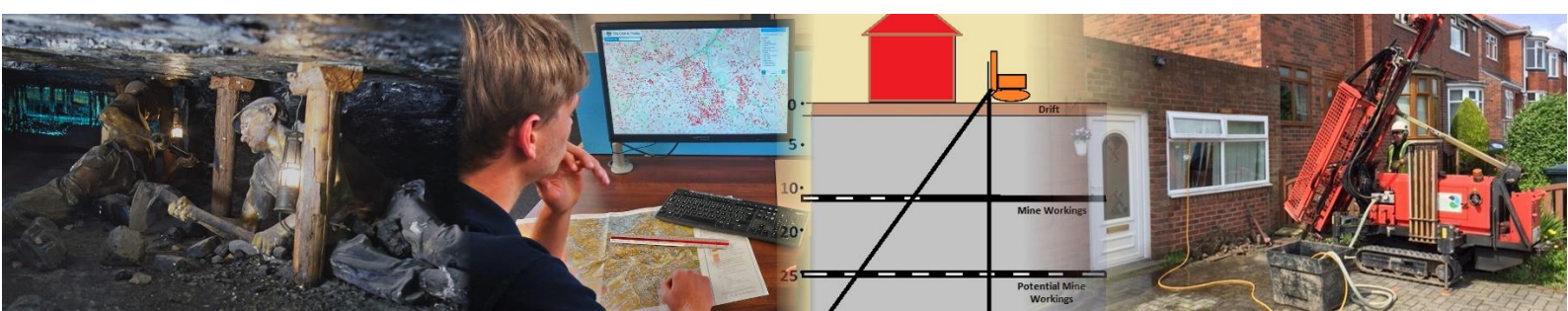




GEOLOGICAL
GEOTECHNICAL
GEOENVIRONMENTAL
CONSULTANCY
DRILLING & DATA ACQUISITION



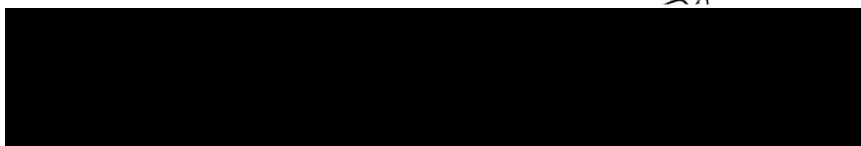
GEOINVESTIGATE LIMITED

Coal Mining Risk Assessment (CMRA)

LOCATION	Woodward Electrical Limited, Park Road, Church Gresley, Swadlincote, Derbyshire DE11 9QE
ISSUE DATE	21 August 2019
FOR	Woodward Group
CLIENT REF.	
OUR REF.	G19318

Prepared by

Checked by



Matthew Walker BSc(Hons)
Asst. Geo-environmental Engineer

Ross Nicolson BSc(Hons) MSc(Eng) CEng MIMMM
Principal Geotechnical Engineer

SUMMARY FINDINGS

OUTCOME (MITIGATION REQUIRED)

Exploratory drilling is required to investigate possible underground coal mine workings and/or fireclay workings within very shallow and shallow depth beneath this site. A buried/hidden former water well shaft may occur at the front of the property and if encountered during the construction works may require some limited treatment.

WHAT TO DO NEXT

Obtain quotes for the intrusive site investigation works. The cost of the SI works should be a **"lump sum" fixed price**. Geoinvestigate can provide advice and assistance with helping you find suitable site investigation & drilling contractors. Call us on 01642 713779 or email enquiries@geoinvestigate.co.uk.

1. CMRA INTRODUCTION

1.1 SITE LOCATION AND DESCRIPTION

The approximate centre of this site is at National Grid Reference E 430047, N 318948 with an elevation of about 121m AOD. The boundary shown RED on the Coal Authority (CA) report provided in Appendix A corresponds with the planning application area.

Google Satellite and Street View imagery shows a narrow plot of land comprising hardstanding with shed/workshop structure to the front and garage to the rear. The development area is bounded by a gate, barbed wire fencing and mature trees. The site is in an area of older and newer residential housing to the north of Gresley Common and Maurice Lea Memorial Park. It is proposed to build a row of three 2.5 storey dwellings on the site. Site images are presented in Appendix B.

The OS map record dating back to 1883 shows the site as undeveloped land to north of Greasley Common comprising brickworks, potteries, clay pits, collieries, coal shafts and fireclay shafts. Several 'Pumping Shafts' and 'Shafts' are recorded nearby to the south of the proposed development area at this early date. The OS map record indicates that the existing shed/workshop structure on the site was erected circa 1885 - 1888. The site is described as a 'Works' on the map of 1985. The OS map record suggests that the pits and shafts/pumping shafts had perhaps been abandoned and the area restored by 1938 and landscaped into parkland by 1960.

The historical OS map record provides no evidence that the site itself has been subject to sand, clay or gravel pitting, stone quarrying or surface mining activity though several historical mine shafts are recorded close by and spoil heaps and clay pits are recorded in the surrounding area.

A domestic water well is denoted as 'W' on the map of 1883 at the front of the property and may lay hidden below the surface today.

Description & Layout of Proposed Development: It is proposed to demolish the existing buildings and erect three 2.5 storey terraced residential houses on the site with parking and garden space. The proposed development plan is included in Appendix C.

