



South Derbyshire
District Council
11 AUG 2014

PLANNING SERVICES

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Our Ref: P6686 - CMRA-1
Date: 7th August 2014

Margaret Guthrie
Jolly Colliers Public House
2 Rose Valley
Newhall
Swadlincote
Derbyshire
DE11 0QN

92014/0763

Dear Margaret

RE: Proposed Residential Development to the rear of the Jolly Colliers Public House, Newhall.

We have as requested carried out a Coal Mining Risk Assessment in accordance with guidance provided by the Coal Authority and as required by the Local Authority as part of the planning process.

The result of our assessment is detailed below:-

1.0 Introduction

We have been informed that you propose to develop an area to the rear of the Jolly Colliers public house with two detached, residential properties.

As far as we are aware the site has not been the subject of a Desk Study (Phase 1) or Intrusive Ground Investigation (Phase 2).

Recommendations will be made as to how the risks associated with coal mining can be mitigated.

Site layout and boundary plans, including the location of the proposed properties are included in Appendix A. A site location plan is attached to the Coal Authority mining report included in Appendix B. BGS Borehole records are presented in Appendix C.



2.0 Sources of Information

The following sources of information have been used:-

- Coal Authority Mining Report
- BGS Geological Mapping at a scale of 1:10000.
- BGS Memoirs
- BGS Borehole Records

3.0 Identification and assessment of site specific risks

The Coal Authority (CA) mining report confirms that the site is in the likely zone of influence from recorded workings in 5 seams of coal at 140m to 280m depth last worked in 1961. The Coal Authority confirms that any ground movement from the above mentioned coal seams should by now have stopped. Therefore the risk posed to the ground surface from recorded workings is assessed as **negligible**.

The CA report confirms the likely presence of coal seams at or close to the ground surface that may have been worked at some time in the past. Accordingly the risk posed to the ground surface from any un-recorded workings in shallow coal seams is assessed as **high**.

The CA confirms that the site does not lie within 200m of the boundary of an opencast site from which coal is being removed by opencast methods. The CA confirms that the property does not lie within 800m of an opencast site for which a licence has been granted or is currently being determined. The CA confirms that the site is not within the boundary of an opencast from which coal has been removed by opencast methods. The risk from current, future or past opencast workings is therefore assessed as **negligible**.

The CA confirms that there are no recorded coal mining entries within, or within 20 metres of the boundary of the property. Accordingly the risk from coal mining entries is assessed as **negligible**. However, the Coal Authority also confirms that their records may be incomplete, consequently, there may exist in the local area mine entries of which the Coal Authority have no knowledge and if shallow un-recorded workings are present beneath the site, the risk of mine entries should be increased to **moderate**.

Where coal measures strata lies close to the ground surface, foundations could potentially penetrate or encounter coal seams within their excavation. There is therefore a potential for spontaneous combustion. The risk from spontaneous combustion from near surface coal seams is generally assessed as **low** but some form of precautionary mitigation might be required.

The site is underlain by the following geological formations:-

- Made Ground
- Coal Measures

4.0 Mitigation Strategy Proposed

The mitigation strategy proposed relates to the potential presence of shallow un-recorded workings and un-recorded mine entries.

The 1:10000 scale geological mapping, geological memoirs and BGS borehole records suggest the following:-

- Made Ground / Fill is likely to underlie the site and be between 0.4m and 1.1m in thickness. The Made Ground is described as topsoil with ash brick and clinker.
- Below the Made Ground weathered Coal Measures strata, comprising brown or grey clay are reported to depths of between circa 1.7m and 4.25m begl.
- Rockhead is suggested to be present at depths of between circa 1.7m and 4.25m begl.
- The Made Ground and weathered Coal Measures strata are reported to be underlain by a series of Mudstones with subordinate sandstone, siltstone and coal.
- The outcrop of the Little Coal is indicated immediately to the north / north east of the site on the eastern limb of a synform structure. The outcrop of the Little Kilburn is shown further to the north east, suggesting the strata dip towards to the south west and therefore the Little Coal is likely to underlie the site.
- Coal, voids and possible workings are described in the BGS boreholes to the north west of the site and to the south west of the outcrop of the Little Coal at depths of between 9.45 and 18.4m begl. Correlation between the outcrop of the Little Coal and the coal and possible workings, recorded in the BGS boreholes, suggests the dip of the strata to be between 12.5° and 13.5°.
- Given the location of the Little Coal outcrop relative to the site, it is likely that it will underlie the site at a depth of circa 6m begl.
- Other coals likely to underlie the site include the Little Kilburn Coal and the Main Coal (including the Over Main and Nether Main Coals). The Main Coal is recorded to be 5.5m thick at Swadlincote no3 Colliery to the south of the site. It is estimated that the Main Coal is likely to underlie the site at a depth of 46m begl.
- A normal fault, downthrown to the north west is shown to encroach on the eastern margin of the site.
- Beyond the fault the sequence of strata are older and it likely that the Main Coal will underlie the eastern margin of the site at a depth of 32m begl.

The site is underlain by the Little Coal at a depth of circa 6.0 begl. There is insufficient competent rock cover to protect the surface stability of the site should it have been worked as is the case to the north west of the site. Therefore the risk to the surface stability of the site from un-recorded workings remains **high**.

