

Appendix C: Logs

Drillers Logs

Engineers Interpretative Logs



Borehole Log

Borehole No.

RBH01A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434808E - 408936N

Hole Type
RO

Location: Barnsley

Level: 77.69

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				74.19	3.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				73.19	4.50	Hard, black, fractured, semi-bright COAL - Intact, full flush returns. [Probable Two Foot Seam].			
				72.19	5.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				68.59	9.10	SOFT NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 14.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 9.1m to 10.1m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH01A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434808E - 408936N

Hole Type
RO

Location: Barnsley

Level: 77.69

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				67.59	10.10	SOFT NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation]. SOLID NO RETURNS. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
				63.69	14.00	End of Borehole at 14.000m			

Remarks

1. Rotary open-hole borehole terminated at 14.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 9.1m to 10.1m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH01B

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434803E - 408933N

Hole Type
RO

Location: Barnsley

Level: 77.69

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				74.69	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				74.19	3.50	Hard, black, fractured, semi-bright COAL - Intact, full flush returns. [Probable Two Foot Seam].			
				73.19	4.50	SANDSTONE with grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
				67.69	10.00				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor flush (possible fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH01B

Sheet 2 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434803E - 408933N	Hole Type RO
Location: Barnsley	Level: 77.69		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				67.49	10.20	SAND, poor flush returns. Probable soft, unconsolidated or fractured SANDSTONE [Pennine Middle Coal Measures Formation]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				59.59	18.10	Hard black semi-bright COAL - intact, full flush returns. [Probable Abdy (Winter) Seam].			
				59.09	18.60	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor flush (possible fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH01B

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434803E - 408933N

Hole Type
RO

Location: Barnsley

Level: 77.69

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor flush (possible fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH01B

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434803E - 408933N

Hole Type
RO

Location: Barnsley

Level: 77.69

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				31		Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				46.09	31.60	Soft black dull COAL - intact, full flush returns. [Probable Top Beamshaw Seam].			
				45.79	31.90	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				44.89	32.80	Hard black semi-bright COAL - intact, full flush returns. [Probable Top Beamshaw Seam].			
				44.59	33.10	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					34				
					35				
					36				
					37				
				39.69	38	38.00	End of Borehole at 38.000m		
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor flush (possible fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02A

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434819E - 408883N

Hole Type
RO

Location: Barnsley



Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				71.41	4.00	OVERBURDEN - Made ground and natural clay with coal traces. SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].	 		
					1				
					2				
					3				
					4				
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 23.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 10.6m to 12.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02A

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434819E - 408883N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				64.81	10.60	SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
					11	SOFTE NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
				62.81	12.60	SOLID NO RETURNS. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 23.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 10.6m to 12.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02A

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434819E - 408883N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						SOLID NO RETURNS. Probable MUDSTONE/ SANDSTONE. [Pennine Middle Coal Measures Formation].			
				52.41	23	23.00	End of Borehole at 23.000m		
					21				
					22				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 23.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 10.6m to 12.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02B

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434821E - 408878N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well	
Depth (m)	Ref.	Type	Results							
				71.41		OVERBURDEN - Made ground and natural clay.				
					1					
					2					
					3					
					4	4.00	SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
					5					
					6					
					7					
					8					
					9					
				10						

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02B

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434821E - 408878N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
				56.31	19	19.10	Hard black semi-bright COAL - intact, full flush returns. [Probable Abdy (Winter) Seam].		
				55.81		19.60	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].		
					20				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02B

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434821E - 408878N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH02B

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434821E - 408878N

Hole Type
RO

Location: Barnsley

Level: 75.41

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				45.31	30.10	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation]. Hard black semi-bright COAL - intact, full flush returns. [Probable Top Beamshaw Seam].			
				44.61	30.80	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
				37.41	38	38.00	End of Borehole at 38.000m		
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH03A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434843E - 408876N

Hole Type
RO

Location: Barnsley

Level: 76.96

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				73.96	3.00	OVERBURDEN - Made ground and natural clay.			
				72.96	4.00	SANDSTONE - [Pennine Middle Coal Measures Formation].			
				72.56	4.40	Soft black dull COAL - intact, full flush returns. [**Unknown Seam**].			
				70.96	6.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				70.46	6.50	Hard, fractured, semi-bright COAL - Intact, full flush returns. [Probable Two Foot Seam].			
						SOFT NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			

Remarks

1. Rotary open-hole borehole terminated at 16.6m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 6.5m to 13.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH03A

Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434843E - 408876N	Hole Type RO
Location: Barnsley		Level: 76.96	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.66	11	SOFT NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].	[Hatched Pattern]		[Black Bar]
					12				
				60.36	13	SOLID NO RETURNS. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].	[Hatched Pattern]		[Black Bar]
					14				
					15				
				60.36	16	End of Borehole at 16.600m	[Hatched Pattern]		[Black Bar]
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 16.6m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 6.5m to 13.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH03B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434846E - 408873N

Hole Type
RO

Location: Barnsley

Level: 76.96

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				73.96	3.00	SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
				70.96	6.00	Hard, fractured, semi-bright COAL - Intact, full flush returns. [Probable Two Foot Seam].			
				69.96	7.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				67.36	9.60	SAND, poor flush returns. Probable soft, unconsolidated or fractured SANDSTONE [Pennine Middle Coal Measures			
				67.16	9.80				
					10				

Remarks

1. Rotary open-hole borehole terminated at 17.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 9.6m to 9.8m, and 12.1m to 12.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH03B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434846E - 408873N

Hole Type
RO

Location: Barnsley

Level: 76.96

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						SAND, poor flush returns. Probable soft, unconsolidated or fractured SANDSTONE [Pennine Middle Coal Measures Formation]. SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
				64.86	12.10	SOFT NO RETURNS, possible fractured rock or faulted strata. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
				64.36	12.60	SOLID NO RETURNS. Probable MUDSTONE/SANDSTONE. [Pennine Middle Coal Measures Formation].			
				59.96	17.00	End of Borehole at 17.00m			

Remarks

1. Rotary open-hole borehole terminated at 17.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 9.6m to 9.8m, and 12.1m to 12.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH04

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434715E - 408871N

Hole Type
RO

Location: Barnsley

Level: 76.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				74.18	2.00	OVERBURDEN - Made ground and natural clay. CLAY - with weathered fragments of SANDSTONE [Pennine Middle Coal Measures Formation].			
				70.58	5.60	SANDSTONE - [Pennine Middle Coal Measures Formation].			
				69.98 69.78	6.20 6.40	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam]. Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].	 		
					10				

Remarks

1. Rotary open-hole borehole terminated at 25.5m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 15.4m to 25.5m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmech SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH04

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434715E - 408871N

Hole Type
RO

Location: Barnsley

Level: 76.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
				61.88	14.30	Soft black semi-bright COAL - intact, poor flush returns. [Aby (Winter) Seam].			
					15				
				60.78	15.40	Grey MUDSTONE with SANDSTONE bands, poor returns - [Pennine Middle Coal Measures Formation].			
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 25.5m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 15.4m to 25.5m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH04

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434715E - 408871N

Hole Type
RO

Location: Barnsley

Level: 76.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands, poor returns - [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
				50.68	25.50	End of Borehole at 25.500m			
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 25.5m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 15.4m to 25.5m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH05

Sheet 1 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434738E - 408849N	Hole Type RO
Location: Barnsley	Level: 74.14		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				70.14	4.00	SANDSTONE - [Pennine Middle Coal Measures Formation].			
				69.74	4.40	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam].			
				69.44	4.70	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			

Remarks
 1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH05

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434738E - 408849N

Hole Type
RO

Location: Barnsley

Level: 74.14

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				60.84	13.30	Soft black semi-bright COAL - intact, poor flush returns. [Abdy (Winter) Seam].			
				59.84	14.30	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					20				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH05

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434738E - 408849N

Hole Type
RO

Location: Barnsley

Level: 74.14

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				50.14	24	24.00	Hard black semi-bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
				49.14	25	25.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].		
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH05

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434738E - 408849N

Hole Type
RO

Location: Barnsley

Level: 74.14

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				42.14	32	32.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].		
							End of Borehole at 32.000m		
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH06A

Sheet 1 of 1

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434684E - 408835N	Hole Type RO
Location: Barnsley		Level: 72.01	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.01	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.61	5.40	**VOID** - Loss of flush, rods pushed without rotation or hammer. [Probable workings, Abdy (Winter) Seam].			
				65.21	6.80	SOLID NO RETURNS. Probable MUDSTONE/ SANDSTONE. [Pennine Middle Coal Measures Formation].			
				64.21	7.80	End of Borehole at 7.800m			

Remarks
 1. Rotary open-hole borehole terminated at 7.8m
 2. VOID (Abdy seam) at 5.4m to 6.8m
 3. Backfilled with sand and cement mix
 4. Drilling plant: Soilmecc SM-14 top hammer rig
 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH06B

Sheet 1 of 1

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434669E - 408835N

Hole Type
RO

Location: Barnsley

Level: 72.01

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				66.61	5.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.21	5.80	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.21	6.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.21	7.80	End of Borehole at 7.800m			

Remarks

1. Rotary open-hole borehole terminated at 7.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH06C

Sheet 1 of 1

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434695E - 408822N

Hole Type
RO

Location: Barnsley

Level: 72.01

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.01	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.41	6.60	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.41	7.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.41	8.60	End of Borehole at 8.600m			

Remarks

1. Rotary open-hole borehole terminated at 8.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH07

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434744E - 408793N

Hole Type
RO

Location: Barnsley

Level: 70.67

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				66.27	4.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.07	4.60	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.97	5.70	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH07

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434744E - 408793N

Hole Type
RO

Location: Barnsley

Level: 70.67

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				11					
				12					
				13					
				14					
				15					
				54.97	15.70	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				54.07	16.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH07

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434744E - 408793N

Hole Type
RO

Location: Barnsley

Level: 70.67

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				43.27	27.40	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				42.37	28.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH07

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434744E - 408793N

Hole Type
RO

Location: Barnsley

Level: 70.67

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
				32.67	38	38.00	End of Borehole at 38.000m		
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH08A

Sheet 1 of 1

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434656E - 408806N

Hole Type
RO

Location: Barnsley

Level: 70.57

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.57	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.07	7.50	End of Borehole at 7.500m			

Remarks

1. Rotary open-hole borehole terminated at 7.5m 2. No coal encountered (Abdy seam probably cased off) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH08B

Sheet 1 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434656E - 408806N	Hole Type RO
Location: Barnsley	Level: 70.57		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					1	OVERBURDEN - Made ground and natural clay.			
					2				
					3				
				66.57	4				
				66.17		4.40	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].		
				65.17		5.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					6				
					7				
					8				
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 35.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH08B

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434656E - 408806N

Hole Type
RO

Location: Barnsley

Level: 70.57

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
				54.97	15.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
					16				
				53.97	16.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 35.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH08B

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434656E - 408806N

Hole Type
RO

Location: Barnsley

Level: 70.57

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				43.87	26.70	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				43.37	27.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 35.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH08B

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434656E - 408806N

Hole Type
RO

Location: Barnsley

Level: 70.57

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				31					
				32					
				33					
				34					
				35.57	35.00	End of Borehole at 35.000m			
				36					
				37					
				38					
				39					
				40					

