APPENDIX I

Standard Terms and Conditions and Limitations to Reports

STANDARD TERMS AND CONDITIONS AND LIMITATIONS TO REPORTS

This report is provided for the stated purpose and for the sole use of the client. It is confidential to the client and his professional advisors and cannot be shown to any other party without prior written consent. Wardell Armstrong LLP accepts no responsibility whatsoever to any person other than the client.

The findings of this report are based upon information relating to the property supplied by the client or their agents. The information has been accepted and used in good faith and unless otherwise stated, no attempt has been made to verify the information supplied. Should any of these factors or information change then the conclusions of the report may need to be amended.

The findings and recommendations are considered to be valid and appropriate at the time of preparation and for the specific purpose or purposes intended. Wardell Armstrong LLP will not be liable if any findings are used by third parties, without the written agreement of the company, or if an interpretation is made and action taken without further consultation.

APPENDIX II

Borehole Logs from Previous Site investigations

SYMAS Reports - May Day Green and Kendray Street, Barnsley 10/10/2002 (ref. FW/SML/M4364) and Market Redevelopment, Barnsley Centre 10/10/2003 (ref. MAL/SML/M4364/2)

Borehole Logs

FILE NO: M 3308

SOUTH YORKSHIRE COUNTY COUNCIL
MINING ENGINEERS SECTION
BOREHOLE RECORD.

SITE WESLEY STREET / SHEFFIELD ROAD REDEVELOPMENT ..... BOREHOLE NO: 1

BORING METHOD ROTARY OPENHOLE ..... ORDNANCE DATUM LEVEL 97.94m

BOREHOLE DIAMETER 105mm ..... FLUSHING MEDIUM AIR

DATE COMMENCED 10.6.86 ..... DATE COMPLETED 10.6.86

DEPTH FROM	DEPTH TO	DESCRIPTION OF STRATA	THICKNESS	REMARKS
M	M		M	
0	2.0	ASH & BRICK FILL	2.0	CAR PARK
2.0	4.4	WEATHERED BROWN SANDSTONE	2.4	
4.4	5.1	COAL	0.7	
5.1	5.3	GREY SEATEARTH	0.2	
5.3	9.0	GREY SANDY MUDSTONE	3.7	WATER
9.0	11.5	GREY SANDY SHALE WITH COAL BAND	2.5	
11.5	14.2	GREY SANDY MUDSTONE	2.7	
14.2	14.8	COAL & SHALE BANDS	0.6	
14.8	15.0	GREY MUDSTONE	0.2	

DATE : 18.6.86

C. P. Naylor
Mining Engineer.

FILE NO: M 3308

SOUTH YORKSHIRE COUNTY COUNCIL
MINING ENGINEERS SECTION
BOREHOLE RECORD.

TE WESLEY STREET / SHEFFIELD ROAD REDEVELOPMENT ..... BOREHOLE NO: 2

ORING METHOD ROTARY OPENHOLE ..... ORDNANCE DATUM LEVEL 98.71m.

BOREHOLE DIAMETER 105mm ..... FLUSHING MEDIUM AIR

DATE COMMENCED 10.6.86 ..... DATE COMPLETED 10.6.86

DEPTH FROM	DEPTH TO	DESCRIPTION OF STRATA	THICKNESS	REMARKS
M	M		M	
0	2.3	ASH FILL	2.3	CAR PARK
2.3	3.1	BROWN CLAY	0.8	
3.1	7.3	GREY SANDY MUDSTONE	4.2	WATER AT 6.0m
7.3	8.1	COAL	0.8	
8.1	10.9	GREY SHALE / MUDSTONE	2.8	
10.9	11.2	COAL	0.3	
11.2	15.0	GREY MUDSTONE	3.8	

DATE : 18.6.86

C. P. Naylor
Mining Engineer.

FILE NO: M3308

SOUTH YORKSHIRE COUNTY COUNCIL
MINING ENGINEERS SECTION
BOREHOLE RECORD.

SITE WESLEY STREET / SHEFFIELD ROAD REDEVELOPMENT ..... BOREHOLE NO: 3

BORING METHOD ROTARY OPENHOLE ..... ORDNANCE DATUM LEVEL 101.53m

BOREHOLE DIAMETER 105mm ..... FLUSHING MEDIUM AIR

DATE COMMENCED 10.6.86 ..... DATE COMPLETED 10.6.86

DEPTH FROM	DEPTH TO	DESCRIPTION OF STRATA	THICKNESS	REMARKS
M	M		M	
0	1.5	STEEL CASING IN TRIAL PIT - ROAD CONSTRUCTION & HARDCORE	1.5	IN ROAD
1.5	2.7	BROWN CLAY / MUDSTONE	1.2	
2.7	4.5	BROWN SANDY MUDSTONE	1.8	
4.5	10.5	GREY MUDSTONE WITH STONE BANDS	6.0	
10.5	11.1	COAL	0.6	
11.1	11.5	GREY MUDSTONE	0.4	
11.5	12.0	COAL & SHALE BANDS	0.5	
12.0	15.0	GREY MUDSTONE & SHALE	3.0	

DATE : 18.6.86

C. P. Naylor
Mining Engineer.

FILE NO: M 3308

SOUTH YORKSHIRE COUNTY COUNCIL
MINING ENGINEERS SECTION
BOREHOLE RECORD.

