

Coal Mining Risk Assessment

For development at: Land north of Maes Y Gornel,
Rhosllanerchrugog, Wrexham, LL14 1TG

For proposal: 5no. detached two-storey residential dwellings with
attached garages and associated access

Assessment Summary

Assessment Result	MEDIUM RISK
Recommended Further Work	INTRUSIVE SITE INVESTIGATION

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It manages the effects of past coal mining, including subsidence damage claims which are not the responsibility of licensed coal mine operators and is an executive non-departmental public body, sponsored by the Department of Business, Energy and Industrial Strategy. This report is valid for 90 days.

Limit of liability

This report is provided for the applicant and is in respect of the property identified on its face. Any conclusions or recommendations made are those based on information obtained for the report and our current knowledge and practices. The information and data set out in this report is based on information provided by or obtained from third parties which is held by the Coal Authority. Any limitations of the data are identified within the report. The Coal Authority does not accept liability for the accuracy of third party data. Should new data or information become available these results, conclusions and recommendations may require amending. The Authority is not and cannot be liable for any harm, loss or damage of whatever nature, including consequential loss, occasioned to any third party by the inaccuracy of the information set out in this report and any person seeking to rely upon it should if necessary undertake their own investigations and professional advice. The report should only be used in the stated context.

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Any advice provided in this report does not prejudice our position as a statutory consultee.

Version	Compiled	Checked	Date
1.1	HB	PB	31/12/2020

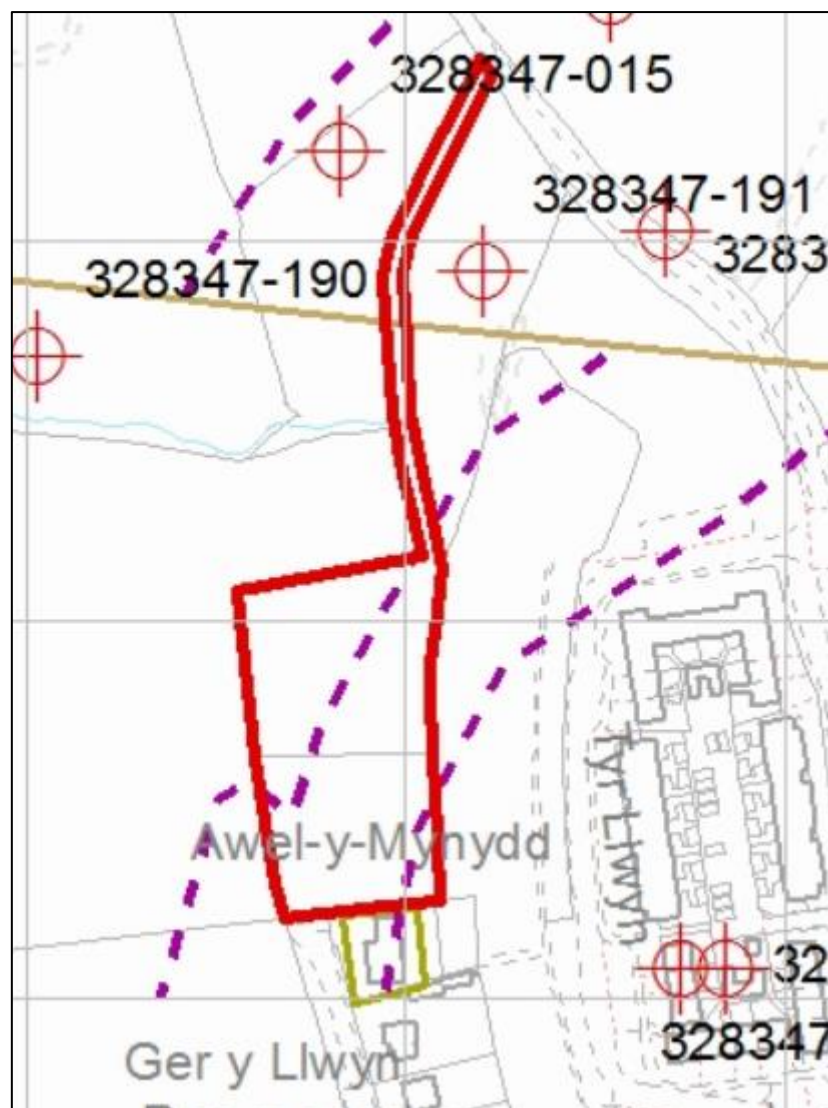
Section 1 – Description of site and proposed development