Remarks

1. Rotary open-hole borehole terminated at 35.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
RBH08C
Sheet 1 of 1

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434683E - 408800N	Hole Type RO
Location: Barnsley	Level: 70.57		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.	[Cross-hatch pattern]		
				66.27	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].	[Horizontal line pattern]		
				65.97	4.60	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].	[Solid black]		
				64.77	5.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].	[Horizontal line pattern]		
				62.97	7.60	End of Borehole at 7.600m			

Remarks
 1. Rotary open-hole borehole terminated at 7.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH09

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434714E - 408795N

Hole Type
RO

Location: Barnsley

Level: 70.19

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.79	4.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation]. COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.59	4.60				
				64.49	5.70	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 29.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH09

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434714E - 408795N

Hole Type
RO

Location: Barnsley

Level: 70.19

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				54.59	15.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				53.59	16.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					20				

Remarks

1. Rotary open-hole borehole terminated at 29.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH09

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434714E - 408795N

Hole Type
RO

Location: Barnsley

Level: 70.19

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				42.59	27.60	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				41.89	28.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				40.89	29.30	End of Borehole at 29.300m			
				30					

Remarks

1. Rotary open-hole borehole terminated at 29.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH10

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434782E - 408830N

Hole Type
RO

Location: Barnsley

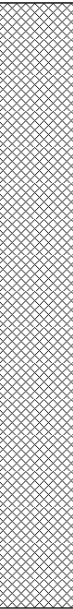
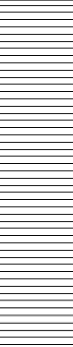

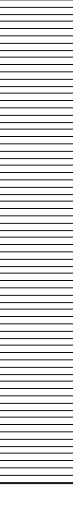
Level: 72.83

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				68.83	4.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.53	6.30	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam].			
				66.03	6.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 37.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH10

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434782E - 408830N

Hole Type
RO

Location: Barnsley

Level: 72.83

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
				58.13	14.70	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				57.83	15	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 37.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH10

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434782E - 408830N

Hole Type
RO

Location: Barnsley

Level: 72.83

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				48.13	24.70	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				47.53	25.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 37.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH10

Sheet 4 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434782E - 408830N	Hole Type RO
Location: Barnsley		Level: 72.83	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				31					
				32					
				33					
				34					
				35					
				35.80	35.80	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				36.30	36.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				37					
				37.30	37.30	End of Borehole at 37.300m			
				38					
				39					
				40					

Remarks
 1. Rotary open-hole borehole terminated at 37.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH11

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434824E - 408824N

Hole Type
RO

Location: Barnsley

Level: 73.08

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay with coal traces.			
				70.08	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				68.68 68.48	4.40 4.60	Soft black dull COAL - intact, full flush returns. [**Unknown Seam**]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.18	7.90	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam].			
				64.68	8.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor returns (probable fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmech SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH11

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434824E - 408824N

Hole Type
RO

Location: Barnsley

Level: 73.08

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
				56.98	16	16.10	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].		
				56.48		16.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					17				
					18				
					19				
				53.18	20	19.90			

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor returns (probable fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmech SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH11

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434824E - 408824N

Hole Type
RO

Location: Barnsley

Level: 73.08

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				52.48	20.60	Grey MUDSTONE, fractured - SOFT, POOR RETURNS, [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
					26				
				45.98	27	27.10	Soft black dull COAL - intact, full flush returns. [Top Beamshaw Seam].		
				45.48		27.60			
				45.28		27.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					28		Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
				44.88		28.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor returns (probable fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH11

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434824E - 408824N

Hole Type
RO

Location: Barnsley

Level: 73.08

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
				35.08	38	38.00	End of Borehole at 38.000m		
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only. Soft strata and poor returns (probable fractured rock) at 19.9m to 20.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH12A

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434866E - 408797N

Hole Type
RO

Location: Barnsley

Level: 75.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay with coal traces.			
				71.68	3.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				71.18	4.00	Hard, fractured, semi-bright COAL - Intact, full flush returns. [Probable Two Foot Seam].			
				70.68	4.50	Grey MUDSTONE, fractured - SOFT, POOR RETURNS [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 28.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 4.5m to 19.0m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH12A

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434866E - 408797N

Hole Type
RO

Location: Barnsley

Level: 75.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE, fractured - SOFT, POOR RETURNS [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
				56.18	19	19.00	Hard black semi-bright COAL - intact, poor flush returns. [Abdy (Winter) Seam].		
				55.18	20	20.00			

Remarks

1. Rotary open-hole borehole terminated at 28.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 4.5m to 19.0m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH12A

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434866E - 408797N

Hole Type
RO

Location: Barnsley

Level: 75.18

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						SOLID, NO RETURNS. Probable fractured MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
				47.18	28	28.00	End of Borehole at 28.000m		
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 28.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 4.5m to 19.0m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH12B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434858E - 408795N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				71.50	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				68.70	5.80	Grey MUDSTONE, fractured - SOFT, POOR RETURNS [Pennine Middle Coal Measures Formation].			
				66.90	7.60	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			

Remarks
 1. Rotary open-hole borehole terminated at 14.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 5.8m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH12B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434858E - 408795N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
				60.50	14	14.00	End of Borehole at 14.000m		

Remarks

1. Rotary open-hole borehole terminated at 14.0m 2. Intact coal only. Soft strata and loss of flush (possible fractured rock) at 5.8m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH13

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434830E - 408762N

Hole Type
RO

Location: Barnsley

Level: 71.07

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay with coal traces.			
					1				
					2				
				68.07	3	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					4	4.10	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam].		
				66.97					
				66.47		4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH13

Sheet 2 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434830E - 408762N	Hole Type RO
Location: Barnsley	Level: 71.07		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				11		Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				59.07	12	12.00	Hard black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].		
				58.07	13	13.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].		
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Remarks
 1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH13

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434830E - 408762N

Hole Type
RO

Location: Barnsley

Level: 71.07

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
				42.67	28.40	Soft black dull COAL - intact, full flush returns. [Top Beamshaw Seam].			
				42.47	28.60	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					29				
				41.47	29.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
					30				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH13

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434830E - 408762N

Hole Type
RO

Location: Barnsley

Level: 71.07

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				40.97	30.10	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam]. Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
				33.07	38	38.00	End of Borehole at 38.000m		
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH14A

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434647E - 408725N

Hole Type
RO

Location: Barnsley

Level: 65.02

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				62.02	3.00	SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
				58.22	6.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				57.22	7.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 20.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH14A

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434647E - 408725N

Hole Type
RO

Location: Barnsley

Level: 65.02

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
				46.72	18.30	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
					19				
				45.72	19.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					20				

Remarks

1. Rotary open-hole borehole terminated at 20.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH14A

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434647E - 408725N

Hole Type
RO

Location: Barnsley

Level: 65.02

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				44.72	20.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation]. End of Borehole at 20.300m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 20.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected






Borehole Log

Borehole No.
RBH14B
Sheet 1 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434681E - 408689N	Hole Type RO
Location: Barnsley		Level: 64.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				61.50	3.00	SANDSTONE with Grey MUDSTONE bands - [Pennine Middle Coal Measures Formation].			
				59.50	5.00	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				58.50	6.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			

Remarks
 1. Rotary open-hole borehole terminated at 19.8m
 2. Intact coal only
 3. Backfilled with sand and cement mix
 4. Drilling plant: Soilmec SM-14 top hammer rig
 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH14B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434681E - 408689N

Hole Type
RO

Location: Barnsley

Level: 64.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				46.70	17.80	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				45.70	18.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				44.70	19.80	End of Borehole at 19.800m			
				20					

Remarks

1. Rotary open-hole borehole terminated at 19.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH15

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434856E - 408702N

Hole Type
RO

Location: Barnsley

Level: 69.48

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				66.48	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.48 65.38	4.00 4.10	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.38	7.10	Hard black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				61.88	7.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH15

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434856E - 408702N

Hole Type
RO

Location: Barnsley

Level: 69.48

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
				50.78	18.70	Soft black dull COAL - intact, full flush returns. [Top Beamshaw Seam].			
				50.48	19	19.00 Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				50.08	19.40	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				49.58	19.90				
					20				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH15

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434856E - 408702N

Hole Type
RO

Location: Barnsley

Level: 69.48

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				41.78	27.70	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				41.28	28.20	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH15

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434856E - 408702N

Hole Type
RO

Location: Barnsley

Level: 69.48

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				31		Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				37.48	32	32.00	End of Borehole at 32.000m		
				33					
				34					
				35					
				36					
				37					
				38					
				39					
				40					

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH16

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434596E - 408744N

Hole Type
RO

Location: Barnsley

Level: 65.12

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				61.62	3.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				59.32	5.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				58.52	6.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH16

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434596E - 408744N

Hole Type
RO

Location: Barnsley

Level: 65.12

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				11					
				12					
				13					
				14					
				15					
				16					
				48.72	16.40	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				48.22	16.90	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH16

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434596E - 408744N

Hole Type
RO

Location: Barnsley

Level: 65.12

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH16

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434596E - 408744N

Hole Type
RO

Location: Barnsley

Level: 65.12

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				31					
				32					
				33					
				34					
				35					
				29.62	35.50	Soft black dull COAL - soft, poor flush returns. [Kent's Thin Seam].			
				36					
				28.62	36.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				37					
				27.12	38	38.00	End of Borehole at 38.000m		
				39					
				40					

Remarks

1. Rotary open-hole borehole terminated at 38.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH17

Sheet 1 of 3

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434521E - 408716N	Hole Type RO
Location: Barnsley		Level: 61.85	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				58.85	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				52.55	9.30	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 29.3m 2. Possible broken ground at 26.6 to 28.3m (Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH17

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434521E - 408716N

Hole Type
RO

Location: Barnsley

Level: 61.85

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				51.55	10.30	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 29.3m 2. Possible broken ground at 26.6 to 28.3m (Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH17

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434521E - 408716N

Hole Type
RO

Location: Barnsley

Level: 61.85

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				35.25	26.60	**BROKEN GROUND** - soft, no returns [Probable Kent's Thin Seam].			
				27					
				28					
				33.55	28.30	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			
				29					
				32.55	29.30	End of Borehole at 29.300m			
				30					

Remarks

1. Rotary open-hole borehole terminated at 29.3m 2. Possible broken ground at 26.6 to 28.3m (Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18A

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434624E - 408652N

Hole Type
RO

Location: Barnsley

Level: 60.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
				57.92	2.30	SANDSTONE - weathered [Pennine Middle Coal Measures Formation].			
				53.22	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				52.62	7.60	** Probable BROKEN GROUND** - soft, no returns [Low Beamshaw Seam].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Possible broken ground at 7.6m to 12.6m (Low Beamshaw Seam). Soft drilling at 29.8m to 30.1m (probable Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18A

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434624E - 408652N

Hole Type
RO

Location: Barnsley

Level: 60.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				47.62	11	** Probable BROKEN GROUND** - soft, no returns [Low Beamshaw Seam].			
					12				
				47.62	12.60	Grey MUDSTONE - poor returns [Pennine Middle Coal Measures Formation].			
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Possible broken ground at 7.6m to 12.6m (Low Beamshaw Seam). Soft drilling at 29.8m to 30.1m (probable Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18A

