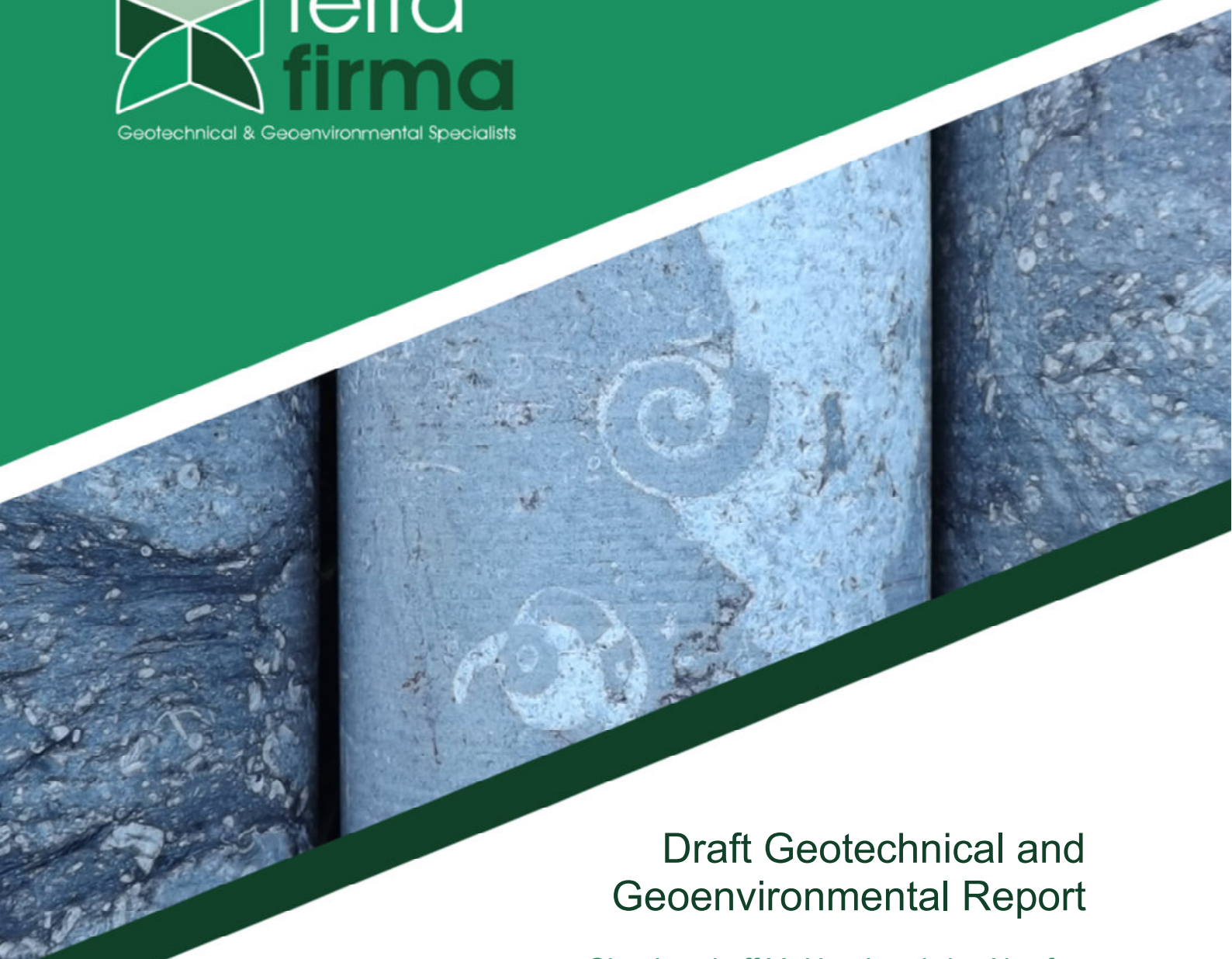




Draft Geotechnical and Geoenvironmental Report

Site: Land off Yr Hen Laethdy, Aberfan

Prepared For: M Delacey & Sons Limited

Issue Date: March 2023

Job No: 17176

REPORT TITLE : **Geotechnical and Geoenvironmental Report:
Residential Development at Land off Yr Hen
Laethdy, Aberfan**

JOB NUMBER : **17176**

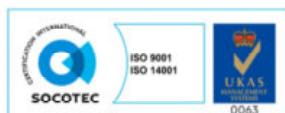
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	Name	Signature
Prepared	Aaron Case BSc, FGS	
Checked	Ruth Howells BSc FGS	
Prepared	Mathew Lake MEng FGS Tech IOSH	



Executive Summary

Site Location and Proposed Development	M Delacey & Sons (the Client) is proposing the residential development of land at Yr Hen Laethdy, Aberfan, CF48 4PY. The development is to comprise the construction of 4No. semi-detached dwellings, 2No. detached dwellings, and 8No apartments. The site centres on an approximate National Grid Reference of 307230, 199520, occupying a plan area of approximately 0.2 Hectares.			
Site History	The site is recorded as part of the Perthi-Gleision Pit from at least 1876 to 1900. It is appeared to be reprofiled and remains as is still present day (2023).			
Geology	Pennant Sandstone Formation - Green-grey, lithic arenites ("Pennant sandstones") with conglomerate lenses at bases of units; thin mudstone/siltstone and seatearth interbeds and mainly thin coals.			
Radon	No radon protective measures are required for new developments on the investigation site.			
Ground Conditions	Depth (m)			Thickness (m)
	0.00	-	0.40/1.20	0.40/1.20
				Stratum
				MADE GROUND: Light brown mottled grey variably clayey variably gravelly SAND .
	0.40/1.20	-	0.90/2.90	0.40/1.90
				MADE GROUND: Loose to medium dense black mottled dark brownish red variably sandy GRAVEL with frequent pockets of coal ash.
	0.90/2.90	-	2.50/3.50	0.50/1.70
				MADE GROUND: Very loose to medium dense light greyish brown mottled orangish brown and brownish red variably clayey SAND & GRAVEL with low cobble content.
	2.50/4.00	-	4.00/5.00	1.50/2.00
				Soft to stiff orangish brown variably gravelly variably sandy CLAY with low cobble content.
	4.00/5.00	-	9.50/11.50	4.50/6.50
				Strong thinly to medium bedded dark grey SANDSTONE .
	9.50/11.50	-	>30.00/>32.00	>20.50/>22.50
Contamination of Concern				SANDSTONE & MUDSTONE (Drillers Description – Open Hole Drilling)
		Location	Depth	Contaminant
		WS03	0.50	Dibenz(a,h)anthracene
		WS04	0.60	
		WS01	0.50	Aromatic EPH >C16-21
Ground Gas Risk Assessment	The site is classified as 'Gas Characteristic Situation 1' (CS1). Upon completion of the full six rounds of monitoring the recommendation will be reviewed in a letter report and, if necessary, amended.			
Foundation Solution	The first recommendation is that a reinforced concrete raft foundation, founded upon 1.5m of recompacted materials, is adopted for the proposed development.			
	The re-compaction should comprise the excavation of 1.0m of made ground materials to at least 1.0m outside the plan areas of the buildings, and 1.50m below the underside of the proposed foundation, the removal of all deleterious materials and the re-compaction in layers of the material to Series 600 of the Specification for Highway Works. The materials should be compacted to within 95% of their optimum moisture content. To this end samples of the materials should be taken and tested in the laboratory in order to determine their optimum moisture content/maximum dry density relationship together with grading analysis. A Compaction Specification can then be prepared.			
	Suitability of the compaction must be confirmed by in-situ plate load and density testing, and the works monitored and verified by a qualified and competent geotechnical engineer.			
	An allowable bearing pressure of 50kN/m ² may be used for design purposes. For the given foundation solution founded within the above materials, a maximum total			

settlement of 30mm can be expected. Differential settlement of foundations should not lead to structural distortion of more than 1:750.

A line taken at 45 degrees out from the base of the foundations should not intersect the proposed piled retaining wall to be constructed to the rear of the new houses to stabilise the existing slope.

During the investigation two samples of the in-situ soil were taken and submitted for plasticity testing. In line with the NHBC (Chapter 4.2), the modified plasticity index for each sample was calculated. For design purposes the superficial cohesive deposits should be assumed to be non-plastic.

If the use of raft foundations is not permitted, or a greater working load is required, a piled foundation solution may be required. A piled retaining wall will be installed to the rear of the proposed houses.

Given the proximity of the road and working on a slope, a bored piled foundation solution is recommended, with piles socketed into the underlying competent sandstone bedrock.

For a 300mm bored pile with a typical length of 7.00m to 8.0m, an allowable working load of 400kN should be achieved.

Variations in the quoted pile lengths should be expected.

The estimated working pile loads, pile type and lengths should be confirmed by a specialist piling contractor and it may be prudent to test drive/install piles at selected locations.

For the quoted pile sizes, founded within the competent in-situ materials, total settlements should not exceed 10mm with differential movements between adjacent piles being less than half this value.

Allowances should be made for the removal of any 'soft spots' and their replacement with well-compacted granular materials. Department of Transport (DoT) Type 2 materials or similar could be used and should be compacted in layers to the specification for Highway Works.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

Due to the sloping nature of the site towards the east, retaining walls will be required.

Coal Mining Risk Assessment (After Site Works)

The shallowest worked coal seam is labelled as the Tillery Brithdir and is purported to be at a depth of 21m below ground level. The extraction thickness is given as 1.80m and its last known working date was 1880.

The intrusive mining investigation encountered no workings/workable coal seams to a maximum depth of 32m beneath the proposed housing development; only very thin coal seams were encountered during open hole drilling, which are outlined in the logs, with a maximum thickness of 0.10m. The overall risk to the surface stability of the site from shallow workings is considered negligible.

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ANNEX C Window Sample and Rotary Borehole Logs
ANNEX D Gas Monitoring Results
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ANNEX G TRL DCP Results

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Drawing 01 Window Sample and Rotary Borehole Locations
Drawing 02 TRL DCP Locations

SECTION 1 Introduction and Proposed Development

1.1 Introduction

M Delacey & Sons (the Client) is proposing the residential development of land at Yr Hen Laethdy, Aberfan, CF48 4PY. The development is to comprise the construction of 4No. semi-detached dwellings, 2No. detached dwellings, and 8No apartments.

Asbri Planning Limited is the planning consultant for the proposed development.

TFW Group Limited has been commissioned by Asbri Planning on behalf of the Client to undertake a geoenvironmental assessment and geotechnical investigation of the site.

The main objectives of the geoenvironmental assessment programme are:

- Investigate the potential human health and environmental liabilities at the site associated with any contamination
- Provide a summary of the human health and environmental conditions at the site, together with any necessary further intrusive works and / or remediation works to render the site fit for its intended use

The main objectives of the geotechnical site investigation are:

- Investigated the type, strength and bearing characteristics of the shallow superficial and underlying solid geology
- Investigate the risk, if any, from historical shallow underground mining features
- Provide engineering foundation and floor slab recommendations for the proposed development
- Provide infiltration rates and stormwater drainage viability.
- Provide recommendations regarding any other geotechnical aspects pertaining to the development

In order to achieve the above objectives, TFW Group Ltd carried out an assessment programme including a review of existing data, followed by a field investigation to collect geotechnical and geoenvironmental data from selected locations.

1.2 Limitations and Exceptions of Investigation

The Client has requested that a Geoenvironmental Site Assessment (GSA) and Geotechnical Investigation (GI) be performed to enable the outlined main objectives.

The GSA and GI were conducted, and this report has been prepared for the sole internal reliance of the Client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of TFW Group Ltd. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geoenvironmental and geotechnical consultants. TFW Group Ltd does not provide legal advice and the advice of lawyers may be required.

The subsurface geological profiles, any contamination and other plots are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

The investigation was limited by the slope to the eastern section of the site.

1.3 Quality Assurance

The quality and environmental aspects of the assessment comply with Terra Firma Wales Ltd business management system which is UKAS Accredited to ISO 9001:2015 and ISO 14001:2015 standards.

SECTION 2 Review of Existing Data

2.1 Physical Setting and Current Site Use

The development site is roughly rectangular in shape and locates on the western slope of the Merthyr Vale, at the southern portion of Aberfan: Yr Hen Laethdy, Aberfan, CF48 4PY. The site centres on an approximate National Grid Reference of 307230, 199520, occupying a plan area of approximately 0.2 Hectares.

The site is elongate and rectangular in shape, overgrown with brambles, bushes and densely growing trees. A public footpath bisects the southern third of the site. A small unnamed stream/waterway is recorded through the centre of the site, lying southeast/northwest, along the length of the site.

Site boundaries are defined by a road known as Yr Hen Laethdy to the southwest and by a stream to the northeast. The site boundaries to the south and north are unmarked but can be discerned as they are in line with number three and seventeen Yr Hen Laethdy.

Offsite features include terrace housing approximately within 15m to the southwest and northeast. Further afield, the River Taff lies 193m east and the A470 160m to the west.

The site elevation is approximately 165-156m AOD with the east portion of the site falling steeply to the east.

The site location can be seen on **Figure 2.1** along with the proposed site layout on **Figure 2.1**.



Figure 2.1 Site Location

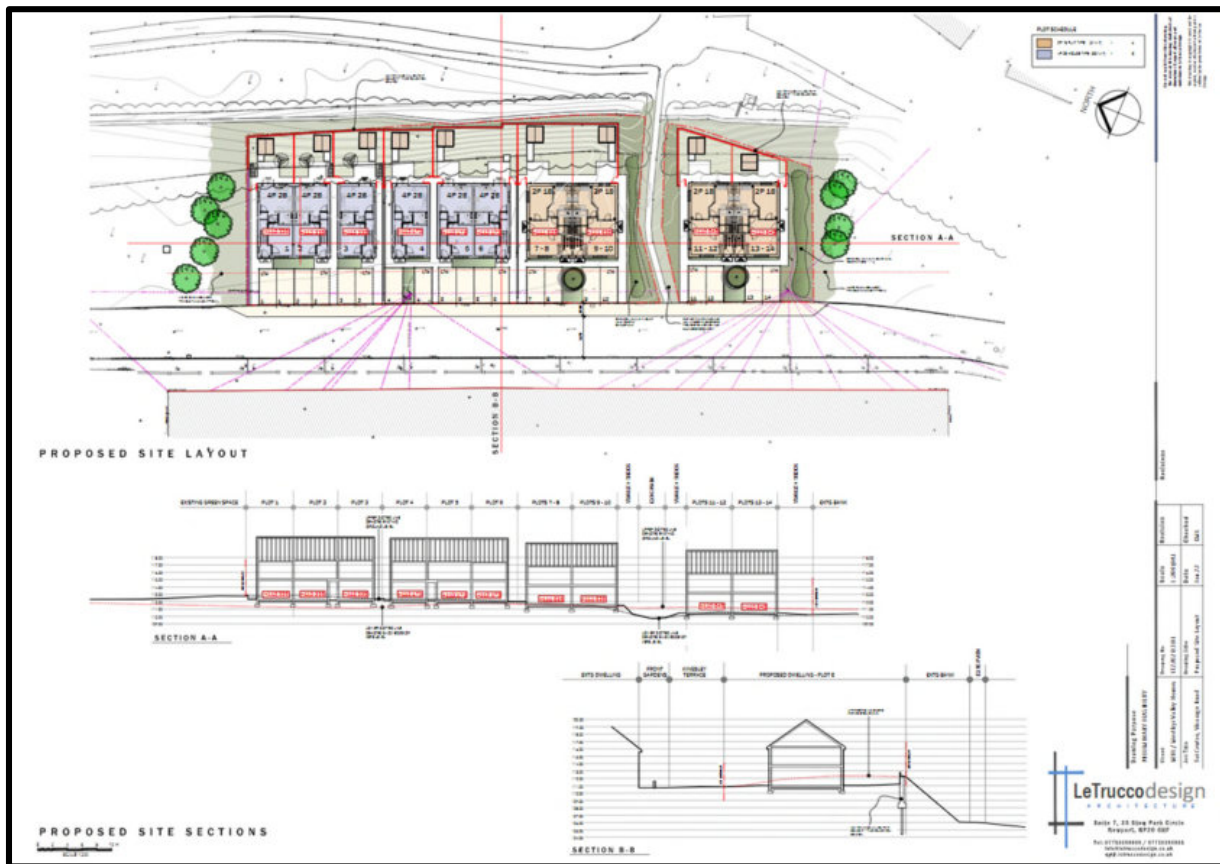


Figure 2.2 Proposed Site Layout

2.2 Site History

Historical maps of the site have been obtained in an Envirocheck Report, provided by Landmark Information Group. The history plans are supplied in **Annex A** of this report, and the most relevant editions are summarised in **Table 2.1**. Distances are approximate, and any changes in-between map editions may not be recorded

Table 2.1 Historical Development from Map Information

Map Edition & Scale	Key Features on Site	Key Features off Site
1876 (1:2,500)	The site is occupied by an embankment along which a tramline runs, that bisects the site from north to south. The site appears to be part of Perthi-Gleision Pit (colliery).	The site is bound by the Glamorganshire Canal to the east. A wood and field lie to the west. A mine entry for the Perthi-Gleision Pit is located 15m north of the site. The River Taff is recorded approximately 195m to the east. Two further small coal pits, noted as "Old Level Coal", are recorded approximately 100m to the east.
1900 (1:2,500)	The previously recorded Perthi-Gleision Pit and tramline are no longer identified.	The shaft to the north of the site is no longer identified. Terraced housing is located alongside Thomas Street and to the immediate east of the canal. Railway lines run north to south approximately 90m to the east of the site.
1919 (1:2,500)	The embankment appears to have been reprofiled.	A new road has been constructed along the western edge of the site, and terraced housing has been built on the opposing side of the road. Similar housing developments are also recorded elsewhere in the local area.
1938-1951 (1:10,560)	The site remains unchanged.	The surrounding area remains unchanged.
1958 (1:2,500)	A public footpath bisects the southern third of the site.	Glamorganshire Canal has been infilled and replaced by a footpath. A stream now flows along the eastern edge of the site, towards the southeast.
1972 (1:2,500)	The site remains unchanged	No significant changes to the surrounding area.
1987-1988 (1:2,500)	The site remains unchanged	The surrounding area remains unchanged.
2000 (Aerial Image)	The site is covered by vegetation	The surrounding area remains unchanged.
2006 (1:10,000)	The site remains unchanged	The surrounding area remains unchanged.
2021 (1:10,000)	The site remains unchanged	The surrounding area remains unchanged.

2.3 Geological Setting

2.3.1 Geology

The 1:50,000 (Sheet 248) and 1:10,560 scale British Geological Maps of the area were consulted for geology underlying the site. Detailed stratigraphical information is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Period	Group	Formation
Carboniferous	Warwickshire Group	Pennant Sandstone Formation - Green-grey, lithic arenites ("Pennant sandstones") with conglomerate lenses at bases of units; thin mudstone/siltstone and seatearth interbeds and mainly thin coals.

Strata are typically dipping 5° to the southeast in the local area.

Superficial deposits are recorded as Glaciofluvial Deposits (sand and gravel with lenses of silt, clay, or organic material).

Made ground is anticipated from ground level to at least 2.50m depth at the site, inferred from a Coal Mining Risk Assessment (CMRA) desk study report and soakaway site investigation undertaken by TFW Group Ltd in April 2022 (Ref/17176/AC/Let1).

2.3.2 BGS Borehole Information

Several BGS boreholes are recorded on and around the site. A selection of the closest boreholes is summarised below.

TFW Group Ltd has also conducted a CMRA on site previously and a selection of these logs from trial pits have also been summarised below;

ST09NE200 (307240, 199480). Located on site.

MADE GROUND: Silty SAND from ground level to 1.0m.

MADE GROUND: SAND & GRAVEL with ash & coal fragments/slag from 1.0m to 2.20m

Silty clayey SAND with some lenses of gravel from 2.20m to >3.20m.

ST09NE201 (307236, 199506). Located on site.

MADE GROUND: GRAVEL with ash and brick fragments from ground level to 2.10m.

Sandy gravelly CLAY with some lenses of silt and cobbles and boulders from 2.10m to 6.70m.

SANDSTONE with occasional coal from 6.70m to >15.42m.

ST09NE203 (307230, 199530). Located on site.

MADE GROUND: Silty SAND from ground level to 0.10m.

MADE GROUND: SAND & GRAVEL infill from 0.10m to 1.10m.

MADE GROUND: SAND & GRAVEL with ash and coal slag from 1.10m to >3.60m.

TP01 TFW Group Ltd Ref/17176/AC/Let1 (307206, 199568). Located on site.

MADE GROUND: SAND & GRAVEL with ash and brick fragments from ground level to 3.20m.

REWORKED/MADE GROUND: Gravelly sandy CLAY with cobbles from 3.20m to 3.30m.

TP03 TFW Group Ltd Ref/17176/AC/Let1 (307241, 199491). Located on site.

MADE GROUND: SAND & GRAVEL with ash and brick fragments from ground level to 2.65m.

REWORKED/MADE GROUND: Sandy CLAY 2.65m to 3.00m.

2.3.3 Radon

The Envirocheck Report (**Annex A**) details that no radon protective measures are required for new developments on the investigation site.

2.3.4 Mining

The site situates within the South Wales coal field. A Coal Authority Consultants Coal Mining Report was therefore procured for the site and is presented in **Annex A**.

Relevant BGS mineral sites within 250m of the site, as recorded in the Envirocheck Report datasheets (**Annex A**), are summarised in **Table 2.3**.

Table 2.3 BGS Recorded Mineral Sites

Site Name	Distance/ Direction from site	Type	Commodity
Cwm Giflas	158m to the east.	Underground	COAL - Deep

The Coal Authority Report states the shallowest worked seam; the Tillery Brithdir (also known as the Brithdir) coal seam, which has an extraction thickness of 1.8m, and lies 21m below ground level. The next recorded coal seam is unnamed and is recorded at 442m below ground level.

When assessing the risks from shallow mine workings, as a rule of thumb to prevent the future collapse of mine workings migrating to the surface and forming crown holes there should be a 10:1 rock head to void ratio.

Based on this ratio, and recorded extraction thickness of 1.8m, a rockhead cover of at least 18m would be required to confirm stability.

Based on previous boreholes that have been drilled at the site, with particular reference to BGS borehole ST09NE201, there may be as little as 14m of rockhead above the coal seam, with bedrock expected between 5.00m and 8.00m. A risk from shallow mining is therefore identified.

A mine shaft is recorded approximately 15m north of the site. The mine shaft was also recorded by historic mapping and is likely to have been part of the Perthi-Gleison Pit, which once occupied the site. The Coal Authority record that the mine shaft was previously searched for by trial trenching, undertaken by G.A. Spacey & Associates in 2015, but this was not located.

Based on the distance to the mine entry, and the anticipated depth to rockhead, it is considered that the risk of instability from the shaft is low. However, the risk can be more accurately determined by confirming the depth to rockhead. If the depth to rockhead is less than the distance to the mine entry, the risk to the site's ground stability from the nearby mine entry is deemed negligible.

Intrusive investigation of the site by TFW Group Limited has enabled the ground stability risk to be quantified, as discussed in **Section 7.0**.

No mine gas has been recorded by the Coal Authority within 500m of the site. However, there remains a significant risk to proposed dwellings at the site from the migration of mine gas into internal spaces due to the potential workings beneath the site and preferential pathways (shaft to the north).

Ground gas wells were installed by the rotary percussive drilling rig to monitor mine gas that may be emitted from the shallow workings and made ground colliery spoil. The ground gas monitoring results are used to inform a ground gas risk assessment, as discussed in **Section 8.0**.

2.3.5 Natural Hazards

Given the steep downward sloping topography towards the east of the site, there is a potential risk from slope instability.

Shallow superficial soils have a low potential for running sand conditions.

The potential for shrinking or swelling of clays is considered to be of no hazard.

2.4 Environmental Setting

The following sections have been compiled using the Landmark Information Group Envirocheck datasheet and maps which can be found in **Annex A**.

2.4.1 Hydrogeology

Superficial deposits beneath the site have an aquifer designation of Secondary Aquifer – A.

The bedrock deposits beneath the site have an aquifer designation of Secondary Aquifer – A.

Deeper groundwater flow within the underlying bedrock will be controlled by the strata dip and any fractures or bedding planes within the rock units.

The hydraulic gradient will be at its steepest during periods of heavy rainfall and aquifer recharge.

The site does not locate within a groundwater source protection zone.

The nearest groundwater abstraction point is located approximately 581m to the north, operated by Hargreaves Industrial Services.

2.4.2 Hydrology

The nearest surface water feature is the stream along the eastern edge of the site and comprises a mine adit sluice.

The topography of the site slopes down towards to the east. Surface water is likely to drain in this direction.

2.4.3 Flooding

The site is not at risk from extreme flooding from rivers or sea.

The southeast corner of the site is at low risk (1-in-1000 year return) surface water flooding.

There is limited potential for groundwater flooding to occur.

2.4.4 Waste

There are no licensed waste management facilities or waste transfer sites within 250m of the site.

2.4.5 Pollution

One pollution incident is recorded to have occurred within 250m radius of the site.

In March 1996, a Category 2 (significant incident) occurred at 'Bridge Crossing' in Merthyr Vale, approximately 247m to the east of the site; sewage (treated effluent) is the known pollutant to have been discharged into controlled waters.

2.4.6 Sensitive Land Use

The site is not located within a sensitive land use area.

The closest sensitive land use area is approximately 63m to the west, comprising of ancient and semi-natural woodland.

2.4.7 Measured Urban Soil Chemistry

The BGS have published measured urban soil chemistry concentrations locally to the site for a number of common contaminants, i.e. arsenic, cadmium, chromium, lead and nickel. All of the given determinands have anticipated concentrations that are below the recognised trigger levels for a residential with plant uptake scenario.

2.4.8 Industrial Land Use

There are no relevant contemporary trade directory entries recorded within 250m of the site.

2.4.9 Infilled Land

Potentially infilled land features within 250m of the site are summarised in **Table 2.4**.

Table 2.4 Potentially Infilled Land

Feature	Distance/Direction from site
Potentially Infilled Land (Non-Water)	
Unknown Filled Ground (Pit, quarry etc)	ON SITE.
Unknown Filled Ground (Pit, quarry etc)	135m to the east.
Potentially Infilled Land (Water)	
Unknown Filled Ground (Pond, marsh, river, stream, dock, etc)	14m to the southeast.
Unknown Filled Ground (Pond, marsh, river, stream, dock, etc)	88m to the southeast.
Unknown Filled Ground (Pond, marsh, river, stream, dock, etc)	136m to the west.
Unknown Filled Ground (Pond, marsh, river, stream, dock, etc)	226m to the northeast.

SECTION 3 Preliminary Human Health and Environmental Risk Assessment

3.1 General

The preliminary human health and environmental risk assessment is a qualitative evaluation of unacceptable risks to human health or the environment from potential 'contaminated land', based on reviewed information in preceding sections of this report.

For 'contaminated land' to exist as defined in Part 2A of the Environmental Protection Act (EPA) 1990, a Pollutant Linkage needs to be identified. Pollutant linkages are defined by having a valid 'source – pathway – receptor' as established in the preliminary conceptual site model.

For our definitions of pollution linkage and how we define risk please refer to **Annex B** which includes our classifications of consequence and probability, and risk assessment matrix.

3.2 Potential Sources of Contamination

Potential or known sources of contamination associated the sites current and historical land use are summarised in **Table 3.1**.

Table 3.1 Contamination Sources

ID	Source	Contaminant
S1	Made Ground	Metals, Metalloids, TPH, PAH, Asbestos, Ground Gas - CO ₂ , CH ₄ , CO, H ₂ S.
S2	Mine Workings	Ground Gas - CO ₂ , CH ₄ , CO, H ₂ S.
S3	Aggressive ground conditions	Sulphates

No other significant potential on-site or off-site sources of contamination have been identified during the desk study.

3.3 Potential Pollution Pathways

Potential contaminant pathways associated with a residential with home grown produce land use are as follows.

- P1 – Direct soil and dust ingestion
- P2 – Dermal contact
- P3 – Inhalation of dust
- P4 – Inhalation of asbestos fibres
- P5 – Horizontal and vertical migration of vapours and inhalation
- P6 – Horizontal and vertical migration of gas and inhalation
- P7 – Plant uptake and consumption of home grown produce
- P8 – Absorption in to potable water supply and consumption of potable water
- P9 – Direct contact with construction concrete
- P10 – Surface run-off
- P11 – Leaching of contaminants and migration of leachates (unsaturated zone)
- P12 – Horizontal and vertical migration of contaminants (saturated zone)

3.4 Potential Receptors

There are human and hydrological receptors to any contamination that may be present on site. Potential receptors include.

- R1 – Construction and maintenance workers
- R2 – Passers-by or neighbouring site users
- R3 – Future site users (residents)
- R4 – Construction materials (concrete)
- R5 – Surface waters (stream along the east of the site)
- R6 – Groundwater (aquifer)

3.5 Preliminary Conceptual Site Model

The preliminary conceptual site model establishes potential pollutant linkages between contaminants (source), pathways and receptors, realised during the preparation of the desk study report. Where a potential pollutant linkage is identified an assessment of risk is subsequently undertaken. The preliminary conceptual site model is tabulated in **Table 3.2**.

Outcomes of the preliminary conceptual site model are used as a basis for the design and implementation of the site investigation, whereby areas of potential contamination can be targeted as well as investigating the wider site.

Findings of the site investigation can in turn be used to develop and refine the conceptual site model.

Table 3.2 Preliminary Conceptual Site Model

Source	Pathway	Receptor	Preliminary Risk Assessment		
			Consequence	Probability	Risk
Human Health					
S1 Made Ground	P1 Direct soil and dust ingestion P2 Dermal contact P3 Inhalation of dust	Construction and maintenance workers R1	Medium	Likely	Medium Risk - COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended
		R2 Passers-by or neighbouring site users	Medium	Unlikely	Low Risk - Dust suppression measures if required.
		R3 Future site users (residents)	Medium	High Likelihood	High Risk - Suitably designed site investigation recommended
S1 Made Ground	P4 Inhalation of asbestos fibres	Construction and maintenance workers R1	Medium	Likely	Medium Risk - COSHH assessment and good level of PPE/ hygiene by site workers/ staff; dust suppression measures if required. Suitably designed site investigation recommended
		R2 Passers-by or neighbouring site users	Medium	Likely	Medium Risk - Suitably designed site investigation recommended
		R3 Future site users (residents)	Medium	Likely	Medium Risk - Suitably designed site investigation recommended
S1 Made Ground	P5 Horizontal and vertical migration of vapours and inhalation	R3 Future site users (residents)	Medium	Likely	Medium Risk - Suitably designed site investigation recommended
S2 Mine Workings	P6 Horizontal and vertical migration of gas and inhalation	Future site users (residents) R2	Severe	Likely	High Risk - Suitably designed site investigation recommended
S1 Made Ground	P7 Plant uptake and consumption of home grown produces	R3 Future site users (residents)	Medium	Likely	Medium Risk - Suitably designed site investigation recommended
S1 Made Ground	P8 Absorption in to potable water supply and consumption of potable water	R3 Future site users (residents)	Medium	Low Likelihood	Low Risk – Suitably designed site investigation recommended Ensure correct water pipes are used in construction
S3 Aggressive Ground Conditions	P9 Direct contact with construction concrete	R4 Construction materials (concrete)	Medium	Low Likelihood	Low Risk - Dust suppression measures if required.

Aquatic Environment					
S1 Made Ground	P10 Surface Run-off	R5 Surface waters	Mild	Low Likelihood	Low Risk
S1 Made Ground	P10 Leaching of contaminants and migration of leachates (unsaturated zone)	R5 Surface waters R6 Groundwater	Mild	Low Likelihood	Low Risk
	P11 Horizontal and vertical migration of contaminants (saturated zone)				

SECTION 4 Field Investigation

4.1 Site Works

A geotechnical and geoenvironmental site investigation comprising 4 No. windowless sampling boreholes, 3 No. gas installations and 5 No. TRL DCP tests was undertaken on the 19th of January 2023.

A further geotechnical and geoenvironmental site investigation comprising 3 No. rotary boreholes was undertaken from the 1st to the 9th of February 2023.

The fieldwork was supervised by TFW Group Ltd, who logged the exploratory holes to the requirements of BS 5930:2015+A1:2020. The proposed locations of the exploratory holes were determined by TFW Group Ltd in general accordance with BS 10175:2011+A2:2017 in order to assess the findings of the preliminary conceptual site model.

The boreholes referenced WS01 and WS04 were formed using a Terrier 2000 rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample.

Standard penetration tests (SPT) were carried out at regular intervals in general accordance with BS1377: Part 9:1990:3.3. SPT results summarised as N values are presented on the borehole log.

Boreholes were monitored for groundwater ingress as drilling proceeded.

Representative disturbed samples were taken and retained in airtight containers for environmental and geotechnical testing.

On completion, boreholes WS01 to WS03 were installed with slotted standpipes consisting of a 50mm ID HDPE slotted tube set in a granular filter zone and sealed above with a bentonite plug. Installations were protected at surface with an upstanding/flush cover. Full installation details are recorded on the relevant logs.

Borehole WS04 was backfilled with materials arisings.

Boreholes reference BH01 to BH03 were formed using a track mounted rotary drilling rig. Dynamic sampling techniques were employed from surface to produce a continuous disturbed sample. On encountering bedrock, and once at least 5.00m of competent bedrock was cored/recorded, the boreholes were continued by rotary open hole drilling methods utilising a water flush to assess the risk of shallow mine workings.

On completion, rotary boreholes were backfilled with bentonite pellets.

All core samples were retained in sequence in labelled coreboxes.

Standard penetration tests (SPT) were carried out at regular intervals in general accordance with BS1377: Part 9:1990:3.3. SPT results summarised as N values are presented on the borehole log.

Boreholes were monitored for groundwater ingress as drilling proceeded.

The window sample and rotary borehole logs are presented in **Annex C**.

