

## **By Email**

Our Ref: 24-562.01L

Barnsley Council  
Property Services  
PO Box 634  
Barnsley  
S70 9GG

02<sup>nd</sup> March 2026

Dear Ben,



Arc Environmental Ltd  
Solum House  
Unit 1 Elliott Court  
St Johns Road  
Meadowfield  
Durham  
DH7 8PN

## **Re: Proposed Visitor Centre, Rabbit Ings Country Park, Royston, Barnsley, S71 4BB**

### **1.0 Introduction: -**

Arc Environmental Limited (ARC) were commissioned by Barnsley Metropolitan Borough Council to undertake a Coal Mining Risk Assessment (CMRA) where it is proposed to construct a new visitors centre, in one of two proposed locations at Rabbit Ings Country Park, Royston, Barnsley, S71 4BB. The National Grid Reference for the site is 437600, 411740. The proposed site plan is attached. The geological and coal mining assessments for this site have been based on records produced by the British Geological Survey (BGS), the Mining Remediation Authority and third-party information. The following documents have been reviewed as part of this CMRA:

- BGS Sheet BGS Geological Sheet, SE31SE, 1:10,000 Series, Solid Edition, dated 2005 – extracts contained within report
- BGS Sheet 87, Barnsley, Drift & Solid Editions, 1:50,000 Series dated 2008
- Mining Remediation Authority Consultants Coal Mining Report, Ref. 51003442472001 – copy attached
- Mining Remediation Authority Interactive Map Viewer
- BGS Borehole SE31SE12

### **2.0 Geological Setting: -**

Based on published geological maps produced by the BGS the site is not shown to be situated in an area of significant made ground deposits, although some made ground associated with the development of the existing car park is anticipated. The site lies within an area where natural drift deposits are thin or absent (i.e., an area of solid outcrop) and where bedrock (solid) deposits are at or close to the surface. The solid geology is shown to comprise the Pennine Middle Coal Measures Formation - Carboniferous. These undifferentiated deposits typically comprise thickly bedded sandstone with interbedded mudstone and commonly with coal seams.

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Registered in England No. 05539784



**Re: Proposed Visitor Centre – Rabbit Ings Country Park, Royston, Barnsley, S71 4BB (Cont'd)**

**2.0 Geological Setting (Cont'd): -**

A historic sandstone quarry is recorded on the OS mapping at c.125m north of the site. No other surface mineral extraction features recorded within an influencing distance of the site, which may impact on the proposed development.