The Little Kilburn is also likely to underlie the site. This is a thin but persistent coal that can be up to 1.0m thick. It is likely to underlie the site at a depth of circa 22m begl and will therefore have sufficient competent rock cover even if it has been worked.

The Little Kilburn is underlain by the Main Coal, which if it has been worked, but not recorded, is likely to have a worked thickness of 3m. The Main Coal is likely to have sufficient competent rock cover to guarantee the surface stability of the site to the north west of the fault, but not the south east. The fault plane is indicated to dip to the north west and therefore the Main Coal may underlie the south eastern half of the site. However, it is also true to say that the closer the coals are to the fault, the less likely it is that they have

been exploited by underground methods due to the disruption of the strata and difficulties in mining close to the fault.

Probe drilling to confirm the presence of the Little Coal and the possibility of it having been worked in the past will be necessary. On balance it is considered prudent to probe drill to a depth of 35m begl to investigate the depth of the Main Coal.

The site is not at risk from current, future or past opencast workings and the level of risk as a result of our assessment will remain as **negligible**.

The risk from mine entries has been assessed as **moderate** based on the Coal Authority's statement that their records are incomplete and the demonstrable risk of un-recorded workings beneath the site. Given that the Made Ground in the area of the site is likely to be shallow, the risk of un-recorded shafts being on the site can be reduced to negligible by stripping the ground surface to natural ground in the developable area of the site and a competent person inspecting the natural formation to ascertain whether there are any anomalous features that could be indicative of mine entries.

From this assessment it is considered unlikely that coals will present at or close to founding depths or will present a risk to structures due to the potential for combustion within the seam. However, should coals be encountered at or close to founding depths the following plot specific advice has been provided:-

- A cover of mudstone / clay of 0.5m thickness be maintained between the shallow coals and the base of the foundations. A thickness of at least 0.5m of clay should also be maintained above coals out cropping in garden areas.
- Poor quality or thin coals < 0.5m in thickness are not considered to be a risk.
- Foundations that are likely to have less than 0.5m of cover will have to be deepened through the coal.

5.0 Conclusion

The risks amended in line with 4.0 above can be summarised as follows:-

Recorded Workings – **Negligible**.

Recorded Mine Entries – **Negligible**.

Un-recorded Shallow Workings – **High** – may be reduced to negligible by probe drilling to 35m depth begl.

Un-recorded Mine Entries – **Moderate** – may be reduced to negligible by carrying out a site strip and inspection as described in section 4.0 above.

Opencast workings – **Negligible**.

Spontaneous combustion – **Negligible** – recommendations made in 4.0 above should be complied with should coals be encountered close to or at founding levels.

Relevant Appendices

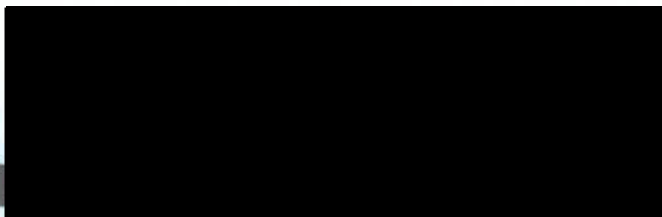
Appendix A – Site Layout and Boundary Plans

Appendix B – Coal Authority Mining Report which includes a site location plan

Appendix C – BGS Borehole Records.

We trust that the information provided is sufficient for your current requirements. if you require any additional information or clarification of the contents of this letter then do not hesitate to contact me.

Yours faithfully



Clive Kirby FGS C.Geol.



A P P E N D I X A

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multi-disciplinary consultancy services, UK-wide:**