The installations were tested for carbon dioxide, methane, oxygen, hydrogen sulphide and carbon monoxide using a gas analyser GA2000/5000. Atmospheric pressure and gas flow were also recorded. Subsequent monitoring readings are presented in **Annex D**.

Dynamic Cone Penetrometer tests, referenced DCP01 to DCP05, were carried out using a CNS Farnell A2465 dynamic cone penetrometer. Probe depths were measured with respect to ground level and the number of blows for the penetration of the probe was recorded. Equivalent CBR values have been calculated and presented with the results in **Annex G**.

Windowless sampling and rotary borehole locations are shown on **Drawing 01**.

TRL DCP locations are shown on **Drawing 02**.

4.2 Ground Conditions

The ground conditions encountered by the exploratory holes can in general be summarised as shown in **Table 4.1**.

Table 4.1 Summary of Typical Ground Conditions

Depth (m)			Thickness (m)	Stratum
0.00	-	0.40/1.20	0.40/1.20	MADE GROUND: Light brown mottled grey variably clayey variably gravelly SAND .
0.40/1.20	-	0.90/2.90	0.40/1.90	MADE GROUND: Loose to medium dense black mottled dark brownish red variably sandy GRAVEL with frequent pockets of coal ash.
0.90/2.90	-	2.50/3.50	0.50/1.70	MADE GROUND: Very loose to medium dense light greyish brown mottled orangish brown and brownish red variably clayey SAND & GRAVEL with low cobble content.
2.50/4.00	-	4.00/5.00	1.50/2.00	Soft to stiff orangish brown variably gravelly variably sandy CLAY with low cobble content.
4.00/5.00	-	9.50/11.50	4.50/6.50	Strong thinly to medium bedded dark grey SANDSTONE .
9.50/11.50	-	>30.00/>32.00	>20.50/>22.50	SANDSTONE & MUDSTONE (Drillers Description – Open Hole Drilling)

4.3 Groundwater

Groundwater was not encountered during the site investigation.

4.4 Stability and Obstructions

Boreholes remained stable and vertical during drilling.

4.5 Installation Well Construction

Gas well locations were selected on a targeted basis to investigate suspected/known sources of contamination or potential contamination migration pathways from made ground and mine workings.

Gas installation well construction details are summarised in **Table 4.2**.

Table 4.2 Installation Well Summary

Location	Response Zone		Stratum
	From (m)	To (m)	

WS01	1.00	3.00	MADE GROUND (SAND & GRAVEL)
WS02	1.00	3.00	
WS03	1.00	3.00	

4.6 Laboratory Chemical Testing

4.6.1 Sampling Strategy

Soil sampling locations were selected on a non-targeted basis to characterise the contamination status of the site.

Sample locations, depths and suspected/known contamination source targets are summarised in **Table 4.3**:

Table 4.3 Sample Locations, Depths and Targets

Location	Depth (m)	Contamination Targets
WS01	0.30	MADE GROUND (SAND & GRAVEL) – S1, S2.
WS01	0.50	
WS02	0.20	
WS02	0.60	
WS03	0.10	
WS03	0.50	
WS04	0.20	
WS04	0.60	

4.6.2 Soil Laboratory Analysis

During the site investigation works soil samples were taken and despatched to the accredited laboratories of Eurofins Chemtest for laboratory chemical testing. Soil samples were tested for the determinands listed in **Table 4.4**.

Table 4.4 Soil Laboratory Analysis

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Cadmium	Sulphate	PAH	Asbestos
Chromium III		Petroleum Hydrocarbons	
Chromium VI			
Copper			
Lead			
Mercury			
Nickel			
Selenium			
Zinc			

The results are discussed in detail in **SECTION 5** and the laboratory test results certificates may be found in **Annex E**.

4.6.3 Laboratory Geotechnical Testing

A schedule of laboratory tests was prepared by TFW Group Ltd and samples were despatched to the accredited laboratories of Apex Testing Solutions. A summary of the testing carried out is presented in **Table 4.5**.

Table 4.5 Summary of Geotechnical Testing

Geotechnical Test	Standard (BS1377:1990)	No. Tested
4 Point Liquid and Plastic Limit	Part 2, Clause 4.3 & 5.3	3
Rock Point Load	IRSM:1985	1
Rock Uniaxial Compressive Strength (UCS)	IRSM:2007	2

The test results are presented in **Annex F** and discussed in **SECTION 6** of this report.

SECTION 5 Evaluation of Geoenvironmental Analytical Results

5.1 Assessment Methodology

Comparison of the analytical results has been made with the 2015 Sutable 4 Use Levels (S4UL) provided by Land Quality Management (LQM) Limited and the Chartered Institute of Environmental Health (CIEH) or provisional Category 4 Screening Levels (pC4SL).

Sulphate results have been compared to guidelines presented in British Research Establishment (BRE SD1:2015). Sulphate levels need only be considered for buried concrete risk assessment and are not human health related.

5.2 Soil Test Results

A summary of the chemical test results which include the regulatory soil guideline values used in a residential setting with plant uptake are given in the following tables. The complete results can be found in **Annex E**.

5.2.1 Inorganics & Miscellaneous

Eight samples were tested for a standard suite of inorganics, pH and organic matter. The summarised results are in **Table 5.1**.

Table 5.1 Summary of Soil Chemical Test Results – Inorganics & Miscellaneous

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Arsenic	37	LQM/CIEH	9.9	31.0	0
Cadmium	11	LQM/CIEH	0.11	0.31	0
Chromium III	910	LQM/CIEH	9.4	14.0	0
Chromium VI	6	LQM/CIEH	<0.5	<0.5	0
Copper	2400	LQM/CIEH	19.0	94.0	0
Lead	200	pC4SL	26.0	52.0	0
Mercury (inorganic)	40	LQM/CIEH	0.07	0.14	0
Nickel	180	LQM/CIEH	19.0	76.0	0
Selenium	250	LQM/CIEH	0.85	2.2	0
Zinc	3700	LQM/CIEH	60.0	120.0	0
Cyanide	-	-	<0.5	<0.5	-
Boron	290	LQM/CIEH	<0.4	0.7	0
Sulphate Acid Soluble (%)	0.24	BRE	0.027	0.34	1
Organic Matter (%)	-	-	0.7	3.1	-
pH	-	-	6.9	7.9	-
Notes: - No available guideline					

5.2.2 Organics

Eight samples were tested for speciated polycyclic aromatic hydrocarbons. The summarised results are in **Table 5.2**.

Table 5.2 Summary of Soil Chemical Test Results – Speciated Polycyclic Aromatic Hydrocarbons

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Naphthalene	2.3	LQM/CIEH	<0.1	1.1	0
Acenaphthylene	170	LQM/CIEH	<0.1	0.21	0
Acenaphthene	210	LQM/CIEH	<0.1	0.48	0
Fluorene	170	LQM/CIEH	<0.1	0.44	0
Phenanthrene	95	LQM/CIEH	<0.1	1.2	0
Anthracene	2400	LQM/CIEH	<0.1	0.26	0
Fluoranthene	280	LQM/CIEH	<0.1	1.2	0
Pyrene	620	LQM/CIEH	<0.1	1.1	0
Benzo(a)anthracene	7.2	LQM/CIEH	<0.1	0.96	0
Chrysene	15	LQM/CIEH	<0.1	1.5	0
Benzo(b)fluoranthene	2.6	LQM/CIEH	<0.1	1.2	0
Benzo(k)fluoranthene	77	LQM/CIEH	<0.1	0.66	0
Benzo(a)pyrene	2.2	LQM/CIEH	<0.1	0.88	0
Indeno(123cd)pyrene	27	LQM/CIEH	<0.1	1.0	0
Dibenzo(ah)anthracene	0.24	LQM/CIEH	<0.1	0.79	2
Benzo(ghi)perylene	320	LQM/CIEH	<0.1	1.5	0
Total PAH	-	-	<2.0	13.0	-

Notes:

Thresholds based on 1.0% soil organic matter

- No available guidelines

Eight samples were tested for petroleum hydrocarbon. The summarised results are shown in **Table 5.3**.

Table 5.3 Summary of Soil Chemical Test Results – Petroleum Hydrocarbons

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Aliphatic					
PH C5 – C6 Ali	42	LQM/CIEH	<0.05	<0.05	0
PH C6 – C8 Ali	100	LQM/CIEH	<0.05	<0.05	0
PH C8 – C10 Ali	27	LQM/CIEH	<0.05	<0.05	0
PH C10 – C12 Ali	130	LQM/CIEH	<2.0	<2.0	0
PH C12 – C16 Ali	1100	LQM/CIEH	<1.0	<1.0	0
PH C16 – C21 Ali	65000*	LQM/CIEH	<2.0	<2.0	0
PH C21 – C35 Ali	65000*	LQM/CIEH	<3.0	3.6	0
PH C35 – C40 Ali	65000	LQM/CIEH	<1.0	2.1	0
Aromatic					
PH C5 – C7 Arom	70	LQM/CIEH	<0.05	<0.05	0
PH C7 – C8 Arom	130	LQM/CIEH	<0.05	<0.05	0
PH C8 – C10 Arom	34	LQM/CIEH	<0.05	<0.05	0
PH C10 – C12 Arom	74	LQM/CIEH	<1.0	1.3	0
PH C12 – C16 Arom	140	LQM/CIEH	<1.0	58.0	0
PH C16 – C21 Arom	260	LQM/CIEH	<2.0	640.0	1

PH C21 – C35 Arom	1100	LQM/CIEH	<2.0	760.0	0
PH C35 – C44 Arom	1100	LQM/CIEH	3.4	80.0	0

Notes:

PH – Petroleum Hydrocarbon

Ali – Aliphatic

Arom – Aromatic

Thresholds based on 1.0% soil organic matter

* – Ali C16-21 and C21-C35 based on criteria for Ali EC >16-35

Eight samples were tested for Phenols. The summarised results are in **Table 5.4**.

Table 5.4 Summary of Soil Chemical Test Results – Phenols, BTEX & MTBE

Substance	Threshold Value (mg/kg)	Source	Measured Concentrations (mg/kg)		Number of Exceedances
			Minimum	Maximum	
Phenols	120	LQM/CIEH	<0.1	<0.1	0

Notes:

- No available guideline

5.2.3 Asbestos Testing

All made ground soil samples were scheduled for asbestos screening. Asbestos was not detected.

SECTION 6 Geotechnical Testing Results

Geotechnical testing results are summarised in the following sections and presented in their entirety in **Annex F**.

6.1 Point Load Index Testing

One selected section of rock core was submitted to Apex Testing Services and scheduled for point-load index testing. Due to the sample quality, Uniaxial Compressive Testing was unable to be performed on this sample.

The Uniaxial Compressive Strength (UCS) is related to the Point Load Index (Is_{50}) by a conversion factor, K, as follows;

$$UCS = (K) Is_{50}$$

Published K values for sedimentary rock typically range from 16 to 24 (Rusnak, J., Mark, C. *Using the Point Load Test to Determine the Uniaxial Compressive Strength of Coal Measure Rock*. 2000). Terra Firma (Wales) Ltd have typically found the K value to sit in the region of K=20 locally. This value has subsequently been employed to estimate UCS values where point load testing was undertaken. UCS values derived from point load testing results are summarised in **Table 6.1**.

Table 6.1 Summary of Point Load Index Test Results

Borehole	Depth (m)	Rock Type	Point Load Index (Is_{50})	Uniaxial Compressive Strength (MPa)
Point Load Index Tests (UCS derived from Is_{50} and $K=20$)				
BH01	5.50	SANDSTONE - Axial	3.76	75.2
		SANDSTONE - Diametral	4.36	87.2

Table Notes:

- HB – Haverford Beds
- d – Diametral loading
- a – Axial loading
- l – Irregular lump

6.2 Uniaxial Compressive Strength

Two selected quality sections of rock core were submitted to Apex Testing Services and scheduled for Uniaxial Compressive Strength.

Table 6.2 Summary of Uniaxial Compressive Strength Test Results

Borehole	Depth (m)	Rock Type	Time of Failure (sec) & Mode of Failure	Mode of Failure	Uniaxial Compressive Strength (MPa)
BH02	7.00 – 7.11	SANDSTONE	364	Axial Cleavage	88.7
BH03	8.00 – 8.12	SANDSTONE	461		81.3

6.3 Plasticity & Moisture Content Testing

During the investigation three samples of the shallow clay material was taken and submitted for plasticity testing. The test results are summarised in **Table 6.3**.

Table 6.3 Plasticity & Moisture Content Test Results

Location	Depth (m)	Laboratory Soil Type	Plasticity Index (%)	Passing 425µm Sieve (%)	Modified Plasticity Index (%)	Volume Change Potential
BH01	3.50	CLAY	12	67	8.04	NON-PLASTIC
BH02	3.50	Clayey SAND	0	58	0.00	
BH03	4.00	CLAY	14	46	6.44	

In line with the NHBC (Chapter 4.2), the modified plasticity index for each sample was calculated. For design purposes the soils on site should be assumed to be non-plastic.

6.4 BRE SD1 Testing

Three samples were subject to BRE SD1 testing for concrete classification. The results are summarised in **Table 6.4**.

Table 6.4 BRE SD1 Testing Summary

Location	Depth (m)	2:1 Water/Soil Extract	Total Potential Sulphate (%)	pH	Oxidisable Sulphides
		SO ₄ (mg/l)			
WS01	0.30	<0.010	0.24	7.4	0.193
WS02	0.60	<0.010	0.18	6.9	0.060
WS03	0.10	<0.010	0.36	6.9	0.290

SECTION 7 Coal Mining Risk Assessment

7.1 Geotechnical Risk

7.1.1 Underground Mining

Based upon geological map data, the stratigraphical sequence within 32m of the ground surface of the site is illustrated in **Figure 7.1**.

Holocene	MADE GROUND	0.00m to 2.50m
	Residual Soils	2.50m to 4.00/5.50m
South Wales Lower Coal Measures	Coal Bearing Mudstone/Siltstone with Seatearth and minor Sandstone	4.00/5.50m to >32.00m

Figure 7.1 Geology and Strata Base below Ground Level

The shallowest worked coal seam is labelled as the Tillery Brithdir and is purported to be at a depth of 21m below ground level. The extraction thickness is given as 1.80m and its last known working date was 1880.

The intrusive mining investigation encountered no workings/workable coal seams to a maximum depth of 32m beneath the proposed housing development; only very thin coal seams were encountered during open hole drilling, which are outlined in the logs, with a maximum thickness of 0.10m.

It can therefore be concluded that the workings must lie excess of 32m below ground level.

In order to prevent the collapse of old workings migrating to the surface and forming 'crown holes' there should be a rock head to void ratio of 10:1. The coal workings are given by the Coal Authority to be 1.80m thick. A minimum 27m of rockhead has been confirmed. There is therefore sufficient rockhead cover to satisfy the criteria for the coal workings.

A nearby mine shaft is approximately 15m to the north. Rockhead was confirmed at between 4.0m and 5.0m below ground level. It may therefore be confirmed that the site should not lie within a zone of potential collapse of the mine shaft.

7.1.2 Conclusion

The overall risk to the surface stability of the site from shallow workings is considered negligible.

7.2 Geoenvironmental Risk

7.2.1 Mine Gas Risk Assessment

The Coal Authority recorded no mine gas incidences within 500m of the site. There is however a significant risk from mining gas at the site due to past shallow mining and the nearby mine shaft. This is further discussed in **SECTION 8.0**.

SECTION 8 Ground Gas Risk Assessment

8.1 Gas Screening Value

Three ground gas monitoring wells were installed in WS01 to WS03. Installation details are shown on the relevant logs.

Two rounds of gas monitoring have been carried out to date. The installations were tested for carbon dioxide, methane, oxygen, carbon monoxide and hydrogen sulphide using a Gas Analyser GA2000/5000.

Recorded gas concentrations are summarised in **Table 8.1**.

Table 8.1 Measured Gas Concentration Summary

Gas	Minimum (% V/V)	Maximum (% V/V)
Methane	0.1	0.2
Carbon Dioxide	1.8	2.4
Oxygen	18.7	19.9

Methane levels peaked at 0.2% V/V. Carbon dioxide levels varied between 1.8% and 2.4% V/V. Oxygen concentrations varied between 18.7% and 19.9% V/V.

The gas flow rate from the boreholes was also assessed, a maximum flow rate of 0.3l/hr was recorded.

Based on a flow rate of 0.3 l/hr and the highest recorded carbon dioxide concentration of 2.4%, a gas screening value of 0.0072 l/hr is calculated, as follows:

$$(2.4/100) \times 0.3 = 0.0072 \text{ l/hr}$$

The results to date are presented in **Annex D**.

8.2 Conclusion

When this monitoring result is compared with Table 8.5 of CIRIA report C665, the site is classified as 'Gas Characteristic Situation 1' (CS1).

Upon completion of the full six rounds of monitoring the recommendation will be reviewed in a letter report and, if necessary, amended.

SECTION 9 Quantitative Risk Assessment

9.1 Contaminants of Concern

Contaminants identified as part of the investigation are summarised in **Table 9.1**, along with an interpretation of the likely contamination source. Where applicable, the contaminant, source relationship is based on the inferences made in the preliminary conceptual site model.

Table 9.1 Contaminants of Concern

Location	Depth	Contaminant	Source
WS03	0.50	Dibenz(a,h)anthracene	S1
WS04	0.60		
WS01	0.50	Aromatic EPH >C16-21	S1

9.2 Mitigation and Remedial Measures

The following sections summarise the likely mitigation and remedial measures suitable for the identified contamination and proposed development. Detailed methodology to achieve the measures should be prescribed in a Remediation Strategy Report and the results presented in a Validation Report upon completion of the development.

9.2.1 Human Health

9.2.1.1 Contaminated Soils

To protect future site users from the identified contamination the site will need to be capped. The capping should consist of the proposed buildings and hard standings. In garden and soft landscaped areas the capping should consist of 600mm of suitable inert topsoil, and subsoil if desired.

As good practice, construction workers should adhere to good site management, COSHH, good standards of hygiene and appropriate health & safety on site, with personal protection equipment (PPE) and dust suppression where appropriate.

All imported soils should be validated as clean and suitable for use in accordance with 'Requirements for the Chemical Testing of Imported Soils for Various End Uses and Validation Cover Systems'.

For proposed new supply water pipes, the UK Water Industry Research publication 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites (Report 10/WM/03/21)' should be consulted.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties.

If during earthworks ground conditions are encountered that are markedly different to those found during the investigation, then the ground should be subject to additional sampling and testing and any necessary remedial measures designed and implemented before continuing with the works.

9.2.2 Aquatic Environment

Site specific mitigation and remedial measures are not required with respect to the aquatic environment.

During the construction period, there is a risk to the environment/adjacent sites from de-watering, digging foundations, moving contaminated soil, drainage misconnections, discharges to local surface waters or the ground, runoff from construction materials and/or exposed ground, wheel washings and oil or chemical spills.

The risk is considered to be negligible as any adverse effects will be easily preventable by due diligence to good construction practise and housekeeping in preventing surface runoff and the spillage of materials.

The basic measures that should be taken are as follows:

- Prepare a drainage plan and mark the manholes to prevent pollutants accidentally reaching the surface water sewers;
- Carry out any activities that could cause pollution in a designated, bunded area, away from rivers or boreholes. Where possible it should drain to the foul sewer;
- Use settlement ponds to remove silty water;
- Store all oils and chemicals in a fully bunded area to prevent leaks or spills;
- Get advice on whether you need an environmental permit and apply in good time

SECTION 10 Engineering Recommendations

10.1 Preparation of Site

Areas of vegetation including all roots should be stripped and removed from beneath the proposed development site.

Allowances should be made for any temporary/permanent support works to any existing adjacent structure necessary as a result of the proposed works.

Contingencies should be made for the protection/diversion of any underground/overhead services present beneath/above the site brought about as a result of the proposed works.

Any reduced levels should be brought up to the required levels with suitable inert mainly granular materials. Department of Transport (DTp) type 2 sub-base or similar should be used and compacted in layers to the requirements of the Specification for Highway Works.

Allowances should also be made for the excavation of any soft spots/areas and their replacement with well compacted imported granular materials.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils and other materials destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties. Terra Firma (Wales) Ltd offer this service if required.

10.2 Foundation and Floor Slab Solution

Due to the variable nature and depth of the made ground, mass concrete strip, trench or pad foundations are not considered feasible for the development, where unfavourable differential settlements between foundations are anticipated.

Therefore, two alternative foundation recommendations are suggested.

The first recommendation is that a reinforced concrete raft foundation, founded upon 1.0m of recompacted materials, is adopted for the proposed development.

The re-compaction should comprise the excavation of 1.5m of made ground materials to at least 1.0m outside the plan areas of the buildings, and 1.50m below the underside of the proposed foundation, the removal of all deleterious materials and the re-compaction in layers of the material to Series 600 of the Specification for Highway Works. The materials should be compacted to within 95% of their optimum moisture content. To this end samples of the materials should be taken and tested in the laboratory in order to determine their optimum moisture content/maximum dry density relationship together with grading analysis. A Compaction Specification can then be prepared.

Suitability of the compaction **must** be confirmed by in-situ plate load and density testing, and the works monitored and verified by a qualified and competent geotechnical engineer.

An allowable bearing pressure of 50kN/m² may be used for design purposes. For the given foundation solution founded within the above materials, a maximum total settlement of 30mm can be expected. Differential settlement of foundations should not lead to structural distortion of more than 1:750.

Any soft spots/areas should be removed from beneath the proposed raft foundation and replaced with well compacted imported granular materials as previously described.

A line taken at 45 degrees out from the base of the foundations should not intersect the proposed piled retaining wall to be constructed to the rear of the new houses to stabilise the existing slope.

If trees are to be incorporated within the proposed development, foundations will need to be taken deeper within influencing distance of the tree root systems. The National House Building Council (NHBC) Chapter 4.2 gives guidelines as to the appropriate type of floor slab and void based on the type of tree, distance of the foundation from the tree and the plasticity index of the in-situ materials.

During the investigation two samples of the in-situ soil were taken and submitted for plasticity testing. In line with the NHBC (Chapter 4.2), the modified plasticity index for each sample was calculated. For design purposes the superficial cohesive deposits should be assumed to be non-plastic.

It should be noted that some of the larger warranty providers do not accept a raft foundation founded upon any made ground if untreated. The warranty provider should therefore be consulted prior to using this foundation/floor slab solution.

If the use of raft foundations is not permitted, or a greater working load is required, then a piled foundation solution may be required.

As previously stated, a piled retaining wall will be installed to the rear of the proposed houses.

Given the proximity of the road and working on a slope, a bored piled foundation solution is recommended, with piles socketed into the underlying competent sandstone bedrock.

For a 300mm bored pile with a typical length of 7.00m to 8.0m, an allowable working load of 400kN should be achieved.

Variations in the quoted pile lengths should be expected.

Measurements should be put in place to monitor vibrations during pile installation. If vibrations exceed guideline levels, then measures should also be taken to dampen such vibrations. If, however, vibrations exceed permissible values then consideration should be given to an alternative solution.

The estimated working pile loads, pile type and lengths should be confirmed by a specialist piling contractor and it may be prudent to test drive/install piles at selected locations.

For the quoted pile sizes, founded within the competent in-situ materials, total settlements should not exceed 10mm with differential movements between adjacent piles being less than half this value.

Allowances should be made for the removal of any 'soft spots' and their replacement with well-compacted granular materials. Department of Transport (DoT) Type 2 materials or similar could be used and should be compacted in layers to the specification for Highway Works.

All foundation formations should be inspected by a suitably qualified Engineer before being concreted.

10.3 Excavations and Formations

Most of the shallow excavations will be possible with normal soil excavating machinery.

Shallow perched water and groundwater flows were not encountered during the investigation. Any water inflows together with rainwater infiltration should be dealt with by conventional

pumping techniques. However, it should be noted that during times of heavy rainfall a higher water table will be encountered.

The sides of any excavations deeper than 1.20m, or shallower if unstable, should be supported by planking and strutting or other proprietary means.

The sub-formations/formations are likely to be susceptible to loosening, softening and deterioration by exposure to weather (rain, frost and drying conditions), the action of water (flood water or removal of groundwater) and site traffic.

Formations should never be left unprotected and continuously exposed to rain causing degradation, or left exposed/uncovered overnight, unless permitted by a qualified engineer.

Construction plant and other vehicular traffic should not be operated on unprotected formations.

As a minimum the formation/excavation surfaces must be protected by blinding concrete immediately after exposure.

Allowances should be made for the removal of soft spots/areas and their replacement with well compacted granular materials.

Allowances should also be made for special precautions to prevent formation deterioration in addition to the above.

10.4 Protection of Buried Concrete

When the results are compared with Table C2 of BRE Digest 1:2005, it indicates that buried concrete should generally conform to DS-2 ACEC Class AC-1s.

10.5 Access Roads and Car Parking Areas

For car parking and road areas, formations within the in-situ natural soils a CBR value of 5% may be used for design purposes.

Allowances should be made for the removal of any 'soft spots/areas' and their replacement with well-compacted granular materials as previously described.

Please note that the Local Council / Highways Authority may require in-situ CBR testing to be undertaken before a road is adopted. In-situ CBR Testing should be performed following earthworks to verify the performance of the engineered fill.

10.6 Retaining Walls

Due to the sloping nature of the site towards the east, retaining walls will be required.

The existing steepness of any embankments should not be increased. Any cuts should be undertaken in small sections and in such a way so as not to induce any instability to the ground.

Effective shear parameters for retaining wall design are presented in **Table 10.1**.

Table 10.1 Effective Shear Stress Parameters

Stratum Description	Bulk Unit Weight (γ) kN/m ³	Effective Cohesion (c') kN/m ²	Effective Angle of Shearing Resistance (ϕ') degrees
Made Ground	18	0	18
Soft to firm cohesive soils	18	0	20-25

Firm to stiff cohesive soils	20	0	35
Sandstone	20	8	40-50
Well compacted, granular materials compacted as per Specification for Highway Works and other relevant guidance such as British Standards (BS) 6031: 1981. Code of Practice for Earthworks.	19-20	0	35-40

The parameters are based on experience in similar ground conditions.

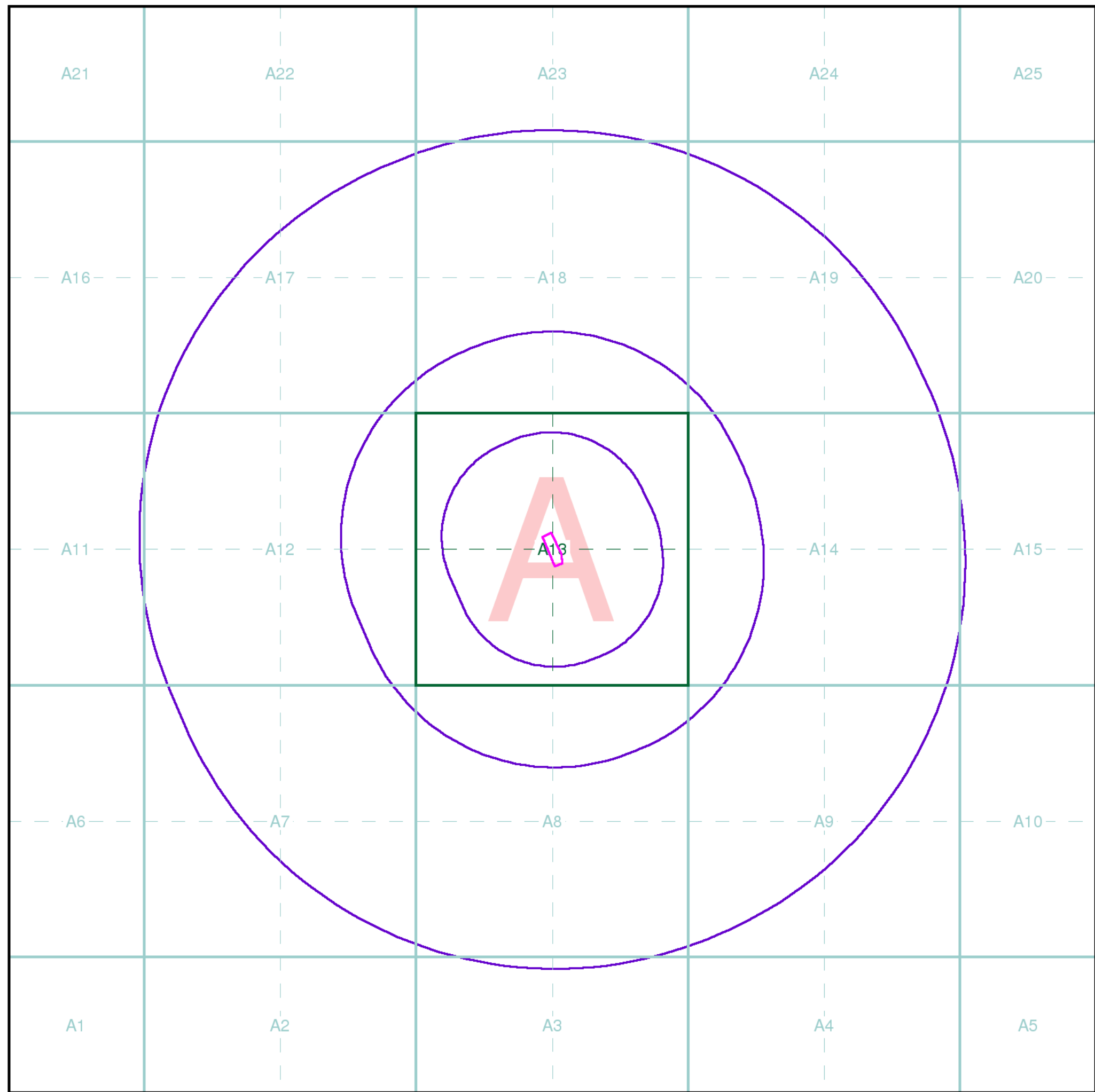
The materials to be in-filled behind the retaining wall should be placed at or close to its optimum moisture content/maximum dry density and compacted in layers as per the requirements of the Specification for Highway Works. During the earthworks suitable in-situ testing should be carried out to ensure that the compaction process is achieving the required maximum dry density to achieve at least 95% compaction.

The acceptability of the filling works should be verified by appropriate on site testing. A certification report should also be prepared on the earthworks by a suitably qualified Geotechnical Engineer.

Appropriate drainage should be incorporated in the design to prevent the build-up of hydrostatic pressure.

Appropriate cutting and benching of the existing slope should be conducted prior to the replacement of any imported fill to minimise the risk of any slip surfaces forming on the interface between the existing imported materials.

