

**BROMLEY FARM EXTENSION,
CUMBERWORTH LANE,
LOWER CUMBERWORTH,
WEST YORKSHIRE, HD8 8PD**



COAL MINING RISK ASSESSMENT

Prepared by
SILKSTONE ENVIRONMENTAL LTD
For
WAVIN UK LTD

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EXECUTIVE SUMMARY

Silkstone Environmental Ltd (SEL) have carried out a Coal Mining Risk Assessment (CMRA) on behalf of Wavin UK Ltd (the Client) on land at Bromley Farm, 12km south east of Huddersfield, West Yorkshire. This section summarises the findings of the CMRA and makes recommendations regarding mining legacy issues. It should be read in conjunction with the whole report to gain a full understanding of the conclusions reached.

The land under consideration is situated at National Grid Reference (NGR) 421900, 408980; is approximately 8ha in area and located on land which dips to the south east from an approximate height of 232m Above Ordnance Datum (AOD) to 213m AOD. The Client intends to submit a planning application to quarry land immediately north east of the former Bromley Farm quarry.

The Coal Authority, as a statutory consultee in the planning process, has the right to object to surface developments it considers may be at risk from coal mining legacy issues. The burden of discounting risk is placed on the developer.

The Consultants Coal Mining Report (CCMR) has identified the review area is at risk from four coal mining legacy issues, namely:

- Recorded shallow mine workings in the Cumberworth Thick (Whinmoor) and Cumberworth Thin (Low Whinmoor) coal seams.
- Potential unrecorded shallow mine workings.
- A recorded mine shaft (42408-41) on site.
- Potential unrecorded mine entries (shafts/adits).

SEL have reviewed all of the information relating to past coal mining activities in accordance with CIRIA Report C758D *'Abandoned mine workings manual'*, CIRIA, 2019 and Coal Authority protocols, and conclude that the risk from unrecorded mine entries is low and can be negated.

The Client intends to extract fireclay/brickshale from the mudstone horizons which lie below the Cumberworth Thick and Cumberworth Thin coal seams by surface mining (quarrying) methods. The pavement of the quarry will be approximately 4.7m below the Cumberworth Thin seam. As such, mine workings in these two seams will be removed as part of the operational process, negating the risk. Any mine entries encountered within the excavation will also be excavated..

Under the circumstances described above, SEL consider the development as proposed by the client negates the risk from legacy coal mining activities. SEL therefore consider no site investigation (rotary drilling) will be required to mitigate the mining legacy risks identified in this report.

Should the Client consider on site development which involves significant foundations at a future date, site investigation may be required.

It should be noted that this report has been prepared solely to assess risk from past coal mining activities and is not a Phase 1 Geo-Environmental Preliminary Risk Assessment (Desk Study), which identifies potential geo-technical and contamination issues relating to a site.

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KEY REFERENCES

- A *Risk based approach to development management; Guidance for developers*, the Coal Authority, Version 4, 2017.
- B CIRIA Report C758D, *Abandoned Mine Workings Manual*, CIRIA, 2019.

1.0 APPLICATION

1.1 Applicant

Wavin UK Ltd (the Client) intends to submit a planning application to extend Bromley Farm quarry on Cumberwoth Lane, Lower Cumberworth, West Yorkshire, HD8 8PD.

Silkstone Environmental Ltd (SEL) have been commissioned by the Client to prepare a Coal Mining Risk Assessment (CMRA) report to mitigate coal mining legacy issues associated with the site. This report describes these issues and assesses their potential impact on land stability within the proposed development.

1.2 Report Limitations

The conclusions reached in this report are necessarily restricted to those which can be determined from available information and will be subject to amendment in the light of additional information becoming available or to changes in relevant legislation.

This report is strictly confidential to the party to whom it is addressed and may only be relied upon by that party or their other professional advisors, for the specific purpose to which it refers. Any third party using this report does so entirely at their own risk and SEL accepts no responsibility or liability for any costs, claims, damages or expenses (including consequential damages) as a result of this report or any part of its contents being used by any third party.

Except in connection with the specific purpose for which this report has been prepared, neither the whole nor any part of this report, nor any reference thereto, may be included in any published document, circular or statement, nor published in any way, nor disclosed orally to a third party, without the written approval from SEL of the form and context of such publication or disclosure. Such approval is required whether or not SEL are referred to by name and whether or not the report is combined with others.

1.3 Location & Description

The site is located immediately south of Cumberwoth Lane between Upper and Lower Cumberworth, West Yorkshire, approximately 12km south east of Huddersfield town centre. Location plans are presented as Figure 1 in Appendix A, on which the site boundary is shown outlined red.

The National Grid Reference (NGR) for the centre of the site is 421900, 408980. The site is approximately 8ha in area and dips to the south east from an approximate height of 232m Above Ordnance Datum (AOD) to 213m AOD.

1.4 Description and Layout of the Proposed Development

The site consists of a sloping area of open grassland dipping to the south east towards East Hill Beck, as shown on Figure 2 in Appendix A.

The Client intends to submit a planning application to extract fireclay and brickshale from the proposed site.

1.5 Scope of the Coal Mining Risk Assessment (CMRA)

The purpose of the CMRA report is to:

- Present a desk based review of all available information relating to coal mining issues which are relevant to the application site;
- Use this information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary site investigations or remedial works and demonstrate how coal mining issues have influenced the proposed development;
- 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.
- This CMRA has been produced in accordance with The Coal Authority publication entitled *Risk based approach to development management; Guidance for developers* (Ref. A), with additional reference to CIRIA Report C758D, *Abandoned Mine Workings Manual*, CIRIA, 2019 (Ref. B).

2.0 SOURCES USED TO INFORM THE COAL MINING RISK ASSESSMENT (CMRA)

This CMRA has used the following sources of information:

- An up to date Consultants Coal Mining Report (CCMR) from the Coal Authority, Number 51003329947001, (Appendix B);
- Geological information, at 1:10,000 and 1:50,000 scales, obtained from published and online information at the British Geological Survey (BGS), specifically Geological Sheet 86 (Glossop), Bedrock & Superficial, dated 2012 (summarised on Figure 3, Appendix A);
- A site history based on a review of historical Ordnance Survey mapping of the area dating from between 1854 and 2022 (summarized on Figure 4, Appendix A);
- The Coal Authority Interactive Map Viewer of worked coalfields within the UK available on the Coal Authority website (Figures 5-8, Appendix A).

3.0 SITE GEOLOGY

- 3.1 CIRIA Report C758D, *Abandoned Mine Workings Manual* (Ref. B) identifies the need to establish the geology of a site in order to assess mining risk, including soil/rock boundaries, the properties of superficial deposits and rocks and geological features of particular significance such as outcrops and faults/fissures.
- 3.2 Of particular relevance to old mine workings is the fact that the upward migration of mining voids varies depending on the strata and the state of weathering present on site. In general, massive sandstones form a competent foundation, through which cavity migration from old workings below would be mitigated due to the strength and thickness of the rock, whereas mining voids tend to migrate further through weak rocks such as mudstones.
- 3.3 The weathering of strata overlying shallow old workings can weaken site foundations considerably.
- 3.4 The site geology is summarised in Table 1 below:

Table 1: Geological Summary

Maps / Publications Referenced	BGS 1:50,000 Sheet 86 (Glossop), Bedrock and Superficial dated 2012. BGS Geology of Britain Viewer, BGS lexicon of named rock units and BGS Onshore Geoindex webpages. Groundsure Maps Insight Report. Coal Authority Consultants Coal Mining Report. Coal Authority Interactive Viewer website.
Artificial Ground	Worked ground (Bromley Farm quarry) immediately west/south west of site. Infilled ground immediately south of site.
Superficial Deposits & Landslips	Boulder clay 0.6m thick present on site. No landslips recorded adjacent to site.
Bedrock (Solid)	Pennine Lower Coal Measures Formation: mudstones and siltstones with occasional thicker sandstones, lying stratigraphically immediately above and below the Cumberworth Thick (or Whinmoor) coal seam.
Dip of Strata	Mainly 1 to 2° dip to NE, 5° to the north at the north end of the site (based on mining records).
Faults	ENE/WSW trending fault crossing northern part of the site (<5m throw).
Coal Seams / Mining / Natural Cavities	BGS records Cumberworth Thick (Whinmoor) and Cumberworth Thin coal seams outcropped on site. Site within Coal Authority designated Development High Risk Area (DHRA). Site affected by recorded mine workings in Cumberworth Thick and Cumberworth Thin coal seams. Potential unrecorded mine workings. Shaft 422408-041 recorded on site. Mine entries recorded adjacent to site. Potential for unrecorded mine entries. No surface mining activities recorded on site. Bromley Farm clay/brickshale workings and Bromleys clay/brickshale quarry adjacent to site.

