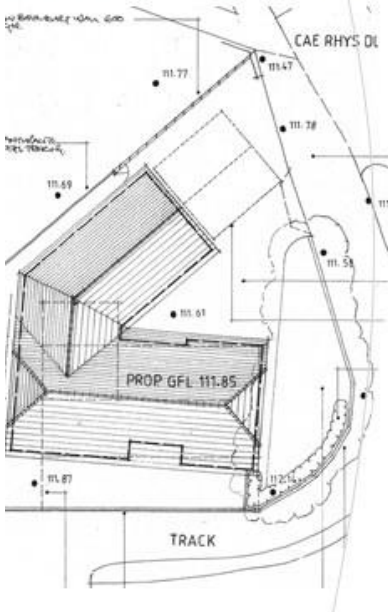




EARTH ENVIRONMENTAL
& GEOTECHNICAL

Phase I Geo-Environmental Desk Study Investigation Report

Plot of land adjacent

15 Cae Rhys Ddu

Cimla

SA11 1JB

B1981

September 2021

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**PHASE I GEO-ENVIRONMENTAL
DESK STUDY INVESTIGATION
REPORT**

**PLOT OF LAND ADJACENT TO
15 CAE RHYS DDU
CIMLA
SA11 1JB**

Report Ref: B1981/21

SEPTEMBER 2021

Prepared on Behalf of:

Judith Rees

By:

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1 electronic copy Judith Rees

PHASE I GEO-ENVIRONMENTAL DESK STUDY INVESTIGATION REPORT

Plot of Land adjacent to 15 Cae Rhys Ddu, Cimla, SA11 1JB

Report Reference: B1981/21

Version B.0

Date: 23rd September 2021

Prepared for: Judith Rees

Prepared by: Earth Environmental & Geotechnical (Southern) Ltd
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Definition of Version Code:

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- C. Applied after the report has been reviewed but before it has been approved by the Project Manager.
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Written by: **Rosa Maria Diaz-Mariscal**
Associate Director



Approved by: **Simon Leat**
Director

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1.0 INTRODUCTION

1.1 Background

A Phase I Geo-Environmental Desk Study Assessment has been commissioned by Judith Rees (the 'Client'), for a proposed development on Land adjacent 15 Cae Rhys Ddu in Cimla, Neath Port Talbot.

A Coal Mining Risk Assessment has been carried out by Terrafirma in February 2018. Relevant details from this report are included in the appropriate sections of this report.

1.2 Terms of Reference

Earth Environmental and Geotechnical (Southern) Ltd (EEGSL) was commissioned by the Client to undertake the Phase I Assessment in accordance with a proposal B1981 dated 25th August 2021.

The objectives of this investigation are as follows:

- *Undertake a desk-based study of the geology of site, including contamination sources, radon potential, natural cavities, surface workings and mining activity. As part of this study historical plans would be obtained.*
- *Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use of the site and in relation to off-site receptors.*

1.3 Sources of Information

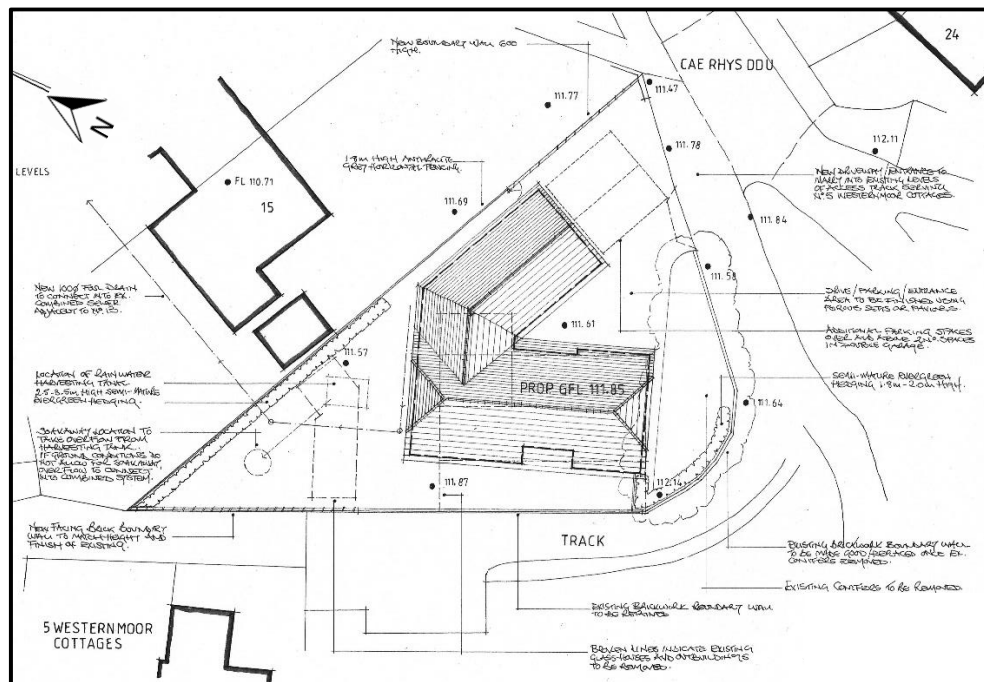
The Phase 1 Desk Study comprises of a review of the following information sources:

- British Geological Survey online maps.
- Google Earth imagery.
- Environment Agency online data.
- Historical Ordnance Survey maps.
- Enviro+Geo Insight Report 'Plot, Cae Rhys Ddu Road, Cimla, SA11 1JB', September 2021, ref GS-8204763.
- Terrafirma Coal Mining Risk Assessment Report 'Land Adjacent to 15 Cae Rhys Ddu, Cimla, SA11 1JB', reference 14582 (February 2018).

1.4 Proposed Development

It is proposed to develop a single residential property on site, with associated areas hardstanding and soft landscaping. The proposed development layout details are shown in Figure 1 overleaf.

Figure 1 – Proposed Development Layout Details



1.5 Limitations of the Study

The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices or changes in legislation may require a reinterpretation of the report in whole or in part. EEGSL reserve the right to amend either conclusions or recommendations in light of any further information that may become available. The report is provided for the sole use by the Client and is confidential to them.

Recommendations within this report are also based records produced by others. It is assumed this information is accurate and no liability can be accepted for the accuracy of this information.

2.0 SITE LOCATION & DESCRIPTION

The site is located off Land adjacent to 15 Cae Rhys Ddu Road in Cimla, Neath Port Talbot, South Wales at National Grid Reference 275960 196120 and postcode SA11 1JB. A plan showing the site and surrounding area is shown in Figure 2 below.

Figure 2 - Site Location Plan



The site is approximately triangular in plan shape and 0.07ha in area. It is bounded to the north by residential development, to the southeast by Cae Rhys Ddu Road, and to the southwest by trees and grassed fields. At the time of this assessment the site was occupied by various buildings which are understood to be used for storage purposes.

An aerial photograph of the site is presented in Figure 3 below.

Figure 3 – Aerial Photograph Showing Site Location



3.0 GEOLOGICAL SETTING

The geology of the site is covered by British Geological Survey (BGS) online data and the site-specific Groundsure Insight Report (Appendix 1).

The following sections are generally limited to locations within 250m of the site boundary unless it is considered that installation or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

3.1 Geology

3.1.1 Published Geology

According to the British Geological Survey (BGS), the site is underlain by Swansea Member Sandstone of Carboniferous Age. This is predominantly green-grey, lithic arenites ("Pennant sandstones") with thin mudstone/siltstone and seat earth interbeds, and mainly thin coals. Superficial deposits are not present overlying the bedrock.

The site is in an area where the hazard rating for running sands, compressible deposits and ground dissolution of rocks is negligible. A very low hazard rating exists for collapsible deposits and shrink swell clays and a low hazard recorded for landslides.

There are no faults and landslides within 250m of site. There are four inferred coal seams located within 250m of site, the nearest being 181m N.

An extract from the 1:10,000 scale geological map is shown in Figure 4 below.

Figure 4 – Geological Map Extract



From Figure 4 it can be seen there is a conjectural outcrop of the Graigola Coal Seam located to the west of the site with a shallow dip of 12° to the NE. The generalised vertical section indicates the Graigola seam to be 5ft (1.5m) in thickness.

3.1.2 BGS Borehole Records

There are four historical borehole records located within 250m of site, the nearest being 181m N. The borehole encountered the following ground conditions:

<u>Depth (m)</u>	<u>Strata</u>
GL-1.00	Made Ground
1.00-2.10	Soft SANDSTONE
2.10-2.30	VOID
2.30-4.50	Badly broken ground – very soft coal and colliery spoil backfill
4.50-6.10	MUDSTONE
6.10-6.20	COAL
6.20-9.00	SILTSTONE and sandstone bands
9.00-20.00	SILTSTONE

Groundwater was encountered at 11.60m.

3.2 Radon Potential

The property is in a Radon Affected Area where between 3% and 5% of properties are above the Action Level. Radon protection measures are not required.

3.3 Soil Chemistry

There is one estimated background soil chemistry record on site, recording levels of arsenic = 40-60mg/kg, cadmium = 1.8mg/kg, chromium = 60-90mg/kg, nickel = 15-30mg/kg and lead = 100mg/kg.

4.0 MINING, GROUND WORKINGS & CAVITIES

4.1 Ground Workings & Natural Cavities

According to the Groundsure Report there is one britpit record located 3mNE of site, described as a surface mineral working.

There are 7 surface ground workings recorded on site, recorded as unspecified pits and groundworkings (1876-1921) and an unspecified old quarry (1914 - 1921).

There are no recorded underground workings or natural cavities within 250m of the site.

The site is not located within a non-coal mining area. There are no records of brine areas, gypsum areas, tin mining or clay mining on site.

The site is located within a coal mining area.

4.1 Coal Mining Records

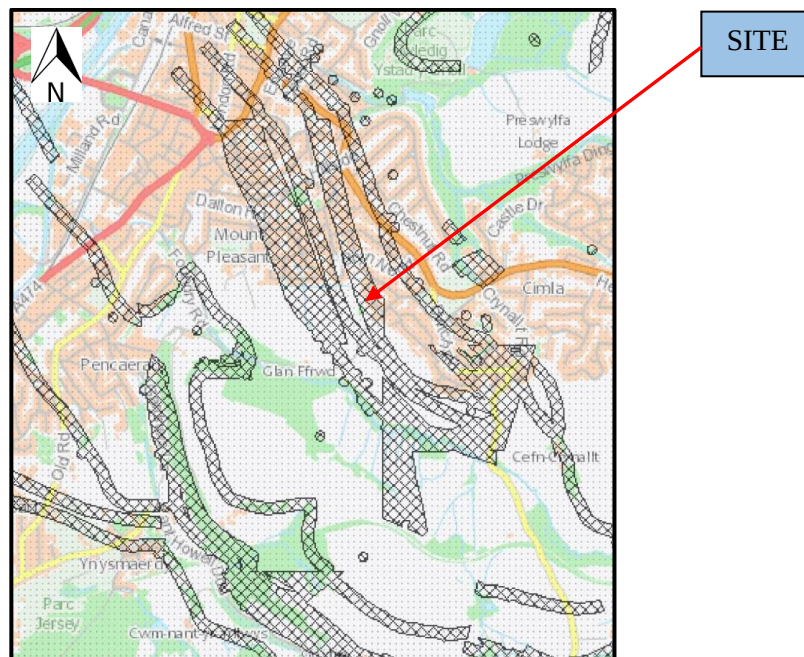
Relevant information from the Coal Mining Risk Assessment is summarised below.

According to Coal Authority records the site is located within an area that could be affected by underground mining in 2 seams of coal at 90m and 280m depth, last worked in 1903. Any movement in the ground due to coal mining activity should have stopped.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.

Examination of the Coal Authority online interactive map viewer indicates the site is within a Development High Risk Area, associated with probable shallow coal mine workings.

Figure 5 – Plan Showing Site and Development High Risk (Hatched) Area



The site is not within an area of present or planned future underground mining. However, reserves of coal exist in the local area which could be worked at some time in the future.

There are no known mine entries upon the site or within 20m of the site boundary. The Coal Authority does note that mine entries may exist of which they have no knowledge.

The Coal Authority reports indicates that there are no recorded opencast mines within 200m of the site boundary.

There are no records of damage due to geological faults or other lines of weakness that have been affected by coal mining.

There are no records of mine gas emissions requiring action within 500m of the site.

There are no records of subsidence claims within 50m of the site.

5.0 ENVIRONMENTAL SETTING

Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site-specific Groundsure Insight Report (Appendix 1).

The following sections are generally limited to locations within 250m of the site boundary unless it is considered that installations or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

5.1 Industrial Land Use Information

Historical and current industrial land usage on-site and within 250m of site is summarised in Table 1 below:

Table 1 - Summary of Industrial Land Use

Description	Records within 250m of site	Details
Historical Industrial Land Uses	14	Nearest: 7nr on site Unspecified Ground Working, 1876-1921 & 1nr on site Unspecified Old Quarry 1914-1921
Historical Tanks	2	Nearest: 167m SE Unspecified Tank, 1919-1935
Historical Energy Features	2	Nearest: 80m NE Electricity Substation, 1989-1999
Historical Petrol Station	0	-
Historical Garage	0	-
Historical Military Land	0	-
Historical Railway Features	0	-
Recent Industrial Land Use	1	83m NE: Electricity Sub Station.
Current/Recent Petrol Stations	0	-
Electricity Cables	0	-
Gas Pipelines	0	-
Current Railway Features	0	-

5.2 Waste and Landfill Sites

There are no historical or current landfill sites, waste exemptions or waste facilities within 250m of the site.

5.3 Environmental Permits, Incidents and Registers

There are no records of environmental permits, incidents and registers within 250m of the site, except for a License to discharge unspecified effluent into land at Cimla 5 Noddfa Cottage Western Moor (54m SW of site) that was revoked in 1994.

5.4 Hydrogeology and Hydrology

The bedrock beneath the site is classified as 'Secondary A' by the Environment Agency. The EA definition is given overleaf:

"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".

Soils on site are classified as having low leaching potential.

The site is not located within a source protection zone.

There are no recorded groundwater abstraction, surface water or potable water licenses within 250m of the site.

The closest surface water feature is located 145m NW and is recorded as an inland river not influenced by normal tidal action.

5.5 Potential Flood Risks

The site is not located within a flood risk area.

5.6 Environmentally Sensitive Sites

There are no environmentally sensitive sites within 250m of site.

5.7 Visual and Cultural Designations

There are no recorded world heritage sites, national parks, listed buildings, agricultural designation or Scheduled Ancient Monuments within 250m of the site.

5.8 Habitat Designations

There are no habitat designations on or close to the site.

6.0 SITE HISTORY

The historical development of the site has been determined by reference to historical plans, previous report dated 2018 and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1877. The site history is summarised in Table 2 below.

Table 2 - Summary of Site History

Date	Site	Surrounding Land Use (Within 250m of Site)
1877-1899	Site is an open field	North – Fields West and South – residential development East – Road and open fields
1919	Site is occupied by a ground working/quarry	No significant change other than some residential development to south.
1921-1952	No significant change	No significant change
1956	Site has been developed – use unknown	Residential development to the West and North including infrastructure.
1970	No significant change	No significant change
1974	Some additional development on site.	No significant change.
1982-2021	No significant change	No significant change.

Selected extracts from historical maps are presented in Figure 6 below/overleaf.