**ANNEX A
Envirocheck Report & Coal Authority
Report**



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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Ms R Liley, TFW Group Ltd, 5 Deryn Court, Wharfdale Road, Pentwyn, Cardiff, CF23 7HB

Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Site Area (Ha): 0.2
Search Buffer (m): 1000

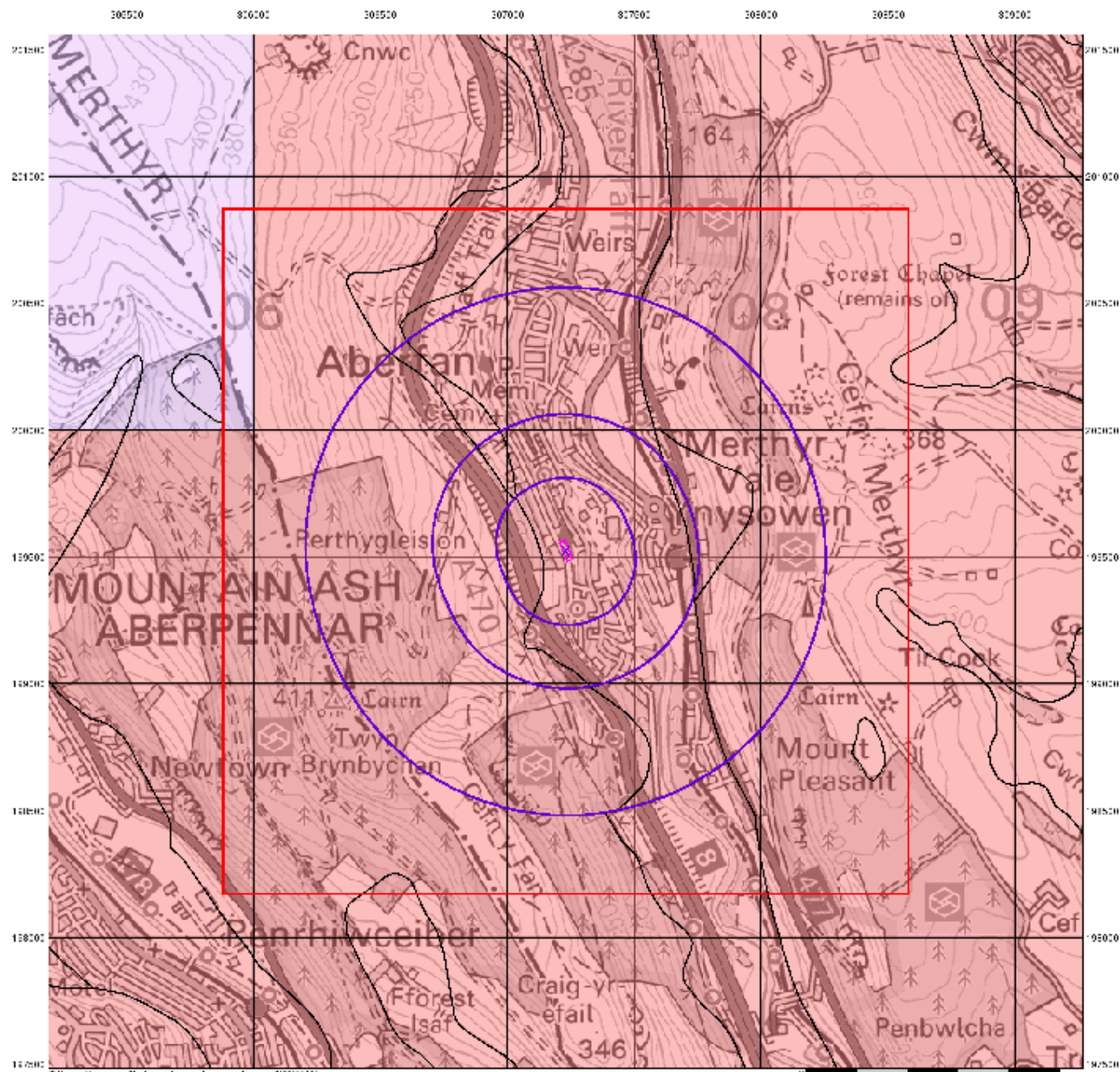
Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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<http://www.landmarkinfo.co.uk/Terms/Show/515>



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Geotechnical & Geoenvironmental Specialists

Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

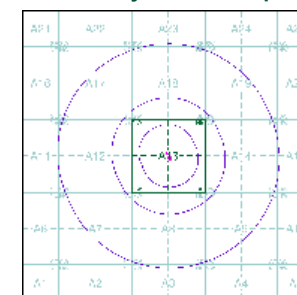
Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

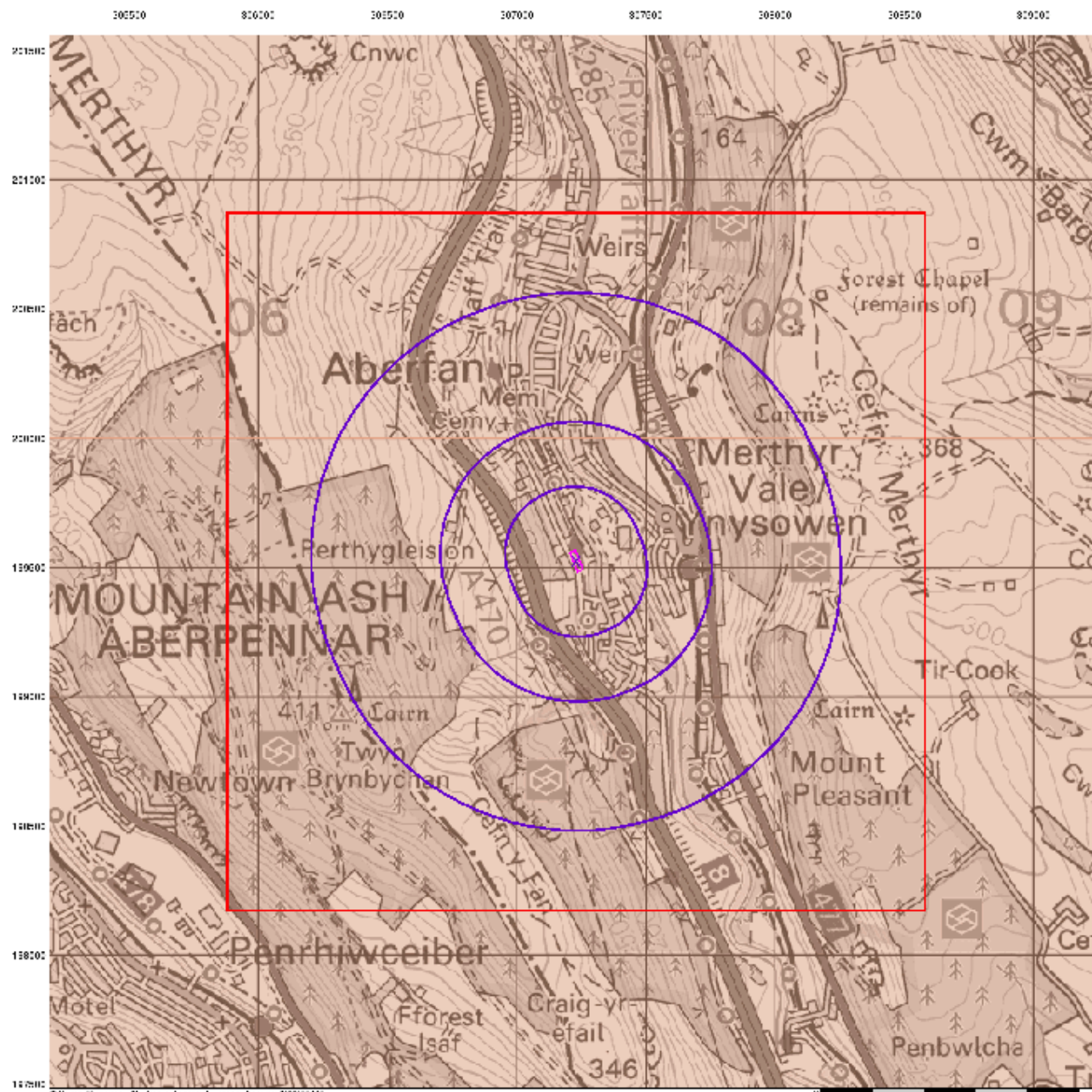
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 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Geotechnical & Geoenvironmental Specialists

Bedrock Aquifer Designation

General

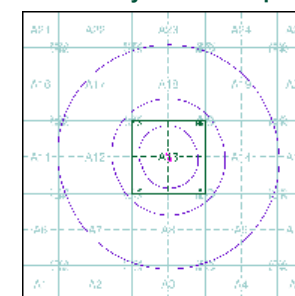
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

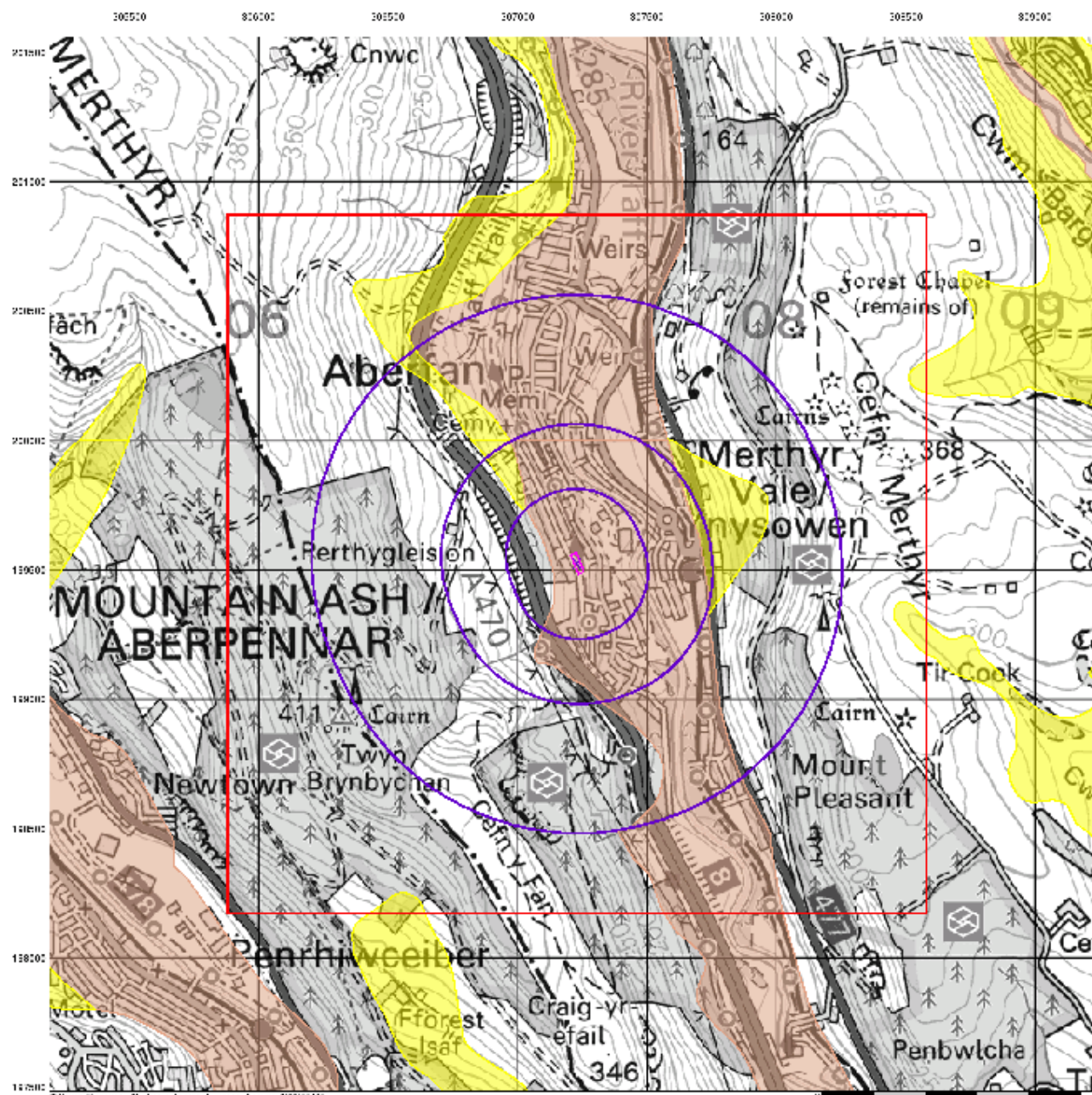
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 National Grid Reference: 307230, 199520
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 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

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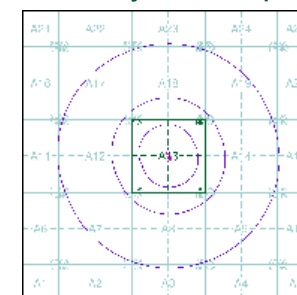
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Superficial Aquifer Designation

-  Specified Site
  Specified Buffer(s)
  Bearing Reference Point
 Slice
 Map ID

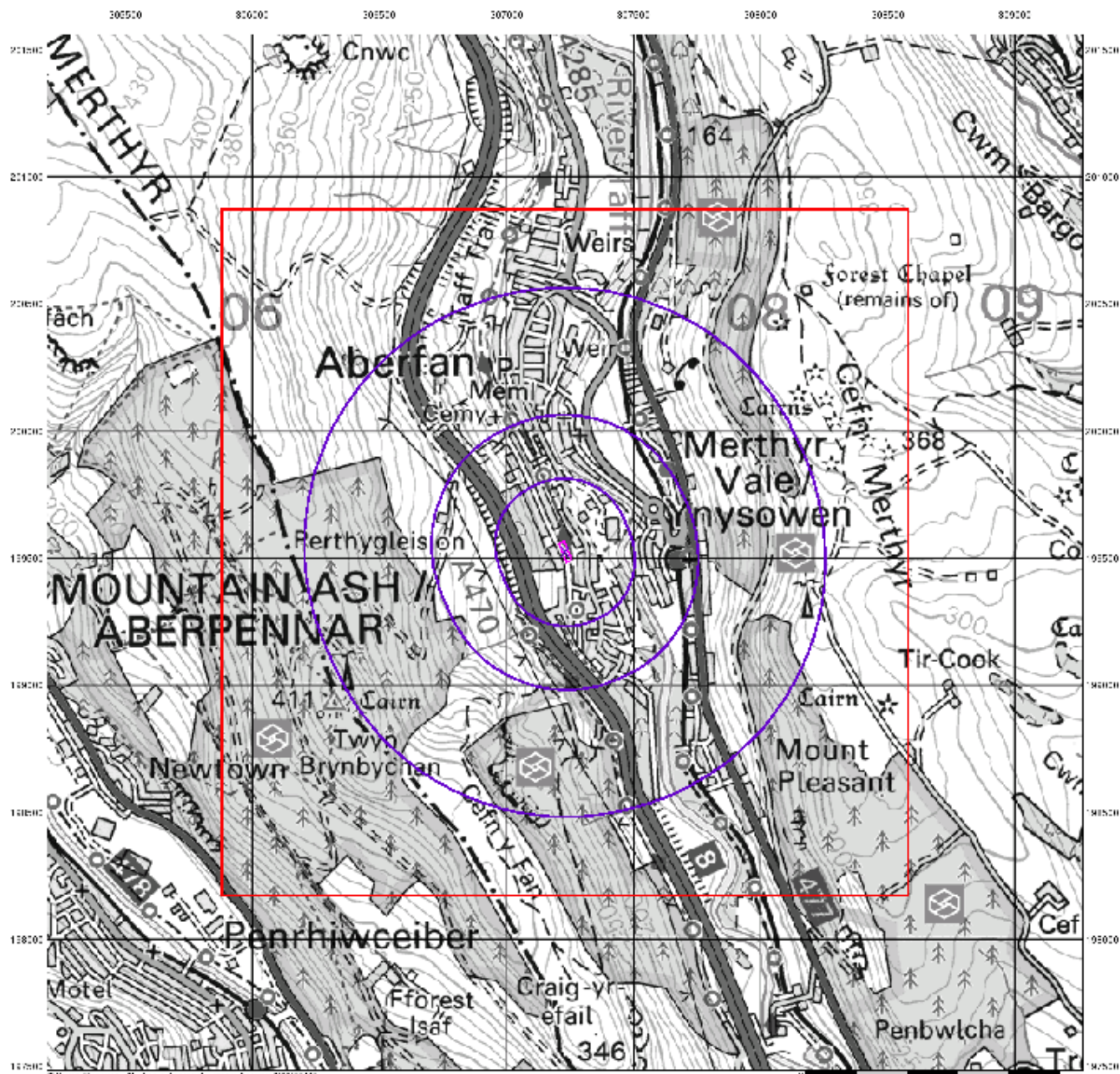
- Geological Classes**
- Principal Aquifer
 - Secondary A Aquifer
 - Secondary B Aquifer
 - Secondary Undifferentiated
 - Unproductive Strata
 - Unknown
 - Unknown (Lakes and Landslip)



Order Details

Site Details

Landmark
INFORMATION GROUP



Geotechnical & Geoenvironmental Specialists

Source Protection Zones

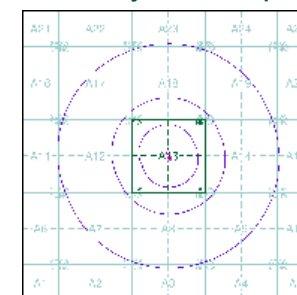
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

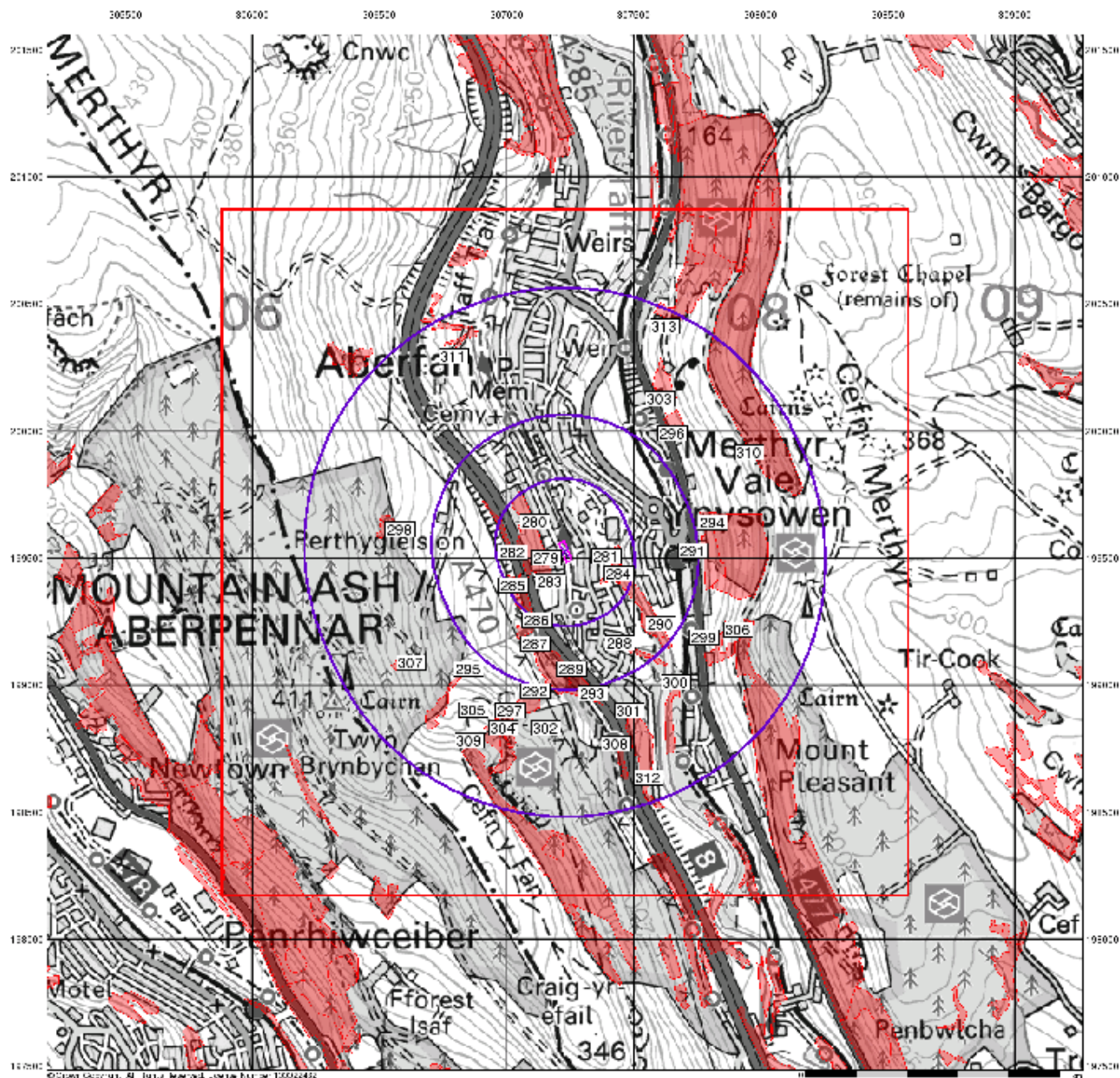
Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Sensitive Land Uses

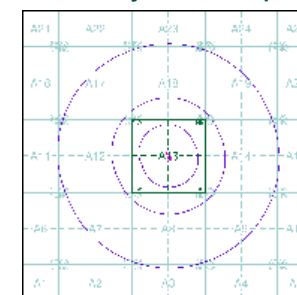
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

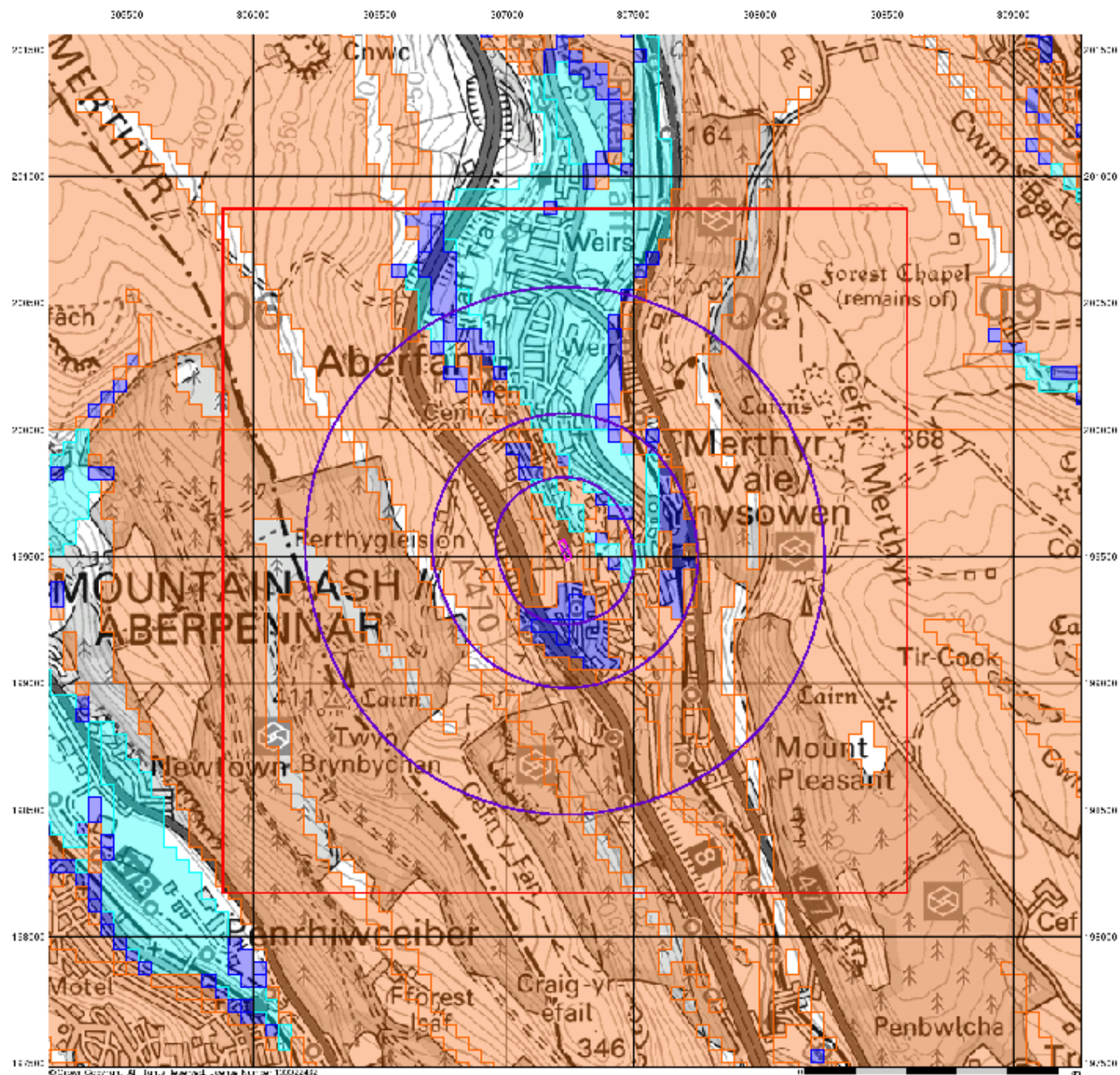
Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



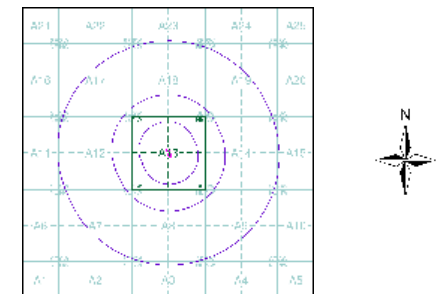
BGS Flood GFS Data

-  Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	291241604_1_1
Customer Ref:	17176
National Grid Reference:	307230, 199520
Slice:	A
Site Area (Ha):	0.2
Search Buffer (m):	1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

291241604_1_1

Customer Reference:

17176

National Grid Reference:

307230, 199520

Slice:

A

Site Area (Ha):

0.2

Search Buffer (m):

1000

Site Details:

Ty Alfa, Yr Hen Llaethdy

Aberfan

MERTHYR TYDFIL

CF48 4PY

Client Details:

Ms R Liley

TFW Group Ltd

5 Deryn Court

Wharfdale Road

Pentwyn

Cardiff

CF23 7HB

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Agency & Hydrological	1
Waste	27
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Data Suppliers	52
Useful Contacts	53

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 3			5	2
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 4			2	
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 5		Yes		
Pollution Incidents to Controlled Waters	pg 5		1	3	5
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 6			1	2
River Quality Biology Sampling Points	pg 7				2
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 7				2
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 8	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 9		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 9		34	42	79

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 27				1
Local Authority Landfill Coverage	pg 27	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 27	1	1	3	11
Potentially Infilled Land (Water)	pg 28		4	12	16
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 30				2
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 31	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 31	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 32		1	3	15
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 35	Yes	n/a	n/a	n/a
Mining Instability	pg 35	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 35	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 35		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 35	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 36	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 36		Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 37			7	4
Fuel Station Entries	pg 38			1	1
Points of Interest - Commercial Services	pg 38			2	2
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 38			1	8
Points of Interest - Public Infrastructure	pg 39			2	22
Points of Interest - Recreational and Environmental	pg 41		2	4	4
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 43		7	6	22
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	0	1	307230 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	43	1	307250 199600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	47	1	307300 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	55	1	307150 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	61	1	307300 199550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	82	1	307300 199600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	83	1	307230 199400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	98	1	307350 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	107	1	307350 199550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	113	1	307300 199650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	134	1	307250 199350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	147	1	307300 199350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	147	1	307400 199500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	184	1	307350 199700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	194	1	307400 199650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	197	1	307450 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (E)	197	1	307450 199500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	200	1	307300 199750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	233	1	307230 199250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	248	1	307150 199800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	249	1	307000 199400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (E)	250	1	307500 199450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	275	1	306950 199450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	281	1	307400 199250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	286	1	307230 199850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	296	1	307150 199850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	313	1	307100 199850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	314	1	307100 199200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (E)	349	1	307600 199450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	383	1	307250 199100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (SE)	396	1	307600 199300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	404	1	307450 199900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	423	1	307400 199950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (NW)	425	1	307050 199950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (NE)	434	1	307500 199900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	436	1	307230 200000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (NE)	446	1	307450 199950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	447	1	307700 199524
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	449	1	307700 199450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	453	1	307350 200000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (N)	454	1	307100 200000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	463	1	307650 199750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	467	1	307550 199900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	470	1	307400 200000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	471	1	307700 199650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	471	1	307600 199850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (NE)	490	1	307450 200000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (NW)	491	1	307000 200000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SW)	493	1	307000 199050
1	Discharge Consents Operator: British Coal Corporation Property Type: Undefined Or Other Location: Merthyr Vale Colliery Authority: Natural Resources Wales Catchment Area: River Taff Reference: An0042101 Permit Version: 1 Effective Date: 14th October 1987 Issued Date: 14th October 1987 Revocation Date: 6th March 1995 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: Taff Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A18SW (N)	336	2	307220 199900
2	Discharge Consents Operator: British Coal Corporation Property Type: Coal Extraction, Deep Mine Location: Merthyr Vale Colliery Authority: Natural Resources Wales Catchment Area: River Taff Reference: Ag0017101 Permit Version: 1 Effective Date: 7th September 1983 Issued Date: 7th September 1983 Revocation Date: 12th March 1993 Discharge Type: Trade Effluent Discharge: Not Supplied Environment: Receiving Water: River Taff Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	343	2	307550 199680
3	Discharge Consents Operator: British Coal Corporation Property Type: Undefined Or Other Location: Merthyr Vale Colliery Top Lagoon Authority: Natural Resources Wales Catchment Area: River Taff Reference: Ag0017102 Permit Version: 1 Effective Date: 7th September 1983 Issued Date: 7th September 1983 Revocation Date: 12th March 1993 Discharge Type: Trade Effluent Discharge: Not Supplied Environment: Receiving Water: Taff River - Unnamed Trib Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	387	2	307450 199880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consents Operator: British Coal Corporation Property Type: Undefined Or Other Location: Not Supplied Authority: Natural Resources Wales Catchment Area: River Taff Reference: Ae2009802 Permit Version: 2 Effective Date: 29th July 1986 Issued Date: 29th July 1986 Revocation Date: 12th March 1993 Discharge Type: Minewater Discharge: Not Supplied Environment: Receiving Water: Taff River Status: Consent expired Positional Accuracy: Located by supplier to within 10m	A18SE (N)	423	2	307400 199950
4	Discharge Consents Operator: British Coal Corporation Property Type: Undefined Or Other Location: Not Supplied Authority: Natural Resources Wales Catchment Area: River Taff Reference: Ae2009802 Permit Version: 1 Effective Date: 25th July 1963 Issued Date: 25th July 1963 Revocation Date: 28th July 1986 Discharge Type: Minewater Discharge: Not Supplied Environment: Receiving Water: Taff River Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A18SE (N)	423	2	307400 199950
5	Discharge Consents Operator: Cpl Environmental Engineering Property Type: Extraction Of Stone, Gravel Etc. Location: Coal Recovery Ops At Former Merthyr, Merthyr Vale Colliery Authority: Natural Resources Wales Catchment Area: River Taff Reference: AN0259901 Permit Version: 1 Effective Date: 17th July 1995 Issued Date: 17th July 1995 Revocation Date: 8th March 2001 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Taff Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A18SE (N)	567	2	307250 200130
6	Discharge Consents Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Troedyrhiw Stw Authority: Natural Resources Wales Catchment Area: River Taff Reference: Ae2023401 Permit Version: 1 Effective Date: 20th March 1964 Issued Date: 20th March 1964 Revocation Date: 19th November 1992 Discharge Type: Unspecified Discharge: Not Supplied Environment: Receiving Water: River Taff Status: Consent expired Positional Accuracy: Located by supplier to within 100m	A18NE (N)	641	2	307300 200200
7	Local Authority Pollution Prevention and Controls Name: Bryntaf Motors Location: Bryntaf Quarry, Bryntaf, Aberfan, MERTHYR TYDFIL, Mid Glamorgan, CF48 4PJ Authority: Merthyr Tydfil County Borough Council, Environmental Health Department Permit Reference: PPC/PG1/1(95)01 Dated: 1st April 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	342	3	307007 199833

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	Local Authority Pollution Prevention and Controls Name: Anglo Coal Ltd Location: Merthyr Vale Colliery Land Reclamation Scheme, Nixonville Authority: Merthyr Tydfil County Borough Council, Environmental Health Department Permit Reference: PG (3)/5(91)-6 Dated: 14th August 1995 Process Type: Local Authority Pollution Prevention and Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Positional Accuracy: Located by supplier to within 10m	A18SE (N)	469	3	307369 200011
	Nearest Surface Water Feature	A13SE (SE)	1	-	307252 199512
9	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Bridge Crossing From, MERTHYR VALE Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 12th March 1991 Incident Reference: 127 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	247	4	307500 199500
10	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Footbridge, Ynysowen, Infants School Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 7th March 1996 Incident Reference: 27500 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NE (E)	265	4	307500 199600
11	Pollution Incidents to Controlled Waters Property Type: Land Location: Quakers Yard Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 4th March 1995 Incident Reference: 22823 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (N)	438	4	307201 200001
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Golaue Aberfan, BRYN Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 30th January 1992 Incident Reference: 2622 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	486	4	307700 199300
13	Pollution Incidents to Controlled Waters Property Type: Not Given Location: MERTHYR Authority: Environment Agency, Welsh Region Pollutant: Oils - Other Oil Note: Not Supplied Incident Date: 23rd February 1996 Incident Reference: 27683 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (N)	636	4	307300 200195

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Adjacent Merthyr, Vale Colliery Authority: Environment Agency, Welsh Region Pollutant: Oils - Other Oil Note: Not Supplied Incident Date: 23rd February 1996 Incident Reference: 27683 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	641	4	307300 200200
14	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Lower Merthyr, Between Aberfan And Merthyr Vale Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Not Supplied Incident Date: 15th March 1995 Incident Reference: 22963 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	740	4	307300 200300
15	Pollution Incidents to Controlled Waters Property Type: Not Given Location: ABERFAN Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 23rd March 1995 Incident Reference: 23479 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	840	4	307300 200400
16	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Up Stream Of Aberfan Weir, ABERFAN Authority: Environment Agency, Welsh Region Pollutant: Mining Water Note: Not Supplied Incident Date: 27th February 1996 Incident Reference: 27483 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19NW (NE)	916	4	307600 200400
	River Quality Name: Taff GQA Grade: River Quality A Reach: Nant Aberfan-Nant Y Maen Estimated Distance (km): 1.4 Flow Rate: Flow less than 5 cumecs Flow Type: River Year: 2000	A13NE (E)	260	4	307504 199569
	River Quality Name: Taff GQA Grade: River Quality A Reach: Conf.Nant Mafon-Conf.Nant Aberfan Estimated Distance (km): 5.8 Flow Rate: Flow less than 5 cumecs Flow Type: River Year: 2000	A9NW (SE)	594	4	307696 199094

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Taff GQA Grade: River Quality A Reach: Conf.Nant Y Maen-Nant Cannaid Estimated Distance (km): 4.8 Flow Rate: Flow less than 5 cumecs Flow Type: River Year: 2000	A18SE (N)	602	4	307280 200163
17	River Quality Biology Sampling Points Name: Taff Reach: Nant Aberfan To Nant Y Maen Estimated Distance: 1.40 Positional Accuracy: Located by supplier to within 100m Year: 1990 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 1995 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2000 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2002 GQA Grade: River Quality Biology GQA Grade Not Supplied Year: 2003 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2004 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2005 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2006 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2007 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2008 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2009 GQA Grade: River Quality Biology GQA Grade B - Good	A18NE (N)	641	4	307300 200200
18	River Quality Biology Sampling Points Name: Taff Reach: Confluence Nant Mafon To Confluence Nant Aberfan Estimated Distance: 5.80 Positional Accuracy: Located by supplier to within 100m Year: 1990 GQA Grade: River Quality Biology GQA Grade C - Fairly Good Year: 1995 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2000 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2002 GQA Grade: River Quality Biology GQA Grade Not Supplied Year: 2003 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2004 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2005 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2006 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2007 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2008 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2009 GQA Grade: River Quality Biology GQA Grade B - Good	A9NW (SE)	663	4	307700 199000
19	Water Abstractions Operator: Hargreaves Industrial Services Licence Number: 21/57/22/0039 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, Welsh Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: River Daily Rate (m3): 80 Yearly Rate (m3): 22880 Details: River Taff Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (N)	581	4	307230 200145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Water Abstractions Operator: Merthyr Tydfil Borough Council Licence Number: 21/57/22/0036 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, Welsh Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: River Daily Rate (m3): 80 Yearly Rate (m3): 22880 Details: River Taff Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (N)	586	4	307230 200150
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: >550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NE (E)	0	2	307230 199524
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (E)	0	2	307230 199524
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (E)	0	2	307230 199524
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	169	2	307421 199511
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Events Boundary Accuracy: As Supplied	A13SE (E)	172	2	307424 199509
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A13SE (E)	172	2	307424 199510
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	176	2	307426 199457
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Events Boundary Accuracy: As Supplied	A13NE (E)	184	2	307431 199546
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (E)	186	2	307432 199553
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Events Boundary Accuracy: As Supplied	A13SE (E)	198	2	307448 199454
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A13SE (E)	201	2	307453 199508