a) Site location and Description

The Coal Authority has been commissioned to prepare a Coal Mining Risk Assessment Report for a proposed development at land north of Maes Y Gornel, Rhosllanerchrugog, Wrexham, LL14 1TG (see Figure 1), in order to provide the Local Planning Authority with information on coal mining and an assessment of its impact on land stability.

The approximate site centre co-ordinates are E328788, N347079. The proposed development area requires access via a private driveway off Hall Lane west of Llwyneinion Road or via a gateway to the north of proposed site off Llwyneinion Road. The site has an approximate elevation of 172-176m AOD.

Figure 1: Site location plan



b) Description and layout of proposed development

The Coal Authority understands that the developer plans to construct 5no. detached two-storey residential dwellings with attached garages and an associated access to the north (see Appendix A).

c) Scope of coal mining risk assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

Any works that intersect coal mine workings, mine entries or coal seams may have implications for mine gas, spontaneous combustion and surface collapse. Coal Authority permission is required prior to any such works taking place. Further detailed advice can be provided upon request.

The Coal Authority's adopted policies regarding building over or close to mine entries and managing gas risks can be viewed at:

www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries

www.gov.uk/government/publications/guidance-on-managing-the-risk-of-hazardous-gases

Section 2 – Sources of information used to inform this report

Source reviewed	Yes	No	Remarks
Coal mining report	X		Consultants Coal Mining Report (Appendix B)
Other mining records	X		Abandonment plans – 8017 'Rhos Pwll-Glas Colliery', NW38 'Ty-Gwyn opencast', 14897 'Rhosllanerchrugog Colliery', NW1400 'Rhos Fireclay Adit'
Geological plans	X		County Geological Sheet Denbighshire 35NW (1911), BGS 1:50,000 Geological Sheet 'Wrexham' (1993)
BGS Boreholes		X	
Other	X		BGS GeoIndex, Rhos Opencast Prospecting File (Appendix C), Consultation with Neil Catlow

The above information sources have been used to provide an assessment of the potential mining risk within the remainder of the report.

Section 3 – Identification and assessment of site specific coal mining related risks

The Coal Authority's search of its detailed coal mining information identifies the following site specific coal mining legacy risks to the site.

Coal mining issue	Reported		Risk assessment	
	Yes	No	Rating	Comment
a) Underground coal mining (recorded at shallow depths)		X	Low risk	None recorded
b) Underground coal mining (probable at shallow depths)	X		Medium risk	Potential for unrecorded shallow workings in the Nant, Ruabon Yard and Wall & Bench seams
c) Mine entries (shafts and adits)	X		Low risk	10 mine entries within 100m, developer has amended layout to avoid these
d) Coal mining geology (faults and fissures)	X		Medium risk	Faults recorded to pass through and in proximity to development area
e) Record of past mine gas emissions or potential		X	Medium risk	All mine workings pose a potential gas risk which should be considered in any future investigations and development
f) Recorded coal mining surface hazard		X	Low risk	None recorded
g) Surface mining (opencast workings)	X		Low risk	Closest opencast site boundary located 110m east of site

A desk based study of the coal mining information has been used to risk assess the coal mining features above. A summary of the risk posed by these features is summarised after thorough analysis of the information sources. Comment on each specific coal mining issue follows below:

a) Underground Coal Mining (recorded at shallow depths)

Coal mining at depths shallower than 30m beneath ground level can typically pose challenges to ground stability at the surface. The magnitude of this effect depends upon the exact depth of any workings, the thickness of competent rock cover and the extraction thickness of any coal mine workings.