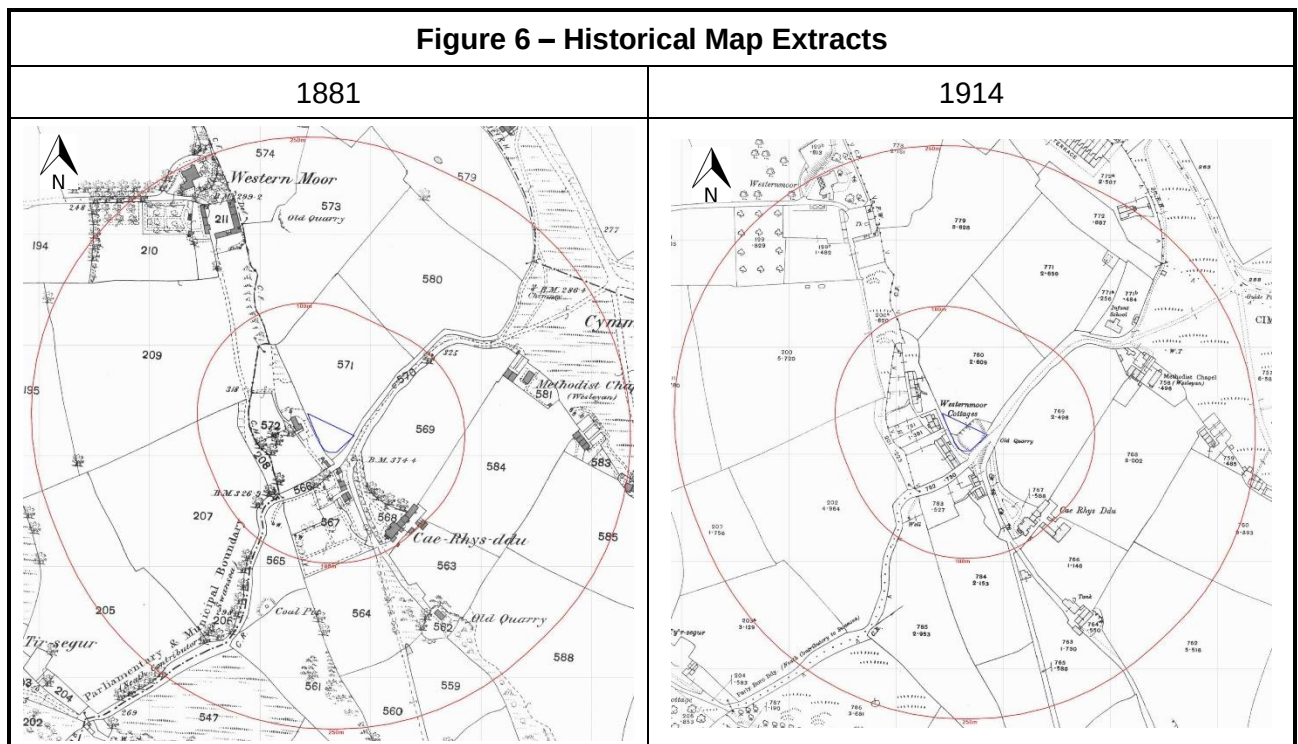
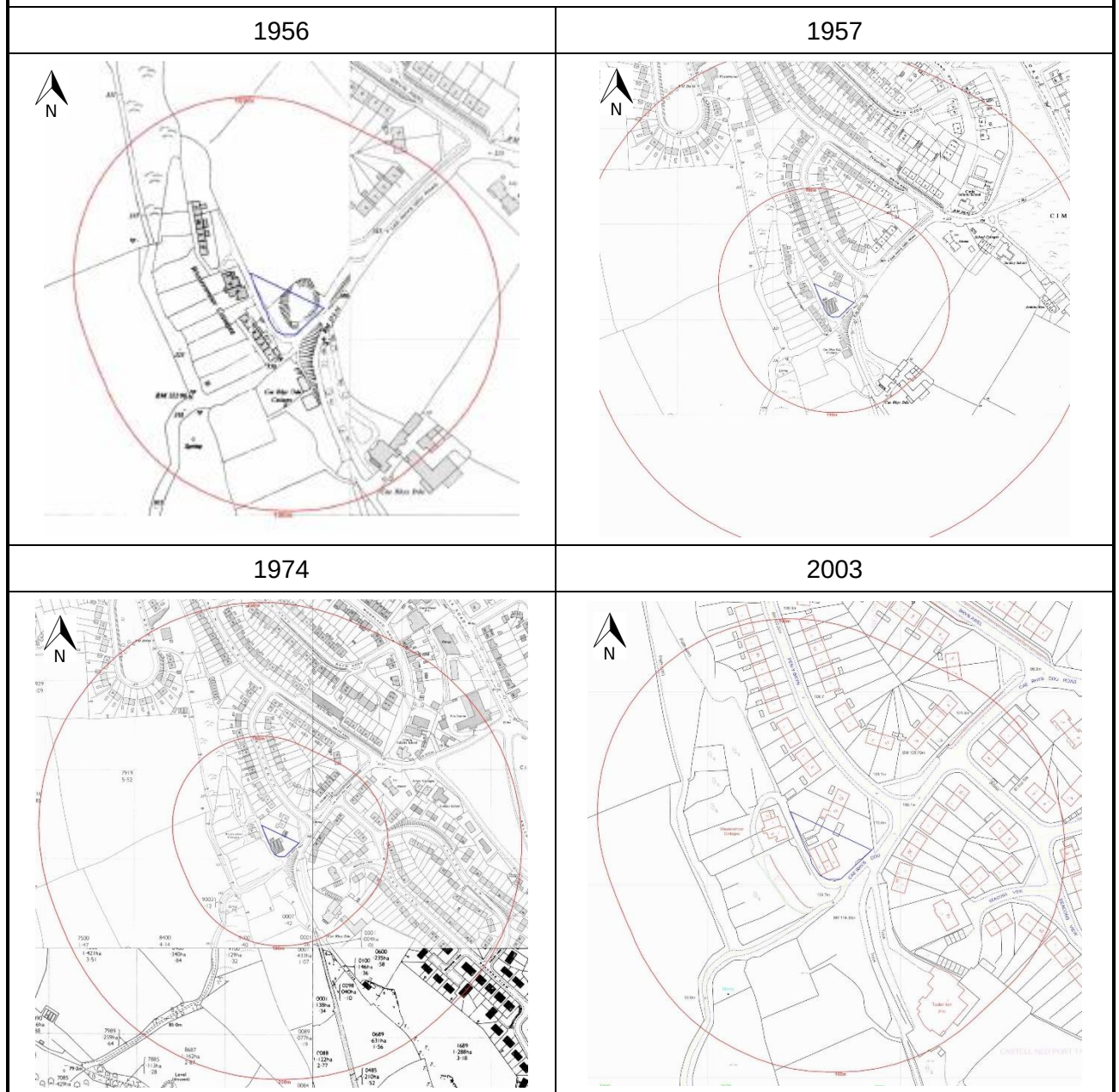


Figure 6 (continued) – Historical Map Extracts



7.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

7.1 Introduction

The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11(2004).

Table 5 provides a Preliminary Conceptual Model (PCM) which considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 3 and Table 4 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and CLR11.

Table 6 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

The PCM/PRA is based on a residential end use.

Table 3 - Consequence, Probability and Risk

Probability	Consequence,	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage and all the elements are present, which means that it is probable an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage and circumstances are possible for an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term	Moderate – Long term or short term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that they would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 4 - Estimation of Level of Risk by Comparison of Consequence and Probability

		Consequence			
		High	Moderate	Low	Very low
Probability	High Likelihood	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

7.2 Potential Sources

There are no records indicating potential sources of pollution incidents directly on site or close to the site.

The following potential sources have been considered for the assessment site.

- Part of the site is occupied by a historical quarry and unspecified ground working, which have subsequently been infilled. Depending on the type and nature of infill this could be a source of soil and ground gas contamination.
- The site is potentially underlain by unrecorded shallow depth coal mine workings which could be a potential source of mine/land gas.

7.3 Potential Receptors

The following receptors have been considered as part of this assessment.

- Current land users.
- Adjacent land users.
- Future land users.
- Construction workers during site development works.

7.4 Potential Pathways

The following pathways have been considered as part of this assessment.

- Direct / dermal contact, ingestion, inhalation pathways of potentially contaminated soils.
- Vertical or lateral migration of contamination on and off site.

Table 5 - Preliminary Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Contamination of the ground beneath site due to current and historical use	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	likely	Moderate	Moderate	The risk to current site users from potential contamination within the ground beneath site is considered MODERATE based on the historical uses as a quarry/groundworking and potential presence of Made Ground/infill to workings.
		Future Site users	Likely	Moderate	Moderate	Based on the historical uses as a quarry/groundworking and potential presence of Made Ground/infill to workings, the risk to future site users via direct exposure could be considered MODERATE particularly in areas of proposed soft landscaping which is perceived as the most sensitive in this case. Areas of hard cover development are likely to have a LOW risk.
		Construction Workers	Likely	Moderate	Moderate	It is considered that a MODERATE risk is likely to be present to construction workers during the construction phase of development due to the likely presence of contamination associated with historical uses of the site. However, it is expected that exposure duration will be short-term only, and assuming appropriate health and safety measures are adopted (in line with CDM and other relevant health and safety guidance) LOW risk to construction workers is anticipated.
	Vertical or lateral migration of contamination (including ground gas) on and off site.	Current Site Users	Likely	Moderate	Moderate	Based on anticipated ground conditions beneath the site the risk to current users from migrating contamination at the assessment site is considered as MODERATE due to the likely presence of contamination associated with historical uses and in particular areas of Made Ground and infilled Ground.
		Adjacent land users	Low Likelihood	Moderate	Moderate to Low	Based on anticipated ground conditions beneath the site the risk to adjacent Land. Users from migrating contamination at the assessment site is considered MODERATE to LOW due to the likely presence of contamination associated with historical uses and in particular areas of Made Ground and infilled Ground.
		Future land users	Likely	Moderate	Moderate	Based on anticipated ground conditions beneath the site the risk to current users from migrating contamination (ground gas) at the assessment site is considered MODERATE due to the likely presence of

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
						contamination associated with historical uses and in particular areas of Made Ground and infilled Ground.
		Controlled Waters	Unlikely	Low	Very Low	The current risk to controlled waters from contamination at the assessment site is considered VERY LOW based on anticipated ground/groundwater conditions and distance of surface water features from the site.
		Construction Workers	Likely	Moderate	Moderate	Based on the likely presence of contamination associated with historical uses at the site potential risk to construction workers from migrating contamination (ground gas) at the assessment site is considered MODERATE the absence of monitoring information.

7.5 Preliminary Risk Assessment

From review of historical and current day information, the site appears to have remained a field and completely undeveloped since 1877. There are records of part of the site being formerly occupied by unspecified ground working and unspecified old quarry in 1914-1921 (infilled by 1957).

As a result, there is a risk from both soil and ground gas contamination across the site associated with backfill materials. Based on the above information the site has an overall risk rating of **MODERATE**.

8.0 CONCLUSIONS & RECOMMENDATIONS

the following sections provide conclusions on geotechnical and contamination aspects for the assessment site, based on the findings of the Desk Study, and provides recommendations on Phase II Investigation works to investigate ground conditions and potential sources of contamination.

8.1 Geotechnical Aspects

The site was formerly partly occupied by ground workings/quarry which was backfilled prior to development in the 1950s. Depending on the depth and nature of the backfill materials it is possible different foundations solutions could be required on part of the site.

The site is located within a Coal Authority Development High Risk Area and there is allow a potential for unrecorded shallow depth coal mine workings to be present beneath the site, which could potentially affect development at the surface.

There is a conjectural outcrop of the Graigola Coal Seam located to the west of the site with a shallow dip of 12° to the NE. The generalised vertical section indicates the Graigola seam to be 5ft (1.5m) in thickness. Based on the shallow dip of strata it is likely the coal seam will be present at shallow depth beneath the site. As a general rule of thumb, if there is less than the standard 10 x rock cover to seam extraction ratio, this could affect the surface stability for the redevelopment of a site (CIRIA C758D Abandoned mine workings manual), which could be the case here.

It should be noted, it is not clear whether the previous ground workings on site are associated with extraction of the coal at shallow depth.

8.2 Environmental (Contamination) Aspects

The main consideration for the site is the presence of potential (soil and gas) contamination from backfill/Made Ground associated with the former ground workings/quarry on site, which was backfilled during the 1950s.

8.3 Recommendations for Phase II Intrusive Works

It is recommended a Phase II Intrusive investigation is undertaken to examine the ground conditions across the site to confirm:

- Presence (or not) of shallow depth coal mining features beneath the site.
- Presence of Made Ground/backfill associated with the former ground workings/quarry.
- Presence of land gas, associated with Made Ground or possibly coal mine features (if present).

The Coal Authority will require a Phase II investigation, prior to development of the site. This investigation should include rotary probe boreholes taken down to a minimum 30m depth beneath the site. These works will require a permit (and fee) from the Coal Authority. These boreholes can also be used to investigate contamination issues on site.

As part of the works gas/groundwater monitoring standpipes should be installed and gas/groundwater monitoring visits undertaken after the fieldwork period.

Representative soil samples should be obtained for both laboratory geotechnical and contamination testing.

Laboratory geotechnical testing should include classification testing to assist in foundation design and pH/Sulphate testing to assist in the design/protection of buried concrete.

Laboratory contamination testing should include a general suite of contaminants, including asbestos, metals, organics, inorganics, Polyaromatic hydrocarbons (PAH) and Total Petroleum Hydrocarbons (TPH).

As part of the Phase II Investigation and reporting, the Conceptual Model generated for this report should be reviewed based on laboratory testing and gas/groundwater monitoring.

APPENDIX 1

GROUNDSURE REPORT

APPENDIX 2

**COAL MINING RISK ASSESSMENT
(CMRA) REPORT 2018**

PLOT, CAE RHYS DDU ROAD, CIMLA, SA11 1JB

Order Details

Date: 20/09/2021
Your ref: B1981
Our Ref: GS-8204763
Client: Earth Environmental & Geotechnical (Southern) Ltd

Site Details

Location: 275962 196119
Area: 0.07 ha
Authority: [Castell-nedd Port Talbot - Neath Port Talbot County Borough](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>14</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	6	0	8	58	-
<u>17</u>	<u>1.2</u>	<u>Historical tanks</u>	0	0	2	2	-
<u>18</u>	<u>1.3</u>	<u>Historical energy features</u>	0	0	2	13	-
19	1.4	Historical petrol stations	0	0	0	0	-
<u>19</u>	<u>1.5</u>	<u>Historical garages</u>	0	0	0	4	-
19	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<u>20</u>	<u>2.1</u>	<u>Historical industrial land uses</u>	7	0	10	77	-
<u>24</u>	<u>2.2</u>	<u>Historical tanks</u>	0	0	3	4	-
<u>25</u>	<u>2.3</u>	<u>Historical energy features</u>	0	0	3	22	-
26	2.4	Historical petrol stations	0	0	0	0	-
<u>26</u>	<u>2.5</u>	<u>Historical garages</u>	0	0	0	5	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
27	3.1	Active or recent landfill	0	0	0	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
28	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
28	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
28	3.5	Historical waste sites	0	0	0	0	-
28	3.6	Licensed waste sites	0	0	0	0	-
<u>28</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	0	0	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>30</u>	<u>4.1</u>	<u>Recent industrial land uses</u>	0	0	1	-	-
<u>31</u>	<u>4.2</u>	<u>Current or recent petrol stations</u>	0	0	0	1	-
31	4.3	Electricity cables	0	0	0	0	-
31	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
32	4.7	Regulated explosive sites	0	0	0	0	-
32	4.8	Hazardous substance storage/usage	0	0	0	0	-
32	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	1	4	-
34	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
34	4.15	Pollutant release to public sewer	0	0	0	0	-
34	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	0	0	-
35	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	5	-
35	4.19	Pollution inventory substances	0	0	0	0	-
36	4.20	Pollution inventory waste transfers	0	0	0	0	-
36	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
37	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
39	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
40	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
41	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
41	5.5	Groundwater vulnerability- local information	None (within 0m)				
42	5.6	<u>Groundwater abstractions</u>	0	0	0	0	1
43	5.7	Surface water abstractions	0	0	0	0	0
43	5.8	Potable abstractions	0	0	0	0	0
43	5.9	Source Protection Zones	0	0	0	0	-
44	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
45	6.1	<u>Water Network (OS MasterMap)</u>	0	0	1	-	-



46	6.2	<u>Surface water features</u>	0	0	1	-	-
46	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
46	6.4	WFD Surface water bodies	0	0	0	-	-
47	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
48	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
49	7.5	Flood Storage Areas	0	0	0	-	-
50	7.6	Flood Zone 2	None (within 50m)				
50	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
51	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
52	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	1	0
55	10.7	<u>Designated Ancient Woodland</u>	0	0	0	4	69
58	10.8	Biosphere Reserves	0	0	0	0	0
58	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
59	10.11	Green Belt	0	0	0	0	0
59	10.12	Proposed Ramsar sites	0	0	0	0	0



59	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
60	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
61	10.17	SSSI Impact Risk Zones	0	-	-	-	-
61	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
62	11.1	World Heritage Sites	0	0	0	-	-
62	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
62	11.3	National Parks	0	0	0	-	-
62	11.4	Listed Buildings	0	0	0	-	-
63	11.5	Conservation Areas	0	0	0	-	-
63	11.6	Scheduled Ancient Monuments	0	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 3b (within 250m)				
65	12.2	Open Access Land	0	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
65	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
66	13.1	Priority Habitat Inventory	0	0	0	-	-
66	13.2	Habitat Networks	0	0	0	-	-
66	13.3	Open Mosaic Habitat	0	0	0	-	-
66	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
67	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
68	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	1	2	-
69	<u>14.3</u>	<u>Superficial geology (10k)</u>	0	0	1	1	-



