
Project:	Huddersfield Royal Infirmary – Proposed New Accident and Emergency (A&E) Department		
Our reference:	416955-003-P02	Your reference:	MMD-HRI-ED-XX-RP-C-000002 – P1
Prepared by:	Anton Petho	Date:	28/05/2021
Approved by:	K Bos	Checked by:	Sara Del Castillo-Rubio
Subject:	Coal Mining Risk Assessment		

1 Introduction

1.1 Coal Mining Risk Assessment Overview

This assessment has been written in accordance with guidance contained in the Coal Authority document: Risk based approach to development management, Guidance for developers, Version 4, 2017.

The assessment aims to:

- Provide a desk-based report of all the available information on the coal mining issues which are relevant to the application site;
- Use the available information to identify and assess the risks to the project from coal mining legacy, including the cumulative impact or 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; and,
- 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.

1.2 Site Location

Huddersfield Royal Infirmary is a hospital located off Acre St, Lindley, Huddersfield, HD3 3EA and centred at the approximate National Grid Reference (NGR) 412236 417681. The footprint of the development site for the proposed new A&E is in the south-western area of the hospital (hereon after will be referred to as the 'Site'). The regional location of the Site is presented in Figure 1.1, with the Site plan presented in Figure 1.2 below.

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Figure 1.1: Regional Site Plan

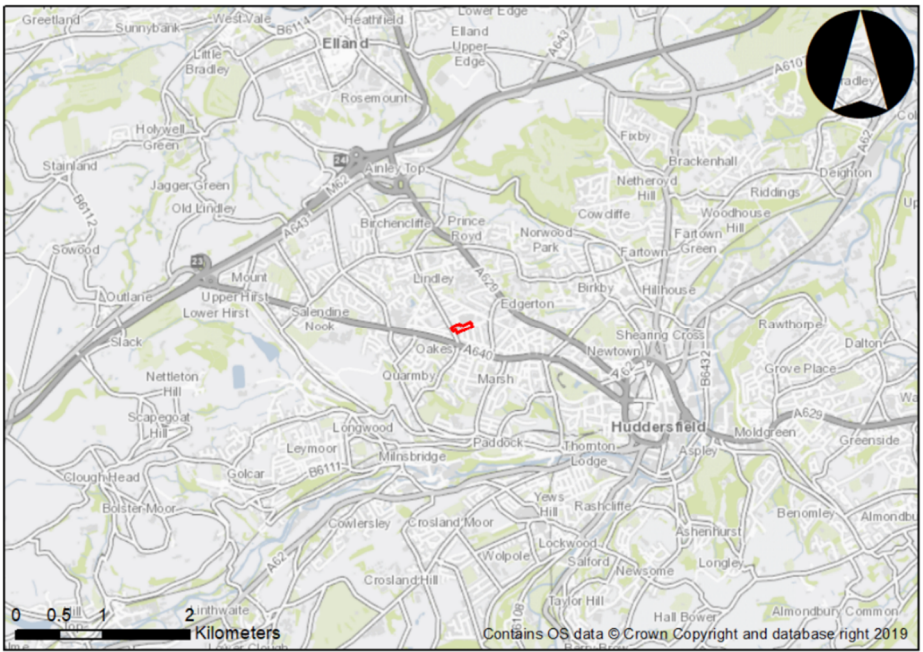
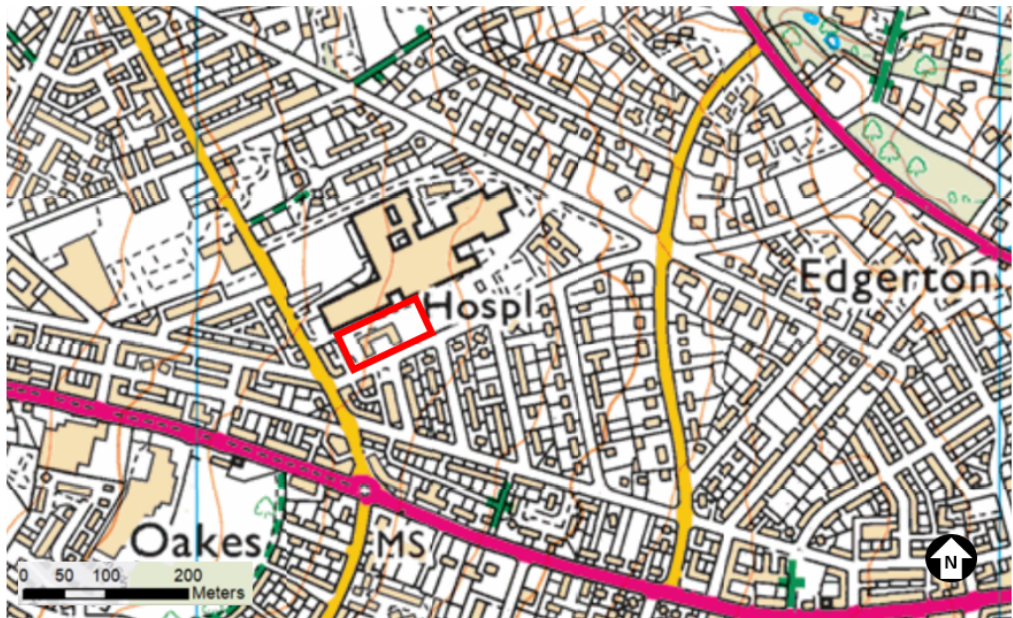