SITE WESLEY STREET / SHEFFIELD ROAD REDEVELOPMENT ..... BOREHOLE NO: 4

BORING METHOD ROTARY OPENHOLE ..... ORDNANCE DATUM LEVEL 104.34m

BOREHOLE DIAMETER 105mm ..... FLUSHING MEDIUM AIR

DATE COMMENCED 10.6.86 ..... DATE COMPLETED 10.6.86

DEPTH FROM	DEPTH TO	DESCRIPTION OF STRATA	THICKNESS	REMARKS
M	M		M	
0	0.6	TOPSOIL	0.6	GRASS VERGE
0.6	2.0	BROWN CLAY	1.4	
2.0	5.3	BROWN SANDY MUDSTONE	3.3	
5.3	9.7	GREY MUDSTONE	4.4	
9.7	10.8	COAL	1.1	
10.8	15.0	GREY SHALE/MUDSTONE	4.2	WATER AT 12.0m

C. P. Naylor

M727

DRILLING

LOCATION: BARNSLEY BUS STATION

Rotary Percussion

BH 2 (STAGE No-1)

Date

Sheet 1 of 1

R.L. A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
		FILL				
.40	1.40					
.50	1.90	SHALES				
.60	2.50	COAL				
.30	2.80	Muck				
.70	3.50	COAL				
		SHALES				
.30	10.80					
.20	11.00	COAL				
.40	11.40	Muck				
.90	12.30	COAL				
.40	12.70	SHALES				

ABDY (WHITTER)

TOP BEAMSHAW

M727

DRILLING

LOCATION: BARNSLEY BUS STATION

BH 3 (SYWAS No. 2)

od Rotary Percussion

Date

ing

Sheet 1 of 1

.L. A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
		FILL				
1.50	1.50					
		MUDSTONE				
1.10	2.60					
		COAL				
0.40	3.00					
		Muck				
0.30	3.30					
		COAL				
0.50	3.80					
		SHALES				
8.10	11.90					
		COAL				
0.20	12.10					
		Muck				
0.50	12.60					
		COAL				
0.40	13.00					
		SHALES				
1.00	14.00					

ABDY (WINTER)

TOM BEANLSHAW

M727

DRILLING

LOCATION: BARNSLEY BUS STATION

BH 4 (SIM95 NO 3)

hod: Rotary Percussion

Date

asing

Sheet 1 of 1

R.L. A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
		FILL				
3.50	3.50					
1.30	4.80	MUDSTONE				
		SHALES				
7.10	11.90		←	Top coal ?		
0.60	12.50	COAL		TOP BEAMISHAM		(btm coal)
0.40	12.90	Muck				
		SHALES				
6.10	19.00					

DRILLING

LOCATION: BARNSLEY BUS STAION

BH 5 (SYMAS BH 4)

hod Rotary Percussion

Date

sing

Sheet 1 of 1

.L. A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
		FILL				
1.60	1.60					
		MUDSTONE				
0.90	2.50					
		SANDSTONE				
0.30	2.80					
		MUDSTONE				
1.20	4.00					
		SHALES				
5.30	9.30					
		COAL				
0.10	9.40					
		SHALES				
0.60	10.00					
		COAL				
0.50	10.50					
		SHALES				
2.50	13.00					

TOP BARNSLEY

4727

DRILLING

LOCATION: BARNSLEY BUS STATION

BH 6 (SYMPS BH5)

thod Rotary Percussion

Date

asing

Sheet 1 of 1

R.L. m A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
2.50	2.50	FILL				
1.60	4.10	MUDSTONE				
3.50	7.60	SHALES	1	TOP LOMA ?		
0.70	8.30	COAL		TOP BEAMSHAW (4½m lost ?)		
1.70	10.00	SHALES				

M727

DRILLING

LOCATION: BARNSLEY BUS STATION

BH 7 (STANLEY SHEET)

hod Rotary Percussion

Date

asing

Sheet 1 of 1

R.L. n A.O.D.	DEPTH m	SOIL DESCRIPTION	SAMPLING No.	SAMPLING Depth	TEST	RESULT
	G/L					
		FILL				
1.00	1.00					
		SHALES				
2.50	3.50					
		MUDSTONE				
0.30	3.80					
		SHALES				
3.80	7.60					
		COAL				
0.20	7.80					
		SHALES				
0.40	8.20					
		COAL				
0.60	8.80					
		SHALES				
1.20	10.00					

TOP BARNSHAW

Jordan Pritchard Gorman and Owen Williams Geotechnical - Preliminary Report on Environmental Audit and Report on Further Environmental Investigations at Lambra Road, Barnsley (December 1994 and April 1995).

