.2 Recommendations

Given the restoration of the site, RSK would recommend undertaking an intrusive investigation to investigate geotechnical aspects of the backfill and confirm a foundation solution, at the same time some contaminated land samples should be analysed to confirm the general low risk ranking of the site.

As noted above, information on the proposed on-site buildings should be sought so that the assumed low sensitivity of the structures can be satisfactorily confirmed (foundation type and ventilation).

The site sits within a Coal Authority Development High Risk Area and as such a desk based Coal Mining Risk Assessment will be required to support the planning application. Following consultation with the Coal Authority it may be necessary to undertake investigations for coal mining features.

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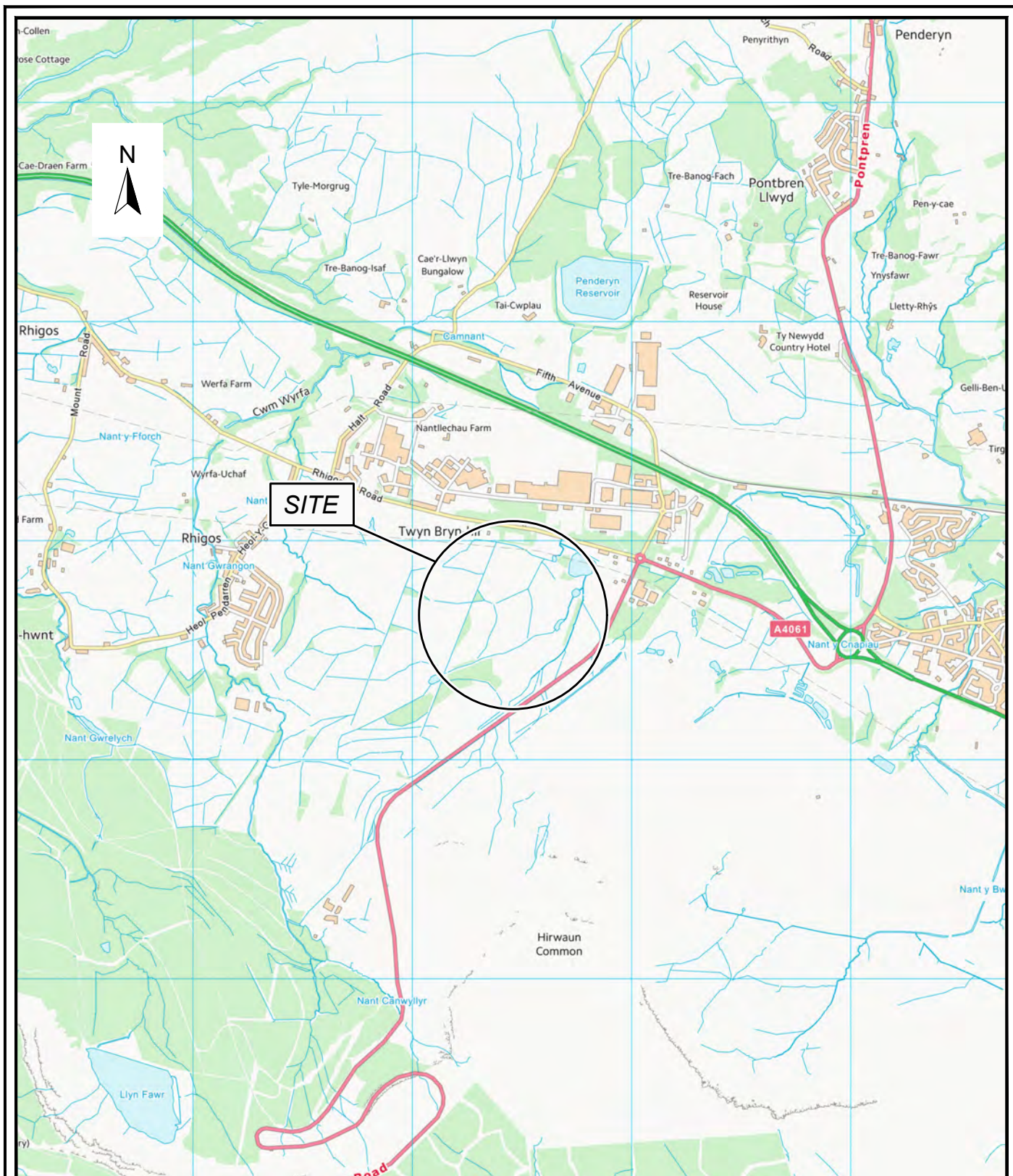
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FIGURES AND DRAWINGS

FIGURE 1 SITE LOCATION PLAN



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Client

Land Use Consultants Ltd

Project Title

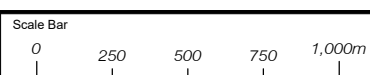
Rhigos road, Merthyr Tydfil Solar Farm Scheme

Drawing Title

SITE LOCATION MAP

Rev	Drawn	Date	Checked	Date	Approved	Date
00	MB	15.07.22	HB	15.07.22	-	-
Dimensions		Scale		Original Size		
m		1:25,000		A4		

Project Number	Grid Ref
315223	SN 934 057



Drawing Number
FIGURE 1



LEGEND

- Site Boundary
- Land Ownership
- Access Track - 5m width
- Historical Trial pit location
- Historical Borehole location
- F Field
- T Trough
- G Field Gate
- H Hedge

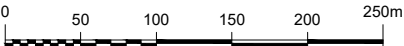
Notes:
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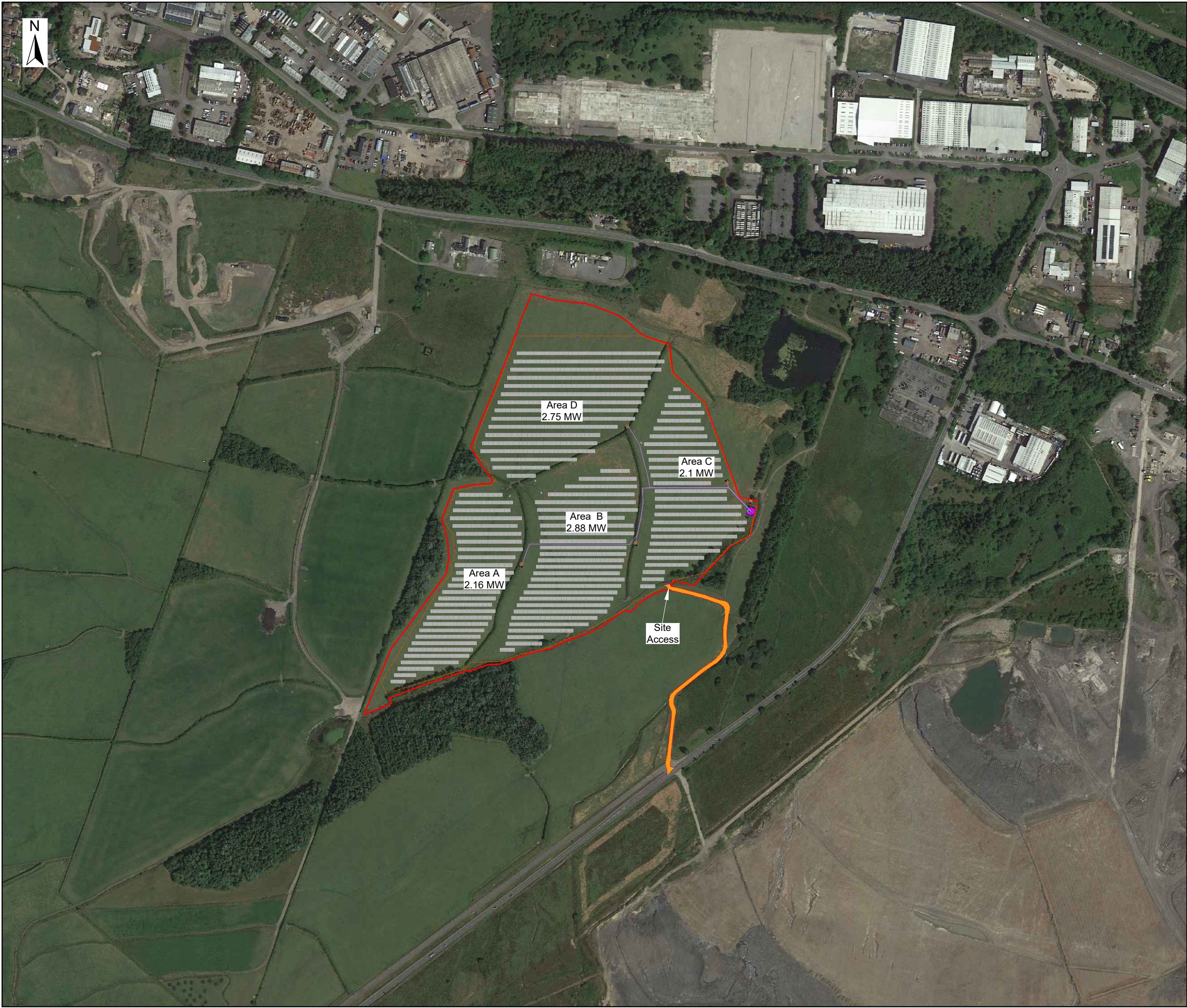
C01	13.04.23	First Issue	LS	TM	TM
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client Regener8 Power		
Project Name Rhigos Road, Merthyr Tydfil Solar Farm Scheme		
Description Site Layout Plan		
Project ID 315223	Drawing no. 11201	Revision C01
File name 315223-BL-112-SS-D-C-11201-C01		
Dimensions m	Scale 1:5000	Size A3
		



LEGEND

- Site Boundary
- Security Fence
- DNO Enclosure
- Customer Switchgear Enclosure
- LV Transformer Station
- CCTV cameras
- Gate
- Access Road
- MV cable

Notes:

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PV plan provided by Enviromena Project Management UK Ltd
No.Ref: P-Rhigos_01_GeneralLayout

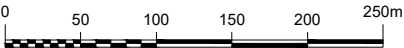
C01	27.03.23	First Issue	LS	TM	TM
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client		
Regener8 Power		
Project Name		
Rhigos Road, Merthyr Tydfil Solar Farm Scheme		
Description		
Proposed PV Layout		
Project ID	Drawing no.	Revision
315223	32301	C01
File name		
315223-BL-323-SS-D-C-32301-C01		
Dimensions	Scale	Size
m	1:5000	A3



APPENDICES

APPENDIX A SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Regener8 Power (the "Client") in accordance with the terms of a contract [RSK Environment Standard Terms and Conditions] between RSK and the Client, dated 17th June 2022. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by an environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.
2. Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. **Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.**
4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the Client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, persistent, bioaccumulative or toxic chemicals (including PFAS/ PFOS) or other radioactive or hazardous materials, unless specifically identified in the Services.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services or accreditation system (such as UKAS ISO 17020:2012 clause 7.1.6):
 - a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the Client and RSK.

- 8. The intrusive environmental site investigation aspects of the Services are a limited sampling of the site at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope between the client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species are not present.
- 9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.
- 10. The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.
- 11. Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works.
- 12. Unless stated otherwise, only preliminary geotechnical recommendations are presented in this report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed.

APPENDIX B SUMMARY OF LEGISLATION AND POLICY RELATING TO LAND CONTAMINATION

Part IIA of the Environmental Protection Act 1990

Part IIA of the Environmental Protection Act 1990 (Part IIA) and its associated Contaminated Land Regulations 2000 (SI 2000/227), which came into force in England on 1 April 2000, formed the basis for the current regulatory framework and the statutory regime for the identification and remediation of contaminated land. Part IIA of the EPA 1990 defines contaminated land as 'any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused'. Controlled waters are considered to include all groundwater, inland waters and estuaries.

In August 2006, the Contaminated Land (England) Regulations 2006 (SI 2006/1380) were implemented, which extended the statutory regime to include Part IIA of the EPA as originally introduced on 1 April 2000, together with changes intended chiefly to address land that is contaminated by virtue of radioactivity. These have been replaced subsequently by the Contaminated Land (England) (Amendment) Regulations 2012, which now exclude land that is contaminated by virtue of radioactivity.