Risk Methodology Applied: This document and the risk assessment methodology adopted herein is based on CA publication RISK BASED APPROACH TO DEVELOPMENT MANAGEMENT - GUIDANCE FOR DEVELOPERS Version 3, 2014 and Version 4 - 2017. The template contained therein is adopted with amendments made by Geoinvestigate Limited.

2. ASSESSMENT OF SITE-SPECIFIC COAL MINING ISSUES

The table overleaf summarises the potential risks associated with coal mining legacy for the proposed development site identified from the CA report in Appendix A:

Coal Mining Issues	Yes	No	Risk Assessment/Remarks
Past underground coal mining	Yes		2.1.1 (refer below)
Probable unrecorded shallow workings	Yes		2.1.2
Spine roadways at shallow depth		No	
Mine entries		No	2.1.3
Outcrop		No	
Geological faults, fissures and breaklines		No	
Opencast Mines		No	
Site Investigation		No	
Coal Mining Subsidence		No	
Mine Gas		No	

Note: For those coal mining issues above identified as “Yes” or highlighted “YELLOW” a more detailed discussion and assessment are made of the risks to the application site and the proposed development. Additional coal mining issues have also been included where appropriate.

2.1 DETAILED DISCUSSION & ASSESSMENT RESPONSE

2.1.1 Past Underground Mining

The CA identify 3 levels of past underground mining between depths of 33m and 367m beneath the property. The seams dip between 4.7° to 6.3° west or south-west.

The highest recorded working is in the ‘Fireclay’ seam 33m beneath the new development and has an extraction thickness of 1.22m. Providing, as expected bedrock occurs at or near surface at this locality then in our opinion such shallow to moderate depth working would normally lie too deep to significantly impact surface ground stability within the development area.

2.1.2 Probable unrecorded shallow workings

According to the CA the site falls within an area of probable shallow unrecorded workings. The CA define Probable Unrecorded Shallow Workings as “Areas where the Coal Authority believes there to be unrecorded coal working that exist at or close to the surface” (i.e. less than 30m).

Section 2.1.4 identifies the presence of shallow fireclay and coal seam some 200m to the west and 300m to the east of the site. Though the geology is perhaps subject to change across this locality and the site the presence of workable clay and coal deposits as well as mine shafts nearby raises further concern about the possible presence of shallow mineworking beneath this new development.

It is our opinion that the probable presence of unrecorded shallow mine workings beneath the site could pose a significant surface ground stability risk to the proposed development and therefore requires further investigation.

2.1.3 Mine Entries

The CA ‘Summary of findings’ map identifies two fireclay shafts (ref 429318-013 and 430318-009), three coal shafts (ref 429319-028, 430319-013 and 430319-014) and one fireclay adit (ref 430319-017) in the vicinity of the site. Fireclay shaft 009 is closest to the new development lying approximately 35m from the property boundary (which includes the adjacent road) and 45m from the proposed new building. According to the CA’s online interactive map viewer shaft 009 is 32m deep perhaps corresponding with the fireclay workings recorded at 33m beneath the property.

In our opinion all these mine entries are too distant to pose a significant ground stability risk to the proposed development. They do however raise concern about possible unrecorded shallow mine working beneath the locality including the site.

2.1.4 Coal Geology

The location of the site is shown on the extract of BGS geology map included in Appendix D. The tentative elevation of the site relative to the vertical geology column is shown below the map. According to the BGS geology map the site is

underlain by the Pennine Middle Coal Measures Formation comprising interbedded grey mudstone, siltstone, pale grey sandstone and commonly coal seams.

The vertical geology column suggests that the site could be underlain by one or two unnamed coal seams at shallow or very shallow depth with the Little (C) Coal and the Little Kilburn (LK) Coal seams below.

The positions of BGS boreholes SK21NE/202 and SK31NW/294 located some 200m west and 300m east of the site are shown on the geology map. Their logs are included in Appendix E. Both logs record coal and fireclay seams in the general locality of the site and though the presence of geological faulting between the two is likely to cause variation in the coal geology of this locality this information highlights the possible presence of workable coal and fireclay at shallow and very shallow depth within the area generally and below the new building.

Because of this uncertainty intrusive investigation is in our opinion required to establish drift, coal seam & mine working (if any) depth beneath the site.

2.1.5 Expected Drift/Bedrock Depth

The BGS geology map does not record any drift deposits within the development area and therefore bedrock is expected to occur at or near surface where deep made ground or historical land infilling is absent. According to BGS records SK21NE/202 drift/bedrock depth may range from 1.80m to >3.80m. Similar drift depth is expected within the site. In our opinion further investigation is required to establish drift/bedrock depth within the development area.

3. SUMMARY AND OUTCOME

This CMRA has indicated that the development may be underlain by very shallow and shallow underground coal/fireclay mine working. In our opinion the possible occurrence of very shallow and shallow mine workings beneath the site could pose a significant risk to surface ground stability within the development area.

Therefore, given the forgoing outcome it is our opinion that drilling is required to reliably establish drift/bedrock depth and the presence, depth and nature of mine workings (if any) beneath this site.