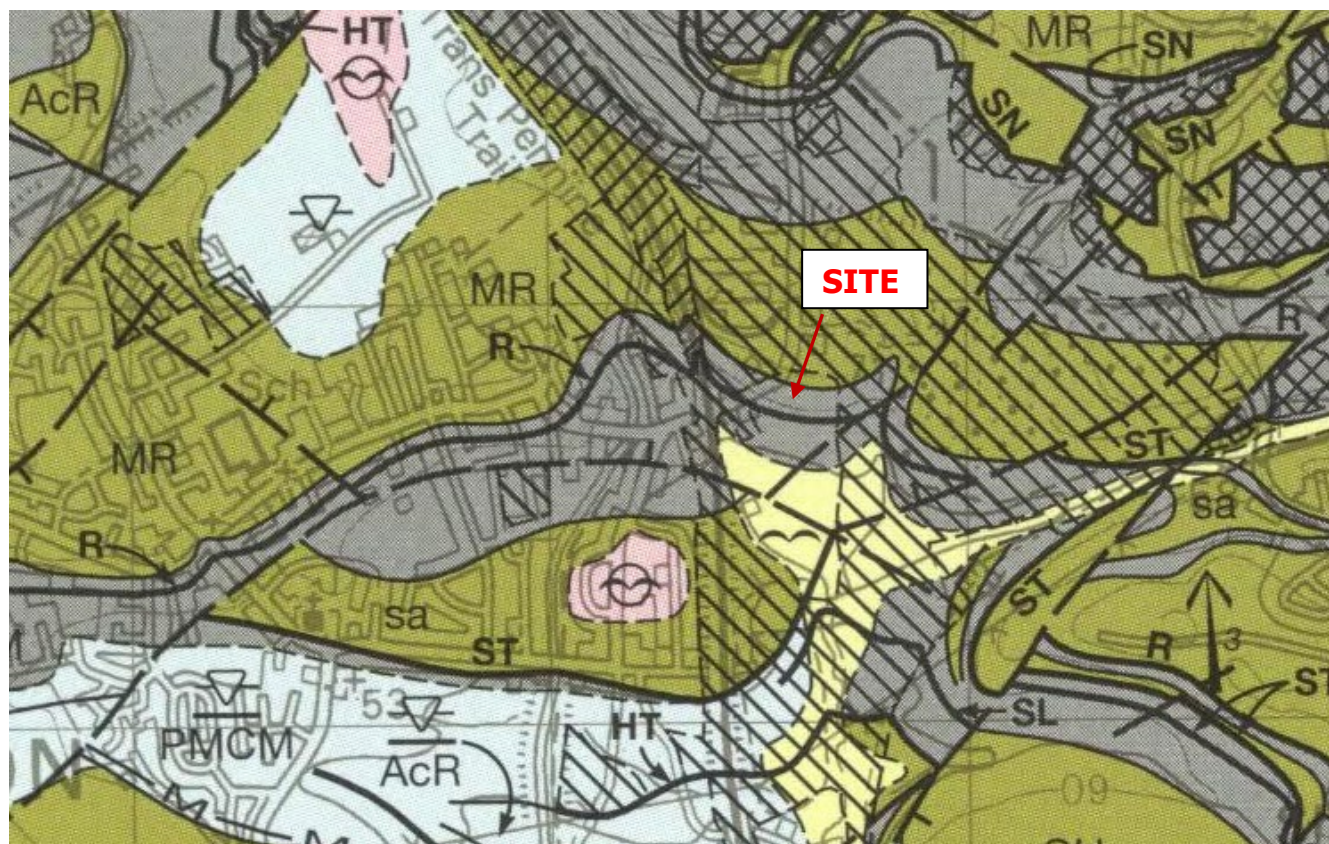


Figure 1 – BGS 1:10,000 Series Map Extract

According to the BGS the shallowest named coal seam is the Royston Coal (R) which outcrops c.16m to the south, dipping to the northeast beneath the site, which is regionally c.0.80m thick and lies at a depth of <17m below the site. The next shallowest coal seam is the Sharlston Top (ST) coal seam which is anticipated to be >27m deep and up to c.1.9m thick.

**3.0 Site-Specific Coal Mining Information: -**

In accordance with available online Mining Remediation Authority data, the site is shown to lie within a 'Coal Mining Reporting Area', an area of 'Past Shallow Coal Mine Workings' and a defined 'Development High Risk Area' by the Mining Remediation Authority.

**Re: Proposed Visitor Centre – Rabbit Ings Country Park, Royston, Barnsley, S71 4BB (Cont'd)**

**3.0 Site-Specific Coal Mining Information (Cont'd): -**

A Mining Remediation Authority Consultants Mining Report was procured to further assess the potential risks posed to the site with respect to possible instability issues arising in the future as a direct result of past shallow coal mining activities.

The report records past underground workings in the indicates that there are probable unrecorded shallow workings and past underground mining. The shallowest worked coal seam is the Kent Thick coal seam, south of the site, recorded at a depth of c.292m with an extraction thickness of c.0.84m. The Low Barnsley coal seam has been mined beneath the site at depth of c.386m and an extraction thickness of c.1.61m, last worked in c.1906 by an unnamed colliery. All recorded worked coals seams are at a depth greater than c.100m, therefore do not pose a risk to the site.