The intention of Part IIA is to deal with contaminated land issues that are considered to cause significant harm on land that is not undergoing development (see Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance, April 2012). This document replaces Annex III of Defra Circular 01/2006, published in September 2006 (the remainder of this document is now obsolete).

Planning Policy

Contaminated land is often dealt with through planning because of land redevelopment. This approach was documented in Planning Policy Statement: Planning and Pollution Control PPS23, which states that it remains the responsibility of the landowner and developer to identify land affected by contamination and carry out sufficient remediation to render the land suitable for use. PPS23 was withdrawn early in 2012 and has been replaced by much reduced guidance within the National Planning Policy Framework (NPPF), reference ISBN: 978-1-5286-1033-9, February 2019.

The new framework has only limited guidance on contaminated land, as follows:

Chapter 11. Making effective use of land

- 117 Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land.
118. Planning policies and decisions should:
- c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land.

Chapter 15. Conserving and enhancing the natural environment

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Ground conditions and pollution

178. Planning policies and decisions should ensure that:

a) a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

b) after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990; and

c) adequate site investigation information, prepared by a competent person, is available to inform these assessments.

179. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

Water Resources Act (WRA)

The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 updated the Water Resources Act 1991, which introduced the offence of causing or knowingly permitting pollution of controlled waters. The Act provides the Environment Agency with powers to implement remediation necessary to protect controlled waters and recover all reasonable costs of doing so.

Water Framework Directive (WFD)

The Water Framework Directive 2000/60/EC is designed to:

- enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands that depend on the aquatic ecosystems
- promote the sustainable use of water
- reduce pollution of water, especially by 'priority' and 'priority hazardous' substances
- ensure progressive reduction of groundwater pollution.

The WFD requires a management plan for each river basin be developed every six years.

Groundwater Directive (GWD)

The 1980 Groundwater Directive 80/68/EEC and the 2006 Groundwater Daughter Directive 2006/118/EC of the WFD are the main European legislation in place to protect groundwater. The 1980 Directive is due to be repealed in December 2013. The European legislation has been transposed into national legislation by regulations and directions to the Environment Agency.

Priority Substances Directive (PSD)

The Priority Substances Directive 2008/105/EC is a 'Daughter' Directive of the WFD, which sets out a priority list of substances posing a threat to or via the aquatic environment. The PSD establishes environmental quality standards for priority substances, which have been set at concentrations that are safe for the aquatic environment and for human health. In addition, there is a further aim of reducing (or eliminating) pollution of surface water (rivers, lakes, estuaries and coastal waters) by pollutants on the list. The WFD requires that countries establish a list of dangerous substances that are being discharged and EQS for them. In England and Wales, this list is provided in the River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010. In order to achieve the objectives of the WFD, classification schemes are used to describe where the water environment is of good quality and where it may require improvement.

Environmental Permitting Regulations (EPR)

The Environmental Permitting (England and Wales) Regulations 2016 (as amended) provide a single regulatory framework that streamlines and integrates waste management licensing, pollution prevention and control, water discharge consenting, groundwater authorisations, and radioactive substances regulation. Schedule 22, paragraph 6 of EPR 2016 states: 'the regulator must, in exercising its relevant functions, take all necessary measures - (a) to prevent the input of any hazardous substance to groundwater; and (b) to limit the input of non-hazardous pollutants to groundwater so as to ensure that such inputs do not cause pollution of groundwater.'

Notes:

1. *The above information is provided for background but does not constitute site-specific advice*
2. *The above summary applies to England only. Variations exist within other countries of the United Kingdom*

APPENDIX C ENVIRONMENTAL DATABASE REPORT

Rhigos Road, Hirwaun, CF44 9AZ

Order Details

Date: 20/06/2022

Your ref: P02126263

Our Ref: GS-8836477

Site Details

Location: 293476 205705

Area: 15.79 ha

Authority: [Rhondda Cynon Taf County Borough Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	13	11	43	112	-
20	1.2	Historical tanks	0	0	0	17	-
21	1.3	Historical energy features	0	0	6	8	-
22	1.4	Historical petrol stations	0	0	0	0	-
22	1.5	Historical garages	0	0	0	0	-
22	1.6	Historical military land	0	0	1	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
24	2.1	Historical industrial land uses	14	13	52	141	-
32	2.2	Historical tanks	0	0	0	30	-
34	2.3	Historical energy features	0	0	13	15	-
35	2.4	Historical petrol stations	0	0	0	0	-
35	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
36	3.1	Active or recent landfill	0	0	0	0	-
36	3.2	Historical landfill (BGS records)	0	0	0	0	-
37	3.3	Historical landfill (LA/mapping records)	0	0	0	6	-
37	3.4	Historical landfill (EA/NRW records)	0	0	1	1	-
38	3.5	Historical waste sites	0	0	0	4	-
39	3.6	Licensed waste sites	0	0	0	18	-
44	3.7	Waste exemptions	0	0	2	33	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
49	4.1	Recent industrial land uses	0	1	1	-	-
50	4.2	Current or recent petrol stations	0	0	0	0	-
50	4.3	Electricity cables	0	0	0	0	-
50	4.4	Gas pipelines	0	0	0	1	-
50	4.5	Sites determined as Contaminated Land	0	0	0	0	-



50	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
51	4.7	Regulated explosive sites	0	0	0	0	-
51	4.8	Hazardous substance storage/usage	0	0	0	0	-
51	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
51	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	0	1	-
52	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	2	-
52	4.12	Radioactive Substance Authorisations	0	0	0	0	-
52	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	3	3	-
53	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
54	4.15	Pollutant release to public sewer	0	0	0	0	-
54	4.16	List 1 Dangerous Substances	0	0	0	0	-
54	4.17	<u>List 2 Dangerous Substances</u>	0	0	0	1	-
54	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	9	-
56	4.19	Pollution inventory substances	0	0	0	0	-
56	4.20	Pollution inventory waste transfers	0	0	0	0	-
56	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
57	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
59	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
61	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
62	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
62	5.5	Groundwater vulnerability- local information	None (within 0m)				
63	5.6	<u>Groundwater abstractions</u>	0	0	0	0	1
64	5.7	<u>Surface water abstractions</u>	0	0	0	0	2
65	5.8	Potable abstractions	0	0	0	0	0
65	5.9	Source Protection Zones	0	0	0	0	-
65	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
66	6.1	<u>Water Network (OS MasterMap)</u>	11	22	46	-	-



73	6.2	<u>Surface water features</u>	1	14	25	-	-
73	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
73	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
74	6.5	<u>WFD Groundwater bodies</u>	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
75	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
75	7.2	Historical Flood Events	0	0	0	-	-
75	7.3	Flood Defences	0	0	0	-	-
76	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
76	7.5	Flood Storage Areas	0	0	0	-	-
77	7.6	Flood Zone 2	None (within 50m)				
77	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
78	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
80	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
81	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	0	0	0	0	6
82	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
82	10.3	<u>Special Areas of Conservation (SAC)</u>	0	0	0	0	6
84	10.4	Special Protection Areas (SPA)	0	0	0	0	0
84	10.5	National Nature Reserves (NNR)	0	0	0	0	0
84	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
84	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	35
86	10.8	Biosphere Reserves	0	0	0	0	0
86	10.9	Forest Parks	0	0	0	0	0
86	10.10	Marine Conservation Zones	0	0	0	0	0
86	10.11	Green Belt	0	0	0	0	0
87	10.12	Proposed Ramsar sites	0	0	0	0	0



87	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
87	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
87	10.15	Nitrate Sensitive Areas	0	0	0	0	0
88	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
89	10.17	SSSI Impact Risk Zones	0	-	-	-	-
89	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
90	11.1	World Heritage Sites	0	0	0	-	-
90	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
90	11.3	National Parks	0	0	0	-	-
90	11.4	Listed Buildings	0	0	0	-	-
91	11.5	Conservation Areas	0	0	0	-	-
91	11.6	Scheduled Ancient Monuments	0	0	0	-	-
91	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
92	12.1	<u>Agricultural Land Classification</u>	Grade 5 (within 250m)				
93	12.2	Open Access Land	0	0	0	-	-
93	12.3	Tree Felling Licences	0	0	0	-	-
93	12.4	Environmental Stewardship Schemes	0	0	0	-	-
93	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
94	13.1	Priority Habitat Inventory	0	0	0	-	-
94	13.2	Habitat Networks	0	0	0	-	-
94	13.3	Open Mosaic Habitat	0	0	0	-	-
94	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
95	14.1	<u>10k Availability</u>	Identified (within 500m)				
96	14.2	Artificial and made ground (10k)	0	0	0	0	-
97	14.3	Superficial geology (10k)	0	0	0	0	-



97	14.4	Landslip (10k)	0	0	0	0	-
98	14.5	Bedrock geology (10k)	0	0	0	0	-
98	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
<u>99</u>	<u>15.1</u>	<u>50k Availability</u>	Identified (within 500m)				
<u>100</u>	<u>15.2</u>	<u>Artificial and made ground (50k)</u>	2	1	0	3	-
<u>101</u>	<u>15.3</u>	<u>Artificial ground permeability (50k)</u>	0	1	-	-	-
<u>102</u>	<u>15.4</u>	<u>Superficial geology (50k)</u>	1	0	1	1	-
<u>103</u>	<u>15.5</u>	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
103	15.6	Landslip (50k)	0	0	0	0	-
103	15.7	Landslip permeability (50k)	None (within 50m)				
<u>104</u>	<u>15.8</u>	<u>Bedrock geology (50k)</u>	3	0	1	1	-
<u>105</u>	<u>15.9</u>	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
<u>105</u>	<u>15.10</u>	<u>Bedrock faults and other linear features (50k)</u>	9	3	6	13	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
<u>107</u>	<u>16.1</u>	<u>BGS Boreholes</u>	0	1	2	-	-
Page	Section	Natural ground subsidence					
<u>109</u>	<u>17.1</u>	<u>Shrink swell clays</u>	Very low (within 50m)				
<u>110</u>	<u>17.2</u>	<u>Running sands</u>	Very low (within 50m)				
<u>112</u>	<u>17.3</u>	<u>Compressible deposits</u>	Very low (within 50m)				
<u>114</u>	<u>17.4</u>	<u>Collapsible deposits</u>	Very low (within 50m)				
<u>115</u>	<u>17.5</u>	<u>Landslides</u>	Low (within 50m)				
<u>117</u>	<u>17.6</u>	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
119	18.1	Natural cavities	0	0	0	0	-
<u>120</u>	<u>18.2</u>	<u>BritPits</u>	1	1	2	7	-
<u>122</u>	<u>18.3</u>	<u>Surface ground workings</u>	13	18	39	-	-
<u>124</u>	<u>18.4</u>	<u>Underground workings</u>	0	0	6	6	61
127	18.5	Historical Mineral Planning Areas	0	0	0	0	-



127	18.6	<u>Non-coal mining</u>	1	0	0	0	3
128	18.7	Mining cavities	0	0	0	0	0
128	18.8	JPB mining areas	None (within 0m)				
129	18.9	<u>Coal mining</u>	Identified (within 0m)				
129	18.10	Brine areas	None (within 0m)				
129	18.11	Gypsum areas	None (within 0m)				
129	18.12	Tin mining	None (within 0m)				
129	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
130	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
131	20.1	<u>BGS Estimated Background Soil Chemistry</u>	9	2	-	-	-
132	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
132	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
133	21.1	Underground railways (London)	0	0	0	-	-
133	21.2	Underground railways (Non-London)	0	0	0	-	-
134	21.3	Railway tunnels	0	0	0	-	-
134	21.4	<u>Historical railway and tunnel features</u>	0	0	3	-	-
134	21.5	Royal Mail tunnels	0	0	0	-	-
134	21.6	<u>Historical railways</u>	0	0	3	-	-
135	21.7	Railways	0	0	0	-	-
135	21.8	Crossrail 1	0	0	0	0	-
135	21.9	Crossrail 2	0	0	0	0	-
135	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 14/04/2020