While the mine gas risk is expected to be LOW, given the presence of possible shallow mine workings beneath the site, and the very serious nature of mine gas hazard it is our opinion that this risk is raised to **MODERATE** to perhaps HIGH **until proven otherwise by drilling and gas monitoring.**

4. MITIGATION STRATEGY PROPOSED AND CONCLUSION

To properly determine the coal mining risk at this site it is proposed to drill 3 boreholes to target depths up to 30m (but not necessarily reaching 30m) to locate possible coal seams and mine workings below the new development as well as drift and bedrock depth. If possible one (1) hole should extend to 35m to reach the recorded fireclay workings at 33m depth.

Risks for Different Drilling Scenarios					
Air flush	Mist flush	Foam flush	Water flush	Mud flush	Additional controls
HIGH	HIGH / MED'M	HIGH / MED'M	LOW	LOW	- Monitoring at rig and other open holes. - Seal boreholes

A Coal Authority Permit needs to be obtained (ahead of) further intrusive exploratory drilling. Only Water Drill Flush to be used when drilling. Permit application must state **WATER ONLY DRILL FLUSH** for the safety of the public and drill operators.

On the basis of the CMRA work to date, we are of the opinion that the mining stability and mine gas risks posed by the strata beneath this site from coal mining legacy can be mitigated by routinely adopted measures and should not preclude the planning permission being registered.

A water well may be encountered during excavations at the front of the property and depending on its conditions may require infilling. This warning is given because it is possible that such a feature could be misinterpreted as a mine shaft.

The likelihood of the presence of hidden mine shafts occurring within the property is expected to be LOW it is not negligible. Therefore, during the preparatory site and foundation works the developer/builder should check for the presence of unrecorded mine entries which if found should be notified to the CA and treated/stabilised. Alternatively, pre-construction the building area could be stripped or close trenched and checked as part of further intrusive works. This action is however optional.

In conclusion we see no reason why Planning Permission should not be granted in the interim and that these works form a condition on the planning approval.

Appendices:

- A. CA report issued 14 August 2019 ref 51002165249001
- B. Site images
- C. Proposed development plan
- D. Extracts of BGS Geology Map, Sheet 141 - Loughborough at 1:50000 scale
- E. BGS logs

APPENDIX A
COAL AUTHORITY REPORT

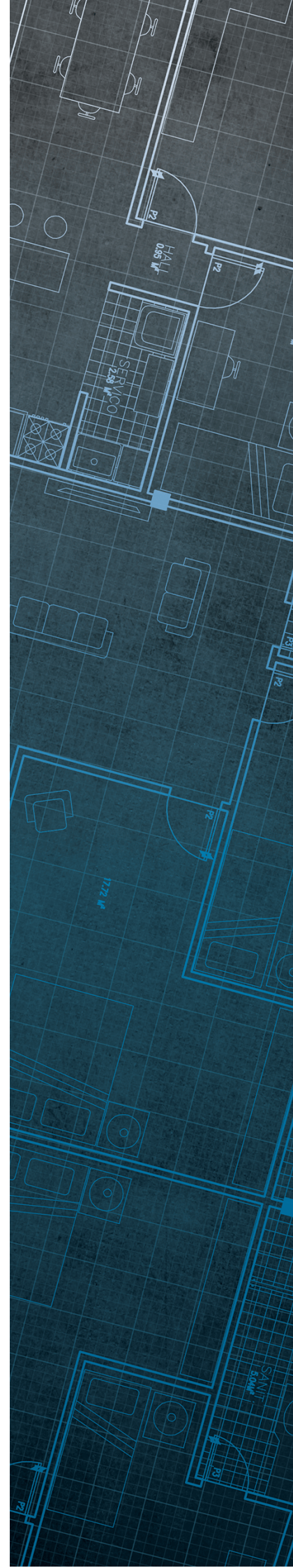


The Coal
Authority

Consultants Coal Mining Report

Woodward Electrical Limited
Park Road
Church Gresley
Swadlincote
Derbyshire
DE11 9QE

Date of enquiry:	14 August 2019
Date enquiry received:	14 August 2019
Issue date:	14 August 2019
Our reference:	51002165249001
Your reference:	G19318



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

GEOINVESTIGATE

Enquiry address

Woodward Electrical Limited
Park Road
Church Gresley
Swadlincote
Derbyshire
DE11 9QE

How to contact us

0345 762 6848 (UK)
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200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

