



RHONDDA  
GEOTECHNICAL  
SERVICES

COAL MINING RISK ASSESSMENT  
OUTLINE PLANNING APPLICATION P2023/0536  
NEATH PORT TALBOT C.B.C.  
PROPOSED RESIDENTIAL DEVELOPMENT  
LAND ON THE CORNER OF  
IS-Y-BRINIAU AND LEWIS AVENUE  
CWMLLYNFELL  
SWANSEA  
SA9 2GS  
12/09/2023

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## **COAL MINING RISK ASSESSMENT**

### **1. INTRODUCTION**

This Coal Mining Risk Assessment (henceforth C.M.R.A.) has been produced to support a planning application to Neath Port Talbot L.P.A. reference P2023/0536. The outline application is for the construction of five detached houses on land at the junction of Is-y-Bryniau and Lewis Avenue, Cwmllynfell. Some outline plans of the proposed siting of the houses have been produced. These can be seen in Appendix 1, but all details are being held as reserved matters to follow on from the granting of outline planning. N.P.T. have pointed out that the site is classed as partly being within a Development High Risk Area. With such a classification the Coal Authority become statutory consultees for the application. In a letter to N.P.T. dated 19/07/2023 the C.A. state that a C.M.R.A. needs to be produced to support the application. They state that “the site is within the influence of coal outcrops which may have been subject to unrecorded workings at shallow depth. If workings are present within the outcrop these may pose a potential risk to surface stability and public safety”.

Richard Davies BSc. (Hons), MSc., F.G.S. of Rhondda Geotechnical Services has been commissioned as the competent person to prepare a C.M.R.A. of the proposed development site. The purpose of any C.M.R.A. is to provide the L.P.A. with information on possible coal mining and an assessment of its impact on the ground stability of the site in order to satisfy the L.P.A. that the site is, or can be made safe and stable in line with national guidelines. This will be done in line with the template and recommendations of the C.A. document Guidance for Welsh L.P.A.s (version 4, 2017).

The site is centred on grid reference 274560, 213020 and ranges in elevation between approximately 165m-169m. A.O.D. The site is approximately square averaging 50m x 50m and covering an area of 0.28Ha. There are no surface watercourses. The site location is shown in Figure 1 and the site boundary is shown in Figure 2 overleaf.

