

Report No. BC/MB/07.20.02.

Coal Mining Risk Assessment: Land Adjacent to 22 Pant Road, Dowlais, Merthyr Tydfil.

Prepared on behalf of:

MMA

By:



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Coal Mining Risk Assessment: Land Adjacent to 22 Pant Road, Dowlais, Merthyr Tydfil.

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List of Plans

Drawing No:	Scale:
<i>BC/MB/07.20.02.01. General Location Plan.</i>	<i>1:50,000.</i>
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<i>BC/MB/07.20.02.03. Detailed Location Plan.</i>	<i>1:1,250.</i>

Appendices

Appendix I: Copy of The Coal Authority's Report, ref no. 51002290444001.

Appendix II: Copy of Public Health England's Radon Gas Report.

Coal Mining Risk Assessment: Land Adjacent to 22 Pant Road, Dowlais, Merthyr Tydfil.

1 Introduction

This report has been prepared on behalf of our client:

**MMA,
Red Barrel House,
Pant Road,
Merthyr Tydfil,
CF48 3SP**

and relates to land at the junction of Llewellyn Street with Pant Road in Dowlais, where it is proposed to develop the land with a pair of semi-detached dwellings. This report considers the geology and mining history of the Site and the immediately surrounding area in order to assess the risk from past mining activities.

The following sources of data were used in the compilation of this report:

- i) *Research of published geological records;*
- ii) *Research of mining records held at The Coal Authority's archive in Mansfield;*
- iii) *The findings of The Coal Authority's report, reference no. 51002290444001;*
- iv) *Research of The Coal Authority's interactive map, accessed on the 21st July 2019;*
- v) *The findings of Public Health England's Radon report and*
- vi) *the archive records of Blandford Consulting.*

The findings of this report are necessarily based upon the data used in its compilation and may be amended in the future in the light of additional material information. The report must only be used in its entirety for its stated purpose.

/Cont....

2 Brief Description of the Site

The parcel of land that is the subject of this report ('the Site') is located at the north-eastern margins of Merthyr Tydfil in the district of Dowlais and is approximately 2.6 km north-east of the centre of the town (see Figure 1 and *General Location Plan, drawing no. BC/MB/07.20.02.01*). The Site is located on south-westerly facing slopes and is at approximate elevation of between 331m and 328m aod: it is irregular in outline with approximate maximum dimensions of 30m and 15m (see *Detailed Location Plan, drawing no. BC/MB/07.20.02.03*). The Site lies within a mixed residential area where houses are primarily arranged in terraces. A motor sales auction site is present immediately to the north of the Site, beyond Llewellyn Street.