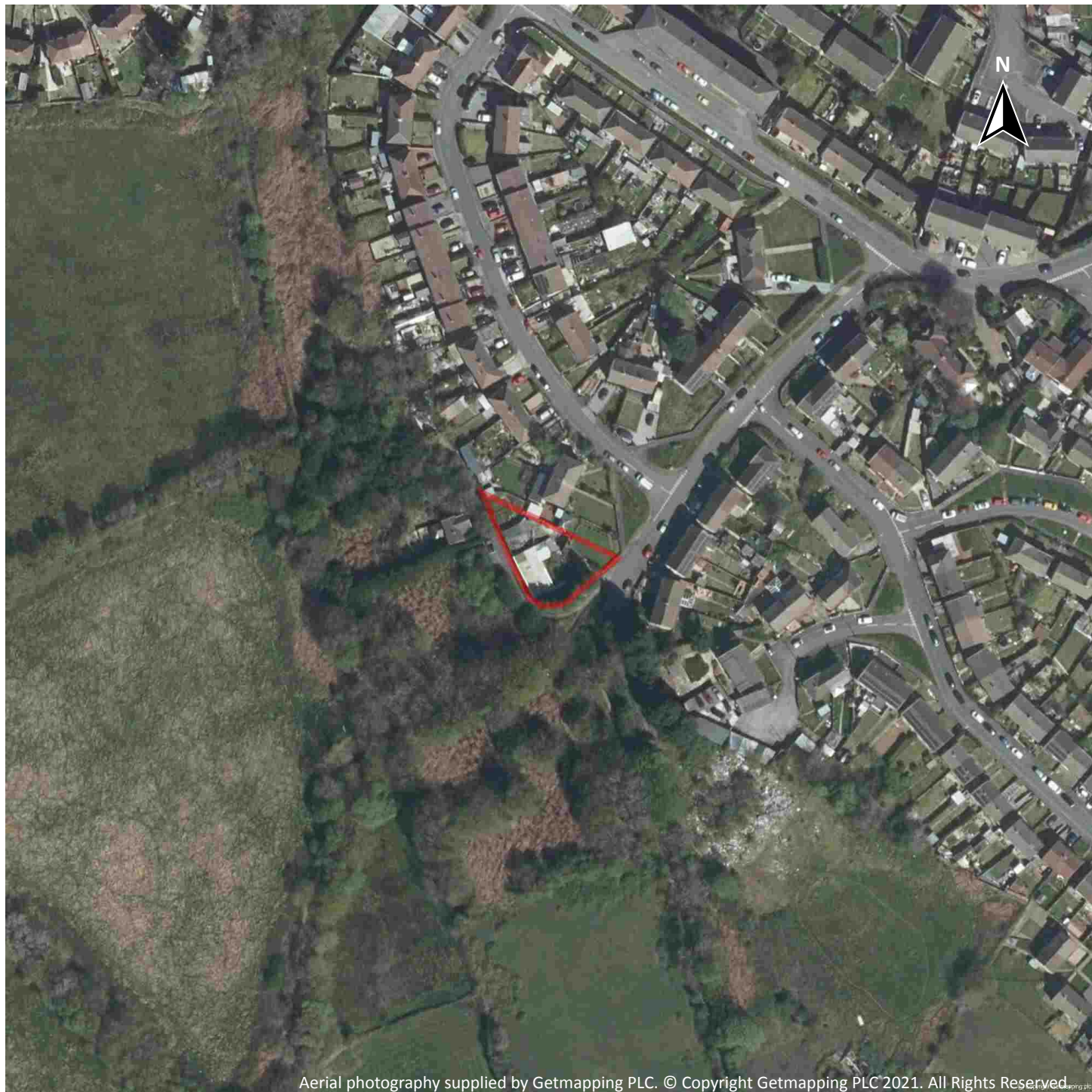
70	14.4	Landslip (10k)	0	0	0	1	-
71	14.5	Bedrock geology (10k)	1	1	2	1	-
72	14.6	Bedrock faults and other linear features (10k)	0	1	3	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
73	15.1	50k Availability	Identified (within 500m)				
74	15.2	Artificial and made ground (50k)	0	0	1	1	-
75	15.3	Artificial ground permeability (50k)	0	0	-	-	-
76	15.4	Superficial geology (50k)	0	0	1	1	-
77	15.5	Superficial permeability (50k)	None (within 50m)				
77	15.6	Landslip (50k)	0	0	0	1	-
77	15.7	Landslip permeability (50k)	None (within 50m)				
78	15.8	Bedrock geology (50k)	1	1	2	0	-
79	15.9	Bedrock permeability (50k)	Identified (within 50m)				
79	15.10	Bedrock faults and other linear features (50k)	0	1	3	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
80	16.1	BGS Boreholes	0	0	4	-	-
Page	Section	Natural ground subsidence					
82	17.1	Shrink swell clays	Very low (within 50m)				
83	17.2	Running sands	Negligible (within 50m)				
84	17.3	Compressible deposits	Negligible (within 50m)				
85	17.4	Collapsible deposits	Very low (within 50m)				
86	17.5	Landslides	Low (within 50m)				
88	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
89	18.1	Natural cavities	0	0	0	0	-
90	18.2	BritPits	0	1	0	6	-
91	18.3	Surface ground workings	7	0	1	-	-
92	18.4	Underground workings	0	0	0	17	33
94	18.5	Historical Mineral Planning Areas	0	0	0	1	-



94	18.6	Non-coal mining	0	0	0	0	0
95	18.7	Mining cavities	0	0	0	0	0
95	18.8	JPB mining areas	None (within 0m)				
95	18.9	<u>Coal mining</u>	Identified (within 0m)				
95	18.10	Brine areas	None (within 0m)				
96	18.11	Gypsum areas	None (within 0m)				
96	18.12	Tin mining	None (within 0m)				
96	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
97	19.1	<u>Radon</u>	Between 3% and 5% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
98	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	3	-	-	-
98	20.2	<u>BGS Estimated Urban Soil Chemistry</u>	1	4	-	-	-
99	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
100	21.1	Underground railways (London)	0	0	0	-	-
100	21.2	Underground railways (Non-London)	0	0	0	-	-
100	21.3	Railway tunnels	0	0	0	-	-
100	21.4	Historical railway and tunnel features	0	0	0	-	-
100	21.5	Royal Mail tunnels	0	0	0	-	-
101	21.6	Historical railways	0	0	0	-	-
101	21.7	Railways	0	0	0	-	-
101	21.8	Crossrail 1	0	0	0	0	-
101	21.9	Crossrail 2	0	0	0	0	-
101	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 14/04/2020

Site Area: 0.07ha



Recent site history - 2017 aerial photograph



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Capture Date: 26/05/2017

Site Area: 0.07ha



Recent site history - 2014 aerial photograph



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Capture Date: 23/07/2014

Site Area: 0.07ha



Recent site history - 2009 aerial photograph



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Capture Date: 12/10/2009

Site Area: 0.07ha



Recent site history - 2000 aerial photograph



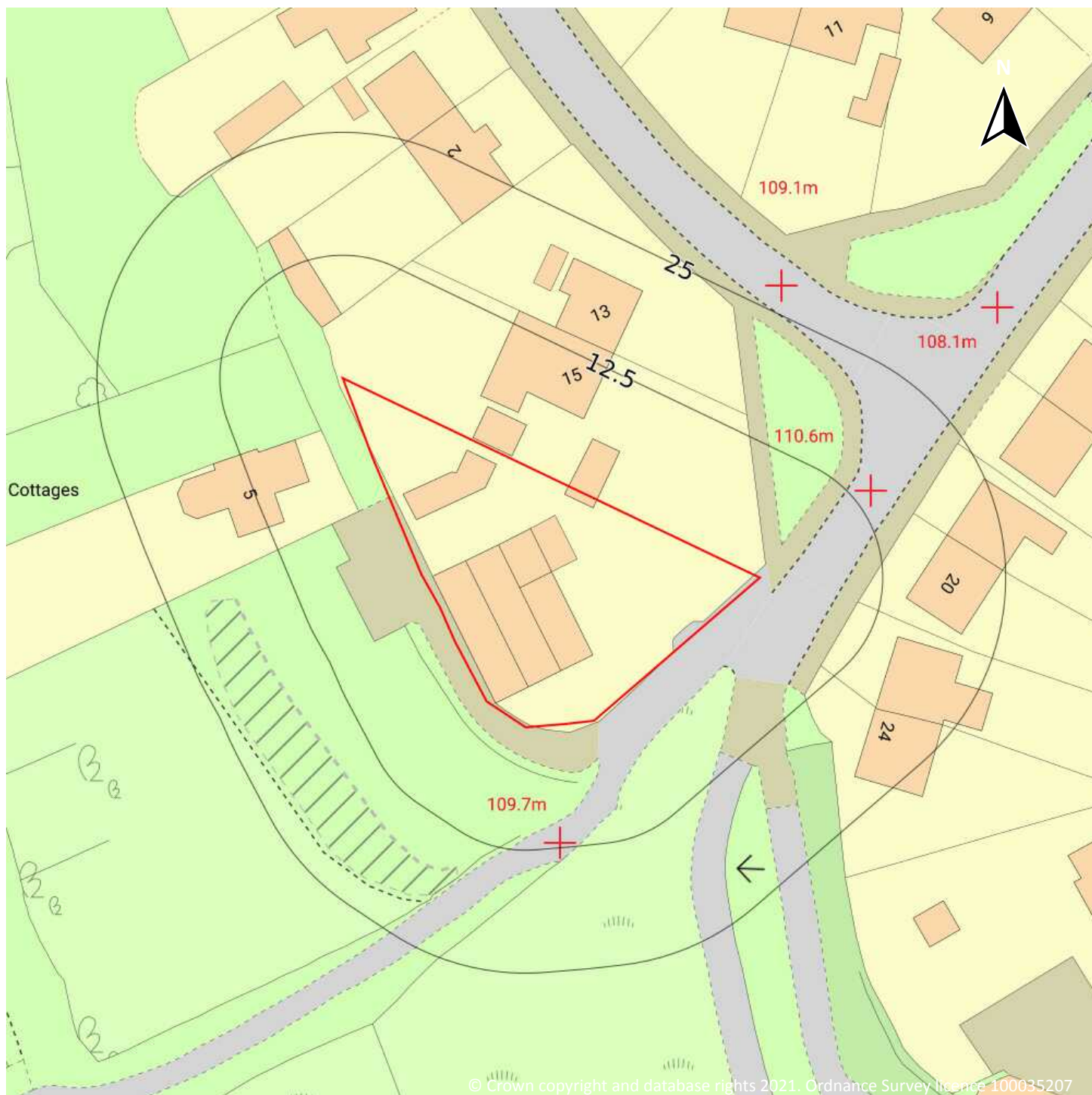
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 18/06/2000

Site Area: 0.07ha



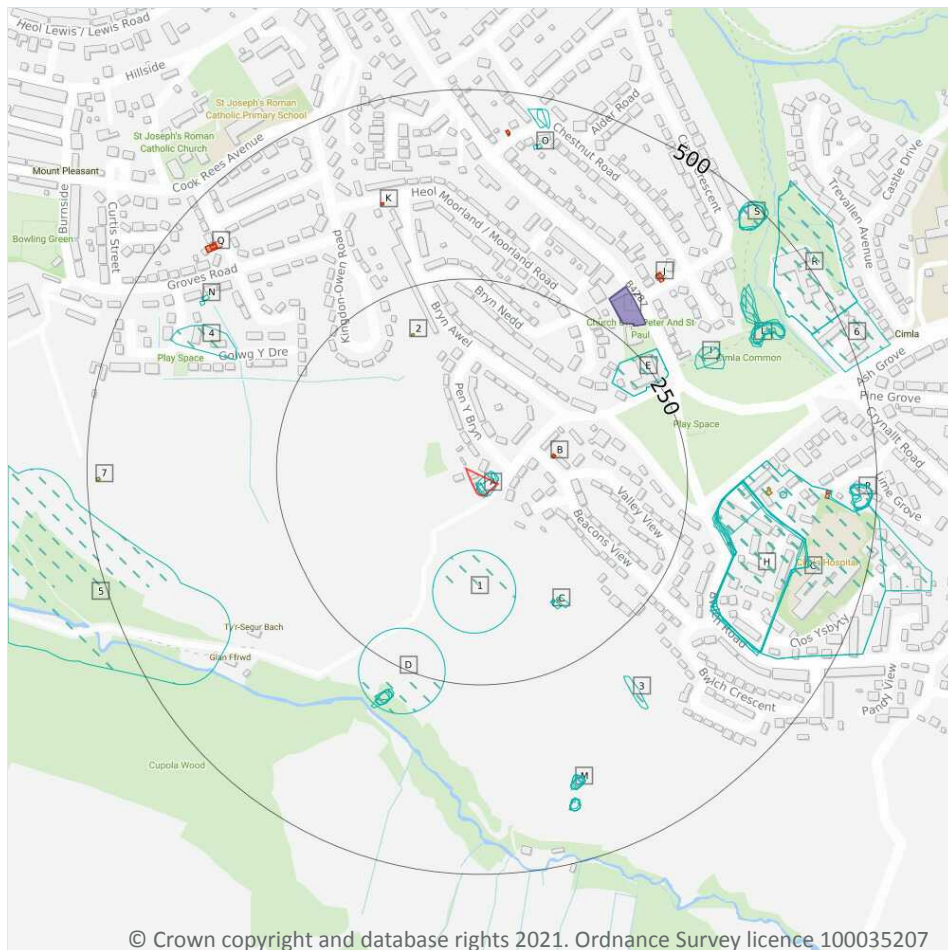
OS MasterMap site plan



Site Area: 0.07ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

72

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Pits	1921	321864



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Ground Workings	1876	351209
A	On site	Unspecified Ground Workings	1936	354573
A	On site	Unspecified Ground Workings	1936	360066
A	On site	Unspecified Ground Workings	1876	362401
A	On site	Unspecified Old Quarry	1914 - 1921	371805
1	73m S	Coal Pit	1877	320497
C	164m SE	Unspecified Tank	1962	378811
C	165m SE	Unspecified Tank	1936	350823
C	165m SE	Unspecified Tank	1876	356660
C	165m SE	Unspecified Tank	1876	341045
D	197m SW	Unspecified Disused Level	1991	375422
E	201m NE	Fire Station	1970	341437
E	201m NE	Fire Station	1982 - 1991	364449
D	281m SW	Unspecified Old Level	1876	340968
D	284m SW	Old Coal Level	1897	331331
D	284m SW	Unspecified Old Level	1876	345357
D	284m SW	Unspecified Old Level	1936	352094
D	285m SW	Unspecified Disused Level	1982	377434
G	286m E	Hospital	1982 - 1991	348669
D	288m SW	Unspecified Old Level	1962	366876
H	289m E	Hospital	1921 - 1936	378985
H	291m E	Tuberculosis Hospital	1962	377281
G	292m E	Hospital	1970	345111
H	292m E	Hospital	1876	341009
H	292m E	Hospital	1876	350146
H	293m E	Fever Hospital	1897	321991
H	293m E	Tuberculosis Hospital	1914	357826
3	301m SE	Unspecified Old Quarry	1897	330299



ID	Location	Land use	Dates present	Group ID
I	303m NE	Unspecified Heap	1914 - 1921	342123
I	314m NE	Unspecified Heap	1877	370462
4	335m NW	Unspecified Heap	1970	327155
5	366m SW	Brick Works	1914	350768
H	372m E	Chimney	1970	359604
H	372m E	Chimney	1982 - 1991	379525
L	382m NE	Unspecified Heap	1921	365155
L	383m NE	Unspecified Heap	1962	345272
L	385m NE	Unspecified Heap	1936	345860
L	385m NE	Unspecified Heap	1876	360892
L	386m NE	Unspecified Heap	1914	373000
M	388m S	Unspecified Quarry	1876	376170
M	388m S	Unspecified Quarry	1936	378358
M	390m S	Unspecified Pit	1876	372387
M	392m S	Unspecified Pit	1914	367693
L	392m NE	Unspecified Ground Workings	1921	339440
M	393m S	Unspecified Quarry	1921	371725
L	394m NE	Unspecified Heap	1914	327063
L	398m NE	Unspecified Ground Workings	1877	349220
N	406m NW	Old Coal Pit	1897 - 1914	360155
N	407m NW	Old Coal Pit	1921	321374
M	416m S	Unspecified Heap	1876	350315
M	417m S	Old Coal Pit	1897	343994
M	418m S	Unspecified Ground Workings	1936	349451
M	418m S	Unspecified Ground Workings	1876 - 1877	359000
M	418m S	Old Coal Pit	1921	376493
M	418m S	Old Coal Pit	1914	369339
O	430m N	Old Coal Pit	1897 - 1914	344664



ID	Location	Land use	Dates present	Group ID
R	441m NE	Nursery	1876	340232
R	441m NE	Nursery	1936	355442
6	458m NE	Nursery	1962	366250
O	460m N	Old Coal Pit	1921	321384
O	462m N	Unspecified Pit	1877	335689
P	463m E	Unspecified Heap	1962	373804
P	464m E	Unspecified Heap	1914	361683
P	464m E	Unspecified Heap	1921 - 1936	341196
P	464m E	Unspecified Heap	1876 - 1897	344097
S	465m NE	Unspecified Heap	1962	378343
S	465m NE	Unspecified Old Pit	1876	345977
P	466m E	Unspecified Heap	1876	360736
S	466m NE	Unspecified Heap	1936	342587
S	466m NE	Old Coal Pit	1897 - 1921	345259
S	466m NE	Unspecified Heap	1876 - 1877	355936

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

4

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
C	167m SE	Unspecified Tank	1919 - 1935	40904
2	189m N	Unspecified Tank	1919	38323
H	353m E	Tanks	1971 - 1989	42234



ID	Location	Land use	Dates present	Group ID
7	482m W	Unspecified Tank	1989 - 1997	43288

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	15
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	80m NE	Electricity Substation	1989 - 1999	20265
B	81m NE	Electricity Transformer	1971	19873
H	312m E	Electricity Substation	1989 - 1999	23162
J	341m NE	Electricity Substation	1989 - 1999	23086
J	346m NE	Electricity Substation	1949 - 1971	20696
K	364m N	Electricity Substation	1993	19403
K	365m N	Electricity Transformer	1974	19870
P	432m E	Electricity Substation	1999	19406
P	433m E	Electricity Substation	1971 - 1989	20176
Q	435m NW	Electricity Substation	1957 - 1967	21752
Q	438m NW	Electricity Substation	1993	22042
Q	440m NW	Electricity Substation	1949 - 1974	22416
O	442m N	Electricity Transformer	1974	19871
O	443m N	Electricity Substation	1993	20571
O	444m N	Electricity Substation	1989	22829

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

4

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
F	268m NE	Garage	1989	6954
F	268m NE	Garage	1999	7309
F	268m NE	Garage	1967	7126
F	269m NE	Garage	1963 - 1971	7680

