



COAL MINING RISK ASSESSMENT

For:

28 LOW CUDWORTH GREEN

On behalf of:

MR M MOSLEY

Project Reference: 21-126

Document Reference: 21126-MCE-XX-ZZ-RP-S-1001

Status: S0 - INITIAL STATUS

Revision: P01

Date: 17/08/21



REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

REVISION RECORD					
Rev	Status	Date	Originator	Checked	Approved
P01	S0 - INITIAL STATUS	17/08/21	AJH	LJH	AJH

COPYRIGHT STATEMENT

Copyright subsists in all Matrix Consulting Engineers Ltd documents. This document is to be regarded as confidential to our Client and it is intended for their use only and may not be assigned. Consequently, and in accordance with current practice, any liability to any third party in respect of the whole or any part of its contents is hereby expressly excluded. Before the document or any part of it is reproduced or referred to in any other document, circular or statement and before its contents or the contents of any part of it are disclosed orally to any third party, our written approval as to the form and context of such a publication or disclosure must be obtained.

PREPARED FOR:

Mr M Mosley
 28 Low Cudworth Green
 Barnsley
 South Yorkshire
 S72 8EF

PREPARED BY:

Matrix Consulting Engineers
 Unit 7, BBI Centre
 Innovation Way
 Barnsley
 S75 1JL

Tel: 03330 142926
 Email: info@matrixce.co.uk

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

CONTENTS

SECTION	TITLE	PAGE
1.0	INTRODUCTION	3
2.0	THE SITE AND ITS SETTING	4
3.0	PROPOSED DEVELOPMENT	6
4.0	COAL MINING RISK ASSESSMENT	7
5.0	CONCLUSIONS AND RECOMMENDATIONS	14
	APPENDIX A – Architectural Layout	
	APPENDIX B – Coal Authority Reports	
	APPENDIX C – Borehole Records	

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

1.0 INTRODUCTION

- 1.1 This report has been prepared in support of an Outline Planning application for a proposed development of four detached properties, to be situated within a Development High Risk Area, on land currently occupied by 28 Low Cudworth Lane.
- 1.2 This Coal Mining Risk Assessment has, therefore, been prepared by Matrix Consulting Engineers, on behalf of Mr M Mosley, to support the planning application (See Figure 1.1 and 1.2).

