

Coal Mining Risk Assessment

**Infill Development Adjacent
118 Drub Lane,
Drub,
Cleckheaton,
BD19 4BU**

Introduction

This document has being prepared to support a planning application for one proposed infill dwelling to land adjacent to 118 Drub Lane, Drub, Cleckheaton, BD19 4BU.

The aim of this document is to provide the Kirklees Planning Authority with information as to the suitability and stability of the land in relation to past coal mining activities.

Site Description

The site is located to the centre of the established West Yorkshire village of Drub, which is located approximately $\frac{3}{4}$ of a mile to the north of Cleckheaton town centre, the site is located south of Drub Lane and is approximately 9M wide x 30m deep located between two existing residential dwellings of 118 & 120 Drub Lane and is currently occupied by a concrete sectional garage and private gardens in the ownership of 118 Drub Lane, the site is accessed directly from Drub Lane via an existing vehicle drop crossing. The site gently falls to the southwest, the site is located at an approximate elevation of 126m above Ordnance Datum (AOD).

The site is located on the British Geological Survey 1:10,000 scale map reference: SE12NE Cleckheaton.

Proposal Development

The proposed scheme is for the construction of one detached dwelling, with parking and private gardens to an area of land adjacent to 118 Drub Lane, Drub, Cleckheaton, BD19 4BU.

Basis of Information used

- Geological information obtained from the British Geological Website.
- A Coal Mining search report Dated 11/04/2018 (attached to the application).
- Walkover inspection of the site carried out 30/06/2018

- Examination of Historic Ordinance Survey maps of the area.

The purpose of this Risk Assessment

1. Provide a desktop assessment of the stability of the site with regard to coal mining activities.
2. Use the information obtained to assess the risks to the development.
3. Highlight measures that can be introduced to mitigate any potential site mining risks identified, including if necessary any remedial works needed to mitigate those risks posed from any past mining legacy.
4. Demonstrate to Kirklees Planning Authority that the site is or can be made stable and safe to meet the requirements for development on unstable land as per NPPF.

Geology

Geological maps indicate the site to be underlain by undifferentiated sedimentary of mudstone, siltstones and minor sandstones of the Westphalian Coal Measures of the Upper Carboniferous Period, there are no faults affecting the site and there is no drift cover.

The Middleton Main coal seam is indicated to outcrop some 195m to the southwest of the site at an approximate ground level of 115m AOD. If the seam was horizontal and as the site lies at an elevation of 126m AOD it would therefore be present 11m below the site, 4 to 5m could be added to this figure if the strata deepens eastward beneath the site (generally there is a dip in region to the east, there is a lack of dip readings in the vicinity), realistically taking the seam depth below the site to 15m to 16m. Vertical Section 1;10,000 map indicates the seam thickness in the range of 0.8m to 1.4m and taking the generally accepted rule of thumb that if there is ten times the seam thickness of rock cover above the seam there should be no need for ground stabilisation.

The Wheatley Line Coal is the next shallowest seam, it is indicated to be up to 1.1m thick and outcrops 340m to the southwest at an elevation of 105m and some 10m below the Middleton Main. Any workings of this seam could have impacted on any workings of the overlying Middleton Main.

Site Specific Coal Mining Risk

The table below summaries the potential risks associated with coal mining legacy for the proposed development site identified from the sources above.

Coal Mining Issue	Yes	No	Risk Mitigation
Underground Coal Mining (Recorded at shallow depths).		X	
Underground Coal Mining (Probable at shallow depths).	X		Possible intrusive investigation.
Mine entries (Shafts & adits).		X	
Coal mining geology (fissures).		X	
Record of past mine gas emissions).		X	
Recorded coal mining surface hazard.		X	
Surface mining (Opencast workings).		X	

The Coal Authority records shows the site is in a “Development High Risk Area” as the site is located within an area where coal is believed to be present at or close to the surface, which may have been worked at sometime in the past.

Coal Authority records state that site is within the zone of influence of known underground coal workings in one seam of coal at a depth of 110m last worked in 1970, any associated ground movement should by now have ceased.

The site is unaffected by any present or future proposed underground coal mining. Future working of coal reserves in the area are considered highly unlikely given the abandonment of the coalfields in this area.

The site is not affected by any past, present or future open cast mining and there are no mine entries within 20m of the site.

Historic maps indicate that the site was open land up until the end of the 1800’s when the site was occupied by a small building, this was followed by additional buildings added during the 1920’s which are still present today, the earliest historical map of 1854 indicates coal pits located to the north and to the east which indicates the there was coal mining in the area, non of these where located in close vicinity to the site.

Site walkover and inspection of building located on and adjacent to the site indicate no evidence of structural damage or cracking.

Proposed Mitigation

Given the nearby outcrops of coal seams there is the potential for the site to be at risk from the effects of unrecorded mine workings and as the site is situated within what the Coal Authority has classed as being a "High Risk Area" it is considered that intrusive investigation will be required on site to ensure that the site is not at risk of possible mine workings.

Conclusion

It is recommended that a rock drill investigation be carried out prior to commencement any development works to determine the depth and nature of any workings that may be present. It is recommended that two boreholes are drilled within the building footprint which should be to a sufficient depth to intersect both the Middleton Main coal seam and the underlying Wheatley Line coal seam.

If workings are proven which could adversely affect the site, they can be successfully treated by the injection of grout through a grid of boreholes under the supervision of a suitably qualified person.

Prior written permission from The Coal Authority is required for intrusive activities which will disturb or enter coal seams, coal mine workings or coal mine entries (shafts and adits).