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

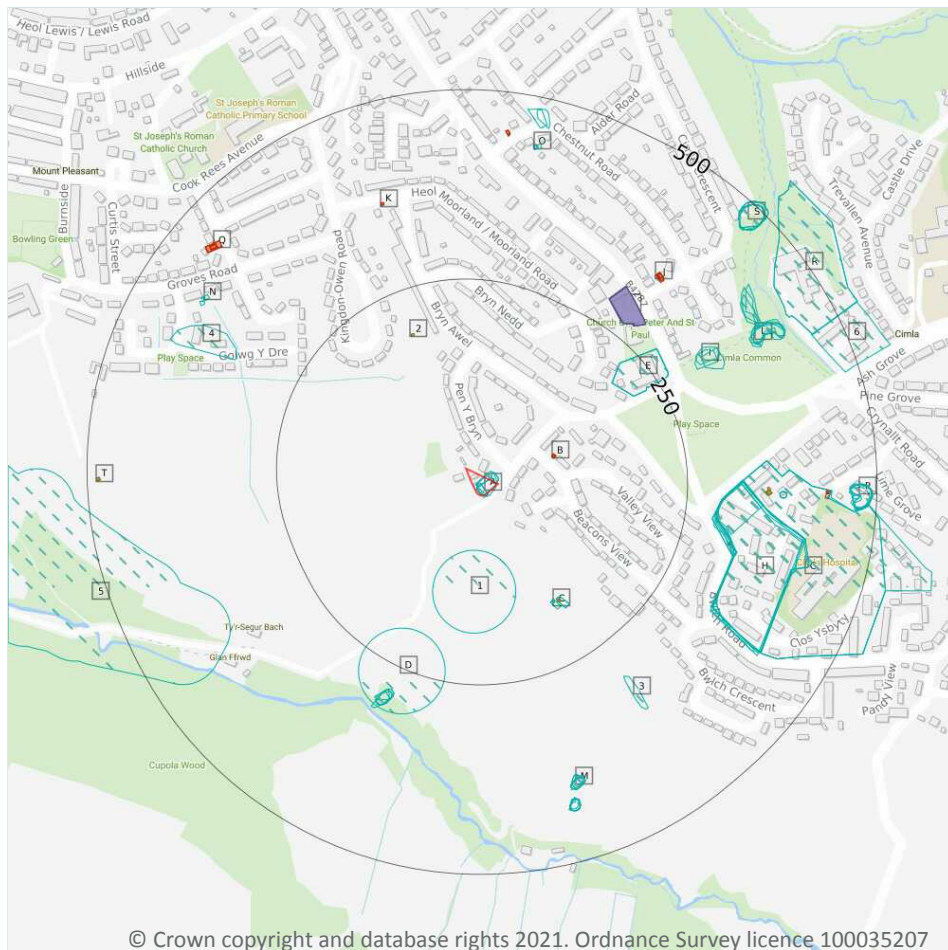
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Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

94

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 20**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Pits	1921	321864
A	On site	Unspecified Ground Workings	1876	351209
A	On site	Unspecified Ground Workings	1876	362401



ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Ground Workings	1936	354573
A	On site	Unspecified Ground Workings	1936	360066
A	On site	Unspecified Old Quarry	1921	371805
A	On site	Unspecified Old Quarry	1914	371805
1	73m S	Coal Pit	1877	320497
C	164m SE	Unspecified Tank	1962	378811
C	165m SE	Unspecified Tank	1876	356660
C	165m SE	Unspecified Tank	1936	350823
C	165m SE	Unspecified Tank	1876	341045
C	165m SE	Unspecified Tank	1876	341045
D	197m SW	Unspecified Disused Level	1991	375422
E	201m NE	Fire Station	1991	364449
E	201m NE	Fire Station	1982	364449
E	201m NE	Fire Station	1970	341437
D	281m SW	Unspecified Old Level	1876	340968
D	281m SW	Unspecified Old Level	1876	340968
D	284m SW	Old Coal Level	1897	331331
D	284m SW	Unspecified Old Level	1876	345357
D	284m SW	Unspecified Old Level	1936	352094
D	285m SW	Unspecified Disused Level	1982	377434
G	286m E	Hospital	1991	348669
G	286m E	Hospital	1982	348669
D	288m SW	Unspecified Old Level	1962	366876
H	289m E	Hospital	1921	378985
H	291m E	Tuberculosis Hospital	1962	377281
G	292m E	Hospital	1970	345111
H	292m E	Hospital	1876	350146
H	292m E	Hospital	1936	378985



ID	Location	Land Use	Date	Group ID
H	292m E	Hospital	1876	341009
H	292m E	Hospital	1876	341009
H	293m E	Fever Hospital	1897	321991
H	293m E	Tuberculosis Hospital	1914	357826
3	301m SE	Unspecified Old Quarry	1897	330299
I	303m NE	Unspecified Heap	1921	342123
I	308m NE	Unspecified Heap	1914	342123
I	314m NE	Unspecified Heap	1877	370462
4	335m NW	Unspecified Heap	1970	327155
5	366m SW	Brick Works	1914	350768
H	372m E	Chimney	1991	379525
H	372m E	Chimney	1982	379525
H	372m E	Chimney	1970	359604
L	382m NE	Unspecified Heap	1921	365155
L	383m NE	Unspecified Heap	1962	345272
L	385m NE	Unspecified Heap	1876	360892
L	385m NE	Unspecified Heap	1936	345860
L	386m NE	Unspecified Heap	1914	373000
M	388m S	Unspecified Quarry	1876	376170
M	388m S	Unspecified Quarry	1936	378358
M	390m S	Unspecified Pit	1876	372387
M	390m S	Unspecified Pit	1876	372387
M	392m S	Unspecified Pit	1914	367693
L	392m NE	Unspecified Ground Workings	1921	339440
M	393m S	Unspecified Quarry	1921	371725
L	394m NE	Unspecified Heap	1914	327063
L	398m NE	Unspecified Ground Workings	1877	349220
N	406m NW	Old Coal Pit	1897	360155

ID	Location	Land Use	Date	Group ID
N	407m NW	Old Coal Pit	1921	321374
N	409m NW	Old Coal Pit	1914	360155
M	416m S	Unspecified Heap	1876	350315
M	416m S	Unspecified Heap	1876	350315
M	417m S	Old Coal Pit	1897	343994
M	418m S	Old Coal Pit	1921	376493
M	418m S	Unspecified Ground Workings	1877	359000
M	418m S	Unspecified Ground Workings	1876	359000
M	418m S	Unspecified Ground Workings	1936	349451
M	418m S	Old Coal Pit	1914	369339
O	430m N	Old Coal Pit	1914	344664
O	432m N	Old Coal Pit	1897	344664
R	441m NE	Nursery	1876	340232
R	441m NE	Nursery	1936	355442
6	458m NE	Nursery	1962	366250
O	460m N	Old Coal Pit	1921	321384
O	462m N	Unspecified Pit	1877	335689
P	463m E	Unspecified Heap	1962	373804
P	464m E	Unspecified Heap	1914	361683
P	464m E	Unspecified Heap	1921	341196
P	464m E	Unspecified Heap	1877	344097
P	464m E	Unspecified Heap	1876	344097
P	464m E	Unspecified Heap	1936	341196
P	464m E	Unspecified Heap	1897	344097
S	465m NE	Unspecified Heap	1962	378343
S	465m NE	Unspecified Old Pit	1876	345977
S	465m NE	Unspecified Old Pit	1876	345977
P	466m E	Unspecified Heap	1876	360736

ID	Location	Land Use	Date	Group ID
P	466m E	Unspecified Heap	1876	360736
S	466m NE	Old Coal Pit	1921	345259
S	466m NE	Unspecified Heap	1877	355936
S	466m NE	Old Coal Pit	1914	345259
S	466m NE	Old Coal Pit	1897	345259
S	466m NE	Unspecified Heap	1876	355936
S	466m NE	Unspecified Heap	1936	342587

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

7

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 20**

ID	Location	Land Use	Date	Group ID
C	167m SE	Unspecified Tank	1919	40904
C	167m SE	Unspecified Tank	1935	40904
2	189m N	Unspecified Tank	1919	38323
H	353m E	Tanks	1989	42234
H	355m E	Tanks	1971	42234
T	482m W	Unspecified Tank	1997	43288
T	484m W	Unspecified Tank	1989	43288

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

25

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 20**

ID	Location	Land Use	Date	Group ID
B	80m NE	Electricity Substation	1989	20265
B	80m NE	Electricity Substation	1999	20265
B	81m NE	Electricity Transformer	1971	19873
H	312m E	Electricity Substation	1989	23162
H	313m E	Electricity Substation	1999	23162
J	341m NE	Electricity Substation	1989	23086
J	343m NE	Electricity Substation	1999	23086
J	346m NE	Electricity Substation	1956	20696
J	346m NE	Electricity Substation	1971	20696
J	346m NE	Electricity Substation	1949	20696
K	364m N	Electricity Substation	1993	19403
K	365m N	Electricity Transformer	1974	19870
P	432m E	Electricity Substation	1999	19406
P	433m E	Electricity Substation	1989	20176
P	434m E	Electricity Substation	1971	20176
Q	435m NW	Electricity Substation	1957	21752
Q	436m NW	Electricity Substation	1967	21752
Q	438m NW	Electricity Substation	1993	22042
Q	440m NW	Electricity Substation	1955	22416
Q	440m NW	Electricity Substation	1949	22416
Q	440m NW	Electricity Substation	1974	22416
Q	440m NW	Electricity Substation	1950	22416
O	442m N	Electricity Transformer	1974	19871



ID	Location	Land Use	Date	Group ID
O	443m N	Electricity Substation	1993	20571
O	444m N	Electricity Substation	1989	22829

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

5

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

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
F	268m NE	Garage	1989	6954
F	268m NE	Garage	1999	7309
F	268m NE	Garage	1967	7126
F	269m NE	Garage	1963	7680
F	269m NE	Garage	1971	7680

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- 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

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

2

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

Features are displayed on the Waste and landfill map on **page 27**

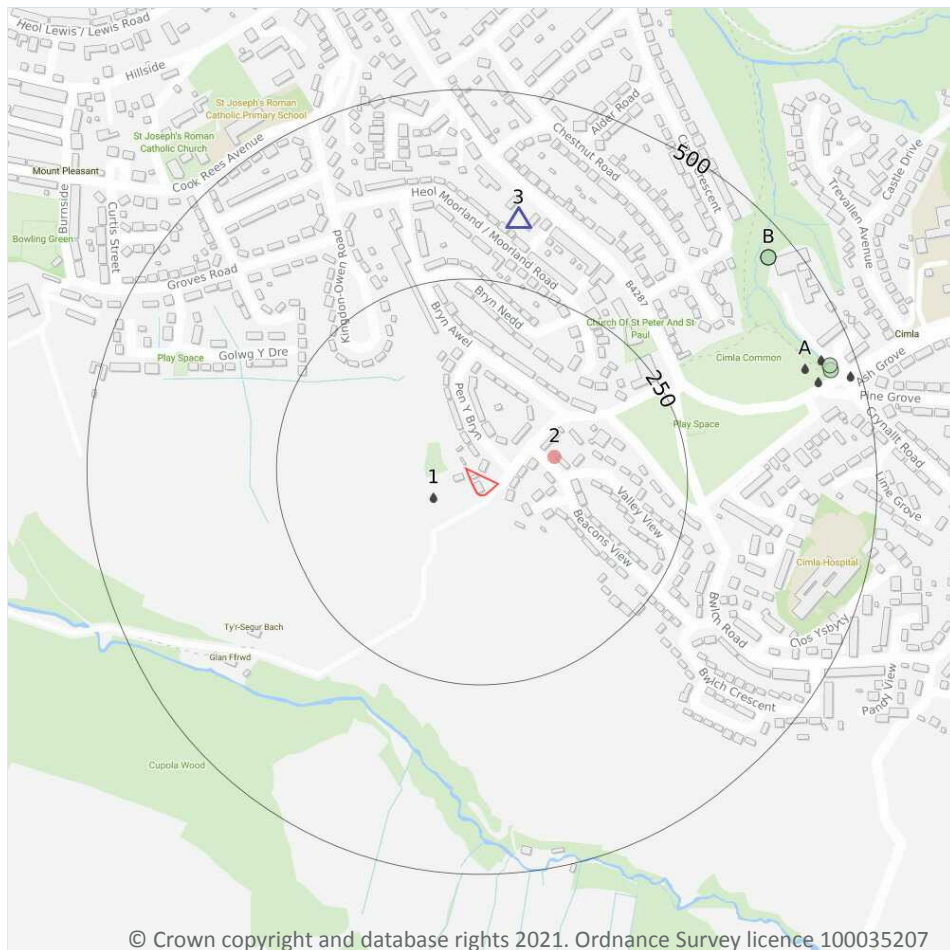
ID	Location	Site	Reference	Category	Sub-Category	Description
1	480m NE	THE HOLLINS, NEATH, SA11 3BQ	WEX111858	Using waste exemption	Not on a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
2	498m NE	Cherish Care Homes Wales LTD, The Hollins Care Centre, The Hollins, Neath, Castell-nedd Port Talbot, SA113BQ	NRW-WME028121	Using waste exemption	On a farm	Use of waste in construction

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

1

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Company	Address	Activity	Category
2	83m NE	Electricity Sub Station	West Glamorgan, SA11	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Company	Address	LPG	Status
3	338m N	OBSOLETE	Upper Cimla Road, Neath, Neath Port Talbot, SA11 3UG	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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

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

Records within 500m**0**

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

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

4.13 Licensed Discharges to controlled waters

Records within 500m

5

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

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Address	Details	
1	54m SW	CIMLA 5 NODDFA COTTAGE WESTERN MOOR, CIMLA 5 NODDFA COTTAGE WESTERN M, 5 NODDFA COTTAGE WESTERN MOOR NE, WESTERN MOOR NEATH, NEATH	Effluent Type: UNSPECIFIED Permit Number: BP0018001 Permit Version: 1 Receiving Water: TO LAND	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 11/06/1986 Effective Date: 11/06/1986 Revocation Date: 11/07/1994
A	432m E	CIMLA COMMON 2 UPPER NEATH , NEATH	Effluent Type: UNSPECIFIED Permit Number: BP0240601 Permit Version: 1 Receiving Water: HOLLINS CLOUGH DITCH	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 21/07/1994 Effective Date: 21/07/1994 Revocation Date: 31/03/2004
A	442m E	CSO 9 CIMLA COMMON CIMLA NEATH, Afan Valley Rd, Cimla, Neath, SA11 3SU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0240601 Permit Version: 3 Receiving Water: Hollins Clough Ditch	Status: Effective Issue date: 11/10/2019 Effective Date: 11/10/2019 Revocation Date: -
A	455m E	CSO 9 CIMLA COMMON CIMLA NEATH, CSO 9, CIMLA COMMON, CIMLA, NEATH	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0240601 Permit Version: 2 Receiving Water: HOLLINS CLOUGH DITCH	Status: Effective Issue date: 31/03/2004 Effective Date: 01/04/2004 Revocation Date: -



ID	Location	Address	Details	
A	485m E	SWO/HOLLINS CLOUGH DTCH - NEA	Effluent Type: UNSPECIFIED Permit Number: BW2903801 Permit Version: 1 Receiving Water: HOLLINS CLOUGH DITCH	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 08/06/1967 Effective Date: 08/06/1967 Revocation Date: 31/03/2004

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

4.14 Pollutant release to surface waters (Red List)

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

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

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

4.15 Pollutant release to public sewer

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

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

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

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

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

4.17 List 2 Dangerous Substances

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

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

5

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 30**

ID	Location	Details	
A	464m E	Incident Date: 24/07/2006 Incident Identification: 420428 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
A	464m E	Incident Date: 02/06/2014 Incident Identification: 1241015 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: - Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	465m NE	Incident Date: 16/05/2002 Incident Identification: 79206 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	465m NE	Incident Date: 16/05/2002 Incident Identification: 79206 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
B	465m NE	Incident Date: 16/05/2002 Incident Identification: 79206 Pollutant: Sewage Materials:Specific Waste Materials Pollutant Description: Grey Water:Commercial Waste	Water Impact: Category 3 (Minor) 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.