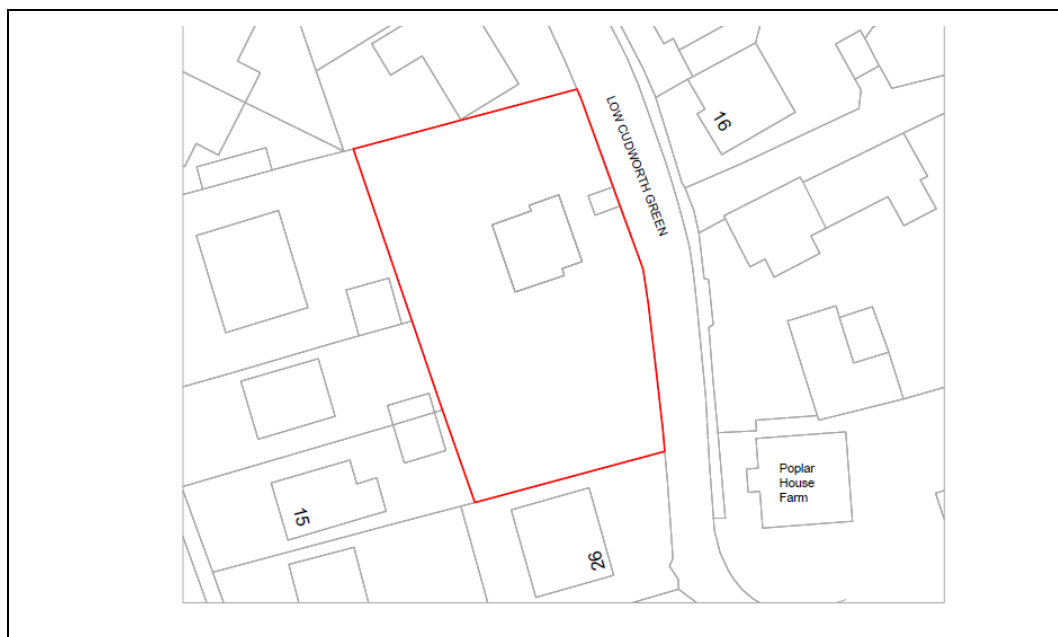


Figure 1.1. – 28 Low Cudworth Lane

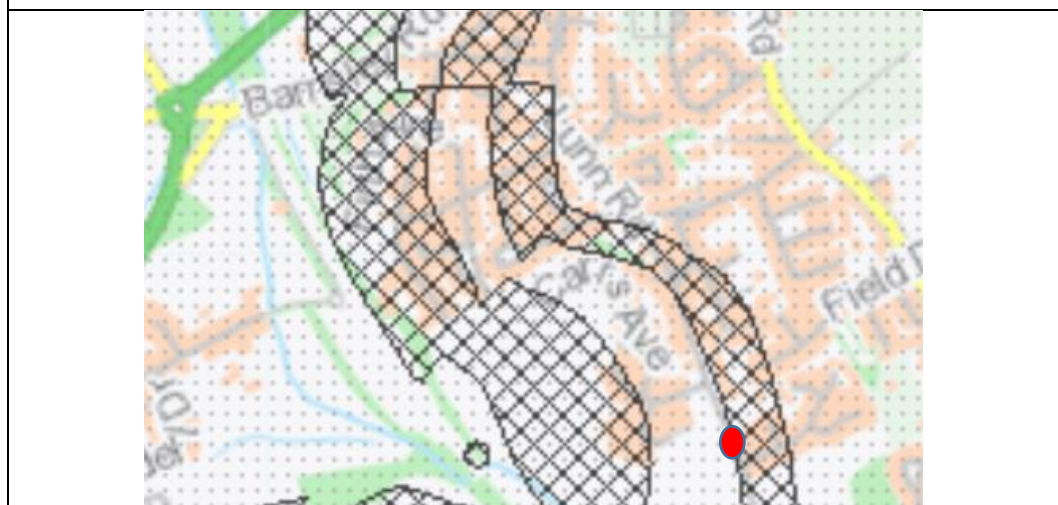


Figure 1.2. – 28 Low Cudworth Lane – Indicating Site is Situated in a Development High Risk Area

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

2.0 THE SITE AND ITS SETTING

2.1 The site is within a residential area, situated to the east of the A628 Cudworth Parkway. This site was constructed on land that, prior to the development, was associated with an agricultural small holding and, has not had any previous industrial or coal mining history. See Figure 2.1, 2.2 and 2.3y.

Site Information	
Site Address:	28 Low Cudworth Green
	Barnsley
	South Yorkshire
	S72 8EF
Grid Reference:	SE 38883 08309
Easting:	438883
Northing:	408309
Latitude	53.569954
Longitude	-1.4143361
Elevation:	49 m