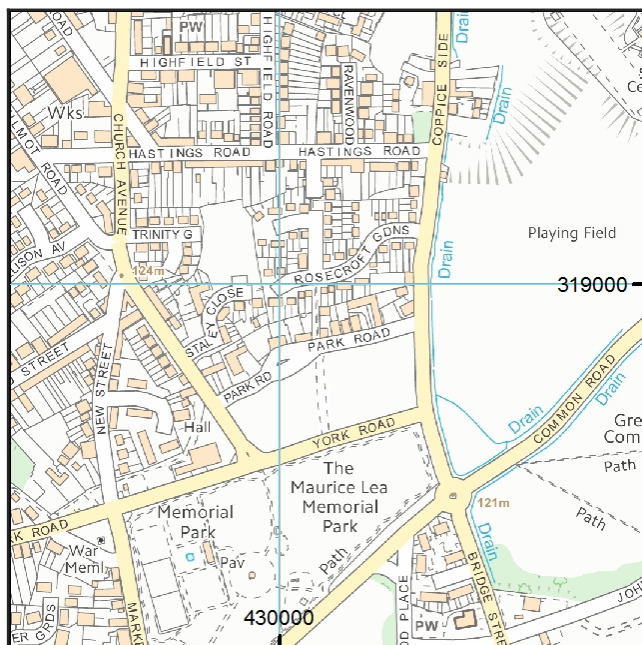
www.groundstability.com

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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
WOODWARDS	FIRECLAY	Fireclay	4RV8	33	Beneath Property	4.7	West	122	1887
CHURCH GRESLEY	MAIN COAL	Coal	4U5X	175	West	2.8	South-West	240	1870
GRANVILLE	LITTLE	Coal	4NXP	207	East	2.4	West	137	1859
CHURCH GRESLEY	MAIN COAL	Coal	4NYD	208	North	1.4	South-West	240	1882
CHURCH GRESLEY	MAIN COAL	Coal	4NYE	209	North-West	1.4	South-West	240	1872
SWADLINCOTE	MAIN COAL	Coal	4U2B	209	North	5.9	South	240	1962
GRANVILLE	LITTLE	Coal	4NFJ	209	East	2.0	South-West	137	1853
CHURCH GRESLEY	MAIN COAL	Coal	4U2D	219	North-West	5.9	South	240	1872
unnamed	LITTLE	Coal	4NFK	219	South	1.6	West	137	1867
GRANVILLE	LITTLE KILBURN	Coal	4NXY	223	East	2.3	West	85	1926
GRANVILLE	LITTLE KILBURN	Coal	4NFO	229	East	3.2	South-West	85	1908
SWADLINCOTE	WOODFIEL D	Coal	4U58	236	West	2.9	South	150	1955
SWADLINCOTE	WOODFIEL D	Coal	4NYM	238	North	0.0	East	137	1956
GRANVILLE	WOODFIEL D	Coal	4NG8	242	North-West	0.0	East	137	1956
SWADLINCOTE	STOCKINGS	Coal	4NYR	249	North	8.4	East	183	1958
SWADLINCOTE	STOCKINGS	Coal	4U7V	252	West	2.3	South	183	1957
SWAD	MAIN COAL	Coal	4NGO	253	South-East	0.0	East	490	1960
CHURCH GRESLEY	MAIN COAL	Coal	4U5V	254	South-West	0.2	South-West	240	1853
unnamed	STOCKINGS	Coal	4GNO	255	West	10.9	South-East	183	1957
SWADLINCOTE	WOODFIEL D	Coal	4NYL	255	North	3.8	South-East	150	1954
SWADLINCOTE	WOODFIEL D	Coal	4U2V	259	North	3.5	South	130	1954
SWADLINCOTE	WOODFIEL D	Coal	4U3O	261	North-West	3.5	South	130	1954

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
GRANVILLE	OVER MAIN	Coal	4NFS	269	East	2.6	West	150	1932
SWADLINCOTE	STOCKINGS	Coal	4U32	270	North-West	3.2	South	183	1952
GRANVILLE	MAIN COAL	Coal	4NFY	270	East	1.8	South-West	183	1860
CHURCH GRESLEY	EUREKA	Coal	4U6M	273	West	0.6	West	105	1912
SWADLINCOTE	STOCKINGS	Coal	4U30	274	North-West	3.2	South	183	1952
CHURCH GRESLEY	EUREKA	Coal	4U43	274	North-West	0.0	East	105	1916
GRANVILLE	MAIN COAL	Coal	4NY5	275	East	3.4	West	183	1897
unnamed	EUREKA	Coal	4NGY	276	West	3.4	West	105	1916
CHURCH GRESLEY	EUREKA	Coal	4NZ2	294	North	5.2	South	105	1917
CHURCH GRESLEY	EUREKA	Coal	4NZ1	294	North	5.2	South	105	1917
CHURCH GRESLEY	EUREKA	Coal	4U40	300	North-West	4.8	South	105	1916
CHURCH GRESLEY	EUREKA	Coal	4NZ0	305	North	5.2	South	105	1918
CHURCH GRESLEY	STANHOPE	Coal	4NZA	310	North	3.2	South	150	1924
CHURCH GRESLEY	STANHOPE	Coal	4NZ9	310	North	3.2	South	150	1924
CHURCH GRESLEY	STANHOPE	Coal	4U4X	311	North	3.6	South	150	1923
unnamed	STOCKINGS	Coal	4NGP	313	Beneath Property	5.1	South-West	180	1952
CHURCH GRESLEY	STOCKINGS	Coal	4NYN	315	East	6.0	South-West	180	1952
GRANVILLE	WOODFIEL D	Coal	4NG6	315	East	1.1	South-West	135	1931
CHURCH GRESLEY	STANHOPE	Coal	4U4Y	315	West	3.6	South	150	1923
GRANVILLE	WOODFIEL D	Coal	4NYH	317	East	5.8	West	135	1897
CHURCH GRESLEY	STOCKINGS	Coal	4U7Y	321	South-West	0.0	East	180	1950
unnamed	STOCKINGS	Coal	4NCN	321	South	2.3	North	180	1950
GRANVILLE	STOCKINGS	Coal	4NGL	331	East	1.8	West	150	1920
GRANVILLE	STOCKINGS	Coal	4NYQ	336	East	4.9	South-West	150	1926
GRANVILLE	EUREKA	Coal	4NYU	339	East	4.3	South-West	120	1910
GRANVILLE	EUREKA	Coal	4NGW	353	East	1.7	West	120	1890