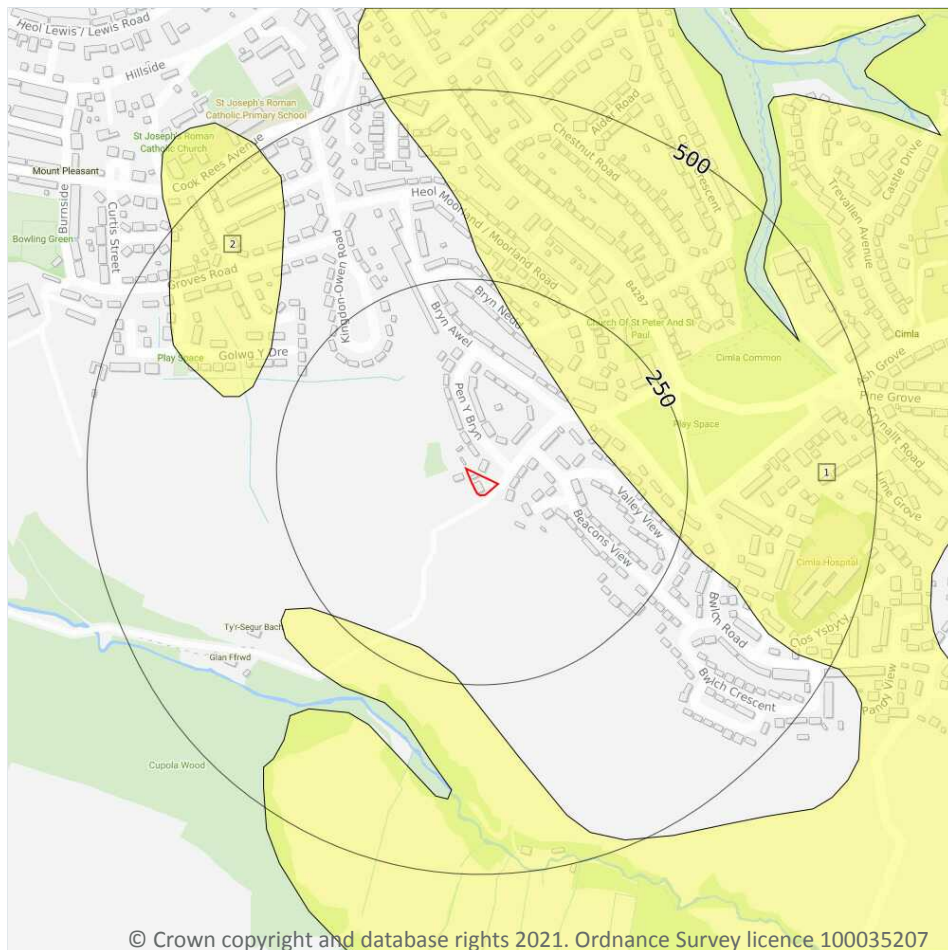
4.21 Pollution inventory radioactive waste

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

2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 37**

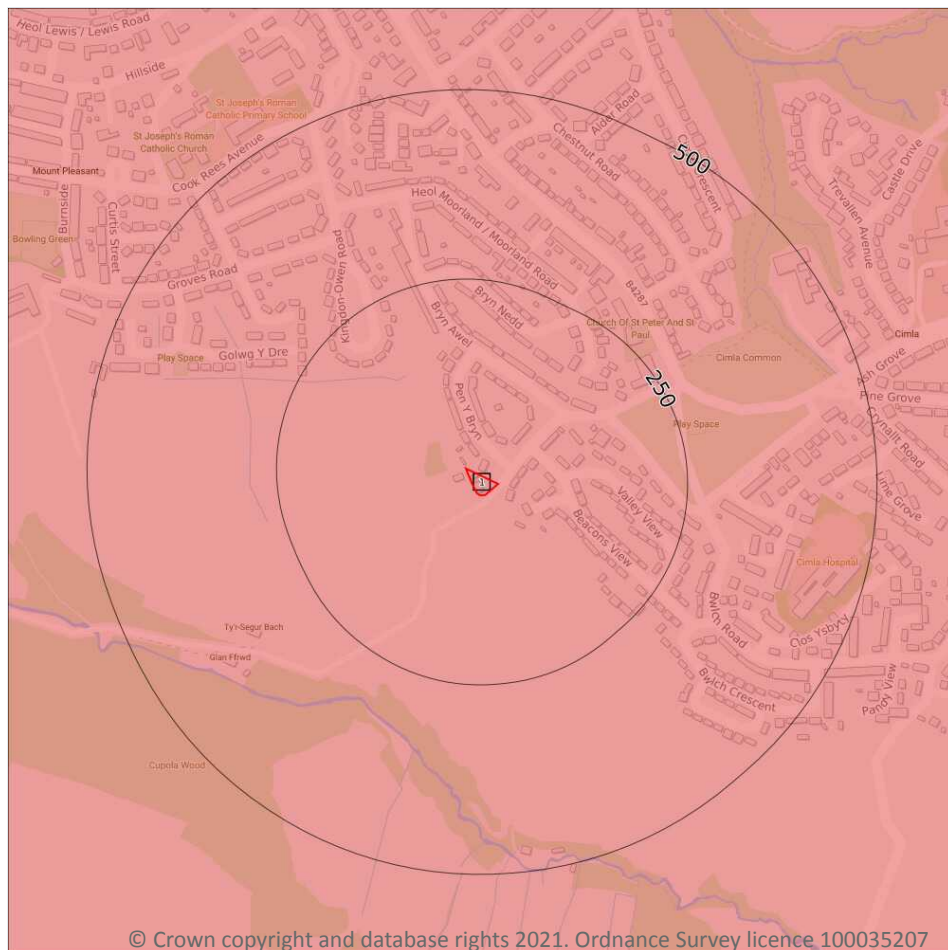
ID	Location	Designation	Description
1	137m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	300m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type



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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

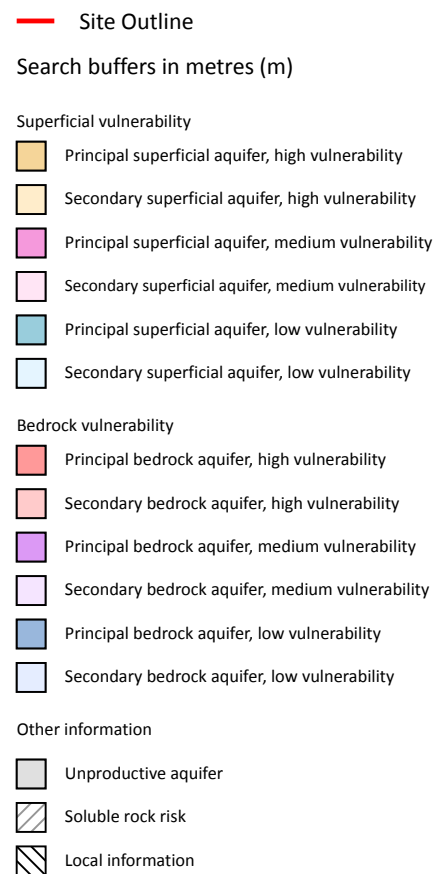
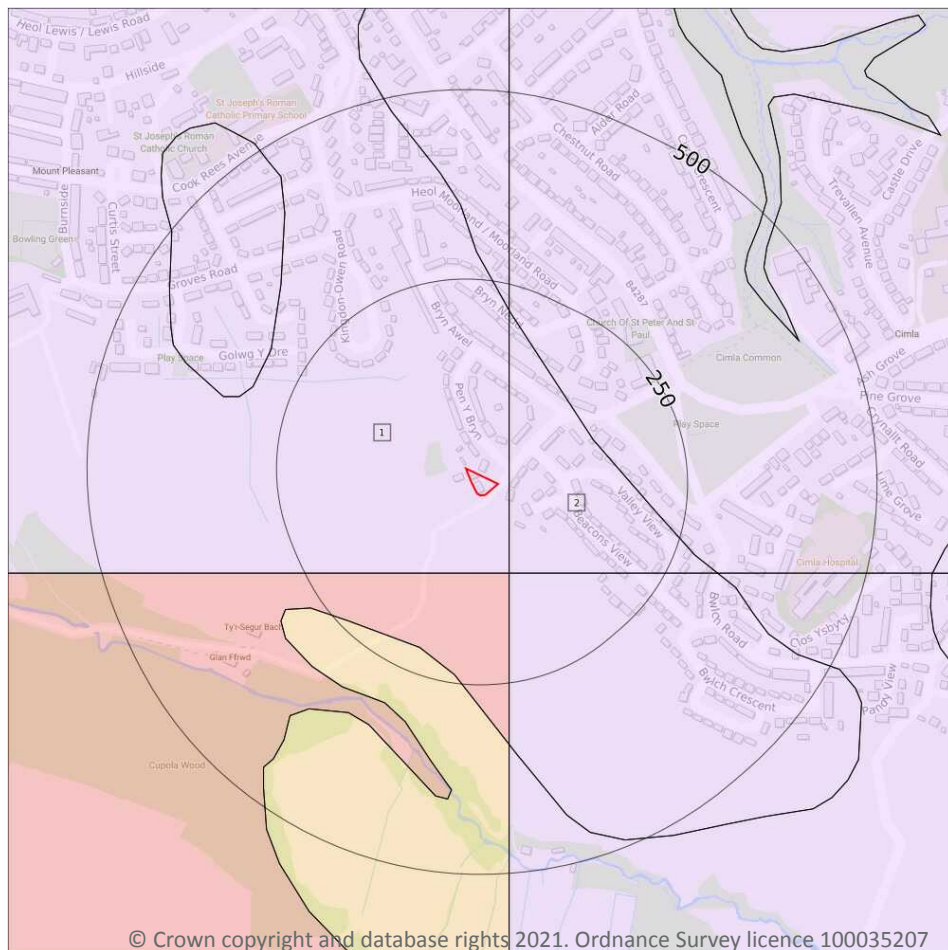
Features are displayed on the Bedrock aquifer map on **page 39**

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

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	14m E	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

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

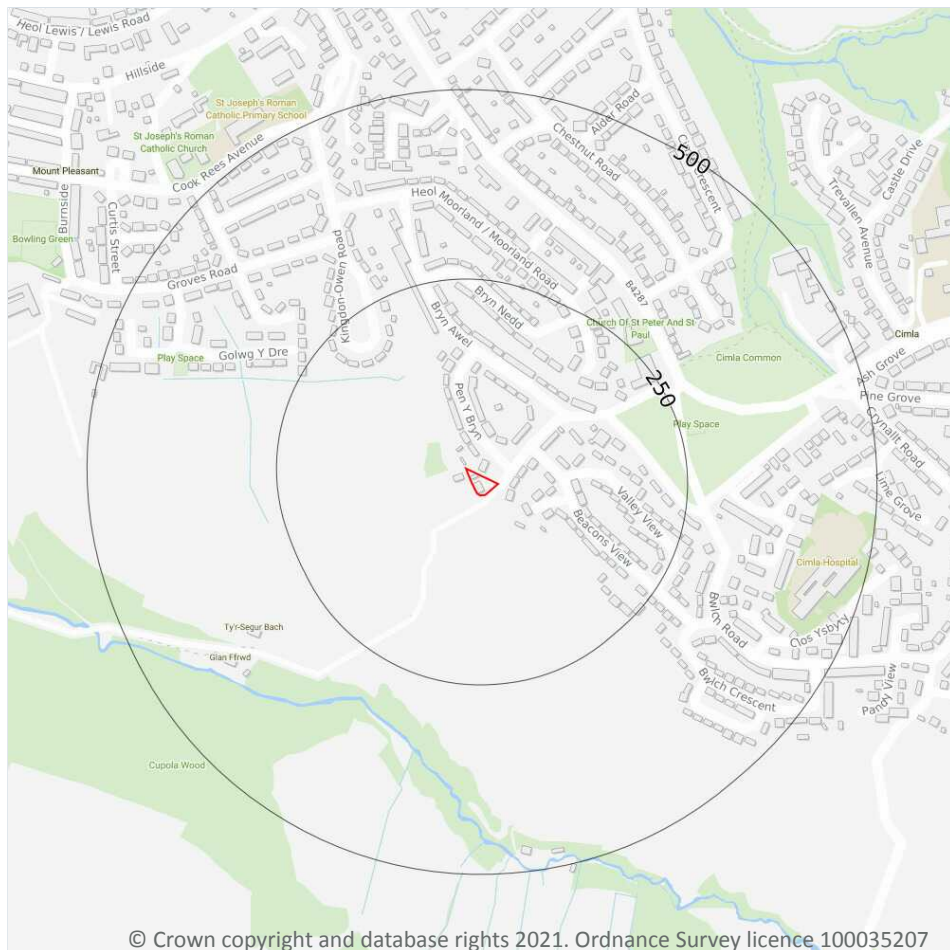
0

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 42**



ID	Location	Details	
-	872m SE	Status: Historical Licence No: 21/58/74/0016 Details: General Farming & Domestic Direct Source: EAW Groundwater Point: WELL AT CEFN CRINALLT Data Type: Point Name: Thomas Easting: 276740 Northing: 195680	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 25/03/1966 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0
-----------------------------	----------

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.

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

5.8 Potable abstractions

Records within 2000m	0
-----------------------------	----------

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

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

5.9 Source Protection Zones

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

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

1

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 45**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	145m NW	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

1

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 45**

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 45**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	Coastal catchment	Not part of a river WB catchment	203	Neath	Tawe to Cadoxton

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

6.4 WFD Surface water bodies

Records identified

0

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.

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 45**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Swansea Carboniferous Coal Measures	GB41002G201000	Poor	Poor	Good	2016

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

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

8 Surface water flooding

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

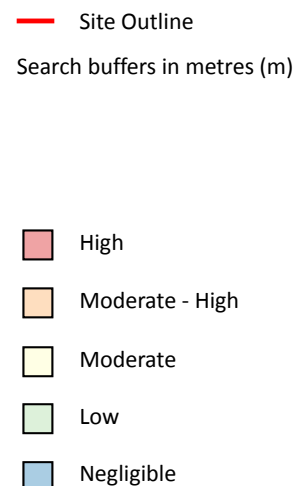
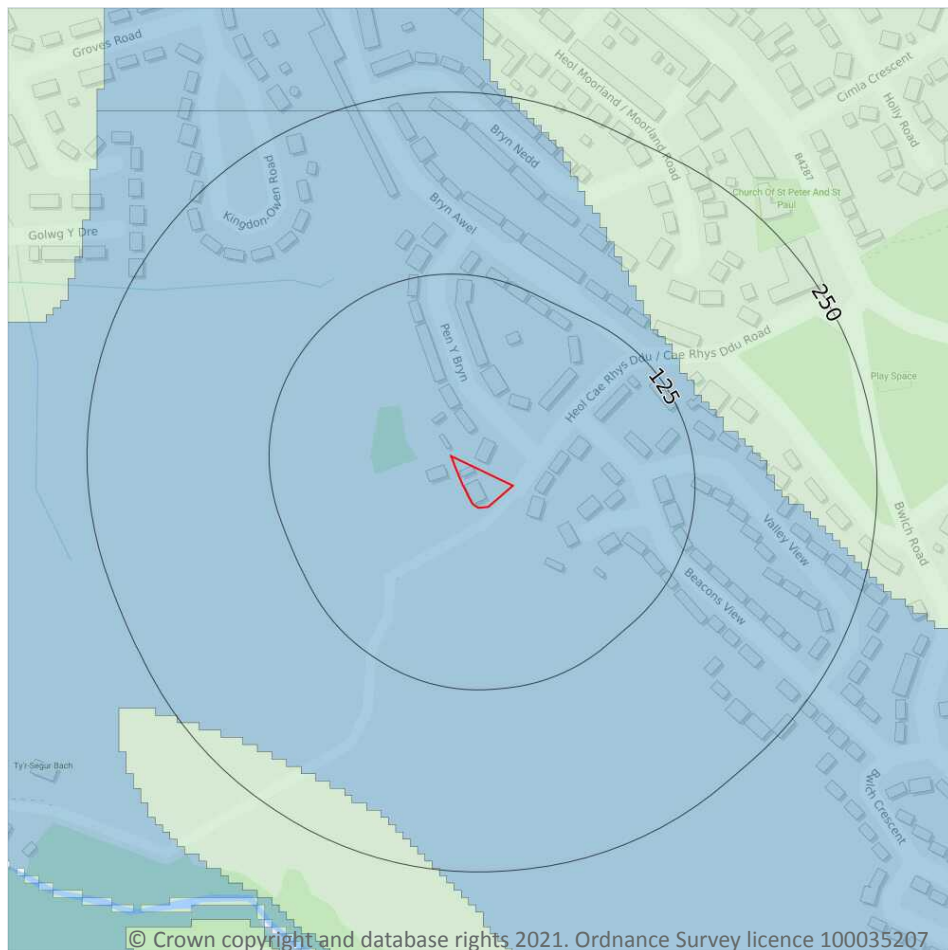
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the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

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 52**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- ▨ Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Data source
A	416m SW	EAGLESBUSH VALLEY	Natural Resources Wales

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

10.7 Designated Ancient Woodland

Records within 2000m

73

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Woodland Type
1	331m SW	Unknown	Ancient Semi Natural Woodland
2	398m SW	Unknown	Ancient Semi Natural Woodland
3	418m SW	Unknown	Ancient Semi Natural Woodland
B	427m NE	Unknown	Ancient Semi Natural Woodland
B	506m NE	Unknown	Ancient Semi Natural Woodland
4	526m NE	Unknown	Ancient Semi Natural Woodland
5	533m S	Unknown	Ancient Semi Natural Woodland
6	598m S	Unknown	Ancient Semi Natural Woodland
C	635m NE	Unknown	Restored Ancient Woodland Site
7	642m W	Unknown	Ancient Semi Natural Woodland
A	664m W	Unknown	Ancient Semi Natural Woodland
8	733m NE	Unknown	Restored Ancient Woodland Site