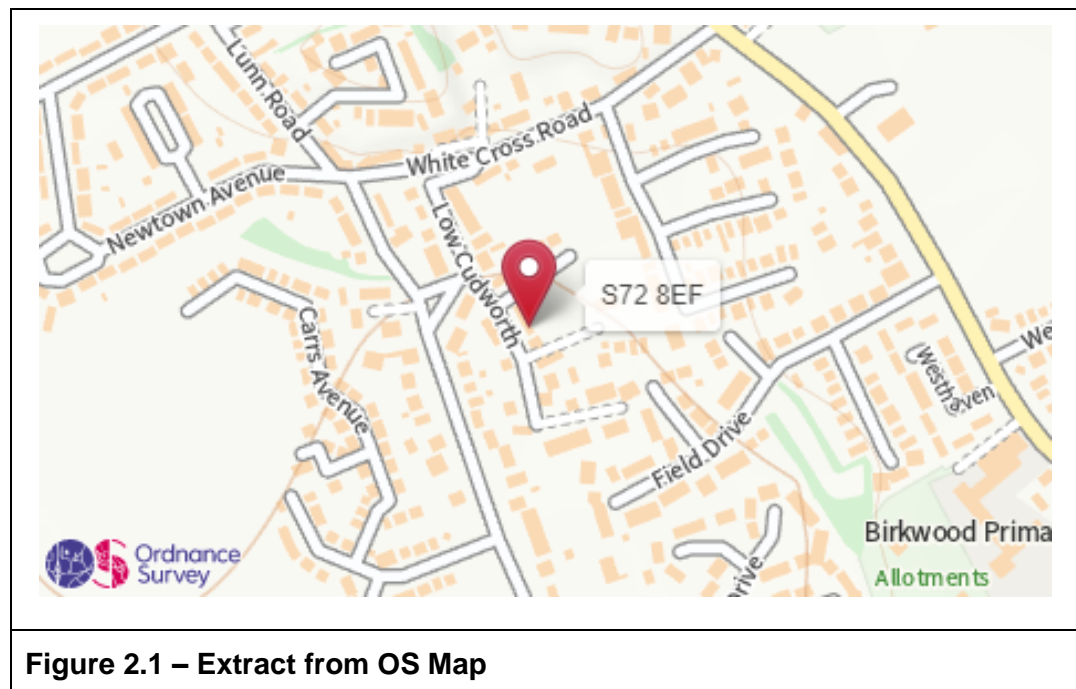


Figure 2.1 – Extract from OS Map

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01



Figure 2.2 – Extract from Google Maps

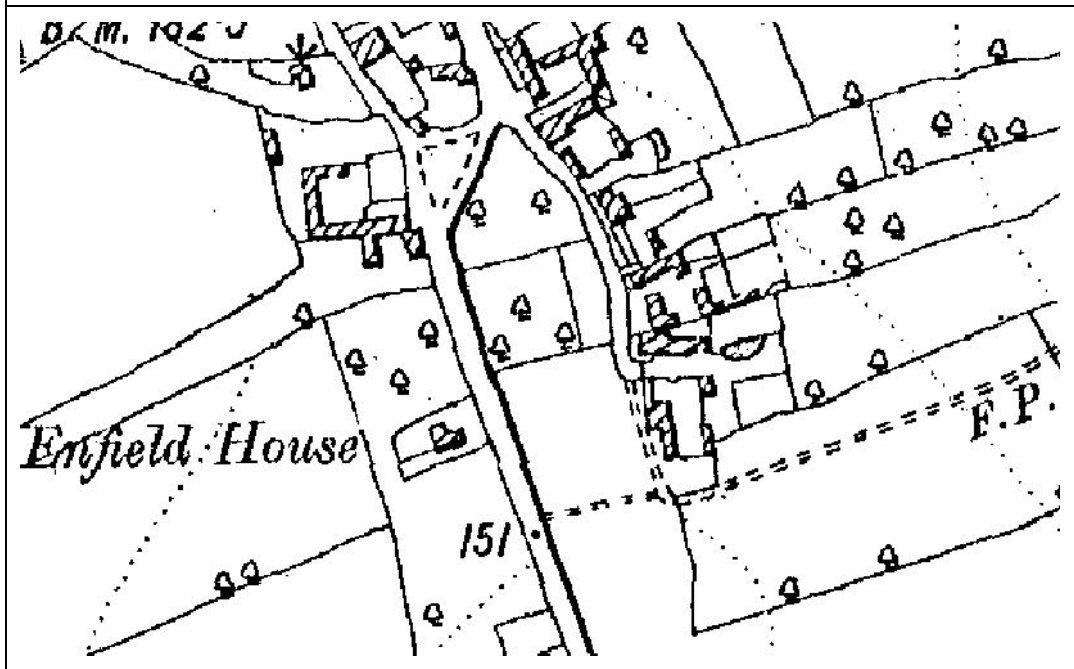


Figure 2.3 – Extract from 1985 Map

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

3.0 PROPOSED DEVELOPMENT

3.1 It is intended for the development to be comprised of a series of 4No detached residential properties, constructed in a traditional form of cross-wall construction, with masonry cavity walls, trussed rafter roofs and suspended floor construction.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