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	KILBURN	Coal	4NH7	367	Beneath Property	6.3	South-West	137	1964
SWADLINCOTE	KILBURN	Coal	4U4H	369	North-West	0.0	East	137	1964
SWADLINCOTE	KILBURN	Coal	4NZE	371	North	1.5	South	137	1964
SWADLINCOTE	KILBURN	Coal	4U6Y	371	West	3.2	South-East	137	1964
GRANVILLE	STANHOPE	Coal	4NZ5	375	East	3.9	South-West	90	1927
GRANVILLE	STANHOPE	Coal	4NH1	381	East	6.3	South-West	90	1892
SWADLINCOTE	KILBURN	Coal	4U4G	385	North-West	3.0	South	137	1963
GRANVILLE	KILBURN	Coal	4NH6	447	East	2.6	North-West	137	1928
GRANVILLE	KILBURN	Coal	4NZD	454	East	7.0	South-West	137	1927

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	429318-013	429966 318864		Fireclay	
Shaft	429319-028	429979 319029	A partial search for this shaft was undertaken in November 2018 but the shaft was not located	Coal	
Shaft	430318-009	430071 318898		Fireclay	
Shaft	430319-013	430100 319039		Coal	
Shaft	430319-014	430132 319018		Coal	
Adit	430319-017	430002 319029		Fireclay	

Abandoned mine plan catalogue numbers

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

4890	11973	2788
EM60	14208	14273
EMST31	OM15190	14042

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

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines 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.

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.

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.

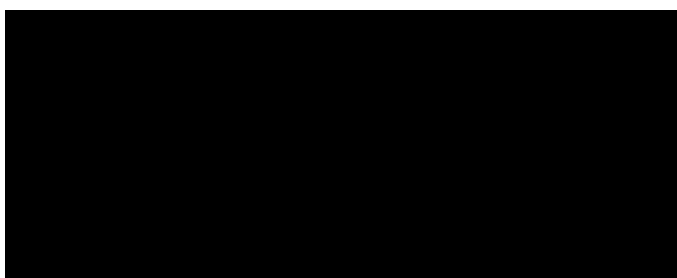
Payment to owners of former copyhold land

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.

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VAT receipt

Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	14 August 2019
Issued to	GEOINVESTIGATE TERRY DICKEN INDUSTRIAL ESTATE TERRY DICKEN INDUSTRIAL ESTATE, ELLERBECK WAY STOKESLEY NORTH YORKSHIRE TS9 7AE
Property search for	WOODWARD ELECTRICAL LIMITED PARK ROAD CHURCH GRESLEY SWADLINCOTE DERBYSHIRE DE11 9QE
Reference number	51002165249001
Date of issue	14 August 2019



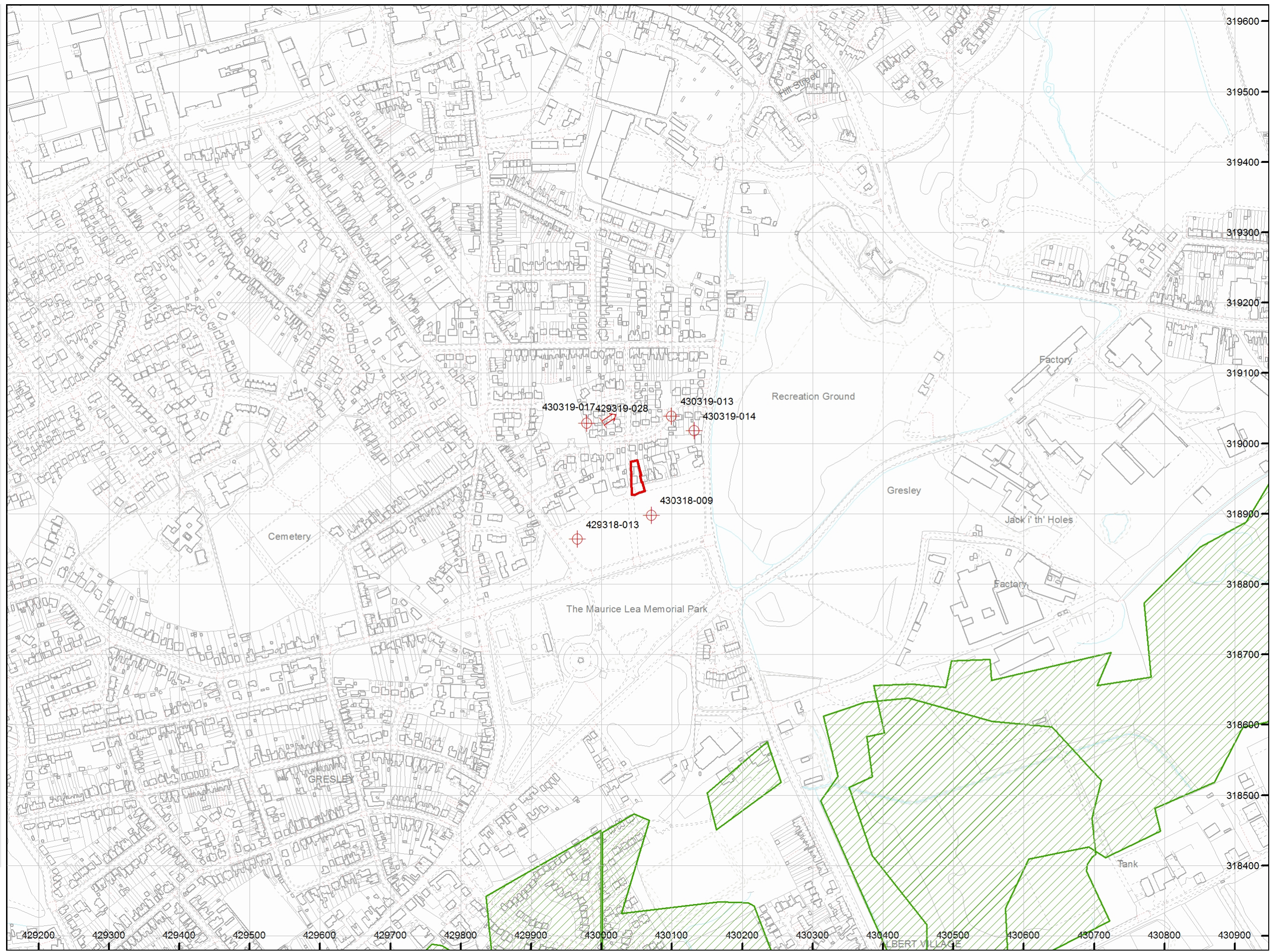
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Disused adit 
- Unlicensed opencast site 