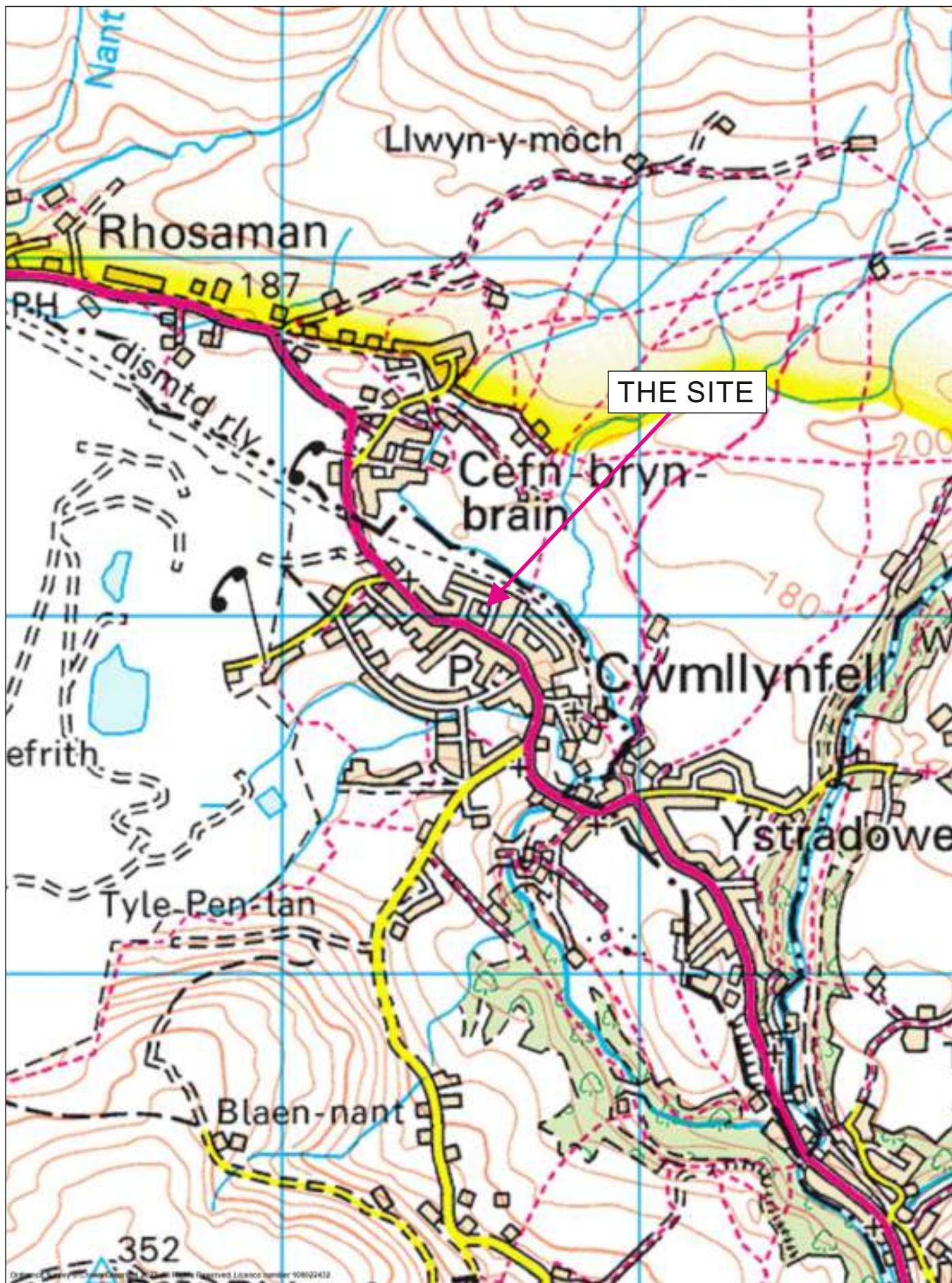


FIGURE 1  
SITE LOCATION

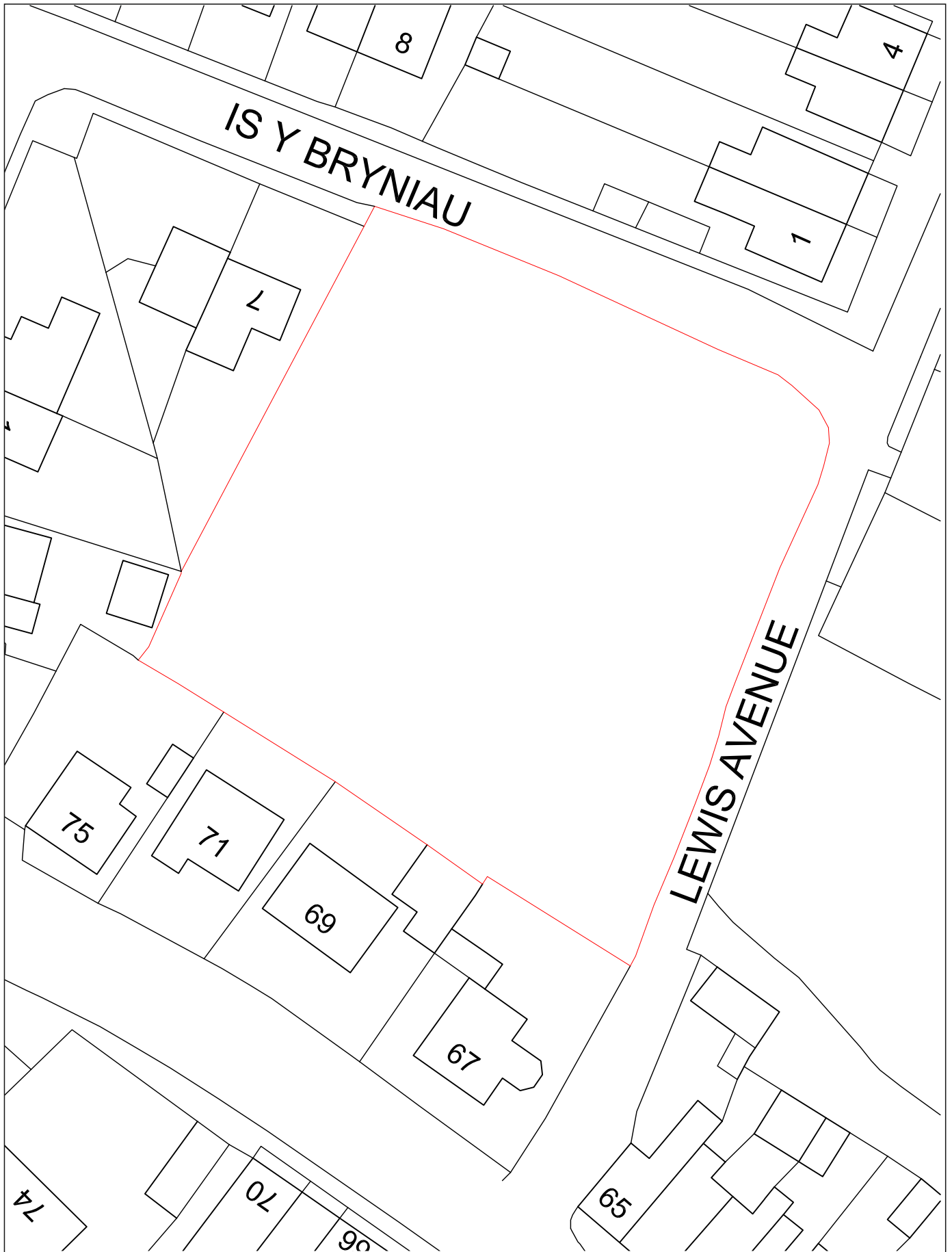


FIGURE 2  
THE SITE BOUNDARY OUTLINED IN RED.

