

Coal Mining Risk Assessment

For development at: General Dynamics Land Systems Ltd
Merthyr Road, Merthyr Tydfil, CF48 4LA

For proposal: Construction of enclosure to tank parking area, lean-to extension to existing building, pump house and storage tanks

Assessment Summary

Assessment Result	MEDIUM RISK
Recommended Further Work	INTRUSIVE GROUND INVESTIGATION

The Coal Authority works to resolve the impacts of mining by growing its expertise, innovation, organisational capability and efficiency.

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	MTM	PB	29/03/2022

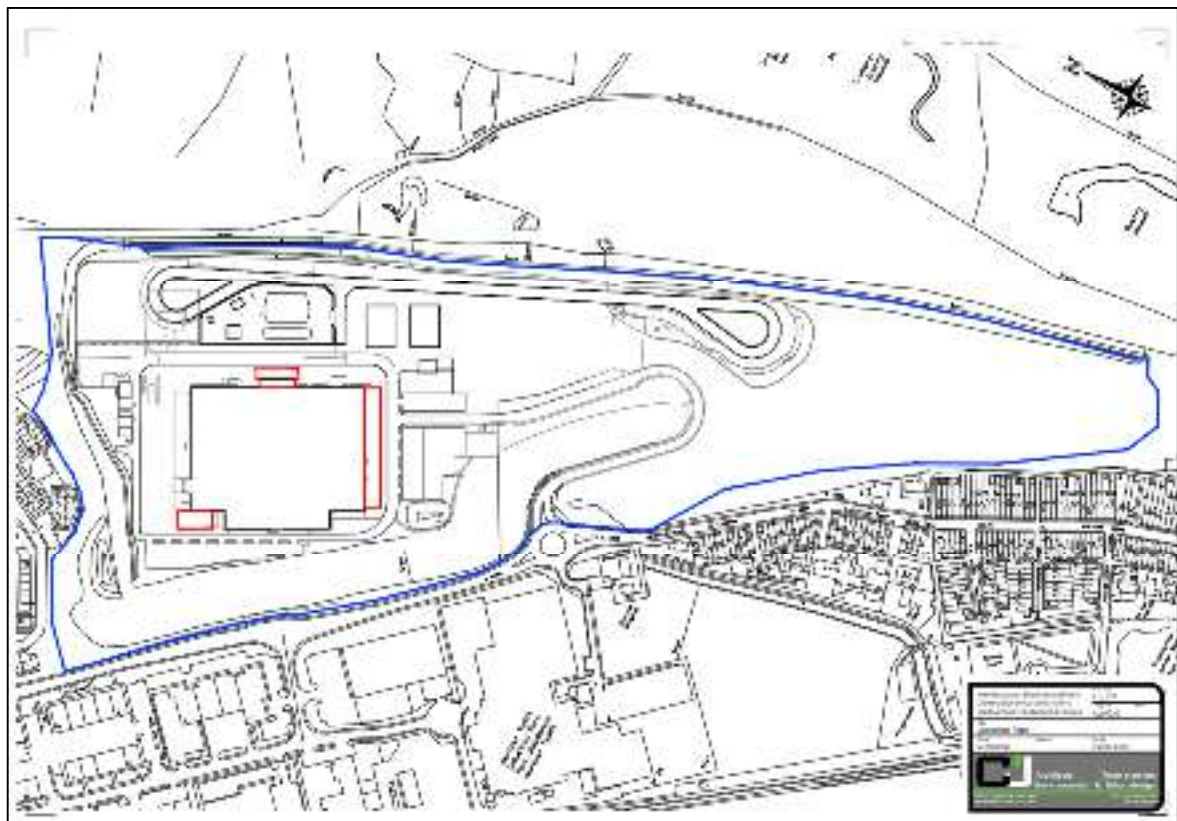
Section 1 – Description of site and proposed development

a) Site location and Description

The Coal Authority has been commissioned to prepare a Coal Mining Risk Assessment Report for a proposed development at General Dynamics Land Systems Ltd, Merthyr Road, Merthyr Tydfil, CF48 4LA (Fig. 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 E306820, N203250. The proposed development area requires access via the A4054 Merthyr Road. The site has an approximate elevation 160m AOD.