Site Area: 15.79ha



Recent site history - 2017 aerial photograph

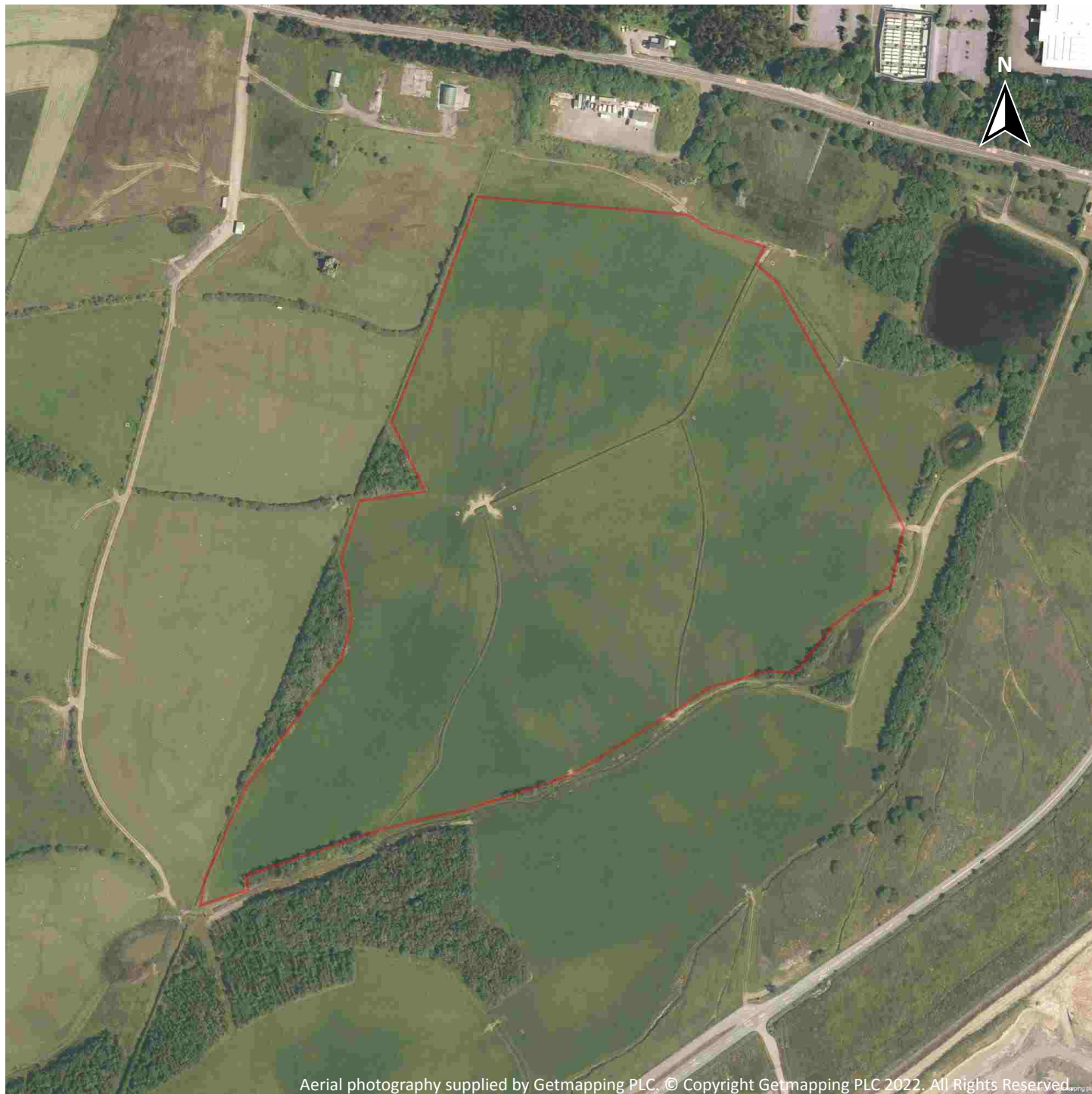


Capture Date: 17/06/2017

Site Area: 15.79ha



Recent site history - 2014 aerial photograph



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Capture Date: 23/07/2014

Site Area: 15.79ha



Recent site history - 2010 aerial photograph



Capture Date: 22/05/2010

Site Area: 15.79ha



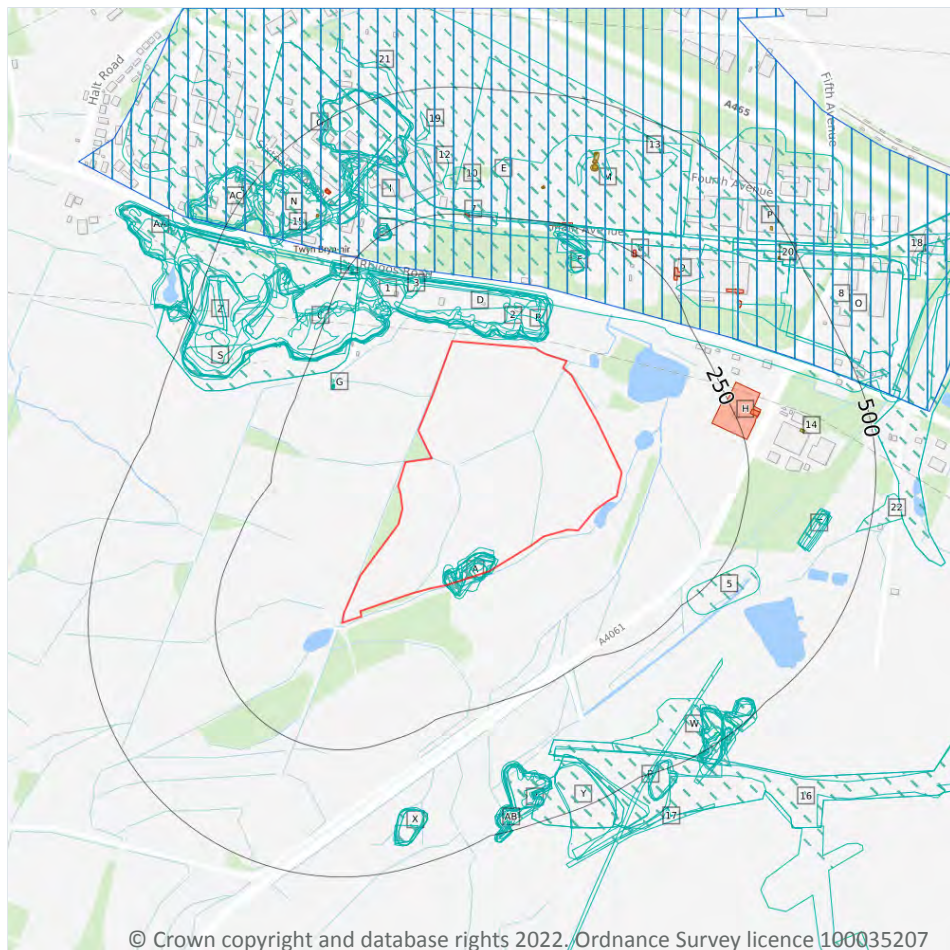
Recent site history - 2000 aerial photograph



Capture Date: 18/06/2000

Site Area: 15.79ha

1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

179

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

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

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Pits	1877	254876



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Ground Working	1921	255392
A	On site	Unspecified Pit	1948	280289
A	On site	Unspecified Heap	1903	280833
A	On site	Unspecified Ground Workings	1903	287460
A	On site	Unspecified Ground Workings	1877	288992
A	On site	Unspecified Ground Workings	1948	294062
A	On site	Unspecified Ground Workings	1900	295504
A	On site	Unspecified Pit	1903	302080
A	On site	Unspecified Ground Workings	1961	304452
A	On site	Unspecified Ground Workings	1914	313174
A	On site	Unspecified Ground Workings	1921	316862
A	On site	Unspecified Heap	1948	318319
B	10m N	Unspecified Heap	1961 - 1969	296481
C	13m N	Unspecified Ground Workings	1914	311394
1	14m N	Unspecified Ground Workings	1921	285268
C	15m N	Unspecified Ground Workings	1921	282596
B	16m N	Unspecified Heap	1979	272110
C	16m N	Unspecified Ground Workings	1900	314638
2	17m N	Unspecified Ground Workings	1903	295839
D	17m N	Unspecified Ground Workings	1877	297864
D	17m N	Unspecified Heap	1948	317502
C	18m N	Unspecified Ground Workings	1877	313625
D	22m N	Unspecified Ground Working	1921	255387
E	90m N	Industrial Estate	1969 - 1979	291421
3	116m NW	Unspecified Heap	1961	289159
C	126m W	Unspecified Ground Workings	1877	299262
C	130m W	Unspecified Ground Workings	1903	294536
C	132m NW	Unspecified Ground Workings	1948	303622



ID	Location	Land use	Dates present	Group ID
C	134m W	Unspecified Ground Workings	1961 - 1969	277560
C	137m NW	Unspecified Ground Working	1921	255391
F	165m NE	Unspecified Heap	1900 - 1903	279820
F	167m N	Unspecified Pit	1877	274690
F	168m NE	Unspecified Pit	1921	290334
F	168m NE	Unspecified Pit	1914 - 1921	287139
C	184m W	Unspecified Commercial/Industrial	1969	264123
C	184m W	Refuse Heap	1979	275747
G	185m W	Old Air Shaft	1961	293290
G	185m W	Old Air Shaft	1914	296308
G	185m W	Old Air Shaft	1948	305439
G	185m W	Old Air Shaft	1921	312706
G	186m W	Old Air Shaft	1921	281209
4	188m NW	Cuttings	1961	268966
G	190m W	Old Air Shaft	1921	269526
F	193m N	Unspecified Works	1969	253414
F	200m NE	Cuttings	1921	268967
F	208m NE	Unspecified Heap	1914	301241
F	208m NE	Unspecified Heap	1877	294836
F	208m NE	Unspecified Heap	1921	275865
F	210m NE	Unspecified Heap	1877	299220
F	215m NE	Unspecified Ground Working	1921	255386
I	217m N	Railway Sidings	1961	277513
I	217m N	Railway Sidings	1969	314329
J	219m NW	Unspecified Ground Workings	1921	271487
J	219m NW	Unspecified Ground Workings	1921	311878
J	221m NW	Unspecified Ground Workings	1961	280082
K	232m N	Railway Sidings	1948	284037

ID	Location	Land use	Dates present	Group ID
5	234m SE	Unspecified Disused Drift	1969	255782
L	236m NW	Unspecified Pit	1877	294261
L	236m NW	Unspecified Old Quarry	1903	294409
L	236m NW	Unspecified Old Quarry	1914	285122
L	237m NW	Unspecified Old Quarry	1921	301046
L	238m NW	Unspecified Old Quarry	1900	297091
E	244m N	Unspecified Works	1969	253407
J	245m NW	Unspecified Ground Working	1921	255388
L	245m NW	Old Quarry	1921	256084
M	246m N	Unspecified Factory	1979	253221
L	253m NW	Old Ironstone Level	1903	251117
8	258m NE	Unspecified Factory	1979	281106
K	268m N	Unspecified Factory	1979	253220
10	298m N	Refuse Heap	1969	271241
N	301m NW	Unspecified Ground Workings	1914 - 1948	272982
11	310m NW	Unspecified Ground Workings	1900	294340
N	310m NW	Unspecified Heap	1877	259943
12	312m N	Unspecified Heap	1969	259944
O	312m NE	Unspecified Commercial/Industrial	1949	285479
N	313m NW	Unspecified Ground Workings	1903	274661
13	330m N	Refuse Heap	1969	271240
N	330m NW	Unspecified Heaps	1877	305973
C	331m W	Refuse Heap	1969	317361
N	334m NW	Unspecified Ground Working	1921	255383
N	338m NW	Unspecified Heaps	1877	307054
P	339m NE	Unspecified Factory	1979	253222
N	340m NW	Unspecified Heaps	1961 - 1969	272876
C	348m W	Cuttings	1903	275356