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

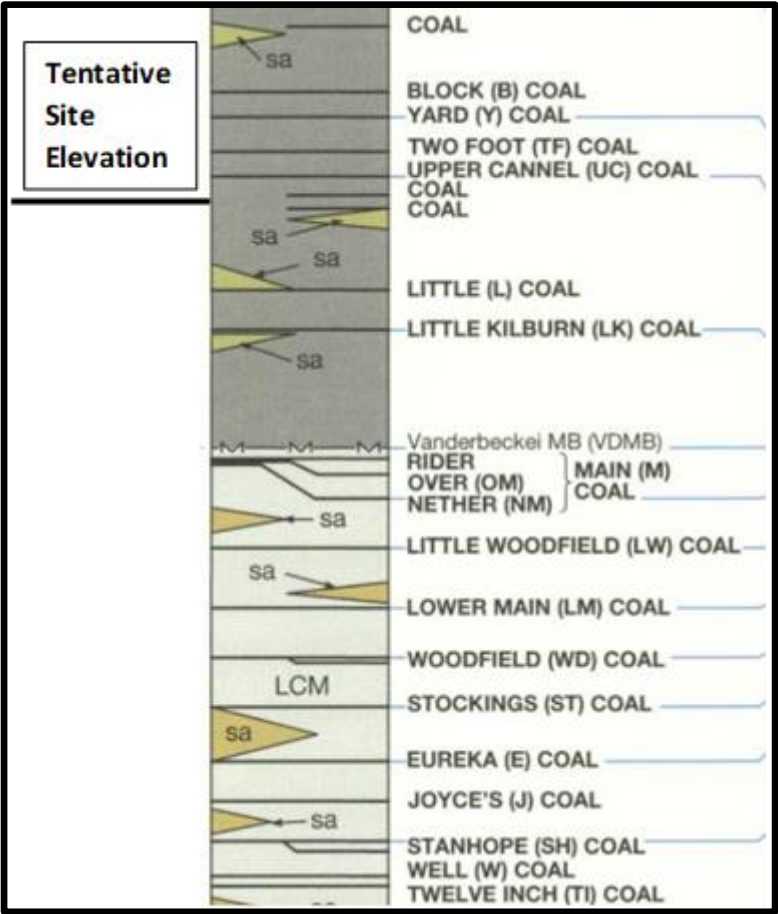
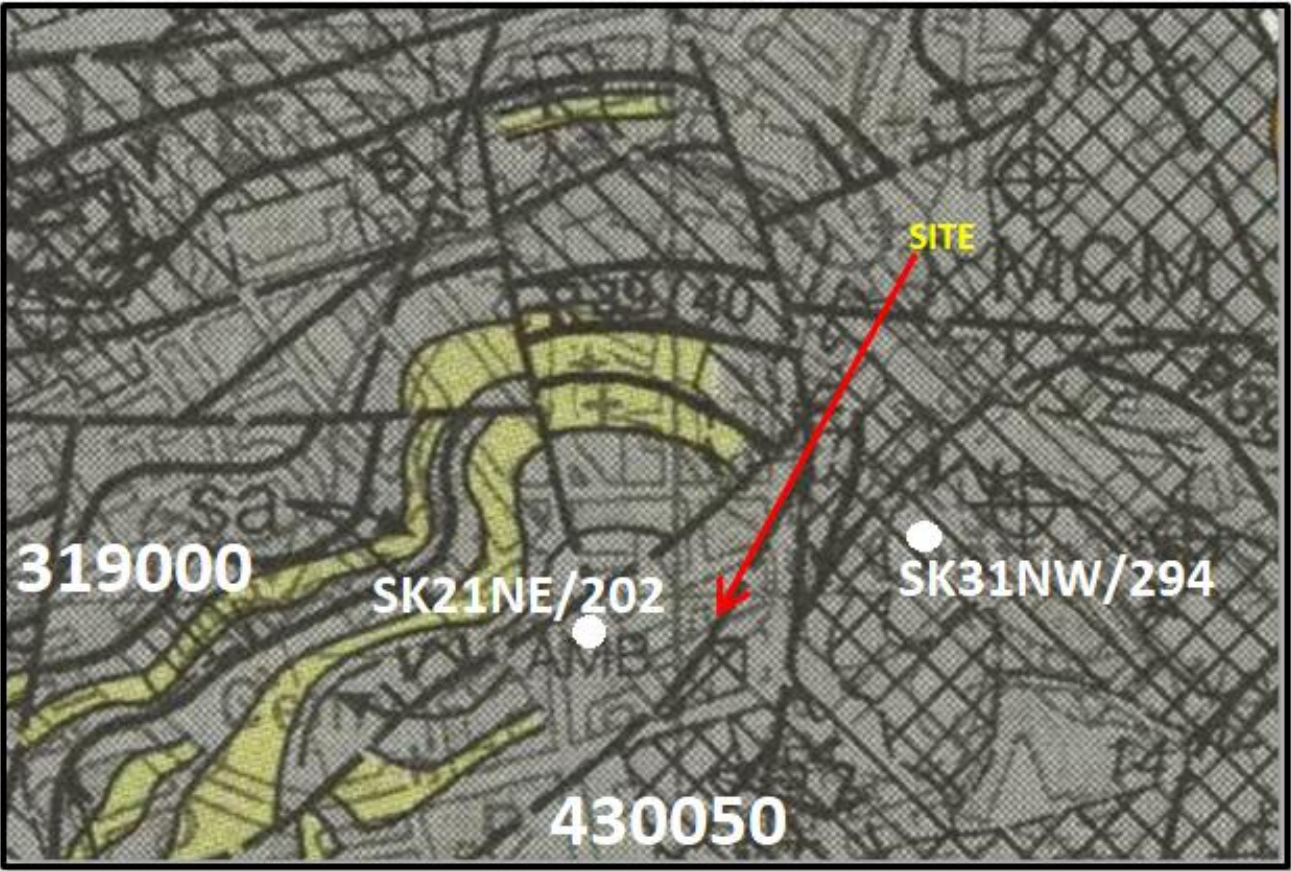