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434624E - 408652N

Hole Type
RO

Location: Barnsley

Level: 60.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - poor returns [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
				30.42	29.80	Soft, loss of flush, no returns. [Possible Kent's Thin Seam].			
					30				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Possible broken ground at 7.6m to 12.6m (Low Beamshaw Seam). Soft drilling at 29.8m to 30.1m (probable Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18A

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434624E - 408652N

Hole Type
RO

Location: Barnsley

Level: 60.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				30.12	30.10	Soft, loss of flush, no returns. [Possible Kent's Thin Seam]. SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
				28.62	31.60	End of Borehole at 31.600m			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Possible broken ground at 7.6m to 12.6m (Low Beamshaw Seam). Soft drilling at 29.8m to 30.1m (probable Kent's Thin Seam) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434625E - 408656N

Hole Type
RO

Location: Barnsley

Level: 60.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				58.20	2.30	OVERBURDEN - Made ground and natural clay.			
				56.20	4.30	SANDSTONE - [Pennine Middle Coal Measures Formation].			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. No coal encountered 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmecc SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH18B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434625E - 408656N

Hole Type
RO

Location: Barnsley

Level: 60.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				49.90	10.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. No coal encountered 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH19

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434820E - 408675N

Hole Type
RO

Location: Barnsley

Level: 67.01

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well	
Depth (m)	Ref.	Type	Results							
				64.01	1	OVERBURDEN - Made ground and natural clay with coal traces. [Possible Abdy (Winter) Seam].				
					2					
					3	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					4					
					5					
					6					
					7					
					8					
					9					
					10					

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 20.5m to 22.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH19

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434820E - 408675N

Hole Type
RO

Location: Barnsley

Level: 67.01

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				53.61	13.40	Soft black dull COAL - intact, full flush returns. [Top Beamshaw Seam].			
				53.11	13.90	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				52.21	14.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				51.71	15.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 20.5m to 22.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH19

Sheet 3 of 4

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434820E - 408675N	Hole Type RO
Location: Barnsley		Level: 67.01	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				46.51	20.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					21	Grey MUDSTONE, fractured - SOFT, POOR RETURNS [Pennine Middle Coal Measures Formation].			
					22				
				44.41	22.60		Grey MUDSTONE - SOLID, FULL RETURNS [Pennine Middle Coal Measures Formation].		
				44.01	23	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
					23.00				
				43.01	24	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					24.00				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks
 1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 20.5m to 22.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH19

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434820E - 408675N

Hole Type
RO

Location: Barnsley

Level: 67.01

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				35.01	32.00	End of Borehole at 32.000m			

Remarks
 1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only. Soft strata and poor returns (possible fractured rock) at 20.5m to 22.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmech SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH20

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434736E - 408665N

Hole Type
RO

Location: Barnsley

Level: 62.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				59.22	1	OVERBURDEN - Made ground and natural clay.			
					2				
				59.22	3	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					3.00				
					4				
					5				
					6				
					7				
					8				
					9				
				10					

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH20

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434736E - 408665N

Hole Type
RO

Location: Barnsley

Level: 62.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				50.92	11.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				49.92	12.30	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				45.82	16.40	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				44.82	17.40	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					20				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH20

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434736E - 408665N

Hole Type
RO

Location: Barnsley

Level: 62.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH20

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434736E - 408665N

Hole Type
RO

Location: Barnsley

Level: 62.22

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				30.62	31.60	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 31.600m			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 31.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH21

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434689E - 408604N

Hole Type
RO

Location: Barnsley

Level: 59.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				56.00	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				55.00	4.00	Hard black semi-bright COAL - intact, full flush returns. [Low Beamshaw Seam].			
				54.50	4.50	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 34.6m
 2. Intact coal only
 3. Backfilled with sand and cement mix
 4. Drilling plant: Soilmec SM-14 top hammer rig
 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH21

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434689E - 408604N

Hole Type
RO

Location: Barnsley

Level: 59.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 34.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH21

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434689E - 408604N

Hole Type
RO

Location: Barnsley

Level: 59.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				21					
				22					
				23					
				24					
				25					
				26					
				27					
				28					
				29					
				30					

Remarks

1. Rotary open-hole borehole terminated at 34.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

RBH21

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434689E - 408604N

Hole Type
RO

Location: Barnsley

Level: 59.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				28.50	30.50	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				28.00	31	Soft black dull COAL - soft, full flush returns. [Kent's Thin Seam].			
					31.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					32				
					33				
					34				
				24.40	34.60	End of Borehole at 34.600m			
					35				
					36				
					37				
					38				
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 34.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434683E - 408867N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				70.00	4.00	OVERBURDEN - Made ground and natural clay.			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.00	9.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.00	10.00				

Remarks

1. Rotary open-hole borehole terminated at 13.m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434683E - 408867N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				60.50	13.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 13.500m			

Remarks

1. Rotary open-hole borehole terminated at 13.m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434692E - 408864N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.50	9.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.00	10.00				

Remarks

1. Rotary open-hole borehole terminated at 13.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434692E - 408864N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				60.50	13.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 13.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 13.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1C

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434693E - 408867N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				70.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				68.20	6.30	Soft black semi-bright COAL - intact, full flush returns. [**Unkown Seam**].			
				67.70	6.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.00	9.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.50	10.00				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1C

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434693E - 408867N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				64.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1D

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434691E - 408861N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.50	9.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.00	10.00				

Remarks

1. Rotary open-hole borehole terminated at 13.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1E

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434688E - 408856N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.50	7.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.20	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/1E

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434688E - 408856N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/2A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434702E - 408861N

Hole Type
RO

Location: Barnsley

Level: 74.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				11		Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				62.00	12	12.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].		
				61.50	12.50	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				13					
				14					
				15					
				16					
				57.50	16.50	End of Borehole at 16.500m			
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 16.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/2B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434701E - 408858N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.50	4.00	CLAY - with weathered fragments of MUDSTONE [Pennine Middle Coal Measures Formation].			
				68.20	5.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.00	9.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 16.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/2B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434701E - 408858N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
				57.00	16.50	End of Borehole at 16.500m			

Remarks
 1. Rotary open-hole borehole terminated at 16.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/2C

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434703E - 408864N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				70.40	4.10	OVERBURDEN - Made ground and natural clay.			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			

Remarks

1. Rotary open-hole borehole terminated at 16.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/2C

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434703E - 408864N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.20	11.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.20	12.30	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				58.00	16.50	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 16.500m			

Remarks

1. Rotary open-hole borehole terminated at 16.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/3

Sheet 1 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434721E - 408855N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				70.50 70.40	4.00 4.10	Black shale and hard black dull and COAL - intact, full flush returns. [Two Foot Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					1				
					2				
					3				
					4				
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/3

Sheet 2 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434721E - 408855N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.00	11.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				62.70	11.80	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/3

Sheet 3 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434721E - 408855N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					21				
					22				
					23				
					24				
				50.20	24.30	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
					25				
				49.00	25.50	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH1/3

Sheet 4 of 4

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434721E - 408855N

Hole Type
RO

Location: Barnsley

Level: 74.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				42.50	32.00	Grey MUDSTONE with SANDSTONE bands - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 32.000m			
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

Remarks

1. Rotary open-hole borehole terminated at 32.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1A

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408846N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.00	6.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.20	6.80	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.90	7.10	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1A

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408846N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				55.00	18	18.00	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
					19				
				53.70	19.30		Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					20				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1A

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408846N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				50.50	22.50	End of Borehole at 22.500m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1B

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408843N

Hole Type
RO

Location: Barnsley

Level: 72.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				66.50	6.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.30	6.20	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.30	7.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1B

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408843N

Hole Type
RO

Location: Barnsley

Level: 72.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				54.50	18	18.00	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
					19				
				53.20	19.30	19.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					20				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1B

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408843N

Hole Type
RO

Location: Barnsley

Level: 72.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				50.00	22.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 22.500m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1C

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408849N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
					1				
					2				
					3				
					4				
					5				
				67.50	6	6.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
				67.00		6.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].		
				66.50	7	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1C

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434686E - 408849N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				55.40	18	18.10	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
				54.30	19	19.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					20				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1C

Sheet 3 of 3

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434686E - 408849N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				51.00	22.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 22.500m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks
 1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1D

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434666E - 408847N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.00	6.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.00	7.00	SOFT, POOR RETURNS. Probable COAL. [Abdy (Winter Seam)]**			
				65.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1D

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434666E - 408847N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				55.00	18	18.00	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].		
				54.00	19	19.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].		
					20				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/1D

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434666E - 408847N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				50.50	22.50	End of Borehole at 22.500m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/2A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434711E - 408844N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				68.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.50	6.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 19.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/2A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434711E - 408844N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
				55.20	17.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				54.20	18.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				53.20	19.80	End of Borehole at 19.800m			
					20				

Remarks

1. Rotary open-hole borehole terminated at 19.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/2B

Sheet 1 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434700E - 408844N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				68.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				67.00	6.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.50	6.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/2B

Sheet 2 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434700E - 408844N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH2/2B

Sheet 3 of 3

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434700E - 408844N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				50.50	22.50	End of Borehole at 22.500m			
					21				
					22				
					23				
					24				
					25				
					26				
					27				
					28				
					29				
					30				

Remarks

1. Rotary open-hole borehole terminated at 22.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/1A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434709E - 408763N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
				53.90	14.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
					15				
				52.90	15.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					16				
				51.90	16.60	End of Borehole at 16.600m			
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 16.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/1B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434712E - 408764N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11				
					12				
					13				
					14				
				53.70	14.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
					15				
				52.70	15.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					16				
				51.70	16.80	End of Borehole at 16.800m			
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 16.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/1C

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434706E - 408762N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.50	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.50	4.00	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				63.90	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 16.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/1C

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434706E - 408762N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				11					
				12					
				13					
				14					
				54.10	14.40	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				15					
				53.10	15.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				16					
				51.90	16.60	End of Borehole at 16.600m			
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 16.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434715E - 408737N

Hole Type
RO

Location: Barnsley

Level: 67.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay with COAL traces [Abdy (Winter) Seam]			
				65.00	2.00	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.80	2.20				
					3				
					4				
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 13.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2A

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434715E - 408737N

Hole Type
RO

Location: Barnsley

Level: 67.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					11	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				55.20	11.80	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				54.20	12.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				53.20	13.80	End of Borehole at 13.800m			
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 13.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434718E - 408738N

Hole Type
RO

Location: Barnsley

Level: 67.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					1	OVERBURDEN - Made ground and natural clay with COAL traces [Abdy (Winter) Seam]			
				65.00	2.00	OVERBURDEN - Made ground and natural clay with COAL traces [Abdy (Winter) Seam]			
				64.70	2.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					3				
					4				
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 13.9m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434718E - 408738N

Hole Type
RO

Location: Barnsley

Level: 67.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				11		Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				55.10	11.90	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				54.10	12.90	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				53.10	13.90	End of Borehole at 13.900m			
				15					
				16					
				17					
				18					
				19					
				20					

Remarks

1. Rotary open-hole borehole terminated at 13.9m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2C

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434712E - 408736N

Hole Type
RO

Location: Barnsley

Level: 67.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					1	OVERBURDEN - Made ground and natural clay with COAL traces [Abdy (Winter) Seam]			
				65.00	2	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.80	2.20				
					3				
					4				
					5				
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH3/2C

Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434712E - 408736N	Hole Type RO
Location: Barnsley	Level: 67.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				55.40	11.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				54.40	12.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				53.40	13.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 13.600m			