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	177	2	307429 199502
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 168.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (NE)	1	5	307243 199529
21	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	37	5	307213 199598
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	47	5	307208 199607
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (S)	47	5	307250 199438
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (S)	49	5	307257 199439
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	52	5	307175 199597
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	52	5	307175 199597

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	61	5	307204 199620
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 290.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	61	5	307204 199620
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	67	5	307202 199626
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (S)	75	5	307258 199412
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 71.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	81	5	307127 199578
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	81	5	307127 199578
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A13NW (NW)	86	5	307127 199591
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (S)	102	5	307259 199384
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 141.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	106	5	307112 199606

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	124	5	307185 199680
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	125	5	307184 199682
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (W)	143	5	307062 199553
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 115.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (SE)	143	5	307370 199408
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	145	5	307177 199700
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	147	5	307177 199702
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (W)	188	5	307018 199535
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (E)	196	5	307448 199475
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 180.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (E)	202	5	307453 199521

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 466.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (E)	209	5	307462 199482
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (W)	223	5	306984 199523
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 294.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (W)	223	5	306984 199523
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 345.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	224	5	307024 199398
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 487.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (W)	227	5	306980 199522
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	237	5	307137 199783
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	238	5	307005 199684
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 120.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (N)	239	5	307136 199785
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NW (NW)	244	5	307015 199708

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 428.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (N)	258	5	307338 199797
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 93.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SE (S)	270	5	307267 199215
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 94.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (S)	294	5	307126 199210
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (S)	294	5	307111 199216
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 170.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	296	5	307094 199223
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	296	5	307094 199223
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 124.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (NE)	297	5	307473 199728
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 119.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13NE (E)	306	5	307531 199634
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 82.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (S)	308	5	307214 199176

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 134.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	312	5	307049 199233
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 145.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	312	5	307032 199245
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 120.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (S)	324	5	307139 199173
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	355	5	306934 199296
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	359	5	307090 199896
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 272.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (SE)	359	5	307428 199176
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 92.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	361	5	307089 199898
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 479.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	362	5	307277 199123
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A12NE (NW)	402	5	306891 199806

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 118.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (S)	409	5	307208 199075
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (S)	409	5	307200 199076
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 67.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12NE (NW)	410	5	306869 199789
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 61.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SE (SW)	418	5	306864 199292
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	422	5	307649 199651
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 70.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	426	5	306925 199190
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 67.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A13SW (SW)	426	5	306925 199190
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	434	5	307663 199645
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (NW)	435	5	306916 199879

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 440.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	442	5	307183 200003
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 184.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	442	5	307183 200003
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 225.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NW (SW)	451	5	306955 199130
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	453	5	307045 199979
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 101.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12NE (NW)	462	5	306789 199755
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SE (SW)	473	5	306803 199290
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12SE (SW)	473	5	306803 199290
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A12NE (NW)	475	5	306824 199838
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (NW)	478	5	306989 199981

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 62.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	486	5	307299 199002
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	489	5	307712 199673
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	489	5	307712 199673
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	495	5	307031 200018
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 287.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	497	5	307324 198994
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (NW)	498	5	307024 200018
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 169.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	502	5	307028 200025
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 284.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (NE)	529	5	307721 199755
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 166.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (NE)	530	5	307724 199751

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	542	5	307336 198951
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 137.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17SE (NW)	558	5	306754 199883
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 215.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8NE (S)	585	5	307352 198910
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 164.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	590	5	307815 199681
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 132.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (E)	590	5	307815 199681
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 279.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9NW (SE)	591	5	307674 199076
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (N)	601	5	307135 200157
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9NW (SE)	637	5	307586 198947
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 110.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NW (N)	647	5	307186 200210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A7NE (SW)	662	5	306785 198997
109	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 229.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (NW)	663	5	306901 200144
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 228.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A7NE (SW)	663	5	306786 198995
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 241.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18SW (NW)	671	5	306956 200178
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 198.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9NW (SE)	678	5	307632 198927
113	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	684	5	306659 199966
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	684	5	306659 199966
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.6 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	687	5	306755 200074
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (NE)	692	5	307880 199799

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NW (NE)	692	5	307880 199799
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	697	5	306636 199957
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 140.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	699	5	306625 199945
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	699	5	306631 199955
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	700	5	306631 199954
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 303.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17SE (NW)	718	5	306646 200006
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 394.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	734	5	307250 200297
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	734	5	307250 200297
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NE (E)	735	5	307935 199779

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A14NE (E)	735	5	307935 199779
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 264.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9SW (SE)	770	5	307615 198810
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	778	5	307265 200341
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	781	5	307266 200343
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 345.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8SE (S)	791	5	307462 198725
131	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8SE (S)	809	5	307476 198711
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	839	5	307276 200401
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	843	5	307278 200406
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 33.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	846	5	306733 200257

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 91.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	849	5	307365 200401
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 49.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	849	5	307365 200401
137	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	856	5	307272 200419
138	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 122.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	856	5	306787 200301
139	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	859	5	307271 200421
140	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nant Aber-fan Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A7SE (SW)	864	5	306676 198825
141	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	868	5	306740 200287
142	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	871	5	306742 200292
143	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A19NW (NE)	876	5	307707 200296

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
144	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	889	5	307399 200436
145	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	896	5	307386 200445
146	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 146.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17NE (NW)	901	5	306814 200366
147	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	901	5	306814 200366
148	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	901	5	307389 200450
149	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 266.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Afon Taf Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	901	5	307389 200450
150	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	905	5	307378 200456
151	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (N)	908	5	306870 200398
152	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	912	5	306842 200391

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	912	5	306842 200391
154	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	916	5	306858 200402
155	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	916	5	306858 200402
156	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17NE (NW)	919	5	306845 200400
157	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 177.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A8SE (S)	930	5	307503 198593
158	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 67.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A18NE (N)	932	5	307249 200495
159	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 53.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	936	5	306831 200413
160	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17NE (NW)	946	5	306674 200337
161	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	957	5	306780 200412

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
162	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	960	5	306779 200414
163	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	960	5	306779 200414
164	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 84.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	967	5	306590 200301
165	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 95.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	967	5	306592 200303
166	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 265.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (N)	969	5	306853 200458
167	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 255.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A23SW (N)	980	5	307203 200543
168	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	981	5	306733 200414
169	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17NE (NW)	985	5	306739 200423
170	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 64.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	993	5	306682 200399

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
171	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9SW (S)	993	5	307582 198553
172	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 2	A17NE (NW)	995	5	306732 200430
173	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A17NE (NW)	995	5	306732 200430
174	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cynon, Ely and Rhondda Primacy: 1	A9SW (S)	995	5	307587 198552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
175	Licensed Waste Management Facilities (Locations) Licence Number: ZB3197TJ Location: Aberfan Household Waste And Recycling Centre, Aberfan Road, Aberfan, Merthyr Tydfil, Merthyr Tydfil, CF48 4QE Operator Name: Merthyr Tydfil County Borough Council Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household Waste Amenity Sites Licence Status: Effective Issued: 3rd September 2018 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	904	2	307330 200462
	Local Authority Landfill Coverage Name: Merthyr Tydfil County Borough Council - Has supplied landfill data		0	3	307230 199524
176	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A13NE (E)	0	-	307230 199524
177	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A13NE (E)	135	-	307382 199543
178	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A13NW (NW)	282	-	307048 199789
179	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A12NE (NW)	405	-	306852 199753
180	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A18SE (N)	414	-	307261 199977
181	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A19SW (NE)	544	-	307637 199920
182	Potentially Infilled Land (Non-Water) Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A8NW (SW)	556	-	306994 198982
183	Potentially Infilled Land (Non-Water) Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A18SE (N)	587	-	307390 200127
184	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A18SW (NW)	667	-	306912 200153
185	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A8SE (S)	667	-	307431 198846
186	Potentially Infilled Land (Non-Water) Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A17SE (NW)	701	-	306834 200149
187	Potentially Infilled Land (Non-Water) Bearing Ref: NE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1989	A18SE (NE)	707	-	307561 200186

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14SE (E)	773	-	308026 199475
189	Potentially Infilled Land (Non-Water) Bearing Ref: S Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A8SE (S)	783	-	307483 198740
190	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14SE (E)	792	-	308005 199242
191	Potentially Infilled Land (Non-Water) Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1990	A14NE (E)	882	-	308109 199715
192	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13SE (SE)	14	-	307265 199505
193	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13SE (SE)	88	-	307316 199429
194	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1965	A13NW (W)	136	-	307069 199560
195	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A13NE (NE)	226	-	307442 199637
196	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13SE (E)	288	-	307541 199489
197	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13SE (E)	311	-	307555 199417
198	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NW (NE)	357	-	307568 199676
199	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A8NW (S)	372	-	307193 199114
200	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NW (NE)	375	-	307572 199721
201	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A13NE (NE)	390	-	307539 199797
202	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A8NE (S)	393	-	307310 199097
203	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NW (E)	411	-	307624 199684
204	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A18SW (N)	425	-	307063 199957
205	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14SW (SE)	427	-	307646 199323
206	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A8NE (S)	481	-	307360 199018
207	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A14NW (E)	490	-	307739 199558

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
208	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A17SE (NW)	506	-	306815 199877
209	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A17SE (NW)	526	-	306816 199908
210	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A8NE (S)	596	-	307444 198925
211	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A18SW (N)	635	-	307149 200194
212	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SW (N)	685	-	306954 200192
213	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	694	-	306681 200011
214	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NW (N)	732	-	307228 200296
215	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A18NW (N)	795	-	307061 200341
216	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A19NW (NE)	818	-	307662 200256
217	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	820	-	306623 200133
218	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A17SE (NW)	821	-	306685 200190
219	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NE (N)	826	-	307273 200388
220	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1901	A18NE (N)	898	-	307385 200448
221	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NE (N)	931	-	307387 200481
222	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17NE (NW)	943	-	306670 200331
223	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1884	A18NE (N)	953	-	307248 200517

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
224	Registered Waste Transfer Sites Licence Holder: Silent Valley Waste Services Ltd Licence Reference: 950133 Site Location: Aberfan C.A.Site, Days Field, Aberfan, Merthyr Tydfil, Mid Glamorgan Operator Location: Beechwood House, Cwm, EBBW VALE, Gwent, NP23 6PZ Authority: Environment Agency Wales, South East Area Site Category: Civic Amenity Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 26th May 2000 Preceded By: 950133 Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Bonded Asbestos Maximum Waste Permitted By Licence Ukw 22.00.00 General & Biodegradable Waste Ukw 29.10.00 Organic Chemicals - Mineral/Synthetic Oil Waste Other Waste/Waste Not Otherwise Specified Prohibited Waste: Ukw 23.00.00 Metals & Discarded/Scrap Composite Equipment Waste Solely/Mainly Finely Divided Metals/Dusts/Powder/Fibres	A18NE (N)	911	4	307315 200470
224	Registered Waste Transfer Sites Licence Holder: Silent Valley Waste Services Ltd Licence Reference: 950133 Site Location: Aberfan C.A.Site, Days Field, Aberfan, Merthyr Tydfil, Mid Glamorgan Operator Location: Beechwood House, Cwm, EBBW VALE, Gwent, NP23 6PZ Authority: Environment Agency Wales, South East Area Site Category: Civic Amenity Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Record supersededSuperseded Dated: 8th March 1995 Preceded By: Not Given Licence: Superseded By: 950133 Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Household Waste Max.Waste Permitted By Licence Waste Oil Prohibited Waste: Liquid Waste N.O.S. Percussive/Explosive/Similar Waste Spec.Waste (Epa'90:S62/1996 Regs) Sub'S Control. Radioactive Subs Act'60 Waste N.O.S.	A18NE (N)	911	4	307315 200470

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: South Wales Upper Coal Measures Formation	A13NE (E)	0	1	307230 199524
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	0	1	307230 199524
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	143	1	307364 199618
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (NW)	402	1	307006 199903
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (NE)	536	1	307538 200000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	552	1	307586 199982
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (NE)	686	1	307846 199857

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <100 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A9NE (SE)	893	1	308000 199000
225	BGS Recorded Mineral Sites Site Name: Cwm Giflas Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155964 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NE (E)	158	1	307406 199540
226	BGS Recorded Mineral Sites Site Name: Perthi-Gleision Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155938 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	327	1	307025 199827
227	BGS Recorded Mineral Sites Site Name: Perthi-Gleision Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155939 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	406	1	306852 199756
228	BGS Recorded Mineral Sites Site Name: Merthyr Vale Mine Location: Aberfan, Merthyr Tydfil, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 2880 Type: Underground Status: Ceased Operator: British Coal - South Wales Area Operator Location: Not Supplied Periodic Type: Carboniferous Geology: South Wales Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 100m	A18SE (N)	470	1	307400 200000
229	BGS Recorded Mineral Sites Site Name: Clive Place Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155925 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	542	1	307627 199928

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
230	BGS Recorded Mineral Sites Site Name: Twyn Brynbychan Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155947 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8NW (SW)	544	1	306992 198996
231	BGS Recorded Mineral Sites Site Name: Merthyr Vale No 1 Pit Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 188628 Type: Underground Status: Ceased Operator: Individual's Name Withheld Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	545	1	307372 200089
232	BGS Recorded Mineral Sites Site Name: Oaklands Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155944 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	634	1	307835 199238
233	BGS Recorded Mineral Sites Site Name: Windsor Hotel Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155924 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	692	1	307663 200100
234	BGS Recorded Mineral Sites Site Name: Aber-Fan Fawr Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155945 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A8SE (S)	696	1	307444 198819
235	BGS Recorded Mineral Sites Site Name: Hafod-Tanglwys Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155926 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	708	1	306765 200109

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	BGS Recorded Mineral Sites Site Name: Aber-Fan Fawr Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155946 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A8SE (S)	777	1	307477 198745
237	BGS Recorded Mineral Sites Site Name: Oaklands Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155962 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	795	1	308012 199253
238	BGS Recorded Mineral Sites Site Name: Capel Calfaria Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155941 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	843	1	308096 199500
239	BGS Recorded Mineral Sites Site Name: Dan-Y-Deri Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155923 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Brithdir Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	876	1	307586 200362
240	BGS Recorded Mineral Sites Site Name: Capel Calfaria Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155940 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14NE (E)	881	1	308108 199711
241	BGS Recorded Mineral Sites Site Name: Capel Calfaria Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155942 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	953	1	308206 199504

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
242	BGS Recorded Mineral Sites Site Name: Oaklands Location: Merthyr Vale, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155943 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Hughes Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A14SE (E)	968	1	308176 199197
243	BGS Recorded Mineral Sites Site Name: Pant-Glas Location: Aberfan, Mountain Ash, Mid Glamorgan Source: British Geological Survey, National Geoscience Information Service Reference: 155915 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Rhondda Member Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A23SW (N)	995	1	307119 200553
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (E)	0	6	307230 199524
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NE (E)	0	-	307230 199524
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	143	1	307364 199618
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	143	1	307364 199618
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	143	1	307364 199618
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	157	1	307385 199595
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	162	1	307407 199552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	175	1	307271 199733
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	240	1	307037 199726
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	81	1	307137 199501
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	143	1	307364 199618
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	60	1	307290 199580
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	240	1	307037 199726
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	307230 199524

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	Contemporary Trade Directory Entries Name: Bryntaf Garage Location: Bryntaf, Aberfan, Merthyr Tydfil, Mid Glamorgan, CF48 4PJ Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	335	-	307017 199832
244	Contemporary Trade Directory Entries Name: Bryntaf Garage Location: Bryntaf quarry, Bryntaf, Aberfan, Merthyr Tydfil, Mid Glamorgan, CF48 4PJ Classification: Mot Testing Centres Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	335	-	307017 199832
244	Contemporary Trade Directory Entries Name: Bryntaf Garage Location: Bryntaf Quarry, Bryntaf, Aberfan, Merthyr Tydfil, Mid Glamorgan, CF48 4PJ Classification: Mot Testing Centres Status: Active Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	336	-	307022 199836
245	Contemporary Trade Directory Entries Name: J M Tyre Recycling Location: 12, Bryngoleu, Aberfan, Merthyr Tydfil, Mid Glamorgan, CF48 4PD Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	341	-	307431 199199
246	Contemporary Trade Directory Entries Name: C & G Motors Location: Greys Pl, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4RR Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NW (E)	437	-	307674 199620
247	Contemporary Trade Directory Entries Name: Barwood Motor Trade Location: Police House, Cardiff Road, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4RX Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	467	-	307712 199582
248	Contemporary Trade Directory Entries Name: Budget Commercial Location: Cardiff Rd, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4RX Classification: Commercial Vehicle Dealers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	498	-	307738 199379
249	Contemporary Trade Directory Entries Name: Ags Bargain Bangers Location: Oaklands, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4SY Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A14SW (SE)	569	-	307746 199206
250	Contemporary Trade Directory Entries Name: Top Gear Auto Services Ltd Location: Oaklands, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4SY Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A9NW (SE)	656	-	307743 199054
250	Contemporary Trade Directory Entries Name: Oaklands Location: 13, Oaklands, Merthyr Vale, Merthyr Tydfil, Mid Glamorgan, CF48 4SY Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	685	-	307774 199045
251	Contemporary Trade Directory Entries Name: J Gough & Sons Location: Aberfan Road, Aberfan, Merthyr Tydfil, Mid Glamorgan, CF48 4QN Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	724	-	307075 200271

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	Fuel Station Entries Name: Park View Service Station Location: Cardiff Road , Merthyr Vale , Merthyr Tydfil, Merthyr Tydfil, CF48 4RX Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A14NW (E)	477	-	307690 199698
253	Fuel Station Entries Name: Top Gear Auto Services Location: Cardiff Road , Merthyr Vale , Merthyr Tydfil, Merthyr Tydfil, CF48 4RX Brand: UNBRANDED Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Approximate location provided by supplier	A9NW (SE)	707	-	307762 198999
254	Points of Interest - Commercial Services Name: Bryntaf Garage Location: Bryntaf Quarry, Bryntaf, Aberfan, Merthyr Tydfil, CF48 4PJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	336	7	307022 199836
255	Points of Interest - Commercial Services Name: C & G Motors Location: 1 Greys Place, Merthyr Vale, Merthyr Tydfil, CF48 4RR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (E)	472	7	307707 199629
256	Points of Interest - Commercial Services Name: Oaklands Garage Location: Oaklands, Merthyr Vale, Merthyr Tydfil, CF48 4SY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	656	7	307743 199054
256	Points of Interest - Commercial Services Name: Top Gear Auto Services Ltd Location: Oaklands, Merthyr Vale, Merthyr Tydfil, CF48 4SY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	656	7	307743 199054
257	Points of Interest - Manufacturing and Production Name: Tanks Location: CF48 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	354	7	307541 199726
258	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF48 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	635	7	307836 199239
258	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF48 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	638	7	307840 199240
259	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF48 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A8SW (S)	722	7	306978 198808
259	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF48 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A8SW (SW)	768	7	306919 198783

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
260	Points of Interest - Manufacturing and Production Name: Workings (Dis) Location: CF46 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	758	7	307982 199283
261	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF46 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	806	7	308058 199462
261	Points of Interest - Manufacturing and Production Name: Quarry (Disused) Location: CF46 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to address or location	A14SE (E)	824	7	308077 199494
262	Points of Interest - Manufacturing and Production Name: Shaft (Disused) Location: CF48 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A19NW (N)	961	7	307589 200454
263	Points of Interest - Public Infrastructure Name: Merthyr Vale Rail Station Location: CF48 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A14SW (E)	407	7	307659 199511
263	Points of Interest - Public Infrastructure Name: Merthyr Vale Station Location: Tudor Close (Clos Tudur), CF48 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A14SW (E)	407	7	307659 199511
264	Points of Interest - Public Infrastructure Name: Cemetery Location: CF48 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	519	7	307009 200035
264	Points of Interest - Public Infrastructure Name: Cemetery Location: CF48 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	582	7	306937 200071
264	Points of Interest - Public Infrastructure Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	583	7	306937 200072
265	Points of Interest - Public Infrastructure Name: Cemetery Location: CF48 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	529	7	306889 199979
266	Points of Interest - Public Infrastructure Name: Sluice Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	557	7	307255 200120
266	Points of Interest - Public Infrastructure Name: Sluice Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	564	7	307248 200127

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
266	Points of Interest - Public Infrastructure Name: Sluice Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	597	7	307270 200159
266	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	632	7	307254 200195
266	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	634	7	307262 200197
267	Points of Interest - Public Infrastructure Name: Heap (Dis) Location: CF48 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	586	7	307780 199233
267	Points of Interest - Public Infrastructure Name: Refuse Tip (Disused) Location: CF48 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	619	7	307784 199172
268	Points of Interest - Public Infrastructure Name: Oaklands Location: 13 Oaklands, Merthyr Vale, Merthyr Tydfil, CF48 4SY Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	685	7	307774 199045
269	Points of Interest - Public Infrastructure Name: Refuse Tip (Disused) Location: CF46 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	771	7	307987 199254
270	Points of Interest - Public Infrastructure Name: Refuse Tip (Disused) Location: CF46 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	805	7	308058 199493
271	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	852	7	307619 198720
271	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	854	7	307618 198718
271	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	937	7	307626 198630
271	Points of Interest - Public Infrastructure Name: Weir Location: CF48 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	939	7	307626 198628

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
272	Points of Interest - Public Infrastructure Name: Recycling Facility Location: CF48 Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	889	7	307288 200451
272	Points of Interest - Public Infrastructure Name: Civic Amenity Site Location: CF48 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	915	7	307317 200474
273	Points of Interest - Public Infrastructure Name: Garden of Remembrance Location: CF48 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	929	7	306928 200443
273	Points of Interest - Public Infrastructure Name: Garden of Remembrance Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	938	7	306892 200440
274	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NE (N)	209	7	307268 199769
274	Points of Interest - Recreational and Environmental Name: Playground Location: Walter'S Terrace, CF48 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (N)	217	7	307271 199776
275	Points of Interest - Recreational and Environmental Name: Playground Location: Taff Street, CF48 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14SW (SE)	443	7	307633 199263
275	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	460	7	307646 199250
276	Points of Interest - Recreational and Environmental Name: Playground Location: Cardiff Road, CF48 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NW (NE)	468	7	307631 199799
276	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	483	7	307613 199853
277	Points of Interest - Recreational and Environmental Name: Coventry Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	612	7	307530 200095
277	Points of Interest - Recreational and Environmental Name: Coventry Playground Location: Sarah Street, CF48 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A18SE (NE)	613	7	307529 200097

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
278	Points of Interest - Recreational and Environmental Name: Playground Location: Moy Road (Heol Moy), CF48 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A18NW (N)	942	7	306997 200477
278	Points of Interest - Recreational and Environmental Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	943	7	306993 200477

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
279	Ancient Woodland Name: Not Supplied Reference: 18037 Area(m ²): 17608.61 Type: Ancient and Semi-Natural Woodland	A13SW (W)	63	2	307157 199499
280	Ancient Woodland Name: Not Supplied Reference: 12718 Area(m ²): 6334.05 Type: Ancient and Semi-Natural Woodland	A13NW (NW)	130	2	307109 199642
281	Ancient Woodland Name: Not Supplied Reference: 18036 Area(m ²): 5532.24 Type: Ancient and Semi-Natural Woodland	A13SE (E)	139	2	307391 199505
282	Ancient Woodland Name: Not Supplied Reference: 12717 Area(m ²): 3518.21 Type: Ancient and Semi-Natural Woodland	A13SW (W)	185	2	307023 199522
283	Ancient Woodland Name: Not Supplied Reference: 18035 Area(m ²): 5333.77 Type: Ancient and Semi-Natural Woodland	A13SW (SW)	186	2	307050 199442
284	Ancient Woodland Name: Not Supplied Reference: 10067 Area(m ²): 14037.3 Type: Ancient and Semi-Natural Woodland	A13SE (E)	187	2	307441 199469
285	Ancient Woodland Name: Not Supplied Reference: 10066 Area(m ²): 2614.1 Type: Ancient and Semi-Natural Woodland	A13SW (SW)	228	2	307024 199392
286	Ancient Woodland Name: Not Supplied Reference: 18033 Area(m ²): 2942.14 Type: Ancient and Semi-Natural Woodland	A13SW (S)	257	2	307118 199254
287	Ancient Woodland Name: Not Supplied Reference: 10065 Area(m ²): 16741.83 Type: Ancient and Semi-Natural Woodland	A8NW (S)	343	2	307114 199162
288	Ancient Woodland Name: Not Supplied Reference: 18031 Area(m ²): 3029.32 Type: Ancient and Semi-Natural Woodland	A8NE (SE)	378	2	307444 199164
289	Ancient Woodland Name: Not Supplied Reference: 7473 Area(m ²): 5806.07 Type: Ancient and Semi-Natural Woodland	A8NE (S)	420	2	307257 199064
290	Ancient Woodland Name: Not Supplied Reference: 18032 Area(m ²): 1925.41 Type: Ancient and Semi-Natural Woodland	A14SW (SE)	431	2	307605 199239
291	Ancient Woodland Name: Not Supplied Reference: 23045 Area(m ²): 18093.64 Type: Restored Ancient Woodland Site	A14NW (E)	480	2	307731 199527
292	Ancient Woodland Name: Not Supplied Reference: 50043 Area(m ²): 7214.32 Type: Ancient Woodland Site of Unknown Category	A8NW (S)	520	2	307111 198978

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
293	Ancient Woodland Name: Not Supplied Reference: 49921 Area(m ²): 904.44 Type: Ancient Woodland Site of Unknown Category	A8NE (S)	527	2	307340 198967
294	Ancient Woodland Name: Not Supplied Reference: 42990 Area(m ²): 58703.68 Type: Plantation on Ancient Woodland	A14NW (E)	567	2	307809 199640
295	Ancient Woodland Name: Not Supplied Reference: 41878 Area(m ²): 7433.67 Type: Plantation on Ancient Woodland	A7NE (SW)	569	2	306849 199064
296	Ancient Woodland Name: Not Supplied Reference: 21936 Area(m ²): 5404.57 Type: Restored Ancient Woodland Site	A19SW (NE)	601	2	307652 199989
297	Ancient Woodland Name: Not Supplied Reference: 18029 Area(m ²): 9149.73 Type: Ancient and Semi-Natural Woodland	A8NW (S)	626	2	307012 198898
298	Ancient Woodland Name: Not Supplied Reference: 41391 Area(m ²): 4825.08 Type: Plantation on Ancient Woodland	A12NE (W)	627	2	306581 199613
299	Ancient Woodland Name: Not Supplied Reference: 23044 Area(m ²): 8597.49 Type: Restored Ancient Woodland Site	A14SW (SE)	628	2	307804 199187
300	Ancient Woodland Name: Not Supplied Reference: 18030 Area(m ²): 8276.67 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	634	2	307668 199011
301	Ancient Woodland Name: Not Supplied Reference: 18028 Area(m ²): 17154.6 Type: Ancient and Semi-Natural Woodland	A8NE (S)	635	2	307486 198899
302	Ancient Woodland Name: Not Supplied Reference: 50043 Area(m ²): 2593.88 Type: Ancient Woodland Site of Unknown Category	A8NW (S)	671	2	307010 198851
303	Ancient Woodland Name: Not Supplied Reference: 21937 Area(m ²): 7321.13 Type: Restored Ancient Woodland Site	A19SW (NE)	677	2	307605 200125
304	Ancient Woodland Name: Not Supplied Reference: 50434 Area(m ²): 636.52 Type: Ancient Woodland Site of Unknown Category	A8SW (S)	683	2	306989 198846
305	Ancient Woodland Name: Not Supplied Reference: 41877 Area(m ²): 5099.81 Type: Plantation on Ancient Woodland	A8NW (SW)	695	2	306939 198855
306	Ancient Woodland Name: Not Supplied Reference: 41880 Area(m ²): 202021.36 Type: Plantation on Ancient Woodland	A14SE (SE)	713	2	307912 199220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	Ancient Woodland Name: Not Supplied Reference: 41879 Area(m ²): 2537.99 Type: Plantation on Ancient Woodland	A7NE (SW)	726	2	306627 199087
308	Ancient Woodland Name: Not Supplied Reference: 18027 Area(m ²): 3040.21 Type: Ancient and Semi-Natural Woodland	A8SE (S)	742	2	307431 198768
309	Ancient Woodland Name: Not Supplied Reference: 41877 Area(m ²): 88562.5 Type: Plantation on Ancient Woodland	A7SE (SW)	799	2	306854 198781
310	Ancient Woodland Name: Not Supplied Reference: 42726 Area(m ²): 168497.75 Type: Plantation on Ancient Woodland	A19SE (NE)	810	2	307957 199914
311	Ancient Woodland Name: Not Supplied Reference: 12720 Area(m ²): 7714.92 Type: Ancient and Semi-Natural Woodland	A17NE (NW)	847	2	306792 200294
312	Ancient Woodland Name: Not Supplied Reference: 13617 Area(m ²): 3094.19 Type: Ancient and Semi-Natural Woodland	A8SE (S)	907	2	307560 198637
313	Ancient Woodland Name: Not Supplied Reference: 15363 Area(m ²): 53053.77 Type: Ancient and Semi-Natural Woodland	A19NW (NE)	935	2	307625 200410

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Natural Resources Wales Rhondda Cynon Taff County Borough Council - Environmental Services Caerphilly County Borough Council - Environmental Health Department Merthyr Tydfil County Borough Council - Environmental Health Department	June 2020 October 2017 September 2017 September 2017	Annually Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - Welsh Region Natural Resources Wales	August 2014 January 2022	Quarterly Quarterly
Enforcement and Prohibition Notices Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls Environment Agency - Welsh Region	January 2009	
Integrated Pollution Prevention And Control Environment Agency - Welsh Region Natural Resources Wales	January 2021 January 2022	Quarterly Quarterly
Local Authority Integrated Pollution Prevention And Control Caerphilly County Borough Council - Environmental Health Department Rhondda Cynon Taff County Borough Council - Public Health and Protection Division Merthyr Tydfil County Borough Council - Environmental Health Department	September 2014 September 2014 September 2016	Variable Variable Variable
Local Authority Pollution Prevention and Controls Rhondda Cynon Taff County Borough Council - Public Health and Protection Division Caerphilly County Borough Council - Environmental Health Department Merthyr Tydfil County Borough Council - Environmental Health Department	September 2014 September 2014 September 2016	Annual Rolling Update Not Applicable Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Caerphilly County Borough Council - Environmental Health Department Rhondda Cynon Taff County Borough Council - Public Health and Protection Division Merthyr Tydfil County Borough Council - Environmental Health Department	September 2014 September 2014 September 2016	Variable Variable Variable
Nearest Surface Water Feature Ordnance Survey	November 2021	
Pollution Incidents to Controlled Waters Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes Environment Agency - Welsh Region Natural Resources Wales	July 2015 July 2015	
Prosecutions Relating to Controlled Waters Environment Agency - Welsh Region Natural Resources Wales	March 2013 March 2013	
Registered Radioactive Substances Natural Resources Wales Environment Agency - Welsh Region	January 2015 June 2016	As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register Environment Agency Wales - South East Area Natural Resources Wales	January 2021 January 2022	Quarterly Quarterly
Water Abstractions Environment Agency - Welsh Region Natural Resources Wales	January 2022 November 2021	Quarterly Quarterly

Agency & Hydrological	Version	Update Cycle
Water Industry Act Referrals Natural Resources Wales Environment Agency - Welsh Region	January 2022 October 2017	Quarterly
Groundwater Vulnerability Map Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations Natural Resources Wales	January 2018	Annually
Superficial Aquifer Designations Natural Resources Wales	January 2018	Annually
Source Protection Zones Natural Resources Wales	July 2017	Annual Rolling Update
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	September 2020	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas Natural Resources Wales	August 2019	Quarterly
Flood Defences Natural Resources Wales	November 2019	Quarterly
OS Water Network Lines Ordnance Survey	October 2021	Quarterly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	May 2018	Annually
Surface Water Suitability Natural Resources Wales	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	November 2002	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2019	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South East Area Natural Resources Wales	October 2021 October 2021	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Natural Resources Wales Environment Agency Wales - South East Area	April 2021 July 2021	Quarterly Quarterly
Local Authority Landfill Coverage Caerphilly County Borough Council - Environmental Health Department Merthyr Tydfil County Borough Council - Environmental Health Department Rhondda Cynon Taff County Borough Council	February 2003 February 2003 February 2003	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Caerphilly County Borough Council - Environmental Health Department Merthyr Tydfil County Borough Council - Environmental Health Department Rhondda Cynon Taff County Borough Council	October 2018 October 2018 October 2018	
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	
Registered Landfill Sites Environment Agency Wales - South East Area	March 2006	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South East Area	April 2018	
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South East Area	June 2015	
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements Caerphilly County Borough Council - Planning Department Rhondda Cynon Taff County Borough Council - Planning Department Merthyr Tydfil County Borough Council - Planning Department	February 2016 February 2016 September 2007	Variable Variable Variable
Planning Hazardous Substance Consents Caerphilly County Borough Council - Planning Department Rhondda Cynon Taff County Borough Council - Planning Department Merthyr Tydfil County Borough Council - Planning Department	February 2016 February 2016 September 2007	Variable Variable Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2021	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2021	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	December 2021	Quarterly
Points of Interest - Education and Health PointX	December 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2021	Quarterly
Points of Interest - Public Infrastructure PointX	December 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2021	Quarterly
Underground Electrical Cables National Grid	May 2021	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural Resources Wales	September 2018	Bi-Annually
Areas of Adopted Green Belt Caerphilly County Borough Council Merthyr Tydfil County Borough Council Rhondda Cynon Taff County Borough Council	October 2020 October 2020 October 2020	Quarterly Quarterly Quarterly
Areas of Unadopted Green Belt Caerphilly County Borough Council Merthyr Tydfil County Borough Council Rhondda Cynon Taff County Borough Council	October 2020 October 2020 October 2020	Quarterly Quarterly Quarterly
Areas of Outstanding Natural Beauty Natural Resources Wales	June 2019	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Caerphilly County Borough Council Merthyr Tydfil County Borough Council Rhondda Cynon Taff County Borough Council	August 2018 August 2018 August 2018	Bi-Annually Bi-Annually Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2018	Bi-Annually
National Nature Reserves Natural Resources Wales	July 2019	Bi-Annually
National Parks Natural Resources Wales	February 2018	Annually
Nitrate Vulnerable Zones The National Assembly for Wales - GI Services (Department of Planning & Countryside) Natural Resources Wales	April 2016 July 2019	Bi-Annually
Ramsar Sites Natural Resources Wales	July 2019	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	March 2020	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2020	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2018	Bi-Annually

