

Environmental  
Geotechnical  
Specialists



# COAL MINING RISK ASSESSMENT REPORT

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# Report on a Coal Mining Risk Assessment

Location: **88 Shirley Road**  
Gomersal, Cleckheaton, West Yorkshire, BD19 4ND

For: Mark Hellewell

Report No. C4361/24/E/6670

Report date: May 2024

For and on behalf of **Rogers Geotechnical Services Ltd**

**Rob Palmer** MSc FGS ACIEH  
Engineering Director

**Scott Alexander** BSc FGS  
Senior Geo-environmental Engineer

## 1. Introduction

It is understood that as part of the planning application at the site, a Coal Mining Risk Assessment has been requested by the planning authority. Consequently, a desktop study was commissioned in order to assess the risk to the development from coal mining. This report presents the findings of the study.

## 2. Geological Desk Study

The geological desk study has been undertaken using the following sources of information.

- British Geological Survey (BGS) map sheet<sup>1</sup>.
- British Geological Survey *Geology of Britain Viewer*<sup>2</sup>.
- Coal Authority Consultants Coal Mining Report<sup>3</sup>.
- British Geological Survey *Borehole Records*<sup>4</sup>.

<sup>1</sup> Sources: British Geological Survey (NERC) Map Sheet 77; Huddersfield Solid and Drift Editions

<sup>2</sup> Sources: British Geological Survey (NERC) Geology of Britain Viewer [online resource from [www.bgs.ac.uk](http://www.bgs.ac.uk)]

<sup>3</sup> Coal Authority Reference: 51003423862001 dated 13<sup>th</sup> May 2024.

<sup>4</sup> Sources: British Geological Survey (NERC) Borehole Records [online resource from <http://www.bgs.ac.uk/>]

## 2.1 British Geological Survey Maps and Viewer

The appropriate map sheet for the site and the geology viewer has been examined and the following table presents the indicated geology:

<b>Table 1: Geological Data for the Site</b>			
<b>Strata Type</b>	<b>Strata Name<sup>5</sup></b>	<b>Parent Unit<sup>6</sup></b>	<b>Description</b>
Superficial Geology	None recorded	-	-
Solid Geology	Emley Rock	Pennine Lower Coal Measures Formation	The Emley Rock is a fine-grained flaggy sandstone with mudstone partings.

The mapping indicated that the site is situated upon the Emley Rock, a named sandstone member within the Pennine Lower Coal Measures Formation. On the geological map, there are no dip indicators relevant to the site (i.e. within 500m of the site or within the same fault block) on the geological map. However, considering the structure of the regional geology and outcrop patterns, it can be anticipated that the solid geology within the local area dips at shallow angles (around 2°) towards the east.

There are three local coal seams that are shown to outcrop within the local area. These seams are summarised as follows:

<b>Table 2: Summary of Coal Seams Within the Vicinity of the Site</b>			
<b>Seam Name</b>	<b>Seam Thickness<sup>7*</sup></b>	<b>Outcrop Distance from Site<sup>5*</sup></b>	<b>Anticipated Depth below Site</b>
Flockton Thin	0.3m to 0.8m	130m W	5m to 10m
1 <sup>st</sup> & 2 <sup>nd</sup> Brown Metal Coal (Low Fenton)	0.0m to 0.8m (1 <sup>st</sup> ) 0.4m to 0.8m (2 <sup>nd</sup> )	240m W	15m to 20m
Middleton Little	0.3m to 0.9m	500m W	40m to 50m

\*All distances are given as approximations only. It should be noted that coal seam thicknesses vary over relatively short distances

In light of the above and taking into account the regional structural geology and the topography of the area, the Flockton Thin and 1<sup>st</sup>/2<sup>nd</sup> Brown Metal coal seams are anticipated to be present at depths of less than 30m below the surface of the site. It should be appreciated that the 3<sup>rd</sup> Brown Metal coal seam is absent in the local area. Furthermore, the Low Fenton is a localised term for the Brown Metal Coal seams in the area. With reference to the generalised vertical section (GVS) on the BGS Sheet no. 77, Huddersfield, it is concluded that the Low Fenton is representative of the combined 1<sup>st</sup> and 2<sup>nd</sup> Brown Metal coal seams in this instance.