Figure 1.2: Site Location Plan



1.3 Sources of Information

- Consultants Coal Mining report prepared by the Coal Authority, reference 279196800_1, dated 24 May 2021, attached at Appendix A.
- Coal Authority records on the <http://mapapps2.bgs.ac.uk/coalauthority/home.html>
- Geological information from the British Geological Survey (BGS) including published geological mapping and sheet description.
- Historic Ordnance Survey topographical mapping.

Identification, Assessment and Mitigation of Site-Specific Coal Mining Risk

Issue	Hazard	Site Affected (Yes/No) (Detail – where appropriate)	Consequences (where appropriate)	Recommended Mitigation Measures (where appropriate)
1. Are there any recorded coal mine entries within the site or within 20m of the site boundary?	<ul style="list-style-type: none"> Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface. Settlement of the ground surface above/adjacent to the mine entry. Potential pathway to the surface for mine gas emissions and mine water. 	No – there are no recorded mine entries on or within 100m of the site boundary.	N/A	N/A
2. Is the proposed development in the likely zone of influence of past deep underground mining?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. Transmission of mine gas emissions and mine water. 	No – there are no records indicating deep mining took place beneath the site.	N/A	N/A
3. Is the proposed development in the likely zone of influence of any present underground coal workings?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. Transmission of mine gas emissions and mine water. 	No – there is no record of any current underground mining taking place beneath or within influencing distance of the site.	N/A	N/A
4. Is the proposed development within the likely zone of influence of underground coal workings at shallow depth (depths of less than 30m)?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. Transmission of mine gas emissions and mine water. 	No – there is no record from the Coal Authority of shallow underground workings beneath the site.	N/A	N/A
5. Is there a possibility of unrecorded shallow mine workings and/or mine entries?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface. 	No – the site is underlain by the Soft Bed Flags, described as sandstone sedimentary bedrock deposited in the Carboniferous period and is the basal unit of the Lower Coal Measures. As part of the 2020 ground investigation five rotary boreholes were drilled beneath	N/A	N/A

Identification, Assessment and Mitigation of Site-Specific Coal Mining Risk

Issue	Hazard	Site Affected (Yes/No) (Detail – where appropriate)	Consequences (where appropriate)	Recommended Mitigation Measures (where appropriate)
	<ul style="list-style-type: none"> Settlement of the ground surface above/adjacent to the mine entry. Mines gas emissions and mine water migration. 	<p>the site, these encountered bedrock comprising sandstone and siltstone. These are deemed to represent the soft bed flags. There is only one possible coal seam that could underlie the site, the Pot Clay Coal which is found in the upper most part of the Millstone Grit Group. The conjectured thickness is 0.05 to 0.2m and is, therefore, considered not to be of workable thickness and is also likely to be too deep beneath the site.</p>		
		<p>No – based on the underlying geology it is deemed highly unlikely any shafts would have been sunk beneath the site.</p>	<p>N/A</p>	<p>N/A</p>
<p>6. Is there a record of mine gas emissions within the site boundaries?</p>	<ul style="list-style-type: none"> Mixtures of noxious or explosive gases reaching the ground surface via superficial deposits, faulted/broken strata, porous strata or poorly filled mine entries and entering buildings, structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated. 	<p>No – mine gas emissions have not been recorded within 500m of the site boundary.</p>	<p>N/A</p>	<p>N/A</p>
<p>7. Is the proposed development in an area for which The Coal Authority is determining or has granted a licence to remove coal by underground methods?</p>	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. 	<p>No – there are no recorded licences for future underground mining affecting the site.</p>	<p>N/A</p>	<p>M/A</p>
<p>8. Are there known faults or other lines of weakness due to coal mining at the site?</p>	<ul style="list-style-type: none"> Ground subsidence. Mixtures of noxious or explosive gases and mine waters reaching the ground 	<p>No – there are no recorded faults, fissures or break lines affecting the site.</p>	<p>N/A</p>	<p>N/A</p>