The Coal Authority Consultants Coal Mining Report in Appendix B states that the development site is not in an area of coal mine workings, at shallow depth or otherwise. Accordingly the risk to the proposed development is considered to be low.

b) Underground coal mining (probable at shallow depths)

Areas of probable shallow coal mine workings are identified as part of the Development High Risk Area for which no recorded plan exists, but where it is likely that workable coal at shallow depths has been mined before records were kept. The data has been estimated from available mining records by qualified mining surveyors. Since 1872 there has been a law that requires all coal mine operators to deposit working plans of the mine with the government following the cessation of operations. Prior to this date the plans were often destroyed or kept in private ownership.

Where the extraction of coal has occurred there is the potential for voids to remain long after mining has ceased. The depth of workings generally dictates the length of time that significant voids may remain, but other factors including the size of mine roof supports and the competency of overlying strata can influence the time for natural consolidation to occur. Waste material produced during mining was sometimes used to backfill abandoned sections of mine workings, therefore reducing the volume of open cavities or voids that remain. The method of backfilling workings is typically not recorded and cannot be relied upon as a satisfactory form of remediation.

The Coal Authority Consultants Coal Mining Report in Appendix B states that the development site is in an area of probable shallow coal mine workings. In addition, the Consultants Report indicates the Nant (Soft 5 Qtrs) and Ruabon Yard (Soft 5 Qtrs) seams to outcrop within the site, orientated northeast-southwest and both indicated to be of workable thickness. A fault is also shown on the Consultants Report to pass through the proposed access drive area in the north of the development site, orientated WNW-ESE and displacing the above outcrops, with the outcrops shown to exist to the south of the fault. The outcrop positions are approximately consistent with those shown on the BGS 1:50,000 Wrexham Geological Sheet (1993), with the eastern outcrop shown to be the Nant and the western outcrop shown to be the Ruabon Yard, however the Nant outcrop is shown to exist just beyond the eastern site boundary. The fault passing through the site is also recorded and is shown to downthrow to the south. To the north of the fault, the Consultants Report indicates a further outcrop of the Ruabon Yard (Soft 5 Qtrs) seam 23.2m northwest of site and again orientated northeast-southwest and suggested to be of workable thickness. This outcrop position is also indicated on the 1:50,000 Geological Sheet. The County Geological Sheet Denbighshire 35NW (1911) also records the Nant and 'Yard' coals in the locality, however the Nant seam is shown to outcrop approximately 40m east of the development site and the Yard seam is shown to be approximately 90m west of the site, both to the south of the aforementioned fault. Two local faults are recorded passing through the northern extent of the development site area; a northern one consistent with the above records, though no throw is shown, and one further south, passing through the main development footprint area, orientated ENE-WSW and downthrown to the south. Annotations along the route of this southern fault state 'Proved

from Rhos Brick Pits', 'Said to be proved continuously in old-workings', 'In Main c. near surface' and an annotation of throw of 105ft (32m). The County Sheet indicates a local easterly dip, however a rate of dip is not recorded. The County Sheet indicates 'Half Square Colliery (site of)', however no further detail on this colliery could be located. It is understood that Half Square Colliery worked the Llwyneinion Half Yard and possibly also the Wall & Bench seams, however nothing further is known about this colliery or the extent and location of any workings.

Abandonment plan 8017 for Rhos Pwll-Glas Colliery records a small area of workings in the Nant seam approximately 40m east of the development site, to the east of the former Rhos Branch Railway. A rate of dip of 1 in 8 (7.1°) ENE is recorded. A fault is recorded in the workings, orientated northwest-southeast and downthrown to the northeast by 2ft (0.61m). Two shafts (No.1 Downcast Pit and No.2 Upcast Pit) are recorded to connect with the workings. Depths to the Nant coal of 58ft 6in (17.83m) at No.1 Pit (77m ESE of development) and 53ft 0in (16.15m) at No.2 Pit (66m ESE of development) are recorded. A section indicates the seam to be 5ft 3in thick consisting of a top coal (2ft 9in), dirt band (9in) and Bottom Coal (1ft 9in).

Abandonment plan NW38 for Ty-Gwyn opencast approximately 100m east of site records the Nant Top and Bottom seams to have been extracted in the area closest to the site, with the Nant Top reported to have an average thickness of 2.884ft (0.88m) and the Nant Bottom reported to have an average thickness of 1.866ft (0.57m) .