Figure 1 - Site location plan



b) Description and layout of proposed development

The Coal Authority understands that the developer plans to construct an enclosure to tank parking area, lean-to extension to existing building, pump house and storage tanks (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 – 5198
Geological plans	X		OS geological sheet SO00SE (1972), SO00SE (1972), SO00SE (1972), SO00NE (1972),
BGS Boreholes	X		SO00SE165, 168, 532, SO00SE37
Other	X		BGS GeoIndex

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 at shallow depths
b) Underground coal mining (probable at shallow depths)	X		Medium risk	Possible unrecorded shallow mine workings in the Abergorky, Pentre Rider and Pentre seams
c) Mine entries (shafts and adits)	X		Low risk	Four mine entries recorded within 100m. Mine entry 306208-011 recorded beneath existing factory footprint however not considered to influence proposed works. Risk should be reassessed if development layout is amended
d) Coal mining geology (faults and fissures)	X		Medium risk	Fault trending NNW-SSE through site, locally displacing coal seams
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	None recorded

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 Coal Mining Consultants report in Appendix B shows that the development site is not in an area of recorded shallow coal mine workings. The Consultants Report indicates that the site is underlain by, or is in proximity to, workings in seven seams of coal between 94m to 192m below ground level (bgl). The shallowest of these is the Two Foot Nine seam, recorded to have been worked beneath the development area at 94m bgl with an extraction thickness of 1.15m and last worked in 1924. Consequently the risk to this development from underground coal mining (recorded at shallow depths) is 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 not in an area of probable shallow coal mine workings however does record three outcrops to be present in the vicinity of the site, shown to be displaced by a fault, and trending NNW-SSE through the site. To the west of the fault the Hafod seam is shown to outcrop 46m northwest of the site boundary, trending NNE at the closest point to the site. To the east of the fault, two Pentre Rider outcrops are recorded, trending north-south and shown to be located within the site boundary. All three seams are shown to be of a workable thickness within the locality.

The general vertical section (GVS) on the OS geological sheet SO00SE (1972) records the following:

Seam	Thickness	Separation to seam above
Blackband	12in (0.3m)	NA
Hafod	24in (0.61m)	17.90m
coal	thin	27.61m
Abergorky*	12in (0.3m)	4.43m
Pentre Rider	18in (0.45m)	14.49m
Pentre	24in (0.61m)	7.33m
Lower Pentre	12in (0.3m)	16.19m
Eighteen-Inch	12in (0.3m)	10.57m

*neighbouring sheets indicate Craig (SO00SW) and Tir Cae (SO00NW) outcrop names.

It must be considered that any roadways within these seams may be greater than the height of the seam to facilitate underground access, nominally to a height of 1.5m.

The Abergorky is recorded to have been worked from outcrop to the east of the development site boundary with plan 5198 recording the seam 1ft 3in (0.38m) in thickness, underlain by 5in (0.13m) of holding clay and an unspecified thickness of fireclay.

The OS geological sheet records the fault within the site to be locally known as the Merthyr Church fault with seams to the west of the fault shown to dip between 6 to 10° south/southeast and seams to the east of the fault to dip approximately 6° southeast.