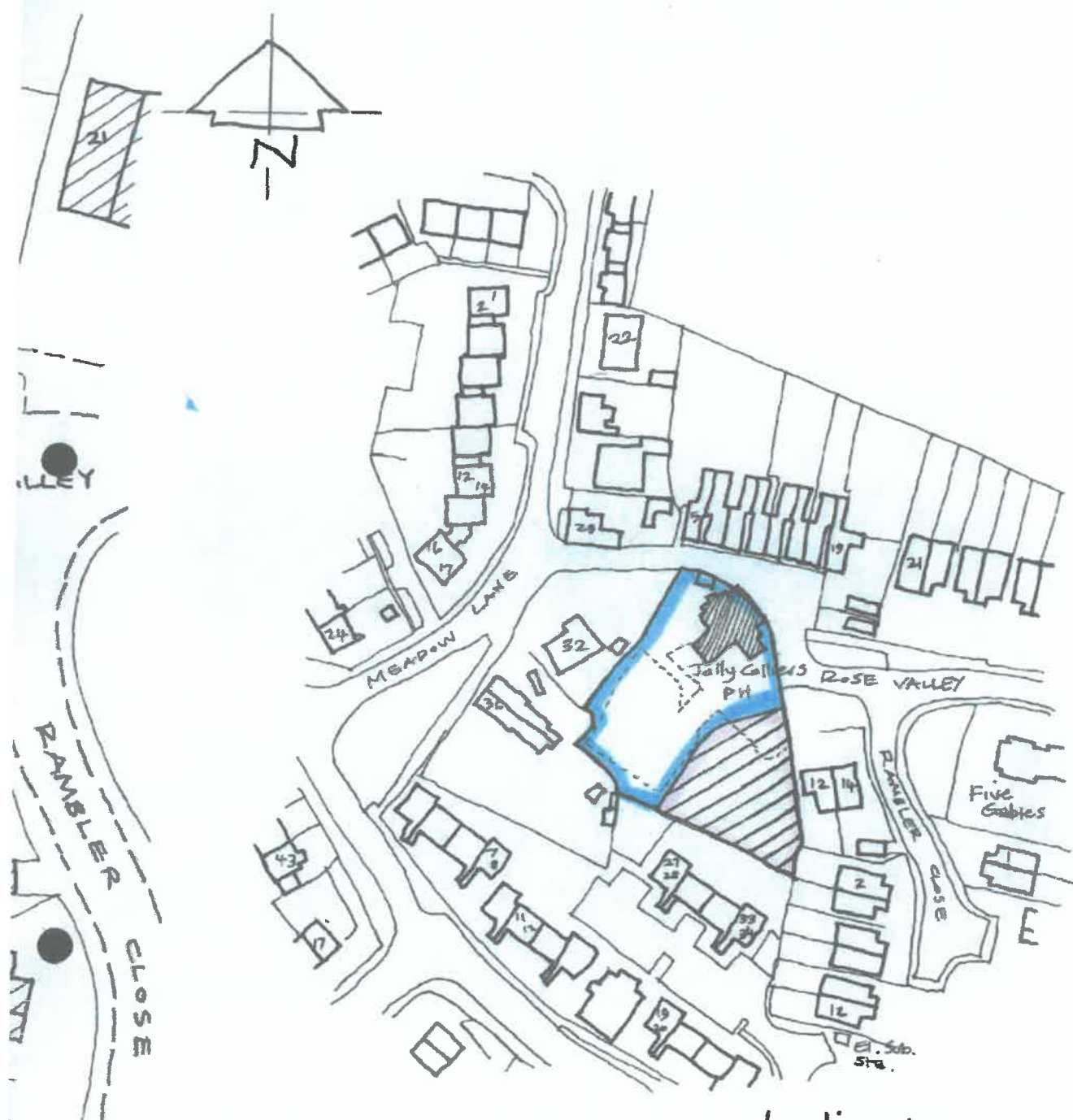
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location plan

 indicates proposed trees/landscaping

Proposed development adjacent to The Jolly Colliers P.H., Rose Valley, Northall.

N. Astle, 24, The City, Woodville, Swadlincote, Derbyshire, DE11 7DH. Telephone (01283) 211 026.

Scales: 1:500, 1:1250. Date: August 2005. Drg. no: NA/MG/1.

MEADOW LANE

Jolly
Colliers
P.H.