Remarks
 1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1A

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434634E - 408781N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				66.00	2.00	OVERBURDEN - Made ground and natural clay.			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				61.70	6.30	**SOFT, NO RETURNS. Possible packed waste / backfill** [Possible Adit or workings]			
				60.40	7.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible packed waste) at 6.3m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1A

Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434634E - 408781N	Hole Type RO
Location: Barnsley	Level: 68.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				57.40	10.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible packed waste) at 6.3m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1B

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434636E - 408782N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				65.50	3.00	OVERBURDEN - Made ground and natural clay.			
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1B

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434636E - 408782N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				56.30	12.20	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				55.50	13.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				54.50	14.00	End of Borehole at 14.000m			
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1C

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434632E - 408781N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.00	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.30	5.70	**SOFT, NO RETURNS. Possible backfill** [Possible Adit or workings]			
				60.40	7.60	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.7m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1C

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434632E - 408781N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				57.40	10.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.7m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1D

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434630E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.00	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.20	5.80	**SOFT, NO RETURNS. Possible backfill** [Possible Adit or workings]			
				60.40	7.60	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.8m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1D

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434630E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				57.40	10.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.8m to 7.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1E

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434628E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.00	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.20	5.80	**SOFT, NO RETURNS. Possible backfill** [Possible Adit or workings]			
				60.50	7.50	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.8m to 7.5m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1E

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434628E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				57.40	10.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 5.8m to 7.5m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1F

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434626E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				65.00	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.40	4.60	**VOID** - Loss of flush, rods pushed without rotation or hammer. [Possible Adit or workings].			
				61.50	6.50	**SOFT, NO RETURNS. Possible backfill** [Possible Adit or workings]			
				60.70	7.30	SOLID, NO RETURNS. Probable MUDSTONE/SANDSTONE [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. VOID, soft drilling and no returns (workings and backfill) at 4.6m to m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1F

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434626E - 408780N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				57.40	10.60	SOLID, NO RETURNS. Probable MUDSTONE/ SANDSTONE [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. VOID, soft drilling and no returns (workings and backfill) at 4.6m to m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1G

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434626E - 408782N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well	
Depth (m)	Ref.	Type	Results							
				65.50	0	OVERBURDEN - Made ground and natural clay.				
					1					
					2					
					3	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					4					
					5					
					6					
					7					
					8					
					9					
				10						

Remarks

1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1G

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434626E - 408782N

Hole Type
RO

Location: Barnsley

Level: 68.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				56.90	11.60	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				55.90	12.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				54.90	13.60	End of Borehole at 13.600m			

Remarks

1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1H

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434626E - 408778N

Hole Type
RO

Location: Barnsley

Level: 68.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well	
Depth (m)	Ref.	Type	Results							
				65.00	1	OVERBURDEN - Made ground and natural clay.				
					2					
					3	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					4					
					5					
					6					
					7					
					8					
					9					
					10					

Remarks

1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/1H

Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434626E - 408778N	Hole Type RO
Location: Barnsley	Level: 68.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				56.70	11.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				55.70	12.30	Hard black bright COAL - intact, full flush returns. [Top Beamshaw Seam].			
				54.40	13.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 13.600m			

Remarks
 1. Rotary open-hole borehole terminated at 13.6m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/11

Sheet 1 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434637E - 408784N

Hole Type
RO

Location: Barnsley

Level: 67.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				64.50	3.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				60.50	7.00	**SOFT, NO RETURNS. TIGHT Backfill**			
				58.90	8.60	Grey MUDSTONE - SOLID NO RETURNS, [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 7.0m to 8.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.

PH4/11

Sheet 2 of 2

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434637E - 408784N

Hole Type
RO

Location: Barnsley

Level: 67.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				56.90	10.60	Grey MUDSTONE - SOLID NO RETURNS, [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.600m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks

1. Rotary open-hole borehole terminated at 10.6m 2. Soft drilling and no returns (possible backfill) at 7.0m to 8.6m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 1 of 2
PH01

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 4344707E - 408853N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.40	4.10	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.50	9.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.00	9.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH01

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 4344707E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 1 of 2
PH02

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408853N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.10	4.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.50	9.00				
				64.00	9.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
PH02
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Sheet No.
SHAFT
434408-007
Sheet 1 of 2
PH03

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434705E - 408854N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.10	4.40	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.50	9.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.00	9.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
PH03
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434705E - 408854N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
 Sheet 1 of 2
PH04

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				68.50	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.30	9.20	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				63.80	9.70	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.7m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
PH04
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.80	10.70	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.700m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.7m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 1 of 2
PH05

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434709E - 408852N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.00	4.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.20	9.30	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				63.70	9.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
PH05
Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434709E - 408852N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.70	10.80	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					11	End of Borehole at 10.800m			
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.8m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 1 of 2
PH06

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.40	4.10	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.50	7.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.20	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH06

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408853N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 1 of 2
PH07

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408852N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.70	6.80	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.30	7.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 PH07
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408852N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.00	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Sheet No.
SHAFT
434408-007
Sheet 1 of 2
PH08

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.50	4.00	**SOFT** - POOR RETURNS. [Probable mudstone and Abdy (Winter) Seam]			
				66.20	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.3m 2. Soft strata (possible backfilled ground or fractured rock) at 4.0m to 7.3m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH08

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.20	10.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation]. End of Borehole at 10.300m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.3m 2. Soft strata (possible backfilled ground or fractured rock) at 4.0m to 7.3m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
 Sheet 1 of 2
PH09

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408851N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				67.50	6.00	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				67.00	6.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
PH09
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408851N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.20	10.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.300m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 1 of 2
PH10

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408855N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.20	9.30	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 11.2m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 Sheet 2 of 2
PH10

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408855N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.30	10.20	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.30	11.20				
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 11.2m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 Sheet 1 of 2
PH11

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408854N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.00	9.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				63.50	10.00				

Remarks
 1. Rotary open-hole borehole terminated at 11.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH11

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408854N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	11	11.00			
						End of Borehole at 11.000m			
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 11.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Sheet No.
SHAFT
434408-007
Sheet 1 of 2
PH12

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408854N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.90	9.60	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 1m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH12

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408854N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.40	10.10	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam]. Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.40	11.10	End of Borehole at 11.100m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 1m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 1 of 2
PH13

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434708E - 408853N

Hole Type
RO

Location: Barnsley

Level: 73.50

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	9.80	Soft black semi-bright COAL - intact, full flush returns. [Abdy			
					10				

Remarks

1. Rotary open-hole borehole terminated at 11.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 PH13
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.20	10.30	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					11	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.20	11.30	End of Borehole at 11.300m			
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 11.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
 Sheet 1 of 2
PH14

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434709E - 408853N	Hole Type RO
Location: Barnsley		Level: 73.50	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.20	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.60	9.90				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 11.4m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 Sheet 2 of 2
PH14

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434709E - 408853N	Hole Type RO
Location: Barnsley	Level: 73.50		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				63.10	10.40	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					11	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				62.10	11.40		End of Borehole at 11.400m		
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 11.4m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 1 of 2
PH15

Project Name: Athersley, Barnsley

Project No.
P17-176

Co-ords: 434707E - 408848N

Hole Type
RO

Location: Barnsley

Level: 73.00

Scale
1:50

Client: Harworth Estates

Dates:

Logged By
AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
					1				
					2				
					3				
				69.00	4	4.00			
					5	**SOFT BACKFILL (PROBABLE SHAFT)**			
					6				
					7				
					8				
					9				
					10				

Remarks

1. Rotary open-hole borehole terminated at 10.5m 2. Probable shaft backfill at 4.0m to 10.5m (base not determined) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
PH15
Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408848N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOFT BACKFILL (PROBABLE SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Probable shaft backfill at 4.0m to 10.5m (base not determined) 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
PH16
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408848N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOFT BACKFILL (PROBABLE SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Probable shaft backfill at 4.0m to 10.5m (base not determined) 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
 Sheet 1 of 2
PH17

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434705E - 408849N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				68.00	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.30	6.70	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.90	7.10	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.60	9.40	**SOFT BACKFILL** [Edge of shaft or workings in Abdy (Winter) Seam]			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 12.3m 2. Soft strata and no returns (possible backfill) at 9.4m to 11.3m 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 2 of 2
PH18

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434708E - 408848N	Hole Type RO
Location: Barnsley		Level: 73.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOFT BACKFILL (PROBABLE SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Probable shaft backfill at 4.0m to 10.5m (base not determined) 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 2 of 2
PH19

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434709E - 408847N	Hole Type RO
Location: Barnsley		Level: 73.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOLID, NO RETURNS (PROBABLE EDGE OF SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Soft strata and no returns (probable edge of shaft) at 0.0m to 8.0m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
 Sheet 1 of 2
PH20

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434710E - 408847N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
				68.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.50	6.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.10	6.90	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
 Sheet 2 of 2
PH20

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434710E - 408847N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
Sheet 2 of 2
PH21

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434707E - 408847N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOFT BACKFILL (PROBABLE SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Probable shaft backfill at 4.0m to 10.5m (base not determined) 3. Backfilled with sand and cement mix 4. Drilling plant: Soimec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-007
PH22
 Sheet 2 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408846N	Hole Type RO
Location: Barnsley		Level: 73.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	**SOLID, NO RETURNS (PROBABLE EDGE OF SHAFT)**			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Soft strata and no returns (probable edge of shaft) at 0.0m to 7.0m 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Sheet No.
SHAFT
434408-007
PH23
Sheet 1 of 2

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408845N	Hole Type RO
Location: Barnsley	Level: 73.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				69.00	4.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				66.50	6.50	Soft black semi-bright COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				66.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					10				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-007
Sheet 2 of 2
PH23

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434706E - 408845N	Hole Type RO
Location: Barnsley		Level: 73.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
				62.50	10.50	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
						End of Borehole at 10.500m			
					11				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				

Remarks
 1. Rotary open-hole borehole terminated at 10.5m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH01

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434693E - 408837N	Hole Type RO
Location: Barnsley		Level: 72.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-023
Sheet 1 of 1
PH02

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434692E - 408837N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH03

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434691E - 408837N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
					1				
					2				
					3				
					4				
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					5				
					6				
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					7				
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					8				
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-023
Sheet 1 of 1
PH04

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434693E - 408838N	Hole Type RO
Location: Barnsley		Level: 72.00	Scale 1:50
Client: Harworth Estates		Dates:	Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-023
PH05
 Sheet 1 of 1

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434692E - 408838N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
 Sheet 1 of 1
PH06

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434691E - 408838N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-023
Sheet 1 of 1
PH07

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434694E - 408837N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH09

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434694E - 408838N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.50	6.50	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.80	7.20	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.80	8.20	End of Borehole at 8.200m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.2m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Sheet No.
SHAF1
434408-023
Sheet 1 of 1
PH11

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434695E - 408839N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
					1				
					2				
					3				
					4				
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					5				
					6				
				65.60	6.40	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					7				
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					8				
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
 PH12
 Sheet 1 of 1

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434694E - 408839N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
 Sheet 1 of 1
PH13

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434693E - 408839N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH14

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434692E - 408839N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH15

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434691E - 408839N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAFT
434408-023
Sheet 1 of 1
PH16