- 3.5 The detailed site geology is normally determined by on site drilling. The client has installed seven piezometers on/adjacent to the site, the drilling records for which are summarised below:

Table 2: Historic Borehole Records

Summary of Bromley Farm Piezometers		
Rock Description	Average Thickness (m)	Depth to Top (m)
Topsoil	0.5	0.0
Boulder Clay	0.6	0.5
Sandstone	1.7	1.1
Cumberworth Thick (Whinmoor) coal seam	1.6	2.8
Mudstone (Kitson Top)	10.7	3.0
Cumberworth Thin (Low Whinmoor) coal seam	0.3	13.8
Seatearth Mudstone (Kitson Bottom Fireclay)	2.5	16.3
Mudstone (Kitson Bottom)	2.2	18.5
Proposed base of quarry		
Sandstone	3.3	21.8
Mudstone	9.5	31.3

- 3.6 Artificial ground is located immediately west/south west of the proposed site at Bromley Farm quarry (worked ground, now infilled with inert waste) and immediately to the south at Bromleys quarry (now backfilled).
- 3.7 Seven Bromley Farm piezometers, installed by the client, record superficial deposits as topsoil underlain by boulder clay 0.6m thick.
- 3.8 On-line records indicate that bedrock present on site consists of Pennine Lower Coal Measures Formation strata, comprising mudstones, siltstones and sandstones with occasional coals, Langsettian (Westphalian A) in age, lying stratigraphically around and below the Cumberworth Thick (Whinmoor) coal seam. The mudstones and seatearth mudstones of this sequence of rocks have been extensively worked in the past for their fireclay and brickshale.
- 3.9 BGS records an east south east/west south west trending fault, crossing the northernmost part of the site, down-throwing strata to the north by <5m.
- 3.10 Recorded mine workings indicate that strata across the majority of the site dips at 1-2° to the north east. North of the fault strata dips at 5° to the north.
- 3.11 Coal mining legacy hazards are discussed in detail in Section 6.

4.0 SITE HISTORY

- 4.1 Information relating to historical land use on site and within the surrounding area has been reviewed with particular reference to potential past coal mining activities, using historic Ordnance Survey (OS) maps (see selected summary of mapping in Figure 4).
- 4.2 Earliest mapping (1854) shows the site to be located within an area of open fields on land north of East Hill Beck. A disused mine shaft (No. 422408-41) is shown on the 1903-04 map in the easternmost part of the site, but is absent on all other plans. The 1983-85 and 1979-83 OS maps show that mining activities at the former Bromleys quarry extended onto the southernmost part of the site (250m to the north east of Bromley Farm), where a small field appears to have been used as a spoil heap as part of the site's quarrying phase of activities. There is no documentary evidence on the OS maps to indicate the spoil heap has been removed. There is no documentary evidence to indicate the field has been excavated for mineral.
- 4.3 With respect to the surrounding area, earliest mapping (1854) shows the site to be rural. Sandstone quarries are located 120m to the north, 330m to the south and 650m to the south, but these activities had ceased by 1891-92 and are no longer shown thereafter.
- 4.4 Old shafts/adits located 320m to the north, 450m to the south east and 490m to the east and an old coal pit 340m to the north east, indicate coal mining was active in the early/mid nineteenth century. Coal Authority records show coal mining to be active beneath the site in the early/mid twentieth century, but no collieries are evidenced on OS maps.
- 4.5 The principal industrial activity associated with the area is quarrying for fireclay and brickshale. Earliest evidence of such activities is shown on the 1891-92 map 330m to the north east at Oakcliff, a quarry/works active during the twentieth century, which had become disused by 2001. Bromleys quarry immediately south of the site is first shown in 1903-04, was active during the twentieth century and is now backfilled and dormant. Bromley Farm quarry immediately south/west of the site was mainly worked in the twenty-first century and is now backfilled and restored.
- 4.6 Both Bromley and Bromley Farm quarries were utilised for waste storage. Bromley Farm void was backfilled with inert waste and utilised as a recycling centre. Bromleys was worked, backfilled and according to OS maps, utilised as a refuse tip for household waste.
- 4.7 Other significant industrial activities within 500m of the site include a railway tunnel 80m to the north east (1854 to present) and Bromley Works 420m to the south east (1903-04 to present).

5.0 SITE INSPECTION

- 5.1 A site inspection was carried out by a SEL representative on 15th December 2022 in dry sunny weather. A photographic log of site features is presented as Appendix C of this report.
- 5.2 The site is bounded to the north by Cumberworth Lane, to the west and south by the former Bromley Farm and Bromleys quarries and to the east by stand off from Lower Cumberworth. A hedgerow with immature and mature trees screens the site from Lower Cumberworth.
- 5.3 The site primarily consists of grassed fields sloping to the south east, towards East Hill Beck. The highest point (232m AOD) is located in the north west, where the proposed access road enters the site. The lowest point (213m) is located adjacent to East Hill Beck in the easternmost part of the site.
- 5.4 The only property adjacent to the site is Lane Side Farm, adjacent to the north west perimeter.
- 5.5 A grassed mound is located approximately 150m east of the site, the location of which does not correspond with the location of any recorded mine entries.
- 5.6 OS maps indicate a small area in the south west corner of the site was formerly used as a spoil heap on Bromleys, but there is no evidence the area has been extracted for mineral.
- 5.7 There was no evidence of vegetation dieback, discoloured ground, or the seepage of odorous/discoloured liquids.
- 5.8 No obvious evidence of any significant potential sources of contamination were noted on site, nor evidence for the presence of invasive non-native plant species such as Japanese knotweed.

6.0 IDENTIFICATION AND ASSESSMENT OF COAL MINING ISSUES

- 6.1 The identification and assessment of site specific coal mining issues has been compiled with reference to the Coal Authority document entitled *Risk based approach to development management - Guidance for developers* (Ref. A).
- 6.2 Table 3 below summarises the potential risks associated with coal mining legacy issues relating to the proposed site, as identified in the Consultants Coal Mining Report:

Table 3: Summary of Potential Risks Associated with Coal Mining

Coal Mining Issue	Coal Mining Risk		Risk Assessment
	Yes	No	
Past recorded underground coal mining at greater than 30m depth.		✓	
Past shallow recorded underground coal mining (<30m depth)	✓		Recorded workings in the Cumberworth Thick (Whinmoor) and Cumberworth Thin (Low Whinmoor) seams.
Past shallow unrecorded underground coal mining (<30m depth)	✓		
Present underground coal mining		✓	
Future underground coal mining		✓	Risk discounted in Section 6.4.
Recorded mine entries (shafts/adits)	✓		Shaft 422408-041 present in south east corner of site.
Unrecorded mine entries (shafts/adits)		✓	Within an area where unrecorded mine entries have been found (low risk). Risk discounted in section 6.3.
Coal mining geology (fissures)		✓	
Past opencast (surface) coal mining		✓	
Present/future opencast coal mining		✓	
Coal mining subsidence		✓	
Record of past mine gas emissions		✓	
Recorded surface hazards related to coal mining		✓	

- 6.3 The Coal Authority has identified potential for unrecorded mine entries to be present on site. This is due to the nature of their records, which are extensive but incomplete and also due to the past occurrence of unrecorded shafts/adits in the Huddersfield area. SEL recognise this as a valid, but lower risk hazard which can be negated due to the nature of the proposed development (surface mineral extraction).
- 6.4 SEL have considered the potential for the future extraction of coal beneath the site. After consideration of the current economic, planning and governmental issues that affect coal mining in the UK, SEL consider the risk to be negligible.