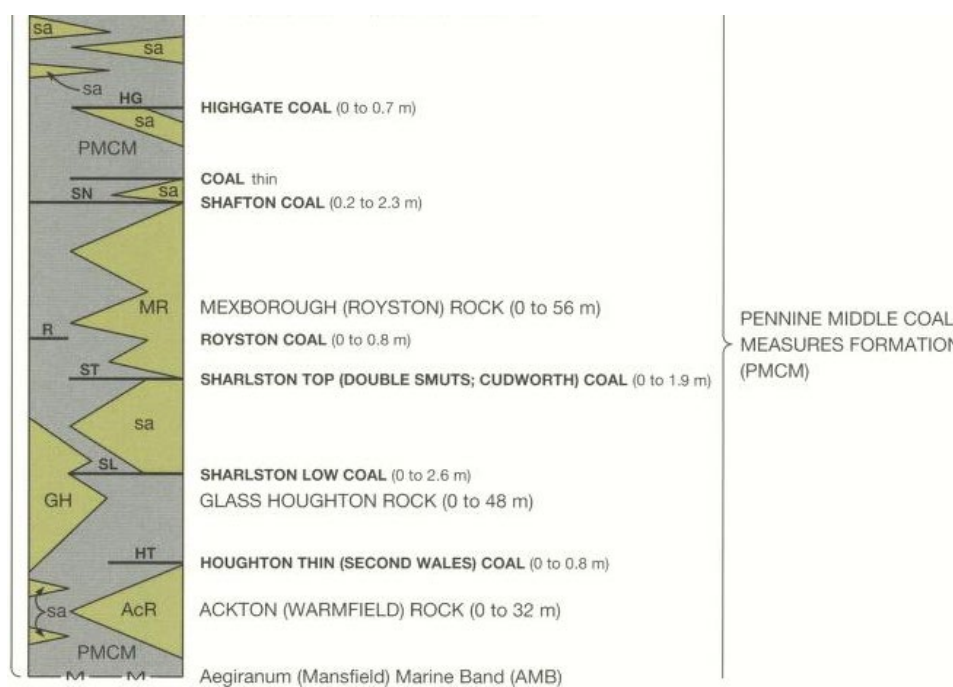


Figure 2 – BGS 1:10,000 Series Generalised Vertical Section Extract

Nearby BGS borehole SE31SE12 located to the immediate south of the site and conjectured outcrop of R coal seam infers the ST coal seam at c.27.74m bgl (c.1.60m thick).

There are no remediated sites or coal mining subsidence claims recorded within 50m of the site. No faults, fissures or breaklines recorded below the site area which could represent zones of weakness.

**Re: Proposed Visitor Centre – Rabbit Ings Country Park, Royston, Barnsley, S71 4BB (Cont’d)**

**3.0 Site-Specific Coal Mining Information (Cont’d): -**

The Mining Remediation Authority report does not identify any mine entries (shafts, adits, etc.) on, or within 100m of the boundary of the property. There are no unlicensed opencast coal mines recorded within 500m of the site. There are no recorded mine gas issues within 500m of the site.

**4.0 Assessment of Potential Risk to Proposed Development: -**

Based on the BGS and Mining Remediation Authority information, the site is deemed to be at potential risk from potential ‘unrecorded’ shallow coal workings in the Royston Coal. Therefore, a series of open hole rotary boreholes have been completed across the site to determine the level of risk to the proposed development.

From the rotary boreholes carried out, thin bands of intact coal (c.0.50m) were encountered within all rotary boreholes at depths of between c.15.70m to c.16m bgl, which is suspected to be the Royston seam. ‘Shaley’ coal was encountered at a depth c.2.50m bgl within RBH04. There was no evidence of workings in the form of broken ground ‘soft drilling’ or voids during the creation of the boreholes with 100% water flush return noted during the drilling process to a terminal depth of c.20m. Therefore, it is felt that the proposed development can be constructed without the need for incorporating any remedial measures to mitigate against future shallow coal mining related ground movement. Consequently, it is considered that the risk of surface instability associated with shallow coal workings is negligible and no further assessment and / or remedial works are deemed necessary.

**5.0 Conclusions & Recommendations: -**

The information reviewed indicates the potential risk to surface stability from historic coal workings beneath the site is negligible. Based on a review of geological, mining data further investigation of risks associated with instability from historic shallow coal workings or drilling and grouting works is not considered necessary at this stage.