Identification, Assessment and Mitigation of Site-Specific Coal Mining Risk

Issue	Hazard	Site Affected (Yes/No) (Detail – where appropriate)	Consequences (where appropriate)	Recommended Mitigation Measures (where appropriate)
	<p>surface via faulted/broken strata and entering buildings, structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated.</p> <ul style="list-style-type: none"> Stepped rockhead profiles where there has been subsidence across faults, potentially impacting differential settlement of proposed structures. 			
<p>9. Is there a record of coal mining surface hazards within the site boundary? Has the site been subject to remedial works by, or on behalf of, the Coal Authority under its surface hazard call out procedures?</p>	<ul style="list-style-type: none"> Indication of past and potential future subsidence issues on site. 	<p>No – there is no record of remediated sites or Stop Notices delaying the start of remedial works within 50m of the site boundary. There are no damage notices or claims within 50m of the site boundary and the Coal Authority is not aware of any request to carry out preventive works before coal is worked.</p>	<p>N/A</p>	<p>N/A</p>
<p>10. Is the proposed development within the boundary of a surface mining/opencast site from which coal has been removed by surface mining/opencast methods?</p>	<ul style="list-style-type: none"> Ground subsidence and restrictions on proposed development associated with settlement of proposed structures. Potential ground instability and migration pathway of mine gases and mine water from disturbance of backfilled material. Migration pathway of mine gas and mine water if the base of the excavation is connected to underground mine workings. Mixtures of noxious or explosive gases generated 	<p>No – there are no past surface mining activities recorded.</p>	<p>N/A</p>	<p>N/A</p>

Identification, Assessment and Mitigation of Site-Specific Coal Mining Risk

Issue	Hazard	Site Affected (Yes/No) (Detail – where appropriate)	Consequences (where appropriate)	Recommended Mitigation Measures (where appropriate)
	by decomposition/oxidation of any organic materials/coal deposited in the former excavations representing a ground gas hazard to proposed development.			
11. Is the proposed development within 200m of a surface mining/opencast site from	<ul style="list-style-type: none"> Development constraints associated with environment/noise/dust. 	No – there are no recorded opencast mines or Coal Authority managed tips within 500m of the site boundary.	N/A	N/A


Assessment of Cumulative Impact of Coal Mining Issues

Based upon the above assessment the risk to the site from relict mining is considered to be **very low** and no further investigation or action is considered necessary prior to the construction of the proposed development.