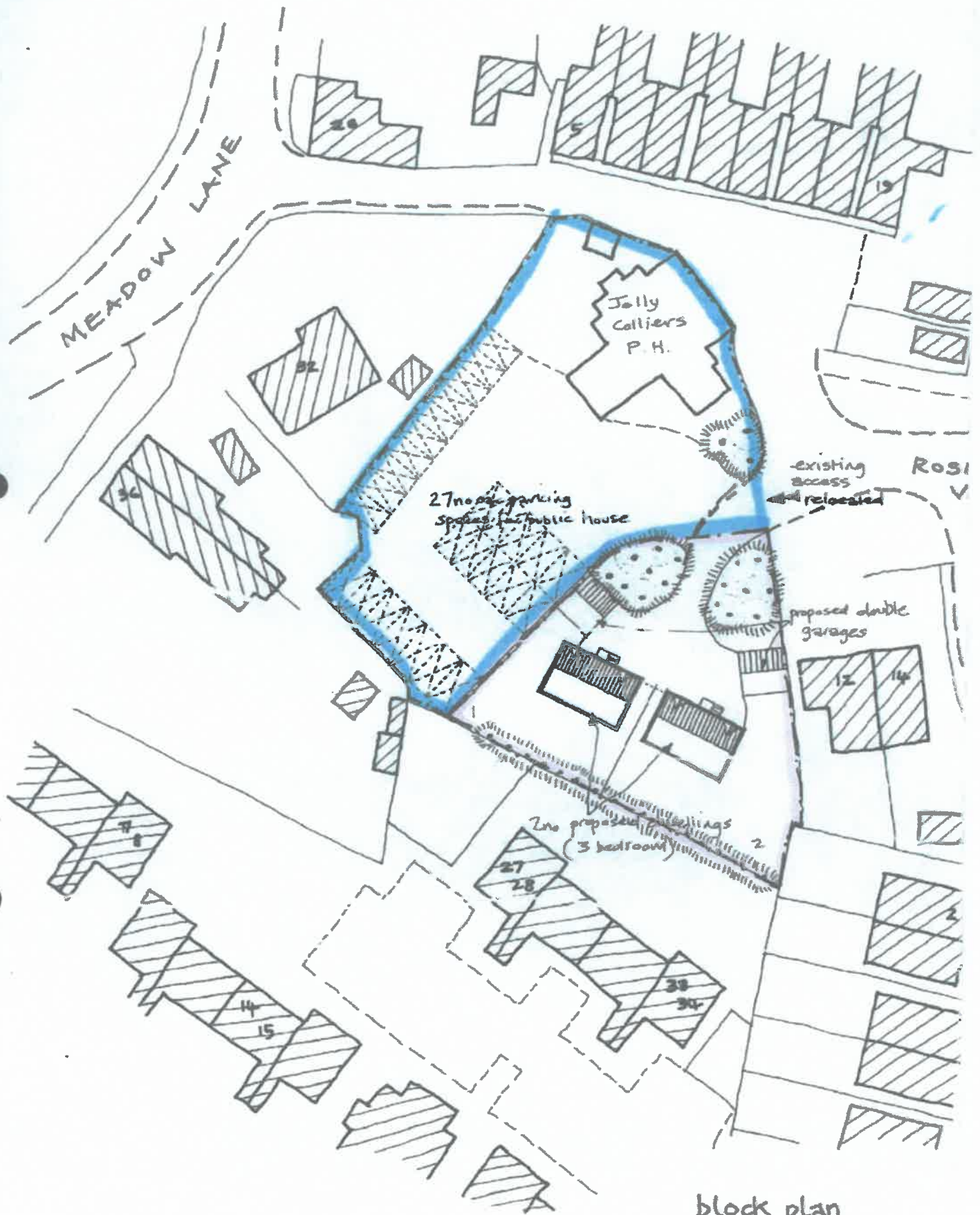
27 no parking
space for public house

existing
access
relocated

proposed double
garages

2 no proposed
(3 bedrooms)

block plan





The Coal Authority

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0845 762 6848 DX 716176 MANSFIELD 5

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BURTON-ON-TRENT
STAFFORDSHIRE
DE14 2WH**

Our reference: **51000594758001**
Your reference: **P6686**
Date of your enquiry: **05 August 2014**
Date we received your enquiry: **05 August 2014**
Date of issue: **05 August 2014**

This report is for the property described in the address below and the attached plan.

Non-Residential Coal Authority Mining Report

2 ROSE VALLEY, NEWHALL, SWADLINCOTE, DERBYSHIRE, DE11 0QN

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	See comments below
Brine Compensation District	No

Information from the Coal Authority

Underground coal mining

Past

The property is in the likely zone of influence from workings in 5 seams of coal at 140m to 280m depth, and last worked in 1961.

Any ground movement from these coal workings should have stopped by now.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on Coal Authority Information section of the report.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast coal mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31st October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The 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

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working facilities orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to owners of former copyhold land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore 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 good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

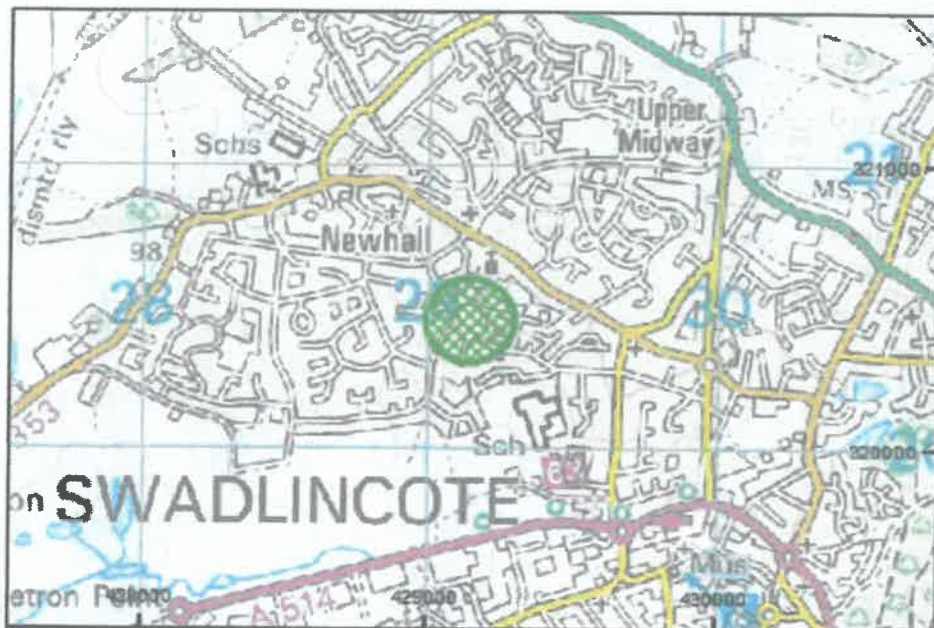
Additional Remarks

This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions 2006. The Coal Authority owns the copyright in this report. The information we have used to write this report is protected by our database right. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