Abandonment plan 14897 for Rhosllanerchrugog Colliery indicates the Nant coal to be 'variable in thickness from 6in (0.15m) to 6ft (1.82m) which renders it to a great extent unworkable' in an area approximately 300m southeast of the development, however numerous shafts are recorded and the New coal, Lower Yard and Wall & Bench seams are recorded to have been worked in this area. A section on the plan records the following seams to be present locally, however no vertical scale is given on the section:

Seam	Thickness/description
Red Coal	2ft 3in thick, not workable
Seams or rows of ironstone	All worked
New Coal	2ft 5in thick, all worked
Benches (two leaves)	1ft thick each, not workable
Nant Coal	3ft thick
Bench	Not workable (not clear if relating to Bench only or Nant and Bench)
Rows of ironstone	
Yard Coal	3ft thick
Rows of ironstone	
Wall & Bench (two leaves)	3ft 6in thick
Rows of ironstone	
Llwynennion or Half Yard Coal	(Not sunk to)

Abandonment plan NW1400 records workings from Rhos Fireclay adit, with workings located approximately 175m west of the proposed development. A level closest to the development site (approximately 250m west of site), immediately beyond what appears to be a fault, records 490ft (149.3m) AOD, however no throw is indicated on the fault. A section on this plan indicates the Wall & Bench coal to be underlain by 60ft (18.2m) of 'hard rock beds with several beds of ironstone', which is in turn underlain by the 'Blackshale Llwynennion Half Yard Coal', consisting of 1ft 4in (0.40m) coal 'left for roof', holing 6in (0.15m) 'packed', 2ft 4in (0.71m) 'best black fireclay', 2ft 4in (0.71m) 'grey fireclay' and 1ft 10in (0.55m) 'blue fireclay', with the three fireclay horizons totalling 1.98m annotated as being worked.

The opencast prospecting file for the Rhos opencast site has been obtained for review. Whilst the proposed development site falls within the boundary of the Rhos site, unfortunately the closest prospecting boreholes were found to be drilled approximately 320m southwest of the development. Those boreholes closest to the development site are summarised below:

BH Ref.	Easting	Northing	Distance from site	Depth to rockhead	Depth of coal	Thickness of coal	Comment
13P	328541	346714	385mSW	4.72m	16.46m 17.07m	0.46m 0.43m	Coal Coal
110R	328622	346719	335mSW	8.20m	22.34m 22.95m	0.46m 0.40m	Coal Coal
111P/RO	328582	346717	355mSW	7.77m	19.29m 19.87m	0.43m 0.49m	Coal Coal
113P	328466	346779	385mSW	6.86m	12.13m	1.13m	Old workings
114P	328430	346798	405mSW	4.39m	9.05m	1.19m	Old workings
115P	328427	346746	440mSW	3.11m	9.05m 9.84m	0.46m 0.55m	Coal Coal
124P	328415	346722	460mSW	3.05m	9.42m	1.65m	Old workings
125P	328438	346776	410mSW	4.36m	10.48m	1.40m	Old workings
126P	328409	346784	430mSW	4.42m	7.86m	1.04m	Old workings
127P	328411	346814	410mSW	4.02m	7.92m	1.10m	Old workings
128P	328400	346748	460mSW	3.96m	7.75m	0.61m	Old workings
129P	328445	346725	440mSW	4.21m	10.39m 11.06m	0.49m 0.49m	Coal Coal
130P	328457	346752	410mSW	5.85m	11.43m	1.01m	Old workings
131P	328500	346748	380mSW	6.86m	12.92m	1.07m	Old workings
132P	328478	346732	410mSW	5.18m	11.98m 12.65m	0.52m 0.46m	Coal Coal
133P	328478	346707	430mSW	4.24m	12.47m 13.14m	0.49m 0.49m	Coal Coal
721P/RO	328576	346724	350mSW	5.38m	19.20m	1.30m	Old workings
722P	328568	346768	320mSW	4.80m	19.54m	0.80m	Old workings
723P/RO	328606	346746	320mSW	7.30m	23.30m	0.66m	Old workings
724R	328610	346698	360mSW	5.40m	23.24m	1.20m	Old workings
849P	328406	346790	430mSW	4.78m	6.67m	0.41m	Coal
850P	328407	346790	425mSW	4.92m	6.06m	0.96m	Old workings
851P	328438	346760	420mSW	3.78m	8.05m 8.68m	0.47m 0.44m	Coal Coal