APPENDIX B SITE IMAGES



[illegible]

APPENDIX D
EXTRACTS OF BGS GEOLOGY MAP



APPENDIX E

BGS LOGS

SK21NE 202 BOREHOLE LOG 29858 18907.

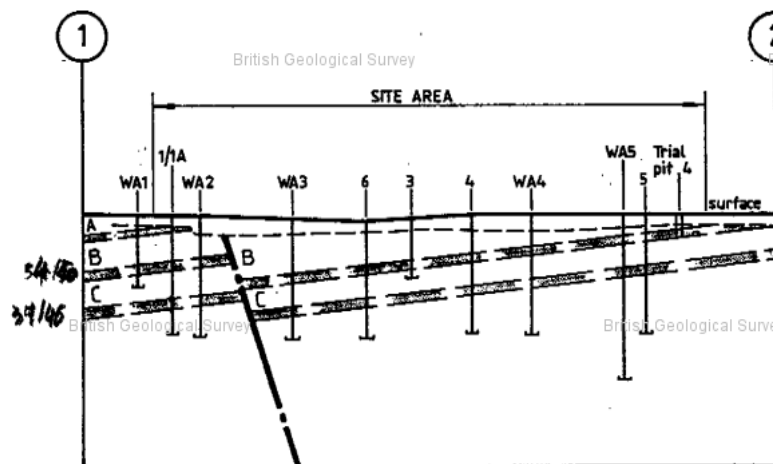
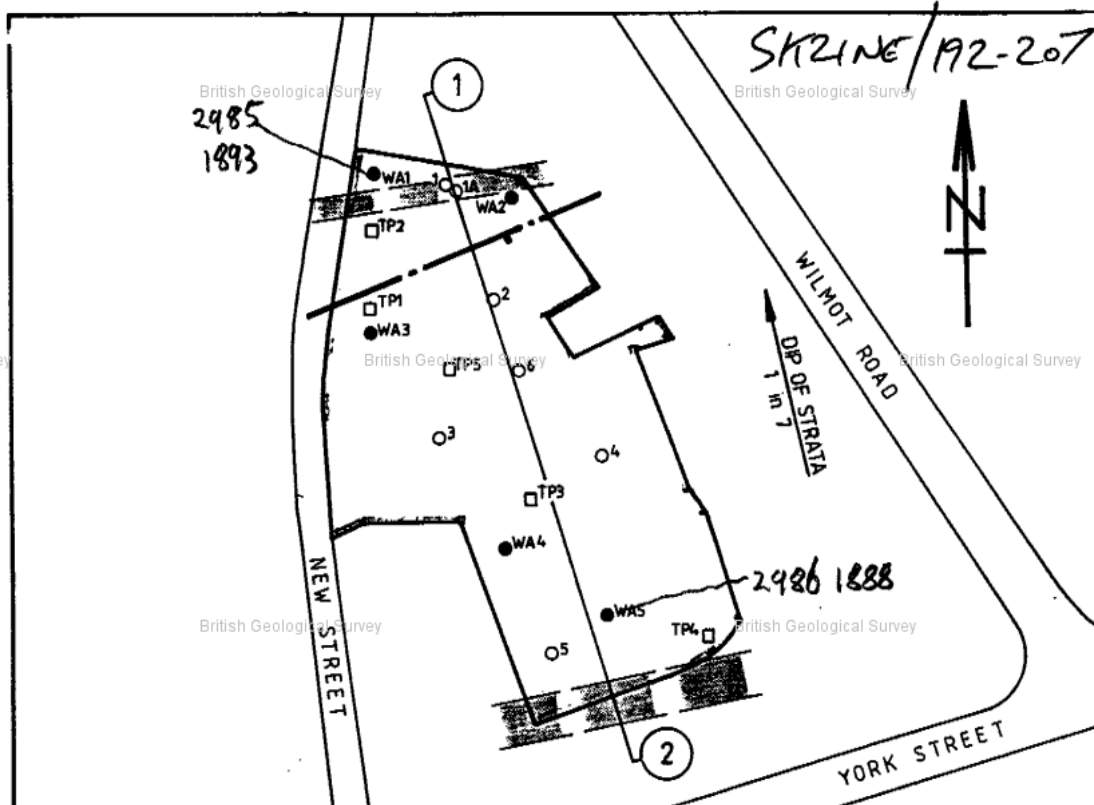
DRILLING METHOD Light Cable Percussion to 4.00 m 150 mm diameter Vertical Rotary Openhole to 25.00 m 73 mm diameter Vertical			POSITION See Location Plan		SITE Proposed Development at New Street, Church Gresley, Derbys.		BOREHOLE NO. 6	
			GROUND LEVEL 121.24 m A.O.D.		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD			WATER DEPTH	THICK-NESS	DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)				
0 - 0.40	D		0.70(1) 0.80(2)	1.10	FILL - Soft ash, clinders, slag, topsoil, root and wood fragments, with traces of brick fragments		1.10	
0.40-1.10	D							
1.10-1.90	D		0.80		FILL - Soft and very soft black silty sandy clay with brick and sandstone fragments		1.90	
2.00-2.45	U		1.50		Very weak yellow brown and grey mottled silty MUDSTONE		3.40	
2.50	D							
2.50-3.40	D							
3.40-3.85	S	98	5.10		Very weak grey slightly friable fissured silty MUDSTONE with bands of dark grey/black mudstone		8.50	
3.40-4.00	D							
					(continued)			
GROUNDWATER AND CASING INFORMATION					REMARKS			
1. Groundwater entry at 0.80 m, rising immediately to 0.70 m.					Changed to rotary openhole drilling at 4.00 m			
2. Standing level after withdrawing casing - 0.80 m					*Based on drillers observations			
NICHOLLS COLTON AND PARTNERS			JOB NO. 46123	SCALE 1 : 50	DATE OF FIELDWORK 6.5.86		LOGGED BY: SMC	

SK21NE

BOREHOLE CONTINUATION SHEET

202

SITE				BOREHOLE NO.			
British Geological Survey				British Geological Survey			