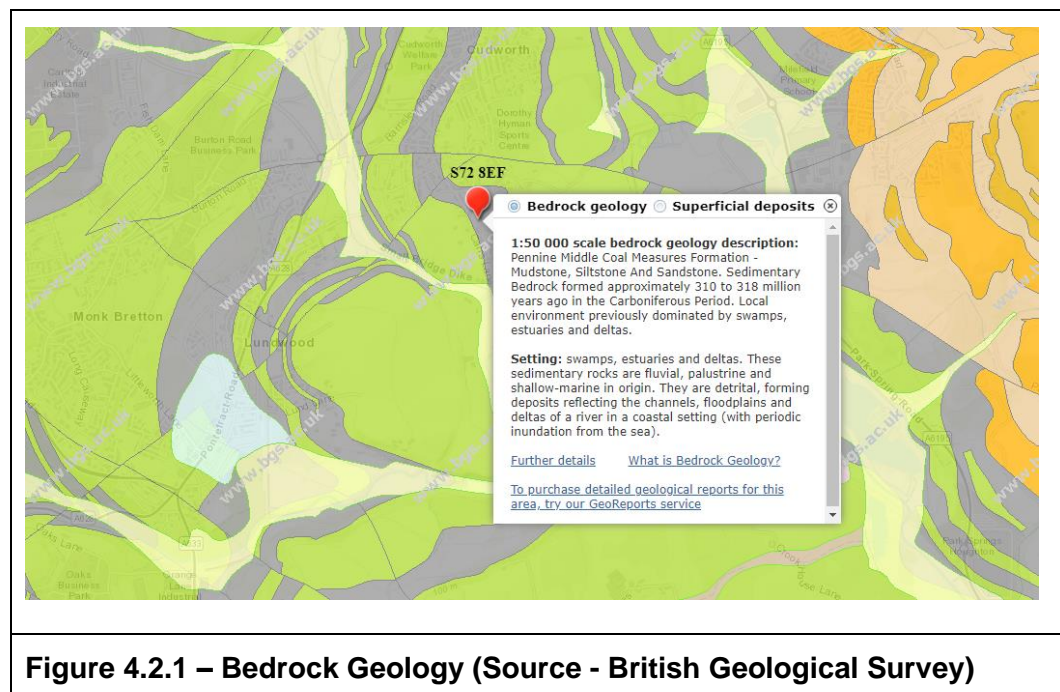
4.0 COAL MINING RISK ASSESSMENT

4.1 Information Sources

1. The following assessment of coal mining risks at the proposed site is based on information on coal mining hazards identified from the following sources:
 - i. Con29M Coal Mining Report: Reference – 51002455332001,
 - ii. British Geological Survey Geindex Website,
 - iii. The Coal Authority Interactive Map.

4.2 Geology

1. The site is underlain by the Pennine Middle Coal Measures, which is a Mudstone, Siltstone and Sandstone formation of sedimentary Bedrock formed approximately 310 to 318 million years ago, in the Carboniferous Period, in a local environment which, at that time, was dominated by swamps, estuaries and deltas.



2. Although there are no records of the superficial deposits covering the site recorded on the geological maps (See Figure 4.2.2.a) and the boreholes closest to the site (See Figure 4.2.2.b) record depths of superficial deposits, consisting of rock waste, down to an average depth of 1.0 - 2.0m (See Appendix B).

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

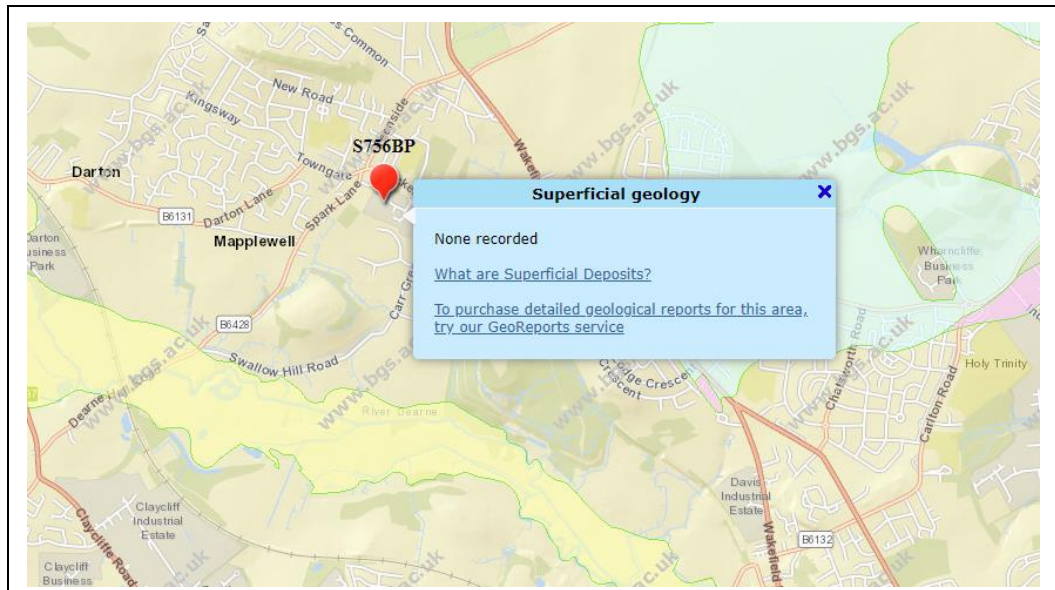


Figure 4.2.2.a – Superficial Deposits (Source - British Geological Survey)