BH Ref.	Easting	Northing	Distance from site	Depth to rockhead	Depth of coal	Thickness of coal	Comment
852P	328439	346760	425mSW	3.82m	8.01m 8.45m	0.45m 0.44m	Cavity Residual coal
859	328410	346789	430mSW	4.79m	7.47m	1.57m	Old workings

The majority of the above boreholes are indicated to be present between the mapped Ruabon Yard and the Wall & Bench (annotated as the Premier seam on the 1:50,000 geological sheet) outcrops, however borehole 110 is recorded to be east of the Ruabon Yard outcrop and boreholes 111, 721 and 723 plot on or close to the Ruabon Yard outcrop. However, it would appear from review of these boreholes that the Ruabon Yard seam was not encountered where it would be anticipated at or close to rockhead and therefore it is suspected that all of the above horizons of coal or workings are in the Wall & Bench seam. The Ruabon Yard outcrop may therefore be located further east than its mapped position.

The Llanerchrugog Hall opencast prospecting site is also known to exist in close proximity to the west of the development, and the BGS record a number of associated borehole locations in the local area, however no details of the contents of these logs could be found.

Local ground investigation consultant Neil Catlow (Nkc Geotech Ltd) was consulted owing to his knowledge of ground conditions in the local area. Mr Catlow advises there to be the potential for disturbance in the Nant coal at the outcrop position in the local area and that this seam was found to be mined at 4-7m bgl during previous ground investigations on Hall Lane. He has also found the Yard seam to be extensively worked locally at 16-19m bgl. Mr Catlow provided a sample borehole log drilled on Hall Lane, to the south of the local development, which found rockhead at 3.1m, shale (soft drilling) at 3.1-6.3m, coal (very soft drilling, presumed old workings) at 6.3-7.8m and coal at 18.0-19.2m. This may be approximately representative of the horizons of the Nant coal (worked) and the underlying Yard coal (intact) at that locality, however if workings were to exist in both seams it is likely that both would have insufficient competent rock cover.

Based on the available information the shallowest estimated depths for the seams likely to be present beneath the site are as follows:

Seam	Estimated shallowest depth below rockhead southwest of site	Estimated shallowest depth below rockhead southeast of site	Estimated shallowest depth below rockhead northeast of site
Nant	Absent	1.2m*	Absent
Ruabon Yard	2.3m ⁽¹⁾	7.4m ⁽¹⁾	7.4m ⁽¹⁾
Premier/Wall & Bench	20.1m ⁽²⁾	25.2m ⁽²⁾	21.5m ⁽¹⁾
Llwyneinion Half Yard	38.3m ⁽³⁾	43.4m ⁽³⁾	39.7m ⁽³⁾

⁽¹⁾Figure estimated based on closest mapped outcrop position

⁽²⁾Opencast log separation

⁽³⁾Ab plan separation

*Nant seam could be absent from entire site if seam outcrops to east of site as indicated on some source plans

Based on the above, sufficient competent rock cover is considered likely to exist above the Llwyneinion Half Yard seam across the site, however the risk to the proposed development from unrecorded shallow mine workings in the Nant, Ruabon Yard and Wall & Bench seams is considered to be medium.

c) Mine entries (shafts and adits)

The Coal Authority Consultants Coal Mining Report in Appendix B shows ten mine entries (all shafts) are recorded within 100m of the development site. The positional accuracy of those mine entries within 50m of the development has been reviewed in the undertaking of this report and are summarised below:

Reference	Original Easting	Original Northing	Amended Easting	Amended Northing	Distance from site (m)	Source documents
328347-189	328855	347265	328855	347265	38m NE	First (1873) Ed. 1/2500 scale OS County series Map Denbighshire 35-2. Also noted to have been previously treated.
328347-191	328819	347191	328821	347192	21m E	First (1873) Ed. 1/2500 scale OS County series Map Denbighshire 35-2
328347-015	328785	347224	328785	347224	21m W	Original source unknown, obtained from former NCB shaft register