A selection of organisations who provide data within this report

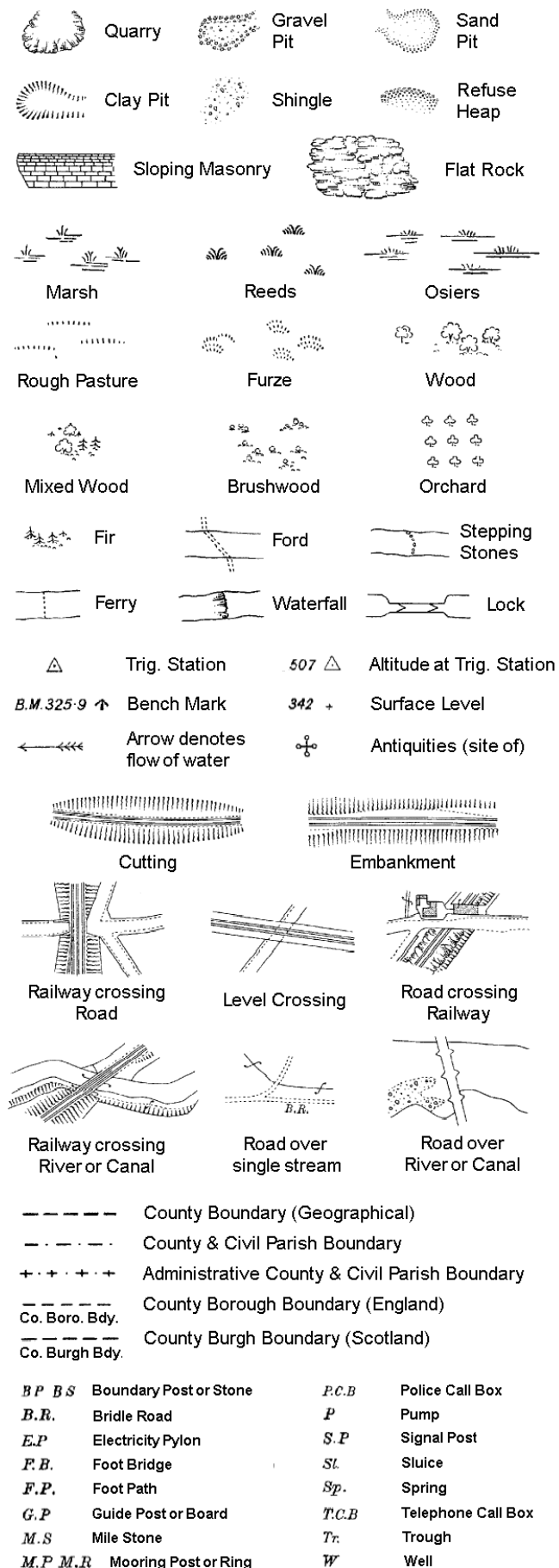
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	Merthyr Tydfil County Borough Council - Environmental Health Department Civic Centre, Castle Street, Merthyr Tydfil, Mid Glamorgan, CF47 8AN	Telephone: 01685 725000 Fax: 01685 725024 Website: www.merthyr.gov.uk
4	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

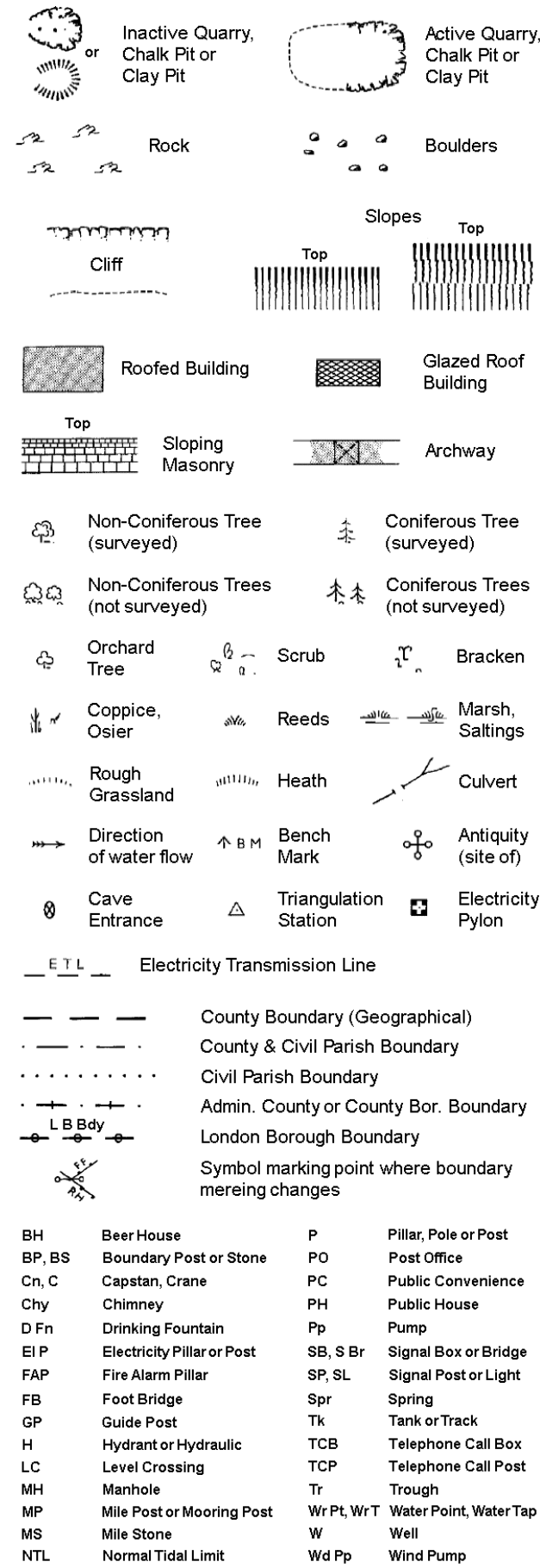
Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Historical Mapping Legends

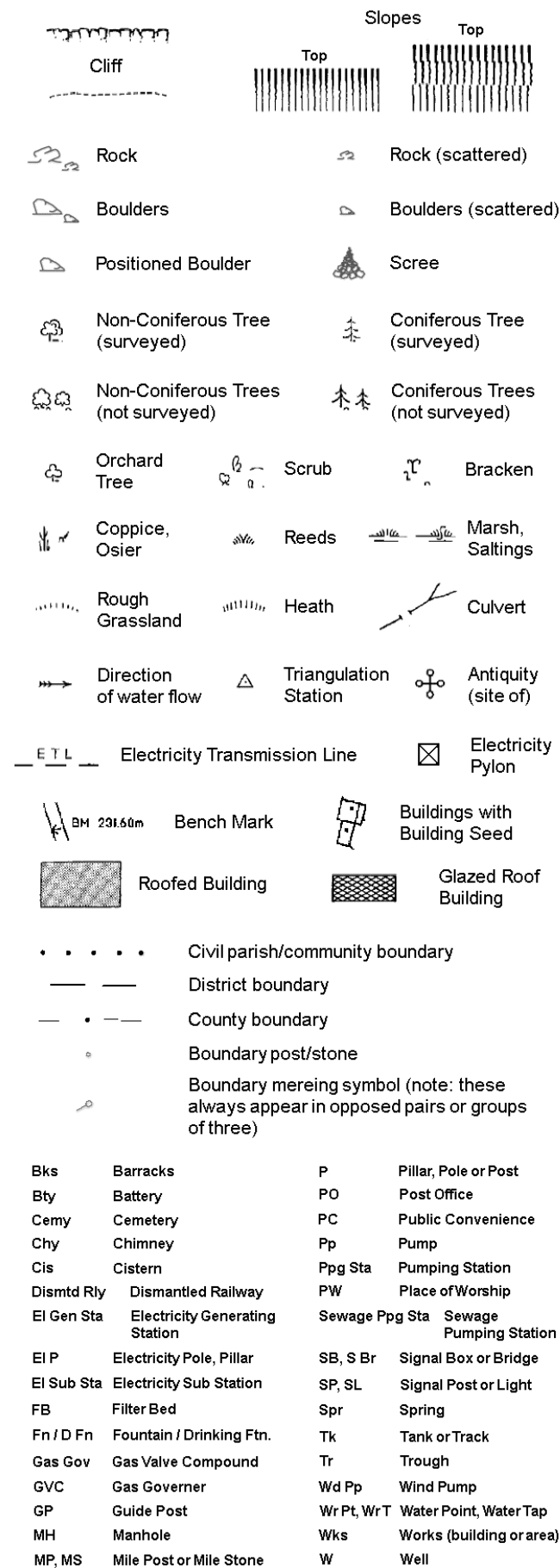
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



Large-Scale National Grid Data 1:2,500 and 1:1,250

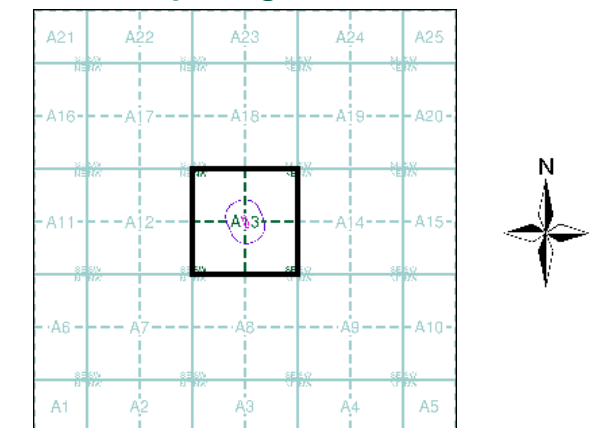


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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1876	2
Glamorganshire	1:2,500	1900	3
Glamorganshire	1:2,500	1919	4
Ordnance Survey Plan	1:2,500	1958	5
Ordnance Survey Plan	1:2,500	1972	6
Additional SIMs	1:2,500	1987 - 1988	7
Additional SIMs	1:2,500	1988	8
Ordnance Survey Plan	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1993	10
Historical Aerial Photography	1:2,500	2000	11

Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Glamorganshire

Published 1876

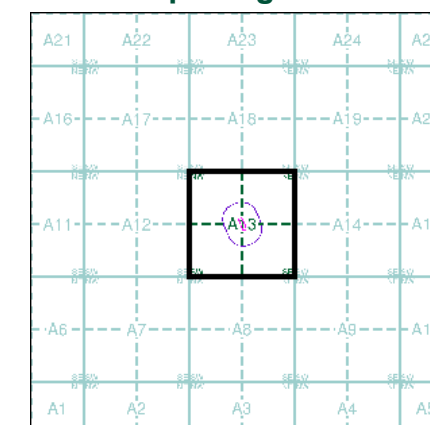
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

019_02
1876
1:2,500
019_06
1876
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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Glamorganshire

Published 1900

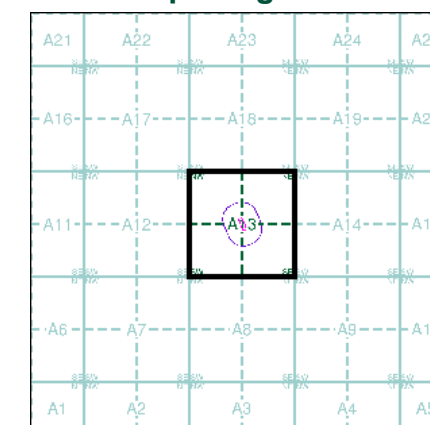
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

019_02
1900
1:2,500
019_06
1900
1:2,500

Historical Map - Segment A13



Order Details

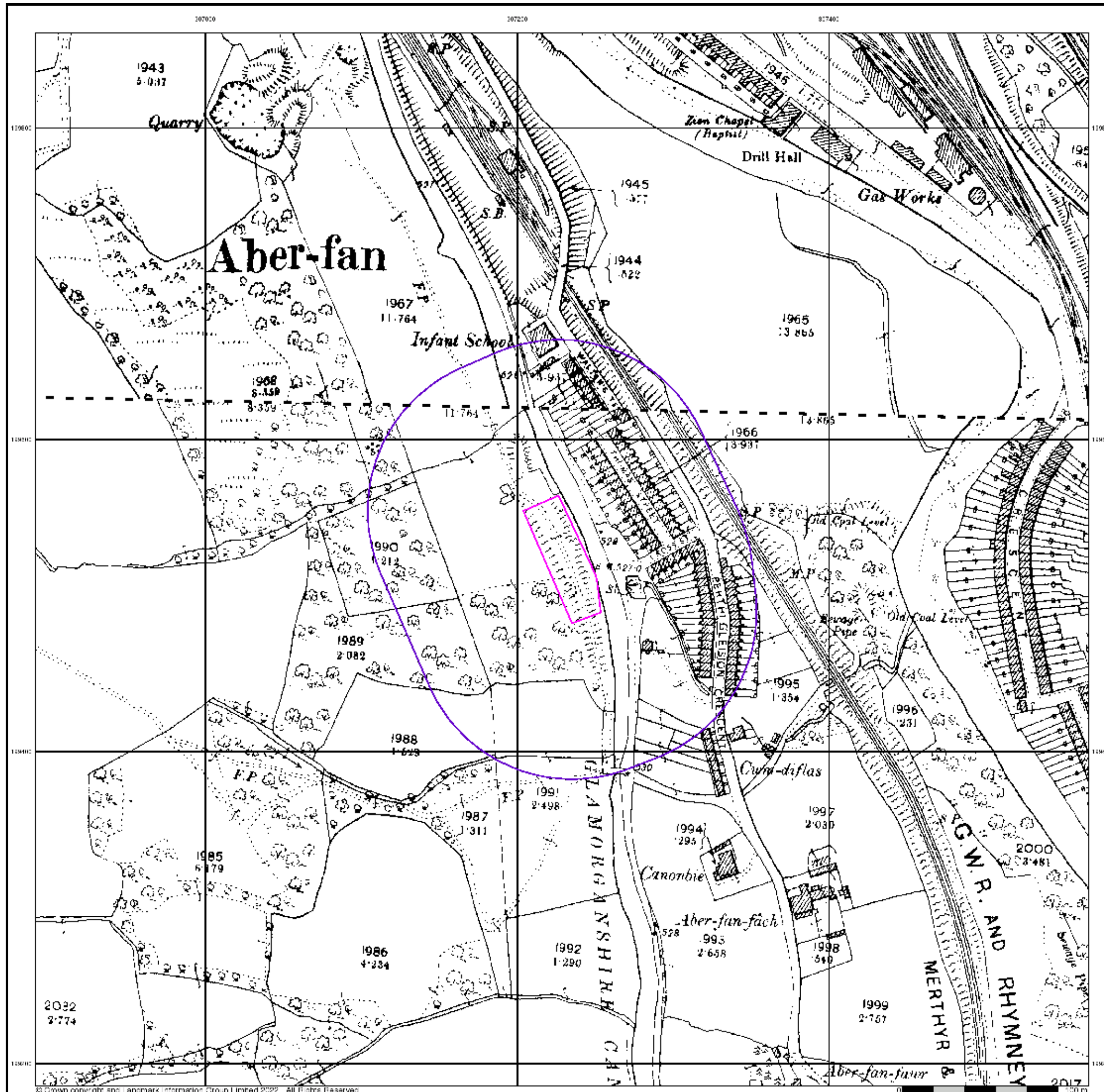
Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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INFORMATION GROUP

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Published 1919

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

019_02
1919
1:2,500

019_06
1919
1:2,500

Figure 1 shows a 10x10 grid of points labeled A1 to A25. The points are arranged in a regular grid. A 3x3 grid of points (A12, A13, A14, A17, A18, A19, A22, A23, A24) is highlighted with a thick black border. The point A13 is circled in purple.



Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48
4PY

Landmark
INFORMATION GROUP

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Web: www.envirocheck.co.uk



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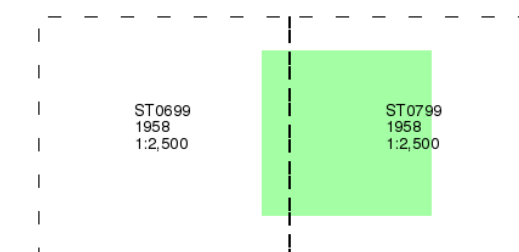
Ordnance Survey Plan

Published 1958

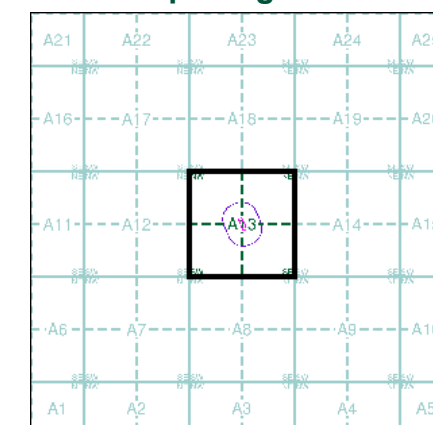
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

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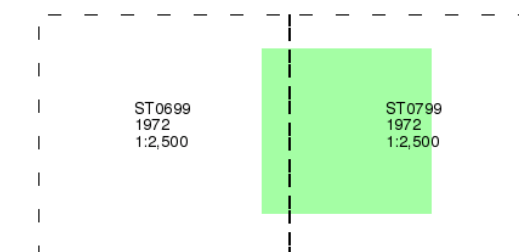
Ordnance Survey Plan

Published 1972

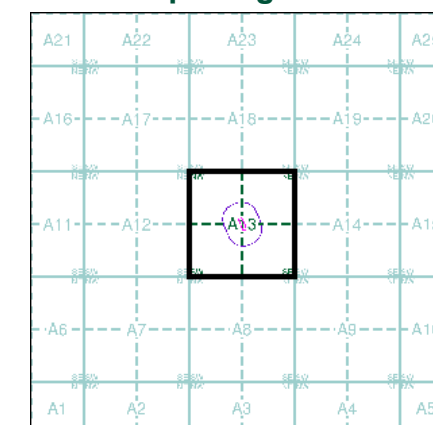
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



Tel: 0844 844 9952
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Web: www.envirocheck.co.uk



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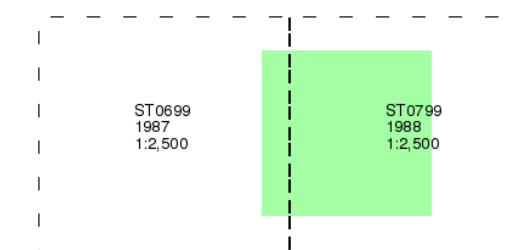
Additional SIMs

Published 1987 - 1988

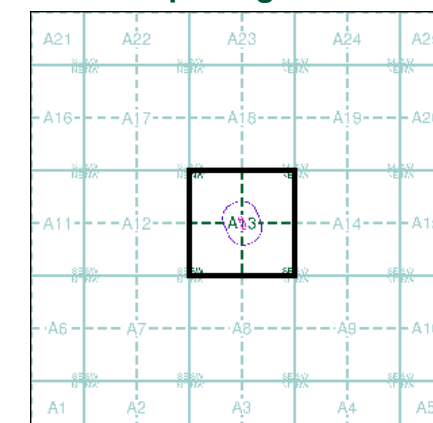
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

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INFORMATION GROUP

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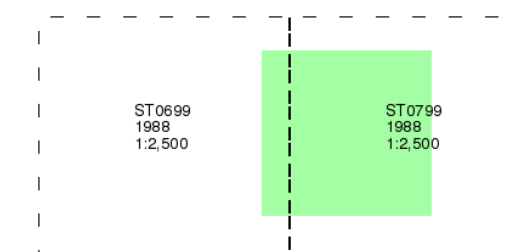
Additional SIMs

Published 1988

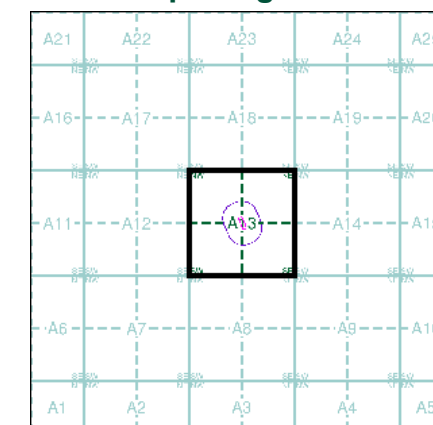
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

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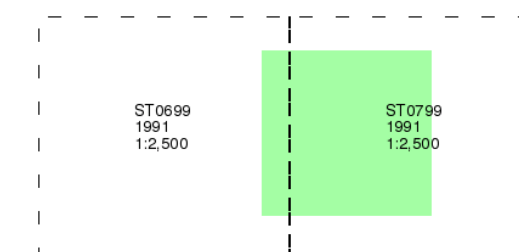
Ordnance Survey Plan

Published 1991

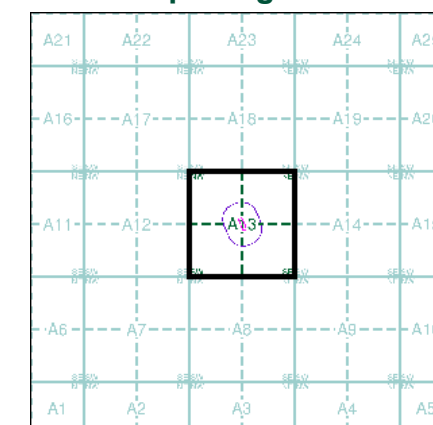
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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INFORMATION GROUP

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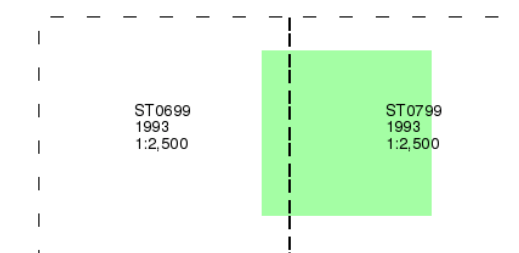
Large-Scale National Grid Data

Published 1993

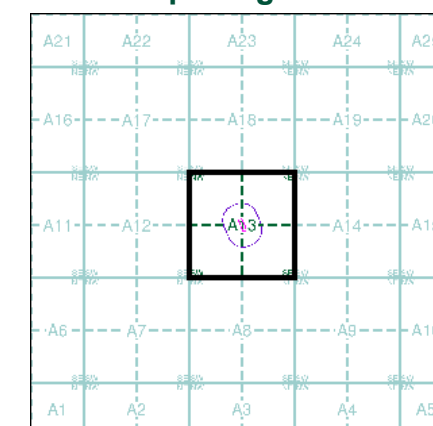
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

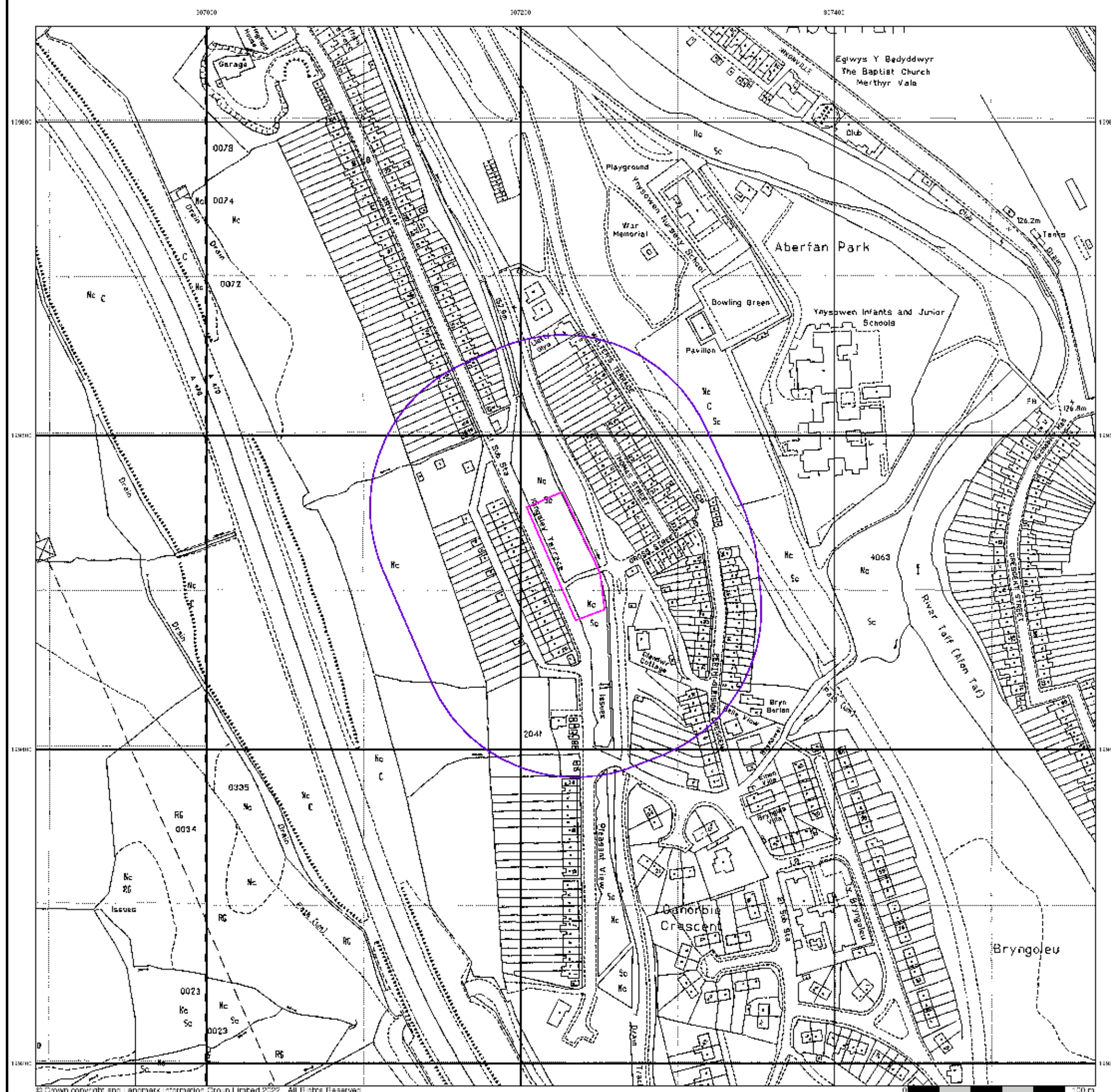
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Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Fax: 0844 844 9951
Web: www.envirocheck.co.uk





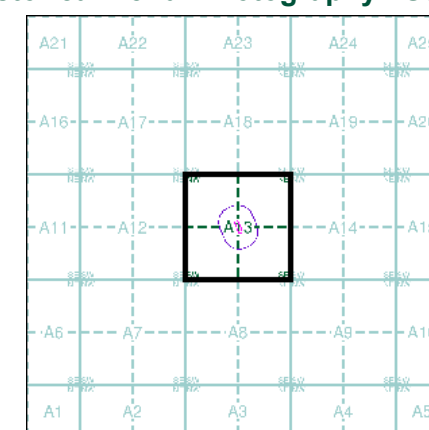
Geotechnical & Geoenvironmental Specialists

Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 100

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Fax: 0844 844 9951
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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

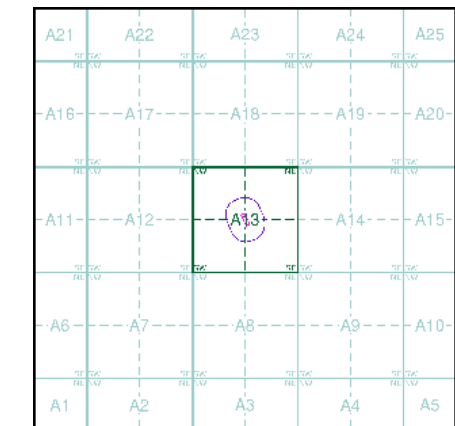


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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	2
Glamorganshire	1:10,560	1901	3
Glamorganshire	1:10,560	1921	4
Glamorganshire	1:10,560	1938 - 1951	5
Historical Aerial Photography	1:10,560	1945	6
Glamorganshire	1:10,560	1951	7
Ordnance Survey Plan	1:10,000	1964 - 1965	8
Ordnance Survey Plan	1:10,000	1970 - 1975	9
Ordnance Survey Plan	1:10,000	1989	10
Ordnance Survey Plan	1:10,000	1990	11
10K Raster Mapping	1:10,000	1999	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2021	14

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

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INFORMATION GROUP

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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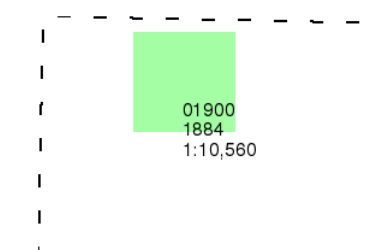
Glamorganshire

Published 1884

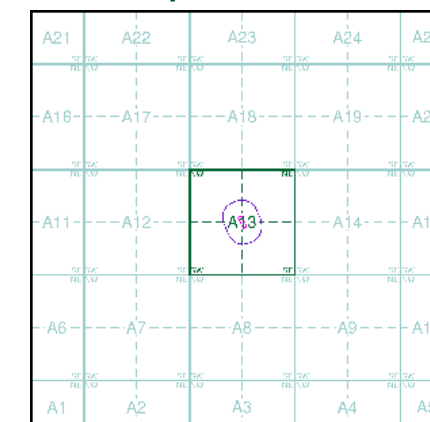
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Web: www.envirocheck.co.uk



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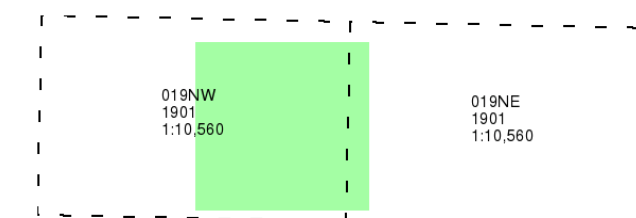
Glamorganshire

Published 1901

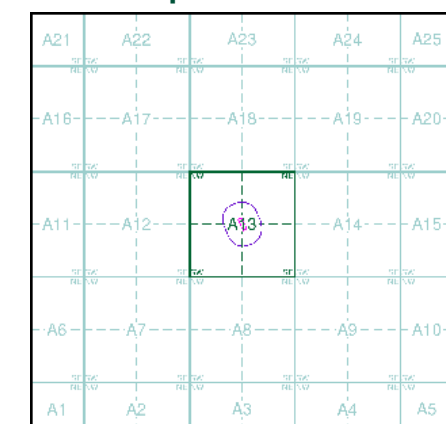
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
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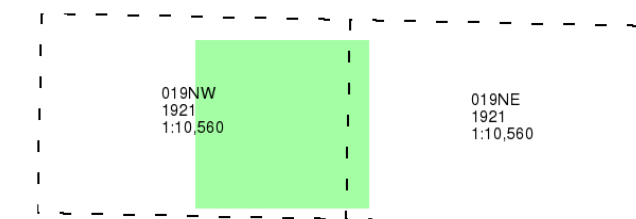
Glamorganshire

Published 1921

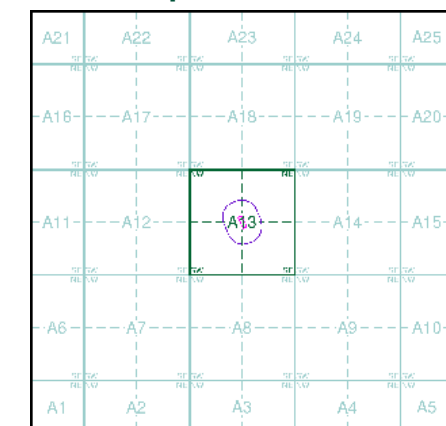
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
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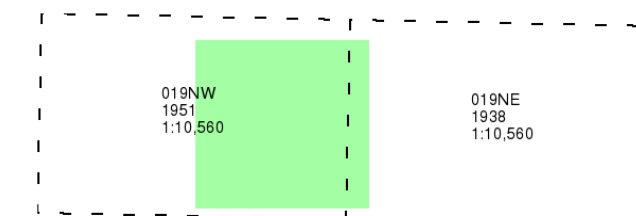
Glamorganshire

Published 1938 - 1951

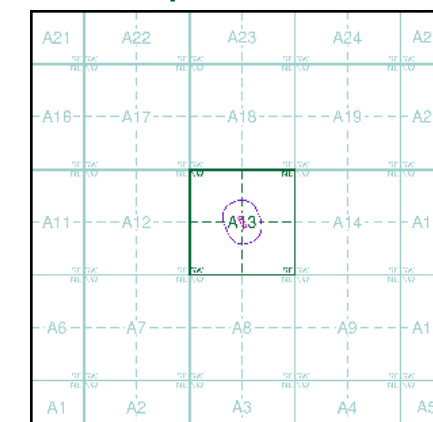
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