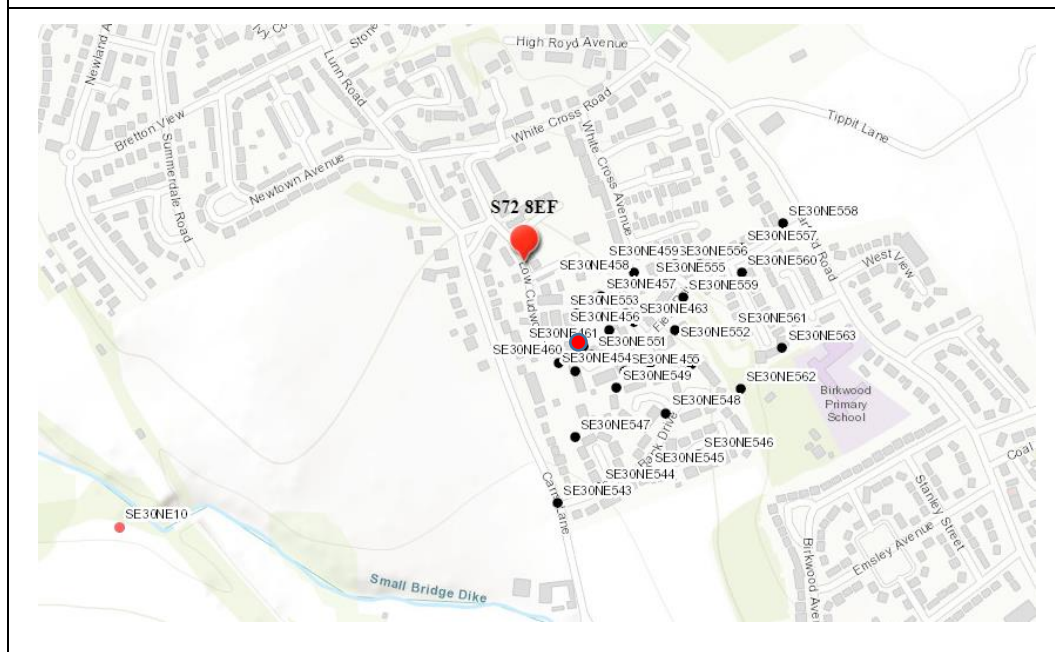


Figure 4.2.2.b – Location of Borehole records

4.3 Mine Entries

1. Although the area has been extensively mined, as can be seen from Figure 4.3, with numerous entries surrounding the site, none are in close proximity to its boundary. Given the depth of the superficial deposits reported, all are sufficiently distant from the site not to pose any risk to the proposed development.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

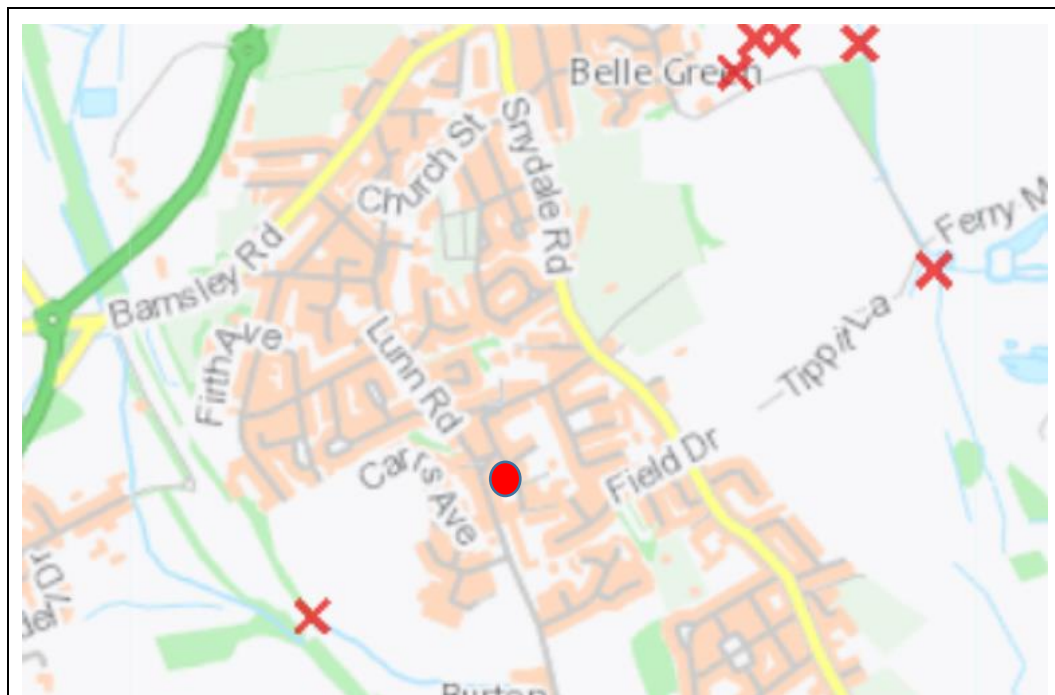


Figure 4.3 – Location of Mine Entries

4.4 Shallow Mine Workings

1. This relates to unrecorded coal workings that exist at or within 30 metres of the ground surface.
2. The site is within an area where it is believed there is coal at, or close to, the surface, which may have been worked at some time in the past. The risk of shallow mine workings existing at or close to the surface, which may affect the development, must, therefore, be considered possible (See Figure 4.4.1 and 4.4.2).