The Coal Authority seeks to ensure that development is avoided above, or within the zone of influence of, all mine entries where possible. The zone of influence can be calculated as the sum of the departure distance (up to 10m to account for any discrepancies in source plans), plus the depth to rockhead (indicated to vary across area but greatest depth recorded locally is 8.20m), plus the entry radius (nominally assumed to be 1.25m). On this basis, the zone of influence for local entries can be assumed to be approximately 19.45m, however this should be confirmed based on the zone of influence proven at the development. The developer has made efforts to ensure that the proposed development layout (specifically the access drive to the north of the main development area) is located such that it sits outside the 19.45m zone of influence estimated above. Consequently at this time, the risk to the proposed development from recorded mine entries is considered to be low, however if ground conditions are found to differ from those recorded locally (specifically if rockhead is found to be at greater than 9.75m depth) then the risk to the proposed development from recorded mine entries should be re-evaluated.

The development site sits within a historical mining area and therefore there is a residual risk of unrecorded mine entries to be present on site. This may be particularly likely owing to the likelihood of former workings close to outcrops in the area. All site operatives

should be made aware of this potential risk and a watching brief should be maintained during site works.

d) Coal mining geology (Faults and fissures)

The development site sits upon the Pennine Lower Coal Measures Formation. Opencast prospecting boreholes drilled between 320m and 460m southwest of the proposed development records rockhead to be present at between 3.05m and 8.20m. The sample borehole log provided by Mr Catlow for Hall Lane to the south of the development records fill and clay to 3.1m below ground level, however local ground conditions at the development site may vary.

A fault is shown on the Consultants Report to pass through the proposed access drive area in the north of the development site, orientated WNW-ESE and displacing local outcrops. The fault passing through the site is also recorded on the 1:50,000 Geological Sheet and is shown to downthrow to the south. The County Geological Sheet Denbighshire 35NW records two faults passing through the northern extent of the development site area; a northern one consistent with the above records, though no throw is shown, and one further south, passing through the main development footprint area, orientated ENE-WSW and downthrown to the south. Annotations along the route of this southern fault state 'Proved from Rhos Brick Pits', 'Said to be proved continuously in old-workings', 'In Main c. near surface' and an annotation of throw of 105ft (32m). A fault is also recorded in workings in the Nant seam to the east of the site. Faults can act as pathways for gas and water, cause surface instability and result in dissimilar coal conditions/hazards due to their relative displacement of strata.

e) Record of past mine gas emissions or potential

There are no recorded past gas emissions recorded in the surrounding area, however, coal seams and coal mine workings pose a potential gas risk which should be considered in any future investigations and development. At development sites with shallow coal workings, probable shallow coal mine workings, or pathway features such as mine entries and geological disturbances on or nearby the site, the Coal Authority recommends that a more detailed gas risk assessment to be undertaken in accordance with relevant guidance.

Worked coal seams in North Wales where roof coal is left are known to be liable to spontaneous combustion, therefore precautions should be taken in case of such an incident during all ground works at the site.

f) Recorded coal mining surface hazard

None recorded.

g) Surface mining (opencast workings)

The Consultants Coal Mining Report in Appendix B records the closest opencast site to the development to be present approximately 110m east of the development site boundary. Due to the distance from the development site the risk is considered to be low.

Section 4 – Proposed mitigation strategy

a) Site investigation and/or remediation

Due to the potential for unrecorded shallow mine workings in the Nant, Ruabon Yard and Wall & Bench seams, an intrusive site investigation will be required to prove the condition of, or sufficient competent cover above, these seams. Consideration should be given to the presence of faults within the site area, which may locally displace seams.

Efforts have been made by the developer to avoid locally recorded mine entries and what is considered to be their 'worse-case' zone of influence based on locally available information, as part of the development layout. However, if ground conditions (specifically the thickness of superficial deposits) are found to vary from those recorded in the local area (discussed in this report), then consideration may need to be given to re-evaluating the risk from locally recorded mine entries.