- 6.5 The Coal Authority records that two seams are present at shallow depths which contain recorded old workings (Cumberworth Thick and Cumberworth Thin). Records show that fireclay may have been extracted as part of the mining process associated with these two seams.
- 6.6 The Consultants Coal Mining Report indicates unrecorded shallow mine workings may be present on site.
- 6.7 Having reviewed coal mining factors identified in the CCMR, SEL consider that there may be a potential risk to the surface from the following coal mining legacy issues:
- **Recorded shallow mine workings in the Cumberworth Thick (Whinmoor) and Cumberworth Thin (Low Whinmoor) seams.**
 - **Recorded mine shaft 422408-041.**
 - **Shallow unrecorded old workings.**

7.0 MITIGATION STRATEGY TO ADDRESS COAL MINING LEGACY ISSUES

- 7.1 The Coal Authority, as a Statutory Consultee in the planning process, has the right to object to surface development it considers may be at risk from coal mining legacy issues. The burden of discounting risk is placed on the developer.
- 7.2 Legacy mining risk from future workings and unrecorded mine shafts have been addressed and negated in Sections 6.3 and 6.4.
- 7.3 The CCMR has identified the review area to be potentially underlain by recorded and unrecorded shallow mine workings and a mine entry, which may present a potential risk to surface development. This risk requires mitigating.
- 7.4 The client intends to extract fireclay and brickshale from the mudstone horizons which lie below the Cumberworth Thick and Cumberworth Thin coal seams, by surface mining (quarrying) methods. The pavement of the quarry will be approximately 4.7m below the Cumberworth Thin seam. As such, all mine workings in these seams will be excavated as part of the operational process, negating the risk. Any mine entries encountered will also be excavated.
- 7.5 Under the circumstances discussed in Section 7.1 to 7.4 (above), SEL consider the development as proposed by the Client negates the risk from legacy coal mining activities.
- 7.6 Should the Client consider proposing any on site development which involves significant foundations, site investigation may be required to discount mining legacy risk.

Site Investigation

- 7.7 Provided the development progresses as described in Sections 7.1 to 7.4, SEL consider that no site investigation (rotary drilling) will be required to mitigate the mining legacy risk identified in this report.
- 7.8 It should be noted that this report has been prepared solely to assess risk to surface development from past coal mining activities and is not a Phase 1 Geo-Environmental Preliminary Risk Assessment (Desk Study), which identifies potential geo-technical and contamination issues relating to a site.

APPENDIX A

FIGURES

Figure 1: Site Location.

Figure 2: Site Layout.

Figure 3: BGS – Site Geology (Based on Sheet 86 (Glossop), 1:50,000, 2012).

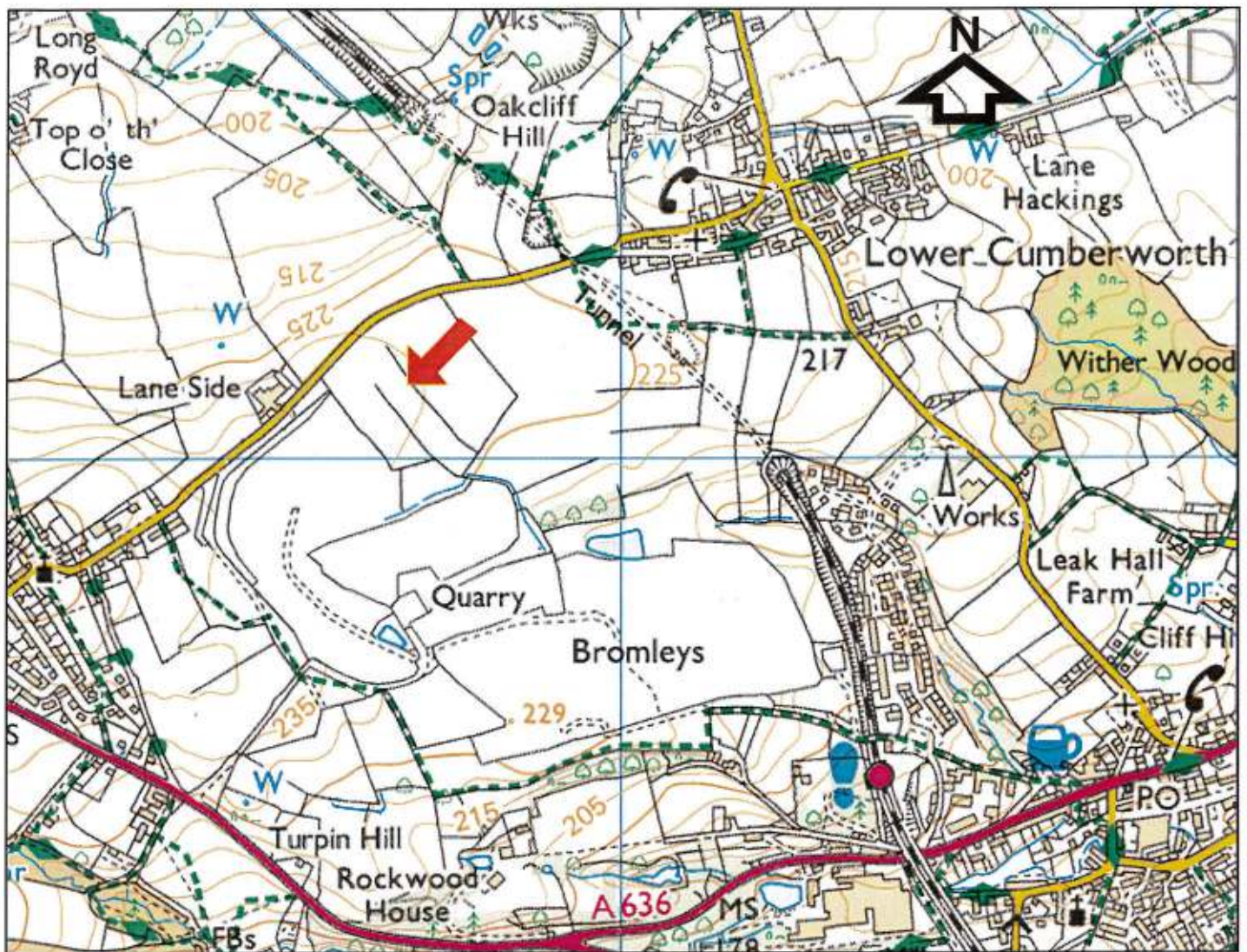
Figure 4: Ordnance Survey Search – Site History.

Figure 5: Coal Authority Search – Development High Risk Areas.

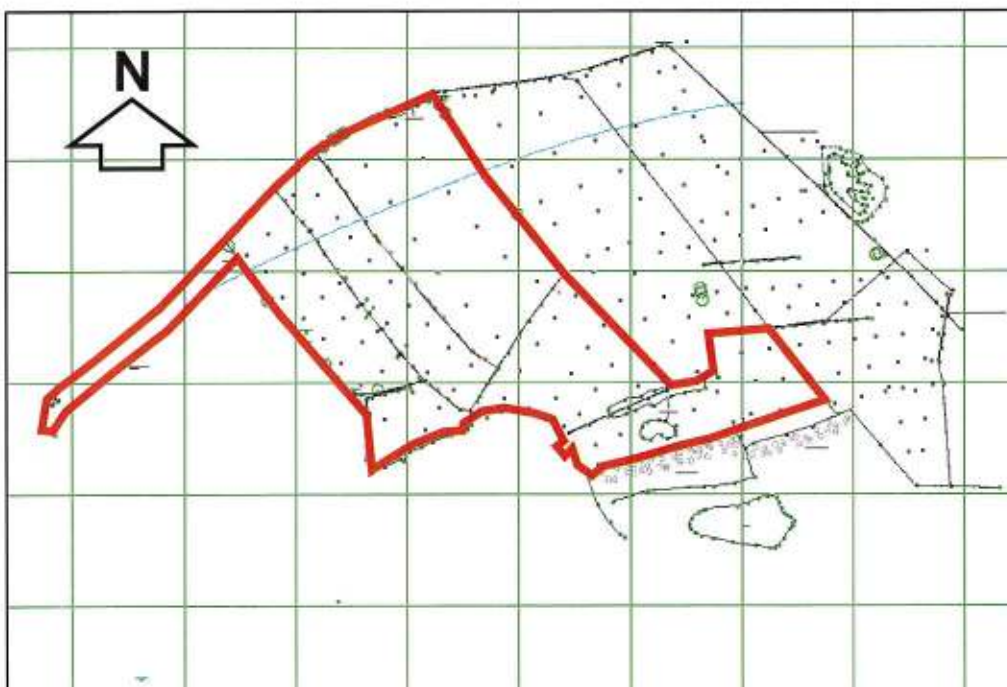
Figure 6: Coal Authority Search – Recorded Past Shallow Mine Workings.