We trust the information contained within this coal mining risk assessment report are satisfactory and if you need any further information or clarification, please do not hesitate to contact us.

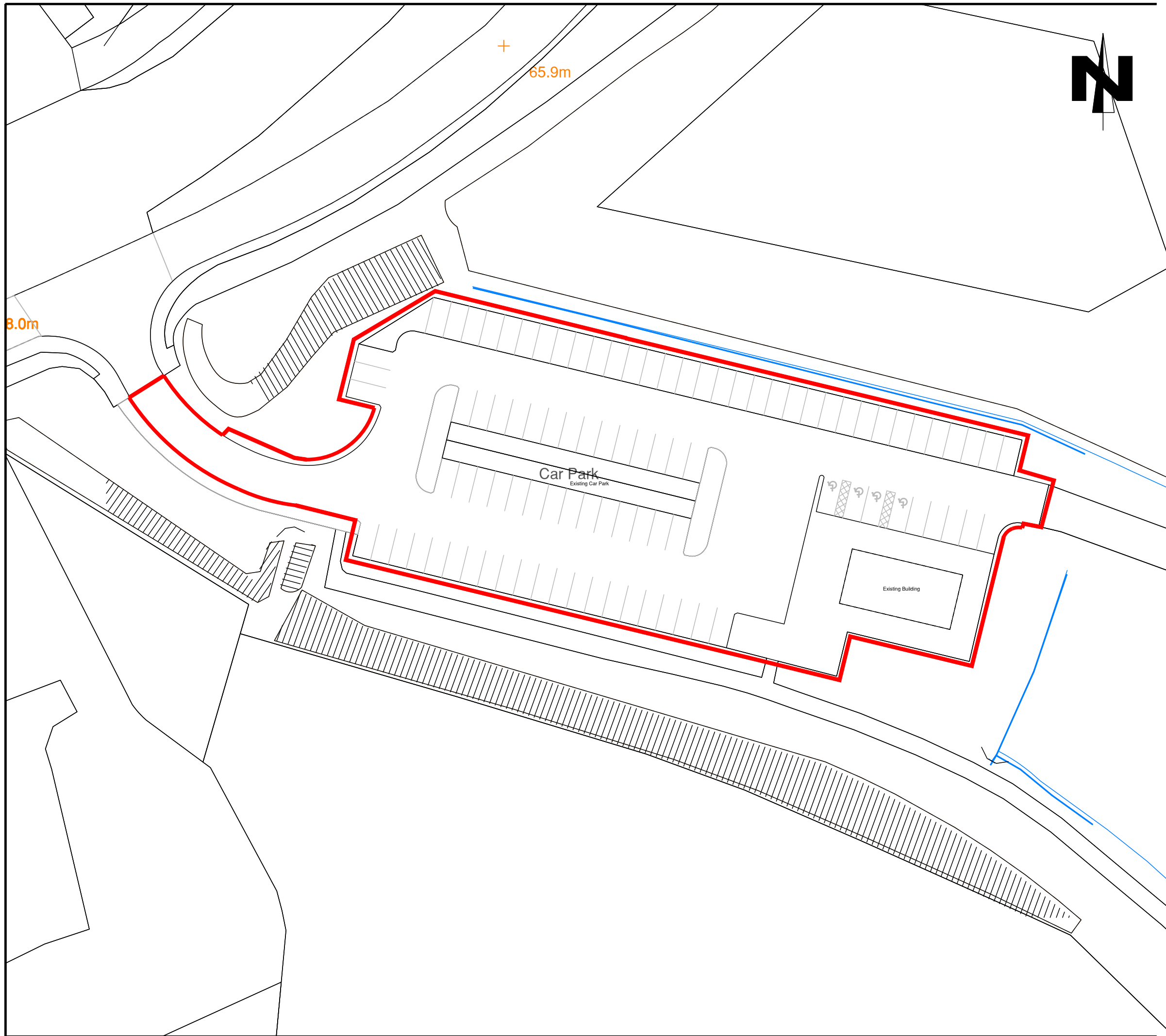
Yours sincerely,

*Gerrnita*

.....  
For and on behalf of Arc Environmental Limited  
Geraldine White  
Geoenvironmental Engineer