Figure 1
Aerial View of Site



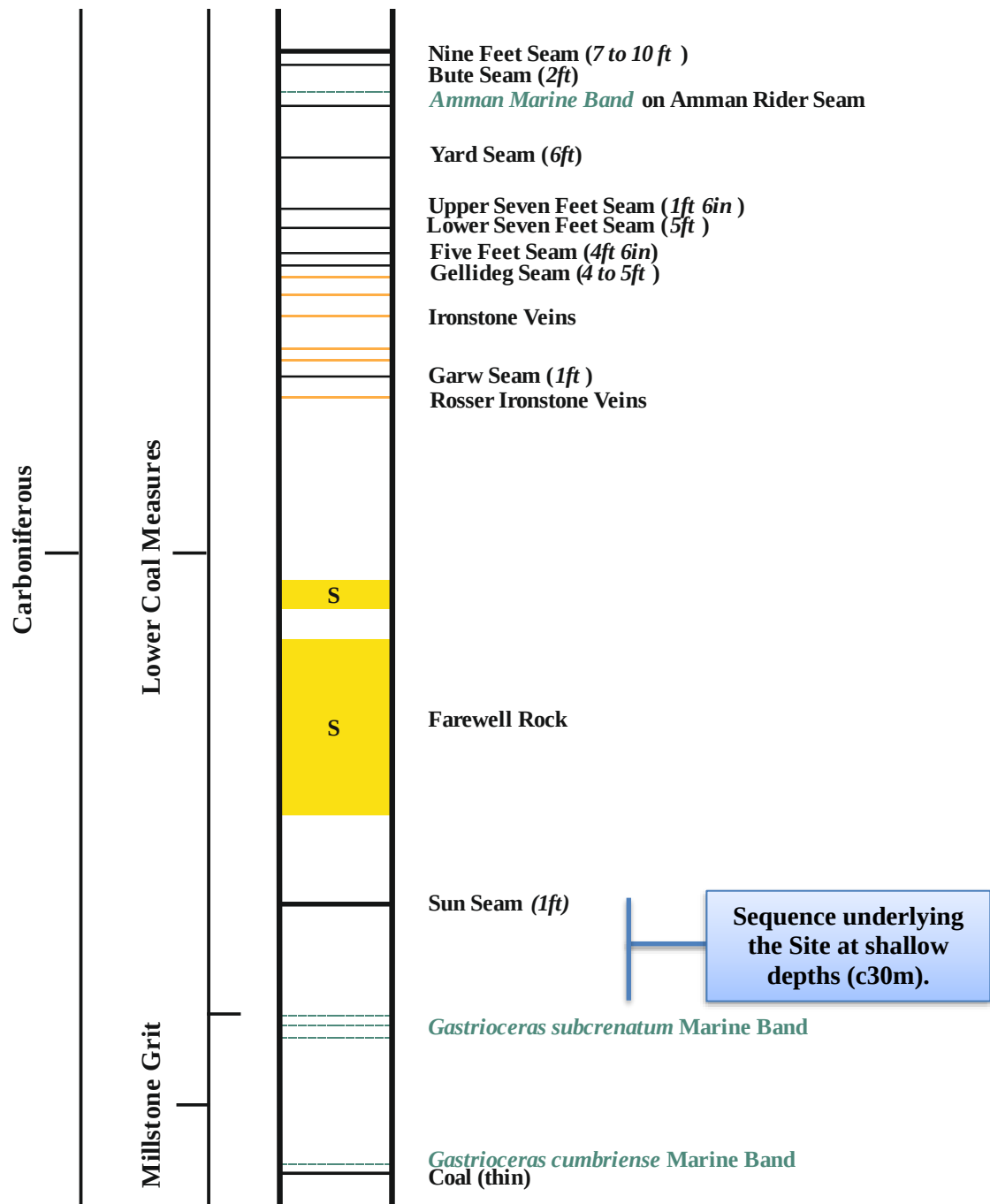
3 Geology of the Site

The Site is situated at the northern margin of the South Wales Coalfield and is underlain at shallow depths with strata assigned to the Lower Coal Measures, a sub-division of the Upper Carboniferous Period. The published geological sheet for the area at a 1:10,560 scale, SO 00

/Cont....

NE, shows the inferred position of the outcrop of the Five Feet/Gellideg Seam to be present approximately 1km south-west of the Site (see *Geology Plan, drawing no. BC/MB/07.20.02.02*) where it follows a north-easterly trend, along with a number of other outcrops.

Figure 2
Part of the Stratigraphic Column.



/Cont....

The outcrop of the Sun Seam is shown to be present immediately north-east of the Site where it is exposed at the bottom of a former railway cutting, the inferred position of the Seam's outcrop passes southwards through the Site. The Sun Seam is a thin coal seam, approximately 0.30m thick, and occurs very near the base of the Lower Coal Measures, below the Farewell Rock and much lower in the sequence than the main coal seams that have been mined across South Wales.

The measures of the South Wales Coalfield have been affected by large normal faults, frequently referred to as 'cross faults'. In the Dowlais area these faults have a sinuous trace at the surface and an average trend towards the north-west. Published geological information shows that no such large fault affects the Site.

The published geological sheet shows the Site to be covered with glacial deposits of locally derived soils. We have no details of the thickness or engineering properties of the soils present on the Site. The published geological sheet also shows that the Site is not affected by landslip conditions.