Figure 7: Coal Authority Search – Recorded Mine Entries (Shafts and Adits).

Figure 8: Coal Authority Search – Recorded Past Surface (Opencast) Mining.



Site Location



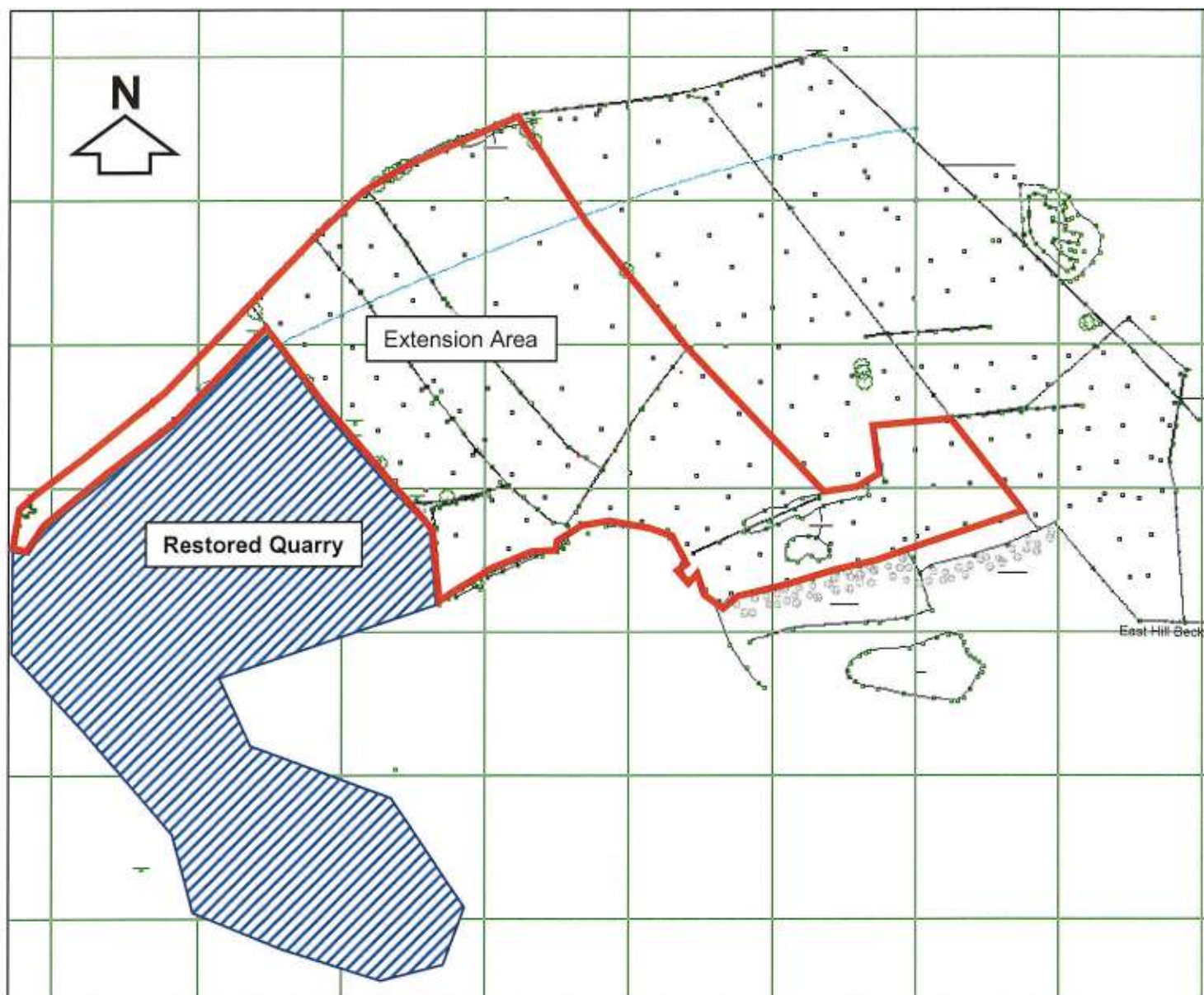
Ref: 22007

Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD

FIGURE 1:

SITE LOCATION

(421900, 408980)



Site Location

Ref: 22007

**Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD**

FIGURE 2:

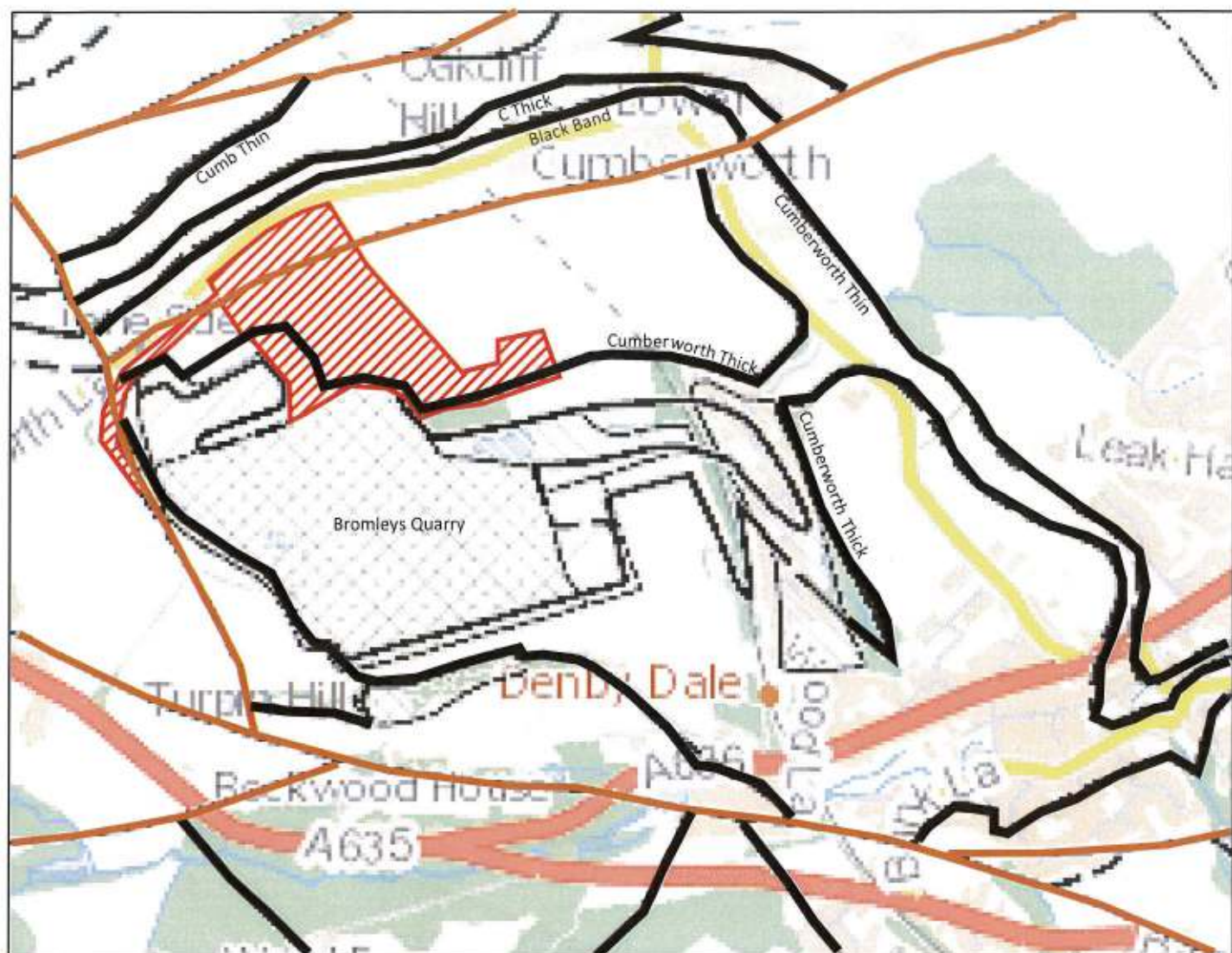
SITE LAYOUT

(421900, 408980)