ID	Location	Land use	Dates present	Group ID
C	348m W	Cuttings	1877	283198
O	353m NE	Unspecified Commercial/Industrial	1961	276920
Q	355m NW	Unspecified Works	1969	253405
Q	355m NW	Unspecified Commercial/Industrial	1979	305744
Q	355m NW	Unspecified Commercial/Industrial	1961	315326
R	355m S	Mineral Railway Sidings	1969 - 1979	275795
R	355m S	Mineral Railway Sidings	1964	296131
N	358m NW	Unspecified Heaps	1903	295812
Q	360m N	Unspecified Heap	1914	295741
Q	362m N	Unspecified Ground Workings	1921	311458
S	363m W	Old Ironstone Level	1914	304782
Q	363m N	Unspecified Heaps	1877	272439
Q	363m N	Unspecified Heaps	1903	316560
Q	364m N	Unspecified Heap	1877	279750
15	367m NW	Old Ironstone Level	1900	251116
T	367m E	Cuttings	1901	292297
U	369m S	Railway Sidings	1877 - 1948	301479
V	369m S	Unspecified Ground Working	1921	255394
T	370m E	Cuttings	1903 - 1949	292403
C	373m W	Ironstone Level	1921	265557
T	373m E	Cuttings	1878	311354
16	373m S	Railway Sidings	1961 - 1964	302718
V	373m S	Unspecified Heap	1900	291562
V	374m S	Unspecified Ground Workings	1914	278648
V	375m S	Unspecified Ground Workings	1921	292006
V	375m S	Unspecified Heap	1948	294713
V	375m S	Unspecified Heap	1903	314789
V	376m S	Unspecified Heap	1877	278050



ID	Location	Land use	Dates present	Group ID
W	377m SE	Refuse Heap	1969 - 1979	272197
17	379m SE	Tramway Sidings	1877	298221
T	379m E	Cuttings	1921	299735
V	379m S	Unspecified Heaps	1877	301793
C	380m W	Unspecified Pit	1921	310400
V	381m S	Unspecified Heap	1961	277750
X	386m S	Unspecified Heap	1900	278007
X	387m S	Unspecified Heap	1914 - 1921	307071
X	388m S	Unspecified Heap	1921	308801
X	388m S	Unspecified Heap	1877	297277
Y	390m S	Unspecified Heaps	1969	298119
Y	390m S	Unspecified Heaps	1979	311125
X	392m S	Unspecified Heap	1903	289446
X	392m S	Unspecified Heap	1948	297172
T	394m E	Cuttings	1961	288367
18	394m NE	Railway Sidings	1949	313596
19	400m N	Refuse Heap	1969	271239
O	402m NE	Unspecified Works	1969	253413
S	410m W	Old Ironstone Level	1900 - 1903	316030
Y	410m S	Gravel Pit	1948	261615
W	411m SE	Tramway Sidings	1900 - 1903	293195
X	412m S	Unspecified Heap	1977	295313
Y	413m S	Refuse Heap	1961	271264
W	419m SE	Unspecified Ground Working	1921	255395
Z	423m W	Cuttings	1877	280589
Z	423m W	Cuttings	1903	282590
W	426m SE	Unspecified Ground Workings	1914	310382
Z	426m W	Unspecified Ground Workings	1921	277728



ID	Location	Land use	Dates present	Group ID
W	426m SE	Unspecified Ground Workings	1921	285706
W	427m SE	Unspecified Ground Workings	1921	311345
W	428m SE	Unspecified Ground Workings	1900 - 1903	282440
W	429m SE	Unspecified Ground Workings	1948	311230
W	433m SE	Unspecified Heaps	1961	255335
S	445m W	Old Ironstone Level	1921	251120
AA	448m NW	Unspecified Heap	1921	301381
AA	448m NW	Unspecified Heap	1921	305576
AA	448m NW	Unspecified Ground Workings	1914	290176
AA	455m NW	Unspecified Ground Working	1921	255385
W	456m SE	Unspecified Heap	1969 - 1979	282091
W	459m SE	Unspecified Heap	1901	285760
W	459m SE	Unspecified Heap	1921 - 1961	295243
W	459m SE	Unspecified Heap	1921	292473
W	461m SE	Tramway Sidings	1878	256965
W	461m SE	Unspecified Heap	1914	297878
W	461m SE	Unspecified Ground Workings	1878	267249
AB	461m S	Unspecified Ground Workings	1877	317283
W	462m SE	Unspecified Heap	1903	299118
21	465m N	Refuse Heap	1969	271237
Q	465m NW	Refuse Heap	1969	271238
AB	466m S	Unspecified Heaps	1948	316075
AC	470m NW	Unspecified Ground Working	1921	255384
W	470m SE	Unspecified Heap	1921	290642
AC	474m NW	Unspecified Heap	1877	259945
22	475m E	Unspecified Heap	1961	259966
U	481m S	Old Coal Level	1921	298159
W	483m SE	Unspecified Ground Workings	1877	284350



ID	Location	Land use	Dates present	Group ID
U	485m S	Old Coal Level	1900 - 1903	285144
W	485m SE	Unspecified Heap	1921 - 1949	276473
U	485m S	Old Coal Level	1914 - 1921	296486
W	486m SE	Unspecified Heap	1921	283895
U	486m S	Old Coal Level	1921	300976
W	486m SE	Unspecified Heap	1914	315679
W	488m SE	Unspecified Pit	1878	268577
AB	491m S	Unspecified Pit	1877	268579
W	494m SE	Unspecified Heap	1921	285004
W	499m SE	Unspecified Pits	1877	254877

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

17

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 13**

ID	Location	Land use	Dates present	Group ID
E	315m N	Unspecified Tank	1985	35420
E	315m N	Unspecified Tank	1990	35832
E	315m N	Unspecified Tank	1989	36107
E	315m N	Unspecified Tank	1978	35605
E	317m N	Unspecified Tank	1996	36090
N	359m NW	Unspecified Tank	1978	35847
14	360m E	Unspecified Tank	1990	35817
N	360m NW	Unspecified Tank	1985 - 1990	35542



ID	Location	Land use	Dates present	Group ID
M	367m N	Tanks	1985 - 1990	35352
M	368m N	Tanks	1978	36054
M	371m N	Tanks	1996	36697
M	382m N	Tanks	1978	36680
M	382m N	Tanks	1985 - 1996	35694
M	398m N	Tanks	1985 - 1990	35975
M	401m N	Tanks	1996	36001
20	462m NE	Unspecified Tank	1984	34191
P	477m NE	Unspecified Tank	1985 - 1990	36339

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

14

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 13**

ID	Location	Land use	Dates present	Group ID
H	202m NE	Electricity Substation	1998	18467
6	243m NE	Electricity Substation	1990 - 1996	18490
F	243m N	Electricity Substation	1978	17572
7	247m N	Electricity Substation	1978 - 1996	17941
F	247m N	Electricity Substation	1985 - 1990	18027
F	247m N	Electricity Substation	1996	18824
9	265m NE	Electricity Substation	1990 - 1996	18506
H	278m NE	Electricity Substation	1988	17916
N	338m NW	Electricity Substation	1989 - 1990	18538



ID	Location	Land use	Dates present	Group ID
N	340m NW	Electricity Substation	1996	18149
I	343m NE	Electricity Substation	1978 - 1985	18677
I	351m NE	Electricity Substation	1978 - 1985	18819
N	377m NW	Electricity Substation	1978 - 1996	17987
N	377m NW	Electricity Substation	1985 - 1990	17965

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

1

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.

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

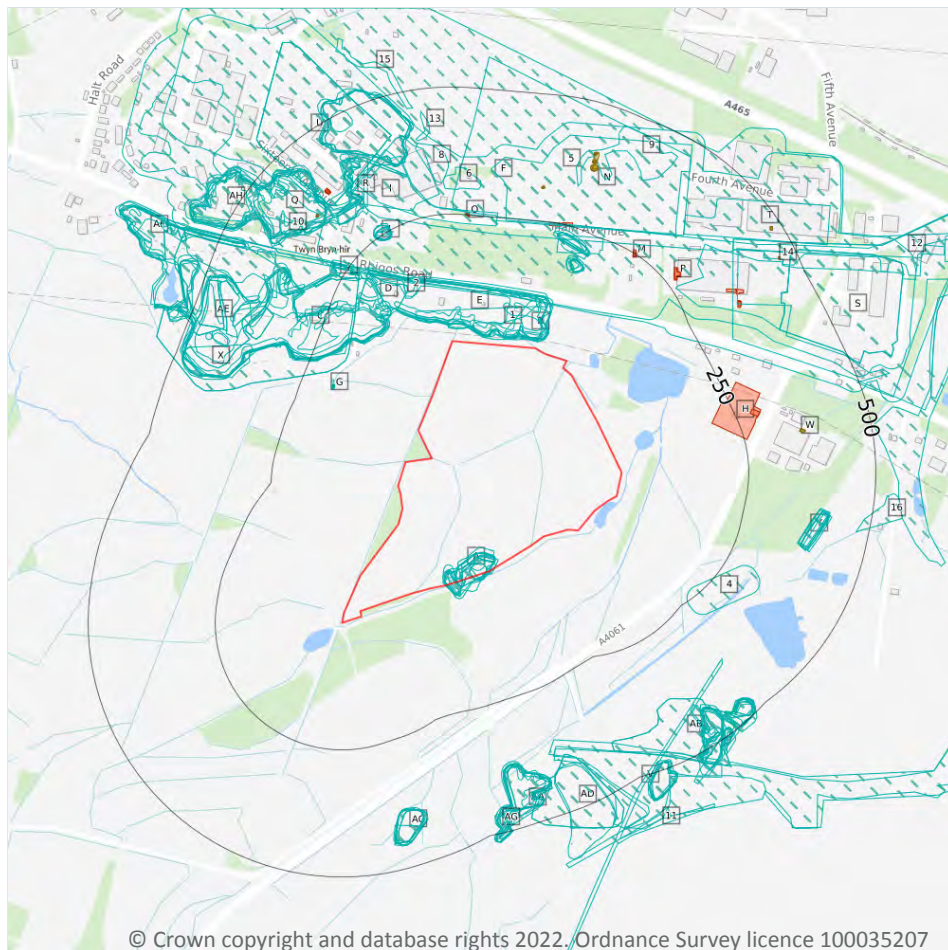


ID	Location	Site Name	Date of Operation	Activities
E	120m N	ROF Hirwaun	c.1939 - 1945	c.1939: Production of .303 cartridges; -; Engineering Factory

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

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2.1 Historical industrial land uses

Records within 500m

220

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 24**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Ground Workings	1948	294062
A	On site	Unspecified Pit	1948	280289
A	On site	Unspecified Pit	1903	302080



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Ground Workings	1903	287460
A	On site	Unspecified Ground Workings	1877	288992
A	On site	Unspecified Ground Workings	1900	295504
A	On site	Unspecified Heap	1948	318319
A	On site	Unspecified Heap	1903	280833
A	On site	Unspecified Ground Working	1921	255392
A	On site	Unspecified Ground Workings	1914	313174
A	On site	Unspecified Pits	1877	254876
A	On site	Unspecified Ground Workings	1961	304452
A	On site	Unspecified Ground Workings	1921	316862
A	On site	Unspecified Ground Workings	1921	316862
B	10m N	Unspecified Heap	1961	296481
C	13m N	Unspecified Ground Workings	1914	311394
D	14m N	Unspecified Ground Workings	1921	285268
D	14m N	Unspecified Ground Workings	1921	285268
C	15m N	Unspecified Ground Workings	1921	282596
B	16m N	Unspecified Heap	1979	272110
C	16m N	Unspecified Ground Workings	1900	314638
1	17m N	Unspecified Ground Workings	1903	295839
B	17m N	Unspecified Heap	1969	296481
E	17m N	Unspecified Ground Workings	1877	297864
E	17m N	Unspecified Heap	1948	317502
C	18m N	Unspecified Ground Workings	1877	313625
E	22m N	Unspecified Ground Working	1921	255387
F	90m N	Industrial Estate	1969	291421
F	92m N	Industrial Estate	1979	291421
2	116m NW	Unspecified Heap	1961	289159
C	126m W	Unspecified Ground Workings	1877	299262