The OS geological sheet SO00SE illustrates three major seams to outcrop to the west of the Merthyr Church fault with the additional seam south of the two held by the Coal Authority. The northern most outcrop is shown to be the Pentre Rider, located approximately 240m northwest of the development site boundary with the other two outcrops comprising an unnamed outcrop (possibly the Abergorky, Craig or Tir Cae outcrop based on OS geological sheets SO00SE, SO00SW and SO00NE) and the Hafod outcrop, recorded 15m north and 44m south of the site respectively. The Unnamed seam is implied from the data shown on the GVS of the Ordnance Survey Geological sheets and falls between the Pentre Rider and Hafod outcrops, but is not named on the map. To the east and north of the site the Pentre outcrop occurs north (geologically deeper) of the Pentre Rider outcrop. On the map the Pentre is not shown to be present near the fault and it is uncertain as to whether it is present in and around the site. The Hafod seam recorded within the Consultants Coal Mining Report is shown to be the unnamed seam (likely to be the Abergorky, Craig or Tir Cae) with the Hafod seam shown on the OS geological sheet not recorded within the Coal Authority's records.

To the east of the fault the Coal Authority records two outcrops in the Pentre Rider seam with the outcrops shown running close to each other and mostly parallel. The OS

geological sheet records just one outcrop of the Pentre Rider seam and is unclear as to where the second outcrop has been sourced from.

The next seam to outcrop to the east of the development site boundary is recorded as being an unnamed seam located below the Lower Cwmgorse Marine Band (Craig/Abergorky/Tir Cae). Due to the direction of seam dip the Abergorky seam is considered unlikely to be present beneath the development site boundary. The next outcrop to the west of the site is shown to be the Lower Pentre seam with the outcrop located approximately 560m NNW of the site

To the west of the fault where the proposed pump house and tank development is to take place, based on distance and dips of the Pentre Rider and Unnamed seam it is estimated that the unnamed seam will occur at a depth of approximately 5m and the Pentre Rider at a depth of approximately 25m below the pump house and tank development area. To the east of the site the Pentre Rider seam(s) are expected to be present from rockhead dipping at approximately 6° to the southeast.

Given the separation between the Pentre Rider and the unnamed seams together with the estimated depth to the seams to the west of the fault it is considered that insufficient cover may exist above both seams. If both seams are found to be worked, insufficient cover may then also exist above the Pentre seam. To the west it is considered that insufficient overlying cover may exist above the Pentre Rider and Pentre seams.

Consequently the risk to this development from underground coal mining (probable at shallow depths) in the unnamed, Pentre Rider and Pentre seams is considered to be medium.

c) Mine entries (shafts and adits)

The Coal Authority Consultants Coal Mining Report in Appendix B shows four mine entries are recorded within 100m of the development site the source plans for which have been reviewed as part of this coal mining risk assessment with no amendments made. The results of this exercise are recorded in the table below:

Reference	Adit Orientation	Easting	Northing	Plot distance from site boundary	Source
306203-011	NA	306849	203196	Within	OS 25" SO 0603
306203-040	59°	306923	203221	21.4m SSE	Historical British Coal Records
306203-012	NA	306922	203166	34.8m SSE	1961 Ed. 25". OS plan
306203-013	NA	306903	203121	65.8m SSE	1/2500 O.S Sheet 1870 1900 1920 Ed Ab plan SWR1975 Geological Sheet

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 value (up to 10m to account for discrepancies in source material), plus the local depth to rockhead (discussed in section 3, d) below as likely to be up to 25m), plus the entry radius (nominally assumed to be 1.25m unless proven otherwise). On the basis of the above the zone of influence for these entries can be assumed to be a distance of 34.1m from the recorded positions detailed above.

Although mine entry 306203-011 is located within the site boundary, it is located over 75m from the eastern extension and over 130m from the proposed pump house and tank development and subsequently is not considered to be of influence to either development. It is understood that no intrusive works are due to take place within the southernmost development area thus these works are not considered to be influenced by this mine entry, despite being within the zone of influence for the mine entry. Because of the distance to and orientation of the adit 306203-040 it is considered that this adit and any associated roadways will not be present within the development site boundary.

Mine entries 306203-012 and -013 are not considered to be of influence to the proposed development.

Based on the distance of these entries from the proposed areas of work, the risk to the development from recorded mine entries is considered to be low. If the development layout is subsequently amended it may be necessary to review the risks proposed in this document.