<sup>5</sup> Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and Geology of Britain Viewer [online resource from [www.bgs.ac.uk](http://www.bgs.ac.uk)]

<sup>6</sup> Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [online resource from [www.bgs.ac.uk](http://www.bgs.ac.uk)]

<sup>7</sup> Sources: British Geological Survey (NERC) 1:10000 Map Sheet SE22NW; Solid and Drift Edition [online resource from [www.bgs.ac.uk](http://www.bgs.ac.uk)]

## 2.2 Coal Authority Mines Report

As part of this study a Coal Authority Consultants Coal Mining Report has been obtained. The report is presented as Appendix 2 and for the purposes of discussion has been summarised below:

<b>Table 3: Summary of the Consultant's Coal Mining Report</b>		
<b>Has the report highlighted evidence or potential of:</b>		
<b>Mining Feature</b>	<b>Yes/No</b>	<b>Comments</b>
Underground Coal Mining	Yes	Flockton Thin – 10m depth – Beneath site – 0.91m thickness – last worked 1886. Low Fenton – 22m depth – Beneath site – 1.72m thickness – last worked 1884. Middleton Main – 99m depth – North-west – 0.57m thickness – last worked 1871
Probable Unrecorded Shallow Workings	Yes	-
Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
Mine Entries	No	None recorded within 50m of the enquiry boundary.
Abandoned mine plans	Yes	Plans of abandoned mine workings below the site are suggested to be available by the Coal Authority.
Outcrops	No	No outcrops recorded.
Geological Faults	No	No faults, fissures or breaklines recorded.
Opencast Mines	No	None recorded within 500 metres of the enquiry boundary.
Coal Authority Managed Tips	No	None recorded within 500 metres of the enquiry boundary.
Site Investigations	No	None recorded within 50 metres of the enquiry boundary
Remediated Sites	No	None recorded within 50 metres of the enquiry boundary.
Coal Mining Subsidence	No	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 31st 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	No	None recorded within 500 metres of the enquiry boundary.
Mine Water Treatment Schemes	No	None recorded within 500 metres of the enquiry boundary.
Withdrawal of support notices	Yes	The property is in an area where notices to withdraw support were given in 1951 and 1954. 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.
Future underground mining	No	For further information please see section 3 of the Consultant's Coal Mining Report.
Coal mining licensing	No	
Court orders	No	
Section 46 notices	No	
Payments to owners of former copyhold land	No	

It should be noted that the recorded depths of workings within the Flockton Thin and Low Fenton is within the estimated depth range calculated from the outcrop patterns on the published geological map.

## 2.3 Geological Survey Borehole Records

The BGS (NERC) keeps borehole records from across Britain which are available for public viewing through their website<sup>8</sup>. As part of this study, the records in the area around the site have been reviewed in order to assist in establishing the geological conditions. The logs of the boreholes can be viewed through the BGS website however the most pertinent features are summarised below:

<b>Borehole</b>	<b>Approx. Distance from Site</b>	<b>Depth of Borehole (m)</b>	<b>Notable Features</b>
SE22NW336 to SE22NW341 <sup>9</sup>	500m E	9m to 12m	Coal (Intact) – 5.3m to 8.5m depth (1.4m to 1.5m thickness). Workings – 6.2m depth (1.6m thickness).
SE22NW1419 <sup>10</sup> SE22NW1421 SE22NW1422 SE22NW1431	370m NE	6m to 8m	Coal (Intact) – 2.7m to 4.8m depth (1.0m to 1.2m thickness). Loose Rock – 3.9m depth (1.8m thickness).

It should be appreciated that there was limited borehole data within the immediate vicinity of the site that was available for public viewing. Nonetheless, other borehole scans were available at a greater distance from the site and were positioned on or close to the Emley Rock. Therefore, these are anticipated to present comparable ground conditions to those below the surface of the site. It should be appreciated, however, that the boreholes were relatively limited in depth and therefore will have only targeted shallow features.