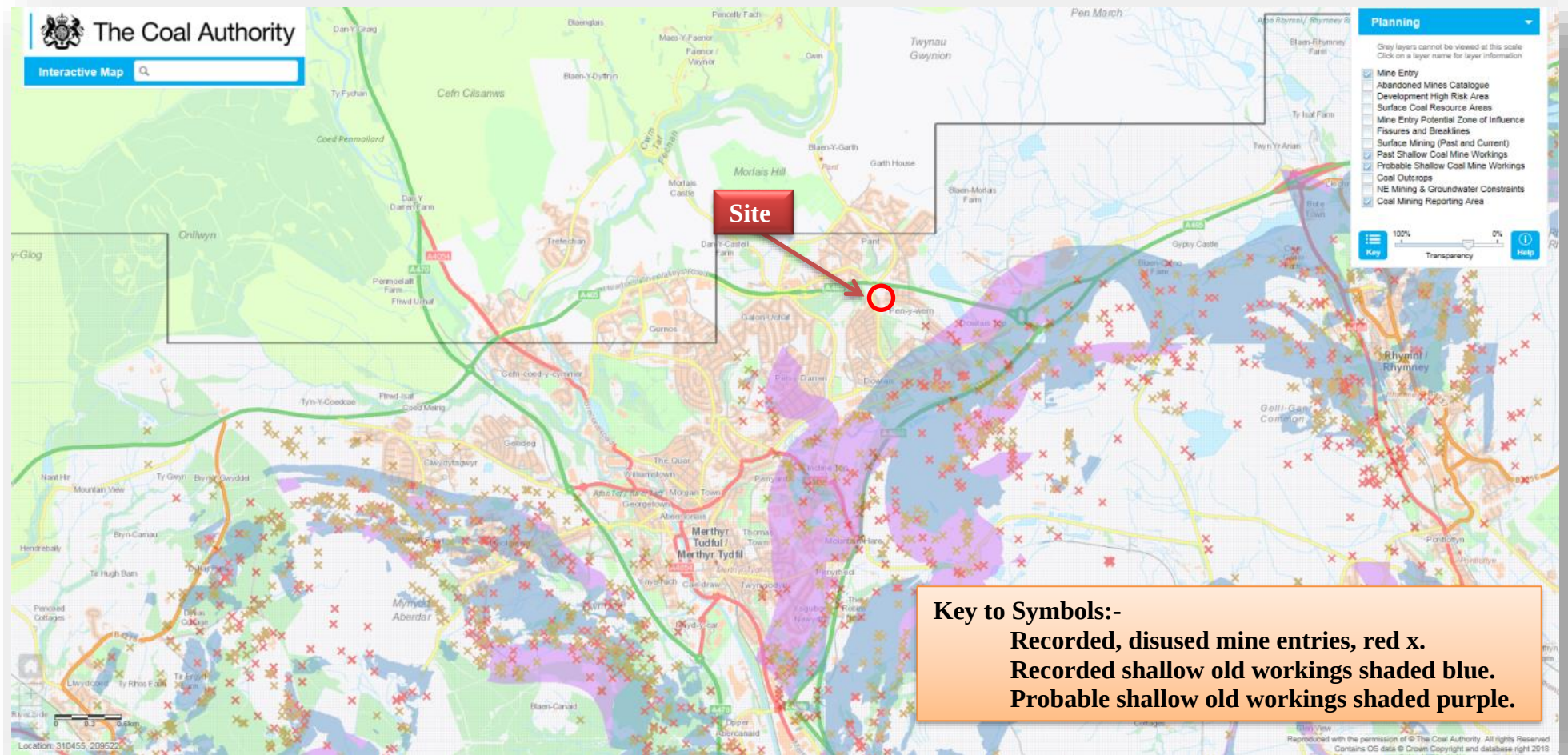
4 Mining History

The Site lies to the north of and beyond an area that has experienced extensive underground mining operations for coal and for ironstone dating back at least to the very earliest part of the nineteenth century. The workings were prosecuted from a number of adits driven into the valley sides at or near the outcrops of coal seams and ironstone veins and were supplemented with many shafts, principally to act as a source of air. Our searches identified that there are no records of underground mining workings within influencing distance of the Site, a situation confirmed by The Coal Authority's interactive map and mining report (see Figure 3). The Site is remote from areas where mine working has taken place in the past.

Our searches found no record of a disused shaft or adit within the confines of the Site, a situation confirmed by The Coal Authority *report no. 51002290444001*. The risk of an unrecorded mine entry being present is negligible.