Location map



Approximate position
of property



Enquiry boundary

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Key

Approximate position of enquiry
boundary shown





A P P E N D I X C

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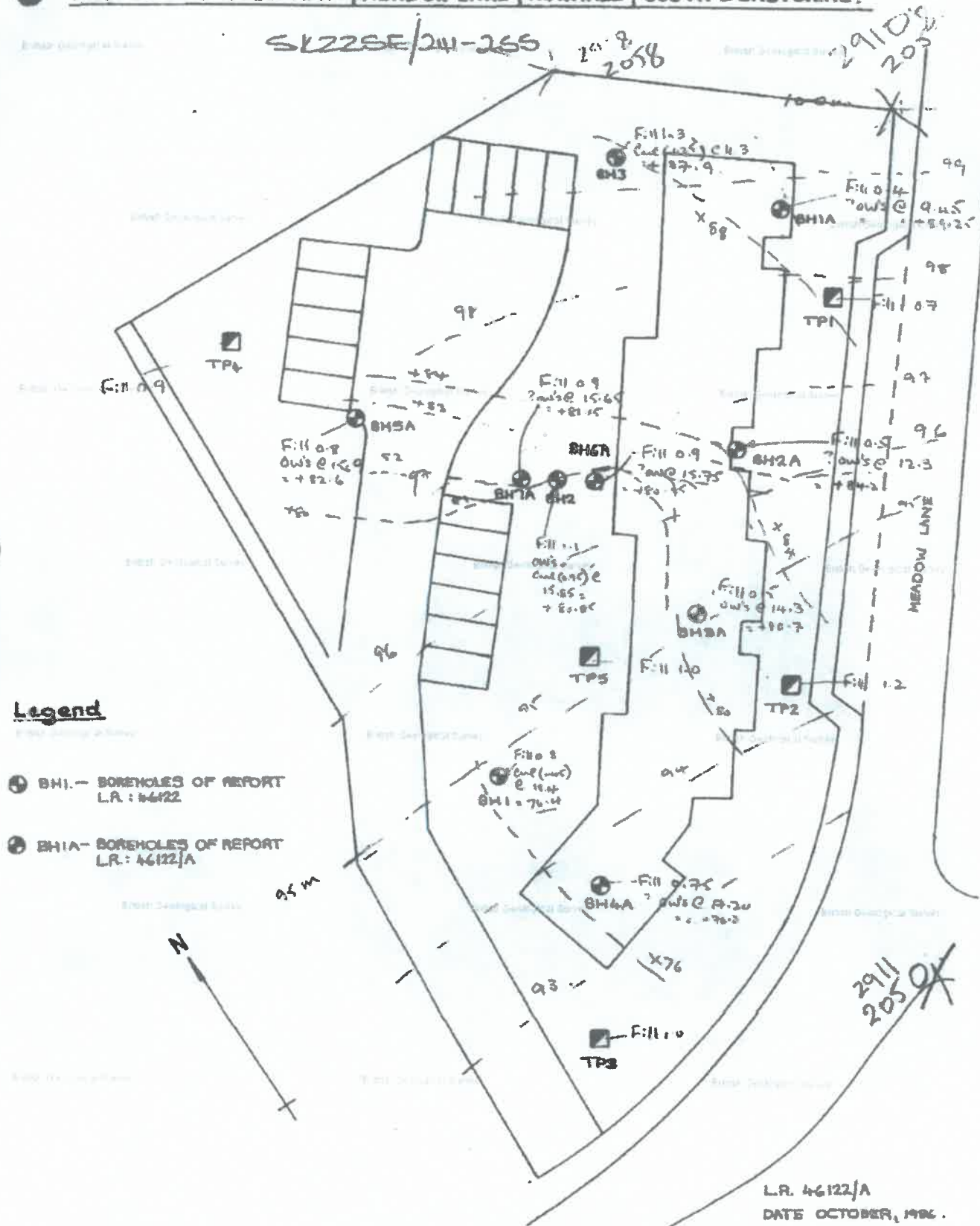
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PROPOSED DEVELOPMENT, MEADOW LANE, NEWHALL, SOUTH DERBYSHIRE.



SKETCH PLAN SHOWING APPROXIMATE LOCATIONS OF BOREHOLES AND TEST PITS

BOREHOLE LOG

SK22SE 241

DRILLING METHOD Light Cable Percussion 150 m Diameter to 6.10m Rotary Openhole 74mm Diameter to 25.00m Vertical			POSITION See Location Plan		SITE Proposed Housing Dev. Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 1	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD			WATER DEPTH	THICK-NESS	2907 2052 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)				
0 - 0.80	D			0.80	FILL - Soft to firm grey and brown friable silty clay with occasional gravel and cobbles		0.80	
0.80 - 1.10	D		1.30	0.90	Firm brown and grey mottled silty CLAY with some mudstone fragments		1.70	
1.10 - 1.55	U		(3)					
1.70	D			1.30	Very weak grey silty MUDSTONE/very stiff CLAY and occasional coal partings			
1.70 - 2.50	D							
2.50 - 2.95	U		2.95(1)				3.00	
			3.20					
3.00	D		(5)	1.00	Stiff grey shaly CLAY with coal partings		4.00	
3.00 - 4.00	D							
4.00 - 4.45	U				Very stiff grey CLAY/very weak MUDSTONE, Hard band 8.20 - 8.70 m with occasional orange bands and becoming dark grey from 14.80 m			
4.50	D		4.95					
4.50 - 5.50	D		(2)					
5.50 - 5.75	U							
5.80	D			12.95				
5.80 - 6.10	S	61/15						
(continued)								
GROUNDWATER AND CASING INFORMATION 1 - Groundwater seepage encountered after taking U100 at 2.50 m, standing level after 10 minutes - 2.95 m 2 - Standing level 3 hours after completion of Light Cable Percussion drilling - 4.95 m					3 - standing level, morning of 23.4.86 - 1.30 m 4 - Groundwater seepage encountered at 18.40 m 5 - Standing water level after withdrawing casing - 3.20 m			
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122	SCALE 1 : 50	DATE OF FIELDWORK 22nd & 23rd April, 1986		LOGGED BY: SMC	