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The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.  
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**LEGEND**

APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd

Client:  
**PROPERTY SERVICES LTD**

Project Title:  
 Rabbit Ings Country Park Visitors Centre  
 Lund Hill Lane, Royston  
 Barnsley, S71 4BB

Drawing Title:  
 Existing Site Layout Plan

Scale at A3: NTS @ A3	Date: 23.08.24	Drawn by: P.D	Approved by: S.H
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Job Ref: 24-562	Drg no: -	Rev: -
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FORM P 70  
SERIES 680

SE 31 SE/12

COMMERCIAL IN CONFIDENCE

131 DEC 1971

Section of LUND HILL LANE Borehole

Purpose To prove the Sharlston Top Seam

Exact Site O.S. N.G.R. SE/37579/11734

Level at which <sup>shaft</sup> bore commenced relative to O.D. 196.46 <sup>drift</sup> A.O.D.

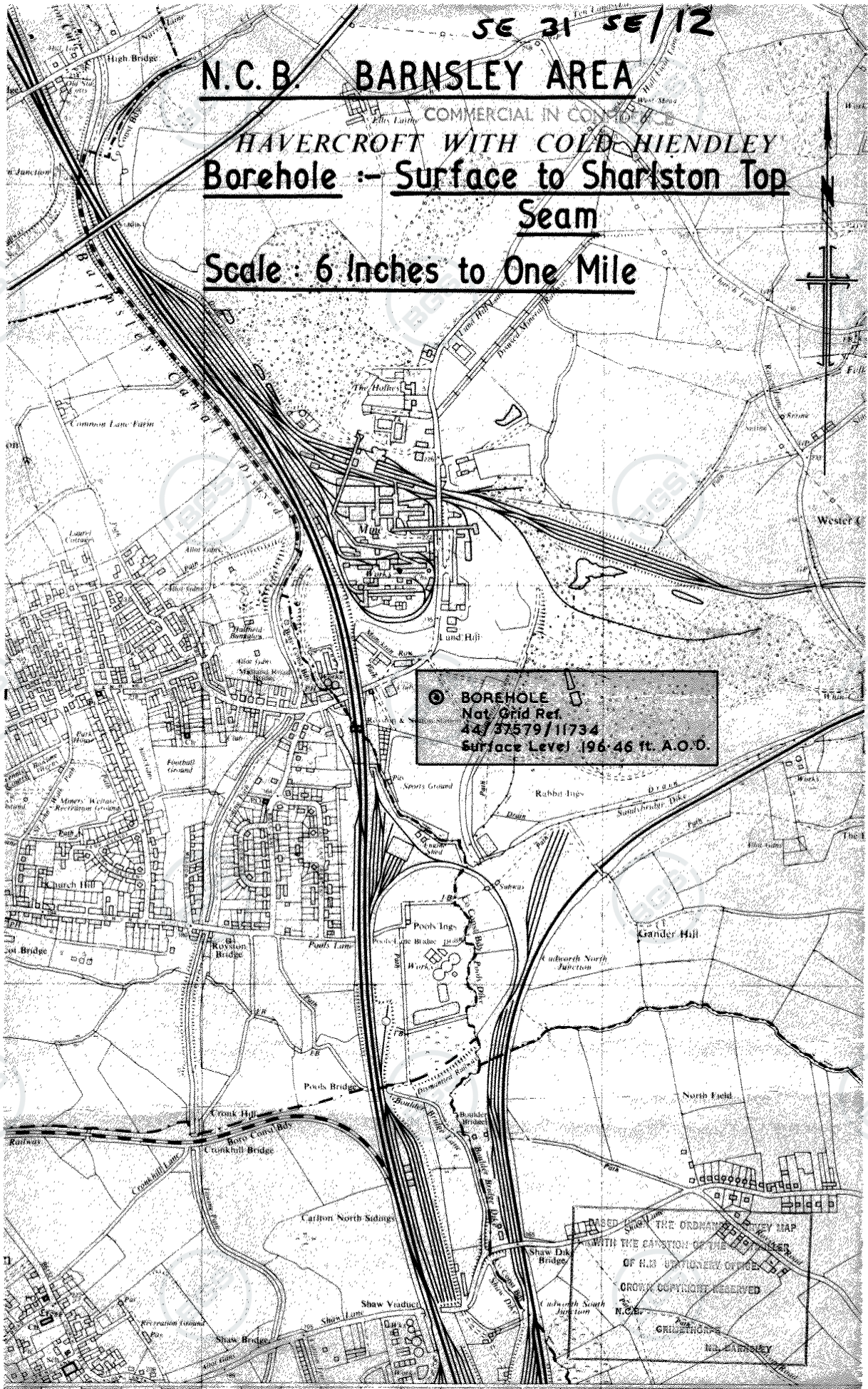
Date of sinking or boring May 1971

Sinker or borer National Coal Board  
Cores, other than coal, examined by W. J. Smith.

8-INCH MAP	B.M. REF. NO.
Yorks. 263 SW (County, Sheet and Qtr.)	
SE 31 SE (Nat. Grid, Sheet & Qtr.)	
Attach tracing from a map or sketch map if possible	

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH (ft.)
		ft.	in.	
	OPEN HOLE - NO CORE	65	1	65
	Pale grey sandstone with carbonaceous micaceous partings	10	50	75
	Grey siltstone with plant debris	31	024	106