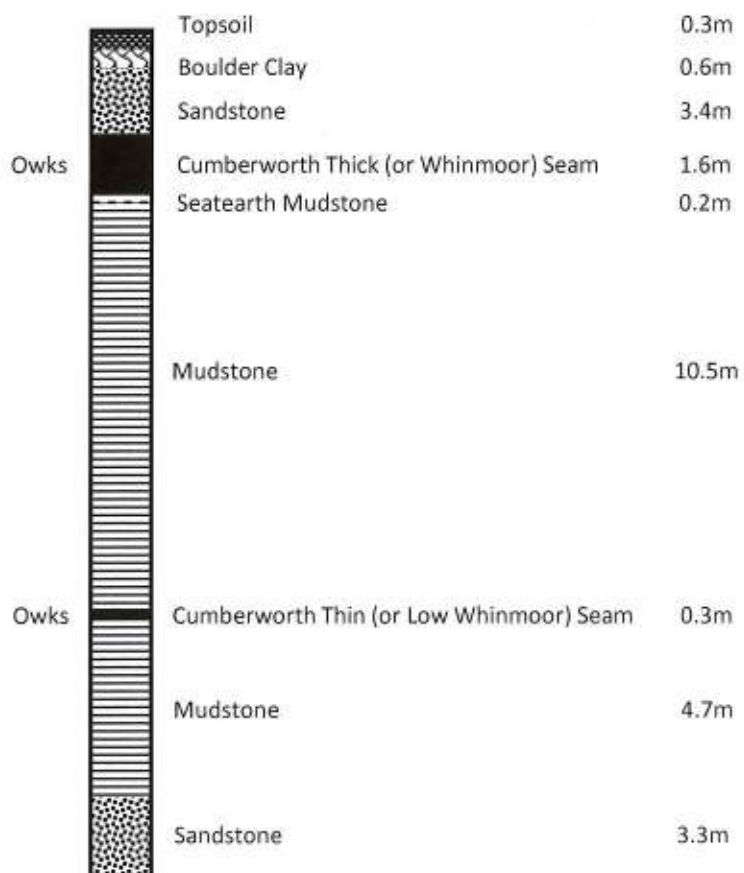
The area of interest lies immediately north east of Bromley Farm quarry and comprises green fields.

Hepworth Wavin Ltd (the Client), propose to develop a new quarry north east of the former Bromley Farm quarry which is now restored. The Client intends to extract fireclay and brickshale from the Coal Measures rocks which lie beneath the site.

Silkstone Environmental Ltd have been engaged to assess the potential impact of legacy coal mining issues on the development.



GENERALISED VERTICAL SECTION



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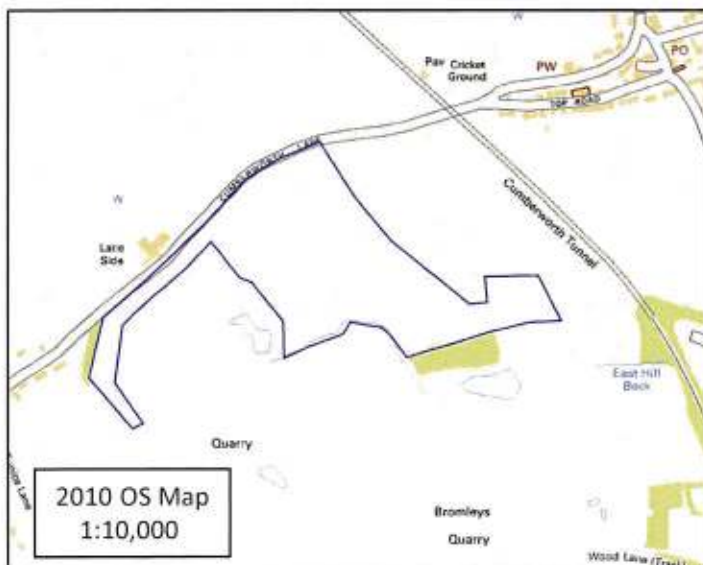
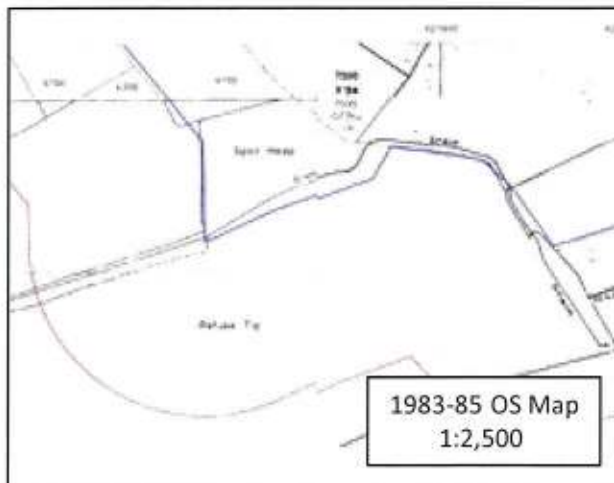
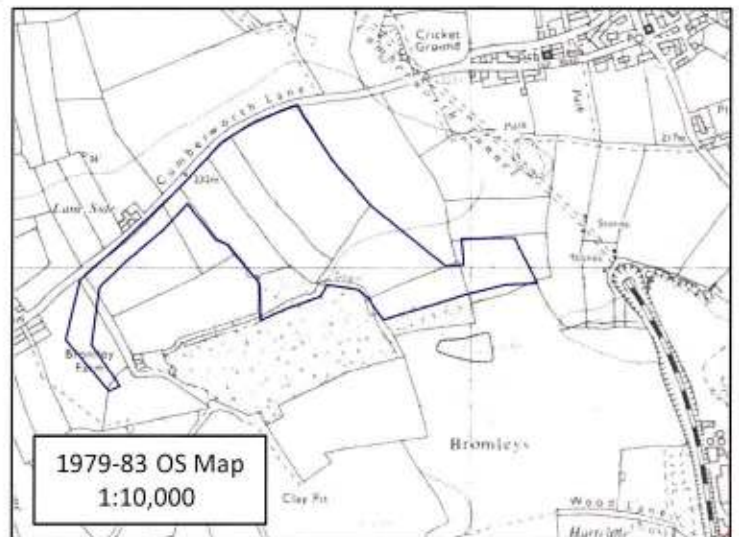
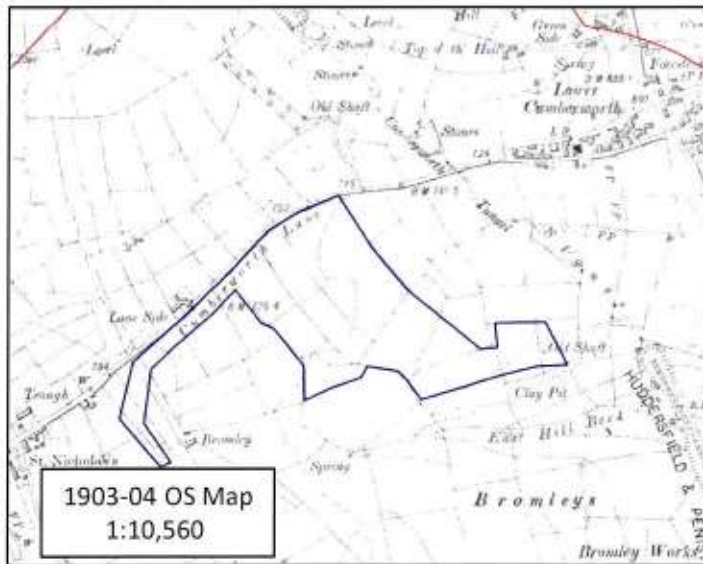
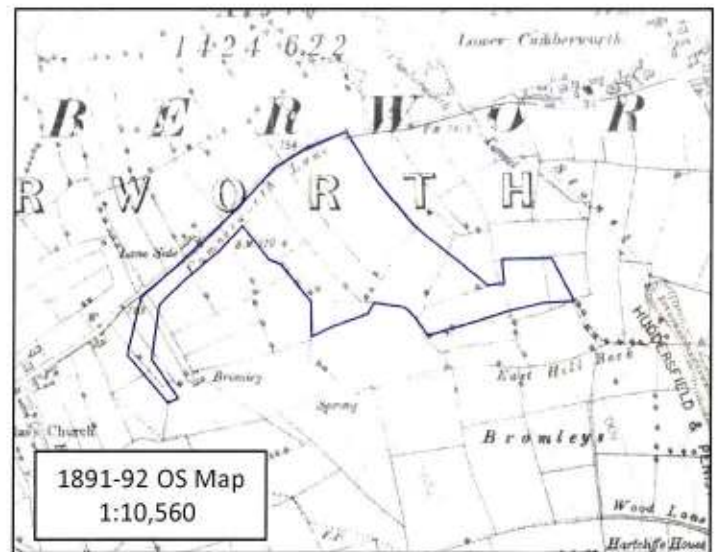
**Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD**