3. It is reported that the South Yorkshire Mining Advisory Service states:

The latest British Geological Survey (BGS) records show that this relates to the 'Sharlston Top' coal seam which is conjectured to outcrop just to the south-west of this site, and dip beneath the land to the north-east; beneath the site itself.

4. Given that the depth of the deep worked coal seams, recorded beneath the site, is approximately 250 m, this means the seam that may have been worked at shallow

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

depth, and outcrops to the southeast of the site, is probably the Sharlston Top seam, which has a maximum thickness of 1.2m.

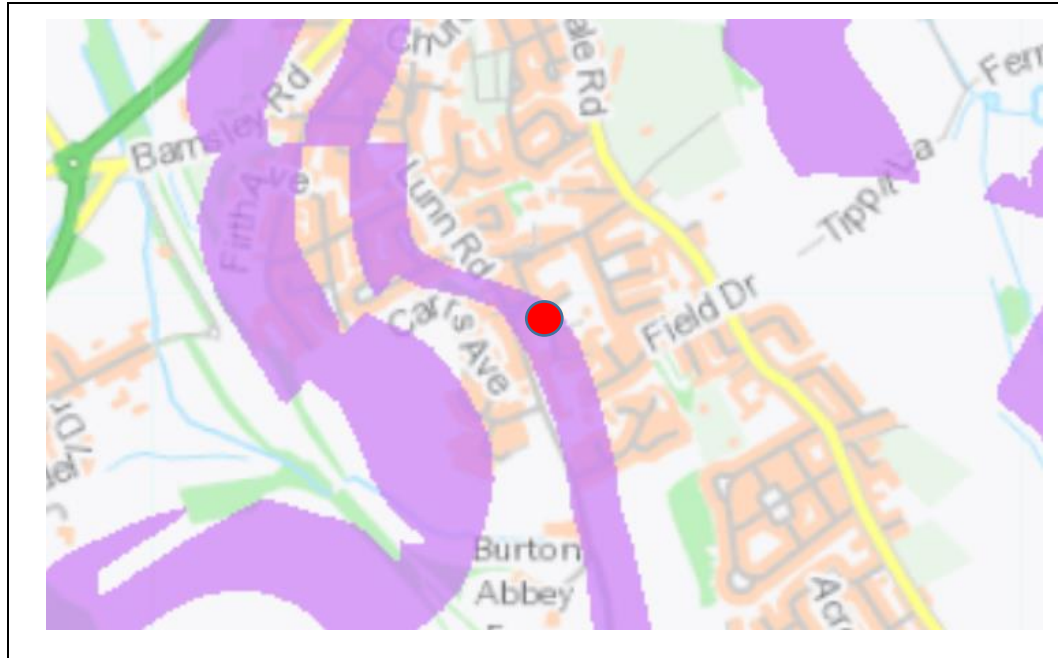


Figure 4.4.1 – Extent of Probable Shallow Mine Workings

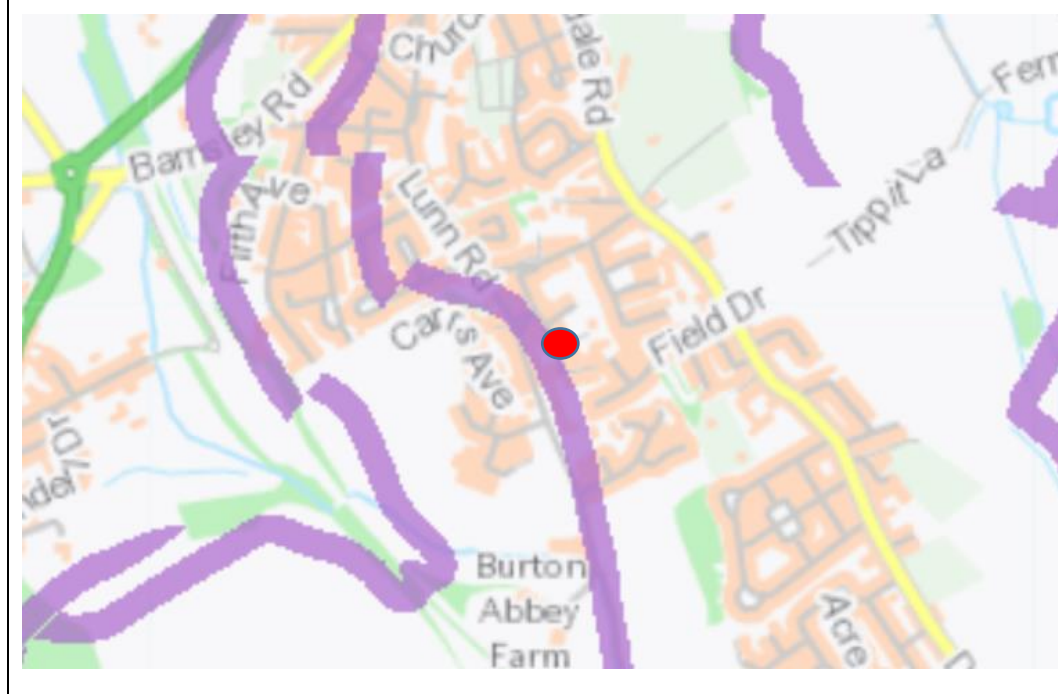


Figure 4.4.2 – Location of Inferred and Actual Coal Outcrops

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

4.5 Deep Coal Mine Workings

1. The site is in a surface area that could be affected by underground mining from 8 seams of coal, between the depths of 250 m and 660 m, which were last worked in 1986. Any movement in the ground due to the associated coal mining activity should, however, have now ceased.
2. The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant, a licence to remove or work coal by underground methods, nor is it in an area where a licence has been granted to remove or otherwise work coal using underground methods.
3. Although the property is not in an area likely to be affected from any planned future underground coal mining, reserves of coal exist in the local area which could be worked at some time in the future.

4.6 Opencast Sites - Surface Mining Workings

1. The property is not within or within 200 metres of the boundary of a site from which coal has been removed by opencast methods.
2. No licenses have been issued by the Coal Authority, either within, or within 200 metres, of the enquiry boundary in relation to the undertaking of surface coal mining, underground coal mining or underground coal gasification

4.6 Geological Faults, Fissures and Breaklines Fissures (Geological Features)

1. There are no faults, fissures or breaklines shown on the geological map of the site, nor does the Coal Authority report any damage arising on the site due to geological faults, or other lines of weakness, that may have been affected by coal mining. The risk of mining affected geological features impacting on the development of the site is therefore considered to be low.