## 2. SOURCES OF INFORMATION

- a) Coal Authority Consultants Report ref 51003369511001.
- b) The C.A. interactive viewer.
- c) The 6" to the mile Geological Survey sheet SN 71SW (1960-64 revision, published in 1973).
- d) The Memoirs of the Geological Survey of The South Wales Coalfield, part VII The Country around Ammanford (1907), the 1968 Special Memoir Upper Carboniferous of the Gwendraeth Valley and other mining archive sources.
- e) British Coal Rationalised Development Plan Sheet 07/D/SN/71SW.
- f) Historical Ordnance Survey maps, Old County Editions Carmarthenshire Sheet XLIXNE 1876 and Glamorgan IINE 1896, both at 1:10,560 scale, 1913 revision Glam II.8 at 1:2500 scale.

2a) The Consultants Report states that there is no recorded underground mining of coal beneath the site. The report goes on to say the C.A. believe there are no shallow unrecorded workings or shallow spine roadways beneath the site. The report records a solitary mine entry within 100m of the site boundary. This is an adit reference 274212-078, approximately 60m southwest of the site. This is shown in Figure 3, an extract of the Summary of Findings map. The report records no abandonment plans which may be of relevance to the site. Figure 3 shows a seam outcrop bisecting the site and two other outcrops just north of the site boundary. The report names the outcrop within the site boundary as the Spotted Pins. The two other seam outcrops are named as the Five Foot (north of the site) and the Gellideg (northeast of the site). The report refers to the SoF map for details of any geological faults, fissures, breaklines or other weaknesses that have been affected by coal mining. None are shown, but this is incorrect as will be seen in following sections. A large area of opencast mining is shown 400m east of the site on the SoF map, but this is off the eastern boundary of the truncated Figure 3.

In Section 2 the report states there have been no site investigations and there are no recorded surface hazards that have required remedial action within 50m. There have been no subsidence claims within 50m of the site. There are no stop notices or Section 33 notices. There are no records of gas emissions requiring action within 500m. Section 3 states there are no present underground workings

or plans for any. There are no Section 46 notices or withdrawal of support notices.

All these facts will feed into the later quantitative risk assessment. Section 4 states that no further information has been highlighted. The Consultants Report is attached in Appendix 2.

2b) The C.A. interactive viewer contains a vast amount of information from various sources, particularly on the mining data window. Sometimes additional information not contained within a Consultants Report can be obtained. An extract from the planning window can be seen in Figure 4. Development High Risk Areas are hatched. The site lies on one of a series of linear areas. The purple colouring indicates these are buffer zones above seam outcrops. The large grey hatched areas east and west of the site are areas of opencast mining. The blue areas south of the site are areas of recorded shallow mining. Finally, the brown circular areas are 20m buffer zones around recorded mine entries. In summary, there has been a great deal of mining activity in the area surrounding the site.

In order to fully understand why a site has a high-risk status it is informative to study the Coal Mining Data window. This window is far superior to the planning window as it is at a larger scale. There are multiple datasets which can be turned on and off. An extract from the Mining Data Window is reproduced as Figure 5 overleaf. For clarity only three sets of data are turned on in Figure 5- seam outcrops, mine entries and recorded underground mining. The brown lines are coal seam outcrops. The nearest outcrops to the site (highlighted in blue) are numbered with their seam codes. The C.A. seam directory shows these to be as follows:-

SW0141 GELLIDEG

SW0151 UPPER GELLIDEG

SW0161 FIVE FOOT

SW0201 SPOTTED PINS

SW0221 SEVEN FOOT

From the fact that the seam numbers are ascending to the south it can be deduced that the strata must be dipping to the south, since the contour lines show the area to be relatively flat, ruling out a topographic explanation. The seam outcrops are abruptly truncated. This must be due to a fault, although one

is not shown on the SoF map. The red dashed line has been added by the author and shows the line the fault must follow along the outcrop truncations.

Several mine entries are shown, particularly to the east of the site. Sometimes the Interactive Viewer database gives mine entry information not recorded in the Consultants Report. In this case the only additional information on the adit closest to the site is that it has an orientation of 159° with no details of any treatment or remediation although it appears to be in the middle of a residential street.

The pink hatched areas are recorded underground workings. The workings west of the site are in the Upper Gellideg Seam whilst the workings east of the site are in the Gellideg Seam.



FIGURE 3  
SoF MAP FROM THE C.A. CONSULTANTS REPORT.