ID	Location	Land Use	Date	Group ID
C	130m W	Unspecified Ground Workings	1903	294536
C	132m NW	Unspecified Ground Workings	1948	303622
C	134m W	Unspecified Ground Workings	1961	277560
C	137m NW	Unspecified Ground Working	1921	255391
F	165m NE	Unspecified Heap	1900	279820
F	167m N	Unspecified Pit	1877	274690
F	168m NE	Unspecified Pit	1921	290334
F	168m NE	Unspecified Pit	1921	290334
F	168m NE	Unspecified Pit	1914	287139
F	168m NE	Unspecified Pit	1877	274690
F	168m NE	Unspecified Heap	1903	279820
F	169m NE	Unspecified Pit	1921	287139
F	174m NE	Unspecified Pit	1921	290334
C	184m W	Unspecified Commercial/Industrial	1969	264123
C	184m W	Refuse Heap	1979	275747
G	185m W	Old Air Shaft	1961	293290
G	185m W	Old Air Shaft	1914	296308
G	185m W	Old Air Shaft	1948	305439
G	185m W	Old Air Shaft	1921	312706
G	186m W	Old Air Shaft	1921	281209
3	188m NW	Cuttings	1961	268966
G	190m W	Old Air Shaft	1921	269526
C	190m W	Unspecified Ground Workings	1969	277560
F	193m N	Unspecified Works	1969	253414
F	200m NE	Cuttings	1921	268967
F	208m NE	Unspecified Heap	1914	301241
F	208m NE	Unspecified Heap	1877	294836
F	208m NE	Unspecified Heap	1921	275865



ID	Location	Land Use	Date	Group ID
F	208m NE	Unspecified Heap	1921	275865
F	210m NE	Unspecified Heap	1877	299220
F	215m NE	Unspecified Ground Working	1921	255386
I	217m N	Railway Sidings	1961	277513
J	219m NW	Unspecified Ground Workings	1921	311878
J	219m NW	Unspecified Ground Workings	1921	271487
J	221m NW	Unspecified Ground Workings	1961	280082
K	232m N	Railway Sidings	1948	284037
4	234m SE	Unspecified Disused Drift	1969	255782
L	236m NW	Unspecified Pit	1877	294261
L	236m NW	Unspecified Old Quarry	1903	294409
L	236m NW	Unspecified Old Quarry	1914	285122
L	237m NW	Unspecified Old Quarry	1921	301046
L	238m NW	Unspecified Old Quarry	1921	301046
L	238m NW	Unspecified Pit	1877	294261
L	238m NW	Unspecified Old Quarry	1900	297091
5	244m N	Unspecified Works	1969	253407
J	245m NW	Unspecified Ground Working	1921	255388
L	245m NW	Old Quarry	1921	256084
N	246m N	Unspecified Factory	1979	253221
L	253m NW	Old Ironstone Level	1903	251117
I	258m NE	Unspecified Factory	1979	281106
K	268m N	Unspecified Factory	1979	253220
6	298m N	Refuse Heap	1969	271241
Q	301m NW	Unspecified Ground Workings	1914	272982
7	310m NW	Unspecified Ground Workings	1900	294340
R	310m NW	Unspecified Heap	1877	259943
8	312m N	Unspecified Heap	1969	259944



ID	Location	Land Use	Date	Group ID
S	312m NE	Unspecified Commercial/Industrial	1949	285479
R	313m NW	Unspecified Ground Workings	1903	274661
Q	326m NW	Unspecified Ground Workings	1921	272982
Q	326m NW	Unspecified Ground Workings	1921	272982
9	330m N	Refuse Heap	1969	271240
R	330m NW	Unspecified Heaps	1877	305973
C	331m W	Refuse Heap	1969	317361
R	334m NW	Unspecified Ground Working	1921	255383
Q	338m NW	Unspecified Heaps	1877	307054
T	339m NE	Unspecified Factory	1979	253222
Q	340m NW	Unspecified Heaps	1961	272876
Q	342m NW	Unspecified Ground Workings	1948	272982
Q	346m NW	Unspecified Heaps	1969	272876
C	348m W	Cuttings	1903	275356
C	348m W	Cuttings	1877	283198
S	353m NE	Unspecified Commercial/Industrial	1961	276920
U	355m NW	Unspecified Works	1969	253405
U	355m NW	Unspecified Commercial/Industrial	1961	315326
U	355m NW	Unspecified Commercial/Industrial	1979	305744
V	355m S	Mineral Railway Sidings	1969	275795
Q	358m NW	Unspecified Heaps	1903	295812
U	360m N	Unspecified Heap	1914	295741
U	362m N	Unspecified Ground Workings	1921	311458
U	362m N	Unspecified Ground Workings	1921	311458
X	363m W	Old Ironstone Level	1914	304782
U	363m N	Unspecified Heaps	1903	316560
U	363m N	Unspecified Heaps	1877	272439
U	364m N	Unspecified Heap	1877	279750



ID	Location	Land Use	Date	Group ID
10	367m NW	Old Ironstone Level	1900	251116
Y	367m E	Cuttings	1901	292297
Z	369m S	Railway Sidings	1948	301479
AA	369m S	Unspecified Ground Working	1921	255394
Y	370m E	Cuttings	1949	292403
Y	370m E	Cuttings	1903	292403
C	373m W	Ironstone Level	1921	265557
Y	373m E	Cuttings	1878	311354
V	373m S	Railway Sidings	1961	302718
AA	373m S	Unspecified Heap	1900	291562
Y	374m E	Cuttings	1914	292403
AA	374m S	Unspecified Ground Workings	1914	278648
AA	375m S	Unspecified Ground Workings	1921	292006
AA	375m S	Unspecified Ground Workings	1921	292006
Y	375m E	Cuttings	1921	292403
AA	375m S	Unspecified Heap	1948	294713
AA	375m S	Unspecified Heap	1903	314789
AA	376m S	Unspecified Heap	1877	278050
AB	377m SE	Refuse Heap	1969	272197
AB	377m SE	Refuse Heap	1979	272197
11	379m SE	Tramway Sidings	1877	298221
Y	379m E	Cuttings	1921	299735
AA	379m S	Unspecified Heaps	1877	301793
C	380m W	Unspecified Pit	1921	310400
C	380m W	Unspecified Pit	1921	310400
AA	381m S	Unspecified Heap	1961	277750
AC	386m S	Unspecified Heap	1900	278007
AC	387m S	Unspecified Heap	1921	307071



ID	Location	Land Use	Date	Group ID
AC	388m S	Unspecified Heap	1921	308801
AC	388m S	Unspecified Heap	1921	308801
AC	388m S	Unspecified Heap	1877	297277
AC	389m S	Unspecified Heap	1914	307071
AD	390m S	Unspecified Heaps	1969	298119
AD	390m S	Unspecified Heaps	1979	311125
AC	392m S	Unspecified Heap	1948	297172
AC	392m S	Unspecified Heap	1903	289446
AC	392m S	Unspecified Heap	1877	297277
Y	394m E	Cuttings	1961	288367
12	394m NE	Railway Sidings	1949	313596
13	400m N	Refuse Heap	1969	271239
S	402m NE	Unspecified Works	1969	253413
S	402m NE	Unspecified Factory	1979	281106
X	410m W	Old Ironstone Level	1900	316030
AD	410m S	Gravel Pit	1948	261615
X	411m W	Old Ironstone Level	1903	316030
AB	411m SE	Tramway Sidings	1903	293195
AC	412m S	Unspecified Heap	1977	295313
AD	413m S	Refuse Heap	1961	271264
AB	416m SE	Tramway Sidings	1900	293195
AB	419m SE	Unspecified Ground Working	1921	255395
AE	423m W	Cuttings	1903	282590
AE	423m W	Cuttings	1877	280589
AB	426m SE	Unspecified Ground Workings	1914	310382
AE	426m W	Unspecified Ground Workings	1921	277728
AE	426m W	Unspecified Ground Workings	1921	277728
AB	426m SE	Unspecified Ground Workings	1921	285706



ID	Location	Land Use	Date	Group ID
AB	427m SE	Unspecified Ground Workings	1921	311345
AB	427m SE	Unspecified Ground Workings	1921	311345
AB	428m SE	Unspecified Ground Workings	1900	282440
AB	429m SE	Unspecified Ground Workings	1948	311230
AB	429m SE	Unspecified Ground Workings	1903	282440
AB	433m SE	Unspecified Heaps	1961	255335
X	445m W	Old Ironstone Level	1921	251120
AF	448m NW	Unspecified Heap	1921	301381
AF	448m NW	Unspecified Heap	1921	305576
AF	448m NW	Unspecified Ground Workings	1914	290176
AF	455m NW	Unspecified Ground Working	1921	255385
AB	456m SE	Unspecified Heap	1969	282091
AB	456m SE	Unspecified Heap	1979	282091
AB	459m SE	Unspecified Heap	1901	285760
AB	459m SE	Unspecified Heap	1921	295243
AB	459m SE	Unspecified Heap	1921	295243
AB	459m SE	Unspecified Heap	1921	292473
AB	461m SE	Tramway Sidings	1878	256965
AB	461m SE	Unspecified Heap	1914	297878
AB	461m SE	Unspecified Heap	1949	295243
AB	461m SE	Unspecified Ground Workings	1878	267249
AG	461m S	Unspecified Ground Workings	1877	317283
AB	462m SE	Unspecified Heap	1961	295243
AB	462m SE	Unspecified Heap	1903	299118
15	465m N	Refuse Heap	1969	271237
U	465m NW	Refuse Heap	1969	271238
AG	466m S	Unspecified Heaps	1948	316075
AH	470m NW	Unspecified Ground Working	1921	255384



ID	Location	Land Use	Date	Group ID
AB	470m SE	Unspecified Heap	1921	290642
AH	474m NW	Unspecified Heap	1877	259945
16	475m E	Unspecified Heap	1961	259966
Z	481m S	Old Coal Level	1921	298159
AB	483m SE	Unspecified Ground Workings	1877	284350
Z	485m S	Old Coal Level	1900	285144
AB	485m SE	Unspecified Heap	1921	276473
Z	485m S	Old Coal Level	1921	296486
Z	485m S	Old Coal Level	1914	296486
AB	486m SE	Unspecified Heap	1921	283895
AB	486m SE	Unspecified Heap	1921	283895
Z	486m S	Old Coal Level	1921	300976
Z	486m S	Old Coal Level	1921	300976
Z	486m S	Old Coal Level	1903	285144
AB	486m SE	Unspecified Heap	1914	315679
AB	487m SE	Unspecified Heap	1949	276473
AB	488m SE	Unspecified Pit	1878	268577
AB	489m SE	Unspecified Ground Workings	1877	284350
AG	491m S	Unspecified Pit	1877	268579
AB	494m SE	Unspecified Heap	1921	285004
AB	499m SE	Unspecified Pits	1877	254877

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

30

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 24**



ID	Location	Land Use	Date	Group ID
F	315m N	Unspecified Tank	1985	35420
F	315m N	Unspecified Tank	1989	36107
F	315m N	Unspecified Tank	1990	35832
F	315m N	Unspecified Tank	1978	35605
F	317m N	Unspecified Tank	1996	36090
R	359m NW	Unspecified Tank	1978	35847
W	360m E	Unspecified Tank	1990	35817
W	360m E	Unspecified Tank	1990	35817
W	360m E	Unspecified Tank	1990	35817
R	360m NW	Unspecified Tank	1985	35542
R	360m NW	Unspecified Tank	1989	35542
R	360m NW	Unspecified Tank	1990	35542
N	367m N	Tanks	1985	35352
N	367m N	Tanks	1989	35352
N	367m N	Tanks	1990	35352
N	368m N	Tanks	1978	36054
N	371m N	Tanks	1996	36697
N	382m N	Tanks	1978	36680
N	382m N	Tanks	1985	35694
N	382m N	Tanks	1989	35694
N	382m N	Tanks	1990	35694
N	385m N	Tanks	1996	35694
N	398m N	Tanks	1985	35975
N	398m N	Tanks	1989	35975
N	398m N	Tanks	1990	35975
N	401m N	Tanks	1996	36001
14	462m NE	Unspecified Tank	1984	34191
T	477m NE	Unspecified Tank	1985	36339



ID	Location	Land Use	Date	Group ID
T	477m NE	Unspecified Tank	1989	36339
T	477m NE	Unspecified Tank	1990	36339

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

28

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 24**

ID	Location	Land Use	Date	Group ID
H	202m NE	Electricity Substation	1998	18467
M	243m NE	Electricity Substation	1996	18490
F	243m N	Electricity Substation	1978	17572
M	244m NE	Electricity Substation	1990	18490
O	247m N	Electricity Substation	1978	17941
O	247m N	Electricity Substation	1985	17941
O	247m N	Electricity Substation	1989	17941
O	247m N	Electricity Substation	1990	17941
F	247m N	Electricity Substation	1985	18027
F	247m N	Electricity Substation	1989	18027
F	247m N	Electricity Substation	1990	18027
F	247m N	Electricity Substation	1996	18824
O	249m N	Electricity Substation	1996	17941
P	265m NE	Electricity Substation	1996	18506
P	266m NE	Electricity Substation	1990	18506
H	278m NE	Electricity Substation	1988	17916
R	338m NW	Electricity Substation	1989	18538
R	338m NW	Electricity Substation	1990	18538