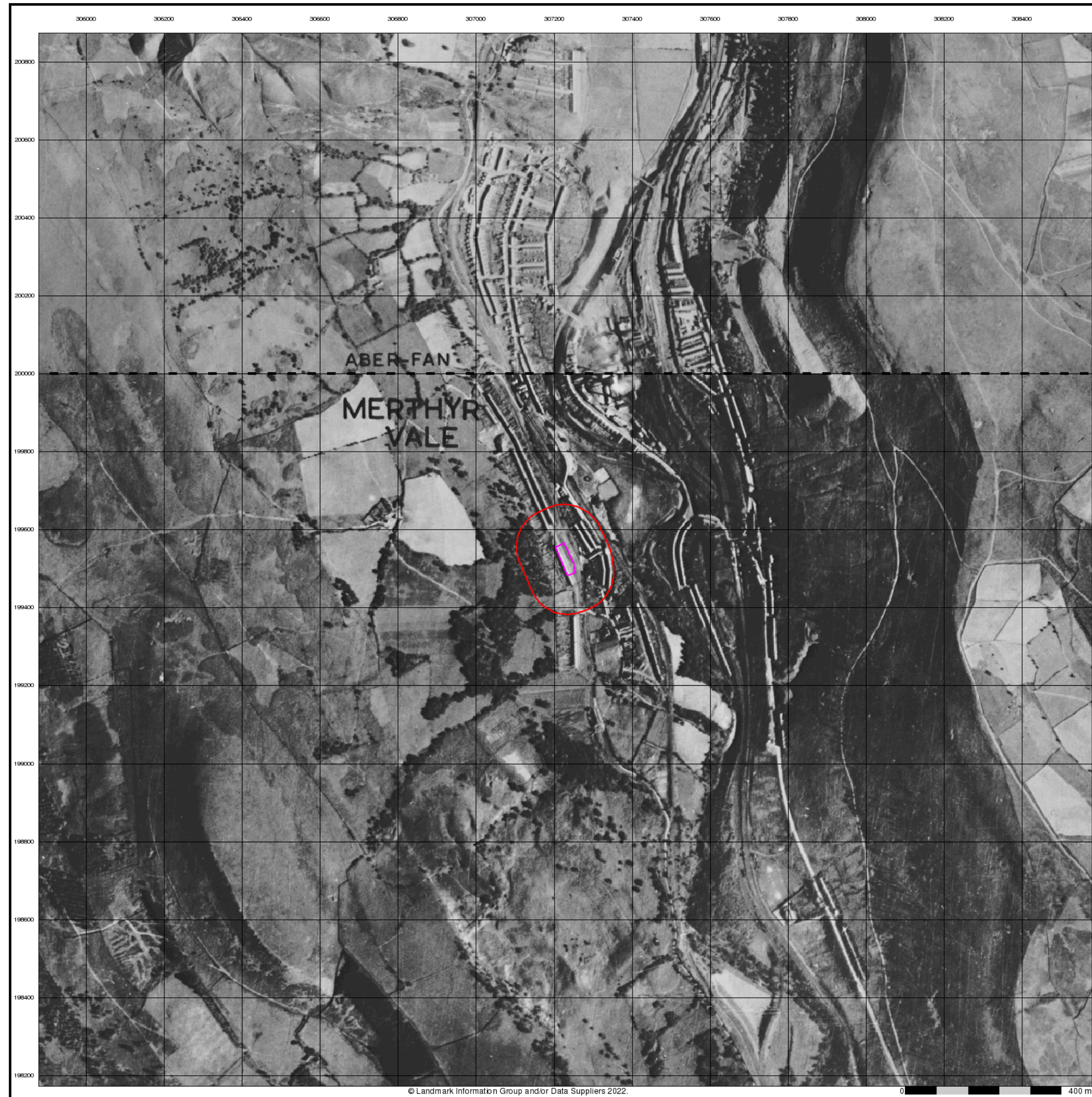
Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Tel: 0844 844 9952
Fax: 0844 844 9951
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Historical Aerial Photography

Published 1945

Source map scale - 1:10,560

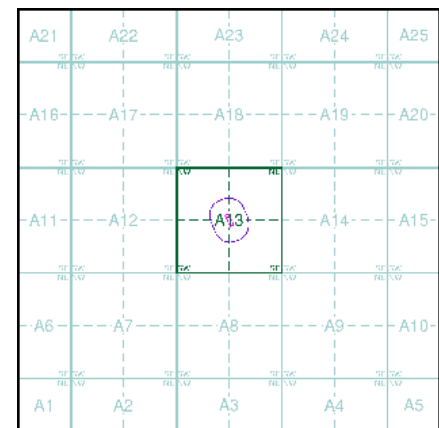
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)

SO00SE
1945
1:10,560
ST09NE
1945
1:10,560

Historical Aerial Photography - Slice A



LIBRARY
HSILIRB

Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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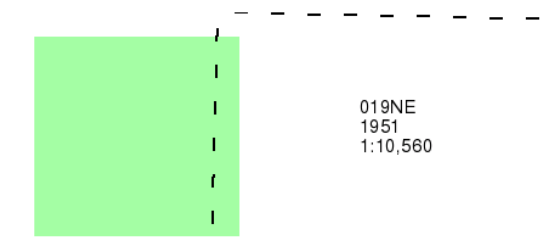
Glamorganshire

Published 1951

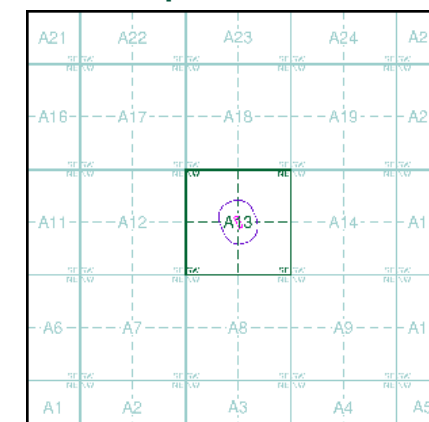
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Ordnance Survey Plan

Published 1964 - 1965

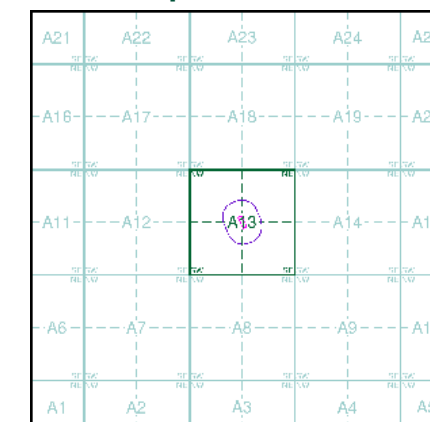
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SO00SE
1964
1:10,560
ST09NE
1965
1:10,560

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
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Ordnance Survey Plan

Published 1970 - 1975

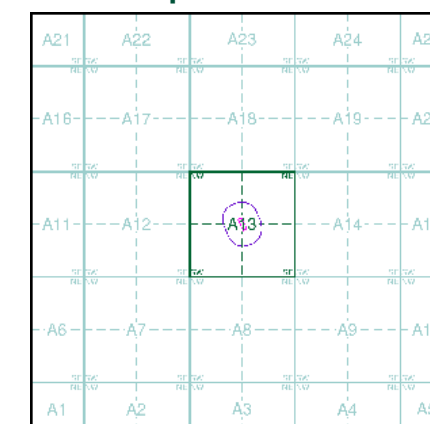
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SO00SE
1970
1:10,560
ST09NE
1975
1:10,000

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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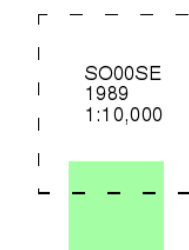
Ordnance Survey Plan

Published 1989

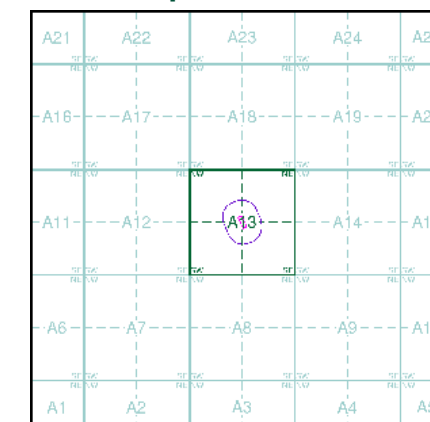
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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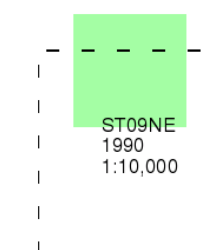
Ordnance Survey Plan

Published 1990

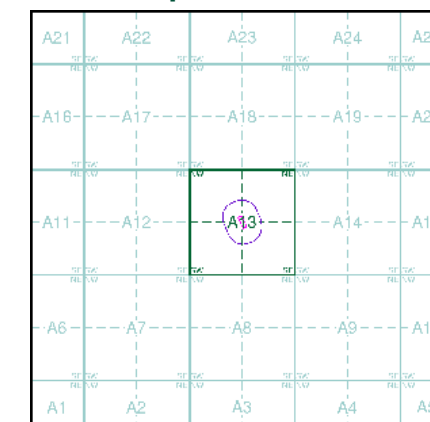
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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10k Raster Mapping

Published 1999

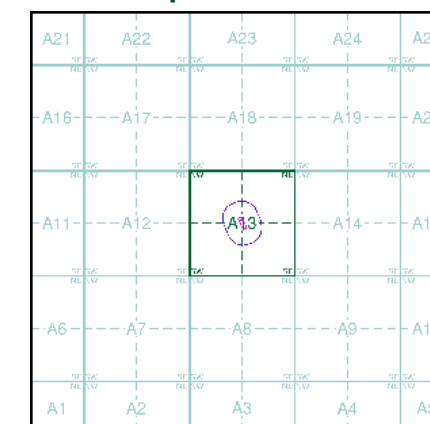
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SO00SE
1999
1:10,000
ST09NE
1999
1:10,000

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
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10k Raster Mapping

Published 2006

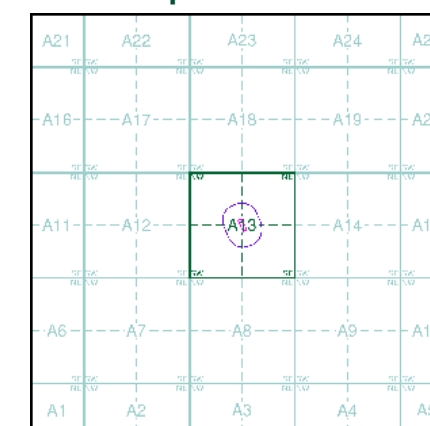
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SO00SE
2006
1:10,000
ST09NE
2006
1:10,000

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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VectorMap Local

Published 2021

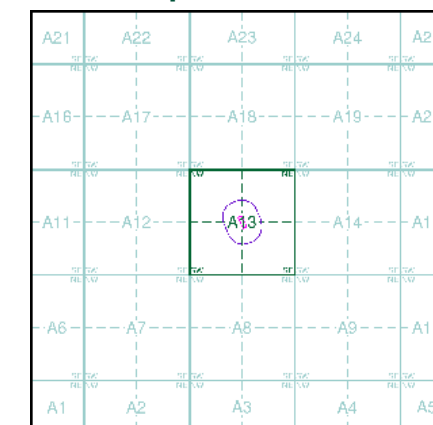
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SO00SE
2021
Variable
ST09NE
2021
Variable

Historical Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

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Landmark
INFORMATION GROUP

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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary
	PEAT	Peat	Peat	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	BD	Brithdir Member	Sandstone	Not Supplied - Westphalian
	BD	Brithdir Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	H	Hughes Member	Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	RA	Rhondda Member	Sandstone	Not Supplied - Westphalian
		Rock Segments		
		Faults		



Geotechnical & Geoenvironmental Specialists

Geology 1:50,000 Maps

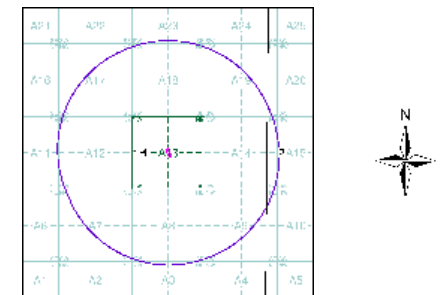
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	2	Map ID:	1
Map Sheet No:	249	Map Sheet No:	248
Map Name:	Newport	Map Name:	Pontypridd
Map Date:	1969	Map Date:	1960
Bedrock Geology:	Available	Bedrock Geology:	Available
Superficial Geology:	Available	Superficial Geology:	Available
Artificial Geology:	Available	Artificial Geology:	Not Available
Faults:	Not Supplied	Faults:	Not Supplied
Landslip:	Available	Landslip:	Available
Rock Segments:	Not Supplied	Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

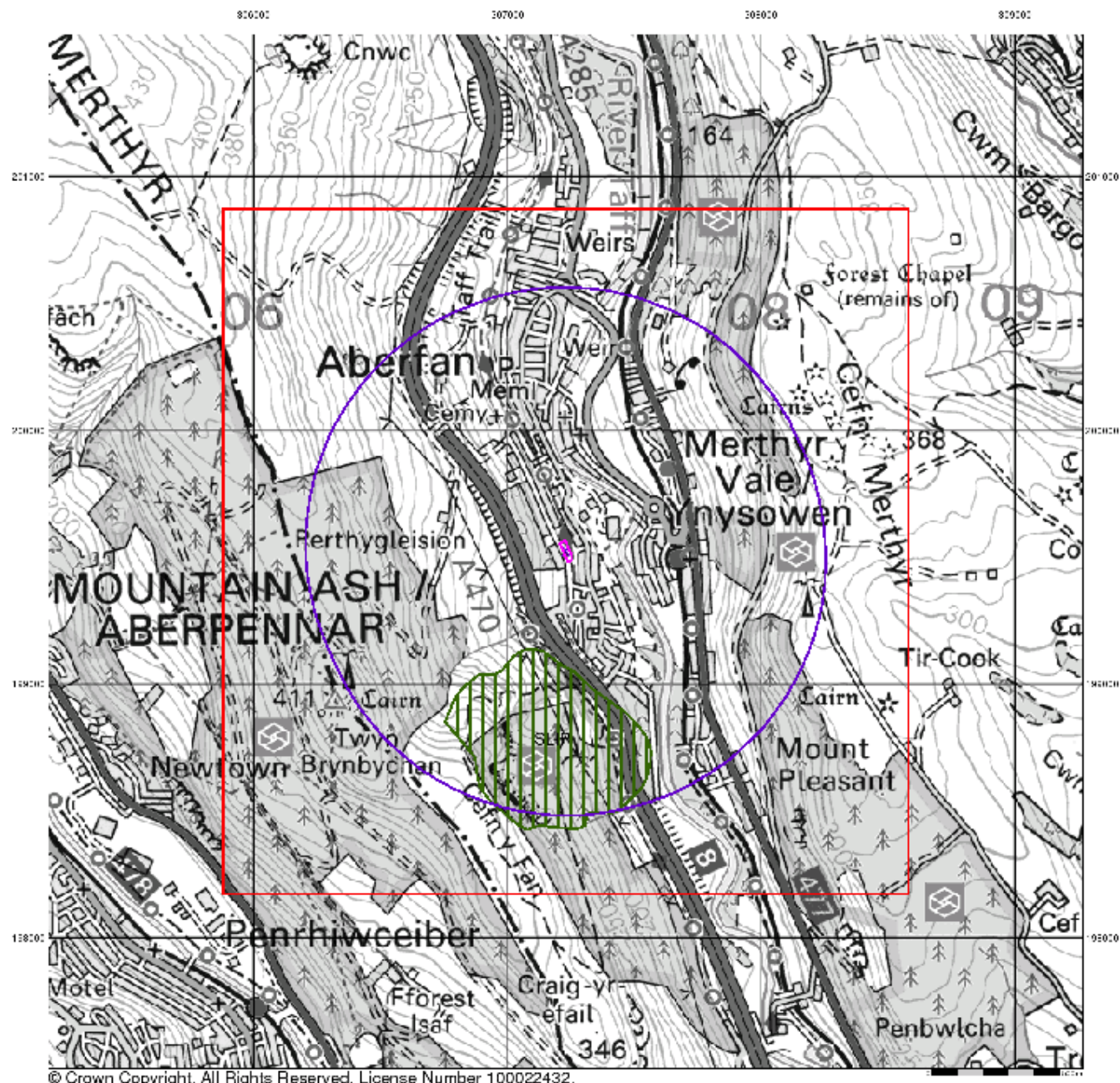
Order Number:	291241604_1_1
Customer Reference:	17176
National Grid Reference:	307230, 199520
Slice:	A
Site Area (Ha):	0.2
Search Buffer (m):	1000

Site Details:

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Artificial Ground and Landslip

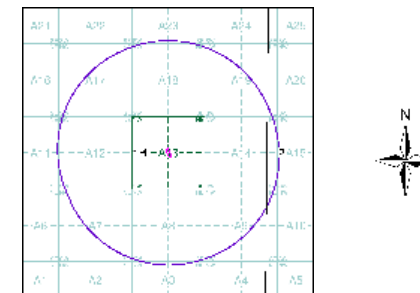
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

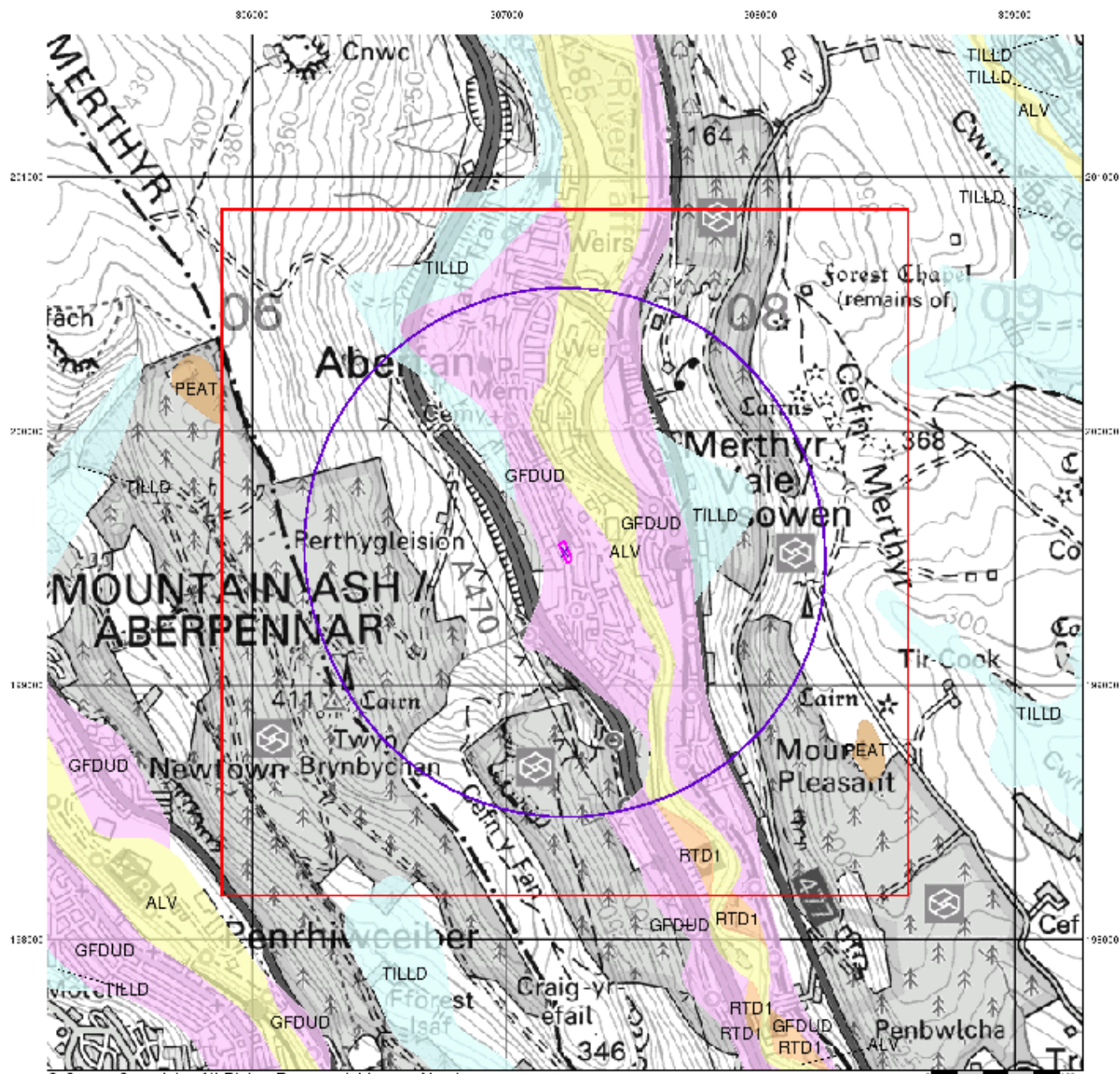
Order Number:	291241604_1_1
Customer Reference:	17176
National Grid Reference:	307230, 199520
Slice:	A
Site Area (Ha):	0.2
Search Buffer (m):	1000

Site Details:

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

Landmark
INFORMATION GROUP

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Web: www.envirocheck.co.uk



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Geotechnical & Geoenvironmental Specialists

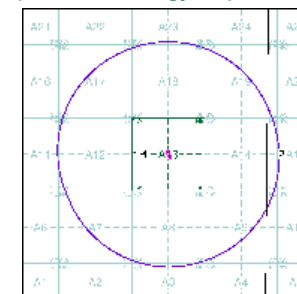
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

Order Number: 291241604_1_1
 Customer Reference: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

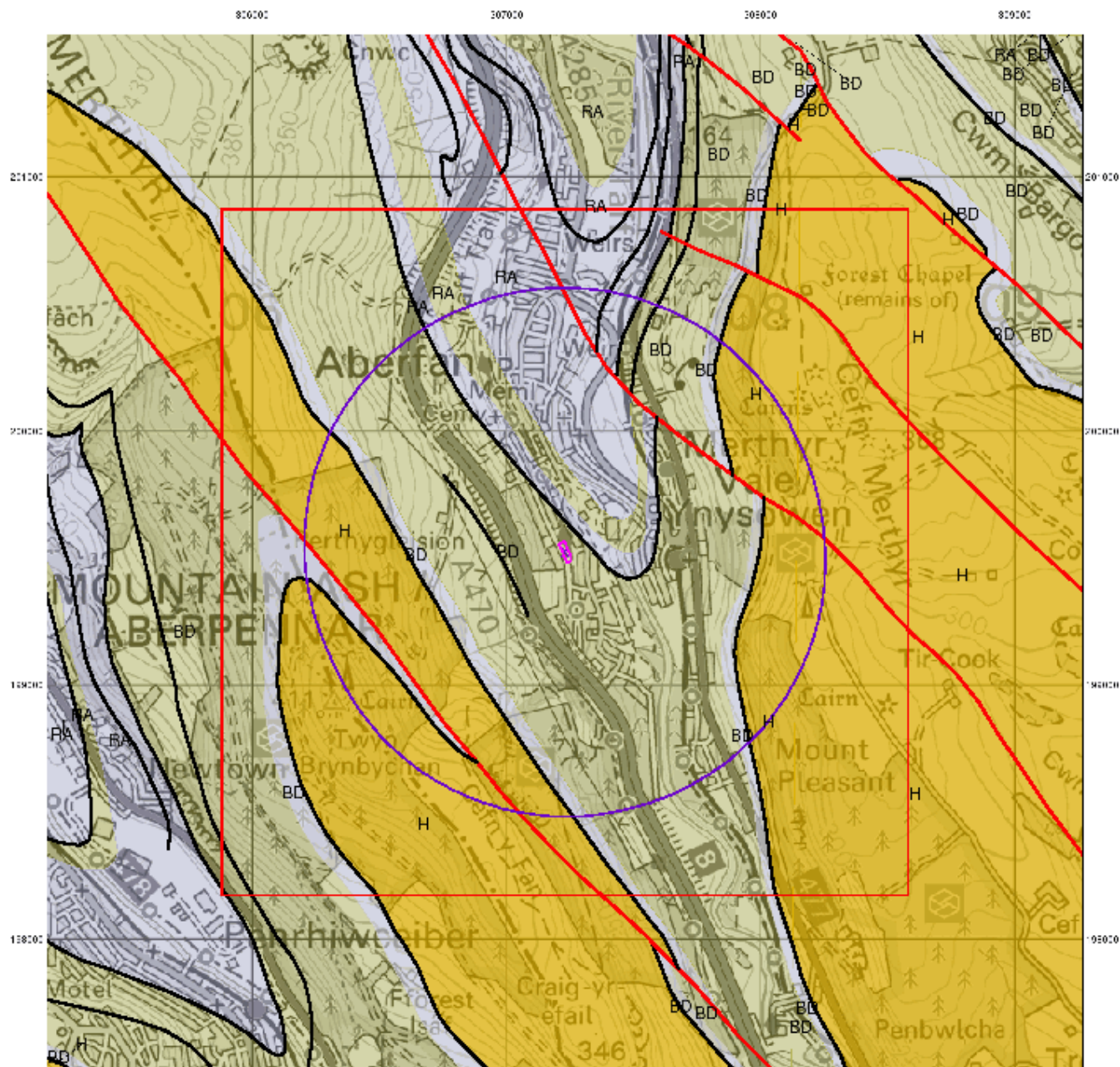
Site Details:

Ty Alfa, Yr Hen Liaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

v15.0 15-Feb-2022



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Geotechnical & Geoenvironmental Specialists

Bedrock and Faults

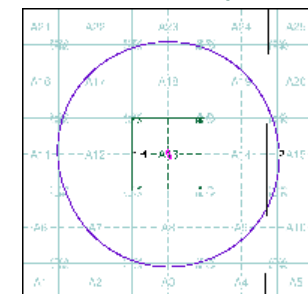
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 291241604_1_1
Customer Reference: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

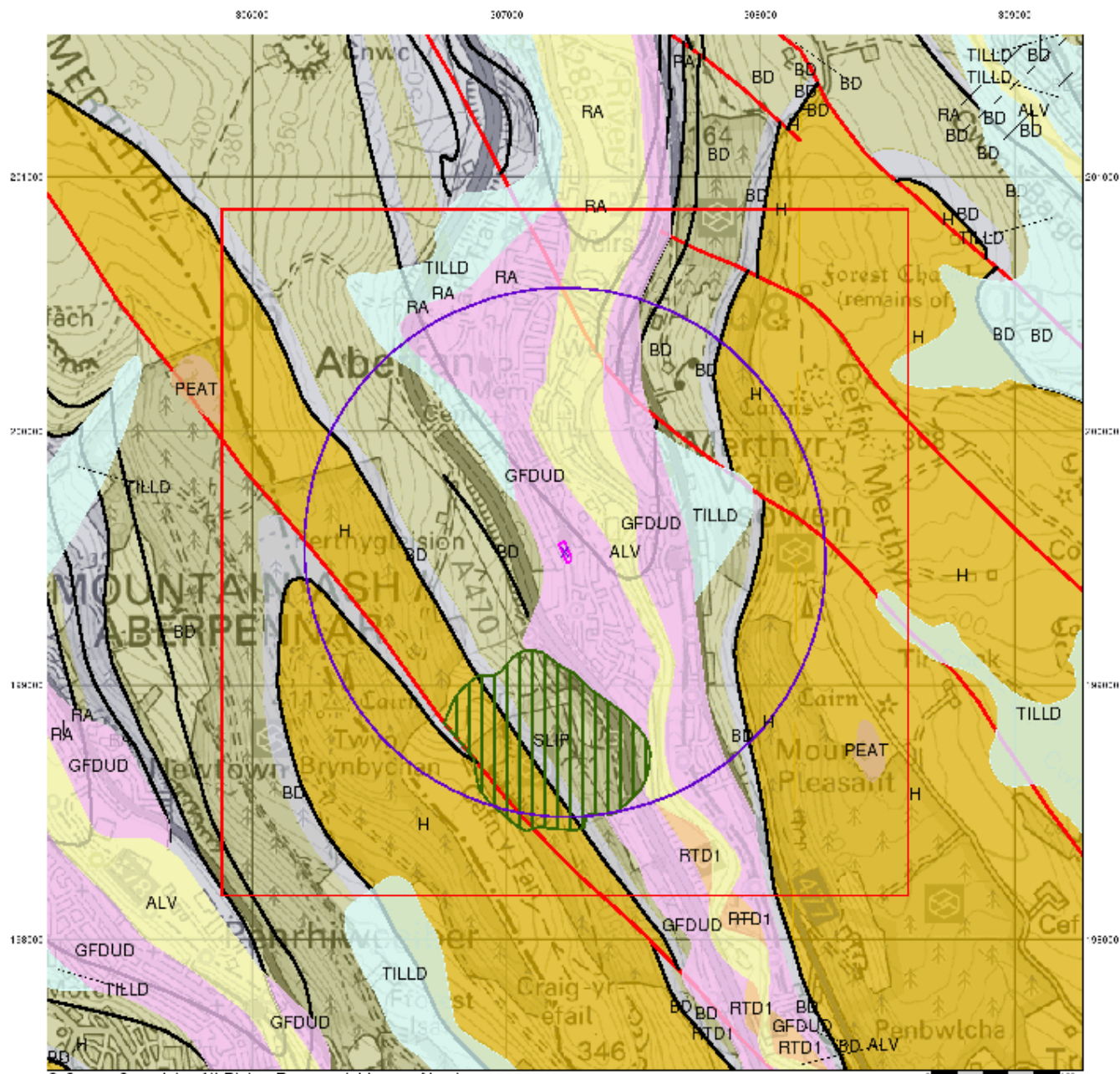
Site Details:

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

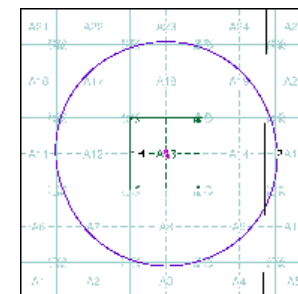
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number:	291241604_1_1
Customer Reference:	17176
National Grid Reference:	307230, 199520
Slice:	A
Site Area (Ha):	0.2
Search Buffer (m):	1000

Site Details:

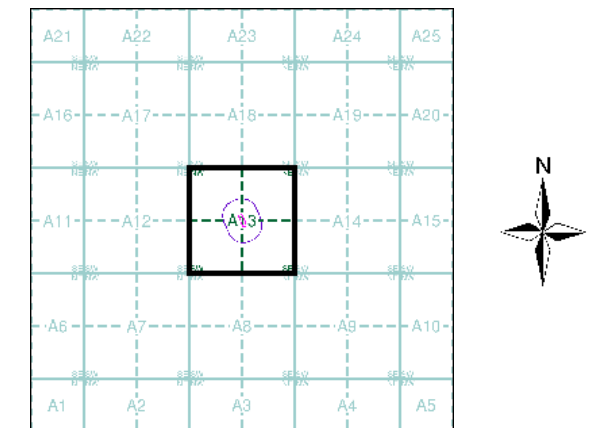
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Page 5 of 5

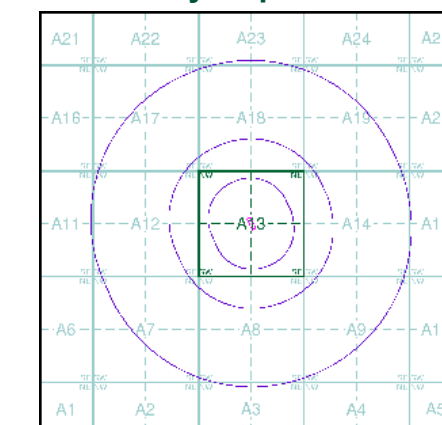


Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Plot Buffer (m): 100

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



Order Details

Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

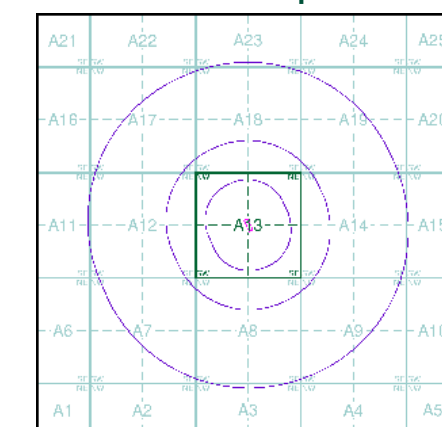
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

Industrial Land Use

-  Contemporary Trade Directory Entry
-  Fuel Station Entry
-  Gas Pipeline
-  Points of Interest - Commercial Services
-  Points of Interest - Education and Health
-  Points of Interest - Manufacturing and Production
-  Points of Interest - Public Infrastructure
-  Points of Interest - Recreational and Environmental
-  Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

Order Number: 291241604_1_1
Customer Ref: 17176
National Grid Reference: 307230, 199520
Slice: A
Site Area (Ha): 0.2
Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

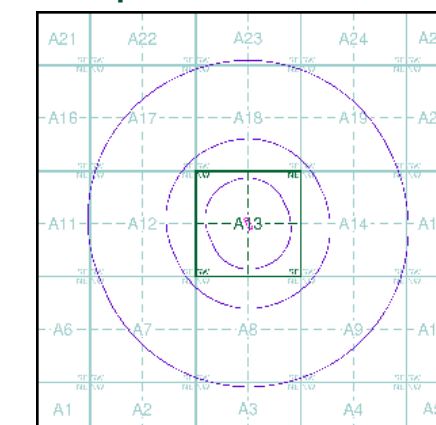
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Agency and Hydrological (Flood)

-  Extreme Flooding from Rivers or Sea without Defences (Zone 2)
-  Flooding from Rivers or Sea without Defences (Zone 3)
-  Area Benefiting from Flood Defence
-  Flood Water Storage Areas
-  Flood Defence