Borehole Logs

Depth	Stratum Description
G.L	Concrete.
0.30	Stone & Bricks
0.50	Soft Brown & grey mud-stone clay.
3.00	Loose stone & brick
3.50	Grey weathered mudstone. full with brick & stones.
4.50	Loose brick with stone & mudstone.
6.25	Grey mudstone.

Borehole Complete / Incomplete

Water Strikes

	1st	2nd	3rd
Depth Struck	2.70	4.50	
Casing Depth			
Inflow	STATIC	STATIC	
Depth 5 mins			
Depth 10 mins			
Depth 15 mins			
Depth 20 mins			
Cut off at	3.50	6.50	

Standpipe Details

(Details on separate sheet)

	From	To
Piezometer		
Tip		
Filter		
Standpipe	From	To
Slotted Pipe		
Filter		

Time Water Rose

	Depth	Casing	Time
Morning			
Evening			
Other			

WATER LOSS

	From	To
Water Added		
Borehole Kept Full		

Time Water Sealed Off

Time (o' clock) From	Time (o' clock) To	Depth (m) From	Depth (m) To

Casing

Diameter (mm)	Borehole	Casing
300		
260		
200		
150	7.25	7.00

Excavation Dimensions:

Backfill: SPOIL

Remarks :- Visitors, Instructions, Weather, etc

Q.A

S/C	D	B	U	W
Move	Drill	Stand	Break	Work

Crew

SITE: BARNSLEY

JOB No.: 124313

RIG TYPE: PLCON 1500

DAY: FRI

DATE: 9.12.94

Drillers Signature: B Hoyes

Move From:- 6

BH No.: 1

Top copy to office, Green to Engineer, Blue to Client, Red to Driller

Exploration Drilling & Piling Ltd

Depth	Strata Record
0-1	Concrete
0-16	Roadstone
0-50	Sand clayey stone fill.
1-00	Brown weathered mudstone
2-00	Grey weathered mudstone.
	3.10

Borehole Complete / Incomplete

Water Encountered			
Depth Struck	DRY		
Casing Depth			
Inflow			
Depth 5 mins			
Depth 10 mins			
Depth 15 mins			
Depth 20 mins			
Cut off at			

Water Level	Depth	Casing	Time
Morning			
Evening			
Other			

Time (o' clock)		Depth (m)	
From	To	From	To

Excavation Dimensions:

(Details on separate sheet)

Piezometer	From	To
Tip		
Filter		
Standpipe	From	To
Slotted Pipe		
Filter		

Water Added	From	To
Borehole Kept Full		

Diameter (mm)	Borehole	Casing
300		
250		
200		
160	3.10	2.5

Backfill:

Remarks :- Visitors, Instructions, Weather, etc

Top copy to office, Green to Engineer, Blue to Client, Red to Driller

Q.A

S/C	D	B	U	W
Move	Drill	Stand	Break	Work

Crew

SITE: BARNSLEY

JOB No.: 12 4313

RIG TYPE: PILCON 1500

DAY: FRI

DATE: 9-12-94

Drillers Signature: B Hayes

Move From:- 3.

BH No. 2

British Geotechnical Data

Strata Record

Depth	Description
GL	Concrete.
0.30	Dirty Brown foundry sand.
1.10	Stiff light Brown weathered mudstone.
2.30	Stiff grey mudstone.
	3.45

Borehole Complete / Incomplete

Penetrometer / Shear Strength

Depth	Blows	Pen	Rem	Shear

Groundwater Record

Depth Struck	DRY		
Casing Depth			
Inflow			
Depth 5 mins			
Depth 10 mins			
Depth 15 mins			
Depth 20 mins			
Cut off at			

	Depth	Casing	Time
Morning			
Evening			
Other			

Water Record

Time (o' clock) From	Time (o' clock) To	Depth (m) From	Depth (m) To

Excavation Dimensions:

Installation Record

(Details on separate sheet)