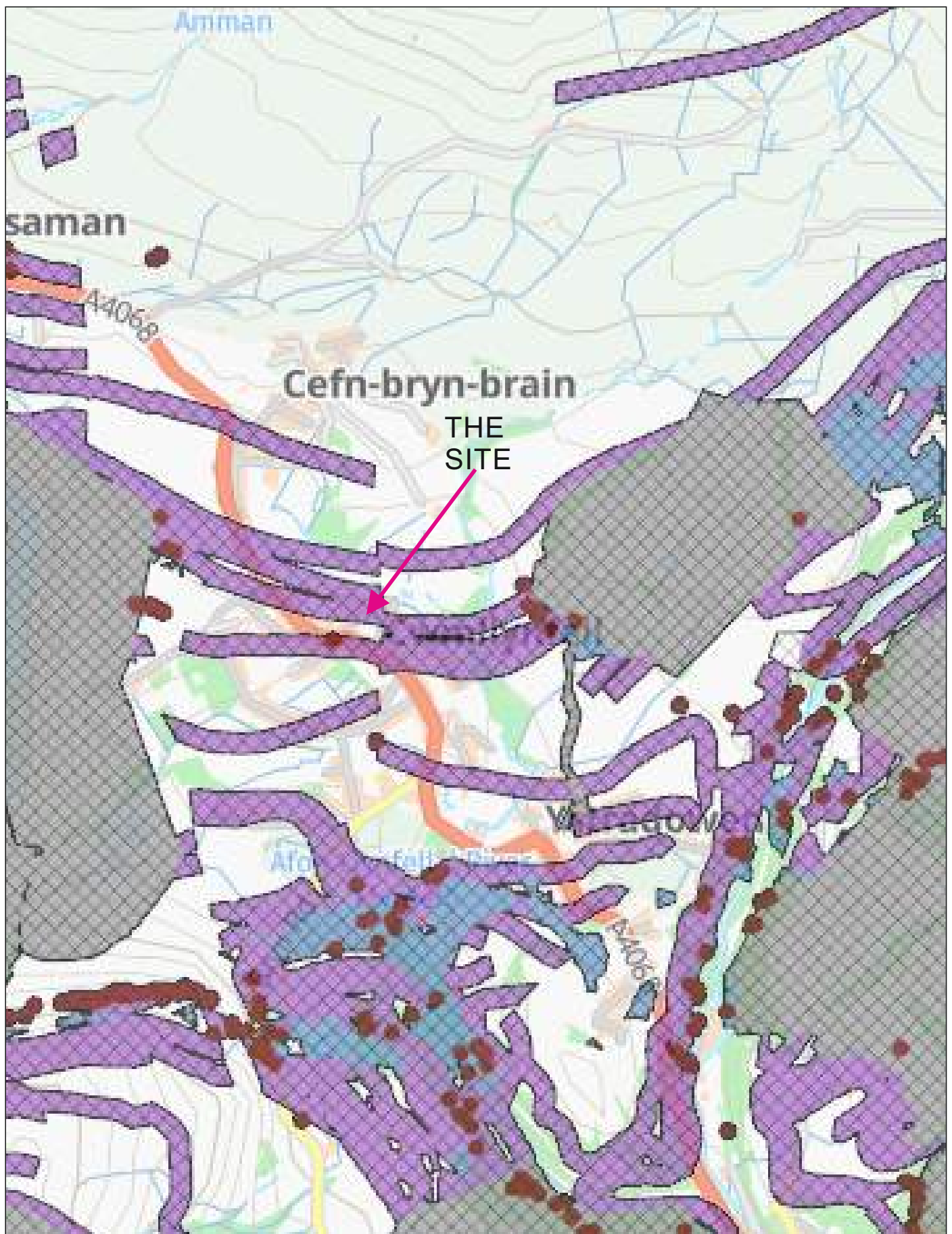


FIGURE 4  
COAL AUTHORITY INTERACTIVE VIEWER, PLANNING WINDOW.  
HATCHED AREAS ARE CLASSSED AS DEVELOPMENT HIGH RISK.



FIGURE 5

C.A. INTERACTIVE VIEWER, MINING DATA WINDOW. RED CROSSES ARE MINE ENTRIES, BROWN LINES ARE COAL SEAM OUTCROPS THE SITE IS HIGHLIGHTED IN BLUE

2c, d and e) The six-inch to the mile Geological Survey sheet SN 71SW covers the area around the site. An extract of the map is reproduced as Figure 6 overleaf. A section of the stratigraphic column from SN 71SW is shown in Figure 7 with the site level marked. It is always very useful to study the survey sheets in conjunction with the Memoirs. Used together, the six-inch survey sheets and the Memoirs are an invaluable source of much detailed geological information on the area. Much of this has been obtained from mining records. Due to the very high economic importance of South Wales, extensive government funded geological surveys have been carried out in the past. These were completed in 1845, 1899 and 1954 respectively. Very little information on historical coal mining in the area is missing. In the case of the Ammanford Area the Memoirs have not been revised since the 1907 edition, due to the decline in the importance of the Coal Industry. The 1968 Special Memoir is mainly concerned with deep Anthracite but there are some references to the Cwmllynfell area.