ID	Location	Land Use	Date	Group ID
R	340m NW	Electricity Substation	1996	18149
I	343m NE	Electricity Substation	1978	18677
I	351m NE	Electricity Substation	1985	18819
I	354m NE	Electricity Substation	1978	18819
I	359m E	Electricity Substation	1985	18677
R	377m NW	Electricity Substation	1978	17987
R	377m NW	Electricity Substation	1985	17965
R	377m NW	Electricity Substation	1989	17965
R	377m NW	Electricity Substation	1990	17965
R	380m NW	Electricity Substation	1996	17987

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

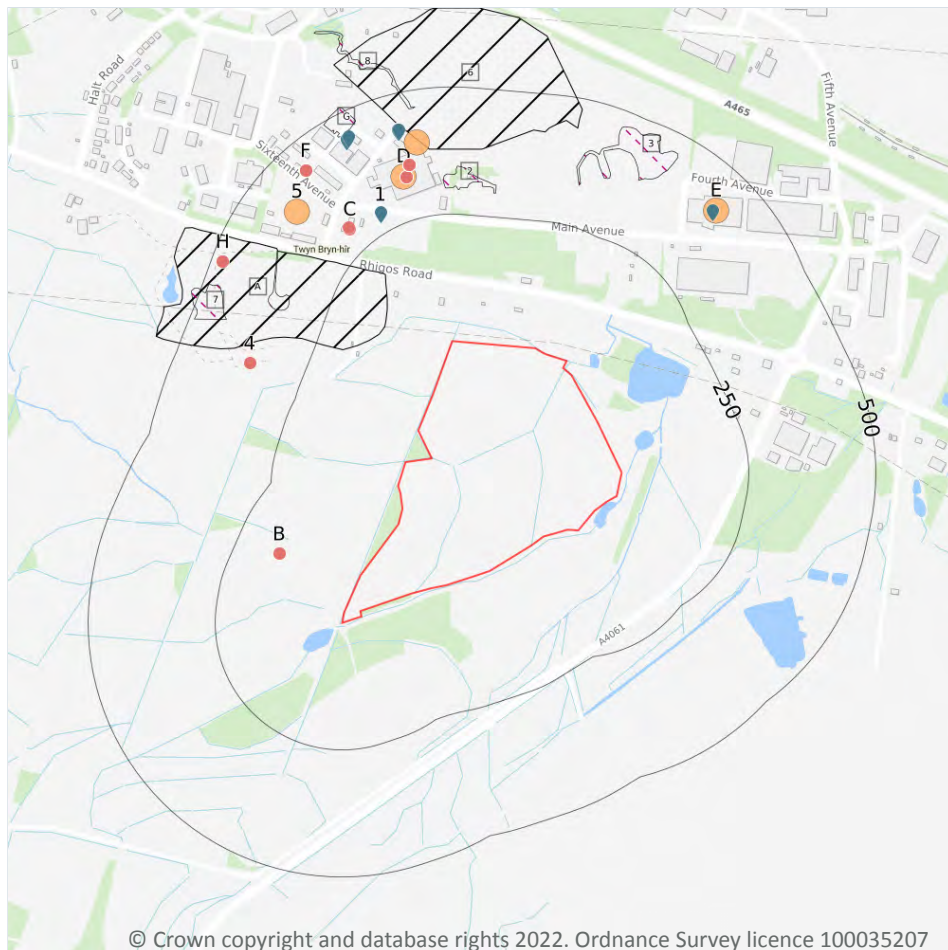
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical landfill (LA/OS)
- Historical waste sites
- Licensed waste sites
- 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

6

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

Features are displayed on the Waste and landfill map on **page 36**

ID	Location	Site address	Source	Data type
2	297m N	Refuse Tip	1962 mapping	Polygon
A	327m W	Refuse Tip	1962 mapping	Polygon
3	332m N	Refuse Tip	1962 mapping	Polygon
7	432m W	Refuse Tip	1978 mapping	Polygon
G	454m NW	Refuse Tip	1962 mapping	Polygon
8	464m N	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 36**

ID	Location	Details		
A	134m W	Site Address: Hugh Patches Site Licence Holder Address: -	Waste Licence: Yes Site Reference: - Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Cynon Valley Borough Council Licence Holder: Cynon Valley Borough Council First Recorded 31/12/1970 Last Recorded: 31/12/1980



ID	Location	Details		
6	377m N	Site Address: Hirwaun Waste Disposal Site Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Liquid sludge 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	4
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Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 36**

ID	Location	Address	Further Details	Date
D	312m N	Site Address: 10, Hirwaun Industrial Estate, Hirwaun, ABERDARE, Mid Glamorgan, CF44 9	Type of Site: Waste Transfer Station Planning application reference: 02/1450 Description: Scheme comprises construction of buildings and an office to form a waste transfer station. Associated works include access roads, enabling, landscaping works, infrastructure, service engineering and sewer systems. (The value given is a guideline only). A n application (ref: 02/1450) for Outline Planning permission won an appeal against a refused decision October 2003. Outline plans submitted. Data source: Historic Planning Application Data Type: Point	-
D	372m N	Site Address: S, Hirwaun Industrial Estate, Hirwaun, ABERDARE, Mid Glamorgan, CF44 9UP	Type of Site: Vehicle Recycling Plant Planning application reference: 07/1580/10 Description: Scheme comprises installation of vehicle recycling plant. An application (ref: 07/1580/10) for detailed planning permission was submitted to Rhondda Cynon Taff BC Data source: Historic Planning Application Data Type: Point	-



ID	Location	Address	Further Details	Date
5	372m NW	Site Address: Hirwaun Industrial Estate, Unit 5, Hirwaun, ABERDARE, Mid Glamorgan, CF44 9UP	Type of Site: Vehicle Recycling Plant (Conversion) Planning application reference: 02/1732 Description: Scheme comprises conversion of building and .21 ha of land to vehicle recycling. An application (ref: 02/1732) for Detailed Planning permission was submitted to Rhondda Cynon Taff BC on 4th November 2002. Data source: Historic Planning Application Data Type: Point	-
E	391m NE	Site Address: 49, Hirwaun Industrial Estate, Hirwaun, ABERDARE, Mid Glamorgan, CF44 9UP	Type of Site: Waste Transfer Station (Conversion) Planning application reference: 04/1468/10 Description: Scheme comprises change of use from food packaging to electronic waste recycling. An application (ref: 04/1468/10) for Detailed Planning permission was submitted to Rhondda Cynon Taff BC on 23rd August 2004. Data source: Historic Planning Application Data Type: Point	-

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

3.6 Licensed waste sites

Records within 500m	18
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Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 36**

ID	Location	Details		
1	285m NW	Site Name: - Site Address: Walters, Hirwaun House, Hirwaun Industrial Estate, Hirwaun, Aberdare, CF44 9UL Correspondence Address: -	Type of Site: Inert & excavation Waste TS + treatment Size: - Environmental Permitting Regulations (Waste) Licence Number: BB3195ZP EPR reference: - Operator: Walters Plant Hire Ltd Waste Management licence No: 0 Annual Tonnage: 75000	Issue Date: 07/03/2019 Effective Date: 07/03/2019 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
E	409m NE	Site Name: Citiraya Recycling Technologies Limited Site Address: Unit 49, Hirwaun Industrial Estate, Hirwaun, Aberdare, CF44 9UP Correspondence Address: Jim Mcdowall, 3, Drummond Crescent, Riverside Business Park, Irvine, Ayrshire, KA11 5AN	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CIT001 EPR reference: - Operator: Citiraya Recycling Technology Limited Waste Management licence No: 34257 Annual Tonnage: 0	Issue Date: 10/12/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
D	424m N	Site Name: - Site Address: Metech Recycling (U K) Ltd, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UP Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: Metech Recycling Uk Ltd Waste Management licence No: 0 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: 09/12/2004 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
D	424m N	Site Name: Centillion Environment And Recycling Uk Limited Site Address: Unit 49, Hirwaun Ind Est, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CIT001 EPR reference: EA/EPR/DP3598FP/A001 Operator: Centillion Environment And Recycling Uk Limited Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 10/12/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
D	424m N	Site Name: Metech Recycling (U K) Ltd Site Address: Metech Recycling Uk Ltd, Metech Recycling (U K) Ltd, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: Metech Recycling Uk Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
D	424m N	Site Name: - Site Address: Metech Recycling (U K) Ltd, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: - Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: 09/12/2004 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked
D	424m N	Site Name: Citiraya Recycling Technologies Ltd Site Address: Unit 49, Hirwaun Ind Est, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CIT001 EPR reference: EA/EPR/DP3598FP/A001 Operator: Citiraya Recycling Technology Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 10/12/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
D	424m N	Site Name: - Site Address: Metech Recycling (U K) Ltd, Hirwaun, R C T, Aberdare, Rhondda Cynon Taff, CF44 9UP Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: Metech Recycling Uk Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: 09/12/2004 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked
D	424m N	Site Name: - Site Address: Metech Recycling (U K) Ltd, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: Metech Recycling Uk Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: 09/12/2004 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked



ID	Location	Details		
D	424m N	Site Name: - Site Address: Metech Recycling (U K) Ltd, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: DP3598FP EPR reference: - Operator: Metech Recycling Uk Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 09/12/2004 Effective Date: 09/12/2004 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked
D	424m N	Site Name: Metech Recycling (U K) Ltd Site Address: Unit 49, Hirwaun Ind Est, Hirwaun, Aberdare, R C T, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CIT001 EPR reference: DP3598FP/V002 Operator: Metech Recycling Uk Ltd Waste Management licence No: 34257 Annual Tonnage: 24999	Issue Date: 10/12/2004 Effective Date: - Modified: 03/04/2012 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Modified
G	445m NW	Site Name: Welsh Tyre Recycling Services Site Address: Unit D, Hirwaun Ind Est, Hirwaun, Aberdare, Mid Glamorgan, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WEL070 EPR reference: EA/EPR/GP3692EV/S003 Operator: Powell Darren Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: - Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrendered
G	445m NW	Site Name: - Site Address: Welsh Tyre Recycling Services, Aberdare, Rhondda Cynon Taff, CF44 9UP Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: GP3692EV EPR reference: - Operator: Darren Powell Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: 18/05/2011 Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrendered



ID	Location	Details		
G	445m NW	Site Name: - Site Address: Welsh Tyre Recycling Services, Aberdare, Mid Glamorgan, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: GP3692EV EPR reference: - Operator: Darren Powell Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: 18/05/2011 Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrender
G	445m NW	Site Name: - Site Address: Welsh Tyre Recycling Services, Aberdare, Mid Glamorgan, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: GP3692EV EPR reference: - Operator: Darren Powell Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: 18/05/2011 Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrender
G	445m NW	Site Name: - Site Address: Welsh Tyre Recycling Services, Mid Glamorgan, Aberdare, Rhondda Cynon Taff, CF44 9UP Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: GP3692EV EPR reference: - Operator: Darren Powell Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: 18/05/2011 Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrender
G	445m NW	Site Name: - Site Address: Welsh Tyre Recycling Services, Aberdare, Mid Glamorgan, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: GP3692EV EPR reference: - Operator: - Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: 18/05/2011 Modified: - Surrendered Date: 03/04/2014 Expiry Date: - Cancelled Date: - Status: Surrender



ID	Location	Details		
G	447m NW	Site Name: Welsh Tyre Recycling Services Site Address: Unit D, Hirwaun Ind Est, Hirwaun, Aberdare, Mid Glamorgan, CF44 9UP Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: WEL070 EPR reference: GP3692EV/S003 Operator: Powell Darren Waste Management licence No: 101561 Annual Tonnage: 0	Issue Date: 18/05/2011 Effective Date: - Modified: - Surrendered Date: 2.01404e+016 Expiry Date: 0 Cancelled Date: 0 Status: Surrendered