The boreholes have indicated one notable coal seam present within 10.0m of the ground surface within the local area. Based on the available geological data, it is anticipated that this seam may represent the Flockton Thin Coal. This coal seam was proven to be worked in two separate locations, with 'workings' and 'loose rock' recorded in two separate borehole records.

<sup>8</sup> Sources: British Geological Survey (NERC) Onshore Geoindex [online resource from <https://mapapps2.bgs.ac.uk/geoindex/home.html>]

<sup>9</sup> Sources: BGS Borehole Scan SE22NW336 to SE22NW341 online resource from <https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans>

<sup>10</sup> Sources: BGS Borehole Scan SE11NW219 online resource from <https://api.bgs.ac.uk/sobi-scans/v1/borehole/scans/items/21539738>

### 3. Risk Assessment

The risk to the stability of the proposed residential development has been evaluated from the data obtained and with reference to the following ratings and definitions:

- Low - The possibility of instability is unlikely therefore no further action is necessary.
- Moderate - The possibility of instability is likely and further investigation or remedial action may be required.
- High - The possibility of instability is highly likely and further investigation or remedial action will be necessary.

**Table 5: Development Specific Risk Assessment**

Item	Risk attributed to	Feature(s) Considered	Risk Rating
3.1	Shallow coal workings	Flockton Thin	High
		1 <sup>st</sup> /2 <sup>nd</sup> Brown Metal (Low Fenton)	Moderate
		Middleton Little	Low
3.2	Coal workings at depth	Middleton Main	Low
3.3	Mine gas	Shallow Coal Workings	Moderate

#### 3.1 Risks Posed by Shallow Coal Workings

On the basis of all of the information provided above, two coal seams are anticipated to be present within 30m of the surface at the site. Historic coal mining activity is evident in the nearby area and the Coal Authority have records of workings beneath the site surface.

It may be noted that guidance available from both the NHBC and the CIRIA publication, SP32 - *construction over abandoned mine workings*, suggests that competent overburden thickness above a coal seam should be greater than 10 times the thickness of a seam plus seam thickness in order that the collapse of workings would pose a low risk to surface structures.

On this basis, assuming a maximum thickness of the coal seams, the table below suggests the thickness of competent overburden required above each seam to mitigate instability at the surface.

**Table 6: Required Thickness of Competent Overburden**

Seam Name	Working Thickness	Anticipated Depth Below Site	Required Thickness of Competent Overburden
Flockton Thin	Up to 0.91m	10m	~10m
1 <sup>st</sup> /2 <sup>nd</sup> Brown Metal (Low Fenton)	Up to 1.72m	22m	~19m

Based on the above information, it is considered that there will not be a sufficient thickness of competent overburden above the Flockton Thin coal seam in order to prevent the risk of instability posed by the presence of the recorded workings. Therefore, a high risk rating has been assigned, and further investigation is required to prove/disprove the Coal Authority records. However, based on its anticipated depth below ground level, there may be a sufficient thickness of competent overburden above the 1<sup>st</sup>/2<sup>nd</sup> Brown Metal seam, however this would be subject to the working

thickness and depth of the seam itself, and also the Flockton Thin above. At this time, it is difficult to gauge whether this seam would require remedial action, therefore a moderate risk has been assigned. As such, the true thickness and depth of this seam will need to be investigated to fully realise the risks from underground workings.

### 3.2 Risks Posed by Coal Workings at Depth

In regard to deeper mining which could affect the site, the Middle Little and Middleton Main are indicated to present at significant depths. A sufficient thickness of competent overburden is likely present above both coal seams which shall prevent the risk of instability posed by the presence of any illicit/recorded workings. Moreover, no geological faults are recorded locally. Therefore a low risk has been assigned to workings at depth.