	Grey silty mudstone with plant debris	20	631	126
	Finely laminated sandstone and siltstone	0	15	141
	Grey siltstone with contorted sandy layers	10	30	151
	Laminated sandstone and siltstone with carbonaceous micaceous partings	0	13	164
	Grey sandstone with carbonaceous micaceous partings	1	4	168
	Grey silty mudstone with plant debris and occasional sandy streaks	10	466	178
	Grey siltstone with plant debris and sandy layers	0	23	201
	Grey silty mudstone with plant remains	10	300	211
	Grey siltstone with plant remains	10	466	221
	Grey silty mudstone	20	849	241
	Grey siltstone	10	414	251
	Finely laminated sandstone and siltstone with carbonaceous micaceous partings	0	18	261
	Grey siltstone	0	15	276
	Grey slightly silty mudstone, occasional mussels	20	714	296
	Grey mudstone with mussel fragments and occasional ironstone bands	31	024	327
	Dark grey shale with <i>Naiadites</i>	0	20	347
	COAL	3	11	358
	Carbonaceous mudstone and dull coal	1	11	369
	Inferior COAL	0	11	380
	COAL	2	11	391
	Inferior COAL	1	11	402
	Mudstone-seatearth	1	11	413
	Inferior COAL	3	11	424
	Carbonaceous mudstone-seatearth	1	11	435
	Inferior COAL	2	11	446
	Carbonaceous mudstone with coal streaks	0	02	457
	Weak dark grey mudstone-seatearth	0	04	461
	Grey mudstone-seatearth	0	521	465
	Siltstone-seatearth with rootlets	0	25	490
	Weak grey/brown mudstone-seatearth	0	612	551
	Sphaeroiderite band	0	10	561
	Brown/grey mudstone-seatearth	0	461	607
	BOTTOM OF BOREHOLE			