Piezometer	From	To
Tip		
Filter		
Standpipe	From	To
Slotted Pipe		
Filter		

Water Added

	From	To
Water Added		
Borehole Kept Full		

Diameter (mm)	Borehole	Casing
300		
250		
200		
150	3.45	3.0

Backfill: Spoil

Remarks :- Visitors, Instructions, Weather, etc

Q.A

Top copy to office, Green to Engineer, Blue to Client, Red to Driller

S/C	D	B	U	W
Move	Drill	Stand	Break	Work

Crew

Drillers Signature: B Hayes

SITE: BARNSLEY

JOB No.: 124313

DAY: FRI

Move From:- 1

RIG TYPE: PILCON 1500

DATE: 9-12-94

BH No. 3

© BSM Ltd

006 INCHCAPE TESTING 0744 611470 16-12-94 13:39

Strata Record

Depth	Description
GL	Concrete.
0.26	Brick stone & clay fill.
0.70	Stiff brown & grey weathered mudstone with a thin band of coal.
	2.60

Borehole Complete / Incomplete

Water Encountered

	Depth	Casing	Time
Depth Struck	DRY		
Casing Depth			
Inflow			
Depth 5 mins			
Depth 10 mins			
Depth 15 mins			
Depth 20 mins			
Cut off at			

Water Level

	Depth	Casing	Time
Morning			
Evening			
Other			

Standpipe Details

(Details on separate sheet)

	From	To
Piezometer		
Tip		
Filter		
Standpipe	From	To
Slotted Pipe		
Filter		

Water Loss

	From	To
Water Added		
Borehole Kept Full		

Time

Time (o' clock) From	Time (o' clock) To	Depth (m) From	Depth (m) To

Borehole Dimensions

Diameter (mm)	Borehole	Casing
300		
250		
200		
150	2.60	2.5

Excavation Dimensions:

Backfill:

Remarks :- Visitors, Instructions, Weather, etc

Top copy to office, Green to Engineer, Blue to Client, Red to Driller

Q.A

S/C	D	B	U	W

Move	Drill	Stand	Break	Work

Crew

SITE: BARNSLEY

JOB No.: 124313

DAY: FRI

RIG TYPE: Pilcon 1500

DATE: 9.12.94

Drillers Signature: B Hayes

Move From:- Depot

BH No.: 4

Exploration Geotechnics (UK) Ltd.

Strata Record

Depth (m)	Description
GL	Concrete.
0.17	Stiff gravelly clay.
1.00	Loose dark grey ash. & stone fill.
2.00	Stiff grey mudstone clay.
2.50	Stiff grey weathered mudstone with a thin band of coal.
3.60	

Borehole Complete / Incomplete

Water Record

	Depth Struck		
	Casing Depth		
	Inflow		
	Depth 5 mins		
	Depth 10 mins		
	Depth 15 mins		
	Depth 20 mins		
	Cut off at		

	Depth	Casing	Time
Morning			
Evening			
Other			

Ground Water Record

(Details on separate sheet)

	From	To
Piezometer		
Tip		
Filter		
Standpipe	From	To
Slotted Pipe		
Filter		

Water Loss

	From	To
Water Added		
Borehole Kept Full		

Hole Progress

Time (o' clock) From	Time (o' clock) To	Depth (m) From	Depth (m) To

Casing

Diameter (mm)	Borehole	Casing
300		
250		
200		
150	3.60	3.10

Excavation Dimensions:

Backfill:

Remarks :- Visitors, Instructions, Weather, etc

Q.A

S/C	D	B	U	W
Move	Drill	Stand	Break	Work

Crew

SITE: BARNSLEY

JOB No.: 124313

RIG TYPE: PIGEON 1500

DAY: FRI

DATE: 9-12-94

Top copy to office, Green to Engineer, Blue to Client, Red to Driller

Drillers Signature: BHayes

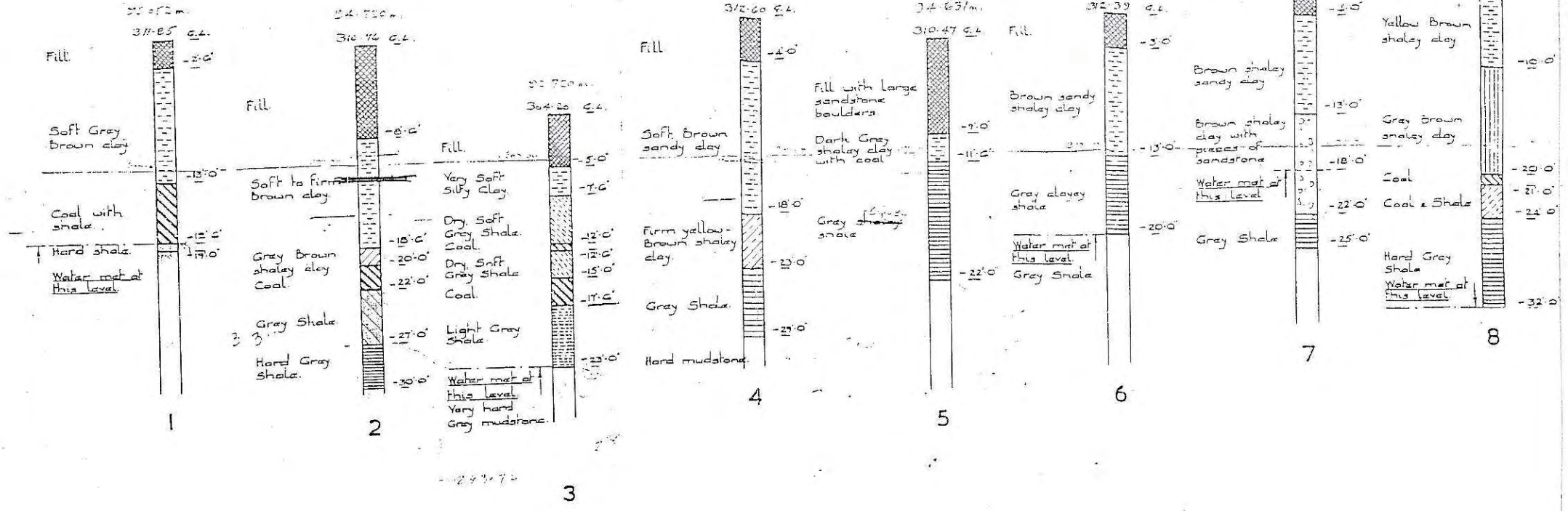
Move From:- 4

BH No. 6

ENGINEERING GEOLOGICAL TESTING

Mott MacDonald Report on Barnsley Shopping Centre - Investigation of Design Information of Existing Foundations and Basements (ref. 213289/01/A/08, dated April 2004)

Borehole Logs


Fill.
Soft Grey Brown clay
Coal with shale
Hard shale.
Water met at this level.
Soft to firm Brown clay
Grey Brown shaley clay Coal.
Grey Shale.
Hard Grey Shale.
Very Soft Silty Clay.
Dry. Soft Grey Shale. Coal.
Dry. Soft Grey Shale
Coal.
Light Grey Shale
Water met at this level.
Very hard Grey mudstone.
Soft Brown sandy clay
Firm yellow-Brown shaley clay.
Grey Shale.
Hard mudstone.
Fill with large sandstone boulders
Dark Grey shaley clay with coal
Grey shale
Brown sandy shaley clay
Grey clayey shale
Water met at this level.
Grey Shale
Brown shaley sandy clay
Brown shaley clay with pieces of sandstone
Water met at this level.
Grey Shale
Yellow Brown shaley clay
Gray Brown shaley clay
Coal
Coal & Shale
Hard Grey Shale
Water met at this level.
1
2
3
4
5
6
7
8

APPENDIX III

Site Specific Radon Report

GeoReports

Radon (RPM) Report - Standard

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Report prepared for:

DENISE PATTERSON
WARDELL ARMSTRONG
UNIT 5
NEWTON BUSINESS CENTRE
THORNCLIFFE PARK
CHAPELTOWN
SHEFFIELD
S35 2PH

Radon Protective Measures Site Report – Standard

Advisory report on the requirement for radon protective measures in new dwellings and extensions including a BR211 (1999) Stage 2 Geological Assessment

Client's Reference:

SH03582/SH0910/DP

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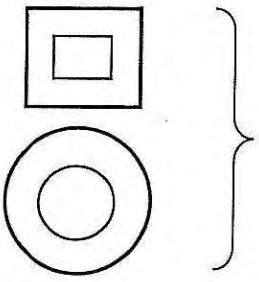
Section 1: Location and extent of report area

Area centred at: 434711,406309
Radius of site area: 150 metres



Scale: 1:25000 (1cm = 250m)

KEY:



INNER RECTANGLE or CIRCLE defines site area (details provided by client).

OUTER LINE shows extent of TOTAL SEARCH AREA comprising the site area and automatically generated buffer zone. The requirement for radon protective measures indicated in Section 2 is based on a geological assessment of the Total Search Area.

Please see Section 4 for details of how the search is carried out

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Mapping sourced from Ordnance Survey®

Section 2: Requirement for radon protective measures

The determination below follows the two stages described in *BR211 Radon: Guidance on protective measures for new dwellings (1999 edition)*, which also provides guidance on what to do if the result indicates that protective measures are required.

Stage 1

Stage 1 (Annex A) of the BR211 (1999) procedure indicates that the minimum level of protection for the report area is **NO** radon protective measures.

Stage 2

The Stage 2 geological assessment carried out for this report indicates **BASIC** radon protective measures are required for the report area. This assessment was derived automatically from the BGS Radon Protective Measures GIS (RPM-GIS) from 1:250,000 scale digital data. Results of the geological search are described in Section 3, and more detail on the assessment procedure is outlined in Section 4.