FIGURE 3:

BRITISH GEOLOGICAL SURVEY SEARCH

SITE GEOLOGY

(421900, 408980)



Ref: 22007

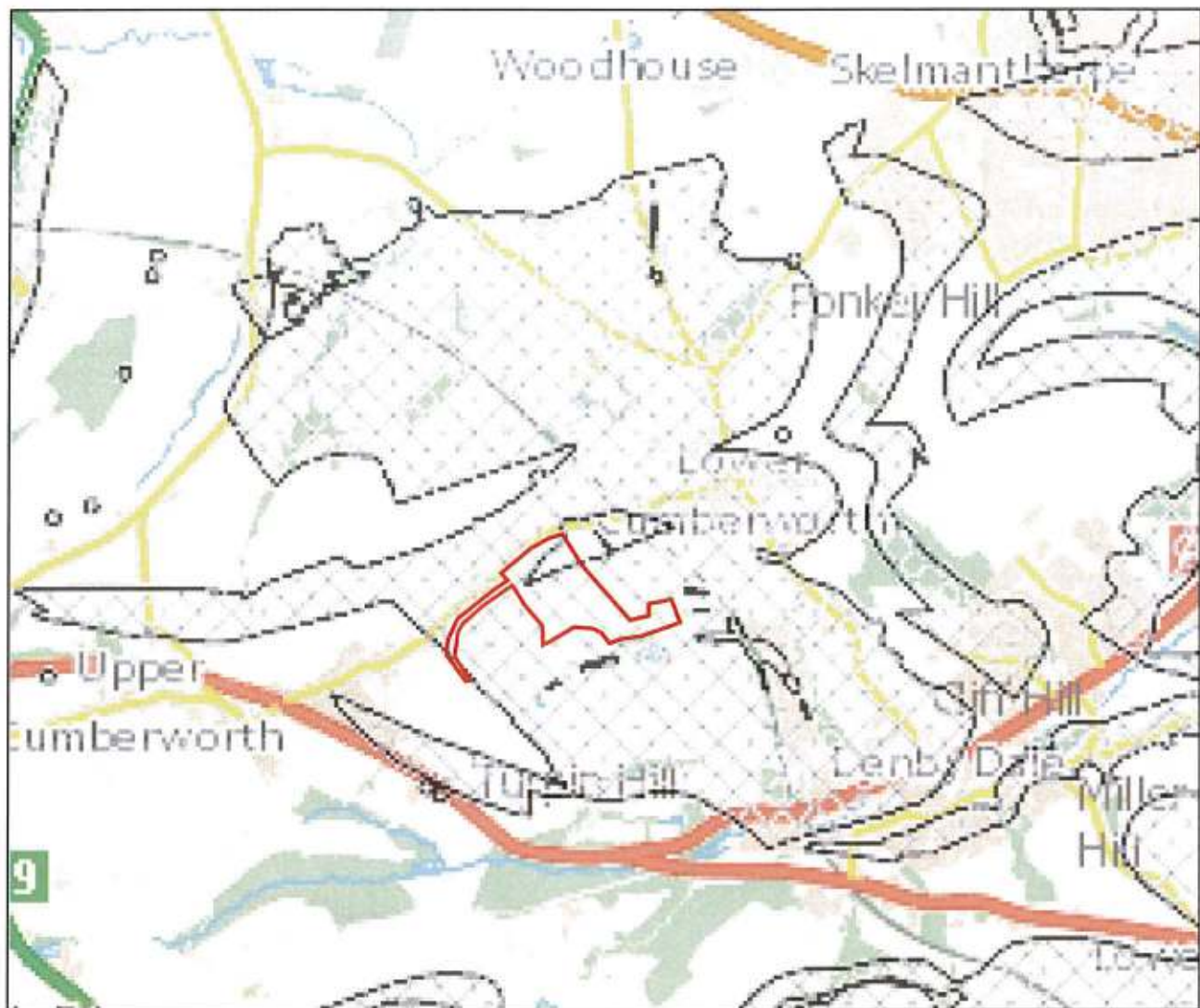
Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD

FIGURE 4:

ORDNANCE SURVEY SEARCH

SITE HISTORY

(421900, 408980)



Site Location



Development High Risk Area

Ref: 22007

Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD

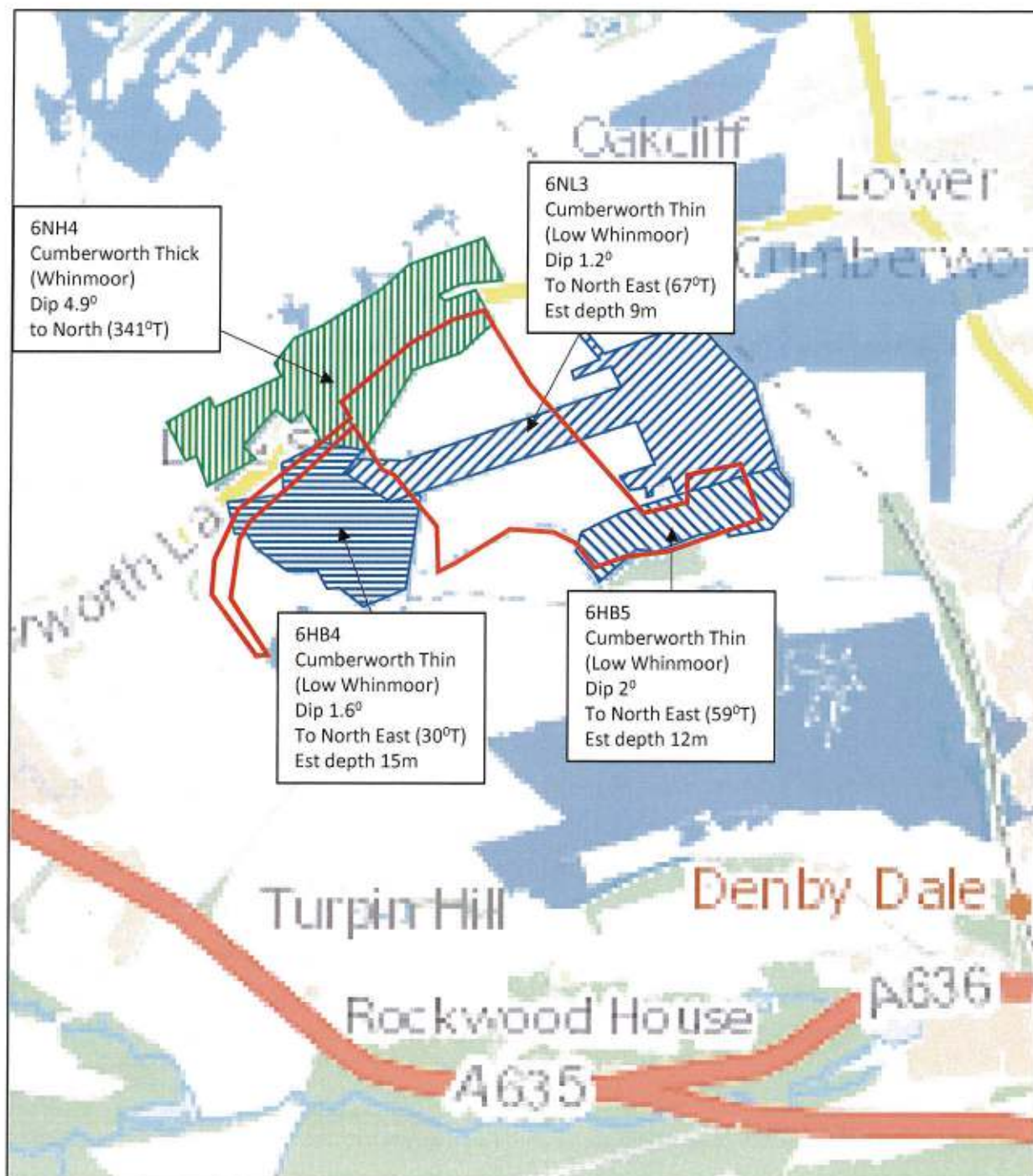
FIGURE 5:

COAL AUTHORITY SEARCH

DEVELOPMENT HIGH RISK AREAS

(421900, 408980)

The Coal Authority defines a Development High Risk Area (DHRA) as the part of a coal mining Reporting area that has one or more recorded coal mining features, which have the potential for instability, or a degree of risk, to the surface from the legacy of past coal mining activities



Site Location



Recorded Workings (undifferentiated)



Recorded Workings in Cumberworth Thick (Whinmoor) Seam



Recorded Workings in Cumberworth Thin (Low Whinmoor) Seam



Ref: 22007

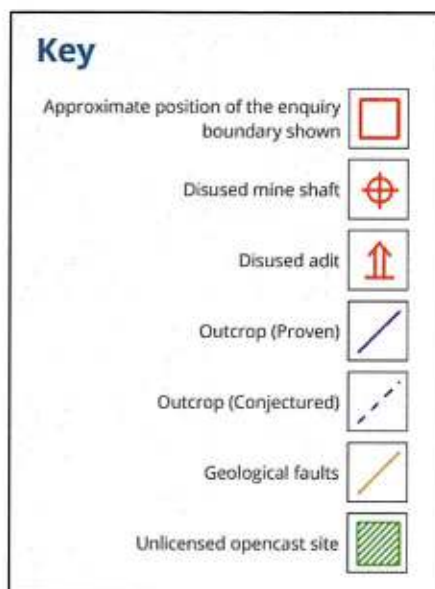
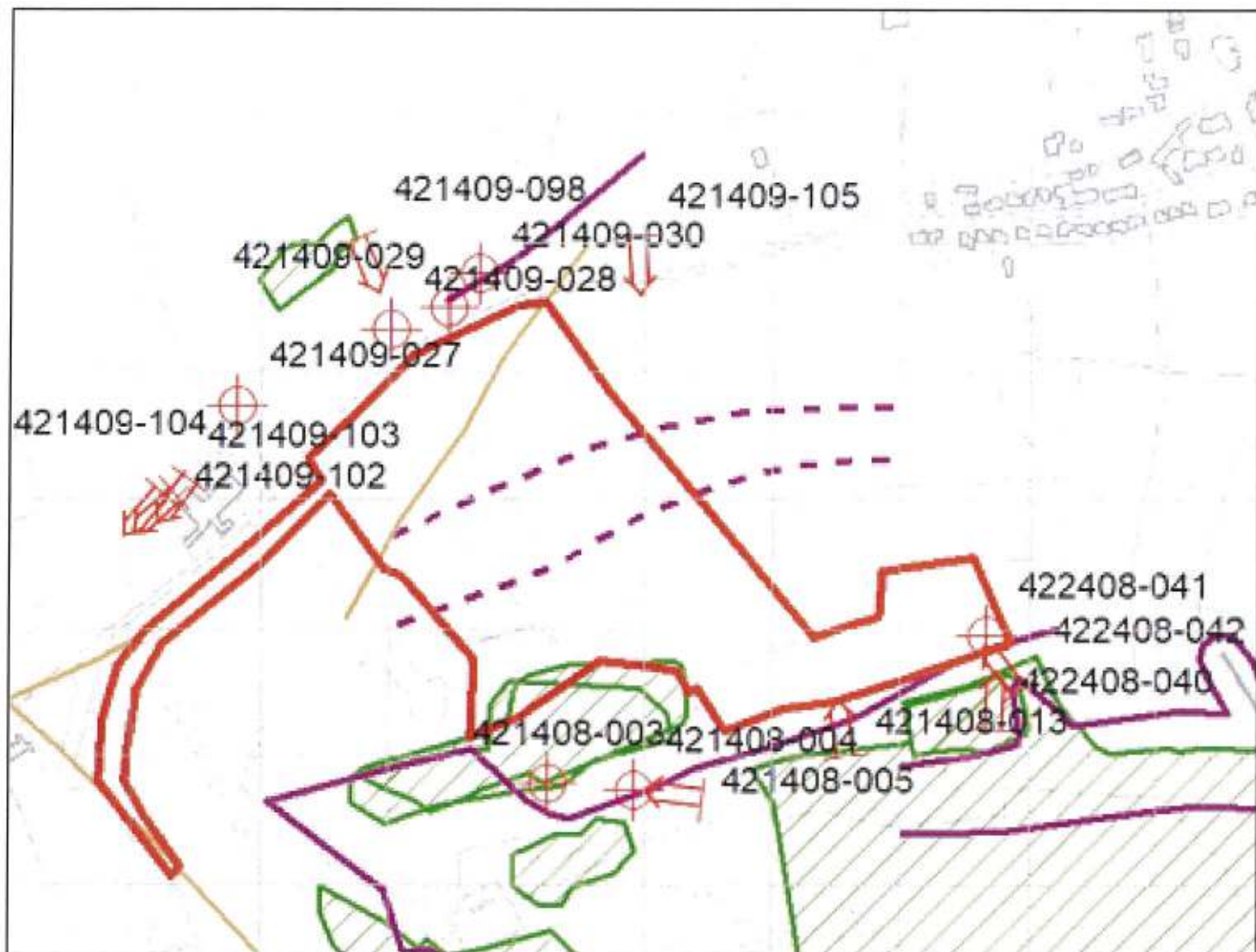
Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD

FIGURE 6:

COAL AUTHORITY SEARCH

RECORDED PAST SHALLOW
MINE WORKINGS

(421900, 408980)



Ref: 22007

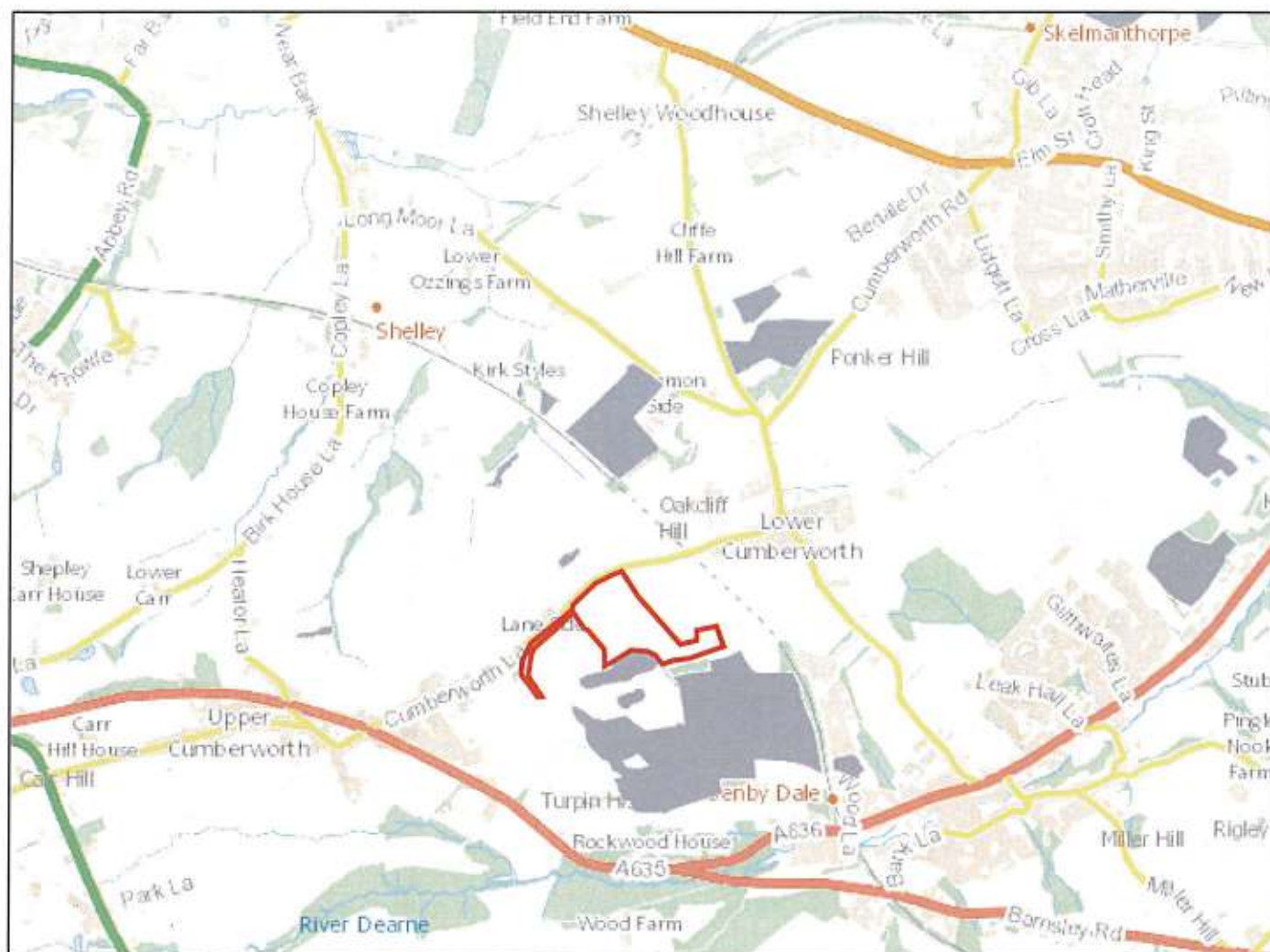
Bromley Farm Quarry,
Lower Cumberworth,
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HD8 8PD