SHARLSTON TOP







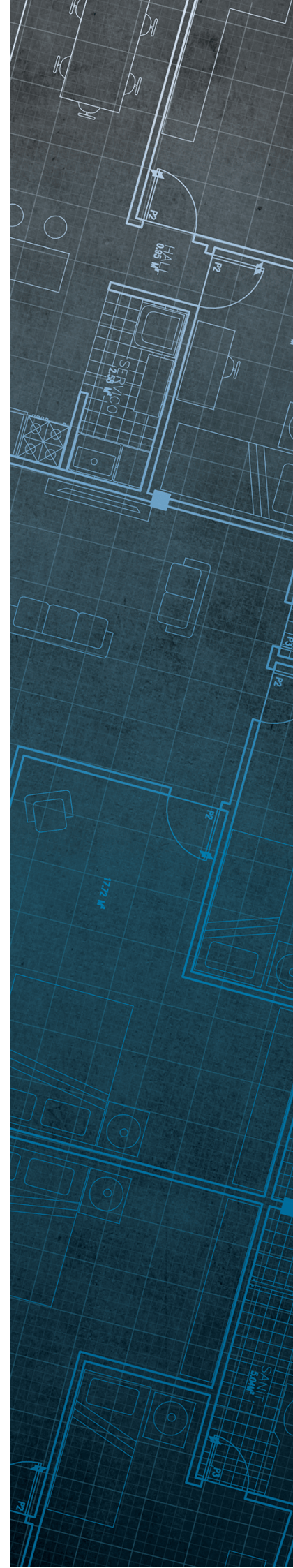
The Coal  
Authority

# Consultants Coal Mining Report

Rabbit Ings Country Park  
Lund Hill Lane  
Royston  
Barnsley  
Barnsley  
S71 4BB

Date of enquiry: 7 August 2024  
Date enquiry received: 7 August 2024  
Issue date: 7 August 2024

Our reference: 51003442472001  
Your reference: 24-562



# 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

ARC ENVIRONMENTAL LTD

## Enquiry address

Rabbit Ings Country Park  
Lund Hill Lane  
Royston  
Barnsley  
Barnsley  
S71 4BB

## How to contact us

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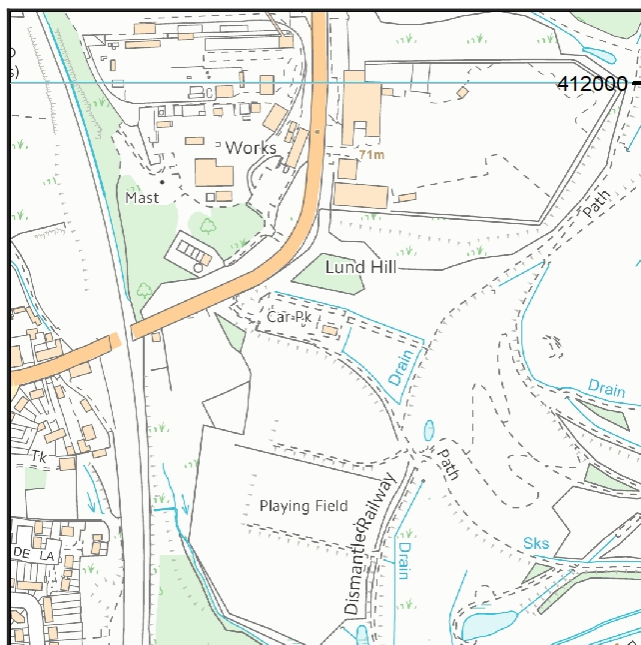
[www.groundstability.com](http://www.groundstability.com)

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



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	KENT THICK	Coal	64UB	292	South	6.4	North	84	1960
unnamed	WINTER	Coal	6TVW	293	North-East	5.5	North	82	1948
unnamed	KENT THICK	Coal	63BE	302	South	4.0	East	84	1952
unnamed	LOW BARNESLEY	Coal	6621	356	South-West	2.9	North-East	161	1906
unnamed	LOW BARNESLEY	Coal	6622	386	Beneath Property	8.2	North	161	1906
unnamed	LOW BARNESLEY	Coal	6623	405	North	5.8	North	161	1902
unnamed	TOP HAIGH MOOR	Coal	XXXX	425	South	2.8	North	107	1919
unnamed	LOW BARNESLEY	Coal	6ZQT	427	North	0.7	North-West	155	1901
unnamed	TOP HAIGH MOOR	Coal	6624	456	Beneath Property	7.2	North	130	1927
unnamed	TOP HAIGH MOOR	Coal	6627	479	North	5.5	North	107	1917
unnamed	TOP HAIGH MOOR	Coal	6ZQV	510	North	0.9	South-West	107	1915

## Probable unrecorded shallow workings

Yes.

## 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

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

NE190	NE577	NE197
16354	NE577	NE224
NE546		

**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
SHARLSTON TOP	Coal	Yes	16.6	South	96

### 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

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](mailto: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](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.