Result

The BR211 (1999) two-stage procedure indicates that **BASIC** protective measures are required for the site. This is the higher of the two levels of protection indicated by Stage 1 and Stage 2.

The BGS is not able to provide advice on the technical specifications of 'basic' and 'full' radon protective measures. This information is detailed in **BRE Report BR211 :Radon: Protective measures for new dwellings** which may be purchased from **brebookshop.com.** BR211 offers guidance on the technical solutions that are required to satisfy Building Regulations requirements. Summary guidance is available on the web at: http://www.bre.co.uk/radon/protect.html.

If you require further information or guidance, you should contact your local authority building control officer or approved inspector.
Contact 020 7944 5745 or Email: partscdgh.br@odpm.gsi.gov.uk for advice on the interpretation of guidance contained in BRE Report BR211.

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Section 3: Geological units within the search area

Below is a listing, if available, of the possible combinations of Bedrock (Solid) Geology units and overlying Superficial (Drift) Geology units within the total search area derived automatically by the RPM-GIS.

These have been derived (as indicated) from searches of either:

a) Combined 1:250,000 Bedrock (Solid) and 1:625,000 Superficial (Drift) geology maps

b) 1:50,000 Bedrock (Solid), Superficial (Drift) and Artificial geology maps

1:250,000 data

1. MIDDLE COAL MEASURES (FORMATION)(SANDSTONE 3D00); No drift
2. MIDDLE COAL MEASURES (FORMATION)(ARGILLACEOUS ROCKS, UNDIFFERENTIATED); No drift

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Section 4: Determining the level of radon protection.

BR 211 (1999) sets out a two-stage procedure to help determine the level of radon protection required in new dwellings and extensions.

In Stage 1 of the procedure, the 5 km grid square radon potential maps (Annex A, BR211,1999) produced by the National Radiological Protection Board (NRPB) are used to make the primary determination of the level of radon protection needed. The NRPB maps are based on the average estimated proportion of homes exceeding the radon Action Level for each 5 km square of the Ordnance Survey National Grid.

In Stage 2, a second series of maps produced by the BGS (Annex B, BR211,1999) is used to decide whether it is necessary to consider upgrading the requirement for protection indicated by Stage 1. This procedure has the objective of avoiding cases of underprotection that might occur had the guidance depended solely on the average radon level in the 5 km grid square indicated by the NRPB maps. The BGS maps in Annex B (BR211, 1999) show those 5 km grid squares that are underlain, completely or in part, by geological units that require either basic or full protection to be installed in new dwellings.

A geological assessment may need to be carried out where the site falls within a shaded grid square on the BGS map in Annex B of BR211 (1999). The geological assessment checks whether a site is on or close to a geological unit which potentially exceeds the action levels for either basic or full radon protection. Consideration must be given to installing basic or full radon protection if the geological assessment shows that this is indicated. If a site falls within one of the shaded squares, it does not necessarily mean that it must have radon protection. This is because some of the grid squares contain bed rocks and unconsolidated (drift) deposits with lower radon potential than the maximum levels shown on the 5 km grid maps in Annex B (BR211, 1999).

In many cases the geological radon potential varies considerably within a grid square. In other cases, only a very small area (sometimes only a few hundred square metres) with a radon potential exceeding the thresholds for basic or full protection occurs within the shaded grid square. The level of protection that might be required is thus site specific, and can be determined by reference to the relevant radon potential map in BR211 (1999) followed by a geological assessment of the site.
(Please note, the NRPB is now the Radiation Protection Division of the Health Protection Agency).

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The geological assessment in this report is produced by the BGS Radon Protective Measures Geographical Information System (RPM GIS), which has been developed to provide Stage 2 Geological Assessments (RPM Site Reports). The assessment is derived from a geologically based interpretation of radon measurements in dwellings which were provided to the BGS by the NRPB without prejudicing confidentiality undertakings to householders and the Department of the Environment, Food and Rural Affairs (DEFRA). The reliability of a geological radon potential assessment is approximately proportional to the number of radon measurements available and the scale of the geological maps.

The RPM GIS currently comprises 1:250,000 scale data with more detailed information for twenty 1:50,000 scale geological map sheets covering the most radon-prone parts of Derbyshire, Northamptonshire, Nottinghamshire, Leicestershire, Lincolnshire, Oxfordshire, Shropshire, Somerset and Yorkshire. The RPM-GIS is being upgraded to 1:50,000 scale as new digital maps become available through the BGS DiGMapGB programme.

The search area (circle or rectangle) for a site is increased by a buffer zone of 50 m in areas with 1:50,000 scale data and 500m in areas with 1:250,000 scale data. This is to allow for potential inaccuracies in the position of the geological boundaries. In many cases a number of combinations of bed rock and drift with differing geological radon potentials will occur within the total search area. Following the precautionary principle, the requirement for protective measures is derived from the highest geological radon potential encountered within the total search area.