ID	Location	Name	Woodland Type
C	754m NE	Unknown	Restored Ancient Woodland Site
D	760m W	Unknown	Ancient Semi Natural Woodland
E	816m N	Unknown	Ancient Semi Natural Woodland
D	820m W	Unknown	Ancient Semi Natural Woodland
9	842m W	Unknown	Restored Ancient Woodland Site
10	851m S	Unknown	Ancient Semi Natural Woodland
F	867m W	Unknown	Restored Ancient Woodland Site
F	885m W	Unknown	Restored Ancient Woodland Site
11	971m SW	Unknown	Ancient Semi Natural Woodland
12	985m S	Unknown	Ancient Semi Natural Woodland
E	995m N	Unknown	Ancient Semi Natural Woodland
F	1003m W	Unknown	Ancient Semi Natural Woodland
13	1005m SW	Unknown	Ancient Semi Natural Woodland
14	1046m N	Unknown	Restored Ancient Woodland Site
15	1047m NE	Unknown	Ancient Semi Natural Woodland
G	1092m S	Unknown	Ancient Semi Natural Woodland
G	1112m S	Unknown	Plantation on Ancient Woodland Site
H	1129m SW	Unknown	Ancient Semi Natural Woodland
H	1146m SW	Unknown	Ancient Semi Natural Woodland
16	1164m SW	Unknown	Ancient Semi Natural Woodland
17	1182m NE	Unknown	Ancient Semi Natural Woodland
I	1182m NE	Unknown	Restored Ancient Woodland Site
18	1190m SE	Unknown	Ancient Semi Natural Woodland
I	1192m NE	Unknown	Restored Ancient Woodland Site
19	1281m SW	Unknown	Ancient Semi Natural Woodland
20	1312m NE	Unknown	Restored Ancient Woodland Site
21	1322m NE	Unknown	Plantation on Ancient Woodland Site
-	1353m N	Unknown	Ancient Semi Natural Woodland



ID	Location	Name	Woodland Type
23	1362m SW	Unknown	Ancient Semi Natural Woodland
24	1366m NE	Unknown	Ancient Semi Natural Woodland
25	1367m NE	Unknown	Restored Ancient Woodland Site
-	1407m SW	Unknown	Ancient Semi Natural Woodland
-	1470m NE	Unknown	Plantation on Ancient Woodland Site
-	1494m NE	Unknown	Plantation on Ancient Woodland Site
-	1529m S	Unknown	Ancient Semi Natural Woodland
-	1541m S	Unknown	Ancient Semi Natural Woodland
-	1545m NE	Unknown	Restored Ancient Woodland Site
-	1550m S	Unknown	Restored Ancient Woodland Site
-	1602m S	Unknown	Ancient Semi Natural Woodland
-	1644m SW	Unknown	Ancient Semi Natural Woodland
-	1650m NE	Unknown	Plantation on Ancient Woodland Site
-	1713m SW	Unknown	Restored Ancient Woodland Site
-	1747m SW	Unknown	Ancient Semi Natural Woodland
-	1757m N	Unknown	Ancient Semi Natural Woodland
-	1770m S	Unknown	Ancient Semi Natural Woodland
-	1809m S	Unknown	Ancient Semi Natural Woodland
-	1833m SW	Unknown	Plantation on Ancient Woodland Site
-	1853m S	Unknown	Ancient Semi Natural Woodland
-	1870m SW	Unknown	Plantation on Ancient Woodland Site
-	1870m SW	Unknown	Restored Ancient Woodland Site
-	1885m S	Unknown	Ancient Semi Natural Woodland
-	1885m S	Unknown	Ancient Semi Natural Woodland
-	1893m NE	Unknown	Restored Ancient Woodland Site
-	1910m SE	Unknown	Ancient Semi Natural Woodland
-	1913m S	Unknown	Restored Ancient Woodland Site
-	1935m S	Unknown	Plantation on Ancient Woodland Site



ID	Location	Name	Woodland Type
-	1940m S	Unknown	Plantation on Ancient Woodland Site
-	1945m SW	Unknown	Ancient Semi Natural Woodland
-	1960m SW	Unknown	Ancient Woodland Site of Unknown Category
-	1975m SW	Unknown	Ancient Woodland Site of Unknown Category
-	1990m SW	Unknown	Ancient Woodland Site of Unknown Category

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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



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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

0

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

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



SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0
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Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

This data is sourced from Natural England.

10.18 SSSI Units

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

0

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

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



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ID	Location	Classification	Description
6	223m NW	Grade 3b	Moderate quality agricultural land
7	231m SW	Grade 3b	Moderate quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m**0**

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m**0**

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m**0**

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

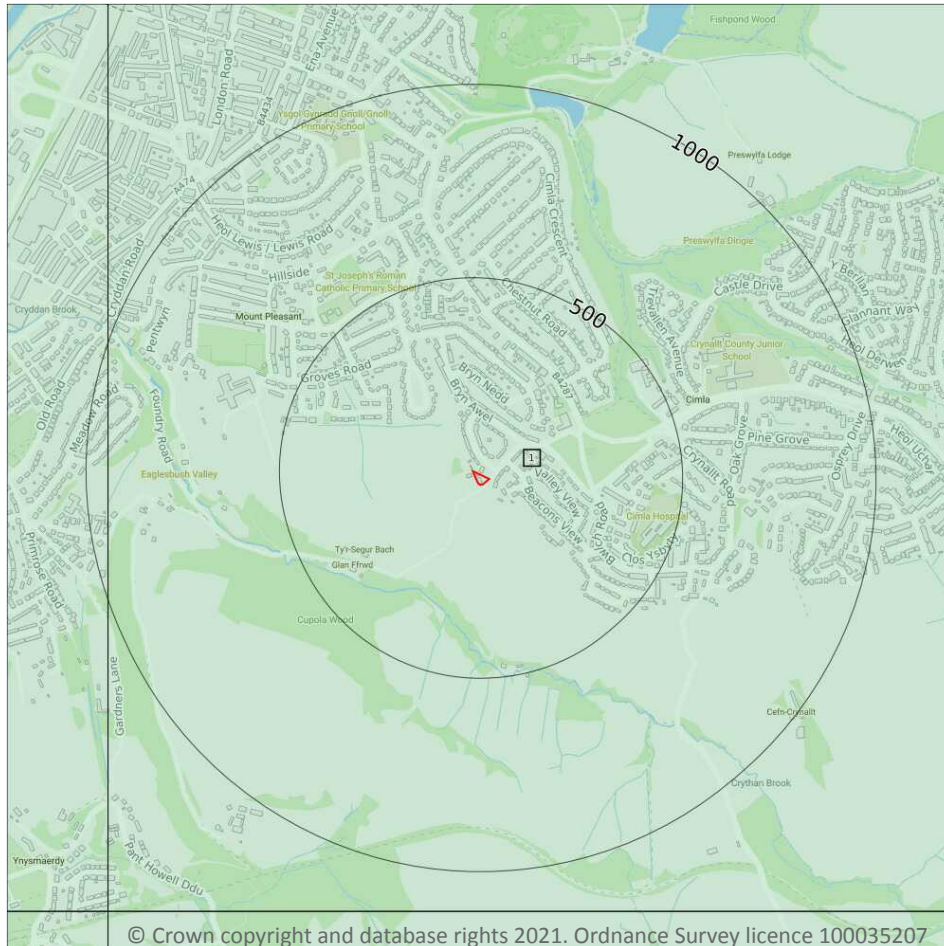
Records within 250m**0**

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

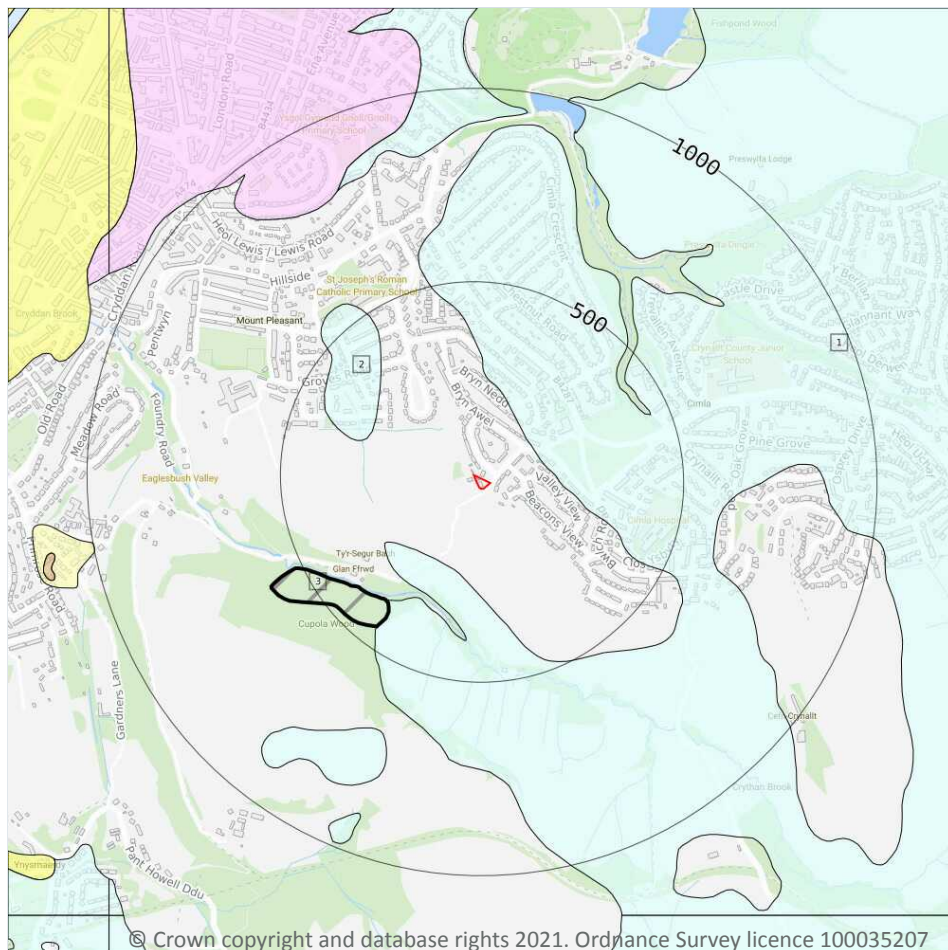
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 67**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SS79NE

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

2

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 69**

ID	Location	LEX Code	Description	Rock description
1	142m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	286m NW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

1

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

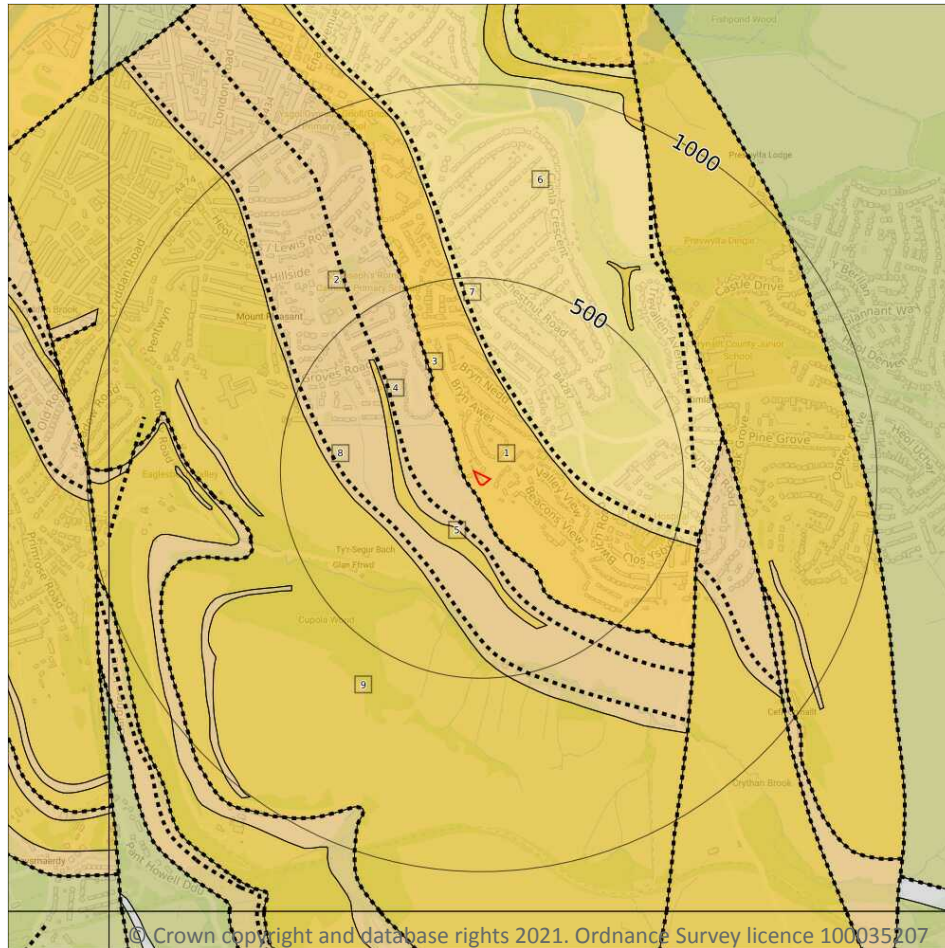
Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 69**

ID	Location	LEX Code	Description	Rock description
3	378m SW	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

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

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

14.5 Bedrock geology (10k)

Records within 500m

5

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 71**

ID	Location	LEX Code	Description	Rock age
1	On site	SW-SDST	Swansea Member - Sandstone	Westphalian D Sub-age
2	24m SW	H-MDSS	Hughes Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age
5	129m SW	H-SDST	Hughes Member - Sandstone	Westphalian D Sub-age
6	159m NE	SW-MDSS	Swansea Member - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age



ID	Location	LEX Code	Description	Rock age
9	260m SW	H-SDST	Hughes Member - Sandstone	Westphalian D Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

4

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

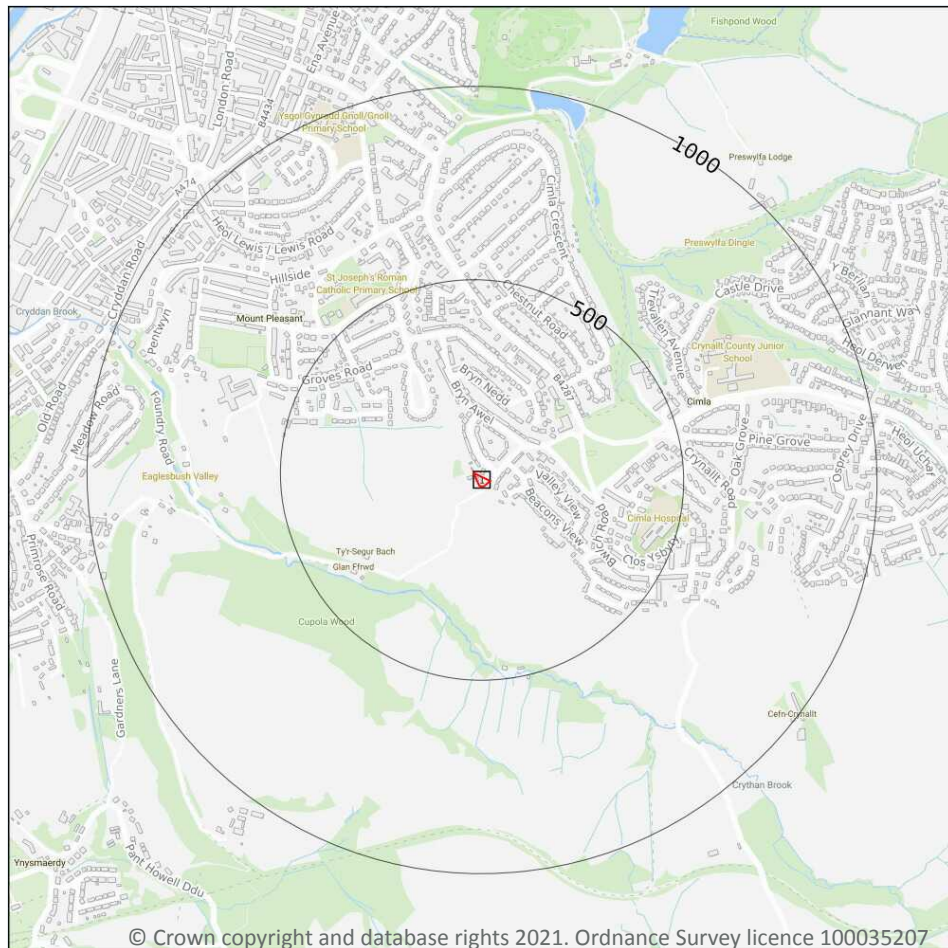
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 71**

ID	Location	Category	Description
3	24m SW	ROCK	Coal seam, inferred (GRAIGOLA)
4	109m SW	ROCK	Coal seam, inferred (CALCULATED POSITION OF SHENKIN)
7	174m NE	ROCK	Coal seam, inferred (HARD VEIN)
8	238m SW	ROCK	Coal seam, inferred (WESTERNMOOR)

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 73**

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

This data is sourced from the British Geological Survey.