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

3.7 Waste exemptions

Records within 500m	35
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 36**

ID	Location	Site	Reference	Category	Sub-Category	Description
B	163m NW	DCWW, Hendrefawr, Mount Road, Rhigos, Aberdare, Rhondda Cynon Taff, CF44 9RJ	NRW-WME067694	Storing waste exemption	Not on a farm	Storage of sludge
B	163m NW	DCWW, Hendrefawr, Mount Road, Rhigos, Aberdare, Rhondda Cynon Taff, CF44 9RJ	NRW-WME055396	Storing waste exemption	Not on a farm	Storage of sludge
C	298m NW	WALTERS UK, Walters UK Ltd, Hirwaun House, Hirwaun Industrial Estate, Aberdar, CF449UL	NRW-WME005023	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	302m NW	HIRWAUN HOUSE, HIRWAUN INDUSTRIAL ESTATE, HIRWAUN, ABERDARE, CF44 9UL	WEX098512	Using waste exemption	Not on a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
D	334m N	Welsh Tyre Recycling Services Ltd, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UP	NRW-WME064600	Treating waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Mechanical treatment of end-of-life tyres
D	334m N	Hirwaun Energy Ltd, HIRWAUN INDUSTRIAL ESTATE, HIRWAUN, ABERDARE, CF44 9UP	NRW-WME048964	Disposing of waste exemption	Not on a farm	Burning waste in the open
D	334m N	J D Burford Ltd, J D Burford Ltd, Unit 2D, Hirwaun Industrial Estate, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME029423	Disposing of waste exemption	Not on a farm	Burning waste in the open
D	334m N	Hirwaun Energy Ltd, Hirwaun Energy Ltd, Unit 43-44, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME032149	Disposing of waste exemption	Not on a farm	Depositing samples of waste for the purposes of testing or analysing them
D	334m N	Hirwaun Energy Ltd, Hirwaun Energy Ltd, Unit 43-44, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME032150	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	334m N	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF449up	NRW-WME032516	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	334m N	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF449up	NRW-WME032516	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	334m N	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF449up	NRW-WME032516	Storing waste exemption	Not on a farm	Storage of sludge
D	357m N	Unit S Hirwaun Industrial Estate Hirwaun Aberdar cf449up	NRW-WME008524	Using waste exemption	Not on a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
D	357m N	Unit S Hirwaun Industrial Estate Hirwaun Aberdar cf449up	NRW-WME008524	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction
D	357m N	Unit S Hirwaun Industrial Estate Hirwaun Aberdar cf449up	NRW-WME009624	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction
D	357m N	ArrowValue Recovery UK Ltd, Arrow, Unit 3, Hirwaun Industrial Estate, Hirwaun, Aberdare, RCT, CF449UP	NRW-WME023422	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	357m N	ArrowValue Recovery UK Ltd, Arrow, Unit 3, Hirwaun Industrial Estate, Hirwaun, Aberdare, RCT, CF449UP	NRW-WME023422	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	357m N	Forkers Ltd, Dwr Cymru Welsh Water, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME023608	Using waste exemption	Not on a farm	Use of waste in construction
D	357m N	Darran powell, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME026817	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction
D	357m N	Darran powell, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME026817	Using waste exemption	Not on a farm	Use of waste in construction
D	357m N	Welsh Tyre Recycling Services Ltd, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME027130	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
D	357m N	Welsh Tyre Recycling Services Ltd, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME027130	Storing waste exemption	Not on a farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
D	357m N	Welsh Tyre Recycling Services Ltd, Welsh Tyre Recycling, Unit S, Hirwaun Industrial Estate, Hirwaun, Aberdare, Rhondda Cynon Taff, CF449UP	NRW-WME027130	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
D	357m N	28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME004152	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of waste in secure containers
D	357m N	28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME004152	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of waste in a secure place
D	357m N	28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME004152	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of sludge
D	357m N	Unit 49, Hirwaun Industrial Estate, Aberdare, Rhondda Cynon Taff, CF44 9UP	NRW-WME003763	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of waste in a secure place
4	357m W	DCWW, Hendrefawr, Mount Road, Rhigos, Aberdare, Rhondda Cynon Taff, CF44 9RJ	NRW-WME069122	Storing waste exemption	Not on a farm	Storage of sludge
F	442m NW	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME065752	Storing waste exemption	Not on a farm	Storage of waste in secure containers
F	442m NW	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME065752	Storing waste exemption	Not on a farm	Storage of waste in a secure place
F	442m NW	chemcycle environmental management Limited, 28 Hirwaun Industrial estate, Hirwaun, Nr Aberdare, RCT, CF44 9up	NRW-WME065752	Storing waste exemption	Not on a farm	Storage of sludge
H	478m W	Bryngolwg Farm, Rhigos Road, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UG	NRW-WME048522	Using waste exemption	On a farm	Use of waste in construction

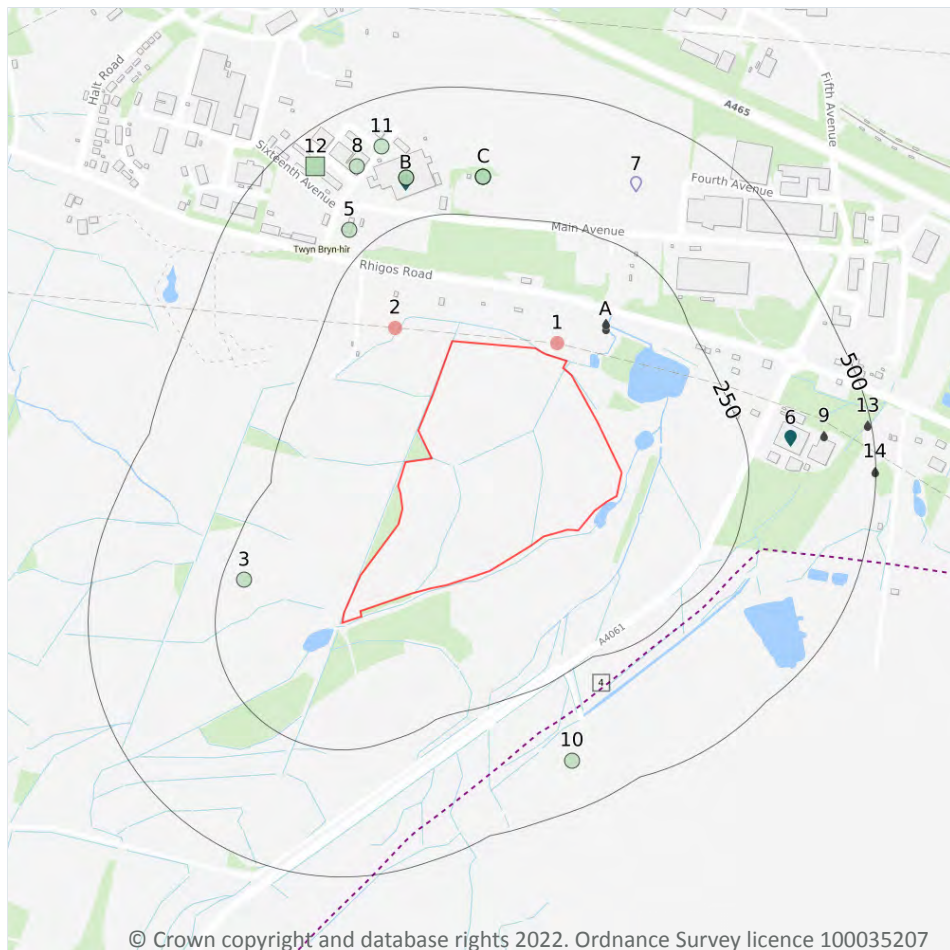


ID	Location	Site	Reference	Category	Sub-Category	Description
H	478m W	Bryngolwg Farm, Rhigos Road, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UG	NRW-WME048522	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	478m W	Bryngolwg Farm, Rhigos Road, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UG	NRW-WME048522	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
H	478m W	Bryngolwg Farm, Rhigos Road, Hirwaun, Aberdare, Rhondda Cynon Taff, CF44 9UG	NRW-WME048522	Using waste exemption	On a farm	Use of waste for a specified purpose

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Gas pipelines
- ⬮ Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Company	Address	Activity	Category
1	28m N	Pylon	Mid Glamorgan, CF44	Electrical Features	Infrastructure and Facilities
2	115m W	Pylon	Mid Glamorgan, CF44	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

1

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Pipe Name	Details	
4	271m SE	DOWLAIS TO DYFFRYN CLYDACH	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 600 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

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

1

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

Features are displayed on the Current industrial land use map on **page 49**

ID	Location	Details	
7	373m N	Operator: DRAX POWER LTD Installation Name: HIRWAUN OCGT PLANT Process: BURNING ANY FUEL IN AN APPLIANCE WITH A RATED THERMAL INPUT OF 50 OR MORE MEGAWATTS Permit Number: BB3297CG Original Permit Number: -	EPR Reference: - Issue Date: 05/06/2019 Effective Date: 05/06/2019 Last date noted as effective: 01/01/2022 Status: EFFECTIVE

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

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

Records within 500m

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 49**

ID	Location	Address	Details	
B	324m N	CSM Pressings Limited, Unit 40-41, Hirwaun Industrial Estate, Hirwaun, CF44 9UP	Process: Other Metal Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
6	338m E	Eftec Ltd, Rhigos, Aberdare, CF44 9UE	Process: Manufacture of Coating Materials Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

6

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 49**

ID	Location	Address	Details	
A	98m NE	FFYNDAFF SITE - OUTLET C	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BM0001603 Permit Version: 1 Receiving Water: NANT YR OCHAIN(CAMNANT)TRIB OF	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 26/09/1979 Effective Date: 26/09/1979 Revocation Date: 18/11/1992



ID	Location	Address	Details	
A	105m NE	FFYNDAFF SITE OUTLET D1	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BM0001606 Permit Version: 1 Receiving Water: NANT-YR-OCHAIN	Status: REVOKED - UNSPECIFIED Issue date: 26/09/1979 Effective Date: 26/09/1979 Revocation Date: 13/03/1994
A	105m NE	FFYNDAFF SITE OUTLET D1	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: BM0001606 Permit Version: 2 Receiving Water: NANT-YR-OCHAIN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/03/1994 Effective Date: 14/03/1994 Revocation Date: 07/07/1997
9	404m E	HIRWAUN - TOGO ORGANICS	Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: AG0008801 Permit Version: 1 Receiving Water: NANT Y BWLCH	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 15/02/1982 Effective Date: 15/02/1982 Revocation Date: 26/07/1985
13	492m E	TOWER SURFACE MINE, TREHERBERT ROAD, Hirwaun, Aberdare, MID GLAMORGAN, CF44 9UF	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: VP3722GM Permit Version: 1 Receiving Water: TRIBUTARY OF AFON CYNON	Status: Effective Issue date: 10/09/2012 Effective Date: 10/09/2012 Revocation Date: -
14	497m E	EFTEC LTD RHIGOS HIRWAUN ABERDARE, EFTEC LTD, RHIGOS, HIRWAUN ABERDARE, CF44 9UE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: AN0034701 Permit Version: 2 Receiving Water: TRIB OF RIVER CYNON	Status: Effective Issue date: 20/08/1987 Effective Date: 11/03/2000 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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



4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

1

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 49**

ID	Location	Name	Status	Receiving Water	Authorised Substances
12	436m NW	Cefn Strain Gauges, Unit G Hirwaun Industrial Estate, Aberda	Not Active	-	Chromium, Copper, Lead, Nickel, Zinc

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

10

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 49**

ID	Location	Details	
3	207m W	Incident Date: 08/06/2013 Incident Identification: 1120379 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