### 3.3 Risks Posed by Mine Gas

This assessment has identified that there is potential for shallow mine workings to be present beneath the proposed development. Whilst the Consultants Coal Mining Report has not reported any incidents of mine gas within the vicinity of the development, shallow mining activity represents a credible source of ground gas. As such, a moderate risk rating has been assigned, and further assessment may be required.

Should evidence of workings be proven via further intrusive works, it is strongly recommended that a detailed gas risk assessment is undertaken in accordance with relevant guidance. The risk assessment should take into consideration the current site conditions, and should be subject to reassessment after the formulation and/or completion of any remedial measures and proposed foundation solution. These documents should be prepared by a suitably experienced and qualified specialist.

## 4. Conclusions

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In light of the risks of instability at the site from the working of shallow coal, it cannot be recommended that development takes place without further investigation to conclusively determine the presence of such workings. This work should include physical drilling methods to explore the ground conditions.

General practice is to undertake rotary openhole boreholes at three locations across the site to mitigate against the potential for drilling through intact columns associated with pillar and stall workings. Furthermore, it is normal to investigate the ground to 30m below ground level; any workings below this depth are unlikely to result in significant instability. However, in this case, the risk of instability is due to shallow workings, therefore, drilling to these depths may not be necessary and the objective should be to ensure that the shallow seams are un-worked or have sufficient competent cover. It may therefore be possible, in the first instance, to undertake one borehole to 30m below the top of the rockhead, with the remaining boreholes proving the depth and continuity of the coal seam(s).

As remediation is likely to be required, it would be worthwhile completing rotary coring within the upper most rock in at least one borehole location. If competent rock is revealed, then this could reduce the amount of competent overburden that is required. Moreover, should piling be considered

as a foundation solution, a piling contractor will likely require rotary core information at least 7.5m beyond the base of any proven workings beneath the site in order to enable design. Furthermore, it is anticipated that the local authority shall require a ground gas risk assessment. It is recommended that three standpipes are installed, with shallow and deeper standpipes installed. Subsequent to the standpipes installations, it is recommended that 4 to 6 gas monitoring visits are completed over a 1 to 3 month time period.

In any event, it is considered that approval should be sought with the Local Authority as to the efficacy of this approach. It is of note that Rogers Geotechnical Services would be happy to assist in any further intrusive investigation that may be required.



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## Appendix 1

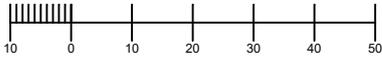
### Site Plan

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This map shows the area bounded by 420497 425330, 420639 425330, 420639 425472, 420497 425472, 420497 425330

Data licence expires 14 November 2023. Unique plan reference: v2c//874875/1181556



Project: - 88 Shirley Road, Gomersal, BD19 4ND	
Title: - Location Plan	
Scale: - 1:1250	
24/04/2024	MH



1.8m treated timber fence erected along the border of the property already. This is closeboard to the side elevation and hit and miss to the rear.

Block paving to have permeable sub-base

SHIRLEY ROAD



Project: - 88 Shirley Road, Gomersal, BD19 4ND	
Title: - Proposed Site Plan	
Scale: -	1:250
24/04/2024	MH