* Based on drillers observations

BOREHOLE CONTINUATION SHEET

SK226E 241

SITE					BOREHOLE NO.		
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire					1		
SAMPLE RECORD		N	WATER DEPTH (m)	THICK- NESS (m)	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE						
					(continuation)		
16.95-18.40			18.40	1.45	Black slightly silty COAL	18.40	
			(4)	NTS 5.60	Dark and light gray bedded shaly CLAY/MUDSTONE with a band of black sooty COAL 24.00 - 24.10 m *	25.00	✓
NICHOLLS COLTON AND PARTNERS			JOB NO. 45122		SCALE 1 : 50	DATE OF FIELDWORK 22nd & 23rd April, 1986	
						LOGGED BY: SMC	

BOREHOLE LOG

SK22SE 219

DRILLING METHOD Rotary Openhole 150 mm Diameter (Auger) to 2.00 m 108 mm Diameter (Air Flush) to 11.50 m Vertical			POSITION See Location Plan		SITE Proposed Housing Development, Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 1A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD DEPTH (m) TYPE N			WATER DEPTH (m)	THICK-NESS (m)	2909 2057 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
				0.40	FILL - Topsoil, brick, ash and clinker		0.40	
				0.40	Grey silty CLAY		0.80	
				1.60	Yellow brown silty sandy CLAY		2.40	
				1.45	Yellow brown SANDSTONE		3.85	
				1.70	Pale grey MUDSTONE with a band of sandstone 4.10 - 4.25 m		5.55	
				0.90	Yellow brown SANDSTONE		6.45	
				1.95	Grey MUDSTONE		8.40	
				0.20	Black shaly COAL		8.60	
					Soft black COAL with some grey clay (possible backfilled workings)			
GROUNDWATER AND CASING INFORMATION 1 -Very slight groundwater seepages were encountered on 19/8/86						REMARKS Descriptions are based on drillers observations of air flush returns		
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 18-19.8.86		LOGGED BY: SMC	

SK22SE 244

BOREHOLE NO.
1A

BOREHOLE LOG

SKZSE 242

DRILLING METHOD Light Cable Percussion 150mm Diameter to 5.36m Rotary Openhole 74mm Diameter to 25.00m Vertical			POSITION See Location Plan		SITE Proposed Housing Dev. Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 2			
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL					
SAMPLE RECORD Form CH 1000/1 Rev 1			WATER DEPTH (m)		THICKNESS (m)		2907 2054 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N								
0.10 - 1.10	D			1.10	FILL - Soft to firm grey brown silty clay with occasional gravel and glass fragments			1.10		
1.10 - 1.60	D			1.60	Firm becoming stiff grey and brown mottled silty CLAY with occasional cobbles					
1.60 - 2.05	U									
2.10	D		2.08							
2.10 - 2.70	D		(1)					2.70		
2.70 - 3.00	D				Weak grey silty MUDSTONE					
3.00 - 3.45	U			0.80				3.50		
3.50	D		3.75		Very weak grey SILTSTONE/stiff CLAY					
3.50 - 4.50	D		(3)	1.50						
4.50 - 4.95	U							5.00		
5.00	D				Weak grey silty MUDSTONE, becoming shaly 5.90 - 8.90 m with bands of orange brown sandstone 8.80 - 11.70 m *					
5.00 - 5.36	S	86/21		7.70						
(continued)										
GROUNDWATER AND CASING INFORMATION 1 - Groundwater seepage encountered at 2.10 m, standing level after 10 minutes 2.08 m 2 - Slight seepage at 4.00 m 3 - Groundwater seepage encountered at 5.36 m rising immediately to 3.75 m						REMARKS * Based on drillers observations				
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122	SCALE 1 : 50	DATE OF FIELDWORK 23rd April, 1986		LOGGED BY: SMC			

BOREHOLE CONTINUATION SHEET

SK22CE 242

SITE					BOREHOLE NO.		
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire					2		
SAMPLE RECORD			WATER DEPTH	THICK-NESS	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)			
					(continuation)	12.70	
				1.60	VOID *	14.30	
				0.60	FILL - very loose clay and coal (stowed material) *	14.90	
14.90-15.85				0.95	Black brittle COAL	15.85	
				NTS 9.15	Dark grey CLAY/MUOSTONE *	25.00	✓
MICHOLLS COLTON AND PARTNERS			JOB NO. 46122		SCALE 1 : 50	DATE OF FIELDWORK 23rd April, 1986	
						LOGGED BY: SMC	

BOREHOLE LOG

8K225E 250

DRILLING METHOD Rotary Openhole 150 mm Diameter (Auger) to 1.80 m 108 mm Diameter (Air Flush) to 14.50 m Vertical			POSITION See Location Plan		SITE Proposed Housing Development, Meadow Lane, Newhall, Derbyshire		BØREHOLE NO. 2A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD Editor: Geological Survey			WATER DEPTH (m)		THICK-NESS (m)		2909 2055 DESCRIPTION OF STRATUM Editor: Geological Survey	
DEPTH (m)		TYPE	N			TOTAL DEPTH FROM GL (m)		LOG
				0.50	FILL - Topsoil, ash and bricks		0.50	
				0.30	Grey brown CLAY		0.80	
				1.85	Yellow brown silty CLAY			
				2.00 (1)				
				0.15	Very hard grey MUDSTONE		2.65 2.80	
				2.90	Brown MUDSTONE			
							5.70	
				1.40	Yellow grey SANDSTONE			
							7.10	
				4.00	Grey MUDSTONE/SILTSTONE with a band of sandstone 7.35 - 7.45 m			
(continued)								
GROUNDWATER AND CASING INFORMATION 1 - Slight groundwater seepages were encountered at 2.0 m						REMARKS Descriptions are based on drillers observations of air flush returns		
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 19.8.86		LOGGED BY: SMC	