The map was published in 1973, following a re-survey of the entire area between 1940 and 1964. The site is underlain by strata from the Lower Coal Measures, which are undifferentiated in South Wales. The nearest measured strata dip to the site is  $10^{\circ}$  to the south. This produces the ascending seam sequence to the south seen in Figure 5. There are significant differences between the Geological Survey and the C.A. data. There is no fault shown in the position inferred in Figure 5. The outcrops run west-east with no truncation. There is a very large fault (the Cwmllynfell Fault) running north-south near the western margin of Figure 5. The down throw west of the fault must be large as it displaces seam outcrops by approximately 800m. The Survey shows two outcrops crossing the site (Stinking and Triquart) and one outcrop (Pumpquart) to the north. The difference in nomenclature from the C.A. data is partly due to the C.A. attempting to standardise coal seam names across the coalfield. This results in much confusion and frequent errors in the C.A. database. It is far better to use the local names. These were in general use west of the Vale of Neath Disturbance for over a hundred years and all archive material uses them. The Little Brass, Trichwart and Pumpquart are *probably* equivalent to the Five Foot Gellideg sequence of the eastern half of the coalfield. As in the east of the coalfield these seams can be separated by varying thicknesses of rock or can coalesce as one or two seams. The Spotted Pins is an Ironstone Vein which underlies the Five Foot Gellideg and so the C.A. data is clearly wrong in this respect. Figure 7 shows the Stinking Seam is also known as the Little Brass, the Trichwart as the Middle Seam and the Pumpquart as the Lower Seam.

The two arrow symbols circled are levels. Level is the normal term for a sub-horizontal coal mine entry in South Wales. Adit is almost exclusively applied to metalliferous mines. Since all archive material uses the term level, it shall be used henceforth. The two entries are the intake and return of the Ochr-y-Waun Colliery. They are shown on the Trichwart outcrop. Why these two mine entries do not appear on the C.A. database is a mystery. The colliery was a modest operation which ran for 32 years between 1936-1968. It worked the Little Brass and Middle Seams. Archive material also mentions a Tyllwyd Seam which is probably yet another name for the Middle/Trichwart Seam

The primary source for the C.A. Interactive Viewer is the British Coal Rationalised Development Plan. This was a large project mainly concerned with estimating coal reserves and land usage for planning opencast mining. The plan itself drew heavily on the Geological Survey with additional information from N.C.B/B.C. opencast records. When there are significant differences between C.A. data and the Survey it is beneficial to check the original British Coal records. Figure 8 is a section of Development Plan 07/D/SN/71SW. Unsurprisingly, the outcrop pattern is identical to the Interactive Viewer. A fault is shown adjacent to the site in the position inferred in the earlier section. The Cwmllynfell Fault is also shown. The Ochr-y-Waun Levels are shown unlabelled. Curiously, they are shown south of the outcrops of the Brass, Middle and Lower Seams. In the stratigraphic column in Figure 9, the thicknesses of the Brass, Middle and Lower seams are given in inches. Converted to metric these read as 0-0.46m, 0.45m-1.52m and 0.6m-1.14m respectively. Copious notes accompany the B.C.D.P. These reveal little about the repositioning northward of the three seam outcrops. The red hatched area covering the seam outcrops in the northwest corner was considered for opencast potential. Ultimately it was decided that its position between a very large fault and a built-up area made it uneconomic.

2f) ) Historical Ordnance Survey maps can prove invaluable in looking for evidence of coal mining activity. Since the first County Series maps were produced in the 1870's nearly all mining features have been recorded, even if they were considered "old" at that time. This is particularly true of the 1:1250 and 1:2500 scale maps. Since the possibility of shallow coal mining is the most important issue in this risk assessment, they are a useful additional source to the geological material. An extensive array of historical O.S. was searched. Whilst there were extensive numbers of mining features shown west and south of the site, there were none shown in the immediate vicinity. For that reason, none of the maps have been reproduced here. Whilst the absence of mining features on O.S. mapping does not conclusively prove mining has never taken place it can be a valuable additional line of evidence.



FIGURE 6  
SECTION OF GEOLOGICAL SURVEY SHEET SN 71SW.  
THE SITE IS OUTLINED IN BLUE.