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. 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 South Wales Middle Coal Measures Formation, consisting of coal, sandstones, siltstones and mudstones. The closest BGS boreholes to the site are SO00SE165, 168 and 532 located within the site to the central eastern margin however these boreholes do not record superficial deposits. The BGS indicates that alluvium and till (boulder clay) are present across the site. The nearest borehole with superficial information is SO00SE37 approximately 300m to the north of the site which indicates that superficial deposits are present and consist of tip material (made ground), boulder clay and sandstone boulders with a typical thickness of 25m in the local area. Due to the distance of this borehole the depth and nature of the superficial deposits at site may vary and should be proven as part of any intrusive investigation at site.

The Merthyr Church Fault, runs through the development site orientated approximately NNW-SSE downthrown 61m based on calculations recorded from within the Nine Foot Seam (subsurface) which has locally displaced coal seams. 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.

No seam mentioned in this report is recorded as being prone to spontaneous combustion.

f) Recorded coal mining surface hazard

None recorded.

g) Surface mining (opencast workings)

None recorded.

Section 4 – Proposed mitigation strategy

a) Site investigation and/or remediation

Due to the presence of possible unrecorded shallow mine workings in the Unnamed (Abergorky/Craig/Tir Cae), Pentre Rider and Pentre seams, an intrusive site investigation will be required. If the development layout is revised, the risk posed by mining features, in particular the risk posed by the mine entries within and adjacent to the site should be reviewed.

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.

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 has been subject to past coal mining activity, namely the presence of possible unrecorded shallow mine workings in the Unnamed (Abergorky/Craig/Tir Cae), Pentre Rider and Pentre seams. 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: 0800 288 4242 (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