BOREHOLE LOG

SKOSE 243

DRILLING METHOD Light Cable Percussion 150mm Diameter to 5.57m Rotary Openhole 74mm Diameter to 25.00m Vertical			POSITION See Location Plan		SITE Proposed Housing Dev. Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 3			
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL					
SAMPLE RECORD Initial Geotechnical Survey			WATER DEPTH (m)		THICKNESS (m)		2908 2057 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N								
0 - 0.40	D			0.40	FILL - Soft to firm grey silty clay and topsoil			0.40		
0.40 - 1.30	D			0.90	FILL - Firm grey and brown clay and topsoil with traces of coal fragments *			1.30		
1.30 - 1.50	D			1.30	Firm becoming stiff grey and brown banded and mottled silty CLAY					
1.50 - 1.95	U									
2.10	D									
2.10 - 2.60	D							2.60		
2.60 - 3.00	D				Very weak grey faintly laminated SILTSTONE. Occasionally fissile with a band of orange sandstone					
3.00 - 3.45	U				8.10 - 9.00 m becoming dark grey from 9.40 m*					
3.50	D									
3.50 - 3.95	S	94								
3.50 - 4.50	D									
4.50 - 4.95	S	96								
4.50 - 5.50	D									
5.50 - 5.57	S	53/7								
				7.45						
					(continued)					
GROUNDWATER AND CASING INFORMATION 1 - Little water added to assist boring 2 - No groundwater after withdrawing casing					REMARKS * Based on drillers observations ** Seating blows only					
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122		SCALE 1 : 50		DATE OF FIELDWORK 21st & 22nd April, 1986		LOGGED BY: SMC	

BOREHOLE CONTINUATION SHEET

SK22SE 243

SITE					BOREHOLE NO.		
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire					3		
SAMPLE RECORD		N	WATER DEPTH (m)	THICK- NESS (m)	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE						
					(continuation)	10.05	
				1.25	Black COAL with partings of shaly clay/mudstone *	11.30	
				NTS 13.70	Dark and light grey bedded CLAY/MUDSTONE with thin black shale bands 17.30 - 17.60 m*	25.00	y

NICHOLLS COLTON AND PARTNERS

JOB NO.
46122SCALE
1 : 50DATE OF FIELDWORK
21st & 22nd April, 1986LOGGED BY:
SMC

BOREHOLE LOG

SK225E 252

DRILLING METHOD Rotary Openhole 150 mm Diameter (Auger) to 1.50 m 108 mm Diameter (Air Flush) to 20.50 m Vertical			POSITION See Location Plan		SITE Proposed Housing Development, Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 4A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD			WATER DEPTH	THICK- NESS	2908 2051 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)				
				0.75	FILL - Topsoil, ash and coal fragments		0.75	
				1.80	Brown and grey CLAY		2.55	
				1.15	Brown grey CLAY/MUDSTONE		3.70	
				3.50	Grey MUDSTONE		7.20	
			7.20					
			(1)	0.25	Very hard grey MUDSTONE		7.45	
				2.55	Grey MUDSTONE (continued)			
GROUNDWATER AND CASING INFORMATION 1 - Slight groundwater seepages were encountered at 7.20 m					REMARKS Descriptions are based on drillers observations of air flush returns			
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 21.8.86		LOGGED BY: SMC	

BOREHOLE CONTINUATION SHEET

SK22SE 252

SITE					BOREHOLE NO.		
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire					4A		
SAMPLE RECORD			WATER DEPTH	THICK-NESS	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)			
					(continuation)	10.00	
				0.60	Grey SILTSTONE	10.60	
				1.35	Yellow and grey SANDSTONE	11.95	
				4.00	Grey SILTSTONE with sandstone bands	15.95	
				1.25	Black shaly COAL (possible backfilled workings)	17.20	
				3.30 (NTS)	Grey and black shaly MUDSTONE	20.50	✓
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 20-21.8.86	LOGGED BY: SMC	

BOREHOLE LOG

SKDSE 23

DRILLING METHOD Rotary Openhole (Air Flush). 108 mm Diameter Vertical			POSITION See Location Plan		SITE Proposed Housing Development, Meadow Lane, Newhall, Derbyshire	BOREHOLE NO. 5A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL		
SAMPLE RECORD			WATER DEPTH	THICK- NESS	2905 2055 DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)			
				0.80	FILL - Topsoil, ash and brick fragments	0.80	
				3.45	Brown and grey silty CLAY	4.25	
				4.05	Grey and brown interbedded MUDSTONE	8.30	
					(continued)		
GROUNDWATER AND CASING INFORMATION 1 - No groundwater seepages were encountered					REMARKS Descriptions are based on drillers observations of air flush returns		
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 21.8.86	LOGGED BY: SMC	