FIGURE 7:

COAL AUTHORITY SEARCH

RECORDED MINE ENTRIES
(SHAFTS & ADITS)

(421900, 408980)



Ref: 22007

**Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD**

FIGURE 8:

COAL AUTHORITY SEARCH

**RECORDED PAST SURFACE (OPENCAST)
MINING**

(421900, 408980)



Site Location



Recorded Past Surface Mining

APPENDIX B

Coal Authority – Consultants Coal Mining Report



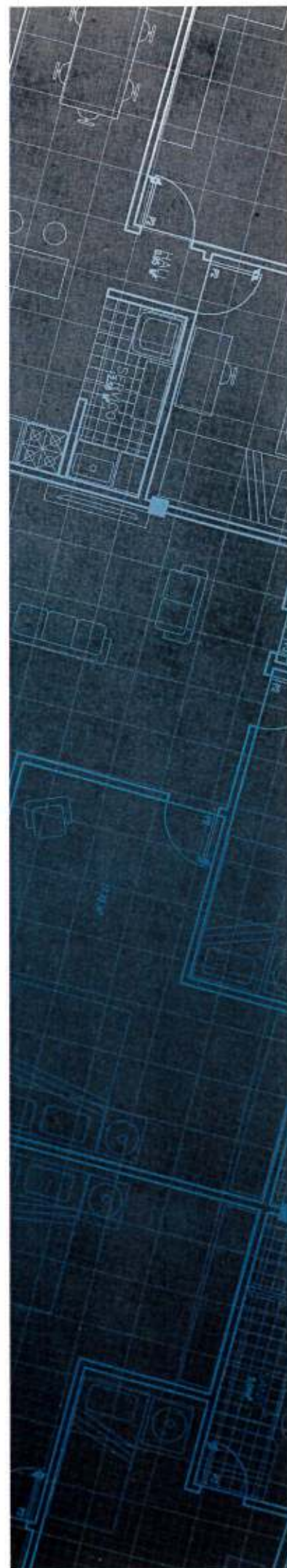
The Coal
Authority

Consultants Coal Mining Report

Bromley Farm
85 Cumberworth Lane
Upper Cumberworth
Huddersfield
Kirklees
HD8 8PD

Date of enquiry:	13 December 2022
Date enquiry received:	13 December 2022
Issue date:	13 December 2022

Our reference:	51003329947001
Your reference:	21007



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

SILKSTONE ENVIRONMENTAL LTD

Enquiry address

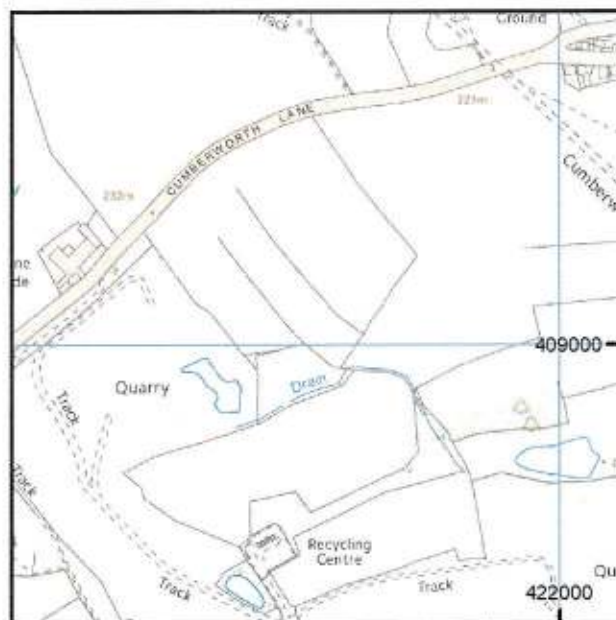
Bromley Farm
85 Cumberworth Lane
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Approximate position of property



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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	WHINMOOR	Coal	6NH4	7	Beneath Property	4.9	North	168	1926
unnamed	LOW WHINMOOR	Coal	6HB3	9	Beneath Property	2.1	North-East	170	1955
unnamed	LOW WHINMOOR	Coal	6NL3	9	Beneath Property	1.2	North-East	170	1944
BROMLEY	LOW WHINMOOR	Coal	6HB5	12	Beneath Property	2.0	North-East	152	1923
unnamed	LOW WHINMOOR	Coal	6NA3	13	Beneath Property	1.6	North-East	170	1957
unnamed	LOW WHINMOOR	Coal	6HB4	15	Beneath Property	1.6	North-East	170	1948
unnamed	LOW WHINMOOR	Coal	6Z2K	17	Beneath Property	2.8	South	170	1936
unnamed	LOW WHINMOOR	Coal	6NK3	17	North-West	1.3	North-East	168	1928
unnamed	LOW WHINMOOR	Coal	6HPM	18	Beneath Property	0.0	East	170	1943

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	421408-003	421726 408878		Fireclay	
Shaft	421408-004	421794 408872		Fireclay	
Adit	421408-005	421841 408868		Fireclay	
Adit	421408-013	421956 408904		Coal	
Shaft	421409-027	421483 409172		Coal	
Shaft	421409-028	421603 409231		Coal	
Shaft	421409-029	421648 409249		Coal	
Shaft	421409-030	421672 409275		Coal	
Adit	421409-098	421575 409300		Coal	
Adit	421409-102	421420 409103		Coal	
Adit	421409-103	421431 409104		Coal	
Adit	421409-104	421442 409115		Coal	
Adit	421409-105	421793 409301		Coal	
Adit	422408-040	422071 408924		Coal	
Shaft	422408-041	422069 408994		Coal	
Adit	422408-042	422092 408955		Coal	

Abandoned mine plan catalogue numbers

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

4540	SY234	SY223
M181	NE894	5568
7801	17149	SY70

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

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
LOW WHINMOOR	Coal	Yes	28.9	South	35
LOW WHINMOOR	Coal	Yes	Within	N/A	74
TOP BEESTON	Coal	Yes	27.2	North-West	237
WHINMOOR	Coal	Yes	8.6	South	59
WHINMOOR	Coal	Yes	Within	N/A	68
WHINMOOR	Coal	Yes	Within	N/A	74

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.

Faults 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

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.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

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. 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.



APPENDIX C

Photographic Site Record

Photo Reference	Description
A	Restored Bromley Farm quarry on western perimeter of site.
B	Fields on western part of the site.
C	Fields on eastern part of the site.
D	Vegetation screening on western perimeter of site.
E	Mound 100m east of the site.
F	Lane Side Farm, northern perimeter of site.
G	Former Bromley Farm quarry (south end), now civic recycling centre.
H	Former Bromleys quarry, now dormant.
I	Google Earth view of former Bromleys quarry.

/



Site Location

Ref: 22007

Bromley Farm Quarry,
Lower Cumberworth,
West Yorkshire,
HD8 8PD.

LOCATION OF PHOTOGRAPHS

(421500, 409000)

Photo A: Restored Bromley Farm quarry on western perimeter of site.



Photo B: Fields on western part of the site.



Photo C: Fields on eastern part of the site.



Photo D: Vegetation screening on western perimeter of site.



Photo E: Mound 100m east of the site.



Photo F: Lane Side Farm, northern perimeter of site.



Photo G: Former Bromley Farm quarry (south end), now civic recycling centre.



Photo H: Former Bromleys quarry, now dormant.



Photo I: Google Earth view of former Bromleys quarry.