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



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

15.2 Artificial and made ground (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 74**

ID	Location	LEX Code	Description	Rock description
1	180m NE	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
2	291m W	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

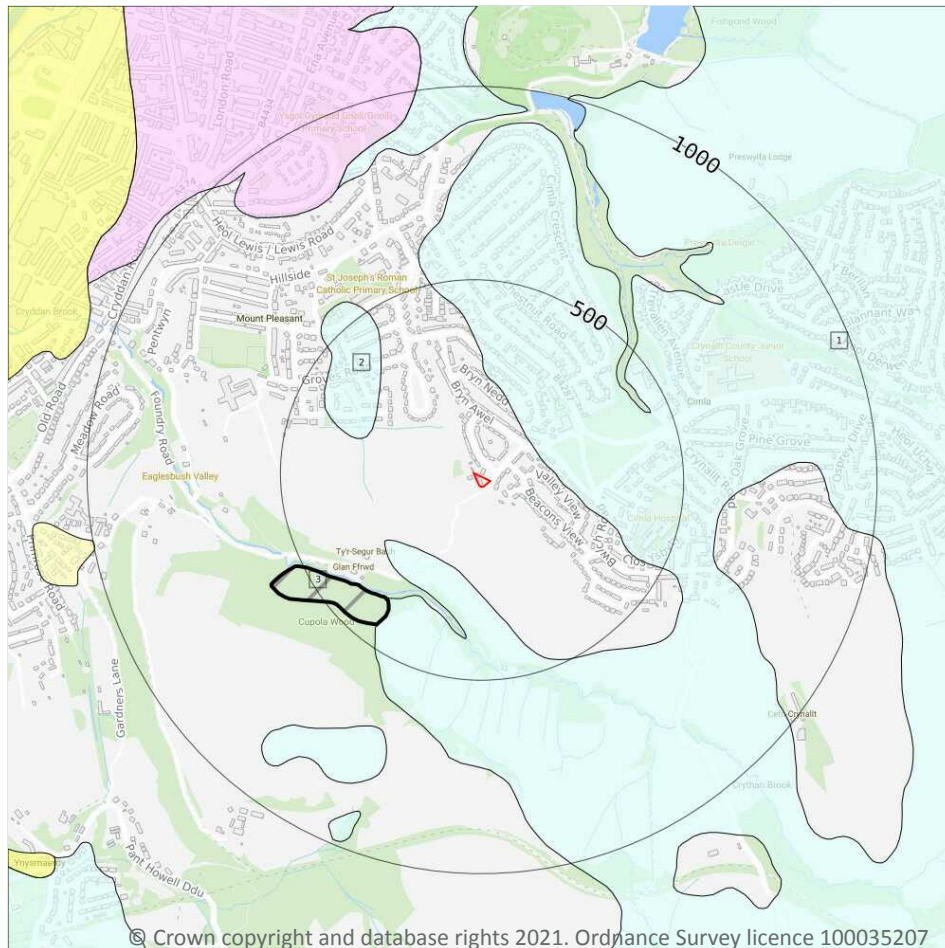
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

2

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 76**

ID	Location	LEX Code	Description	Rock description
1	142m NE	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	286m NW	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**1**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 76**

ID	Location	LEX Code	Description	Rock description
3	378m SW	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m**0**

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

This data is sourced from the British Geological Survey.



A topographic map of a residential area, likely in the UK, showing contour lines and various landmarks. The map is oriented with North at the top. The terrain is hilly, with contour lines indicating elevations of 500 and 1000 feet. A dashed line represents a boundary or a specific contour. Several numbered points are marked on the map:

- Point 1: Located near the bottom right, near a road labeled 'Pine Grove'.
- Point 2: Located near the center, near a road labeled 'Hillside'.
- Point 3: Located near the center, near a road labeled 'Hillside'.
- Point 4: Located near the center, near a road labeled 'Hillside'.
- Point 5: Located near the top center, near a road labeled 'Hillside'.
- Point 6: Located near the center, near a road labeled 'Hillside'.
- Point 7: Located near the bottom center, near a road labeled 'Hillside'.
- Point 8: Located near the center, near a road labeled 'Hillside'.
- Point 9: Located near the top right, near a road labeled 'Hillside'.

The map also shows various roads, including 'Hillside', 'Pine Grove', and 'Hillside'. A red triangle is marked near the center, near a road labeled 'Hillside'. The map is overlaid with a grid of latitude and longitude lines.

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15.8 Bedrock geology (50k)

4

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 78**

ID	Location	LEX Code	Description	Rock age
1	On site	SW-SDST	SWANSEA MEMBER - SANDSTONE	WESTPHALIAN
3	24m SW	H-MDSS	HUGHES MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	174m NE	SW-MDSS	SWANSEA MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
7	238m SW	H-SDST	HUGHES MEMBER - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	High	Moderate
24m NW	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	5
----------------------------	----------

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

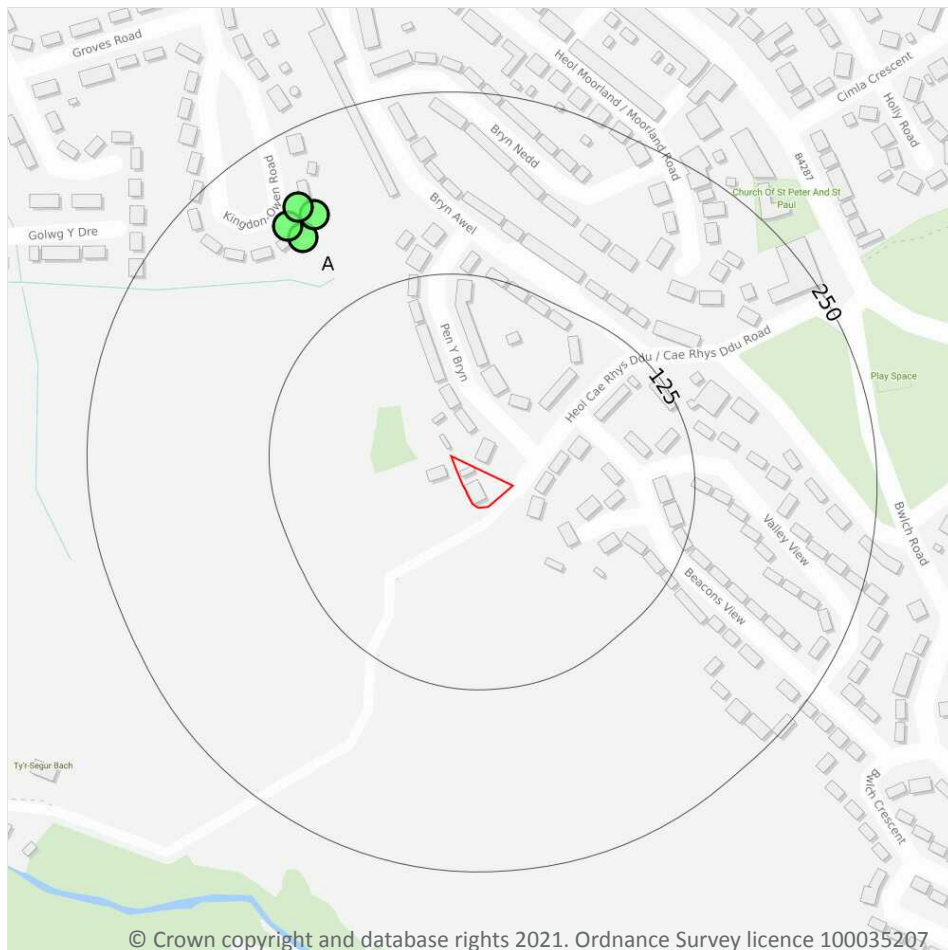
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 78**

ID	Location	Category	Description
2	24m SW	ROCK	Coal seam, inferred
4	109m SW	ROCK	Coal seam, inferred
6	174m NE	ROCK	Coal seam, inferred
8	238m SW	ROCK	Coal seam, inferred
9	486m E	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

4

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

Features are displayed on the Boreholes map on **page 80**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	181m NW	275841 196288	KINGDON OWEN ROAD CIMLA 2	20.0	N	371160
A	191m NW	275849 196304	KINGDON OWEN ROAD CIMLA 1	15.0	N	371159
A	194m NW	275831 196296	KINGDON OWEN ROAD CIMLA 4	25.0	N	371162

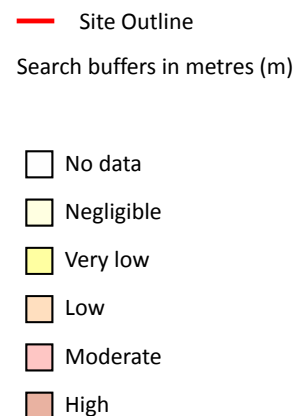
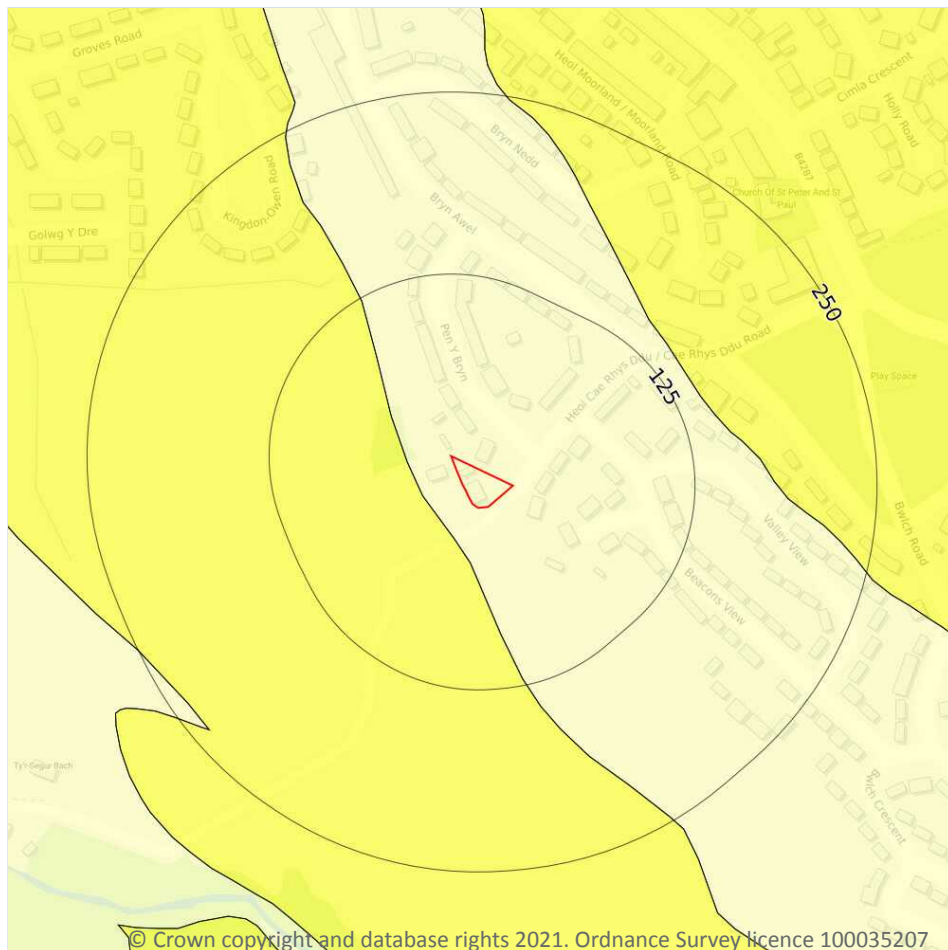


ID	Location	Grid reference	Name	Length	Confidential	Web link
A	201m NW	275838 196309	KINGDON OWEN ROAD CIMLA 3	25.0	N	371161

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

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

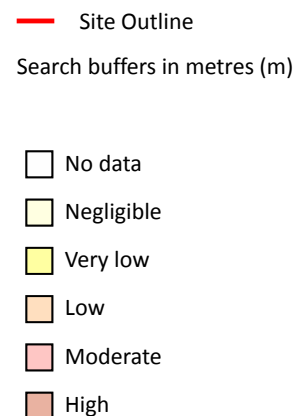
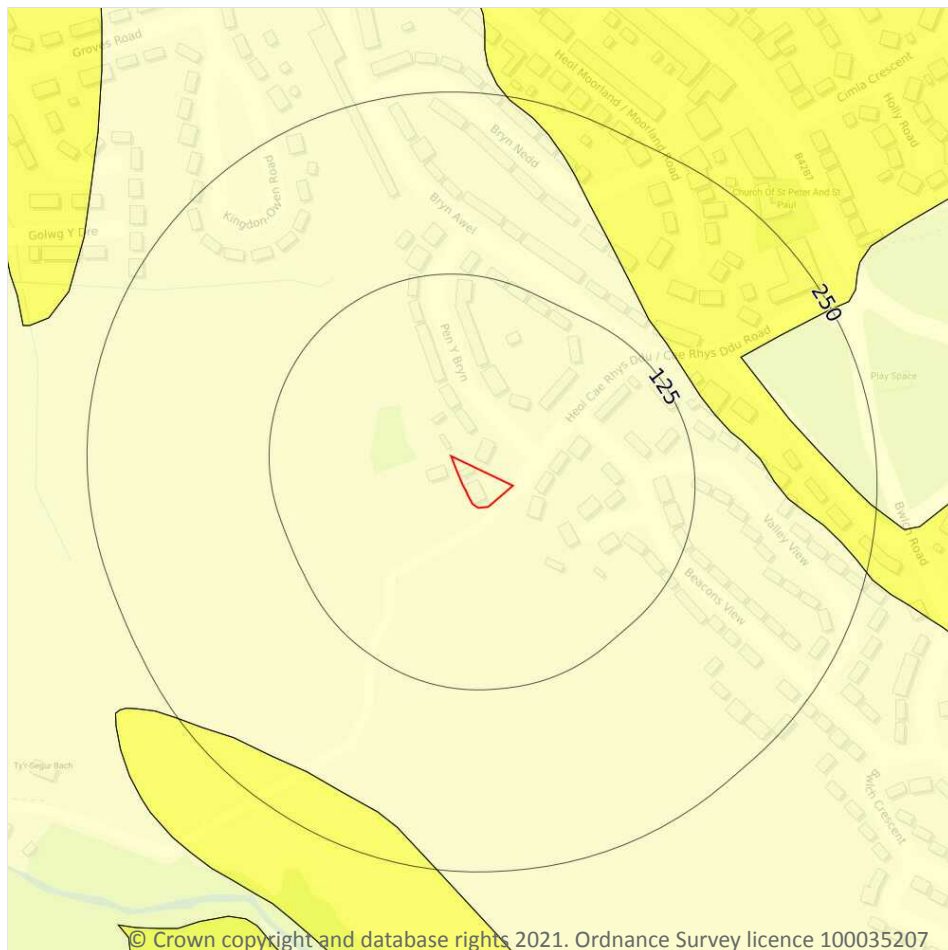
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 82**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
24m SW	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

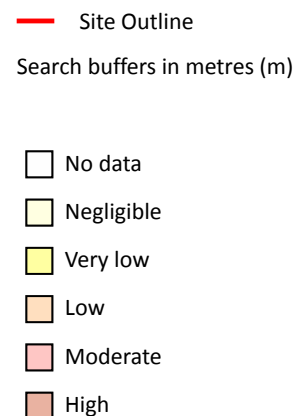
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 83**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

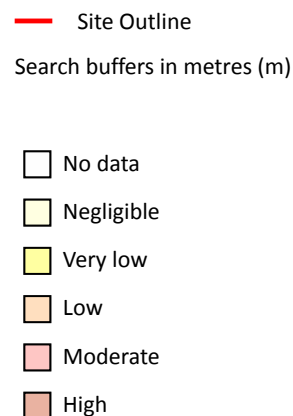
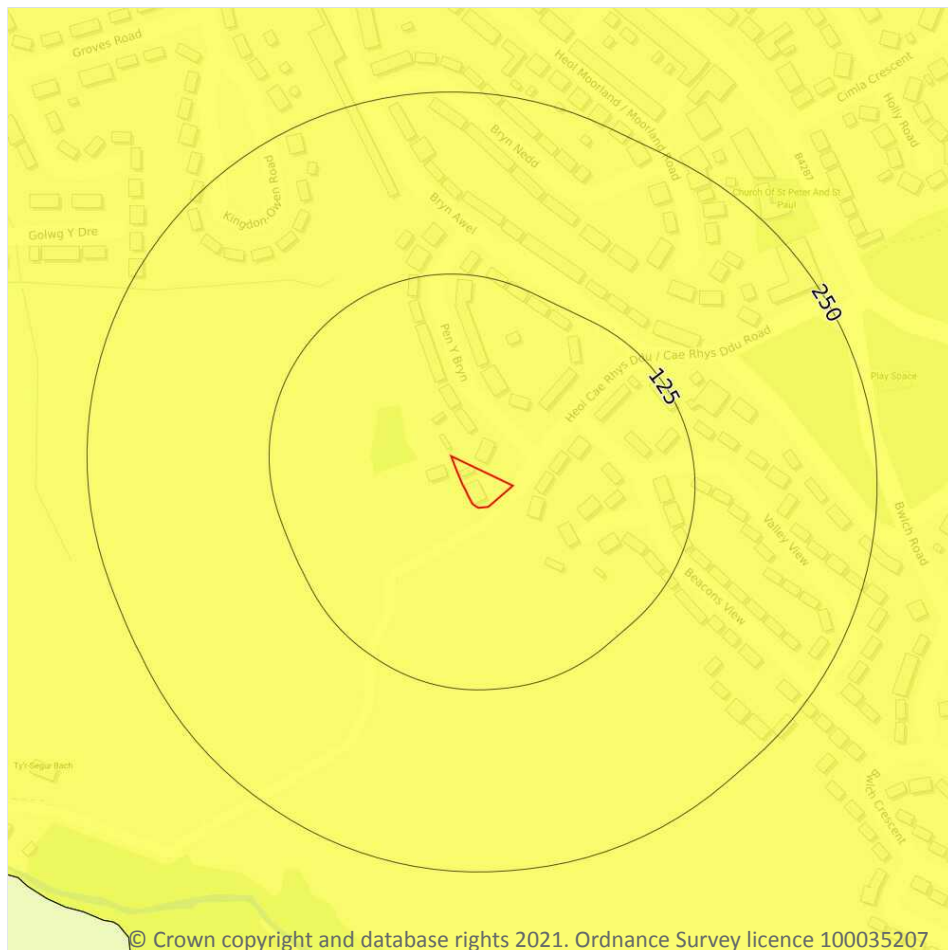
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 84**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