Spen Ln

Gomersal  
A643

B612

Shirley Rd

Shirley Ave

Bleak St

Craven Ln

Nibshaw Rd  
Nibshaw Ln

Barnington Parade

Thoresby Dr

Sherwood Ave

A651

Shirley Rd

Upper Ln

Quarry Rd

Lower Ln

Oxford Rd

Listing Ln

Gomersal Ln

Gomersal Ln

Google Earth

500 m





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## Appendix 2

# Coal Authority Report

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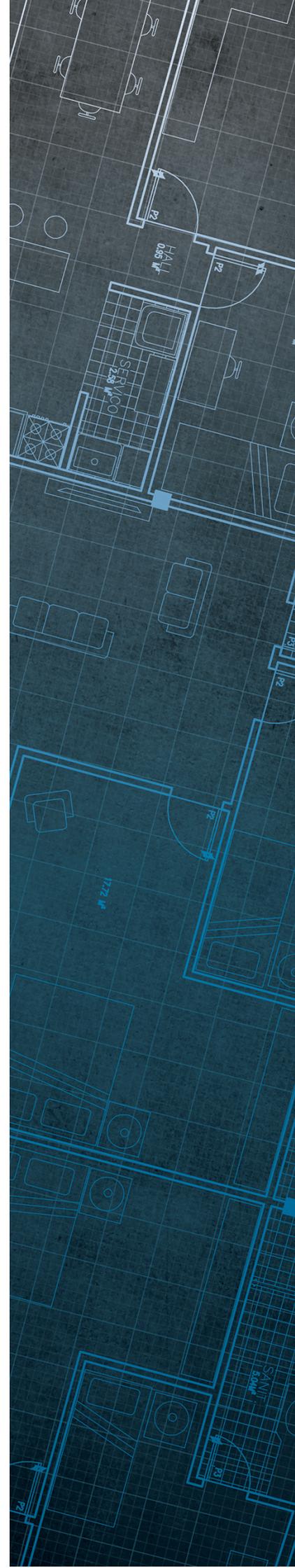
The Coal  
Authority

# Consultants Coal Mining Report

88 Shirley Road  
Gomersal  
Cleckheaton  
Kirklees  
BD19 4ND

Date of enquiry: 13 May 2024  
Date enquiry received: 13 May 2024  
Issue date: 13 May 2024

Our reference: 51003423862001  
Your reference: C/4361/24/E/6670



# Consultants Coal Mining Report

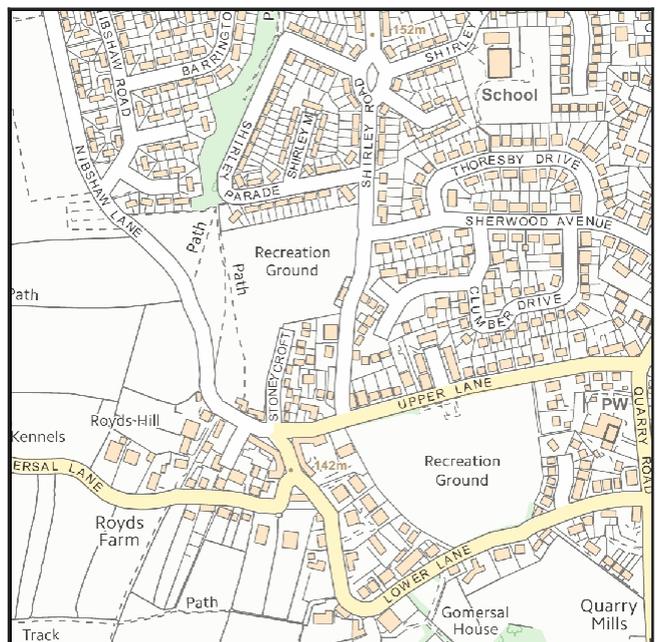
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

## Client name

ROGERS GEOTECHNICAL SERVICES LTD

## Enquiry address

88 Shirley Road  
Gomersal  
Cleckheaton  
Kirklees  
BD19 4ND



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	FLOCKTON THIN	Coal	6Z0Y	10	Beneath Property	0.0	East	91	1886
unnamed	LOW FENTON	Coal	6Z13	22	Beneath Property	0.0	East	172	1884
unnamed	MIDDLETON MAIN	Coal	6Z18	99	North-West	4.0	North-West	57	1871
unnamed	BLACK BED	Coal	6Z21	182	South	2.0	South-East	66	1927

## 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	420425-006	420515 425377		Coal	
Shaft	420425-024	420635 425396	was found filled with rubbish and was subsequently capped to NCB specifications in 1985	Coal	

## Abandoned mine plan catalogue numbers

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

M1	1560	1845
12674	GCR166	M49
PO0	9069	1569

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

**Outcrops**

No outcrops recorded.

**Geological faults, fissures and breaklines**

No faults, fissures or breaklines 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 in an area where notices to withdraw support were given in 1951 and 1954.

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.