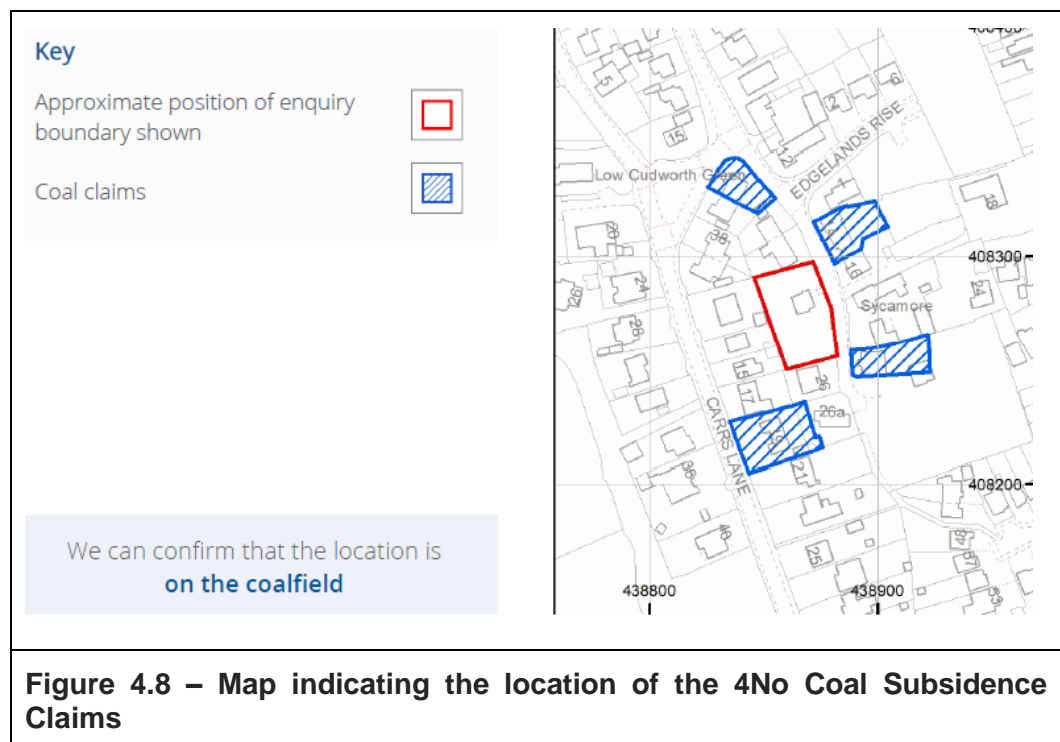
4.7 Coal Authority managed tips

1. There are no disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

4.8 Coal Mining Subsidence

1. There are 4 No claims within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot (See Figure 4.8).
2. It would appear, from the Coal Authority Report, that there is no current Stop Notice delaying the start of remedial works or repairs to the property, nor is there records of any remedial works having been carried out on the site.
3. It would appear that the Coal Authority is not aware of any request having been made to carry out preventative works, before coal is worked, under Section 33 of the Coal Mining Subsidence Act 1991.
4. The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.



4.9 Mine Gas

1. The Coal Authority has no record of a mine gas emission requiring action on the site.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

4.10 Future Coal Recovery

1. The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant, a licence to remove or work coal by underground methods, nor is it in an area where a licence has been granted to remove or otherwise work coal using underground methods.
2. Although the property is not in an area likely to be affected from any planned future underground coal mining, reserves of coal exist in the local area which could be worked at some time in the future.
3. No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

5.0 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 The site is located in an area where extensive mine workings have taken place over a protracted period of time. Some of these workings will be recorded and others will not. It is, therefore, recommended that 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 good engineering practice developed for mining areas.
- 5.2 With respect to deep and open cast mining activity, all influences on the site should now have ceased and the Coal Authority have granted no licenses, nor have plans for any mining activity, that will affect the site.
- 5.3 Given that the superficial deposits on the site are estimated to be approximately 1-2m in depth, the proposed development is not considered to be within the zone of influence of any mine entries that are outside of the site boundary.
- 5.4 From a review of the desk-based information, it has not, however, been possible to discount the risks posed to the new development by shallow mine workings, due to the possible presence of unrecorded worked seams within 30m of the surface, primarily associated with the Sharlston Top seam.