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434694E - 408834N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.70	4.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				64.70	7.30	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				63.70	8.30	End of Borehole at 8.300m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.3m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
 Sheet 1 of 1
PH17

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434693E - 408834N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
					0	OVERBURDEN - Made ground and natural clay.			
					1				
					2				
					3				
					4				
				67.40	4.60	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					5				
					6				
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
					7				
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
					8				
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected





Borehole Log

Borehole No.
SHAF1
434408-023
Sheet 1 of 1
PH20

Project Name: Athersley, Barnsley	Project No. P17-176	Co-ords: 434691E - 408834N	Hole Type RO
Location: Barnsley	Level: 72.00		Scale 1:50
Client: Harworth Estates	Dates:		Logged By AT

Sample and In Situ Testing				Level (m)	Depth (m)	Stratum Description	Legend	Water Strikes	Well
Depth (m)	Ref.	Type	Results						
						OVERBURDEN - Made ground and natural clay.			
				67.00	5.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				65.70	6.30	Hard black bright sub-anthracite COAL - intact, full flush returns. [Abdy (Winter) Seam].			
				65.00	7.00	Grey MUDSTONE - [Pennine Middle Coal Measures Formation].			
				64.00	8.00	End of Borehole at 8.000m			
					9				
					10				

Remarks
 1. Rotary open-hole borehole terminated at 8.0m 2. Intact coal only 3. Backfilled with sand and cement mix 4. Drilling plant: Soilmec SM-14 top hammer rig 5. No mine gas or mine water emission detected

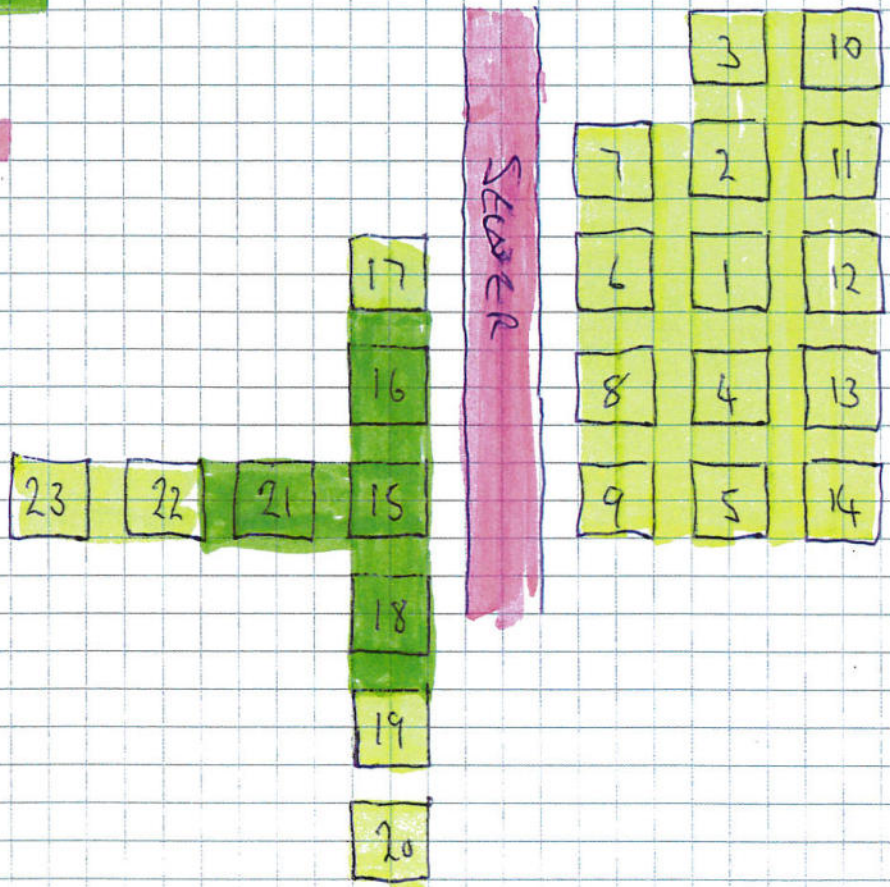


PROB HOLES FOR SHAFT NO 434408/007

NOT IN SHAFT

IN SHAFT

SEWER





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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: MITCHISON & SIMPSON Date: 23/9/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
RH 004	0000 0200	OVER BURDEN	RH 005	0000 0400	OVER BURDEN
	0200 0560	BOULDER CLAY		0400 0440	SANDSTONE
	0560 0620	SANDSTONE		0440 0470	COAL
	0620 0640	COAL		0470 1330	MUDSTONE SANDSTONE (BANDS)
	0640 1430	MUDSTONE SANDSTONE		1330 1430	COAL
	1430 1540	SOFT COAL		1430 2400	MUDSTONE SANDSTONE (BANDS)
	1540 2550	MUDSTONE SANDSTONE (POOR RETURNS)		2400 2500	COAL
		6 M CASED		2500 3200	MUDSTONE SANDSTONE (BANDS)
PHI/3	0000 0400	OVER BURDEN			4 M CASED
	0400 0410	COAL	PHI/2 A		
	0410 1150	MUDSTONE		0000 0500	OVER BURDEN
	1150 1180	COAL		0500 1200	MUDSTONE SANDSTONE (BANDS)
	1180 2430	MUDSTONE SANDSTONE		1200 1250	COAL
	2430 2550	COAL		1250 1650	MUDSTONE SANDSTONE (BANDS)
	2550 3200	MUDSTONE SANDSTONE			4 M CASED
		4 M CASED			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						Today	4	106.00	18. M	
						Previous	0	0	0	
						To Date	4	106.00	18 M	

I confirm this is a true record
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 23/9/19

Client's Name: A JAYLOR
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 23/09/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: MITCHISON D SIMPSON Date: 24/9/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH 1/2 B			SHAFT PROB 2 434408/007		
	0000 0400	OVER BURDEN		0000 0440	OVER BURDEN
	0400 0530	BOULDER CLAY		0440 0900	MUDSTONE
	0530 0950	MUDSTONE		0900 0950	COAL
	0950 1050	COAL		0950 1050	MUDSTONE
	1050 1650	MUDSTONE SANDSTONE BANDS			H M CASED
		H M CASED			
PH 1/2 C			SHAFT PROB 3 434408/007		
	0000 0410	OVER BURDEN		0000 0440	OVER BURDEN
	0410 1130	MUDSTONE		0440 0900	MUDSTONE
	1130 1230	COAL		0900 0950	COAL
	1230 1650	MUDSTONE SANDSTONE BANDS		0950 1050	MUDSTONE
		H M CASED			H M CASED
SHAFT PROB 1 434408/007			SHAFT PROB 4 434408/007		
	0000 0410	OVER BURDEN		0000 0500	OVER BURDEN
	0410 0900	MUDSTONE		0500 0920	MUDSTONE
	0900 0950	COAL		0920 0970	COAL
	0950 1050	MUDSTONE		0970 1070	MUDSTONE
		H M CASED			H M CASED

Casing/Water Level Details H M CASED

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						Today	6	75.20	24 M	
						Previous	4	106.00	18 M	
						To Date	10	181.20	42 M	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 24/9/19
 Client's Name: AT&T
 Client's position: ENG MGR
 Signature: [Signature]
 Dated: 24/9/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHURSFLEY			Sheet: 2 of 2		
Rig: SM 14 1173		Crew: MITCHELSON D SIMPSON		Date: 24/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
SHAFT PROB 5	434408/007		SHAFT PROB 8	434408/007	
	0000 0450	OVER BURDEN		0000 0400	OVER BURDEN
	0450 0930	MUDSTONE		0400 0730	SOFT POOL RETARDERS
	0930 0980	COAL		0730 1030	MUDSTONE
	0980 1080	MUDSTONE			LM CASED
		LM CASED			
			SHAFT PROB 9	434408/007	
SHAFT PROB 6	434408/007			0000 0430	OVER BURDEN
	0000 0410	OVER BURDEN		0430 0600	MUDSTONE
	0410 0700	MUDSTONE		0600 0650	COAL
	0700 0730	COAL		0650 1030	MUDSTONE
	0730 1050	MUDSTONE			LM CASED
		LM CASED			
			SHAFT PROB 10	434408/007	
SHAFT PROB 7	434408/007			0000 0430	OVER BURDEN
	0000 0430	OVER BURDEN		0430 0930	MUDSTONE
	0430 0680	MUDSTONE		0930 1020	COAL
	0680 0720	COAL		1020 1120	MUDSTONE
	0720 1050	MUDSTONE			LM CASED
		LM CASED			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						6	6360	24 M		
						Previous	10	181.20	42 M	
						To Date	16	244.80	66 M	

I confirm this is a true record.
 Van Elle operative name: DAVID MITCHELSON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 24/9/19

Client's Name: AT476R
 Client's position: EMERGENCY
 Signature: [Signature]
 Dated: 24/09/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 3 of 3		
Rig: SM 14 1173		Crew: IMTCHISW D SIMPSON		Date: 24/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
SHAFT PROB 11	434408/007		SHAFT PROB 14	434408/007	
	0000 0430	OVER BURDEN		0000 0430	OVER BURDEN
	0430 0950	MUDSTONE		0430 0990	MUDSTONE
	0950 1000	COAL		0990 1040	COAL
	1000 1100	MUDSTONE		1040 1140	MUDSTONE
		4M CASING			4M CASING
SHAFT PROB 12	434408/007				
	0000 0430	OVER BURDEN			
	0430 0960	MUDSTONE			
	0960 1010	COAL			
	1010 1110	MUDSTONE			
		4 M CASING			
SHAFT PROB 13	434408/007				
	0000 0430	OVER BURDEN			
	0430 0980	MUDSTONE			
	0980 1030	COAL			
	1030 1130	MUDSTONE			
		4M CASING			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						4	44.80	16.4		
						Previous	16	244.80	66 M	
						To Date	20	289.60	82.4	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED [Signature]
 Dated 24/9/19

Client's Name: A TAYLOR
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 24/09/19



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Open Hole Drillers Log

Site: WAKE FIELD RD ATHERSLEY Sheet: 1 of 1
 Rig: SM14 1173 Crew: MITCHISON J SIMPSON Date: 25/9/19

Hours on Site: _____ Travelling Time: _____

BH	Depth	Strata Description	BH	Depth	Strata Description
PH15	SHAFT PROB 434408/007		PH18	SHAFT PROB 434408/007	
	0000 0400	OVER BURDEN		0000 0400	OVER BURDEN
	0400 1050	SOFT BACK FILL (SHAFT)		0400 1050	SOFT BACK FILL (SHAFT)
		4M CASED			4M CASED
PH16	SHAFT PROB 434408/007		PH19	SHAFT PROB 434408/007	
	0000 0400	OVER BURDEN		0000 0800	SOFT BACK FILL
	0400 1050	SOFT BACK FILL (SHAFT)		0800 1050	SOLID NO RETURNS (EDGE OF SHAFT)
					4M CASED
PH17	SHAFT PROB 434408/007		PH20	0000 0430	OVER BURDEN
	0000 0500	OVER BURDEN		0430 0650	MUDSTONE
	0500 0670	MUDSTONE		0650 0690	COAL
	0670 0710	COAL		0690 1050	MUDSTONE
	0710 0940	MUDSTONE			4M CASED
	0940 1130	BACK FILL (PASS ADDIT)			
	1130 1230	SOLID NO RETURNS	PH21	SHAFT PROB 434408/007	
		4M CASED		0000 0400	OVER BURDEN
				0400 1050	SOFT BACK FILL (SHAFT)
					4M CASED