### 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.

### 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.

## 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.

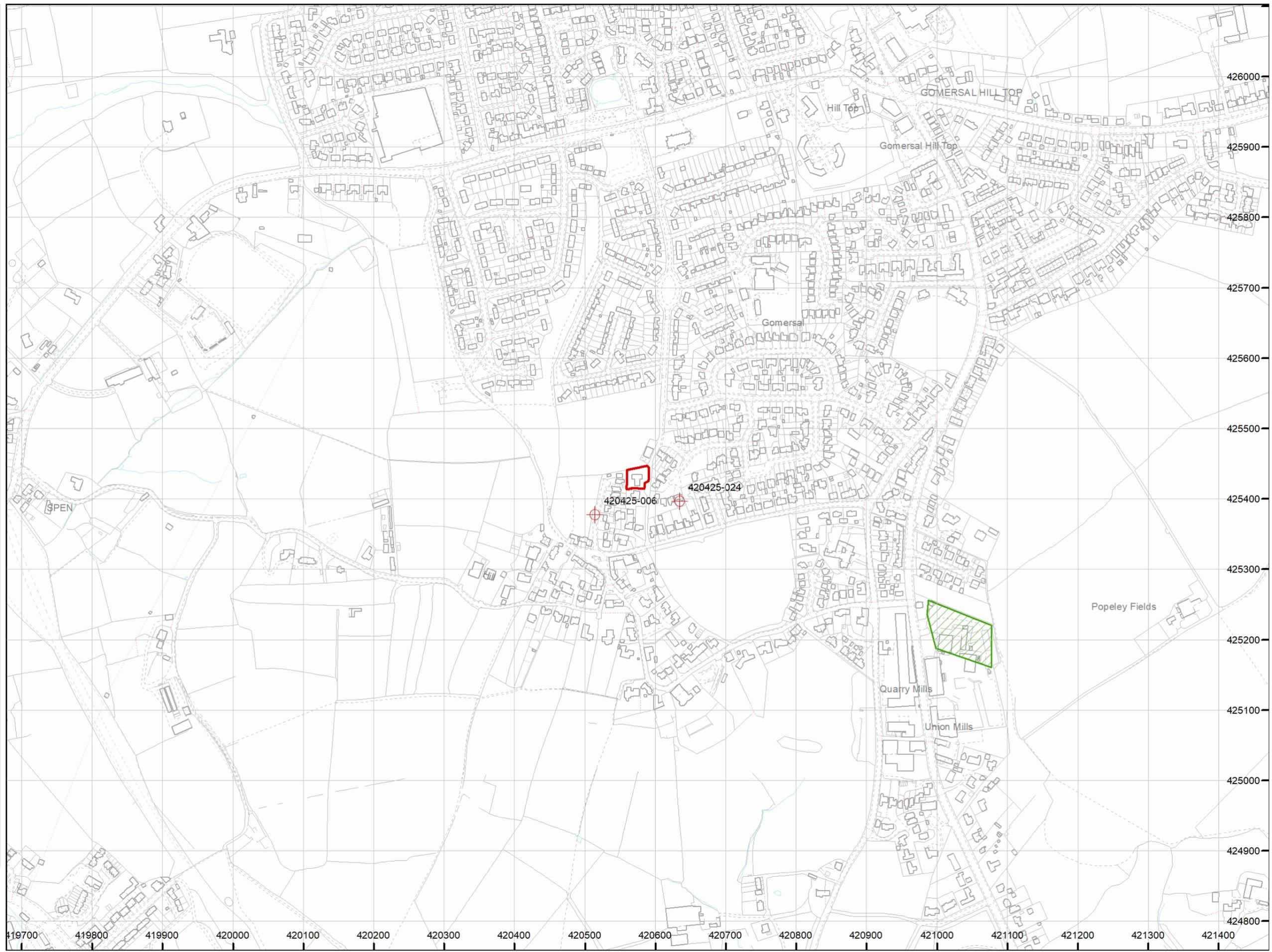
### **Payment to owners of former copyhold land**

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.

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

**Key**

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Unlicensed opencast site 



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