- 5.5 Given this, we would make the following recommendations for intrusive investigation works, in accordance with the guidance provided in CIRIA Special Publication 32, *Construction Over Abandoned Mine Workings*, though the exact scope of the investigation should be established by means of a detailed Phase 1 Desk Top Study:
- i A group of 3No investigatory boreholes should be undertaken, down to a depth of 12 m below bedrock level, as this will establish whether 10 times the seam thickness of rock cover exist over the conjectured seam, which is the 1.2 m thick, Sharlston Top seam. Given a 15° Angle of Draw, this group should extend 4m beyond the extremities of any new construction, where possible.
 - ii During these investigations, tests should be undertaken and records kept relating to: the nature and depth of the superficial deposits, the depth of any

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

rock head, the nature and thickness of rock cover to any coal seams, the thickness of any coal seams and any evidence that the coal seams have been worked, such as broken ground or voids.

- 5.6 Should it be established that no worked coal seams or worked coal seams with a rock cover in excess of ten times the seam thickness, exist beneath the site, then no further action is required.
- 5.7 Should it be established that worked coal seams exist beneath the site, with rock cover less than ten times the seam thickness, then, dependent on the nature and depth of the workings, measures should be adopted to ensure that the buildings will not be damaged by the effects of shallow mine workings. These include:
- i. Adopting conventional foundations in conjunction with remedial ground measures, to consolidate the mine workings, such as:
 - a. For very shallow seams, bulk excavation and backfilling of the workings.
 - b. Partial grouting, to either improve bearing characteristics of specific areas on site or to reduce the risk of void migration.
 - c. Full grouting of the mine workings, and possibly overlying strata, to improve overall ground-bearing characteristics.
 - ii. Adopt foundations which incorporate additional design measures to accommodate or avoid problems from associated ground movements, such as stiff rafts or piled foundations, which extend through the workings and into competent strata beneath.

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

APPENDIX A – ARCHITECTURAL LAYOUT

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01



REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

APPENDIX B – COAL AUTHORITY REPORTS

Con29M Coal Mining Report: Reference – 51002455332001

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

APPENDIX C – BOREHOLE RECORDS

REPORT					
Project Title:	28 LOW CUDWORTH GREEN	Project Reference:	21-126		
Document Reference:	21126-MCE-XX-ZZ-RP-S-1001	Date:	17/08/21	Rev:	P01