Proposed Development at New Street, Church Gresley, Derbys.				6			
SAMPLE RECORD			WATER DEPTH	THICK-NESS	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL	LOG
DEPTH (m)	TYPE	N	(m)	(m)		(m)	
					(continuation)		
				2.10	Very weak black weathered COAL becoming hard from 10.00 m*		
						110.04	10.60
				4.40	Very weak grey and dark grey MUDSTONE*		
							15.00
				1.40	Black COAL*		
						174.84	16.40
				8.60 NTS	Very weak grey and dark grey MUDSTONE with black coal bands from 23.00 - 25.00 m		
							25.00
NICHOLLS COLTON AND PARTNERS			JOB NO. 46123	SCALE 1 : 50	DATE OF FIELDWORK 6.5.86	LOGGED BY: SMC	



SOUTH DERBYSHIRE DISTRICT COUNCIL.
NEW STREET, CHURCH GRESLEY.

RESULTS OF SITE INVESTIGATION.

REFERENCE.

Site area edged blue.
 Coal / fireclay seam
 Geological fault (tick on downthrow side)

1986 Site investigation borehole ○
 1986 Trial pit □
 1987 Site investigation borehole ●

WARDELL ARMSTRONG | DRG NO 3/3951/3 | SCALE:- 1:1250

141

SK 31 NW / 24
3034 1908

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British Geological Survey

British Geological Survey

Gresley Common.

WOODWARD'S CLAY WORKS.

West end of Gresley Common, about 400 feet above Ordnance Datum.
From plan deposited at the Home Office.

sid
shallow shaft.
Duty. 60 Wt. - W.

	Thickness.		Depth.	
	Ft.	Inch.	Ft.	Inch.
Top clay -		9 0		9 0
Blue bind-		13 0		22 0
COAL		1 0		23 0
Stony clay-		5 0		28 0
Blue bind		18 0		46 0
COAL		1 6		47 6
Marl		5 0		52 6
Fireclay		4 0		56 6

British Geological Survey

British Geological Survey

SK 3033 1912

British Geological Survey

British Geological Survey