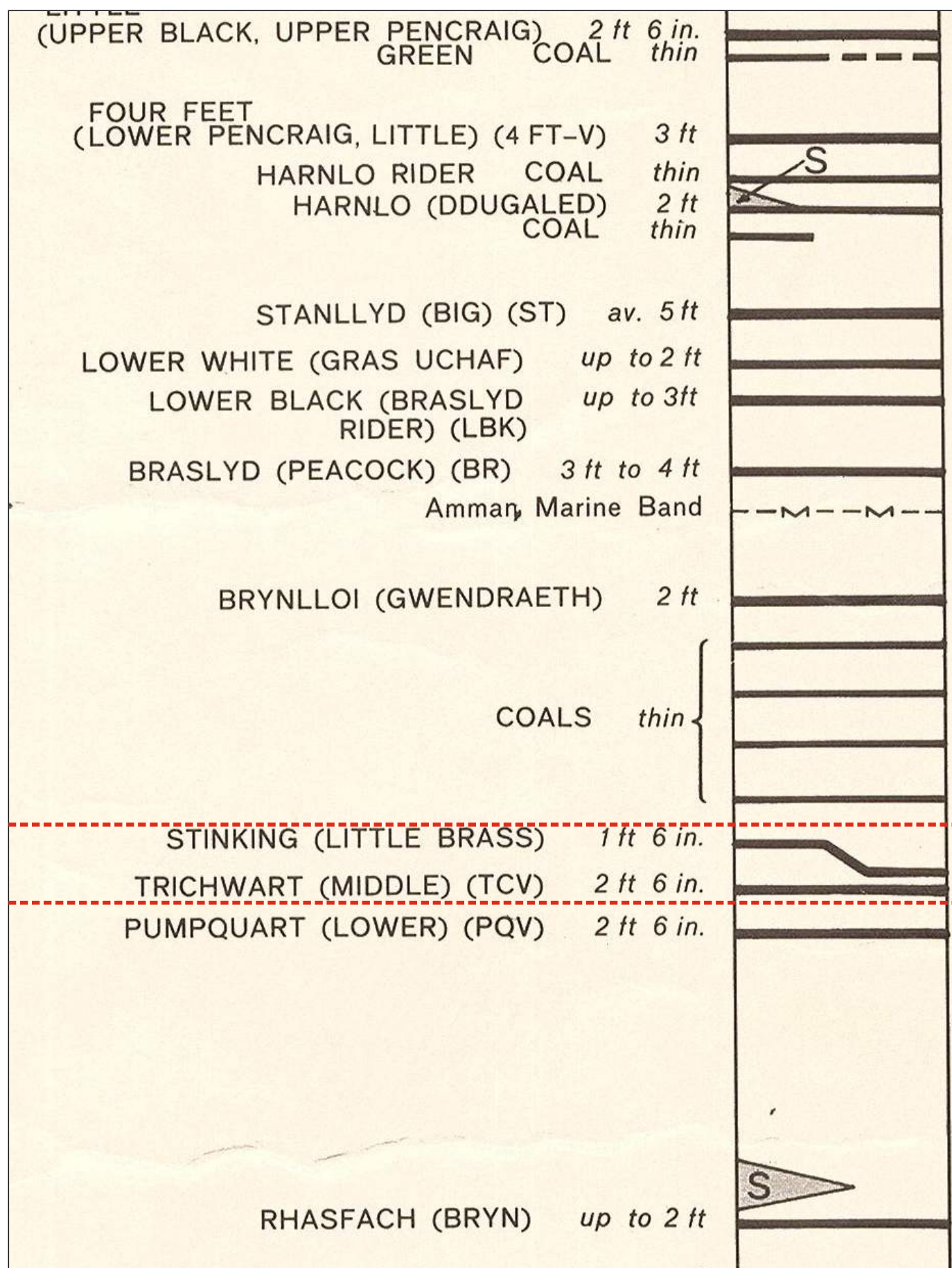


FIGURE 7  
SECTION OF THE STRATIGRAPHIC COLUMN FROM SN 71 SW  
THE SITE LEVEL RANGES BETWEEN THE TWO RED LINES.



FIGURE 8  
SECTION OF B.C.D.P. 07/D/SN/71SW.  
THE SITE IS HIGHLIGHTED IN ORANGE.