Worked coal seams in North Wales where roof coal is left are known to be liable to spontaneous combustion, therefore precautions should be taken in case of such an incident during all ground works at the site.

The site investigations will need to be carried out by a competent contractor, taking into account the findings of this report. The results should be interpreted by a qualified and competent person so that an appropriate remedial strategy can be developed.

Guidance on drilling or piling through coal can be found at:

www.gov.uk/government/publications/guidance-on-managing-the-risk-of-hazardous-gases

Due to the difficulties in identifying coal related gas hazards, it may be prudent to consider completing a gas risk assessment for the development site. This may recommend basic gas protection measures within the foundation design, which are resistant to permanent gases (carbon dioxide, methane, carbon monoxide) and comparable to that suggested in BR211, as commonly used to protect against radon in residential properties.

Where development is proposed over areas of coal or past coal workings at shallow depth, developers should consider wherever possible removing any remnant shallow coal. This will enable the ground to be stabilised and remove a hazard prior to construction of any foundations associated with the development. Prior extraction of surface coal requires an Incidental Coal Agreement from the Coal Authority. Further information can be found at:

www.gov.uk/get-a-licence-for-coal-mining

Should coal seams be found, at or near the depth of the development's foundations, they

may pose a risk of spontaneous combustion if exposed to air or may act as pathways for ground gases to reach the development. A competent engineer should be consulted if coal is encountered in, or adjacent to, the foundations of the proposed development.

The occurrence of unrecorded mine entries across the whole of the site cannot be discounted and consequently in areas of new build development a watching brief should be maintained throughout the site works to identify this risk. As a result all site operatives should be made aware of this potential risk. Where mine entries exist close to the boundary the developer should be aware that this could complicate treatment if they straddle the boundary or works needed to treat them require access to land owned by third parties.

Concrete, cements and renders may be susceptible to attack from elevated levels of sulfates in the ground. The Building Research Establishment reports that most cases of sulfate attack occur in and adjacent to coal field areas and related industrial centres. It would be prudent for the issue of sulfate attack to be considered during the foundation design to ensure they comply with the Building Regulations 2010.

You may also wish to refer to the Construction Industry Research and Information Association (CIRIA) publication Special Publication 32 "Construction over Abandoned Mine Workings".

b) Coal Authority permit

Any intrusive activities, including initial site investigation boreholes and any subsequent treatment of coal mine workings/coal mine entries for ground stability purposes require the prior written permission of the Coal Authority. Application forms for Coal Authority permission and further guidance on this matter can be obtained from the Coal Authority's website at:

www.gov.uk/get-a-permit-to-deal-with-a-coal-mine-on-your-property

Follow on services can be requested using the details in the contacts section.

Section 5 – Conclusions

This report has identified that the proposed development site may have been subject to past coal mining activity, namely the potential for unrecorded shallow mine workings in the Nant, Ruabon Yard and Wall & Bench seams. Multiple faults are also likely to exist across the area. The risk to the site from legacy mining features is medium.

Nevertheless, subject to the undertaking of appropriate site investigations and any potential necessary remedial measures as outlined in Section 4a of this report, the Coal Authority considers that the site may be made safe and stable for future development and the risk to the development reduced to low. The recorded coal mining legacy issues present within the site do not pose any particular implications for the layout of the proposed development.

The Coal Authority advises the developer undertake a detailed Gas Risk Assessment where proposed development occurs over shallow coal reserves as is the case here.

Section 6 – Contacts

Planning and Local Authority Liaison Service

Tel: 01623 637 119

Email: planningconsultation@coal.gov.uk

Website: www.gov.uk/planning-applications-coal-mining-risk-assessments

Surface Hazards Emergency Service

Tel: 01623 646 333 (open 24 hours a day, 7 days a week)

24-hour number for reporting public safety hazards and incidents associated with coal mining

Mining Reports Service

To purchase site specific coal mining information go to our website;

www.groundstability.com

Licensing and Permitting Service

Email: permissions@coal.gov.uk

Tel: 01623 637 320

For permission to enter or disturb coal mine entries and coal seams.