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Section 5: Follow-up Detailed Radon Protective Measures site report

For most parts of the UK, a higher resolution assessment of radon protective measures requirements can also be provided by BGS. This will comprise:

i. Assessment by a qualified geologist of the relevant 10,000, 1:10,560 or 1:50,000 scale geological map(s) covering the total search area from BGS archives.
ii. Identification of the level of radon protective measures indicated for all geological units encountered within the site and the immediately surrounding area.

The basic charge for a Detailed Radon Protective Measures Report is **£210 (incl. VAT & Delivery)**. Reports for very large or geologically complex sites may, however, have to be supplemented with additional charge – in such cases, enquiry staff will confirm the charge with the client before proceeding.

The Radon follow-up reports can be ordered from:-
Geological Enquiries, British Geological Survey, Keyworth, Nottingham NG12 5GG; Tel: 0115-936-3192; Fax: 0115-936-3192; e-mail: geohelp@bgs.ac.uk. An on-line ordering facility is available on the BGS Website: www.bgs.ac.uk/georeports.

Section 6: What is radon ?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters poorly ventilated enclosed spaces such as some basements, buildings, caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level exceeds the Action Level, measures should be taken to reduce the concentration.

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Section 7: Radon in workplaces

The Ionising Radiation Regulations, 1999, require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The BRE publishes a guide (BR293)**: Radon in the workplace.**

BRE publications may be obtained from The BRE Bookshop, I H S Technical Indexes Ltd., Willoughby Road, Bracknell, Berkshire RG12 8DW. Tel: 01344 404407, Fax: 01344 714440, website: www.brebookshop.com

Section 8: Radon in existing dwellings

Useful information is given in the following free publications which can be obtained by writing to: Radon Studies, Radiation Protection Division, Health Protection Agency, Chilton, Didcot, Oxfordshire OX11 0RQ

Radon - A Householder's Guide
Radon - You Can Test for it
Radon - A Guide for Homebuyers and Sellers
Radon - A Guide to Reducing Levels in Your Home
Information in the booklets is also available on the DEFRA website at:
http://www.defra.gov.uk/environment/radioactivity/radon/index.htm

Householders are recommended to follow advice in **Radon - a householder's guide.** The guide outlines simple solutions for dealing with the radon problem depending on whether or not the home has been tested for radon. In radon affected homes, the problem of radon can usually be tackled with simple, effective and relatively inexpensive measures. These measures are comparable in cost to work such as damp-proofing and timber treatment. You can get practical advice about construction work to reduce radon levels from the Building Control Officer at your local council.

Advice about radon, its health risks and details of how to order the radon test may be obtained from the **Radon Freephone** on 0800 614529 or Tel: 01235 822622, website: www.hpa.org.uk or by writing to Radon Studies at the Health Protection Agency, address above.

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APPENDIX IV

Coal Authority Report

The Coal Authority,
Mining Reports Office,
200 LICHFIELD LANE,
BERRY HILL,
MANSFIELD,
NOTTINGHAMSHIRE,
NG18 4RG
Telephone: 0845 762 6848
DX 716176 MANSFIELD 5
On-Line Service: www.coalminingreports.co.uk

The COAL AUTHORITY

The Coal Authority	
Cost:	£42.56
Plus V.A.T.	£7.44
Total Received:	£50.00
V.A.T. Reg Number	598 5850 68

WARDELL ARMSTRONG,
UNIT 5,
NEWTON BUSINESS CENTRE,
CHAPELTOWN,
SHEFFIELD,
YORKSHIRE,
S35 2PH

17 JAN 2006

MT

This matter is being dealt with by Darren Moody

Our Ref: **10016602-06**
Your Ref: SH03582 SH908 WPT
Electronic Ref:
RRUID: 007.00010026400001
Date: 16 January 2006

Dear Sir,

Coal Mining Report

BARNSLEY MARKETS AREA, CHEAPSIDE / KENDRAY STREET, BARNSLEY, SOUTH YORKSHIRE

I refer to the enquiry dated 13th January 2006, received 16th January 2006, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Past Underground Mining

The property is within the likely zone of influence on the surface from workings in 2 seams of coal at 150m to 360m depth, the last date of working being 1939.

Ground movement from the above mentioned past coal workings should by now have ceased.

In addition you may wish to know that the property is in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Shafts and Adits

We have no knowledge of any mine entries within, or within 20 metres of, the boundary of the property.

The records held by the Coal Authority may be incomplete. Consequently, there may exist in this locality mine entries of which we have no knowledge.