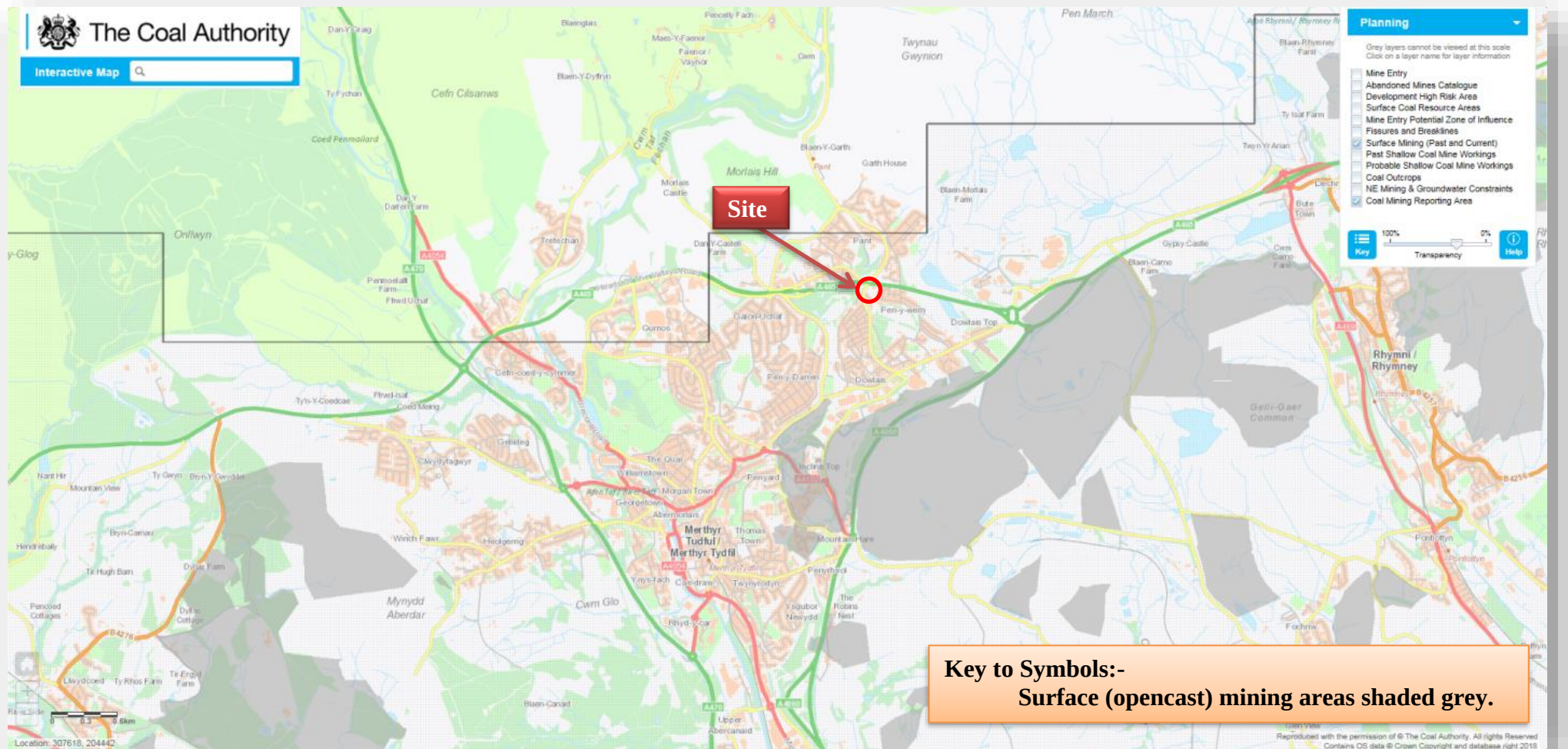
/Cont....

Figure 3
Print-out of The Coal Authority's Interactive Map
(Accessed 21st July 2020)



/Cont....

Figure 4
Print-out of The Coal Authority's Interactive Map
(Accessed 21st July 2020)



/Cont....

The Site has not been part of an opencast coal site and is remote from areas where opencast mining has taken place in the past (see Figure 4).

There are no operating collieries within influencing distance of the Site.

5 Mine Gases

When coal seams are disturbed during mining operations methane can be released and can collect with other mine gases in the mining voids left by the operations. In certain circumstances mine gases can accumulate within buildings and cause fire or explosion or can result in asphyxiation. A number of studies of the old workings across South Wales and dating back to the mid to late twentieth century have shown that there is little risk from mine gases. This may be as a result of the nature of the coal seams or because the shallow old workings have vented most of the mine gases to atmosphere or is as a result of the combination of the two. There are no shallow mine workings beneath the Site that could act as a source of mine gases and The Coal Authority has no record of an emission of mine gas at the Site that has required action.

6 Radon Gas

An assessment of the risk from Radon gas has been carried out by obtaining from Public Health England a Radon report for the immediately adjacent 22 Pant Road. The geology at the Site and at 22 Pant Road is the same such that the findings of the report can be applied to the Site. The report identifies that the Site is within an area that is not affected by Radon gas.

7 Discussion and Recommendations

7.1 Solid Geology

There are no issues relating to the solid geology of the Site that would affect the structural integrity of the residential development and no further action is required in this respect.

/Cont....

7.2 Mining History

7.2.1 *Shallow Mine Workings*

The Site lies to the north of and beyond an area that has experienced extensive mining operations for both coal and ironstone. There are no recorded underground mine workings that could affect the structural integrity of the proposed residential development. There is no risk of shallow mine workings being present because there is no coal seam in the vicinity of the Site or underlying it that could have supported underground mining operations. The only coal seams underlying the Site are ‘thin’, the shallowest, the Sun Seam, is only 0.30m thick.

Otherwise, there are no active mines in the locality, deep mines or opencast mines, that would affect the structural integrity of the proposed development and the Site has not been part of an opencast coal site.