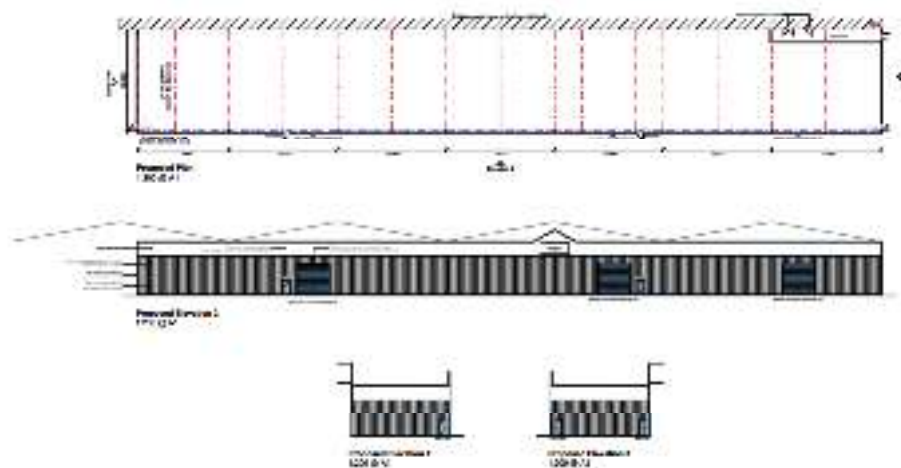
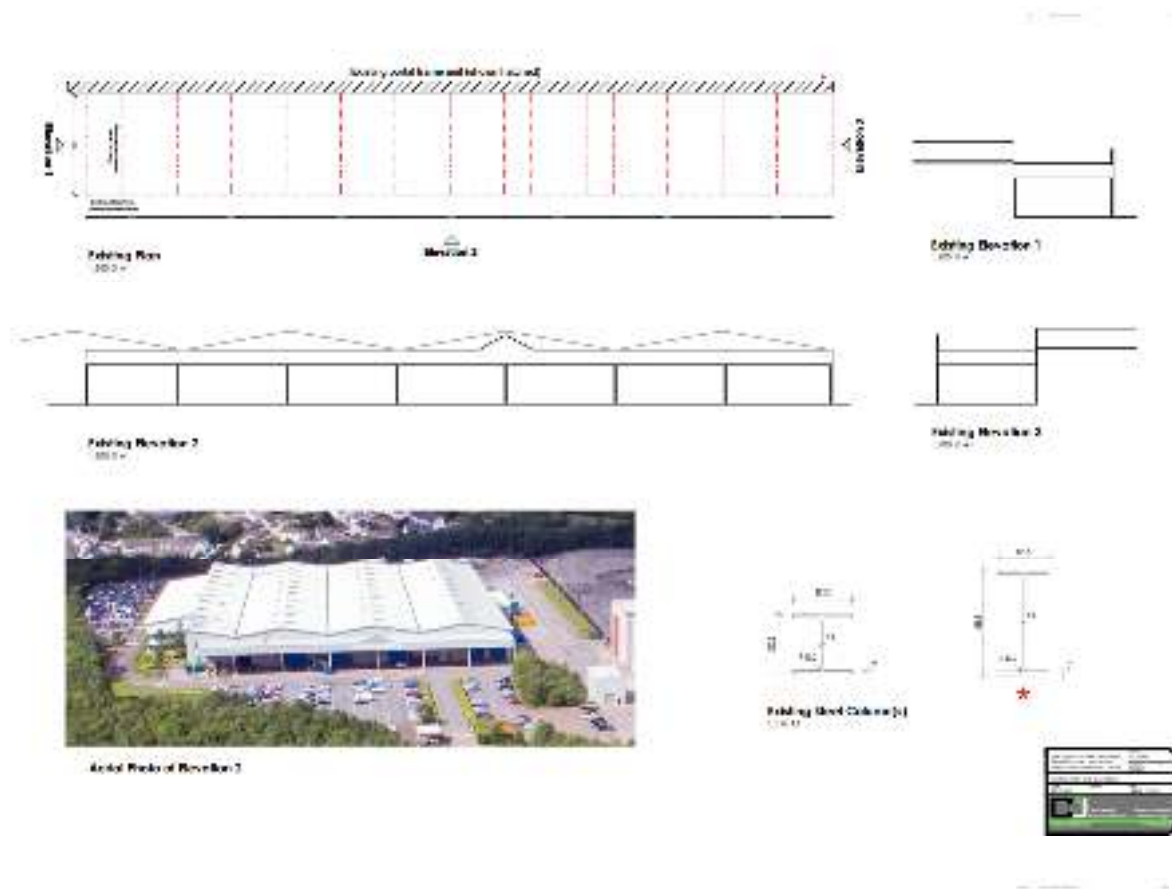
Licensing and Permitting Service

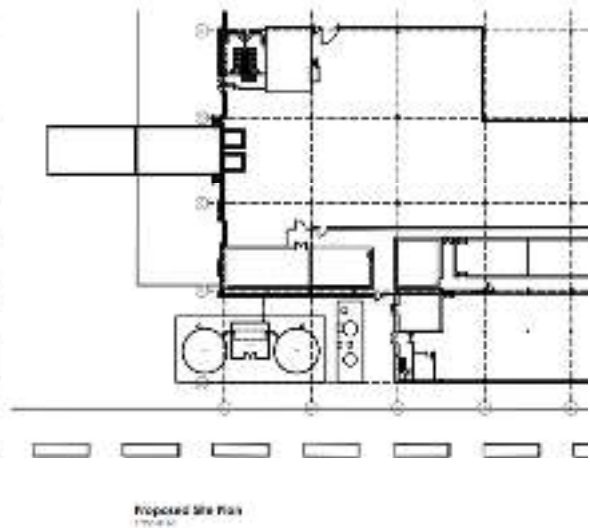
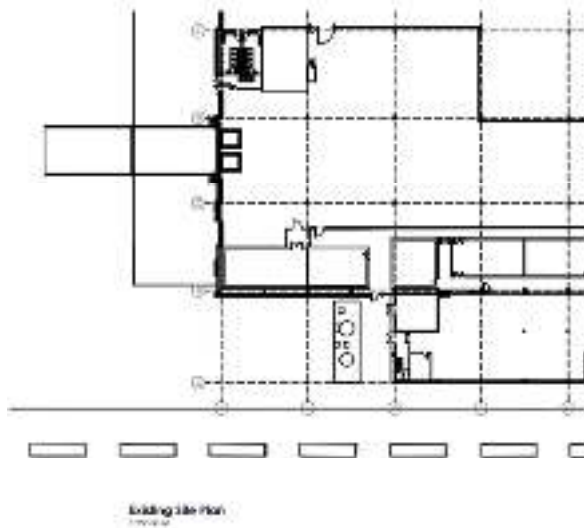
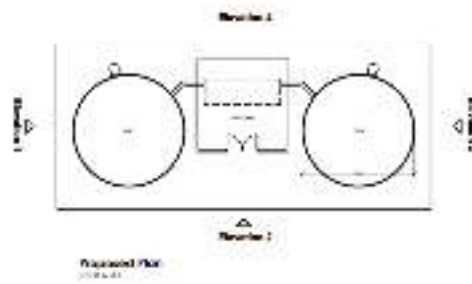
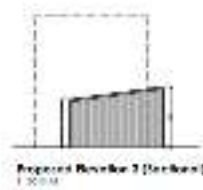
Email: permissions@coal.gov.uk