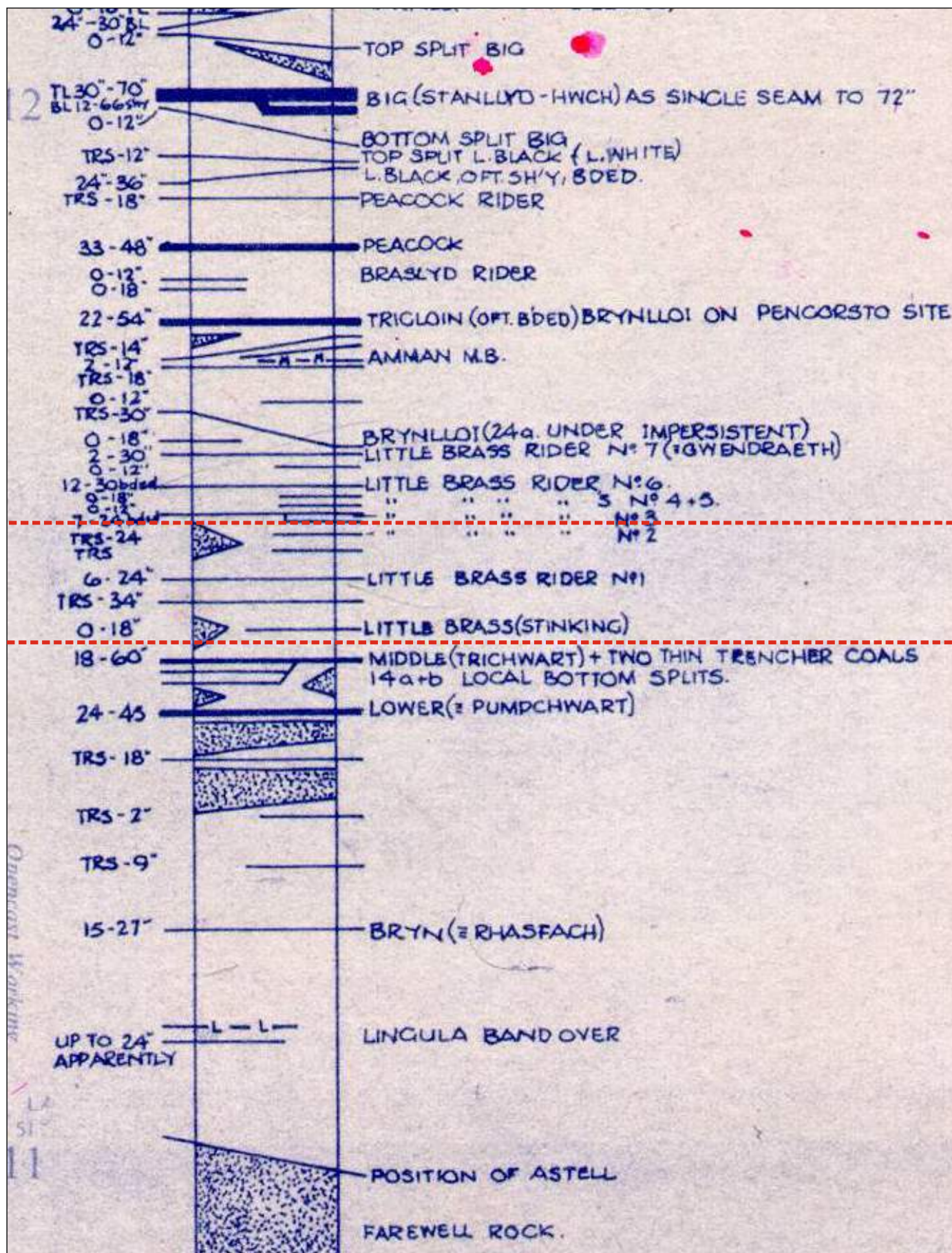


FIGURE 9

SECTION OF THE STRATIGRAPHIC COLUMN FROM 07/D/SN/71SW.  
THE B.C.D.P. PLACES THE SITE LEVEL BETWEEN THE TWO RED LINES

| COAL MINING ISSUE           |  | YES | NO | R.A? |
|-----------------------------|--|-----|----|------|
| SHALLOW RECORDED WORKINGS   |  |     | X  |      |
| SHALLOW UNRECORDED WORKINGS |  | X   |    | X    |
| MINE ENTRIES                |  |     | X  |      |
| FISSURES                    |  |     | X  |      |
| GAS EMISSIONS               |  | X   |    | X    |
| SURFACE HAZARDS             |  |     | X  |      |
| SURFACE MINING              |  |     | X  |      |
| FUTURE MINING LICENSE       |  |     | X  |      |

### 3. SITE SPECIFIC COAL MINING RISKS

From the table above it can be seen that only one major issue requires a risk assessment for this site. That is the presence of shallow unrecorded workings under the site. If coal workings are found to underlie all or part of the site, then the issue of risk from mine gases should also be addressed in detail.

To first briefly deal with the issues marked NO on the table:-

- a) If there are no recorded workings beneath the site. However, mining in the area pre-dates the legal requirement to keep mine plans.
- b) There are no known mine entries close enough to the site to influence ground stability at the site.
- c) The Consultants report shows no fissures, faults or breaklines. However, the B.C.D.P. does show a fault adjacent to the site. The source of this information is not known. The phenomenon of fault reactivation was often noted during the working period of the coalfield. This was due to stress release and happened exclusively during mechanised longwall mining. Since there has never been any mechanised mining under the site the fault (if it exists) presents no risk to ground stability at the site.
- d) The C.A. report states there have been no recorded gas emissions within the area surrounding the site but see comments above regarding unrecorded coal workings.
- e) There has been extensive surface mining (opencast) within 400m of the site in the past. This was carried out by the N.C.B./ British Coal

under well-regulated conditions. The mining was topographically and stratigraphically higher than the site. It has been reinstated and will have no effect on ground stability at the site.

f) There are no licenses for future mining in existence.

The Consultants Report, The British Coal Development Plan and the Geological Survey present contradictory information regarding the outcrop positions of three mineable coal seams. The Geological Survey shows the Little Brass and Trichwart Seams crossing the site, with the Pumpquart outcropping north of the site. All three have the potential to underlie some, or all the site at shallow depth. The B.C.D.P. shows the little Brass crossing the site with the other two seams further north. The Middle (Trichwart) and Lower(Pumpquart) still have the potential to underlie the site at shallow depth according to the British Coal data. The Coal Authority data is best ignored as it shows a known workable coal seam as an unworkable ironstone vein which is incorrect. The depth of superficial deposits is unknown. There are no B.G.S. boreholes nearby. Two gravel pits are marked nearby on historical O.S. but these give no indication of depth. Although considered unlikely by the author, there remains a residual risk from unrecorded coal workings beneath the site.