ID	Location	Details	
5	298m NW	Incident Date: 12/07/2013 Incident Identification: 1132362 Pollutant: Specific Waste Materials Pollutant Description: Other Specific Waste Material	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
C	327m N	Incident Date: 11/06/2001 Incident Identification: 8459 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
C	327m N	Incident Date: 11/06/2001 Incident Identification: 8459 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
C	327m N	Incident Date: 11/06/2001 Incident Identification: 8459 Pollutant: Inert Materials and Wastes:Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes:Soils and Clay	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	334m N	Incident Date: 11/03/2016 Incident Identification: 1600931 Pollutant: - Pollutant Description: -	Water Impact: Other Land Impact: Category 3 (Minor) Air Impact: Other
B	334m N	Incident Date: 11/03/2016 Incident Identification: 1600931 Pollutant: Specific Waste Material Pollutant Description: Electrical Equipment	Water Impact: Other Land Impact: Category 3 (Minor) Air Impact: Other
8	391m NW	Incident Date: 23/04/2003 Incident Identification: 153334 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
10	405m SE	Incident Date: 16/04/2013 Incident Identification: 1103036 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
11	407m N	Incident Date: 28/02/2016 Incident Identification: 1414638 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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



4.19 Pollution inventory substances

Records within 500m**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m**0**

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

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

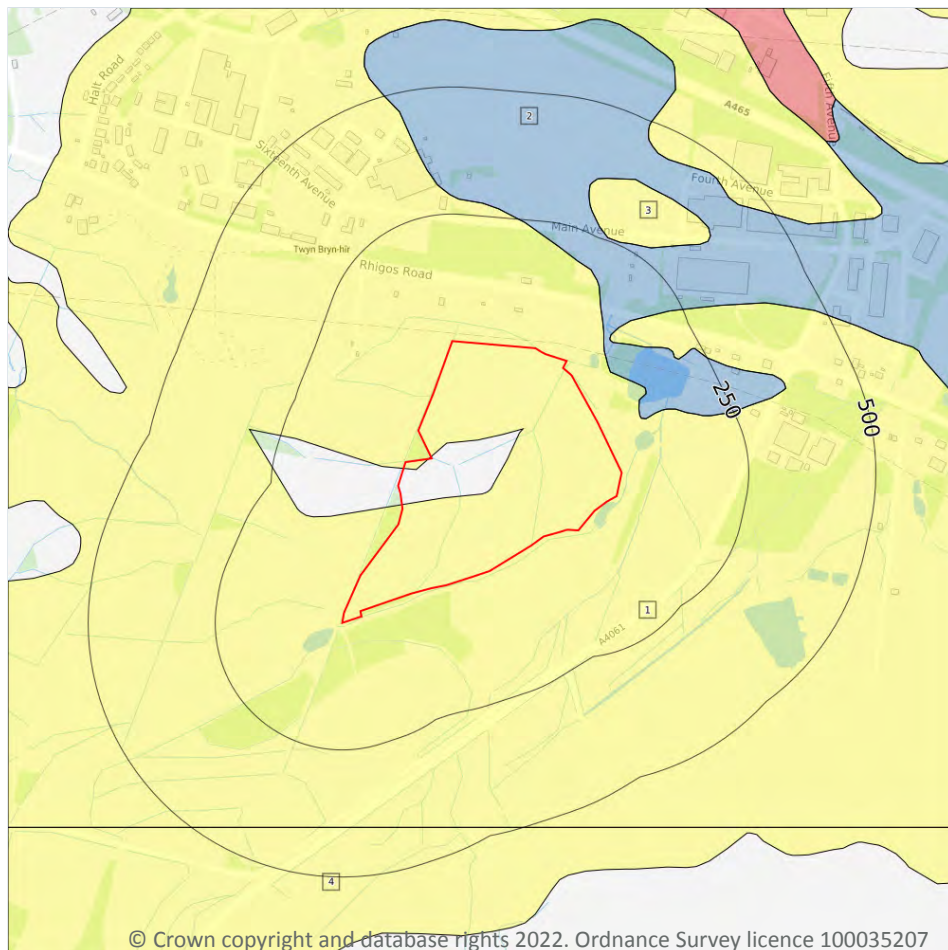
4.21 Pollution inventory radioactive waste

Records within 500m**0**

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

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

5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 57**

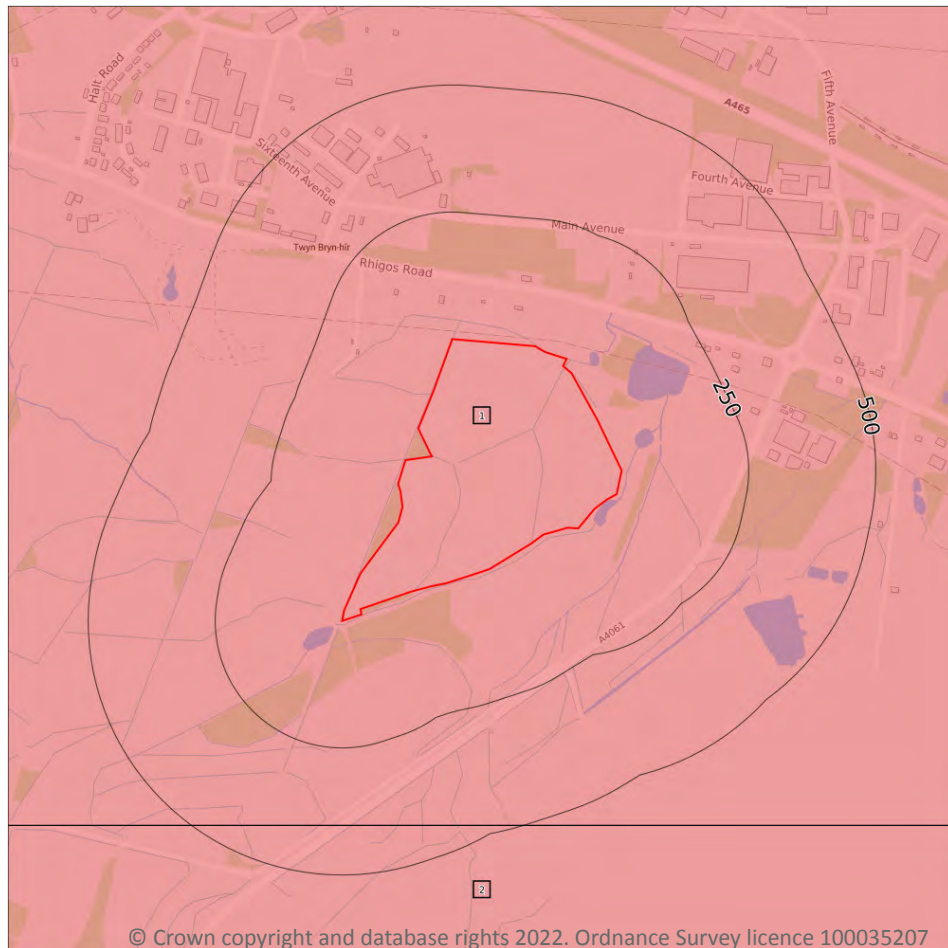
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	70m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow



ID	Location	Designation	Description
3	255m N	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	402m S	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



— Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 59**

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	402m S	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

3

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 61**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	43m N	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

0

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

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



Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

1

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 63**

ID	Location	Details	
1	946m SE	Status: Historical Licence No: 21/57/23/0058 Details: General Washing/Process Washing Direct Source: EAW Groundwater Point: MINESHAFT AT TOWER NO.3 COLLERY Data Type: Point Name: Tower Colliery Ltd Easting: 294100 Northing: 204770	Annual Volume (m ³): 260000 Max Daily Volume (m ³): 2400 Original Application No: - Original Start Date: 20/05/1988 Expiry Date: - Issue No: 100 Version Start Date: 19/11/2003 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	2
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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 63**

ID	Location	Details	
-	1438m S	Status: Historical Licence No: 21/57/23/0007 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: EAW Surface Water Point: STREAM AT TOWER NO.4 COLLERY Data Type: Point Name: Tower Colliery Ltd Easting: 292610 Northing: 204070	Annual Volume (m ³): 96602.4 Max Daily Volume (m ³): 318.2 Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/02/1995 Version End Date: -
-	1548m S	Status: Historical Licence No: 21/57/23/0007 Details: Non-Evaporative Cooling Direct Source: EAW Surface Water Point: NANT GWRANGON NEAR TOWER NO.4 COLLERY Data Type: Point Name: Tower Colliery Ltd Easting: 292930 Northing: 203870	Annual Volume (m ³): 96602.4 Max Daily Volume (m ³): 318.2 Original Application No: - Original Start Date: 11/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/02/1995 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

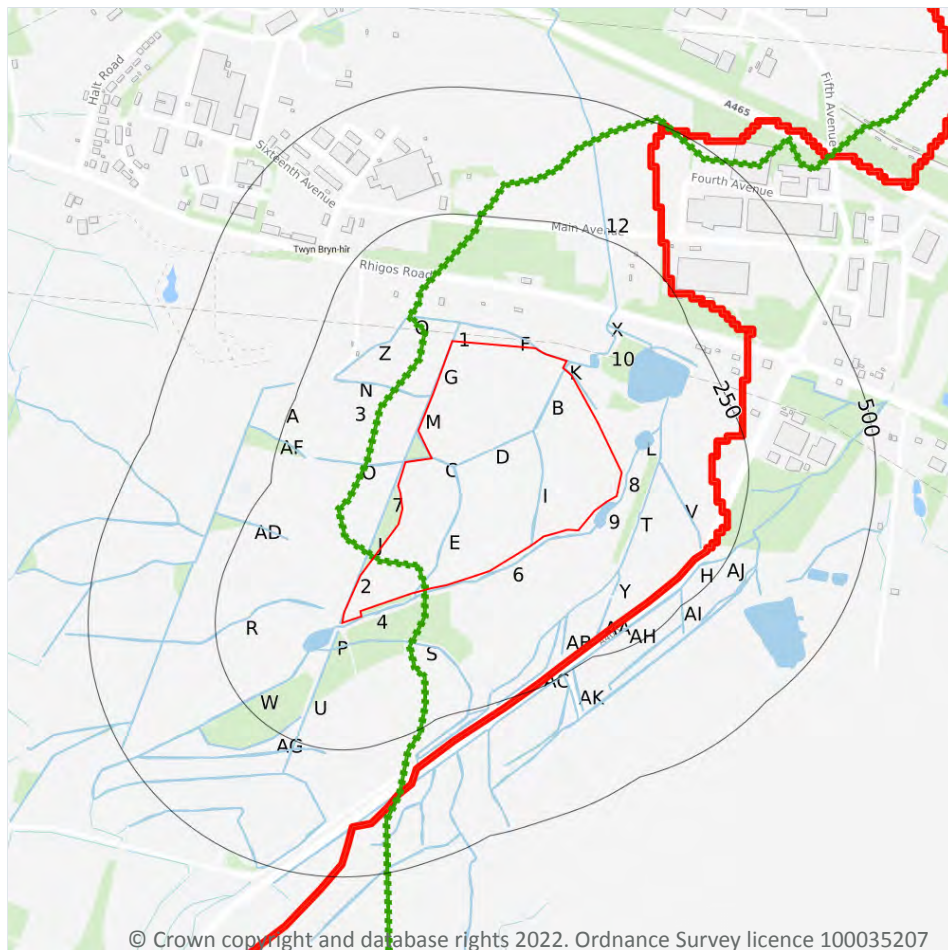
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

79

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 66**

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

ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	2m SE	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
M	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	3m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	3m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	3m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	3m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	8m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	10m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	11m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	17m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	19m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	23m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	25m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
K	25m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	37m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	40m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	41m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	45m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	49m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	57m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	57m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	57m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	59m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	73m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	73m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	75m 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
V	75m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	85m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	87m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	106m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	106m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	108m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	112m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	112m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	119m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	135m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	137m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	137m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
X	144m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
X	144m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	145m NE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	147m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
AA	148m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	153m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	153m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	155m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	155m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	156m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	158m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	162m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	163m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	167m SE	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
X	176m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	189m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	201m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	212m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	213m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AI	220m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	242m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	247m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	247m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	248m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
AK	248m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	249m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AC	249m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.



6.2 Surface water features

Records within 250m

40

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 66**

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 66**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	On site	River WB catchment	Sychryd - headwaters to confluence with Mellte	GB110058032320	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 66**



ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	745m N	River	Sychryd - headwaters to confluence with Mellte	GB110058032320	Poor	Good	Poor	2016

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

6.5 WFD Groundwater bodies

Records on site

2

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 66**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Swansea Carboniferous Coal Measures	GB41002G201000	Poor	Poor	Good	2017
H	On site	SE Valleys Carboniferous Coal Measures	GB40902G201900	Poor	Poor	Good	2017

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