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						7		75.30	28 M	
						Previous	20	289.60	82 M	
						To Date	27	364.90	110.00	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 25/9/19

Client's Name: A TAYLOR
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 25/09/19



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Open Hole Drillers Log

Site: Wakefield RD ATHERSLEY			Sheet: 2 of 2		
Rig: SM14 1173		Crew: I MITCHISON D SIMPSON		Date: 25/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH22	SHAFT	PROB 434.408/007	PH 1/1 B		
	0000 0700	SOFT BACK FILL		0000 0430	OVER BURDEN
	0700 1050	SOLID NO RETURNS (EDGE OF SHAFT)		0430 0950	MUDSTONE
		4M CASED		0950 1000	COAL
				1000 1350	MUDSTONE
					4M CASED
PH 23					
	0000 0400	OVER BURDEN	PH 1/1 D		
	0400 0650	MUDSTONE		0000 0430	OVER BURDEN
	0650 0700	COAL		0430 0950	MUDSTONE
	0700 1050	MUDSTONE		0950 1000	COAL
		4M CASED		1000 1350	MUDSTONE
					4M CASED
PH 1/1 A					
	0000 0400	OVER BURDEN	PH 1/1 C	0000 0430	OVER BURDEN
	0400 0900	MUDSTONE		0430 0630	MUDSTONE
	0900 1000	COAL		0630 0680	COAL
	1000 1350	MUDSTONE		0680 0950	MUDSTONE
		4M CASED		0950 1000	COAL
				1000 1050	MUDSTONE
					4M CASED

Casing/Water Level Details						4M CASED				
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today	6	69.00	24.4	
						Previous	27	364.90	110.00	
						To Date	33	433.90	134.00	
I confirm this is a true record. Van Elle operative name: I MITCHISON						Client's Name: A TAYLOR				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Client's position: ENE WARR				
Hole Depth checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Signature: A TAYLOR				
SIGNED: I MITCHISON						Dated: 25/09/19				
Dated: 25/9/19										



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 3 of 3
 Rig: SM 14 1173 Crew: MITCHISON DSIMPSON Date: 25/9/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH 1/1 E					
	0000 0430	OVER BURDEN			
	0430 0700	MUDSTONE			
	0700 0730	COAL			
	0730 1050	MUDSTONE			
		4M CASING			
PH 2/2 A					
	0000 0430	OVER BURDEN			
	0430 0650	MUDSTONE			
	0650 0700	COAL			
	0700 1780	MUDSTONE			
	1780 1880	COAL			
	1880 1980	MUDSTONE			
		4M CASING			

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							<u>2</u>	<u>30 30</u>	<u>8M</u>	
						Previous	<u>33</u>	<u>433.90</u>	<u>136.00</u>	
						To Date	<u>35</u>	<u>464.20</u>	<u>142.00</u>	

I confirm this is a true record.
 Van Elle operative name IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED [Signature]
 Dated 25/9/19

Client's Name ATHERSLEY
 Client's position ENGINEER
 Signature [Signature]
 Dated 25/09/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHRESLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: J MITCHELL D SIMPSON Date: 26/9/19

Hours on Site: _____ Travelling Time: _____

BH	Depth	Strata Description	BH	Depth	Strata Description
PH 2/2 B			PH 2/1 B		
	0000 0430	OVER BURDEN		0000 0600	OVER BURDEN
	0430 0600	MUDSTONE		0600 0620	MUDSTONE
	0600 0650	COAL		0620 0720	COAL
	0650 2250	MUDSTONE		0720 1800	MUDSTONE
		4 M CASING		1800 1930	COAL
				1930 2250	MUDSTONE
PH 2/1 A					6 M CASING
	0000 0600	OVER BURDEN			
	0600 0680	MUDSTONE	PH 2/1 C		
	0680 0710	COAL		0000 0600	OVER BURDEN
	0710 1800	MUDSTONE		0600 0650	MUDSTONE
	1800 1930	COAL		0650 0700	COAL
	1930 2250	MUDSTONE		0700 1810	MUDSTONE
		6 M CASING		1810 1920	COAL
				1920 2250	MUDSTONE
					6 M CASING

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						Previous	4	90.00	22M	/
						To Date	35	464.20	142.00	/
							39	554.20	164.00	/

I confirm this is a true record.
 Van Elle operative name: JAN MITCHELL
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 26/9/19

Client's Name: ATHRESLEY
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 26/09/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 2 of 2		
Rig: SM 14 1173		Crew: MITCHELL D SIMPSON		Date: 26/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH 2/1 D			PH 006 B		
	0000 0600	OVER BURDEN		0000 0540	OVER BURDEN
	0600 0700	MUDSTONE		0540 0580	MUDSTONE
	0700 0730	SOFT POSS COAL		0580 0680	COAL
	0730 1800	MUDSTONE		0680 0780	MUDSTONE
	1800 1900	COAL			6 M CASED
	1900 2250	MUDSTONE			
		6 M CASED	PH 006 C		
				0000 0500	OVER BURDEN
PH 006 A				0500 0660	MUDSTONE
	0000 0540	OVER BURDEN		0660 0760	COAL
	0540 0680	MUDSTONE		0760 0860	MUDSTONE
	0680 0780	VOID			6 M CASED
		SOLID NO RETURNS			
		6 M CASED	PH 008 A		
				0000 0500	OVER BURDEN
				0500 0750	MUDSTONE
					6 M CASED

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
						5	54.20	30.00		
						Previous	39	554.20	164.00	
						To Date	44	608.40	194.00	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHELLSON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 26/9/19

Client's Name: A TAYLOR
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 26/09/19

IN THE SHAFT 2

NO SHAFT FOUND

SEWER





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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 1 of 1							
Rig: SM 14 1173		Crew: I MITCHISON D SIMPSON		Date: 27/9/19						
Hours on Site:			Travelling Time:							
BH	Depth	Strata Description	BH	Depth	Strata Description					
PH 008 A			RH 007							
	0000 0400	OVER BURDEN		0000 0400	OVER BURDEN					
	0400 0440	MUDSTONE		0440 0460	MUDSTONE					
	0440 0540	COAL		0460 0570	COAL					
	0540 1560	MUDSTONE		0570 1570	MUDSTONE					
	1560 1660	COAL		1570 1660	COAL					
	1660 2670	MUDSTONE		1660 2740	MUDSTONE					
	2670 2720	COAL		2740 2830	COAL					
	2720 3500	MUDSTONE		2830 3800	MUDSTONE					
		4 M CASED			6 M CASED					
FH 008 C										
	0000 0430	OVER BURDEN								
	0430 0460	MUDSTONE								
	0460 0580	COAL								
	0580 0760	MUDSTONE								
		4 M CASED								
Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							3	80.60	14.00	
						Previous	44	608.40	194.00	
						To Date	47	689.00	208.00	
I confirm this is a true record. Van Elle operative name: IAN MITCHISON						Client's Name: A TAYLOR Client's position: BENEVOLENT Signature: [Signature] Dated: 27/09/19				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										
Hole Depth checked Yes <input type="checkbox"/> No <input type="checkbox"/>										
SIGNED: [Signature]										
Dated: 27/9/19										



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Open Hole Drillers Log

Site: <u>WAKEFIELD RD WATERSLEY</u>			Sheet: <u>1</u> of <u>1</u>							
Rig: <u>SM 14 1173</u>		Crew: <u>MITCHELL & SIMPSON</u>		Date: <u>30/9/19</u>						
Hours on Site:			Travelling Time:							
BH	Depth	Strata Description	BH	Depth	Strata Description					
<u>R009</u>			<u>PROBING FOR SHAFT</u>	<u>2434408/023</u>						
	<u>0000 0440</u>	<u>OVER BURDEN</u>	<u>PH1</u>	<u>0000 0430</u>	<u>OVER BURDEN</u>					
	<u>0440 0460</u>	<u>MUDSTONE</u>		<u>0430 0630</u>	<u>MUDSTONE</u>					
	<u>0460 0570</u>	<u>COAL</u>		<u>0630 0730</u>	<u>COAL</u>					
	<u>0570 1560</u>	<u>MUDSTONE SANDSTONE</u>		<u>0730 0830</u>	<u>MUDSTONE</u>					
	<u>1560 1660</u>	<u>COAL</u>			<u>2M CASED</u>					
	<u>1660 2760</u>	<u>MUDSTONE</u>								
	<u>2760 2830</u>	<u>COAL</u>	<u>PH2</u>	<u>0000 0430</u>	<u>OVER BURDEN</u>					
	<u>2830 2930</u>	<u>MUDSTONE</u>		<u>0430 0630</u>	<u>MUDSTONE</u>					
		<u>4M CASED</u>		<u>0630 0730</u>	<u>COAL</u>					
				<u>0730 0830</u>	<u>MUDSTONE</u>					
<u>R10</u>	<u>0000 0400</u>	<u>OVER BURDEN</u>			<u>2M CASED</u>					
	<u>0400 0630</u>	<u>MUDSTONE</u>								
	<u>0630 0680</u>	<u>COAL</u>								
	<u>0680 1470</u>	<u>MUDSTONE</u>	<u>PH3</u>	<u>0000 0460</u>	<u>OVER BURDEN</u>					
	<u>1470 1500</u>	<u>COAL</u>		<u>0460 0630</u>	<u>MUDSTONE</u>					
	<u>1500 2470</u>	<u>MUDSTONE</u>		<u>0630 0700</u>	<u>COAL</u>					
	<u>2470 2530</u>	<u>COAL</u>		<u>0700 0800</u>	<u>MUDSTONE</u>					
	<u>2530 3580</u>	<u>MUDSTONE</u>			<u>2M CASED</u>					
	<u>3580 3630</u>	<u>COAL</u>								
	<u>3630 3730</u>	<u>MUDSTONE</u>								
Casing/Water Level Details <u>4M CASED</u>										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							<u>5</u>	<u>91.20</u>	<u>14 M</u>	/
							<u>47</u>	<u>689.00</u>	<u>208.00</u>	
							<u>52</u>	<u>780.20</u>	<u>222.00</u>	
I confirm this is a true record.						Client's Name <u>A TAYLOR</u>				
Van Elle operative name <u>IAN MITCHELL</u>						Client's position <u>ENGINEER</u>				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Signature <u>A Taylor</u>				
Hole Depth checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Dated <u>30/09/19</u>				
SIGNED <u>[Signature]</u>										
Dated <u>30/9/19</u>										



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 2 of 2		
Rig: SM 16 1173		Crew: MITCHELL & SIMPSON		Date: 30/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PROBING FOR SHAFT 2 434408/023					
PH4	0000 0430	OVER BURDEN	PH7	0000 0460	OVER BURDEN
	0430 0630	MUDSTONE		0460 0630	MUDSTONE
	0630 0730	COAL		0630 0700	COAL
	0730 0830	MUDSTONE		0700 0800	MUDSTONE
		2M CASED			2M CASED
PH5					
	0000 0430	OVER BURDEN	PH8	0000 0460	OVER BURDEN
	0430 0630	MUDSTONE		0460 0630	MUDSTONE
	0630 0730	COAL		0630 0700	COAL
	0730 0830	MUDSTONE		0700 0800	MUDSTONE
		2M CASED			2M CASED
PH6					
	0000 0430	OVER BURDEN	PH9	0000 0460	OVER BURDEN
	0430 0630	MUDSTONE		0460 0650	MUDSTONE
	0630 0700	COAL		0650 0720	COAL
	0700 0800	MUDSTONE		0720 0820	MUDSTONE
		2M CASED			2M CASED