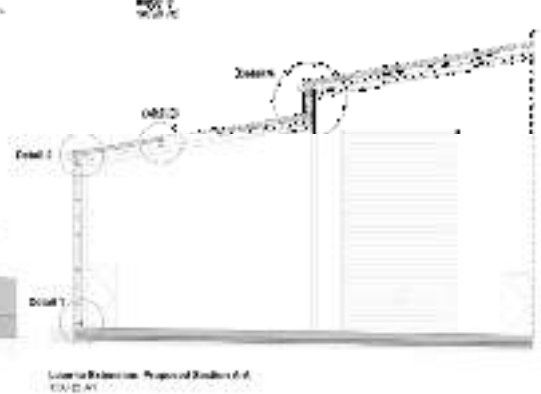
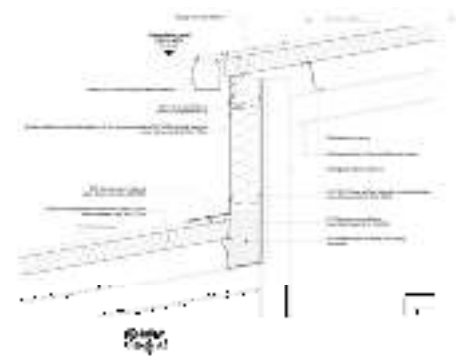
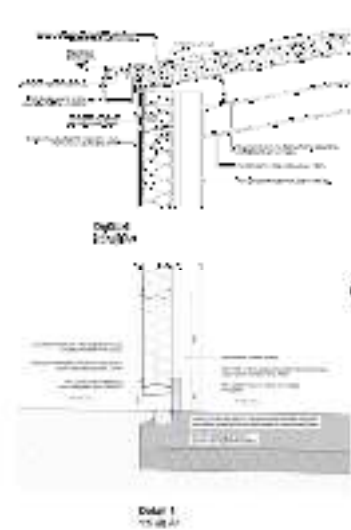
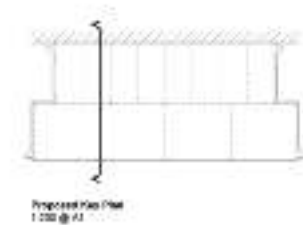
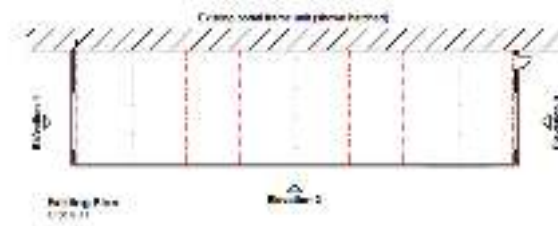
Tel: 01623 637 320