Section 7 – Appendices

Appendix A – Plan showing proposed development layout



Appendix B – Non-Residential Coal Mining Consultants Report

Appendix C – Rhos Opencast Prospecting File



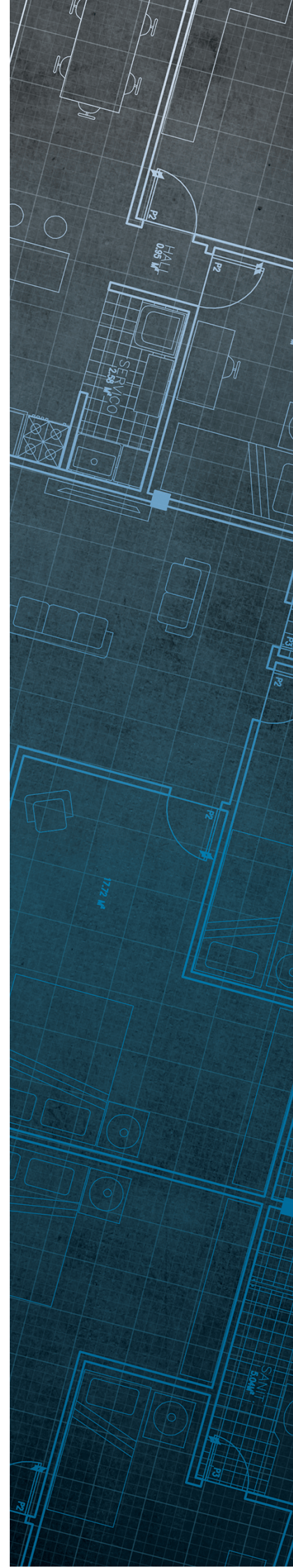
The Coal
Authority

Consultants Coal Mining Report

Land North Of
Maes Y Gornel
Rhosllanerchrugog
Wrexham
LL14 1TG

Date of enquiry:	4 January 2021
Date enquiry received:	4 January 2021
Issue date:	4 January 2021

Our reference:	71007480978001
Your reference:	



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

THE COAL AUTHORITY

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Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

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	328346-524	328806 346934	The shaft was drilled and fully grouted during June 1993. Subsequently the shaft was capped to old British Coal specification using 40mm bars at 300mm centres in a 3.5m square cap and 500mm thick with C40 concrete. The cap is placed on Rockhead at a depth of 2.0m from the surface.	Coal	
Shaft	328347-015	328783 347224		Coal	
Shaft	328347-018	328873 347008	This entry is presumed filled and has had a 3.7m ² concrete cap set circa 1967. The specification for this treatment is unknown.	Coal	
Shaft	328347-019	328885 347008		Coal	
Shaft	328347-189	328855 347265	The shaft is filled to an unknown specification. In January 1983 the shaft was drilled to a depth of 18m with 30m ³ concrete used to plug the shaft by NKC Geotech Ltd..	Coal	
Shaft	328347-190	328703 347170		Coal	
Shaft	328347-191	328821 347192		Coal	
Shaft	328347-192	328869 347203		Coal	
Shaft	328347-334	328807 347297	The shaft is filled to an unknown specification. In January 1983 the shaft was drilled to a depth of 18m with 30m ³ concrete used to plug the shaft by NKC Geotech Ltd..	Coal	
Shaft	328347-477	328850 347314		Coal	

Abandoned mine plan catalogue numbers

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

16713	NW1429	NW1400
14897	8017	0
NW1431	PO0	NW38

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
NANT (SOFT 5 QTRS)	Coal	Yes	Within	N/A	27
RUABON YARD (SOFT 5 QTRS)	Coal	Yes	23.2	North-West	44
RUABON YARD (SOFT 5 QTRS)	Coal	Yes	Within	N/A	129

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property recorded.

Opencast mines

Please refer to the "Summary of findings" map (on separate sheet) for details of any opencast areas 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

Distance to site investigation (m)	Direction
1.4	South

See Section 4 for further information.

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 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.

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.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

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.

Key

- Approximate position of the enquiry boundary shown
- Disused mine shaft
- Outcrop (Conjectured)
- Geological faults
- Unlicensed opencast site
- Site investigations

How to contact us

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