Surface Geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

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

Present Opencast Mining

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

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

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

Subsidence

The records in our possession do not disclose any damage notice or claim having been given, made or pursued in respect of the property since 1 January 1984.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property lies within a geographical area in respect of which a notice of entitlement to withdraw support was published in 1963.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order 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 within an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Additional Remarks

In view of the mining circumstances a prudent developer would seek appropriate technical advice before works are undertaken on site. All proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining stability problems. In any event, no activities should be undertaken that intersect, disturb, or interfere with any coal or mines of coal without permission of the Coal Authority.

These replies are prepared in accordance with the 2003 editions of the Coal Authority's Terms and Conditions, User Guide and the Law Society's Guidance Notes.

Copyright in coal mining reports and certificates belongs to the Coal Authority. Information used to compile this report is protected by the Coal Authority's database right. All rights are reserved and unauthorised use is prohibited. Copyright and other intellectual property is not transferred to external parties by possession of a mining report or certificate, however those for whom the report is supplied have the right to use it.

We acknowledge the receipt of your remittance in payment of our fee.

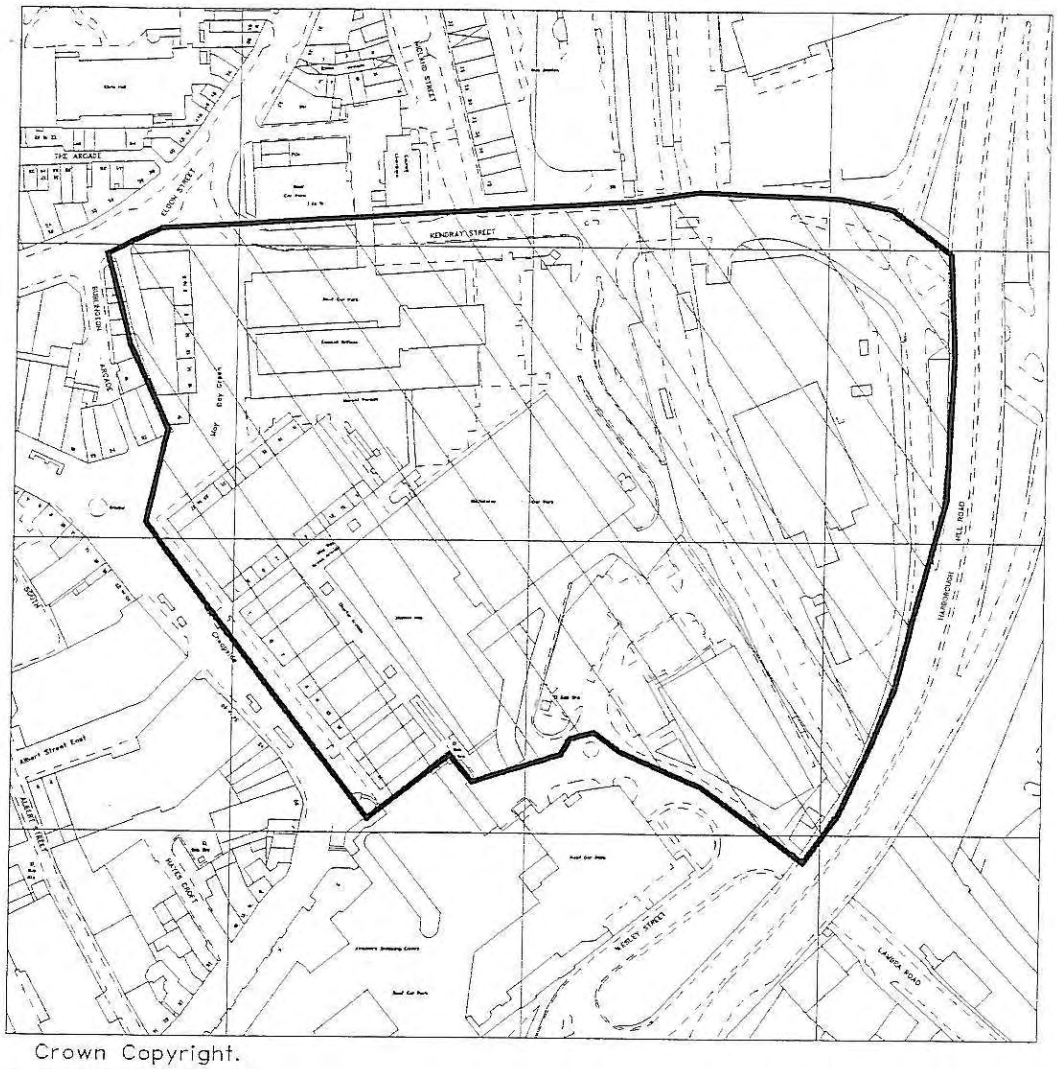
Yours faithfully



Stephen Pennell

Director of Mining Information and Services

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PLAN NOT TO SCALE

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This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN

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