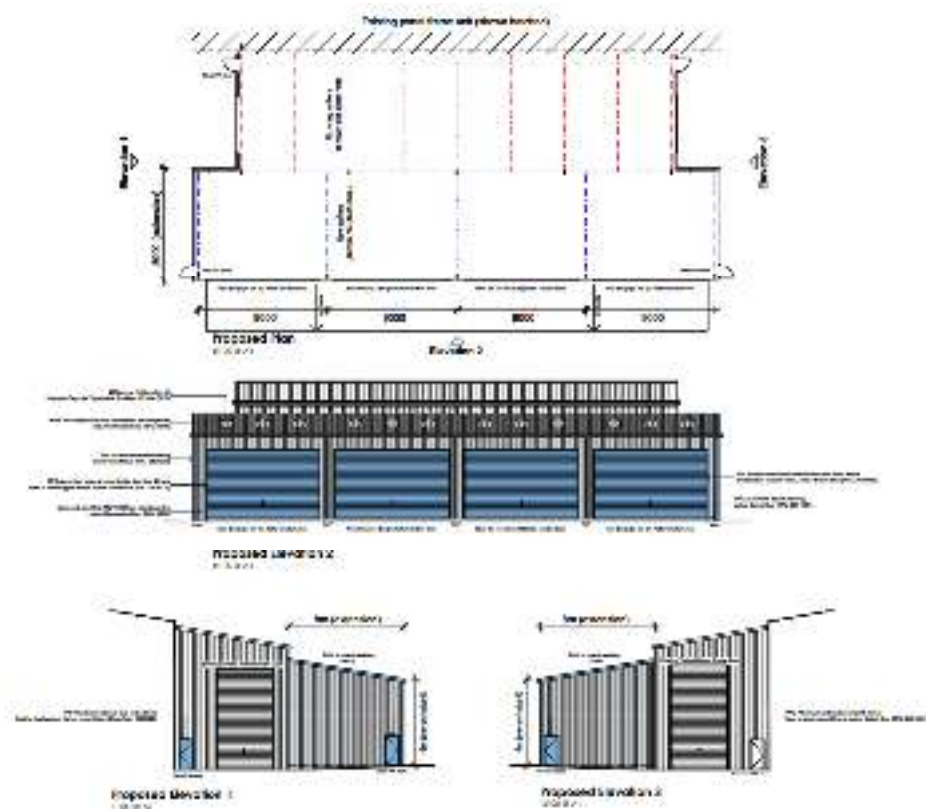
For permission to enter or disturb coal mine entries and coal seams.

Appendix A – Plan showing proposed development layout









Appendix B – Non-Residential Coal Mining Consultants Report



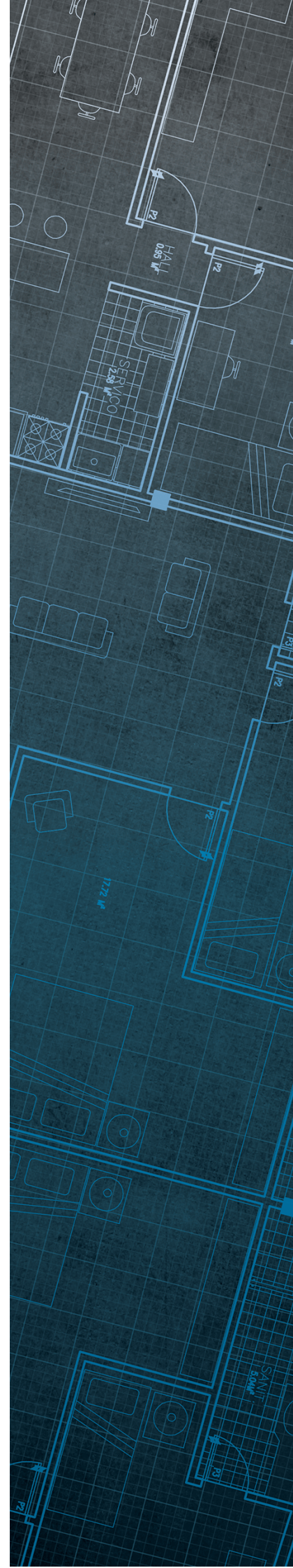
The Coal
Authority

Consultants Coal Mining Report

General Dynamics Land Systems Ltd
Merthyr Road
Pentrebach
Merthyr Tydfil
CF48 4LA