7.2.2 *Mine Entries*

Our searches found no record of disused mine entries within the bounds of the Site or within 20m of its boundary. The risk of an unrecorded air shaft or adit being present is negligible, there is no coal seam present that would have supported an underground mining operation and there is no evidence of mining infrastructure such as mine buildings (including ruins) or tramways near the Site.

7.2.3 *Mine Gases*

The risk to the development from mine gases is negligible, there are no mine workings near the Site that could generate mine gases.

7.3 Radon Gas

Public Health England’s Radon report identifies that the Site lies within an area that is not affected by Radon gas and the appropriate response for building control purposes is NONE.

/Cont....

7.4 Summary of Risk Assessment

There is no risk to the proposed residential development from the solid geology of the locality or from the mining history of the area, and there is no risk from Radon gas.

7.5 Summary of Recommendations

There is no requirement for any particular measures to be included in the foundations of the properties to mitigate any risk from the mining history of the area. The appropriate response for building control purposes in respect of Radon gas is NONE.

7.6 Foundation Options

In so far as the solid geology of the Site and the mining history are concerned no particular measures need be included in the design and construction of the foundations and shallow spread foundations (conventional strip/trench or raft) will be appropriate. The soils present on the Site should be assessed before finally deciding upon the appropriate foundation option.



**Dr Malcolm Blandford,
Chartered Geologist.**

Report Date: 21st July 2020.

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PLANS



THE ENTERPRISE CENTRE,
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Geologists Working With The Environment....

Study on Land Adjacent to 22 Pant Road,
Dowlais, Merthyr Tydfil.

General Location Plan.

Plan Scale: 1:50,000.

Key to Symbols:



Approximate Position of Site.

Note:

North is at top of plan.

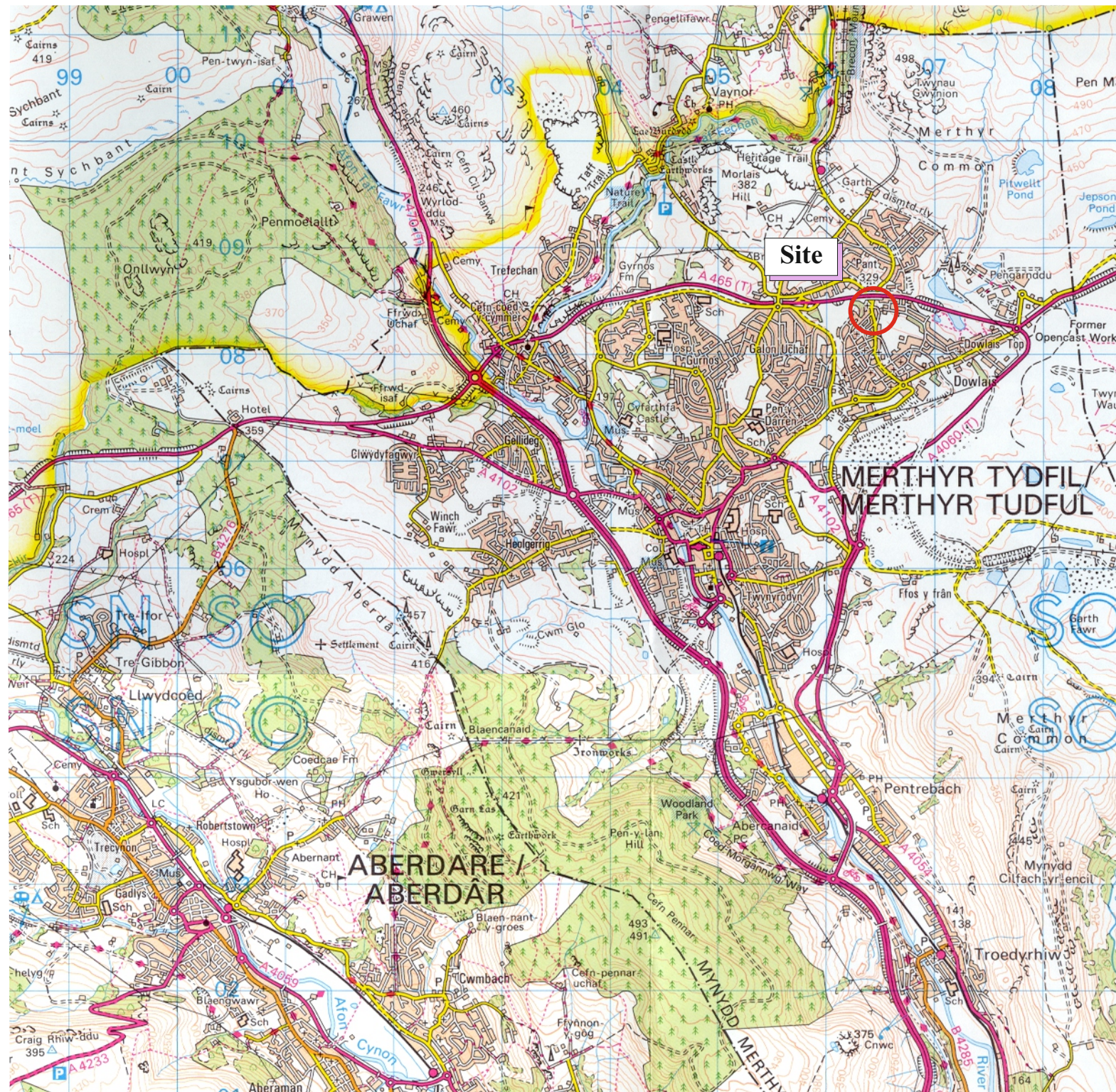
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Drawing No: BC/MB/07.20.02.01.