BOREHOLE CONTINUATION SHEET

SK22SE 253

SITE				BOREHOLE NO.			
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire				5A			
SAMPLE RECORD			WATER DEPTH	THICKNESS	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)			
					(continuation)		
				1.80	Grey SILTSTONE	10.10	
				1.40	Yellow grey SANDSTONE	11.50	
				1.40	Pale grey MUDSTONE	12.90	
				0.40	Yellow grey SANDSTONE	13.30	
				1.10	Grey SILTSTONE	14.40	
				1.10	Grey MUDSTONE	15.50	
				0.40	FILL - Soft black shaly coal with wood fragments	15.90	
				0.60	Grey shaly CLAY	16.50	
				1.10	Brown and black shaly MUDSTONE	17.60	
				2.90 (NTS)	Grey MUDSTONE	20.50	
MICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A		SCALE 1:50	DATE OF FIELDWORK 21.8.86	LOGGED BY: SMC

BOREHOLE LOG

6K225E 254

DRILLING METHOD Rotary Openhole (Air Flush) 120 mm Diameter Vertical			POSITION See Location Plan		SITE Proposed Housing Development, Meadow Lane Newhall, Derbyshire		BOREHOLE NO. 6A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD Driller's Name			WATER DEPTH (m)	THICK-NESS (m)	2908 2055 DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N	(m)	(m)				
				0.90	FILL - Topsoil, clay, brick and stone fragments		0.90	
				0.20	Grey shaly CLAY		1.10	
				0.90	Orange, yellow brown and grey mottled silty CLAY		2.00	
				4.00	Grey MUDSTONE with bands of pale brown mudstone		6.00	
				0.25	Very hard grey MUDSTONE		6.25	
				2.25	Grey clayey SILTSTONE with a hard band 7.25 - 7.35 m		8.50	
					(continued)			
GROUNDWATER AND CASING INFORMATION 1 - No groundwater seepages were encountered during drilling					REMARKS Descriptions are based on drillers observations of air flush returns			
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 2.9.86		LOGGED BY: SMC	

BOREHOLE CONTINUATION SHEET

SK226E 254

SITE					BOREHOLE NO	
Proposed Housing Development, Meadow Lane, Newhall, Derbyshire					6A	
SAMPLE RECORD			WATER DEPTH	THICKNESS	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)
DEPTH (m)	TYPE	N	(m)	(m)		
				1.65	(continuation) Yellow SILTSTONE	10.15
				1.45	Grey MUDSTONE	11.60
				1.85	Grey SILTSTONE	13.45
				1.15	Fractured grey clayey MUDSTONE with possible small voids	14.60
				1.15	Fractured black COAL and carbonaceous shaly MUDSTONE with possible small voids, (possibly backfilled workings)	15.75
				1.75	Grey shaly MUDSTONE	17.50
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 2.9.86	LOGGED BY SMC

BOREHOLE LOG

SK22CE 255

DRILLING METHOD Rotary Openhole (Air Flush) 120 mm Diameter Vertical			POSITION See Location Plan		SITE Proposed housing Development, Meadow Lane, Newhall, Derbyshire		BOREHOLE NO. 7A	
			GROUND LEVEL Existing		CLIENT SOUTH DERBYSHIRE DISTRICT COUNCIL			
SAMPLE RECORD			WATER DEPTH (m)	THICK-NESS (m)	2907 2054. DESCRIPTION OF STRATUM		TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE	N						
				0.90	FILL - Mixed topsoil, clay, brick and stone fragments		0.90	
				0.20	Grey CLAY		1.10	
				1.85	Orange brown and grey silty CLAY		2.95	
				3.00	Grey clayey MUDSTONE		5.95	
				0.25	Very hard grey MUDSTONE		6.20	
				2.60	Grey MUDSTONE		8.80	
(continued)								
GROUNDWATER AND CASING INFORMATION 1 - Slight groundwater seepages were encountered during drilling						REMARKS Descriptions are based on drillers observations of air flush returns		
NICHOLLS COLTON AND PARTNERS			JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 3.9.86		LOGGED BY: SMC	

BOREHOLE CONTINUATION SHEET

SYDSE 25

SITE

BOREHOLE NO.

Proposed Housing Development, Meadow Lane, Newhall, Derbyshire

7A

SAMPLE RECORD		WATER DEPTH (m)	THICK- NESS (m)	DESCRIPTION OF STRATUM	TOTAL DEPTH FROM GL (m)	LOG
DEPTH (m)	TYPE					
			1.40	(continuation) Yellow silty SANDSTONE	10.20	
			2.90	Grey SILTSTONE with a band of yellow sandstone 11.45 - 11.55 m		
			1.35	Fractured grey MUDSTONE with possible small voids	13.10	
			1.20	Fractured black COAL and carbonaceous shaly MUDSTONE with possible small voids (possible backfilled workings)	14.45	
			1.85	Grey shaly MUDSTONE	15.65	
					17.50	v
NICHOLLS COLTON AND PARTNERS		JOB NO. 46122/A	SCALE 1:50	DATE OF FIELDWORK 3.9.86	LOGGED BY: SMC	