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							6	48.80	12M	/
							52	780.20	22.00	
							58	829.00	234.00	

I confirm this is a true record.
 Van Elle operative name: PAUL MITCHELL

Drill hole Nos. checked Yes No
 Hole Depth checked Yes No

SIGNED: [Signature] Dated: 30/9/19

Client's Name: A TAYLOR
 Client's position: F.W.G. MEER
 Signature: [Signature] Dated: 30/09/19



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Open Hole Drillers Log

Site: WAKE FIELDS RD ATHERSLEY			Sheet: 3 of 3		
Rig: SM 14 1173		Crew: MITCHELSON D SIMPSON		Date: 30/9/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH10	0000 0430	OVER BURDEN	PH13	0000 0460	OVER BURDEN
	0430 0660	MUDSTONE		0460 0630	MUDSTONE
	0660 0730	COAL		0630 0730	COAL
	0730 0830	MUDSTONE		0730 0830	MUDSTONE
		2M CASED			
PH11	0000 0430	OVER BURDEN	PH14	0000 0460	OVER BURDEN
	0430 0640	MUDSTONE		0460 0630	MUDSTONE
	0640 0700	COAL		0630 0730	COAL
	0700 0800	MUDSTONE		0730 0830	MUDSTONE
		2M CASED			
PH12	0000 0430	OVER BURDEN	PH15	0000 0460	OVER BURDEN
	0430 0630	MUDSTONE		0460 0630	MUDSTONE
	0630 0730	COAL		0630 0730	COAL
	0730 0830	MUDSTONE		0730 0830	MUDSTONE
		2M CASED			

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
							6	49.50	12.4	
							58	829.00	232.00	
							64	878.50	246.00	

I confirm this is a true record.
 Van Elle operative name: MITCHELSON

Drill hole Nos. checked Yes No
 Hole Depth checked Yes No

SIGNED: [Signature] Dated: 30/9/19

Client's Name: A TATLER
 Client's position: ENG. INVEP
 Signature: [Signature]
 Dated: 30/09/19



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Open Hole Drillers Log

Site: WAKE FIELDS RD ATHERSLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: IM MITCHELSON DSIMPSON Date: 1/10/19
 Hours on Site: _____ Travelling Time: _____

BH	Depth	Strata Description	BH	Depth	Strata Description
PH16	PROBING FOR SHAFT 2 4.311408/023		PH19	0000 0500	OVER BURDEN
	0000 0480	OVER BURDEN		0500 0700	MUDSTONE
	0480 0630	MUDSTONE		0700 0760	COAL (POOR RETURNS)
	0630 0730	COAL		0760 0860	MUDSTONE
	0730 0830	MUDSTONE			2M CASING
		2M CASING			
			PH20	0000 0500	OVER BURDEN
PH17	0000 0460	OVER BURDEN		0500 0630	MUDSTONE
	0460 0630	MUDSTONE		0630 0700	COAL
	0630 0700	COAL		0700 0800	MUDSTONE
	0700 0800	MUDSTONE			2M CASING
		2M CASING			
			RH 4/1 A		
PH18	0000 0460	OVER BURDEN		0000 0200	OVER BURDEN
	0460 0630	MUDSTONE		0200 0630	MUDSTONE
	0630 0700	COAL (POOR RETURNS)		0630 0760	SOFT (POSS BACKED WATER)
	0700 0800	MUDSTONE		0760 1060	SOLID NO RETURNS
		2M CASING			2M CASING

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						6	5150	124		
						64	878.50	246.00		
						70	930.00	258.00		

I confirm this is a true record.
 Van Elle operative name IAN MITCHELSON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED [Signature]
 Dated 1/10/19

Client's Name A TAYLOR
 Client's position ENG INSR
 Signature [Signature]
 Dated 01/10/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 2 of 2		
Rig: SM 14 1173		Crew: MITCHELSON SIMPSON		Date: 1/10/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
RH4/1 B			RH4/1 E		
	0000 0300	OVER BURDEN		0000 0300	OVER BURDEN
	0300 1220	MUDSTONE		0300 0580	MUDSTONE
	1220 1300	COAL		0580 0750	BACK FILL
	1300 1400	MUDSTONE 4M CASED		0750 1060	SOLID NO RETURNS 4M CASED
RH4/1 C			RH4/1 F		
	0000 0300	OVER BURDEN		0000 0300	OVER BURDEN
	0300 0570	MUDSTONE		0300 0460	MUDSTONE
	0570 0760	PASS BACK FILL		0460 0650	VOID
	0760 1060	SOLID NO RETURNS 4M CASED		0650 0730	BACK FILL
				0730 1060	SOLID NO RETURNS 4M CASED
RH4/1 D					
	0000 0300	OVER BURDEN			
	0300 0580	MUDSTONE			
	0580 0760	BACK FILL			
	0760 1060	SOLID NO RETURNS 4M CASED			

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today	5	56.40	20 M	/
						Previous	70	930.00	258.00	
						To Date	75	986.40	278.00	
I confirm this is a true record Van Elle operative name: MITCHELSON						Client's Name: A TAYLOR Client's position: ENGINEER Signature: [Signature] Dated: 01/10/19				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hole Depth checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> SIGNED: [Signature] Dated: 1/10/19										



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY			Sheet: 1 of 1		
Rig: SM14 1173		Crew: I MITCHISON D SIMPSON		Date: 2/10/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
RH4/1 G			RH17	0000 0300	OVER BURDEN
	0000 0300	OVER BURDEN		0300 0930	MUDSTONE
	0300 1160	MUDSTONE		0930 1030	COAL
	1160 1260	COAL		1030 2660	MUDSTONE SANDSTONE
	1260 1360	MUDSTONE		2660 2830	BROKEN GROUND
		4 M CASED		2830 2930	SOLID NO RETURNS
					4 M CASED
RH4/1 H					
	0000 0300	OVER BURDEN			
	0300 1130	MUDSTONE			
	1130 1230	COAL			
	1230 1360	MUDSTONE			
		4 M CASED			
RH4/1 I					
	0000 0300	OVER BURDEN			
	0300 0700	MUDSTONE			
	0700 0860	TIGHT BACK FILL			
	0860 1060	SOLID NO RETURNS			
		4 M CASED			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						4	67.10	16M		
						75	986.40	278.00		
						79	1053.50	294.00		

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 2/10/19

Client's Name: A TAYLOR
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 02/10/19



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Open Hole Drillers Log

Site: WAKE FIELDS RD ATHERSLEY			Sheet: 1 of 1		
Rig: SM 14 1173		Crew: MITCHISON D SIMPSON		Date: 3/10/19	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
RH16	0000 0350	OVER BURDEN	RH18	B	
	0350 0580	MUDSTONE		0000 0230	OVER BURDEN
	0580 0660	COAL		0230 0430	SANDSTONE
	0660 1640	MUDSTONE		0430 1060	MUDSTONE
	1640 1690	COAL			2 M CASED
	1690 3550	MUDSTONE SANDSTONE BANDS			
	3550 3650	SOFT POSS COAL POOR RETURNS	RH14	A	
	3650 3800	MUDSTONE		0000 0300	OVER BURDEN
		4 M CASED		0300 0680	SANDSTONE MUDSTONE
				0680 0780	COAL
RH18	0000 0230	OVER BURDEN		0780 1830	MUDSTONE
	0230 0700	WEATHER SANDSTONE		1830 1930	COAL
	0700 0760	MUDSTONE		1930 2030	MUDSTONE
	0760 1260	Blocked Ground			2 M CASED
	1260 2980	MUDSTONE			
	2980 3010	SOFT LOSS OF FLUSH			
	3010 3160	SOLID NO RETURNS			
		2 M CASED			

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							4	100.50	10 M	
							79	1053.50	294.00	
							83	1154.00	304.00	

I confirm this is a true record
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 3/10/19

Client's Name: ATADON
 Client's position: ENG MFR
 Signature: [Signature]
 Dated: 03/10/19



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: MITCHELSON D SIMPSON Date: 4/10/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
PH3/1 A			PH3/1 C		
	0000 0300	OVER BURDEN		0000 0300	OVER BURDEN
	0300 0400	MUDSTONE		0300 0400	MUDSTONE
	0400 0460	COAL		0400 0460	COAL
	0460 1460	MUDSTONE		0460 1440	MUDSTONE
	1460 1560	COAL		1440 1540	COAL
	1560 1660	MUDSTONE		1540 1660	MUDSTONE
		2M CASED			2M CASED
PH3/1 B			PH3/2 A		
	0000 0300	OVER BURDEN		0000 0200	OVER BURDEN
	0300 0400	MUDSTONE		0200 0220	COAL
	0400 0460	COAL		0220 1180	MUDSTONE
	0460 1480	MUDSTONE		1180 1280	COAL
	1480 1580	COAL		1280 1380	MUDSTONE
	1580 1680	MUDSTONE			2M CASED
		2M CASED			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						Today	4	6380	84	/
						Previous	84	1,173.80	306.00	
						To Date	88	1237.60	314.00	

I confirm this is a true record.
 Van Elle operative name: MITCHELSON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 4/10/19

Client's Name: ATAWA
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 04/10/19



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Open Hole Drillers Log

Site: <u>WAKEFIELD RD ATHERSLEY</u>			Sheet: <u>2</u> of <u>2</u>							
Rig: <u>SM14 1173</u>		Crew: <u>MITCHELL & SIMPSON</u>		Date: <u>4/10/19</u>						
Hours on Site:			Travelling Time:							
BH	Depth	Strata Description	BH	Depth	Strata Description					
<u>PH3/2 B</u>										
	<u>0000 0200</u>	<u>OVER BURDEN</u>								
	<u>0200 0230</u>	<u>COAL</u>								
	<u>0230 1190</u>	<u>MUDSTONE</u>								
	<u>1190 1290</u>	<u>COAL</u>								
	<u>1290 1390</u>	<u>MUDSTONE</u>								
		<u>2M CASSED</u>								
<u>PH3/2 c</u>										
	<u>0000 0200</u>	<u>OVER BURDEN</u>								
	<u>0200 0220</u>	<u>COAL</u>								
	<u>0220 1160</u>	<u>MUDSTONE</u>								
	<u>1160 1260</u>	<u>COAL</u>								
	<u>1260 1360</u>	<u>MUDSTONE</u>								
		<u>2M CASSED</u>								
Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today	<u>2</u>	<u>27.50</u>	<u>4M</u>	
						Previous	<u>88</u>	<u>1237.60</u>	<u>314.00</u>	
						To Date	<u>90</u>	<u>1265.10</u>	<u>318.00</u>	<u>9</u>
I confirm this is a true record Van Elle operative name <u>MITCHELL & SIMPSON</u>						Client's Name <u>ATA TUR</u>				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Client's position <u>ENGINEER</u>				
Hole Depth checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						Signature <u>AGH</u>				
SIGNED <u>[Signature]</u>						Dated <u>4/10/19</u>				
Dated <u>4/10/19</u>										