Study on Land Adjacent to 22 Pant Road, Dowlais, Merthyr Tydfil.

Geology Plan.

Plan Scale: 1:10,560.

Key to Symbols:



Approximate Position of Site.

Note:

North is at top of plan.

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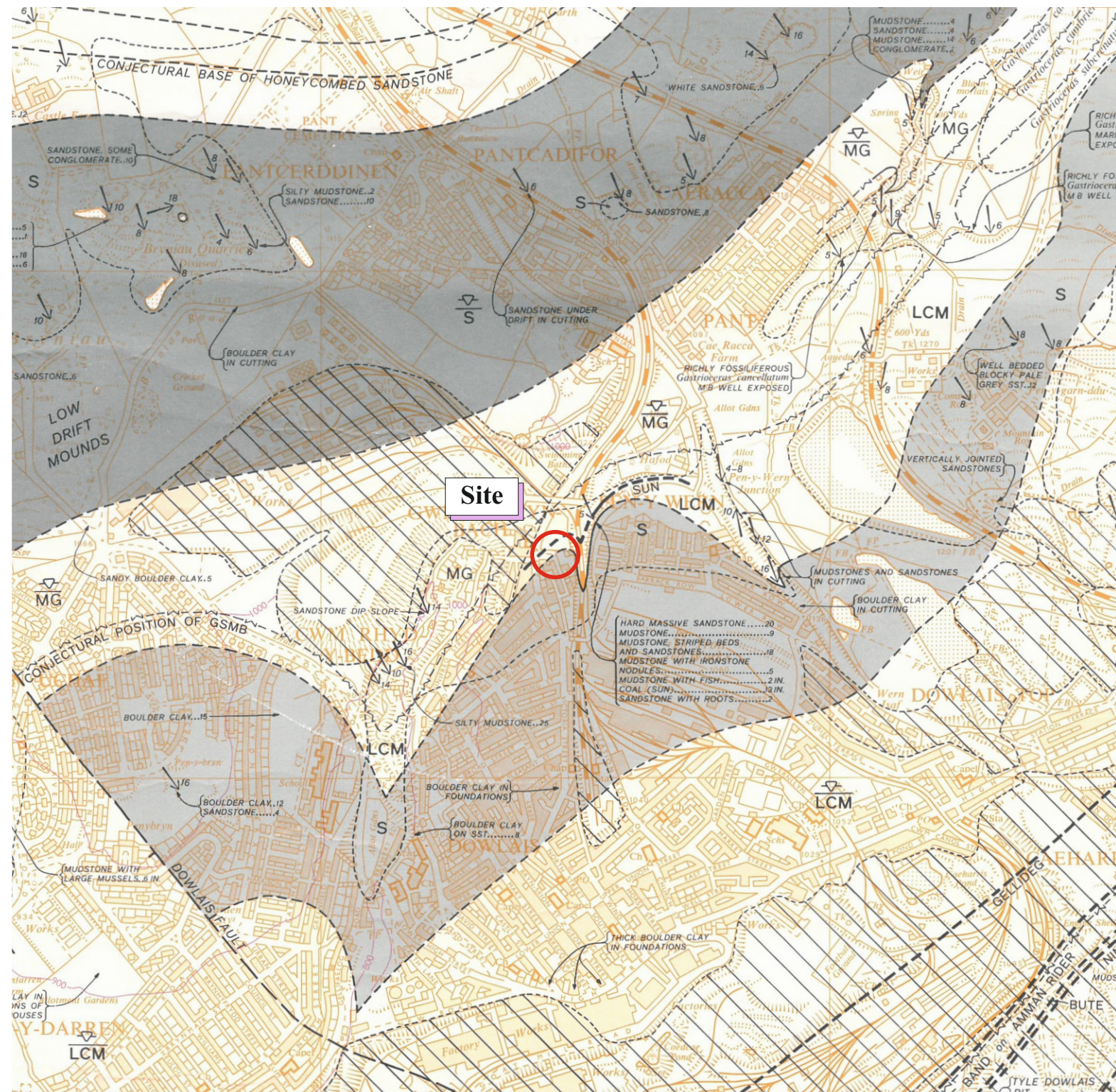