Flood Map - Slice A

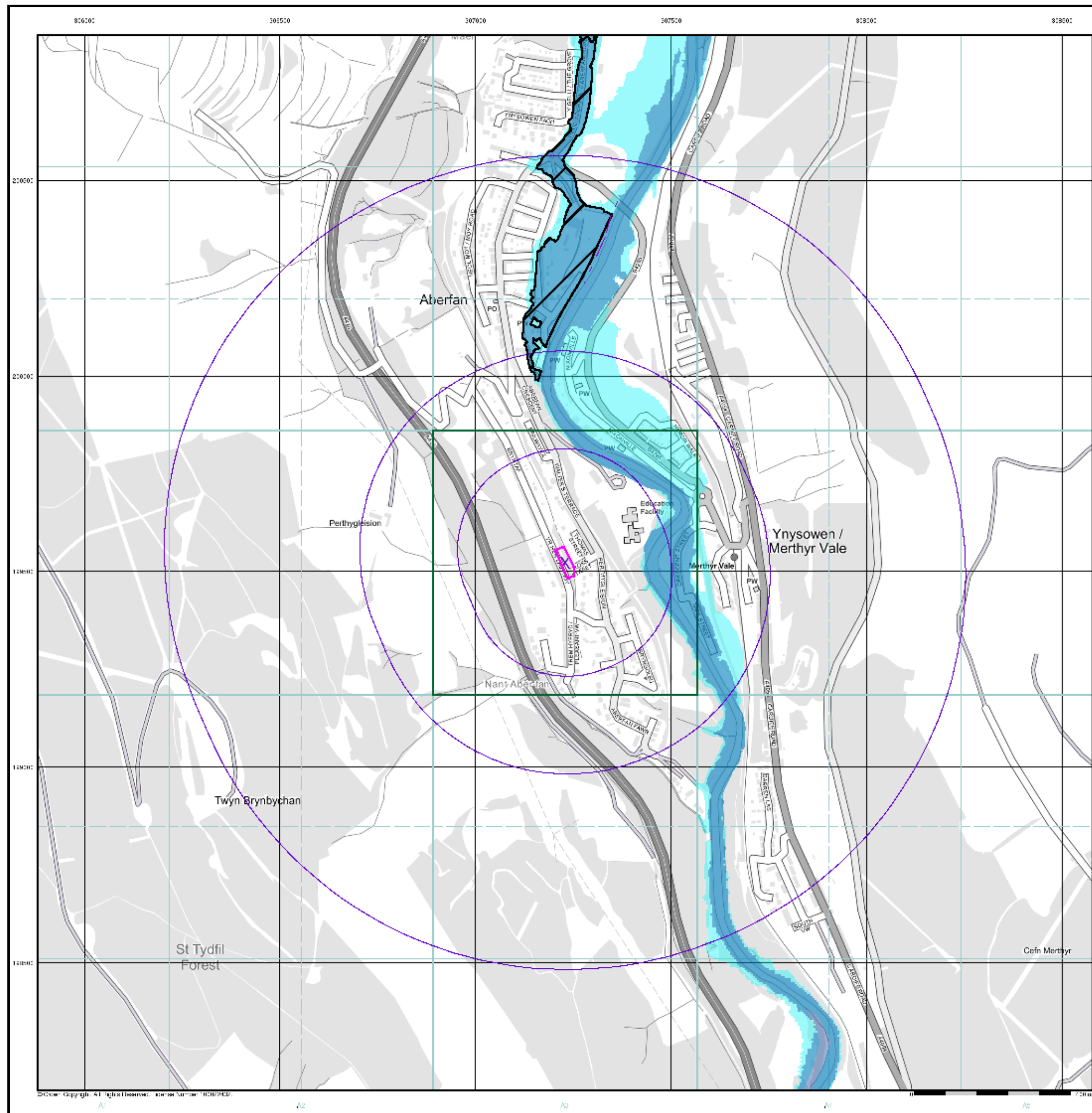


Order Details

Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID
-  Several of Type at Location

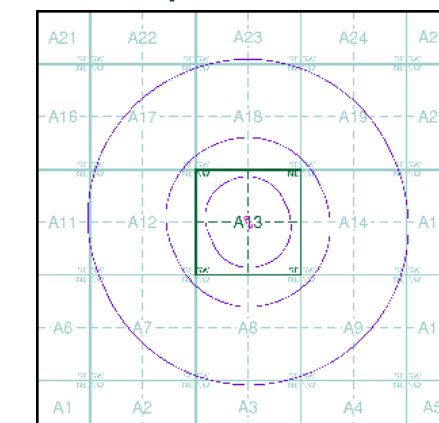
Agency and Hydrological (Boreholes)

-  BGS Borehole Depth 0 - 10m
-  BGS Borehole Depth 10 - 30m
-  BGS Borehole Depth 30m +
-  Confidential
-  Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

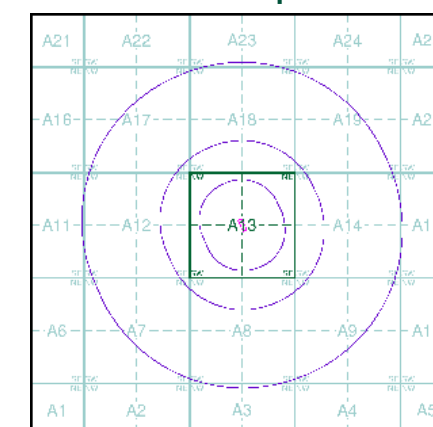
OS Water Network Data

- | | |
|--|---|
|  Canal |  Drain |
|  Reservoir |  Other |
|  Foreshore |  Lake |
|  Marsh |  Transfer |
|  Tidal River |  Lock Or Flight Of Locks |
|  Inland River |  Sea |

Contours (height in meters)

- Standard Contour  105  100  95
- Master Contour  105  100  95
- Spot Height  167.3
-  Mean Low Water
-  Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Risk of Flooding from Surface Water

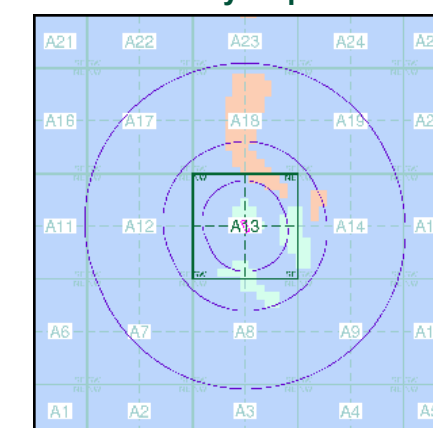
-  High - 30 Year Return
-  Medium - 100 Year Return
-  Low - 1000 Year Return

Suitability

See the suitability map below

-  National to county
-  County to town
-  Town to street
-  Street to parcels of land
-  Property

EANRW Suitability Map - Slice A



Order Details

Order Number: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

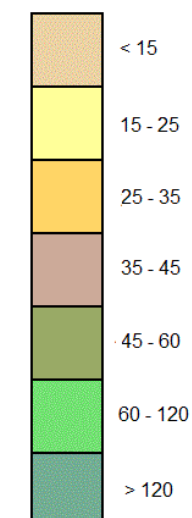
Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

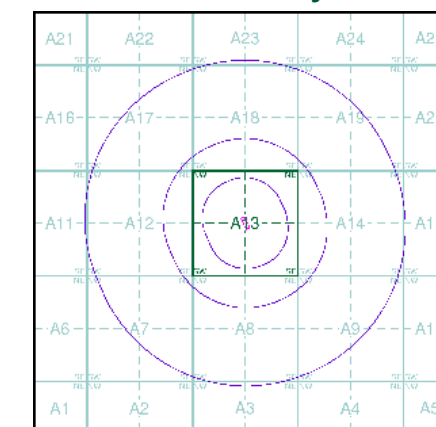
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

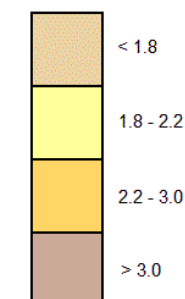
Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

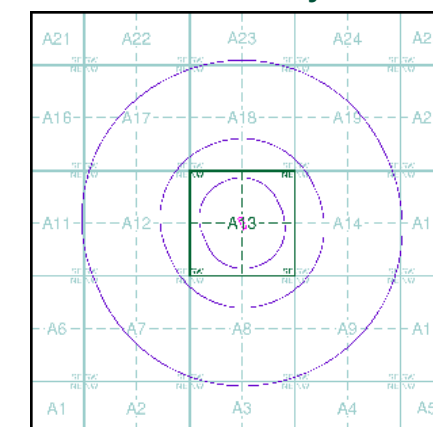
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

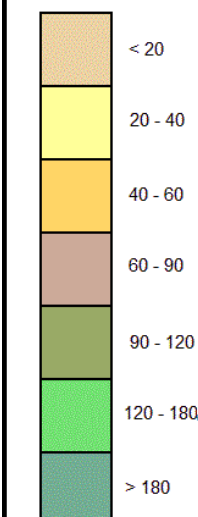
Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

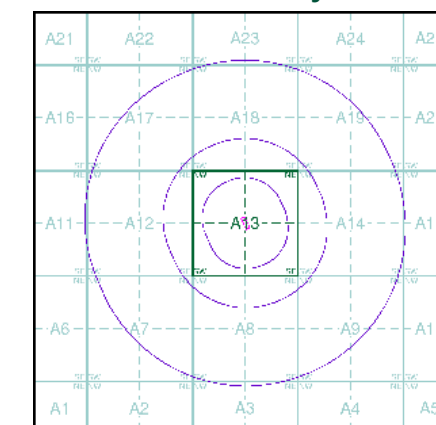
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

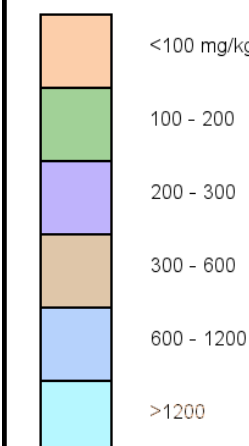
Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

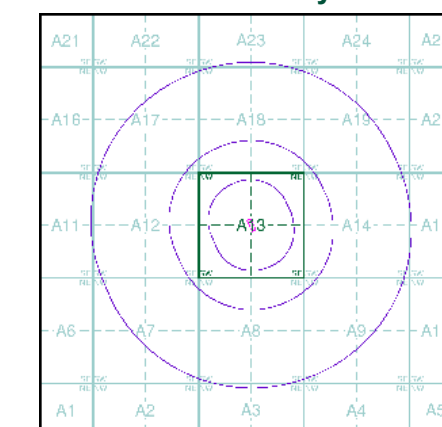
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

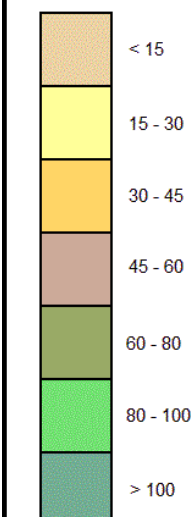
Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY

General

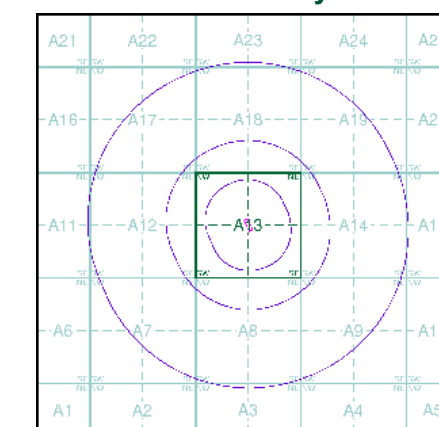
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 291241604_1_1
 Customer Ref: 17176
 National Grid Reference: 307230, 199520
 Slice: A
 Site Area (Ha): 0.2
 Search Buffer (m): 1000

Site Details

Ty Alfa, Yr Hen Llaethdy, Aberfan, MERTHYR TYDFIL, CF48 4PY



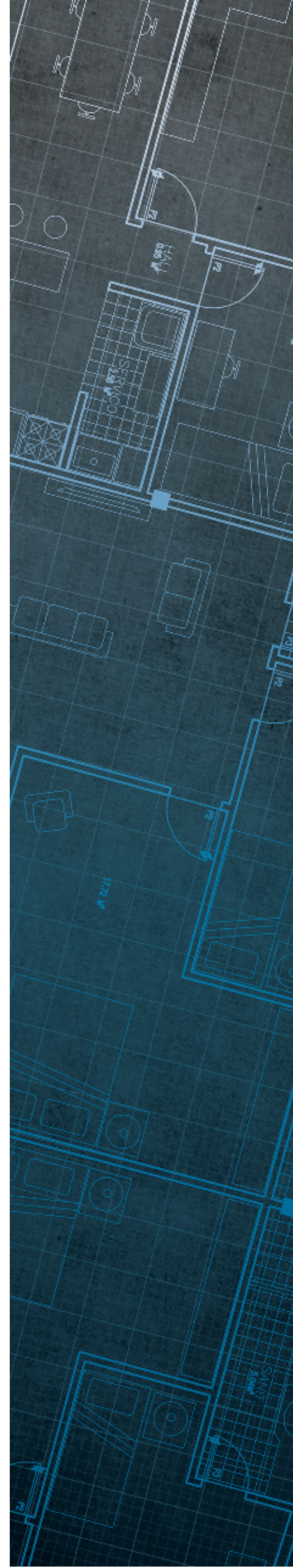
The Coal
Authority

Consultants Coal Mining Report

Ty Alfa, Yr Hen Llaethdy
Aberfan
Merthyr Tydfil
Vale Of Glamorgan
CF48 4PY

Date of enquiry:	16 February 2022
Date enquiry received:	16 February 2022
Issue date:	16 February 2022

Our reference:	51002965707001
Your reference:	291241604_2



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

NLIS Hub

Enquiry address

Ty Alfa, Yr Hen Llaethdy
Aberfan
Merthyr Tydfil
Vale Of Glamorgan
CF48 4PY

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

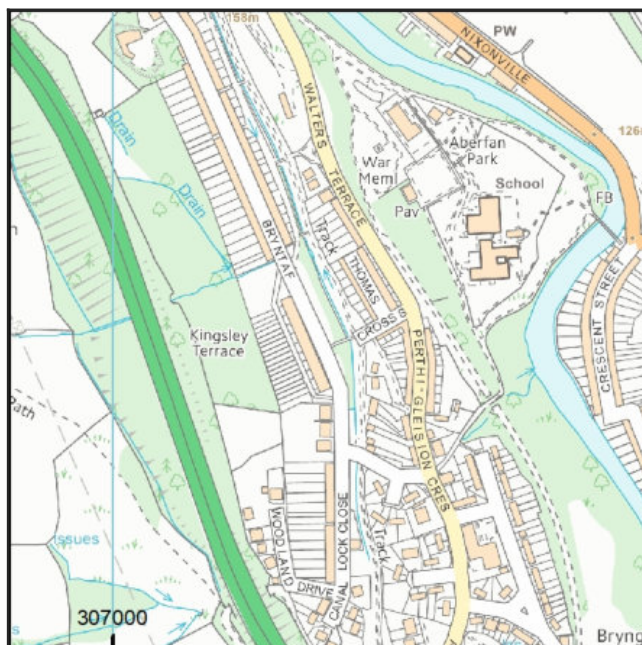
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	TILLERY BRITHDIR	Coal	42EM	21	Beneath Property	2.9	South-East	180	1880
unnamed	FOUR FOOT	Coal	40NN	442	Beneath Property	6.0	South	180	1943
unnamed	6FT BOTTOM LEAF	Coal	40LW	483	Beneath Property	5.4	South-East	220	1923
MERTHYR VALE	LOWER 7FT BOTTOM LEAF	Coal	40GA	488	South-West	4.6	South	60	1909
MERTHYR VALE	FIVE FOOT GELLIDEG	Coal	40EU	501	South-West	4.6	South	297	1933
unnamed	LOWER NINE FOOT	Coal	40JP	509	North-East	3.8	South	190	1918
unnamed	LOWER NINE FOOT	Coal	40JO	521	Beneath Property	4.1	South	190	1924
MERTHYR VALE	LOWER 7FT BOTTOM LEAF	Coal	42E0	525	North-East	2.3	South-East	60	1960
MERTHYR VALE	FIVE FOOT GELLIDEG	Coal	40EW	542	North-East	2.9	South	243	1965
MERTHYR VALE	FIVE FOOT GELLIDEG	Coal	40EV	550	North-West	5.5	South-East	243	1948
MERTHYR VALE	LOWER 7FT BOTTOM LEAF	Coal	42DX	553	North	2.0	South-East	60	1977
MERTHYR VALE	LOWER 7FT BOTTOM LEAF	Coal	42DW	558	Beneath Property	3.2	South	60	1977
MERTHYR VALE	LOWER 7FT BOTTOM LEAF	Coal	42DV	559	South-West	3.7	South-East	60	1977

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	307199-003	307201 199568	was searched for by trial trenching undertaken by G.A. Spacey & Associates in 2015 but was not located	Coal	

Abandoned mine plan catalogue numbers

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

SWA1282	SW697	SWA3768
SWA2291	SWA3767	SWR1145
SWR1157	SWR2488	POO

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is in an area where a notice to withdraw support was given in 1976.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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

ANNEX B
Risk Assessment Definitions

The contaminated land regime is set out in Part 2A of the Environmental Protection Act (EPA) 1990 and was introduced on the 1st April 2000 in England and 1st July 2001 in Wales. A similar regime was introduced in Scotland on 14th July 2000.

Part 2A was introduced to achieve three overarching objectives:

- (a) To identify and remove unacceptable risks to human health and the environment.
- (b) To seek to ensure that contaminated land is made suitable for its current use.
- (c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

Under Part 2A the statutory definition of 'contaminated land' is:

"any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Pollution of controlled waters is being, or is likely to be, caused."

Under Part 2A, for land to be classified as 'Contaminated Land' there must be one or more contaminant, pathway, receptor linkages, known as the '**Pollutant Linkage**'. A pollutant linkage requires three essential elements:

- (a) A **CONTAMINANT** (SOURCE) – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.
- (b) A **RECEPTOR** – something which could be adversely affected by a contaminant.
- (c) A **PATHWAY** – a route by which a receptor is or might be exposed to or affected by a contaminant.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

Model Procedures for the Management of Land Contamination – Contamination Land Report 11 (2004) defines a 'Hazard' as

'a property or situation that in particular circumstances could lead to harm'.

A framework for qualitative risk assessment is provided in CIRIA publication C552 Contaminated Land Risk Assessment – A Guide to Good Practice (2001). The method requires an assessment of the magnitude of the probability of the risk occurring and the magnitude of the potential consequence. Classifications of consequences and probability, levels and descriptions of risk have been devised from the above publication and are defined in the following sections.

Classification of Consequence

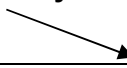
Table A Classification of Consequence	
Classification	Definition
Severe	• Short term (acute) risk to human health likely to result in significant harm • Short term risk to controlled waters • Catastrophic damage to buildings/structures • Short term risk to an ecosystem or organism within the particular ecosystem
Medium	• Chronic damage to human health (long term risk) • Pollution of a sensitive water resource • A significant change in an ecosystem or organism within the ecosystem
Mild	• Pollution of non-sensitive water resources • Significant damage to buildings/structures • Damage to sensitive buildings/structure/services or the environment
Negligible	• Harm (not necessarily significant) which may result in financial loss • Non-permanent health effects to humans (easily prevented by PPE for example) • Easily repairable effects of structural (building) damage

Classification of Probability

Table B Classification of Probability	
Classification	Definition
High Likelihood	• There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term. • Evidence of harm to the receptor
Likely	• There is a complete pollution linkage which means that it is probable that an event will occur • The event is not inevitable but possible in short term and likely in the long term
Low Likelihood	• There is a complete pollution linkage and circumstances are possible under which an event could occur • It is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Unlikely	• There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term

Risk Assessment Matrix

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table C** below.

Table C Risk Assessment Matrix					
Increasing acceptability 		Consequence			
		Severe	Medium	Mild	Negligible
Probability	High Likelihood	High risk	High risk	Medium risk	Low risk
	Likely	High risk	Medium risk	Low risk	Near zero risk
	Low Likelihood	Medium risk	Low risk	Low risk	Near zero risk
	Unlikely	Low risk	Near zero risk	Near zero risk	Near zero risk

Description of Risks and Likely Actions

High Risk

There is a high probability that severe harm could arise to a receptor, or there is evidence that a receptor is currently being severely harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

Medium Risk

It is probable that harm will arise to a receptor. However, it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.

**ANNEX C
Window Sample and
Rotary Borehole Logs**

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						1.00				MADE GROUND: Brown clayey gravelly SAND (Drillers Description - Hand Dig)	
	1.00 - 2.50		67	0	0					MADE GROUND: Loose to medium dense black mottled dark brownish red slightly sandy clayey angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	1
						2.80				From 2.50m: Becomes very loose to loose.	2
	2.50 - 4.00 3.50	D	67	0	0	3.50				MADE GROUND: Very loose to loose light orangish brown mottled greyish brown and brownish red clayey gravelly fine to coarse SAND with low cobble content. Gravel is sub angular fine to coarse mudstone and coal fragments. Cobbles are sub angular mudstone.	3
	4.00 - 5.00		70	0	0					Orangish brown slightly gravelly very sandy CLAY with low cobble content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone. Sand is fine to coarse.	4
						5.00				From 4.00m: Becomes stiff.	
	5.50	C				5.50				Grey SANDSTONE (Drillers Description - Open Hole)	5
	5.50 - 7.00		53	53	13					Strong very thinly to thinly bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal very closely to closely spaced planar-rough clean often orangish brown surface stained.	6
										From 7.00 to 7.40m: Recovered as angular to sub angular fine to coarse GRAVEL.	7
	7.00 - 8.50		67	20	15						8
										From 8.50m to 9.00m: Recovered as angular to sub angular fine to coarse GRAVEL.	9
	8.50 - 10.00		100	53	9	9.20				Strong thinly to medium bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal medium spaced planar and undulating-rough gravelly clay infill.	10

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH01

Sheet 2 of 4

Project Name: Kingsley Terrace, Aberfan

Project No.
17176

Co-ords:

Hole Type
RC

Location: Aberfan

Level:

Scale
1:50

Client: Merthyr Valley Homes

Dates:

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
	10.00 - 11.50		100	53	37					Strong thinly to medium bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal medium spaced planar and undulating-rough gravelly clay infill.	11
						11.50				Grey SANDSTONE (Drillers Description - Open Hole)	12
											13
											14
											15
											16
											17
						18.20					18
						18.90				Grey MUDSTONE with thin coal traces (Drillers Description - Open Hole)	
										Grey SANDSTONE (Drillers Description - Open Hole)	19
											20

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH01

Sheet 3 of 4

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						21.00				Grey SANDSTONE (Drillers Description - Open Hole)	
										Grey MUDSTONE (Drillers Description - Open Hole)	21
											22
											23
						23.40				Grey SANDSTONE (Drillers Description - Open Hole)	
											24
											25
											26
											27
						27.30				Grey MUDSTONE (Drillers Description - Open Hole)	
											28
											29
						29.00				Grey SANDSTONE (Drillers Description - Open Hole)	
											30

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5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH01

Sheet 4 of 4

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						32.00				Grey SANDSTONE (Drillers Description - Open Hole)	31
										End of Borehole at 32.000m	32
											33
											34
											35
											36
											37
											38
											39
											40

Remarks: 1] On completion borehole backfilled with bentonite.

Project Name: Kingsley Terrace, Aberfan

Project No.
17176

Co-ords:

Hole Type
RC

Location: Aberfan

Level:

Scale
1:50

Client: Merthyr Valley Homes

Dates:

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						1.00				MADE GROUND: Brown clayey gravelly SAND (Drillers Description - Hand Dig)	1
	1.00 - 2.50		67	0	0					MADE GROUND: Medium dense black mottled dark brownish red slightly sandy clayey angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	2
	2.50 - 4.00		100	0	0	2.90				MADE GROUND: Medium dense light orangish brown mottled greyish brown and brownish red clayey gravelly fine to coarse SAND with low cobble content. Gravel is sub angular fine to coarse mudstone and coal fragments. Cobbles are sub angular mudstone.	3
	3.50	D				3.40				Orangish brown slightly gravelly very sandy CLAY with low cobble content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone. Sand is fine to coarse.	4
	4.00 - 5.00		50	50	27	4.00				Strong very thinly to thinly bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal very closely to closely spaced planar-rough clean often orangish brown surface stained.	5
	5.50 - 6.50		100	90	10	6.00				Strong thinly to medium bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal medium spaced planar and undulating-rough gravelly clay infill.	6
	7.00 - 7.11	C									
	6.50 - 8.00		73	73	7						
	8.00 - 9.50		80	80	47						
						9.50				Grey SANDSTONE (Drillers Description - Open Hole)	9
											10

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH02

Sheet 2 of 4

Project Name: Kingsley Terrace, Aberfan

Project No.
17176

Co-ords:

Hole Type
RC

Location: Aberfan

Level:

Scale
1:50

Client: Merthyr Valley Homes

Dates:

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
										Grey SANDSTONE (Drillers Description - Open Hole)	
											11
											12
											13
											14
											15
											16
											17
											18
						18.40				Grey MUDSTONE (Drillers Description - Open Hole)	
						19.00				Grey SANDSTONE (Drillers Description - Open Hole)	19
						19.60				Grey MUDSTONE (Drillers Description - Open Hole)	
											20

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH02

Sheet 3 of 4

Project Name: Kingsley Terrace, Aberfan

Project No.
17176

Co-ords:

Hole Type
RC

Location: Aberfan

Level:

Scale
1:50

Client: Merthyr Valley Homes

Dates:

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						23.20				Grey MUDSTONE (Drillers Description - Open Hole)	21
											22
											23
										Grey SANDSTONE (Drillers Description - Open Hole)	24
											25
											26
											27
											28
											29
											30

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH02

Sheet 4 of 4

Project Name: Kingsley Terrace, Aberfan

Project No.
17176

Co-ords:

Hole Type
RC

Location: Aberfan

Level:

Scale
1:50

Client: Merthyr Valley Homes

Dates:

Logged By
ACASE

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						32.00				Grey SANDSTONE (Drillers Description - Open Hole)	31
										End of Borehole at 32.000m	32
											33
											34
											35
											36
											37
											38
											39
											40

Remarks: 1] On completion borehole backfilled with bentonite.

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
										MADE GROUND: Brown clayey gravelly SAND (Drillers Description - Hand Dig)	1
	1.20 - 2.50		77	0	0	1.20				MADE GROUND: Medium dense black mottled dark brownish red slightly sandy clayey angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	2
	2.50 - 3.30		88	0	0	2.50				MADE GROUND: light orangish brown mottled greyish brown and brownish red clayey gravelly fine to coarse SAND with low cobble content. Gravel is sub angular fine to coarse mudstone and coal fragments. Cobbles are sub angular mudstone.	3
	4.00 - 4.50	D	100	0	0	4.00				Stiff orangish brown slightly gravelly very sandy CLAY with low cobble and boulder content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone. Sand is fine to coarse. Boulder CLAY (Drillers Description - Open Hole)	4
	4.50 - 5.50		100	100	0	4.50				Very stiff orangish brown slightly gravelly very sandy CLAY with medium cobble and boulder content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone. Sand is fine to coarse. Recovered as angular to sub angular fine to coarse GRAVEL of SANDSTONE.	5
	5.50 - 7.00		100	100	20	5.50				Strong very thinly to thinly bedded dark grey SANDSTONE. Bedding fractures (0-5°) are sub horizontal very closely to closely spaced planar-rough clean often orangish brown surface stained.	6
	7.00 - 8.50		100	100	47						7
	8.00 - 8.12	C									8
	8.50 - 9.50		100	100	20						9
						9.50				Grey SANDSTONE (Drillers Description - Open Hole)	
						9.70				Black COAL (Drillers Description - Open Hole)	
						9.80				Grey SANDSTONE (Drillers Description - Open Hole)	
											10

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH03

Sheet 2 of 3

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
										Grey SANDSTONE (Drillers Description - Open Hole)	11
											12
											13
											14
											15
											16
						16.50					
						16.60				Black COAL (Drillers Description - Open Hole)	
										Grey SANDSTONE (Drillers Description - Open Hole)	17
											18
						18.40				Grey MUDSTONE (Drillers Description - Open Hole)	19
											20

Remarks: 1] On completion borehole backfilled with bentonite.



Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Borehole No.

BH03

Sheet 3 of 3

Project Name:	Kingsley Terrace, Aberfan	Project No.	17176	Co-ords:		Hole Type	RC
Location:	Aberfan	Level:		Scale	1:50	Logged By	ACASE
Client:	Merthyr Valley Homes	Dates:					

Water Strikes	Depth (m)	Type /FI	Coring			Depth (m)	Level (m)	Well	Legend	Stratum Description	
			TCR	SCR	RQD						
						20.80				Grey MUDSTONE (Drillers Description - Open Hole)	
						21.10				Grey SANDSTONE (Drillers Description - Open Hole)	21
										Grey MUDSTONE (Drillers Description - Open Hole)	
						22.00				Grey SANDSTONE (Drillers Description - Open Hole)	22
											23
											24
											25
											26
											27
											28
											29
						30.00				End of Borehole at 30.000m	30

Remarks: 1] On completion borehole backfilled with bentonite.

Borehole Log

Borehole No.

WS01

Sheet 1 of 1

Project Name: Kingsley Terrace, Aberfan

Project No:
17176

Co-ords:

Hole Type
WS

Location: Aberfan

Level:

Scale
1:20

Client: Merthyr Valley Homes

Dates: 19/01/2023 -

Logged By
ACASE

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
	0.30	ES						MADE GROUND: Light brown mottled grey clayey gravelly fine to coarse SAND with frequent rootlets up to 10mm. Gravel is angular fine to medium mudstone, sandstone, coal, brick and ceramic fragments.	
	0.50	ES		0.50				MADE GROUND: Black mottled dark brownish red slightly sandy angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	
	1.00	SPT	N=16 (2,2/3,4,4,5)	0.90				MADE GROUND: Medium dense light greyish brown mottled orangish brown and brownish red clayey sandy angular fine to coarse GRAVEL of mudstone and coal fragments with low cobble content. Cobbles are sub angular mudstone. Sand is fine.	1
	2.00	SPT	N=22 (3,5/4,4,6,8)						2
				2.60					
	3.00	SPT	N=7 (2,2/1,2,1,3)	3.00				Soft orangish brown slightly gravelly very sandy CLAY with low cobble content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone.	
								End of Borehole at 3.000m	3
									4

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 3.0m depth. Slotted pipe with granular response zone from 1.0m-3.0m, solid standpipe with bentonite seal GL-1.0m, and a raised cover. 2] No groundwater encountered. 3] Borehole terminated at 3.0m for gas well installation.

Borehole Log

Borehole No. _____

WS02

Sheet 1 of 1

Project Name:	Kingsley Terrace, Aberfan
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Project No:	17176
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Co-ords:

Hole Type	WS
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Location: Aberfan

Level:

Scale
1:20

Client: Merthyr Valley Homes

Dates: 19/01/2023 -

Logged By
ACASE

[illegible]

Remarks:	1] On completion a 50mm standpipe (50mm) was installed to 3.0m depth. Slotted pipe with granular response zone from 1.0m-3.0m, solid standpipe with bentonite seal GL-1.0m, and a raised cover. 2] No groundwater encountered. 3] Borehole terminated at 3.0m for gas well installation.
----------	--

Borehole Log

Borehole No.

WS03

Sheet 1 of 1

Project Name: Kingsley Terrace, Aberfan

Project No:
17176

Co-ords:

Hole Type
WS

Location: Aberfan

Level:

Scale
1:20

Client: Merthyr Valley Homes

Dates: 19/01/2023 -

Logged By
ACASE

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
	0.10	ES						MADE GROUND: Light brown mottled grey clayey gravelly fine to coarse SAND with frequent rootlets up to 10mm. Gravel is angular fine to medium mudstone, sandstone, coal, brick and ceramic fragments.	
	0.50	ES		0.40				MADE GROUND: Black mottled dark brownish red slightly sandy angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	
	1.00	SPT	N=15 (2,2/3,3,4,5)	1.20				MADE GROUND: Medium dense light greyish brown mottled orangish brown and brownish red clayey sandy angular fine to coarse GRAVEL of mudstone and coal fragments with low cobble content. Cobbles are sub angular mudstone. Sand is fine.	1
	2.00	SPT	N=28 (3,8/8,4,8,8)	2.55				Soft orangish brown slightly gravelly very sandy CLAY with low cobble content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone.	2
	2.70	SPT	N=50 (7,6/50,0,0,0)	2.70				End of Borehole at 2.700m	3
									4

Remarks: 1] On completion a 50mm standpipe (50mm) was installed to 3.0m depth. Slotted pipe with granular response zone from 1.0m-3.0m, solid standpipe with bentonite seal GL-1.0m, and a raised cover. 2] No groundwater encountered. 3] Borehole terminated at 2.70m due to dense ground conditions and for gas well installation.

Borehole Log						Borehole No. WS04 Sheet 1 of 1			
Project Name: Kingsley Terrace, Aberfan				Project No: 17176		Co-ords:			
Location: Aberfan				Level:		Hole Type WS			
Client: Merthyr Valley Homes				Dates: 19/01/2023 -		Scale 1:20			
Logged By ACASE									
Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Well	Legend	Stratum Description	
	Depth (m)	Type	Results						
	0.20	ES						MADE GROUND: Light brown mottled grey clayey gravelly fine to coarse SAND with frequent rootlets up to 10mm. Gravel is angular fine to medium mudstone, sandstone, coal, brick and ceramic fragments.	
	0.60	ES		0.60				MADE GROUND: Black mottled dark brownish red slightly sandy angular to sub angular fine to coarse GRAVEL of coal and brick fragments with frequent pockets of coal ash. Sand is fine.	1
	1.00	SPT	N=14 (3,7/4,5,3,2)	1.30				MADE GROUND: Medium dense light greyish brown mottled orangish brown and brownish red clayey sandy angular fine to coarse GRAVEL of mudstone and coal fragments with low cobble content. Cobbles are sub angular mudstone. Sand is fine.	2
	2.00	SPT	N=28 (3,5/9,5,6,8)	2.80				Soft orangish brown slightly gravelly very sandy CLAY with low cobble content. Gravel is angular to sub angular fine to coarse sandstone and mudstone. Cobbles are angular sandstone.	3
	3.00	SPT	N=6 (9,11/1,3,1,1)						
	3.60	SPT	N=50 (13,12/50,0,0,0)	3.60				End of Borehole at 3.600m	4

Remarks: 1] On completion borehole backfilled with arisings. 2] No groundwater encountered. 3] Borehole terminated at 3.6m due to stiff/very dense ground conditions.