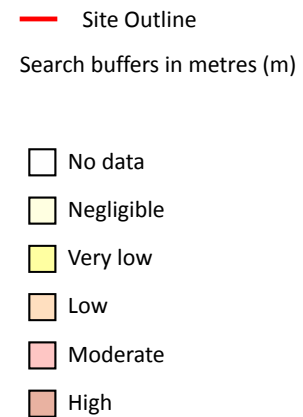
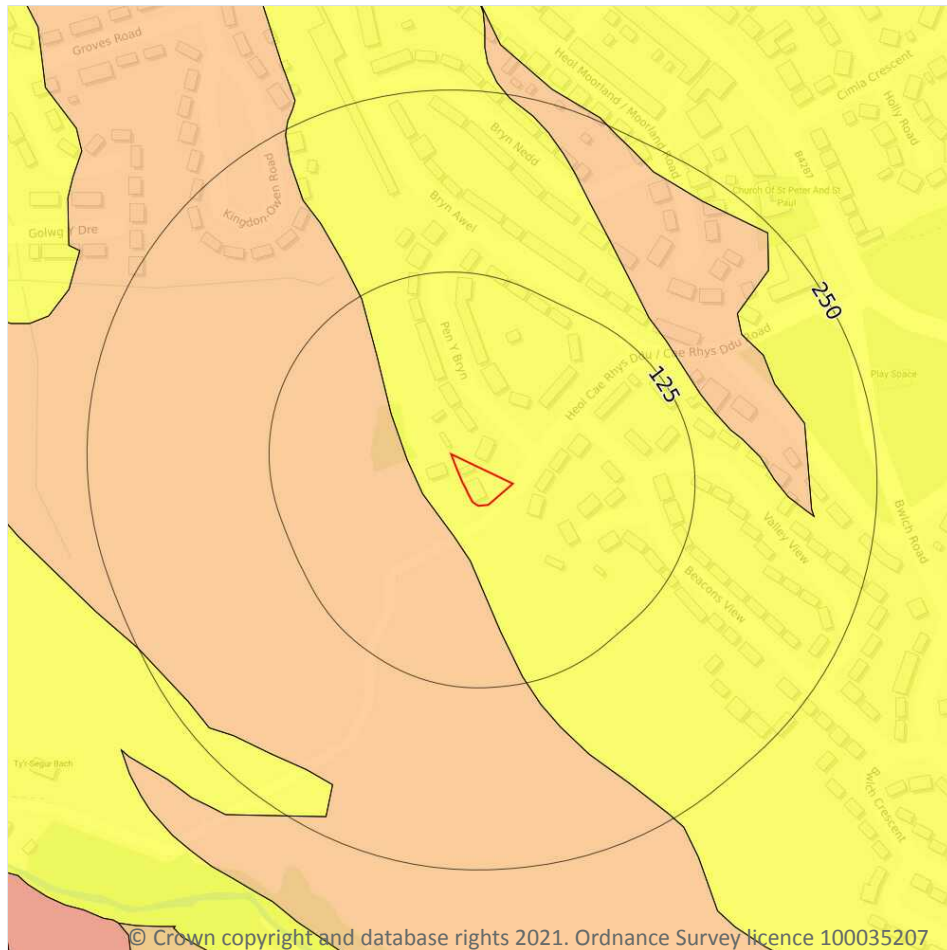
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 85**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 86**

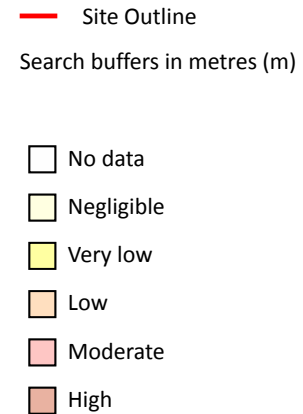
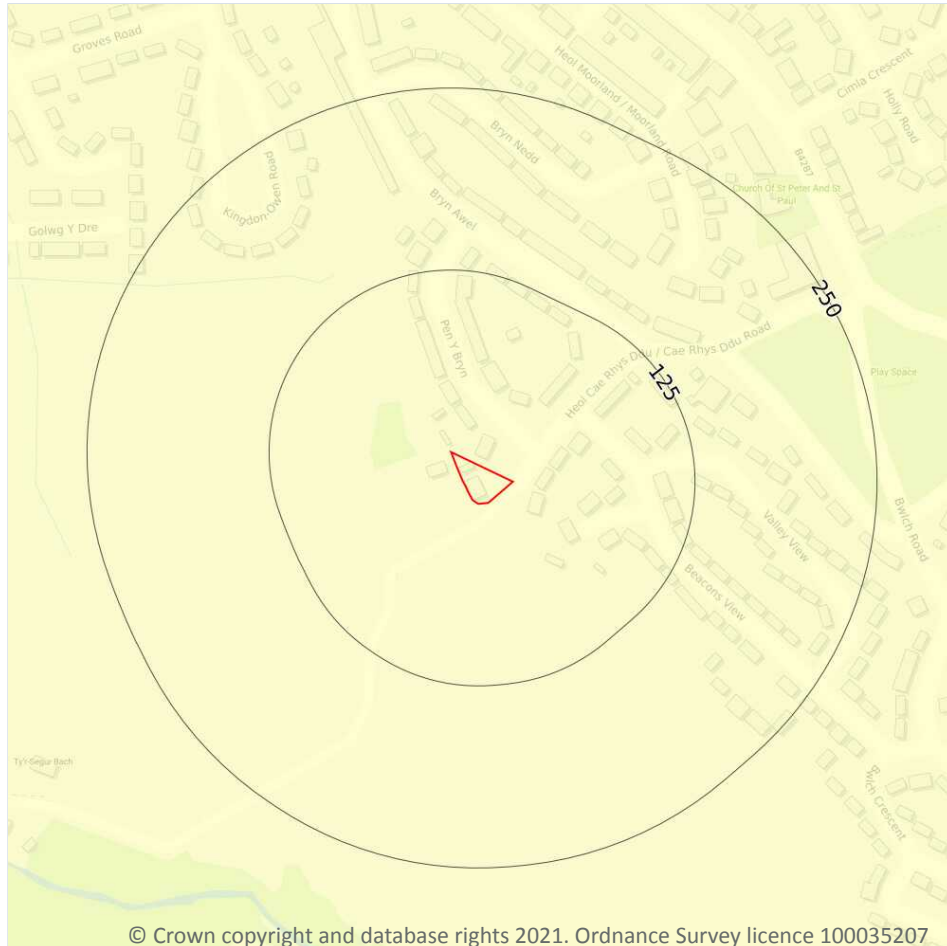
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
24m SW	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

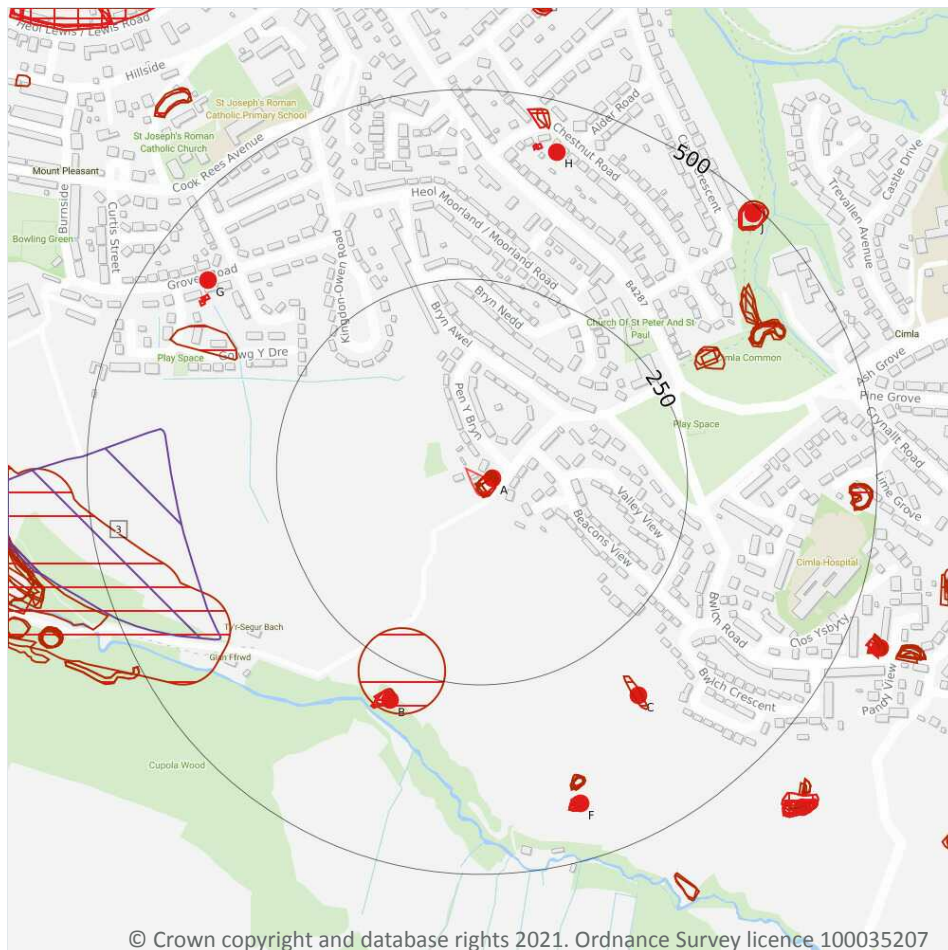
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 88**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



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

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

7

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Details	Description
A	3m NE	Name: Westernmoor Cottages Address: NEATH, West Glamorgan Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
B	295m SW	Name: Cwm Cottage Address: NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	332m SE	Name: Cae Rhys Ddu Address: NEATH, West Glamorgan Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	421m NW	Name: Ty-segur Address: NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
F	426m S	Name: Cwm-pandy Address: NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	434m N	Name: Highfield Address: NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	490m NE	Name: Ysgubor-newydd Address: NEATH, West Glamorgan Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	8
----------------------------	----------

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Ground Workings	1876	1:10560
A	On site	Unspecified Ground Workings	1876	1:10560
A	On site	Unspecified Ground Workings	1936	1:10560
A	On site	Unspecified Ground Workings	1936	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Old Quarry	1921	1:10560
A	On site	Unspecified Old Quarry	1914	1:10560
A	On site	Unspecified Pits	1921	1:10560
B	197m SW	Unspecified Disused Level	1991	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

50

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Land Use	Year of mapping	Mapping scale
B	284m SW	Old Coal Level	1897	1:10560
B	284m SW	Unspecified Old Level	1876	1:10560
B	284m SW	Unspecified Old Level	1936	1:10560
B	285m SW	Unspecified Disused Level	1982	1:10000
B	288m SW	Unspecified Old Level	1962	1:10560
G	406m NW	Old Coal Pit	1897	1:10560
G	407m NW	Old Coal Pit	1921	1:10560
G	409m NW	Old Coal Pit	1914	1:10560
F	417m S	Old Coal Pit	1897	1:10560
F	418m S	Old Coal Pit	1921	1:10560
F	418m S	Old Coal Pit	1914	1:10560
H	430m N	Old Coal Pit	1914	1:10560
H	432m N	Old Coal Pit	1897	1:10560
H	460m N	Old Coal Pit	1921	1:10560
J	466m NE	Old Coal Pit	1914	1:10560
J	466m NE	Old Coal Pit	1897	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
J	466m NE	Old Coal Pit	1921	1:10560
M	530m SE	Old Coal Pit	1921	1:10560
M	532m SE	Old Coal Pit	1914	1:10560
M	538m SE	Old Coal Pit	1897	1:10560
N	559m SE	Old Coal Level	1897	1:10560
N	565m SE	Old Coal Level	1914	1:10560
N	569m SE	Unspecified Old Level	1876	1:10560
N	569m SE	Unspecified Old Level	1936	1:10560
N	569m SE	Old Coal Level	1921	1:10560
N	570m SE	Unspecified Old Level	1962	1:10560
R	607m N	Old Coal Pit	1921	1:10560
R	613m N	Old Coal Pit	1897	1:10560
-	618m N	Old Coal Pit	1914	1:10560
-	683m W	Disused Colliery	1921	1:10560
-	709m W	Colliery	1897	1:10560
U	731m NW	Colliery	1877	1:10560
U	750m NW	Disused Colliery	1921	1:10560
U	751m NW	Disused Colliery	1897	1:10560
U	753m NW	Disused Colliery	1914	1:10560
-	755m W	Old Coal Pit	1914	1:10560
-	761m W	Old Coal Pit	1921	1:10560
-	775m W	Disused Colliery	1914	1:10560
-	801m NW	Coal Level	1877	1:10560
U	835m NW	Unspecified Old Level	1897	1:10560
-	843m N	Colliery	1877	1:10560
-	858m NW	Unspecified Old Level	1897	1:10560
-	922m N	Old Coal Pits	1897	1:10560
-	928m N	Old Coal Pit	1921	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	931m N	Air Shaft	1877	1:10560
-	934m N	Old Coal Pits	1897	1:10560
-	959m N	Old Coal Pit	1914	1:10560
-	967m N	Unspecified Old Shaft	1897	1:10560
-	981m E	Old Coal Pit	1914	1:10560
-	986m E	Old Coal Pit	1897	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

1

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
3	381m W	Eagle Bush	Not available	Not available	Not available	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.



18.7 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.



18.11 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

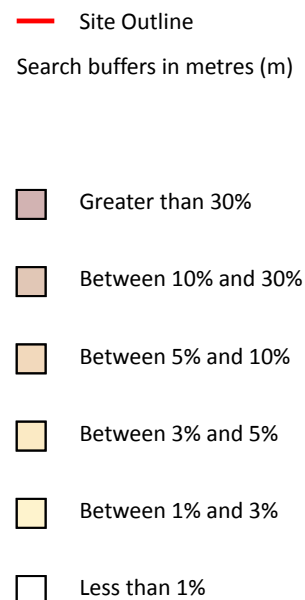
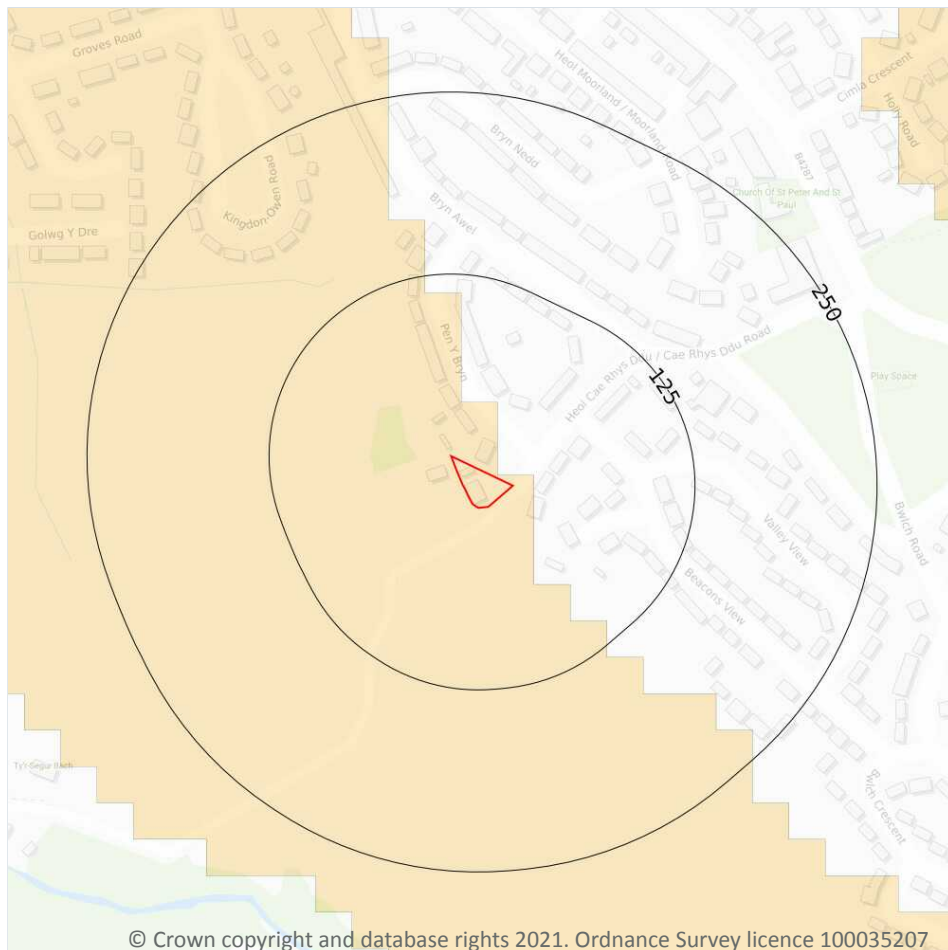
18.13 Clay mining

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

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

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

19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 97**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m NE	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
15m E	45 - 60 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m NW	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

5

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	47	8.2	109	75	1.3	70	78	27	20
3m S	49	8.6	103	71	1.3	70	79	27	19



Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
15m E	37	6.5	86	59	0.9	63	58	25	16
23m SE	43	7.5	92	63	1.1	67	68	27	16
43m W	54	9.4	132	91	1.7	75	95	28	26

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0
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Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0
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Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0
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Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0
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Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0
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The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



APPENDIX 3

REPORT LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

Other than that expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important 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 will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2021 and should be read in light of any subsequent changes in legislation, statutory requirements and industry best practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. 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 Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd 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, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth

Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and 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. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data 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 Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

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. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground 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 contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

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.