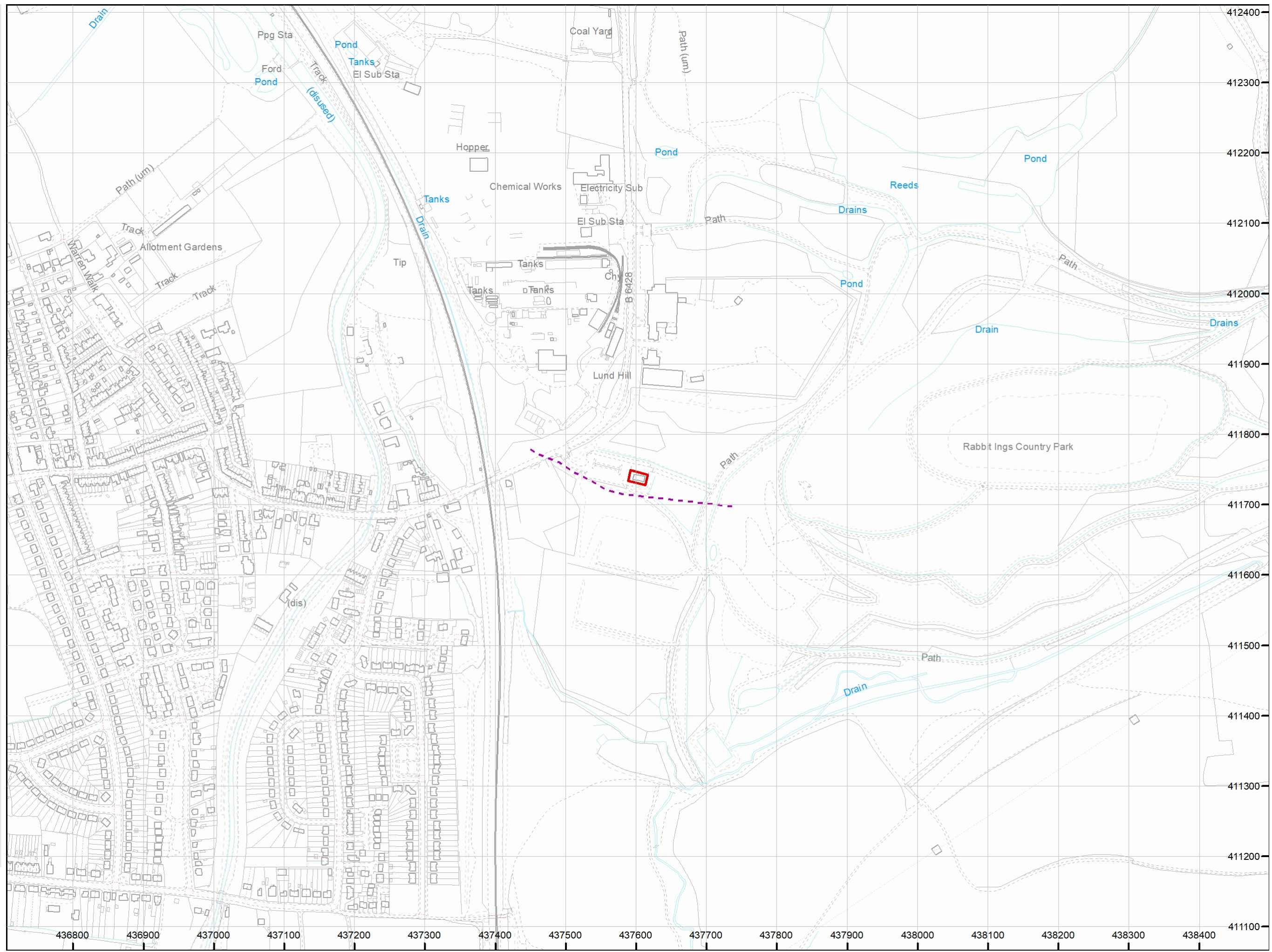
### **Payment to owners of former copyhold land**

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 
- Outcrop (Conjectured) 



**How to contact us**  
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 www.groundstability.com