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Drawing No: BC/MB/07.20.02.02.

Geologists Working With The Environment.....



Study on Land Adjacent to 22 Pant Road,
Dowlais, Merthyr Tydfil.

Detailed Location Plan.

Plan Scale: 1:1,250.

Key to Symbols:

— Approximate Site Boundary.

Note:
North is at top of plan.

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Drawing No: BC/MB/07.20.02.03.



APPENDIX I

**COPY OF COAL AUTHORITY'S
REPORT, REF NO:
51002290444001**



THE ENTERPRISE CENTRE,
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Geologists Working With The Environment....



The Coal
Authority

CON29M

coal mining report

LAND ADJOINING NO 22 PANT ROAD, DOWLAIS, MERTHYR TYDFIL, CF48 3SH



Known or potential coal mining risks

Past underground coal mining	Page 4
Future underground coal mining	Page 4
Mine entries	Page 5



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **BC/MB/07.20.02**
Our reference: **51002290444001**
Date: **21 July 2020**

Client name:
BLANDFORD CONSULTING

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

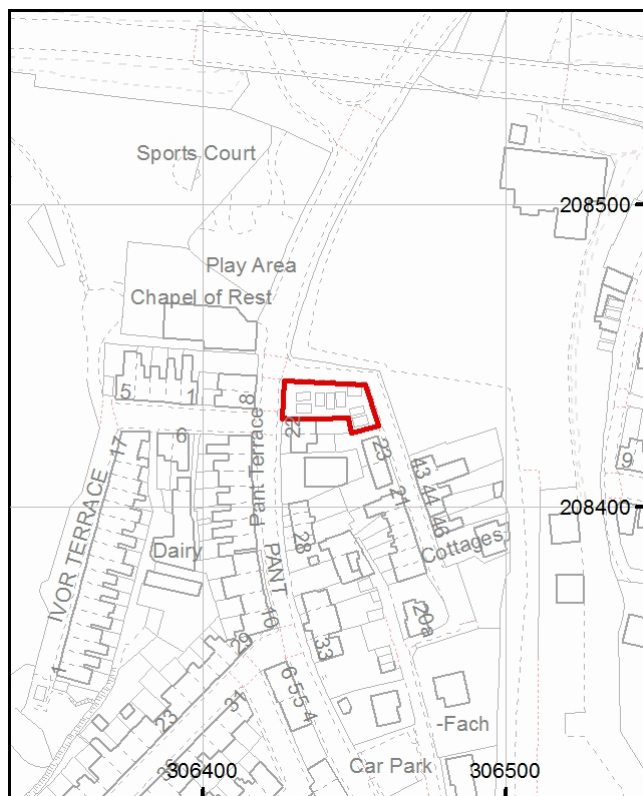
Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion



Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **cmra@coal.gov.uk**.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 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.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

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.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 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.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

APPENDIX II

COPY OF PUBLIC HEALTH ENGLAND'S RADON REPORT



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Geologists Working With The Environment....



Radon Risk Report for addresses in England and Wales

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Address searched: 22 Pant Road, Dowlais, Merthyr Tydfil, CF48 3SH

Date of report: 21 July 2020

Guidance for existing properties

Is this property in a radon Affected Area? - No

A radon Affected Area is defined as where the radon level in at least one property in every hundred is estimated to exceed the Action Level.

The estimated probability of the property being above the Action Level for radon is: 0-1%

The result may not be valid for buildings larger than 25 metres.

If this site is for redevelopment, you should undertake a GeoReport provided by the British Geological Survey.

This report informs you of the estimated probability that this particular property is above the Action Level for radon. This does not necessarily mean there is a radon problem in the property; the only way to find out whether it is above or below the Action Level is to carry out a radon measurement in an existing property.

Radon Affected Areas are designated by the Public Health England. PHE advises that radon gas should be measured in all properties within Radon Affected Areas.