Date of enquiry:	28 March 2022
Date enquiry received:	28 March 2022
Issue date:	28 March 2022

Our reference:	71008540762001
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

CMRA THE COAL AUTHORITY

Enquiry address

General Dynamics Land Systems Ltd
Merthyr Road
Pentrebach
Merthyr Tydfil
CF48 4LA

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

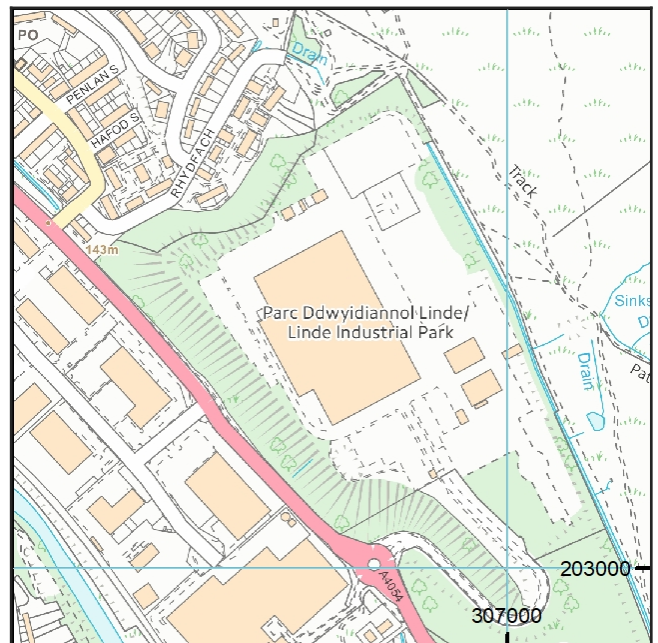
www.groundstability.com

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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	TWO FOOT NINE	Coal	4WL9	94	Beneath Property	5.9	South-East	115	1924
unnamed	FOUR FOOT	Coal	4WL4	99	Beneath Property	6.4	South-East	210	1891
unnamed	UPPER 6FT RIDER	Coal	4WME	128	Beneath Property	3.3	South-East	120	1889
unnamed	FOUR FOOT	Coal	4WL6	145	Beneath Property	6.6	South	210	1891
unnamed	LOWER NINE FOOT	Coal	4WLD	158	Beneath Property	6.6	South-East	300	1902
unnamed	UPPER NINE FOOT	Coal	4WM1	162	South-East	4.9	South-East	133	1884
unnamed	YARD	Coal	4WMA	173	Beneath Property	5.6	South-East	100	1924
unnamed	UPPER 6FT RIDER	Coal	4WMK	175	South-West	5.7	South-East	170	1866
unnamed	LOWER 7FT BOTTOM LEAF	Coal	4WLM	179	Beneath Property	6.1	South-East	110	1904
unnamed	YARD	Coal	4WM9	192	Beneath Property	7.1	South	120	1928

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	306203-011	306850 203196		Coal	
Shaft	306203-012	306923 203167		Coal	
Shaft	306203-013	306903 203122		Coal	
Adit	306203-040	306923 203221		Coal	

Abandoned mine plan catalogue numbers

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

SWR3601	SWR3617	SWR3189
SWR3192	3528	SWR3185
5198	SWR3206	SWR3148

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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
HAFOD	Coal	Yes	46.0	North-West	203
PENTRE RIDER	Coal	Yes	Within	N/A	164
PENTRE RIDER	Coal	Yes	Within	N/A	165

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

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 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.

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.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