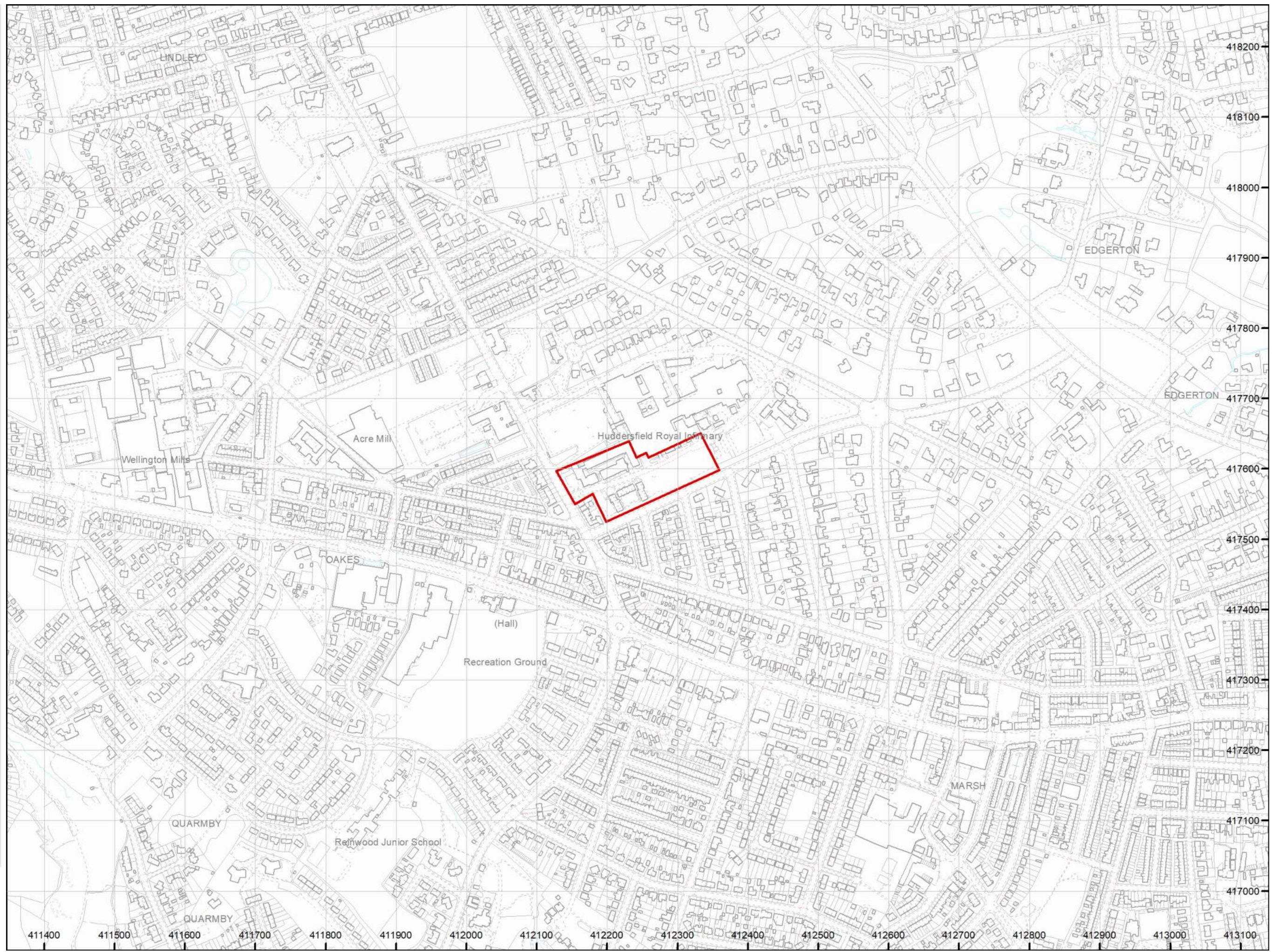
N/A = Not Applicable

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 

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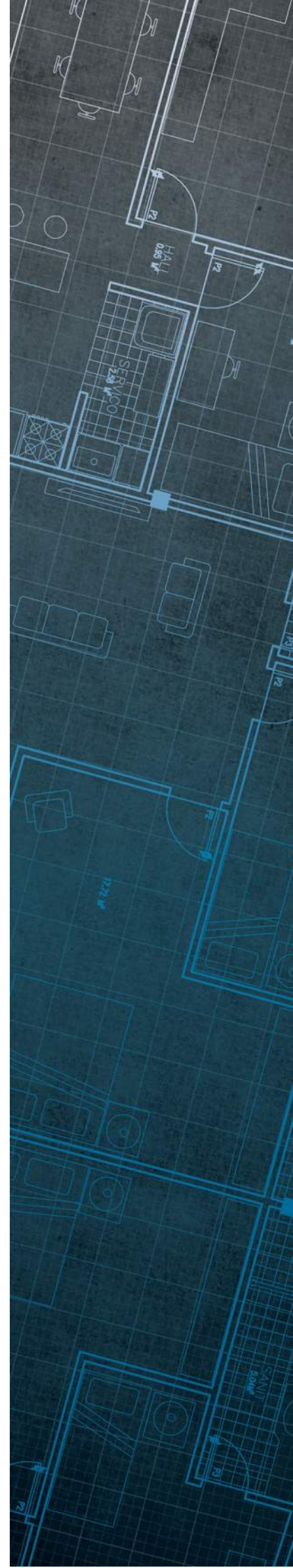
The Coal
Authority

Consultants Coal Mining Report

Accident And
Emergency, huddersfield Royal
Infirmary, acre Street,
Lindley, huddersfield, hd3 3ea
West Yorkshire

Date of enquiry: 24 May 2021
Date enquiry received: 24 May 2021
Issue date: 24 May 2021

Our reference: 51002546105001
Your reference: 279196800_1



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

NLIS Hub

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

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

None available.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines 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

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

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.