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 1 of 1
 Rig: SM 14 1173 Crew: I MITCHELSON D SIMPSON Date: 7/10/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
<u>RH21</u>					
	<u>0000 0300</u>	<u>OVER BURDEN</u>			
	<u>0300 0400</u>	<u>MUDSTONE</u>			
	<u>0400 0450</u>	<u>COAL</u>			
	<u>0450 3050</u>	<u>MUDSTONE SANDSTONE</u>			
	<u>3050 3100</u>	<u>COAL</u>			
	<u>3100 3460</u>	<u>MUDSTONE SANDSTONE</u>			
		<u>2 M CASED</u>			
<u>RH20</u>					
	<u>0000 0300</u>	<u>OVER BURDEN</u>			
	<u>0300 1130</u>	<u>MUDSTONE</u>			
	<u>1130 1230</u>	<u>COAL</u>			
	<u>1230 1640</u>	<u>MUDSTONE</u>			
	<u>1640 1740</u>	<u>COAL</u>			
	<u>1740 3160</u>	<u>MUDSTONE SANDSTONE</u>			
		<u>2 M CASED</u>			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						Today	<u>2</u>	<u>66.20</u>	<u>4M</u>	/
						Previous	<u>90</u>	<u>1265.10</u>	<u>318.00</u>	
						To Date	<u>92</u>	<u>1331.30</u>	<u>322.00</u>	

I confirm this is a true record.
 Van Elle operative name IAN MITCHELSON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED [Signature]
 Dated 7/10/19

Client's Name A TAYLOR
 Client's position ENGINEER
 Signature [Signature]
 Dated 07/10/19



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Open Hole Drillers Log

Site: <u>WAKEFIELD RD ATHERSLEY</u>			Sheet: _____ of _____		
Rig: <u>SM 14 1173</u>		Crew: <u>MITCHISON D SIMPSON</u>		Date: <u>8/10/19</u>	
Hours on Site: _____			Travelling Time: _____		
BH	Depth	Strata Description	BH	Depth	Strata Description
<u>RH19</u>			<u>RH15</u>	<u>0000 0300</u>	<u>OVER BURDEN</u>
	<u>0000 0300</u>	<u>OVER BURDEN (COAL TRACES)</u>		<u>0300 0400</u>	<u>MUDSTONE</u>
	<u>0300 1340</u>	<u>MUDSTONE</u>		<u>0400 0410</u>	<u>COAL</u>
	<u>1340 1390</u>	<u>COAL</u>		<u>0410 0710</u>	<u>MUDSTONE</u>
	<u>1390 1480</u>	<u>MUDSTONE</u>		<u>0710 0760</u>	<u>COAL</u>
	<u>1480 1530</u>	<u>COAL</u>		<u>0760 1870</u>	<u>MUDSTONE</u>
	<u>1530 2050</u>	<u>MUDSTONE</u>		<u>1870 1900</u>	<u>COAL</u>
	<u>2050 2260</u>	<u>SOFT (POOR RETURNS)</u>		<u>1900 1940</u>	<u>MUDSTONE</u>
	<u>2260 2300</u>	<u>MUDSTONE (FULL RETURNS)</u>		<u>1940 1990</u>	<u>COAL</u>
	<u>2300 2400</u>	<u>COAL</u>		<u>1990 2770</u>	<u>MUDSTONE SANDSTONE</u>
	<u>2400 3200</u>	<u>MUDSTONE SANDSTONE</u>		<u>2770 2820</u>	<u>COAL</u>
		<u>2 M CASED</u>		<u>2820 3200</u>	<u>MUDSTONE SANDSTONE</u>
					<u>2 M CASED</u>

Casing/Water Level Details											
BH	Casing		Water			Totals	BH	Drill	Case	Install	
	Dia	Depth	Strike	Rise	Sealed	Today					
							<u>2</u>	<u>64.00</u>	<u>4.11</u>	/	
							<u>92</u>	<u>1331.30</u>	<u>322.00</u>		
							<u>94</u>	<u>1395.30</u>	<u>326.00</u>		
I confirm this is a true record. Van Elle operative name: <u>MITCHISON</u>							Client's Name: <u>ATAYLOR</u>				
Drill hole Nos. checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							Client's position: <u>ENGINEER</u>				
Hole Depth checked Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							Signature: <u>[Signature]</u>				
SIGNED: <u>[Signature]</u>							Dated: <u>08/10/19</u>				
Dated: <u>8/10/19</u>											



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Open Hole Drillers Log

Site: <u>WAKEFIELD RD ATHERSLEY</u>			Sheet: <u>1</u> of <u> </u>		
Rig: <u>SM14 1173</u>		Crew: <u>J MITCHISON</u> <u>D SIMPSON</u>		Date: <u>9/10/19</u>	
Hours on Site: <u> </u>			Travelling Time: <u> </u>		

BH	Depth	Strata Description	BH	Depth	Strata Description
<u>RH11</u>			<u>RH12A</u>	<u>0000 0350</u>	<u>OVER BURDEN (COAL TRACES)</u>
	<u>0000 0300</u>	<u>OVER BURDEN (COAL TRACES)</u>		<u>0350 0400</u>	<u>MUDSTONE</u>
	<u>0300 0400</u>	<u>MUDSTONE</u>		<u>0400 0450</u>	<u>COAL</u>
	<u>0400 0460</u>	<u>COAL</u>		<u>0450 1900</u>	<u>FRACTURED ROCK (POUR RETURNS)</u>
	<u>0460 0790</u>	<u>MUDSTONE</u>		<u>1900 2000</u>	<u>COAL</u>
	<u>0790 0840</u>	<u>COAL</u>		<u>2000 2800</u>	<u>SOLID NO RETURNS</u>
	<u>0840 1610</u>	<u>MUDSTONE</u>			<u>2M CASED</u>
	<u>1610 1660</u>	<u>COAL</u>			
	<u>1660 1990</u>	<u>MUDSTONE</u>	<u>RH12B</u>	<u>0000 0300</u>	<u>OVER BURDEN</u>
	<u>1990 2060</u>	<u>SOFT (POUR RETURNS)</u>		<u>0300 0580</u>	<u>MUDSTONE</u>
	<u>2060 2710</u>	<u>MUDSTONE (POUR RETURNS)</u>		<u>0580 0760</u>	<u>SOFT NO RETURNS</u>
	<u>2710 2760</u>	<u>COAL</u>		<u>0760 1400</u>	<u>SOLID NO RETURNS</u>
	<u>2760 2780</u>	<u>MUDSTONE</u>			<u>4M CASED</u>
	<u>2780 2820</u>	<u>COAL</u>			
	<u>2820 3800</u>	<u>MUDSTONE</u>	<u>RH1A</u>	<u>0000 0350</u>	<u>OVER BURDEN</u>
		<u>2M CASED</u>		<u>0350 0450</u>	<u>MUDSTONE</u>
				<u>0450 0550</u>	<u>COAL</u>
				<u>0550 0910</u>	<u>MUDSTONE</u>
				<u>0910 1010</u>	<u>SOFT NO RETURNS</u>
				<u>1010 1400</u>	<u>SOLID NO RETURNS</u>

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today				
							<u>4</u>	<u>94.00</u>	<u>12M</u>	
						Previous	<u>95</u>	<u>11433.30</u>	<u>328.00</u>	
						To Date	<u>99</u>	<u>1527.30</u>	<u>340.00</u>	

I confirm this is a true record.		Client's Name <u>A TAYLOR</u>	
Van Elle operative name <u>JAL MITCHISON</u>		Client's position <u>ENGINEER</u>	
Drill hole Nos. checked	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Signature <u>A TAYLOR</u>	
Hole Depth checked	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Dated <u>09/10/19</u>	
SIGNED <u>[Signature]</u>			
Dated <u>9/10/19</u>			



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Open Hole Drillers Log

Site: WAKEFIELD RD ATHERSLEY Sheet: 1 of
 Rig: SM14 1173 Crew: MITCHISON DSIMPSON Date: 10/10/19

Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
RH1B	0000 0300	OVER BURDEN	RH2B	0000 0400	OVER BURDEN
	0300 0350	MUDSTONE		0400 1910	SANDSTONE MUDSTONE
	0350 0450	COAL		1910 1960	SOFT COAL
	0450 1000	SANDSTONE MUDSTONE		1960 3010	MUDSTONE SANDSTONE
	1000 1020	SAND		3010 3080	COAL
	1020 1810	MUDSTONE		3080 3800	MUDSTONE SANDSTONE
	1810 1860	COAL			6M CASED
	1860 3160	MUDSTONE SANDSTONE			
	3160 3190	COAL	RH3A	0000 0300	OVER BURDEN
	3190 3280	MUDSTONE		0300 0400	SANDSTONE
	3280 3310	COAL		0400 0440	COAL
	3310 3800	MUDSTONE SANDSTONE		0440 0600	MUDSTONE SANDSTONE
		6M CASED		0600 0650	COAL
				0650 1360	SOFT NO RETURNS
RH2A	0000 0400	OVER BURDEN (COAL TRACES)		1360 1660	SOLID NO RETURNS
	0400 1060	SANDSTONE MUDSTONE			4M CASED
	1060 1260	SOFT NO RETURNS			
	1260 2300	SOLID NO RETURNS			
		2M CASED			

Casing/Water Level Details

BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed					
						Today	4	115.60	18m	/
						Previous	99	1527.30	340.00	
						To Date	103	1642.90	358.00	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 10/10/19

Client's Name: ATAZUN
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 10/10/19



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Open Hole Drillers Log

Site: <u>WANE FIELD RD ATHERSLEY</u>			Sheet: <u>1</u> of <u>1</u>		
Rig: <u>SM 14 1173</u>		Crew: <u>MITCHISON DSIMPSON</u>		Date: <u>11/10/19</u>	
Hours on Site:			Travelling Time:		
BH	Depth	Strata Description	BH	Depth	Strata Description
<u>RH3B</u>	<u>00000300</u>	<u>OVER BURDEN</u>			
	<u>0300600</u>	<u>SANDSTONE MUDSTONE</u>			
	<u>06000700</u>	<u>COAL</u>			
	<u>07000960</u>	<u>MUDSTONE SANDSTONE</u>			
	<u>09600980</u>	<u>SAND</u>			
	<u>09801210</u>	<u>SANDSTONE MUDSTONE</u>			
	<u>12101260</u>	<u>SOFT (Poss FRACTURED ROCK)</u>			
	<u>12601700</u>	<u>SOLID NO RETURNS</u>			
		<u>6M CASED</u>			

Casing/Water Level Details										
BH	Casing		Water			Totals	BH	Drill	Case	Install
	Dia	Depth	Strike	Rise	Sealed	Today	<u>1</u>	<u>1700</u>	<u>6M</u>	
						Previous	<u>103</u>	<u>1642.90</u>	<u>358.00</u>	
						To Date	<u>104</u>	<u>1659.90</u>	<u>364.00</u>	

I confirm this is a true record.
 Van Elle operative name: IAN MITCHISON
 Drill hole Nos. checked Yes No
 Hole Depth checked Yes No
 SIGNED: [Signature]
 Dated: 11/10/19

Client's Name: ATA 7400
 Client's position: ENGINEER
 Signature: [Signature]
 Dated: 11/10/19