**ANNEX D
Gas Monitoring
Results**

In-situ Gas Monitoring Results – Aberfan

Gas monitoring round 1 26/01/2023 Barometric Pressure: 1017mb			
Weather: Cloudy			
Gas	WS01	WS02	WS03
CH ₄ (%)	0.2	0.2	0.2
CO ₂ (%)	2.0	2.4	2.1
O ₂ (%)	19.7	18.7	19.3
CO (ppm)	0ppm	0ppm	0ppm
H ₂ S (ppm)	0ppm	0ppm	0ppm
Flow (l/hr)	0.3	0.1	0.2
Depth to Groundwater	0.7	1.0	/
Well Depth	3.0	3.0	3.0

In-situ Gas Monitoring Results – Aberfan

Gas monitoring round 2 20/02/2023 Barometric Pressure: 1004mb			
Weather: Cloudy			
Gas	WS01	WS02	WS03
CH ₄ (%)	0.1	0.1	0.1
CO ₂ (%)	1.8	2.0	2.0
O ₂ (%)	19.9	19.2	19.3
CO (ppm)	0ppm	0ppm	0ppm
H ₂ S (ppm)	0ppm	0ppm	0ppm
Flow (l/hr)	0.3	0.1	0.2
Depth to Groundwater	0.8	1.1	/
Well Depth	3.0	3.0	3.0

In-situ Gas Monitoring Results – Aberfan

Gas monitoring round 3 01/03/2023 Barometric Pressure: 1004mb			
Weather: Cloudy			
Gas	WS01	WS02	WS03
CH ₄ (%)	0.1	0.1	0.1
CO ₂ (%)	1.8	2.0	2.0
O ₂ (%)	19.9	19.2	19.3
CO (ppm)	0ppm	0ppm	0ppm
H ₂ S (ppm)	0ppm	0ppm	0ppm
Flow (l/hr)	0.3	0.1	0.2
Depth to Groundwater	0.8	1.1	/
Well Depth	3.0	3.0	3.0

ANNEX E
Laboratory Soil Chemical Test Results

Results - Soil

Project: Kingsley Terrace, Aberfan

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855
Quotation No.: Q20-21666	Chemtest Sample ID.:		1577359	1577360	1577361	1577362	1577363	1577364	1577365	1577366		
Order No.: 17176-AC	Client Sample Ref.:		WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04		
	Client Sample ID.:		WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Top Depth (m):		0.60	0.50	0.50	0.60	0.10	0.30	0.20	0.20		
	Date Sampled:		19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023		
	Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00		
	Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB		
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	14	18	13	11	23	16	17	15
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	None	Stones	Stones and Roots	Stones and Roots	Stones and Roots	Stones	Stones	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	6.9	7.6	7.9	7.8	6.9	7.4	7.3	7.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.48	< 0.40	0.55	< 0.40	0.42	0.70	< 0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010				< 0.010	< 0.010		
Total Sulphur	M	2175	%	0.010	0.060				0.12	0.080		
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	U	2430	%	0.010	0.24	0.079	0.15	0.34	0.070	0.047	0.11	0.027
Arsenic	M	2455	mg/kg	0.5	22	31	21	20	9.9	11	32	18
Beryllium	U	2455	mg/kg	0.5	2.0	1.4	1.3	1.1	0.7	0.8	1.3	0.6
Cadmium	M	2455	mg/kg	0.10	0.17	0.23	0.25	0.11	0.31	0.25	0.30	0.22
Chromium	M	2455	mg/kg	0.5	12	10	9.4	11	11	14	13	14
Mercury Low Level	M	2450	mg/kg	0.05	0.07	0.09	0.07	0.07	0.10	0.13	0.14	0.06
Manganese	M	2455	mg/kg	1.0	3700	660	980	430	350	730	520	610
Molybdenum	M	2455	mg/kg	0.5	2.0	3.5	2.4	2.0	1.0	1.1	3.7	1.2
Antimony	N	2455	mg/kg	2.0	2.2	3.9	2.5	2.7	< 2.0	< 2.0	3.9	2.2
Copper	M	2455	mg/kg	0.50	94	71	53	68	24	19	67	21
Nickel	M	2455	mg/kg	0.50	76	56	60	59	19	26	51	21
Lead	M	2455	mg/kg	0.50	35	30	30	26	34	39	46	52
Selenium	M	2455	mg/kg	0.25	2.2	1.2	1.2	0.85	1.0	1.3	1.9	1.2
Zinc	M	2455	mg/kg	0.50	120	110	93	85	68	60	120	100
Chromium (Trivalent)	N	2490	mg/kg	1.0	12	10	9.4	11	11	14	13	14
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Results - Soil

Project: Kingsley Terrace, Aberfan

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855
Quotation No.: Q20-21666	Chemtest Sample ID.:		1577359	1577360	1577361	1577362	1577363	1577364	1577365	1577366	1577366
Order No.: 17176-AC	Client Sample Ref.:		WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04	WS04
	Client Sample ID.:		WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04	WS04
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.60	0.50	0.50	0.60	0.10	0.30	0.20	0.20	0.20
	Date Sampled:		19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023
	Time Sampled:		12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD							
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[< 1.0
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	[< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	< 3.0	3.6	< 3.0	< 3.0	< 3.0	< 3.0	[< 3.0
Aliphatic EPH >C35-C40	N	2690	mg/kg	1.00	1.3	1.1	< 1.0	2.1	< 1.0	1.8	< 1.0
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	< 5.0	6.4	< 5.0	< 5.0	< 5.0	< 5.0	[< 5.0
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10	< 10	< 10	[< 10
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[< 0.05
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00	< 1.0	58	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	10	640	< 2.0	< 2.0	3.9	5.8	< 2.0
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00	4.2	760	< 2.0	< 2.0	14	3.5	8.8
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	4.2	80	4.2	3.6	5.3	3.6	3.4
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00	16	1500	7.7	< 5.0	16	8.6	15
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	20	1500	12	< 10	22	12	19
Total VPH >C5-C10	M	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	M	2690	mg/kg	10.00	20	1500	11	< 10	21	13	19
Total EPH >C10-C40	N	2690	mg/kg	10.00	20	1500	12	< 10	22	12	19
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	1.1	0.50	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.21	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.47	0.48	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.44	0.39	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	1.2	1.2	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.26	0.16	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	1.1	1.2	< 0.10	0.39	0.33
Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.81	1.1	< 0.10	0.34	0.50
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.33	0.96	< 0.10	0.17	0.15
Chrysene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.59	1.5	< 0.10	0.28	0.30
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	1.1	1.2	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.54	0.66	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.88	0.70	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.49	1.0	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.79	0.47	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	1.5	0.89	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	< 2.0	12	13	< 2.0	< 2.0	< 2.0

Results - Soil

Project: Kingsley Terrace, Aberfan

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855	23-01855
Quotation No.: Q20-21666	Chemtest Sample ID.:				1577359	1577360	1577361	1577362	1577363	1577364	1577365	1577366
Order No.: 17176-AC	Client Sample Ref.:				WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04
	Client Sample ID.:				WS02	WS01	WS03	WS04	WS03	WS01	WS02	WS04
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.60	0.50	0.50	0.60	0.10	0.30	0.20	0.20
	Date Sampled:				19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023	19-Jan-2023
	Time Sampled:				12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00
	Asbestos Lab:				NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD								
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Organic Matter BS1377	N	2930	%	0.10	1.3	2.5	1.7	0.70	2.6	1.4	3.1	1.3

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8–C10 Aromatics: >C5–C7,>C7–C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

ANNEX F
Laboratory Soil & Rock Geotechnical
Test Results

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

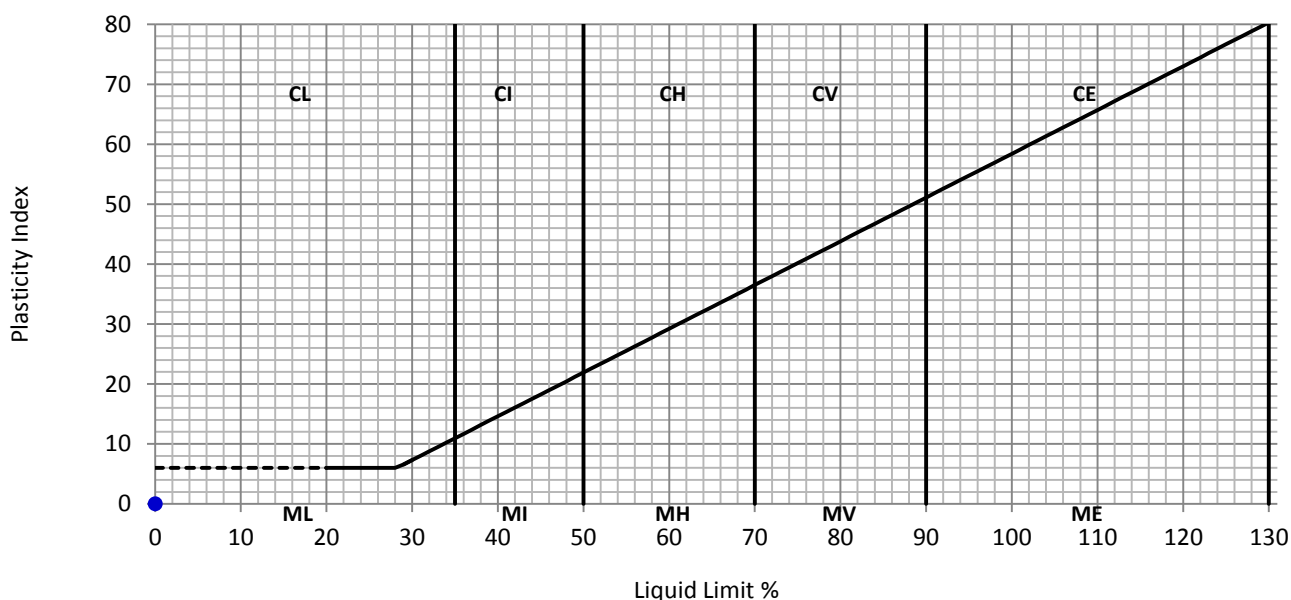
Project No: D23064 Project Name: Aberfan ATS Sample No: 31580	Client: TFW Group Ltd Address: 5 Deryn Court Wharfdale Road Cardiff CF23 7HA
--	--

Site Ref / Hole ID: BH02 Sample No: Sampling Certificate Received: No Location in Works: N/A Date Sampled: Unknown Sampled By: Client Date Received: 09 February 2023	Depth (m): 3.50 Sample Type: Disturbed Material Description: Brown clayey gravelly fine SAND Material Source: Site Generated Material Supplier: Site Generated Specification: BS1377 Date Tested: 13 February 2023
--	---

Test Results

Liquid Limit	0	%
Plastic Limit	0	%
Plasticity Index	0	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	42 %



Remarks: Sample is non-plastic

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

15/02/2023

Fig.

ATT

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D23064
Project Name: Aberfan
ATS Sample No: 31581

Client: TFW Group Ltd
Address: 5 Deryn Court
Wharfdale Road
Cardiff
CF23 7HA

Site Ref / Hole ID: BH03

Depth (m): 4.00

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Brown sandy very gravelly
CLAY

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

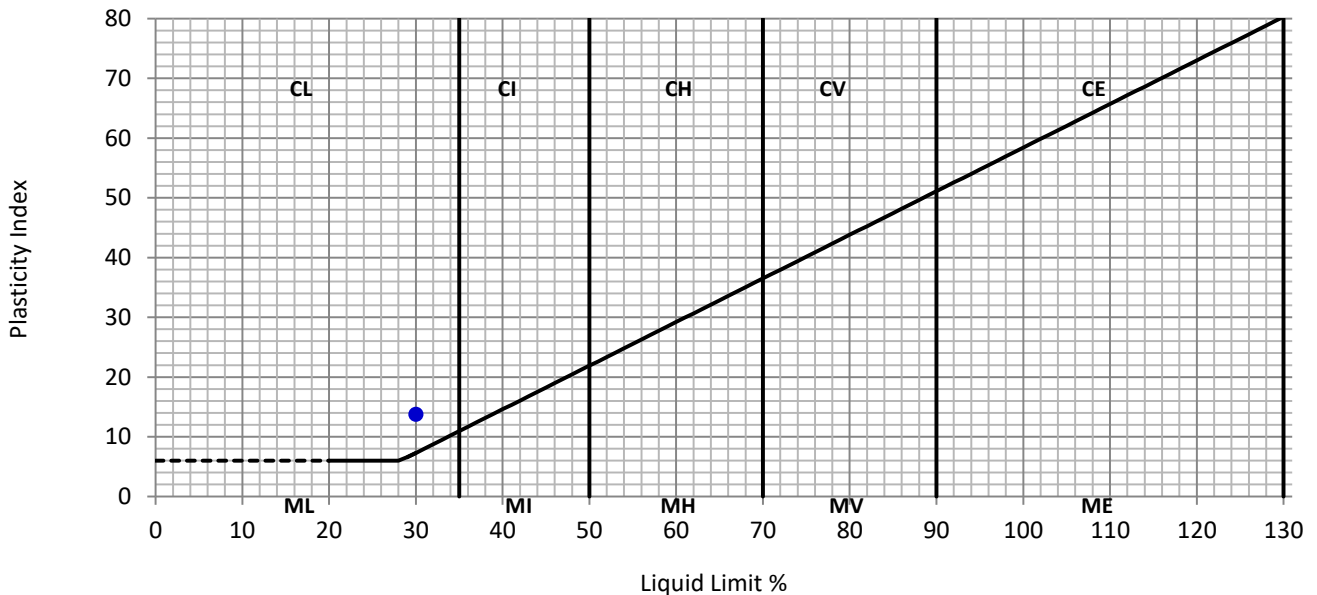
Date Received: 09 February 2023

Date Tested: 13 February 2023

Test Results

Liquid Limit	30	%
Plastic Limit	16	%
Plasticity Index	14	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	54 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

15/02/2023

Fig.

ATT

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

Project No: D23064
Project Name: Aberfan
ATS Sample No: 31582

Client: TFW Group Ltd
Address: 5 Deryn Court
Wharfdale Road
Cardiff
CF23 7HA

Site Ref / Hole ID: BH01

Depth (m): 3.50

Sample No:

Sample Type: Disturbed

Sampling Certificate Received: No

Material Description: Brown slightly sandy gravelly CLAY

Location in Works: N/A

Material Source: Site Generated

Date Sampled: Unknown

Material Supplier: Site Generated

Sampled By: Client

Specification: BS1377

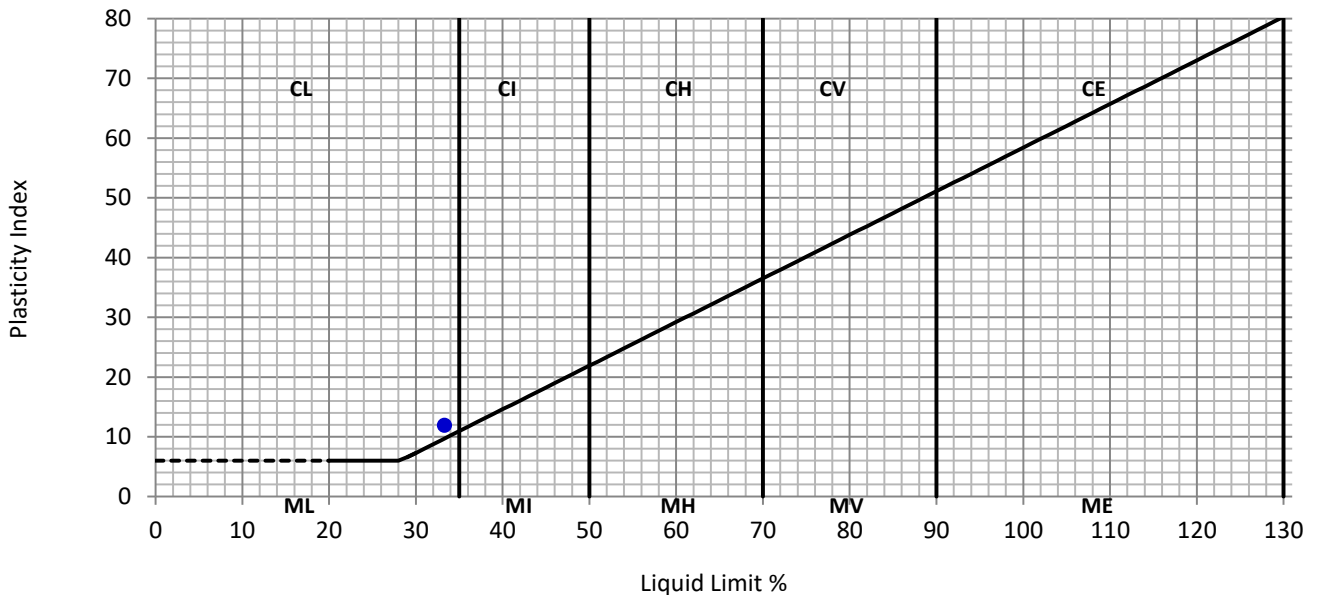
Date Received: 09 February 2023

Date Tested: 13 February 2023

Test Results

Liquid Limit	33	%
Plastic Limit	21	%
Plasticity Index	12	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	33 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 3.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

G Llewellyn

G Llewellyn, Senior Technician

Date

15/02/2023

Fig.

ATT

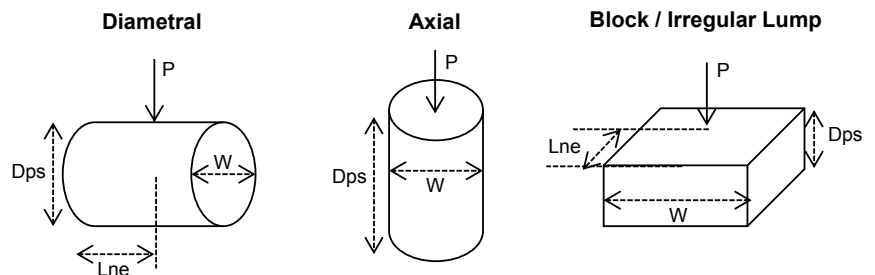
TEST REPORT POINT LOAD INDEX TEST ISRM: 1985

Address: 5 Deryn Court
Wharfedale Road
Cardiff
CF23 7HA

[illegible]

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block

Dimensions
Dps' - Distance between platens at failure
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P



ALS

Sturmi Way, Village Farm Industrial Est, Pyle, Bridgend, CF33
6BZ
Tel: 01656 746762 Fax: 01656 749096

A Grogan

15/02/2023

PLT 1

Rev 2.0

SUMMARY OF RESULTS UNIAXIAL COMPRESSIVE STRENGTH OF ROCK ISRM 2007

[illegible]

Notes:	Test Specification : International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007			
	1 ISRM p87 test 1, water content at $105 \pm 3^{\circ}\text{C}$, specimen as received at the laboratory.			
	2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density			
	3 ISRM p153 part 1 determination of Uniaxial Compressive Strength (UCS) of Rock Materials			
	Mode of failure:	S - Single Shear	MS - Multiple Shear	AC - Axial Cleavage
				F - Fragmented

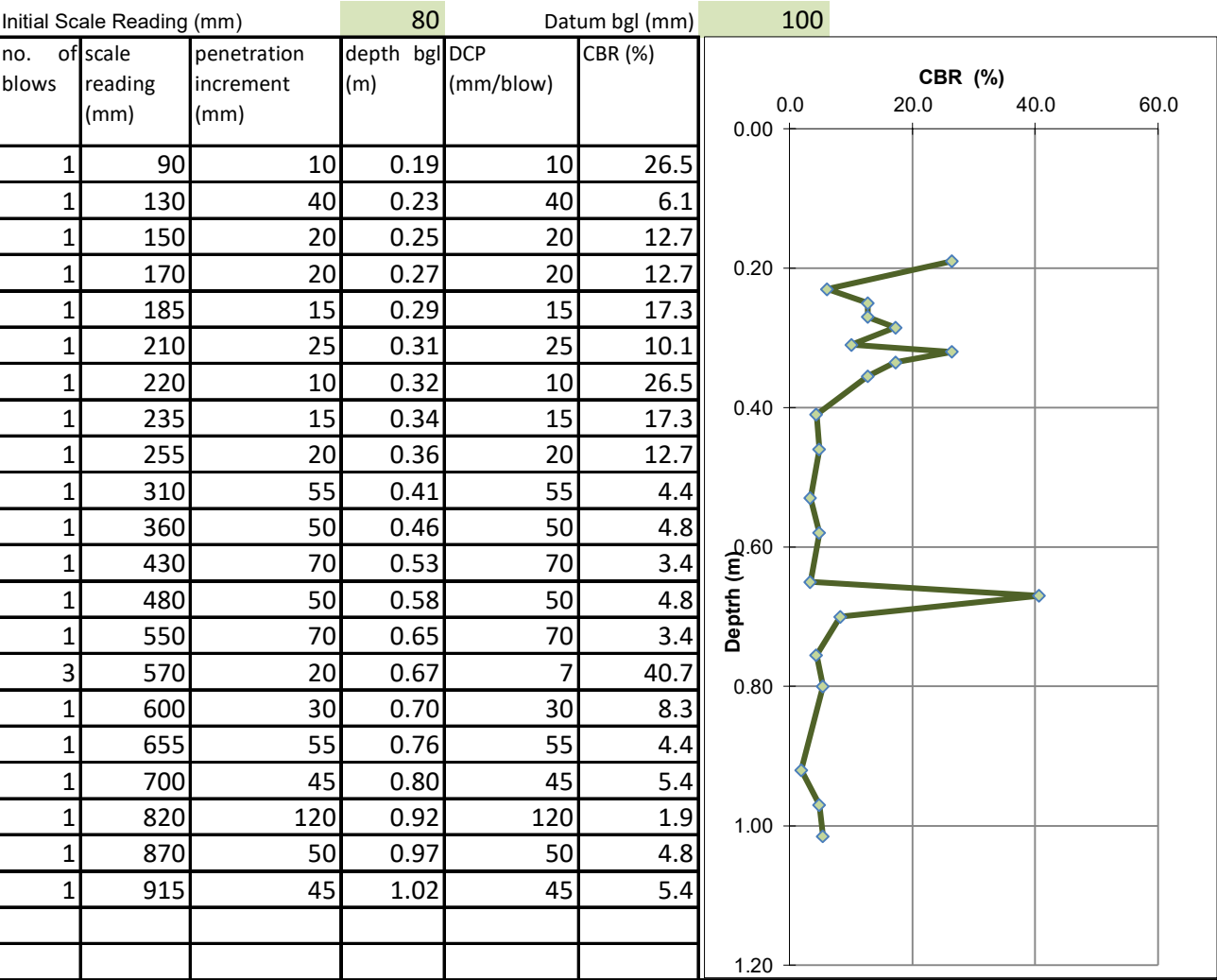
QA Ref. ISRM Rev 1.0	 Apex Testing Solutions Sturmi Way, Village Farm Industrial Est, Pyle, Bridgend, CF33 6BZ Tel: 01656 746762 Fax: 01656 749096	Approver <i>A. Grogan,</i>	Date 15/02/2023	Fig. UCS 1
		A. Grogan, Laboratory Manager		

**ANNEX G
TRL DCP Results**

Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

Dynamic Cone Penetrometer Testing

Client: Asibri Planning
Site Name: Kingsley Terrace, Aberfan
Project Number: 17176
Date: 23/01/2023



REMARKS:
Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

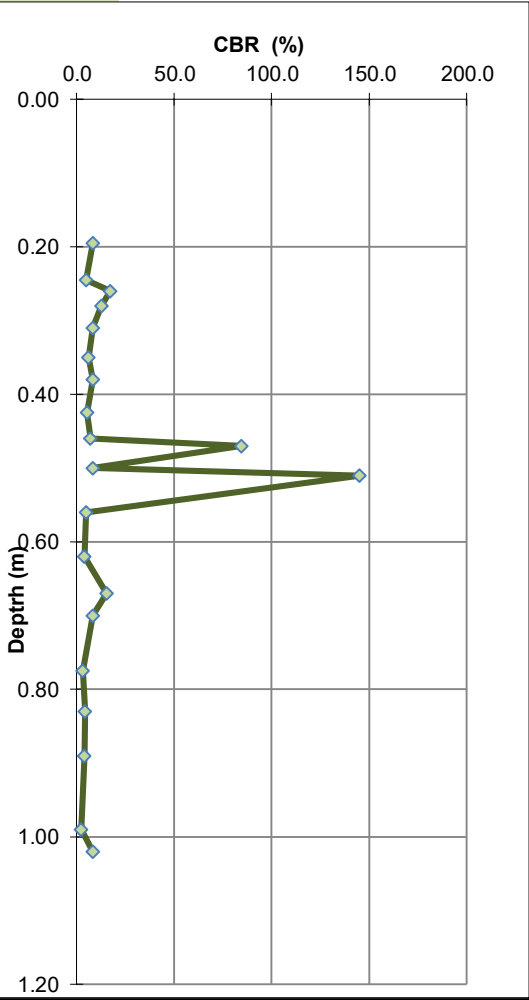
Dynamic Cone Penetrometer Testing

Client: Asibri Planning
Site Name: Kingsley Terrace, Aberfan
Project Number: 17176
Date: 23/01/2023



Initial Scale Reading (mm) 65 Datum bgl (mm) 100

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	95	30	0.20	30	8.3
1	145	50	0.25	50	4.8
1	160	15	0.26	15	17.3
1	180	20	0.28	20	12.7
1	210	30	0.31	30	8.3
1	250	40	0.35	40	6.1
1	280	30	0.38	30	8.3
1	325	45	0.43	45	5.4
1	360	35	0.46	35	7.0
3	370	10	0.47	3	84.6
1	400	30	0.50	30	8.3
5	410	10	0.51	2	145.1
1	460	50	0.56	50	4.8
1	520	60	0.62	60	4.0
3	570	50	0.67	17	15.4
1	600	30	0.70	30	8.3
1	675	75	0.78	75	3.1
1	730	55	0.83	55	4.4
1	790	60	0.89	60	4.0
1	890	100	0.99	100	2.3
1	920	30	1.02	30	8.3



REMARKS:
Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

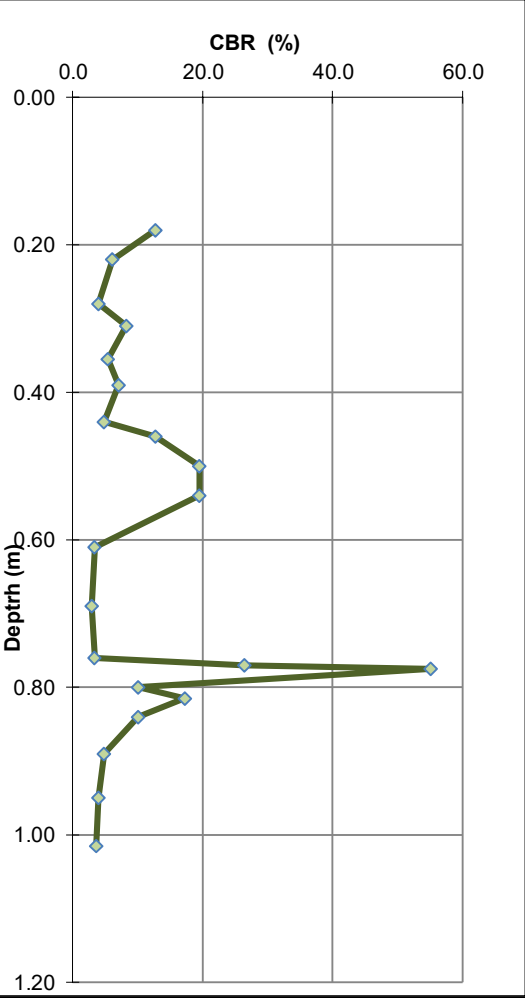
Dynamic Cone Penetrometer Testing

Client: Asibri Planning
Site Name: Kingsley Terrace, Aberfan
Project Number: 17176
Date: 23/01/2023



Initial Scale Reading (mm) 60 Datum bgl (mm) 100

no. of blows	scale reading (mm)	penetration increment (mm)	depth bgl (m)	DCP (mm/blow)	CBR (%)
1	80	20	0.18	20	12.7
1	120	40	0.22	40	6.1
1	180	60	0.28	60	4.0
1	210	30	0.31	30	8.3
1	255	45	0.36	45	5.4
1	290	35	0.39	35	7.0
1	340	50	0.44	50	4.8
1	360	20	0.46	20	12.7
3	400	40	0.50	13	19.5
3	440	40	0.54	13	19.5
1	510	70	0.61	70	3.4
1	590	80	0.69	80	2.9
1	660	70	0.76	70	3.4
1	670	10	0.77	10	26.5
1	675	5	0.78	5	55.1
1	700	25	0.80	25	10.1
1	715	15	0.82	15	17.3
1	740	25	0.84	25	10.1
1	790	50	0.89	50	4.8
1	850	60	0.95	60	4.0
1	915	65	1.02	65	3.7

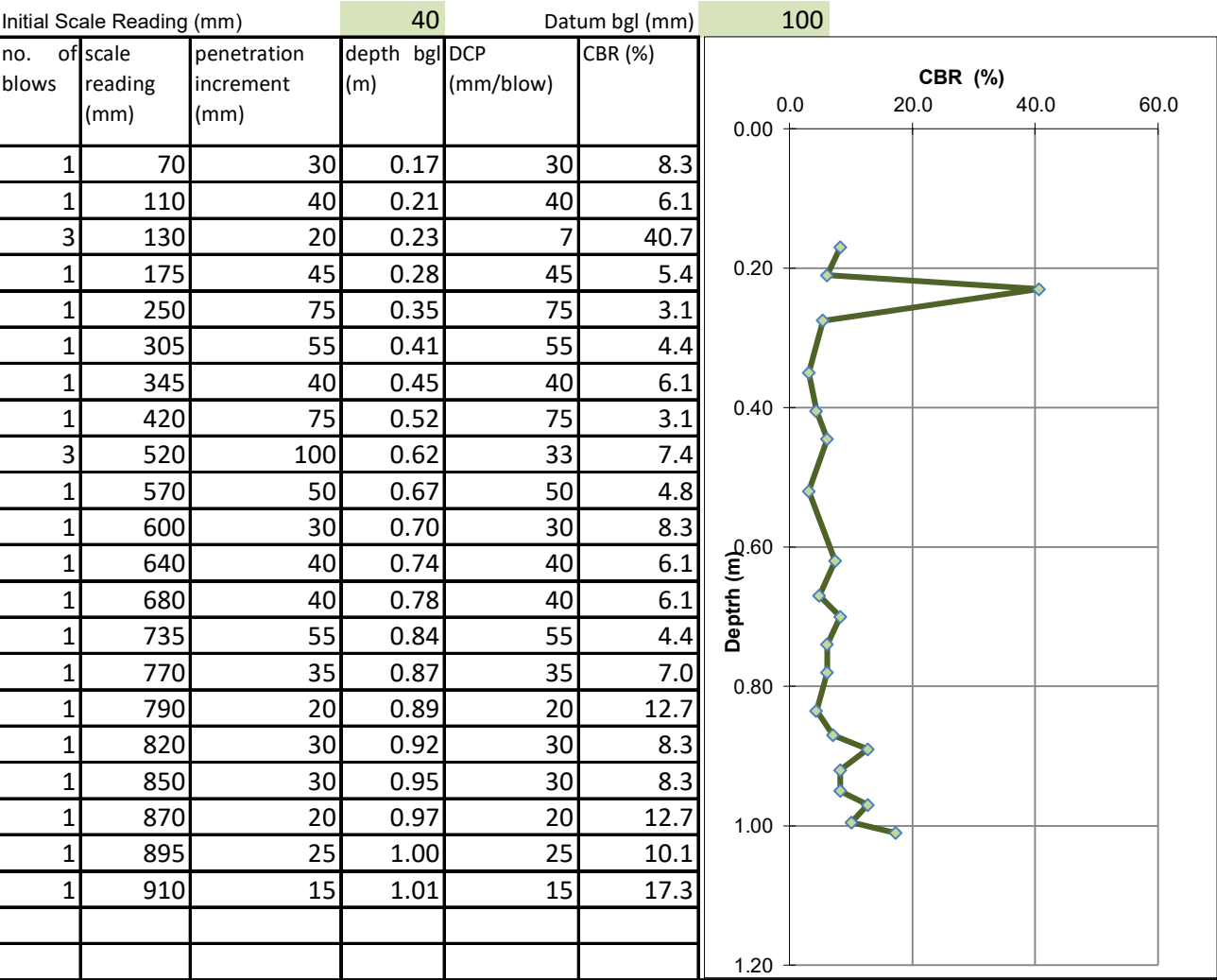


DCP4

REMARKS:
Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

Dynamic Cone Penetrometer Testing

Client: Asibri Planning
Site Name: Kingsley Terrace, Aberfan
Project Number: 17176
Date: 23/01/2023



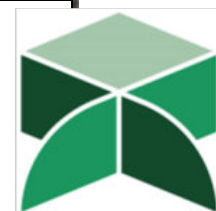
REMARKS:
Test carried out in accordance with operating instructions for the dynamic cone penetrometer Model A2465 by CNS Farnell Ltd.
CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by TRL taken from The Highways Agency Interim Advice Note 73/06 - Design Guidance for Road Pavement Foundations (2009)

DRAWINGS





Site Name: Aberfan Project Number: 17176 Drawing Title: TRL DCP Locations Drawing Number: 02 Scale: Not to scale	KEY  TRL DCP Locations
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Terra Firma (Wales) Ltd. 5 Deryn Court, Wharfedale Road, Pentwyn, Cardiff CF23 7HA
Tel: 029 2073 5354 **Fax:** 029 2073 5433 **Email:** info@terrafirmawales.co.uk www.terrafirmawales.co.uk