If you are buying a currently occupied property in a Radon Affected Area, you should ask the present owner whether radon levels have been measured in the property. If they have, ask whether the results were above the Radon Action Level and if so, whether remedial measures were installed, radon levels were re-tested, and the results of re-testing confirmed the effectiveness of the measures.

Further information is available from PHE or <https://www.ukradon.org>

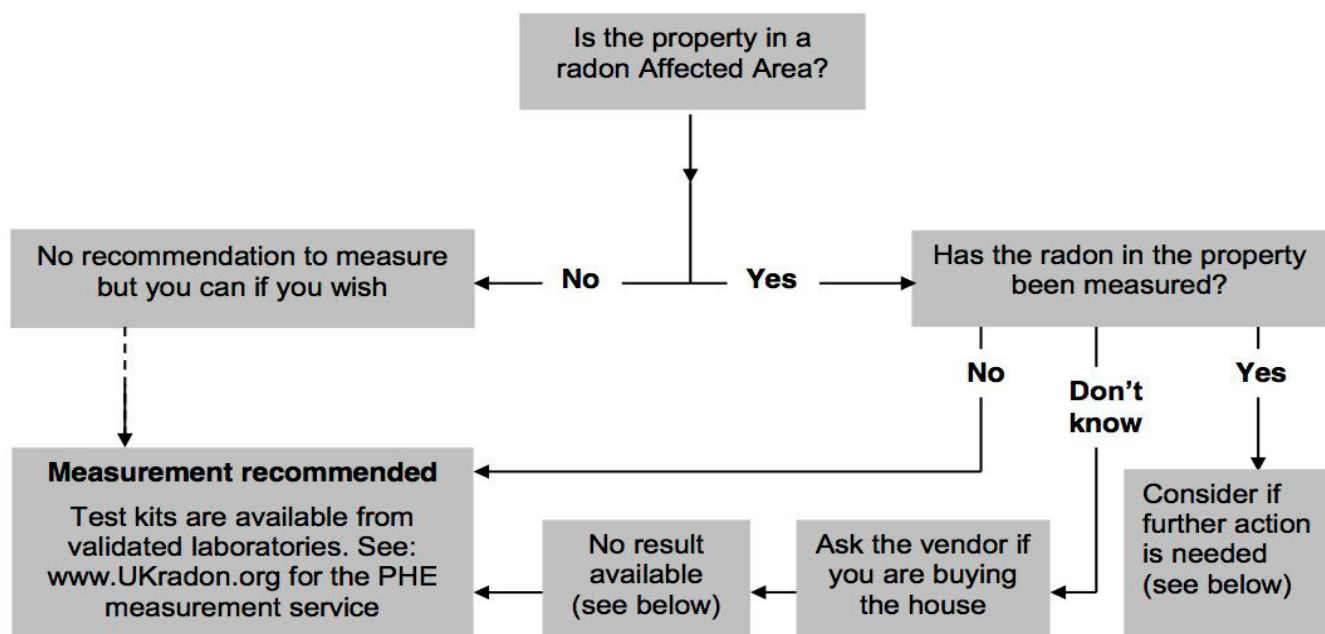
Guidance for new buildings and extensions to existing properties

What is the requirement under Building Regulations for radon protection in new buildings and extensions at the property location? - None

If you are buying a new property in a Radon Affected Area, you should ask the builder whether radon protective measures were incorporated in the construction of the property.

See the Radon and Building Regulations for more details.

PHE guidance for occupiers and prospective purchases



Existing radon test results: There is no public record of individual radon measurements. Results of previous tests can only be obtained from the seller. Radon levels can be significantly affected by changes to the building or its use, particularly by alterations to the heating and ventilation which can also be affected by changes in occupier. If in doubt, test again for reassurance.

Radon Bond: This is simply a retained fund, the terms of which are negotiated between the purchaser and the vendor. It allows the conveyance of the property to proceed without undue delay. The purchaser is protected against the possible cost of radon reduction work and the seller does not lose sale proceeds if the result is low. Make sure the agreement allows enough time to complete the test, get the result and arrange the work if needed.

High Results: Exposure to high levels of radon increases the risk of developing lung cancer. If a test in a home gives a result at or above the Action Level of 200 Becquerels per cubic metre of air (Bq/m³), formal advice will be given to lower the level. Radon reduction will also be recommended if the occupants include smokers or ex-smokers when the radon level is at or above the Target Level of 100 Bq/m³; these groups have a higher risk. Information on health risks and radon reduction work is available from PHE. Guidance about radon reduction work is also available from some Local Authorities, the Building Research Establishment and specialist contractors.

PHE designated radon website:

<https://www.ukradon.org>

Building Research Establishment:

<http://www.bre.co.uk/page.jsp?id=3137>