#### 4. MITIGATION STRATEGY

The only way to establish the stability of the site beyond doubt is to carry out an intrusive site investigation. This would need to comprise of rotary boreholes drilled under the Coal Authority's permit system. The design of the investigation should be done by a suitably qualified and experienced person. The depth of the boreholes will be controlled by site conditions. The object being to drill through the Little Brass, Triquart and Pumpquart Seams. The presence of all, or some of the seams and their relative depth will be dependent on which outcrop pattern is correct. Borehole depth can be adjusted on site following the initial boreholes. Given the strata dip and outcrop pattern it would make sense to prove 30m of bedrock near the northern site boundary and proceed accordingly depending on the findings in the first borehole. To give the client maximum value the works should be supervised full time by a geologist with good coalfield experience.

#### 5. CONCLUSION

This risk assessment has presented evidence from comprehensive research that there is a residual risk to ground stability posed by coal mining legacy issues

at the site. There are no recorded shallow workings beneath the site. However, if either the Geological Survey or the British Coal Development Plan version of the outcrop pattern is taken as correct, there are workable coal seams at shallow depth beneath the site. These same seams have been worked 400m west of the site as recently as 1968. The possibility of unrecorded workings from the nineteenth century, whilst considered unlikely, cannot be ignored. The only certain way to establish the stability of the site is via an intrusive investigation.

There is no reason for the Coal Authority to object to planning permission being granted for the proposed development providing an intrusive investigation and Validation Report becomes a condition of full planning. Any ground engineering or specialist foundations necessary to remove any threat of ground instability at the site will be informed by the results of the investigation and cannot be speculated on at present.

Richard Davies BSc. (Hons), MSc., F.G.S.

12/09/2023

## **APPENDIX 1**

### **REPRESENTATIVE PLAN OF THE DEVELOPMENT LAYOUT**

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**NOTE:**  
For illustration purposes only



| Rev. | Purpose of Issue             | Date     |
|------|------------------------------|----------|
| A    | Outline Planning Application | 02.05.23 |



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**Client:**  
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Lewis Avenue,  
Cwmillynfell,  
Swansea

**Project**  
5no Individual Houses

**Subject**  
Site Layout

**Status**  
Outline Planning Application

**Original Scale**  
1:250 @ A3

**Drawn** C Morgan

**Date** May 2023

**Drawing Number**  
LEW\_002

A

## **APPENDIX 2**

# **COAL AUTHORITY CONSULTANTS REPORT LAND ADJACENT TO IS-Y BRYNIAU CWMLLYNFELL**



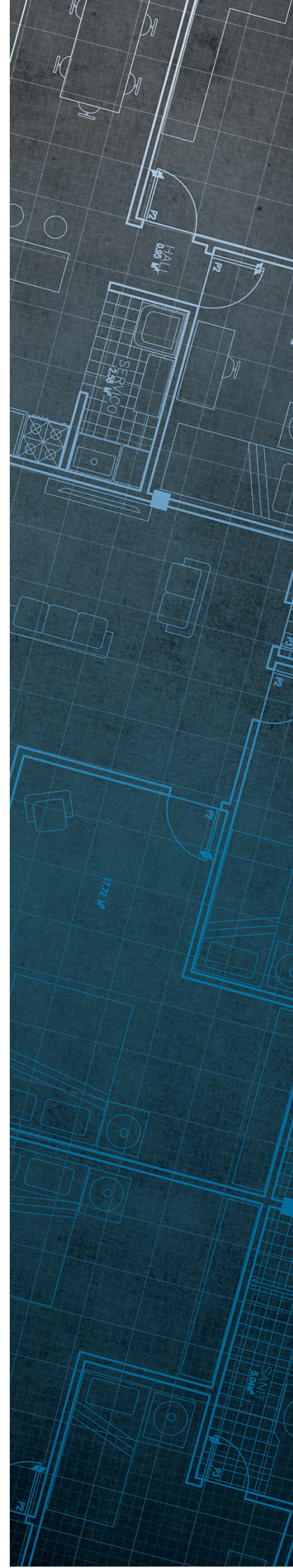
The Coal  
Authority

# Consultants Coal Mining Report

7 Is Y Bryniau  
Cwmllynfell  
Neath Port Talbot  
SA9 2GS

|                        |              |
|------------------------|--------------|
| Date of enquiry:       | 27 July 2023 |
| Date enquiry received: | 27 July 2023 |
| Issue date:            | 27 July 2023 |

|                 |                |
|-----------------|----------------|
| Our reference:  | 51003369511001 |
| 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

RICHARD Davies

### Enquiry address

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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

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 |
|------------|------------|----------------|-----------------------|---------|----------------------|
| Adit       | 274212-078 | 274468 212974  |                       | Coal    |                      |

## Abandoned mine plan catalogue numbers

None available.

## Outcrops

| Seam name    | Mineral | Seam workable | Distance to outcrop (m) | Direction to outcrop | Bearing of outcrop |
|--------------|---------|---------------|-------------------------|----------------------|--------------------|
| FIVE FOOT    | Coal    | Yes           | 20.7                    | North                | 97                 |
| GELLIDEG     | Coal    | Yes           | 11.4                    | North-East           | 95                 |
| SPOTTED PINS | Coal    | No            | Within                  | N/A                  | 92                 |

## 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

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

Based on the responses in this report, no further information has been highlighted.

### 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.

**MINE GAS:** Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. 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. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

## 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](mailto: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. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

### **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.